

The Effect of Leverage, Liquidity and Activity on Financial Distress with Profitability and Firm Size as Moderating Variables

Sukoco Ari Hartono*¹, Yulia Efni², & Enni Savitri²

¹Students of the Master of Management, Faculty of Economics & Business, University of Riau

²Lecturer in the Department of Management, Faculty of Economics & Business, University of Riau

* sukoco.ari7885@grad.unri.ac.id

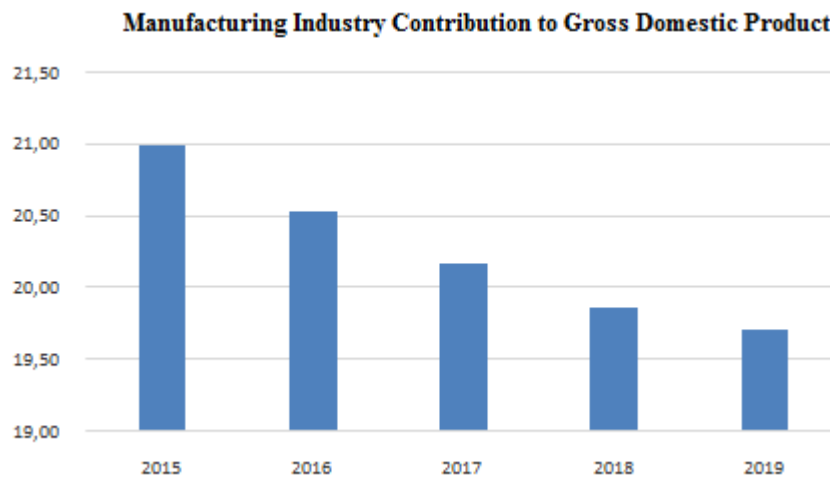
Article Info	Abstract
Received : 2022-07-04 Accepted : 2026-02-06 Published : 2026-02-07	<i>Companies that have been operating for a certain period of time experience financial difficulties that lead to bankruptcy. Corporate bankruptcy does not occur suddenly but starts from financial distress (financial difficulties) because financial problems are an early sign that a company will experience bankruptcy. An analysis of the symptoms of bankruptcy must be carried out, in order to anticipate the occurrence of bankruptcy in the future. The way to do this is to analyze the company's financial ratios as in this study. This study aims to determine and analyze the effect of leverage, liquidity and activity on financial distress with profitability and firm size as moderating variables. In this study, the population is Manufacturing Companies listed on the Indonesia Stock Exchange in 2019-2020. From the total population, the sample was determined as many as 20 companies. The data used in this study are primary data and secondary data, while the data collection techniques for the company's financial statements. The data analysis technique in this research uses 2 methods of data analysis, namely multiple regression and Moderated Regression Analysis (MRA). Based on the results of the study, leverage and liquidity have a significant effect on financial distress. While the activity does not have a significant effect on financial. profitability is able to moderate the effect of leverage and liquidity on financial distress, but profitability does not moderate the effect of activity on financial distress. Negative and significant company size is able to moderate the effect of leverage and liquidity on financial distress, but company size does not moderate the effect of activity on financial distress.</i>
Keywords: leverage; liquidity; activity; profitability; firm size; financial distress	

Introduction

Along with the times and entering the global era, the business world is growing more rapidly and the competition between businesses is getting tougher in achieving goals. The company was founded with the aim of maximizing profit in the hope of surviving or developing in the long term and not going into liquidation. Profit is one of the business goals run by a company so that with that profit the company is able to survive in the business world in long term. But in reality, assumptions are not always in line with expectations. The International Monetary Fund (IMF) in the World Economic Outlook Update released on January 19, 2019 stated that global economic growth in 2019 was estimated at 3.4 percent, down from the initial estimate of 3.6 percent. Most emerging market countries and developing countries experienced an economic slowdown. The economic growth of the five ASEAN countries, including Indonesia, is projected at 4.8 percent

or lower than the initial estimate of 4.9 percent. This raises concerns for Indonesia regarding future economic performance. Many things have resulted from this unstable condition, such as a decline in global investment, both in infrastructure, trade, and industry, which have negative impact on various vital sectors of the economy. Manufacturing companies in Indonesia are no exception (Gandi, 2020).

Manufacturing companies are still the Prima donna in their contribution to Gross Domestic Production (GDP). The manufacturing industry is the backbone for national economic growth. In addition, it is a mainstay sector in spurring equity towards inclusive development and community welfare (kemenperin.go.id, 2019). However, the Ministry of Industry stated that the contribution of manufacturing to gross domestic production (GDP) experienced a downward trend. The Central Bureau of Statistics noted that this trend started at least in 2020.



(Source : Gross Domestic Product processed data)

Realization in 2020 was in the position of 20.99 percent and continued to decline until 2019 showing the position of 19.70 percent. The phenomenon of companies experiencing bankruptcy is found in companies listed on the Indonesia Stock Exchange (IDX), causing the company to be *delisted* which means that when the shares listed on the stock exchange experience a decrease in criteria so that they do not fulfill the listing requirements, then the shares can be removed from listing on the stock exchange.

Almost every year there are companies that are delisted on the Indonesia Stock Exchange (IDX). In the period 2019 to 2020, there were 20 (twenty) companies that were delisted from the Indonesia Stock Exchange (IDX) and 5 (five) of them were companies engaged in the manufacturing sector, as shown in the following table:

Tabel 1. Companies that are delisted on the Indonesia Stock Exchange (IDX).

No	Year	Delisted Manufacturing Companies
1.	2019	-
2.	2021	1. Sorini Agro Asia Corporindo Tbk (SOBI)
3.	2018	1. Dwi Aneka Jaya Kemasindo Tbk (DAJK) 2. Jaya Pari Steel Tbk (JPRS) 3. Taisho Pharmaceutical Indonesia Tbk (SQBB)
4.	2019	1. Sekawan Intipratama Tbk (SIAP)
5.	2020	-

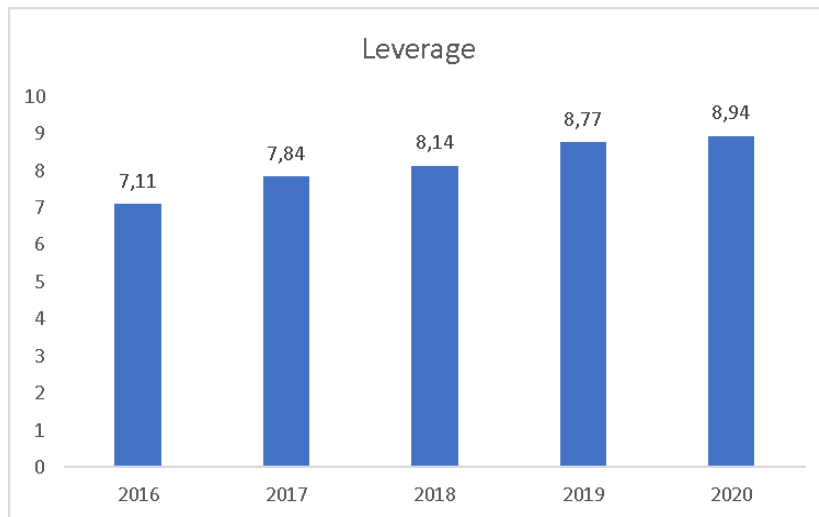
Source : www.idx.co.id, 2022

The table above shows that in the last five years, from 2019-2020, there were companies that were *delisted* and 25% of them were companies engaged in the manufacturing sector, this indicates that the company is experiencing financial difficulties so they have to be delisted from the Indonesian stock exchange.

PT. Dwi Aneka Jaya Kemasindo (DAJK) is a company engaged in the manufacturing sector and was declared bankrupt by the Central Jakarta District Court on November 23, 2021 after a lawsuit from PT. Bank Mandiri as the creditor was granted. The panel of judges in their decision stated that DAJK was in a state of bankruptcy because it was proven negligent in making a peace agreement (homologation) with Bank Mandiri. The negligence is related to interest payments, additional business capital and the delivery of asset guarantees. Apart from Bank Mandiri, DAJK also has debts to Standard Chartered Bank, Commonwealth Bank, Citibank N.A and Danamon Bank. This resulted *delisting* executed by the IDX for DAJK which became effective on 18 May 2018 (<https://www.cnbcindonesia.com>).

Companies that have been operating for a certain period of time experience financial difficulties that lead to bankruptcy. Corporate bankruptcy does not occur in a sudden but starts from *financial distress* because it is an early sign that a company will go bankrupt. An analysis of the symptoms of bankruptcy must be managed, in order to anticipate the occurrence of bankruptcy in the future. The way to do this is to analyze the company's financial ratios as in this study.

Many factors indicate that the company experiences *financial distress*. *Leverage* shows the company's ability to fulfill both short-term and long-term obligations. Analysis of this ratio is needed to measure the company's ability to pay debts (short term and long term) if at one time the company is liquidated or dissolved. Sigit in Widarjo et al. (2009). With a high level of debt, the company will experience higher *Financial Distress* as well. In other words, *leverage* shows how much the company's assets are financed by debt or how much the company's debt affects the management of company assets. The phenomenon that occurs in the *leverage* of manufacturing companies is that the average DER result for 2019 - 2020 has increased. for more details can be seen in the following figure:

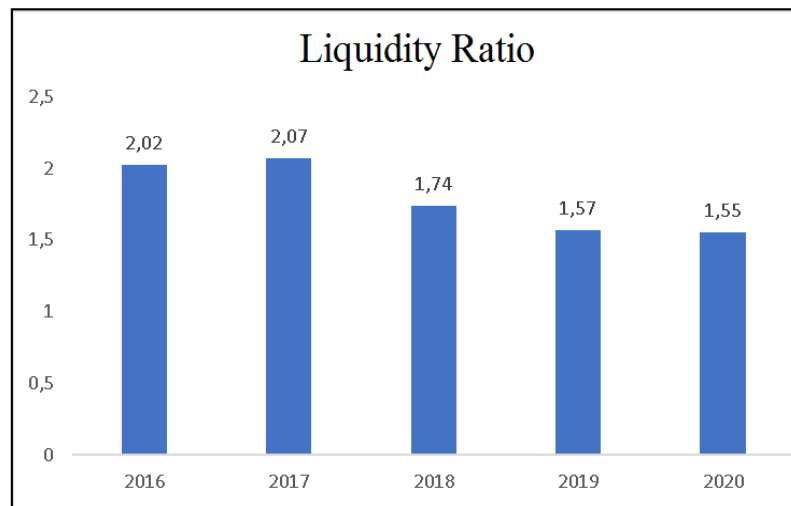


Source : Processed data, 2022

From this figure, it can be concluded that the average DER result for 2019 – 2020 has increased. The larger the DER, the higher the composition of the total debt/liabilities compared to the total net capital it has, so that the company's burden on outsiders is also large. If the

company cannot manage its debt properly and optimally, it will give negative impact to the company's financial.

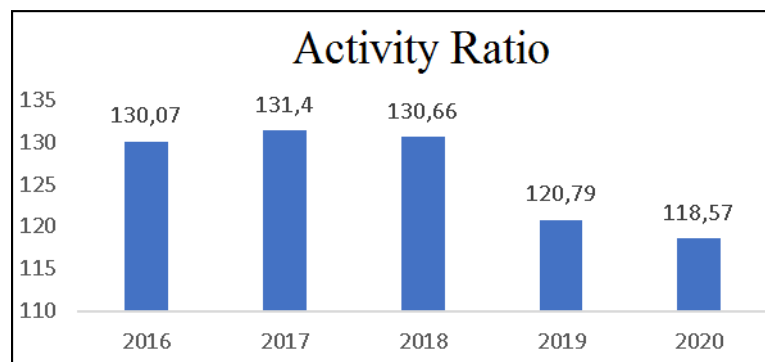
According to Manurung & Wibisono (2020), company liquidity shows the company's ability to fund company operations and pay off the company's short-term obligations. If the company is able to finance and pay off its short-term obligations properly, the potential for the company to experience *Financial Distress* will be smaller. Liquidity shows the company's ability to fulfill its financial obligations, or the company's ability to fulfill its financial obligations when billed (Hidayat and Arif, 2019). This liquidity ratio is usually measured using the *current ratio* which is the current assets divided by current debts (Deanta, 2020). The phenomenon that occurs in the liquidity of manufacturing companies is the result of the average *current ratio* for 2019 - 2020 moving fluctuatively. For more details can be seen in the following figure:



Source : Processed data, 2022

From this figure, it can be concluded that the average *current ratio* for 2019 – 2020 has fluctuated and tends to decline until 2020. This shows that the company's ability to fulfill short-term obligations has decreased, resulting in the company not having cash flow sufficient to fulfill its liability.

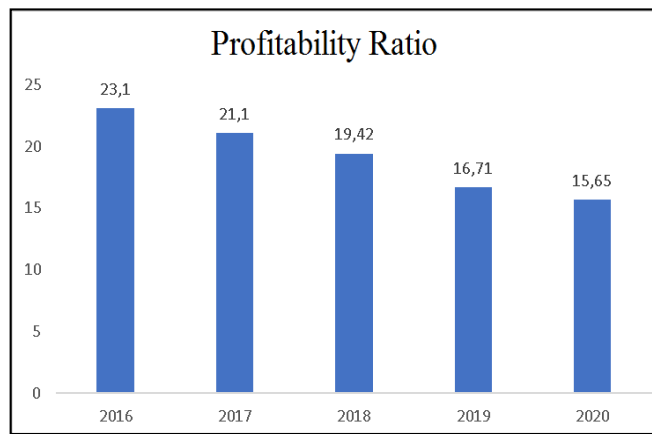
Furthermore, in addition to liquidity, a high activity ratio indicates that the company is able to generate a high number of sales, so it will increase revenue, and vice versa (Alifiah, 2018). In this case the activity ratio is measured using *Total Asset Turnover Ratio* (TATO) which is by dividing the total sales by the total assets owned by the company. The phenomenon that occurs in the *leverage* of manufacturing companies is the result of the average activity ratio for 2019 – 2020 moving fluctuatively. for more details can be seen in the following figure:



Source : Processed data, 2022

From the figure above, it can be concluded that the average activity ratio (TATO) for 2019 – 2020, increased in 2021 and continued to decline until 2020. This shows the company's ability to generate sales continues to decline so that the profit earned also decreased and could affect the company's financial condition.

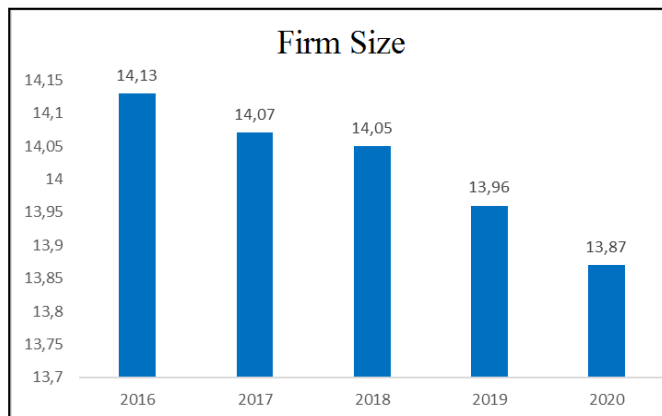
In this study, the profitability ratio and firm size act as moderating variables, where the profitability ratio is used to measure the company's ability to generate profits for the company. Profitability ratios are considered to have crucial role for the survival of the company because the lifeblood of a company will depend on the extent to which the company can benefit. This ratio can be measured using *Return On Assets* (ROA). ROA shows the company's ability to generate *after tax operating profit* from the total assets owned by the company. The calculated profit is profit before interest and tax or EBIT (*Earning Before Interest and Tax*).



Source: Processed data, 2022

From the figure above, it can be concluded that the average profitability ratio (ROA) for 2019 – 2020 moved downwards. This shows that the company's ability to generate profits has also decreased.

Firm size describes how large the number of assets owned by the company. Large companies tend to have a lot of assets to pay off their long-term and short-term obligations so that large companies are less likely to experience *financial distress*. On the other hand, small companies that do not manage their assets properly tend to use larger external funds, causing the company to experience financial difficulties.



Source: Processed data, 2022

From the picture above, it can be concluded that the average company size ratio for 2019 to 2020 is moving downwards. This shows that the company experienced a decrease in company size seen from total assets, this decrease indicates that the company is experiencing difficulties in increasing company sales so that it can affect the company's financial condition.

Based on the phenomena and *research gap* above, this research is very important. Companies certainly don't want their companies to be in a state of Financial Distress, leading to bankruptcy. Therefore, this study is purposed to raise the topic of research on the Effect of *Leverage*, *Liquidity*, and *Activities* on *Financial Distress* with *Profitability* and *Firm Size* as *Moderating Variables* in Manufacturing Companies Listed on the Indonesia Stock Exchange 2019-2020.

Review of Related Literature

Financial Distress

According to Hanifah, Earning, and Purwanto (2019), Financial Distress is defined as the stage of decline in financial conditions that occurs before the occurrence of bankruptcy or liquidation. The condition of *Financial Distress* is reflected in the inability of a company or the unavailability of a fund to pay its maturing obligations. Financial difficulties happen when a company cannot meet its payment schedule or when cash flow projections indicate that the company will soon be unable to meet its obligations (Fachrudin, 2018). Hidayat and Arif (2019) state that a company can be said to be in a condition of *Financial Distress* if the company has negative *net profit* for several years. Basically, *Financial Distress* is a condition where a company has difficulty in fulfilling its obligations, a situation where the company's income cannot cover the total costs, experiencing losses to creditors. This situation is an early symptom of economic failure (Atika, 2018).

According to Hapsari (2018), *Financial Distress* is a condition where the operating cash flow of a company is inadequate to pay off current obligations (such as trade payables or interest expenses) and the company is forced to take corrective action. It is a very severe liquidity problem that cannot be solved without changing the size of the company's operations or structure. *Financial Distress* is a condition where the company's finances are in an unhealthy state or crisis. It occurs before bankruptcy and occurs when the company suffers losses for several years. It can be started from liquidity difficulties (short term) as the lightest indication of *Financial Distress*, to bankruptcy which is the heaviest *Financial Distress* (Triwahyuningtias, 2018).

Profitability

Profitability is the company's ability to generate profits at a certain level of sales, *assets*, and share capital (Hanafi, 2021). Profit is absolutely necessary for the company if it wants to pay dividends. Paying dividends will give a signal of the company's profits. The ability to pay dividends has influence on the company regarding the function of profits. Profitability is one way to assess a company to what extent the rate of return that will be obtained from its investment activities. Profitability is the level of net profit that has been obtained by the company in running the company. Profitability will be used as dividends or as retained earnings. The higher the retained earnings, the smaller the use of funds from external parties become (Brigham and Houston, 2021).

Firm Size

Firm size is the average total net sales for the year to several years. In this case, the sales are greater than the variable costs and fixed costs, it will obtain the amount of income before tax. Conversely, if sales are less than variable costs and fixed costs, the company will suffer losses (Brigham and Houston, 2021). Firm size is one of the variables considered in determining the value of a company. It is a scale where the size of the company can be classified according to various ways, including the size of income, total assets, and total capital. The larger the size of

income, total assets, and total capital will, it reflect a stronger company condition (Basyaib, 2021). Companies are categorized into two types, which are small-scale companies and large-scale companies. Size in general can be interpreted as a comparison of the size of an object.

According to Sawir (2021), firm size is expressed as a determinant of the financial structure. It is a description of the size of the company which is determined based on nominal size, for example the total wealth and total sales of the company in one sales period, as well as market capitalization. Grouping companies on the basis of scale of operation (large and operating) can be used by investors as one of the variables in determining decisions.

Leverage

This definition of *leverage* is also supported by the opinion Brigham and Houston (2021) in his book which states that the *leverage* ratio is "a ratio that measures the extent to which companies use funding through debt (*financial leverage*) so that we are able to see the company's ability to optimize debt". The definition of leverage is reaffirmed by Fahmi (2019) which states that "*leverage* ratio is a measure of how much the company is financed with debt. The use of debt that is too high will endanger the company because the company will be included in the category of extreme *leverage* (extreme debt) that the company is trapped in a high level of debt and it is difficult to release the debt burden. According to Kasmir (2021), "*leverage* is a solvency ratio or *leverage* ratio is a ratio used to measure the extent to which a company's activities are financed with debt." Sartono (2018) said that *leverage* shows the proportion of the use of debt to finance investment.

Liquidity

According to Deanta (2020), the liquidity ratio is the ratio used to measure the company's ability to meet current debt. Brigham and Houston (2021) states that liquidity ratio is a ratio that shows the relations between cash and other current assets of a company and its current liabilities. Meanwhile, according to Hidayat and Arif (2019), the liquidity ratio shows the company's ability to meet its financial obligations that must be fulfilled immediately, or the company's ability to fulfill its financial obligations when billed. It is a ratio that describes the company's ability to meet short-term obligations (debts) (Kasmir, 2021). Liquidity is related to how much the company's ability to pay off its financial obligations that are due. This obligation can be covered from liquid assets owned by the company. Liquidity is not only related to the overall state of the company's finances, but also relates to its ability to convert certain current assets into cash or liquidity can also be interpreted as the speed level of an investment vehicle to be disbursed into *cash* funds. Conceptually, an asset is called liquid if the asset can be transacted in large quantities, in a short time, at low costs and without affecting the price (Lumbantoruan and Siahaan, 2018).

Activity

According to Darsono (2020), the activity ratio is the ability of management to optimize assets to earn income, for example, a small asset but capable of generating a large income, indicating that the management is professional. Furthermore, according to Deanta (2020), the activity ratio is a ratio that measures how effectively the company uses its resources, the extent to which the company's efficiency in using assets to obtain sales. For the use of these assets for the purposes of operating activities, the production produced by the company will increase. This increased production is also expected to increase sales. With the increase in sales, it will also have an impact on increasing profits to be obtained by the company, so this will provide cash inflows for the company.

Based on the framework and hypotheses that have been described, the research model in this study can be seen in the following figure:

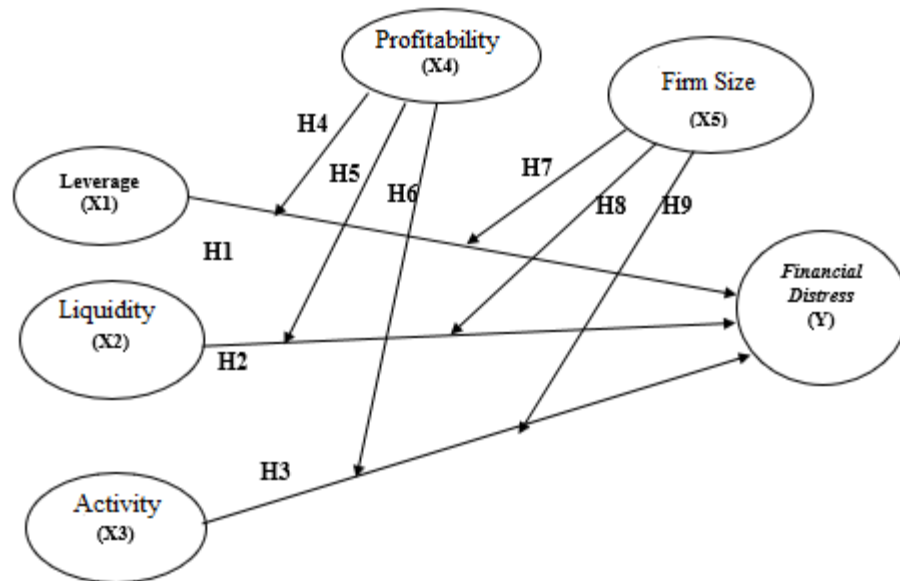


Figure 2.1 Research Method

Framework of Thought and Hypothesis Development

Leverage to Financial Distress Ratio

According to the *trade-off theory* expressed by (Myers, Marcus., and Brealey 2018), companies will incur up to a certain level of debt, where tax *shields* from additional debt are equal to the cost of *financial distress*. The cost of financial distress is the cost of bankruptcy and *agency costs* that increase as a result of the decline in the credibility of a company. According to (Brigham and Gapenski 2019), *trade-off theory* is where companies exchange funding profits through debt. This theory explains the relationship between taxes, bankruptcy risk and debt use caused by capital structure decisions taken by companies.

Pecking order theory was first popularized by Myers in 1984. In *pecking order theory*, it is divided into 2 funding, namely funding from within and funding from outside. Companies prefer internal funding such as own capital to external funding such as bonds and stocks. If the company uses too much third-party funds as its funding, there will be greater liabilities in the future, this will result in the company being vulnerable to financial difficulties or *financial distress*.

Research conducted by Atika (2018) states that the *leverage* ratio also has a significant positive effect on the possibility of *financial distress* in a company. On the other hand, different results were put forward by Syalam et al. (2019) where in their research it was stated that the *leverage* ratio does not affect the likelihood of companies experiencing *Financial Distress*.

Based on the above arguments, the hypotheses that can be formulated are as follows:

H1 = *Leverage* has a significant effect on *Financial Distress*

The Effect of Liquidity on Financial Distress

According to (Irawan 2018), *Signalling Theory* is that by providing a signal, the sender (owner of the information) tries to provide relevant pieces of information that can be used by the receiving party. The receiver will then adjust its behavior according to its understanding of the signal. A company in good condition will give a positive signal to investors and creditors that the

company will grow in the future. If the company is able to finance and pay off its short-term obligations, the potential for the company to experience *financial distress* will be smaller.

The *pecking order* theory states that companies prioritize the use of internal funds. The use of debt in an optimal capital structure does not affect the amount of liquidity that indicates the company's ability to pay its short-term obligations that are due soon by using the current assets owned by the company. This is a long-term debt because investors do not see the size of the company's current assets in providing long-term debt. However, in providing long-term debt, investors are more interested if they see the size of the fixed assets owned by the company, because these fixed assets can be used as debt collateral if the company is unable to pay its obligations, this is because the higher the debt ratio results in greater risk and can lead to potential bankruptcy faced by a company.

According to Atika (2018) in his research, it is stated that the liquidity ratio that uses *Current Ratio* (CR) in its measurement has a significant and negative effect on the possibility of *Financial Distress* in a company. This means that the greater the availability of funds to pay off its current obligations, the less likely the company will experience *Financial Distress*.

Based on the above arguments, the hypotheses that can be formulated are as follows:
H2 = Liquidity has a significant effect on *Financial Distress*

Ratio of Activity to *Financial Distress*

Financial Distress can be predicted using *financial ratios*. One of the *financial ratios* is the activity ratio. In this study, the activity ratio was measured using the *Total Asset Turnover Ratio* (TATO). *Total Asset Turnover Ratio* (TATO) is used to measure the ability of funds embedded in the total assets that revolve over a period or the ability of capital invested to generate income of a company. Signal Theory according to (Brigham and Houston 2021) is the action of a company in signaling to investors about how management views the company. Signal theory discusses how the signals of success or failure of management (agents) should be conveyed to the owner (*principal*). The higher the value of the activity ratio, the higher the profit obtained by the company so that it will be a good signal from the company for investors.

Alifiah's research (2018) shows that the activity ratio proxied by the *Total Asset Turnover Ratio* (TATO) is significantly negatively related in influencing the likelihood of *financial distress* in a company.

Based on the above arguments, the hypotheses that can be formulated are as follows:
H3 = Activities have a significant effect on *Financial Distress*

The Effect of *Leverage* on *Financial Distress* in Profitability Moderation

The addition of this moderation variable is also supported by differences in empirical research regarding the effect of *leverage* on the bound variable, namely *Financial Distress*. Therefore, based on the contingency theory, this study adds a combination of variables by adding a moderation variable. Contingency theory is used as a tool in interpreting the results of empirical research. This is due to limitations in reviewing and understanding the types of hypotheses that have been put forward to explain the opposite findings. The contingency approach provides opportunities for other variables to be moderating that can affect *leverage* against *Financial Distress*. Profitability was used as a moderation variable in this study. Profitability is chosen because every profit that a company gets from its production activities will be able to add to the company's assets and can be used to pay the company's liabilities. The profits obtained will be reused according to the company's interests. Companies that do not make a profit will use their assets to finance operations, pay dividends, and pay debt. If the assets owned are not enough, the payment will be delayed.

Research conducted by (Zulfa, 2018) shows that liquidity has a positive and significant effect, leverage has a negative and significant effect, and operating *capacity* has a negative and

insignificant effect on financial distress. Profitability can moderate the relationship between liquidity and financial distress. Meanwhile, the relationship between leverage and operating capacity to financial distress cannot be moderated by profitability.

Based on the above arguments, the hypotheses that can be formulated are as follows:

H4 = Profitability Moderates the Effect of *Leverage* on *Financial Distress*

The Effect of Liquidity on *Financial Distress* in Profitability Moderation

Signal Theory according to (Brigham and Houston 2021) is the action of a company in signaling to investors about how management views the company. Signal theory discusses how the signals of success or failure of management (agents) should be conveyed to the owner (*principal*).

According to Hidayat and Arif (2019) in their research, it is stated that the liquidity ratio that uses *the current ratio* (CR) in its measurement has a significant negative effect on the possibility of *financial distress* in a company. This shows that the greater the availability of company assets generated by profits in paying off its current obligations, the smaller the company will experience *Financial Distress*. A company that has a high enough profitability will make the company's current assets increase. This has an impact on the company's ability to meet current obligations which will also increase. So that the company can avoid *financial distress*.

Based on the above arguments, the hypotheses that can be formulated are as follows:

H5 = Profitability Moderates the Effect of *Liquidity* on *Financial Distress*

The Effect of Activity on *Financial Distress* in Profitability Moderation

The use of the company's assets for operating activities will increase the amount of production produced by the company. An increase in the amount of production is expected to increase sales which has an impact on increasing profits or profits of a company, thus providing cash flow for the company (Hidayat and Meiranto 2021) an increase in sales from the effectiveness of the company's asset management can increase the activity ratio, on the other hand, if the sales of the company's assets decrease, the activity ratio will also decrease. If the activity ratio is low, it will indicate poor company management. If the activity ratio is low, management must evaluate its marketing, strategy, and capital expenditure (investment) related to the assets owned by the company so that the greater the *financial distress condition*. *Signalling Theory* states that a good quality company will deliberately signal to the market, thus the market is expected to be able to distinguish between good and bad quality companies (Hartono, 2020). Research conducted by (Sari and Putri 2019) shows that profitability moderates the influence of activities on *financial distress*.

Based on the above arguments, the hypotheses that can be formulated are as follows:

H6 = Profitability Moderates the Influence of *Activities* on *Financial Distress*

The Effect of Leverage on *Financial Distress* in Company Size Moderation

Companies need funds to run a company, one of which is debt. The larger the funds obtained from debt, the greater the likelihood of the company experiencing *financial distress*. Small companies need a lot of funds to be able to grow, for that, small companies will make more loans to third parties to develop their businesses. So that the possibility of the company experiencing *financial distress* will be even greater. As for larger companies, they have more assets to cover their debts so the possibility of *financial distress* will be smaller. This shows that the size of the company can moderate the relationship of leverage to *financial distress*.

Leverage comes from the activity of borrowing funds from third parties in the form of debt. If the company has a total assets that are smaller than its debts, then it can be concluded that the company does not have the ability to pay off their debts with the assets it owns so that the company can experience *financial distress* this is in accordance with *the Pecking Order*

Theory. Research conducted by (Lela et al. 2021) shows that company size moderates the influence of leverage on *financial distress*.

Based on the above arguments, the hypotheses that can be formulated are as follows:

H7 = Company Size Moderates the Effect of Leverage on *Financial Distress*

The Effect of Liquidity on *Financial Distress* in Company Size Moderation

Liquidity is defined as the ability of a company to pay its short-term obligations. Therefore, to keep the company in a liquid state, the company must have current assets greater than its current liabilities. If there are too many financial obligations due to a company, this can lead to *financial distress*.

Liquidity ratio is a ratio used in measuring the effectiveness of a company to use assets in fulfilling its short-term obligations. Therefore, the lower the liquidity ratio that the company has, the higher the likelihood that the company will experience *financial distress*. The large size of the company means that the assets owned by the company are also getting bigger, therefore the tendency of the company to experience financial distress is also lower. The larger the current assets owned by the company, the better the company's ability to pay off its short-term debts on time.

Signal Theory according to (Brigham and Houston 2021) is the action of a company in signaling to investors about how management views the company. Signal theory discusses how the signals of success or failure of management (agents) should be conveyed to the owner (*principal*). Research conducted by (Mujiani 2020) found that liquidity moderated through company size has an effect on and strengthens the occurrence of financial distress.

Based on the above arguments, the hypotheses that can be formulated are as follows:

H8 = Measure of Moderating the Effect of Liquidity on *Financial Distress*

The Effect of Activity on *Financial Distress* in Company Size Moderation

Companies with high activity have a source of funds to maintain the company's operational capabilities. If the company's activities continue to decline, then the likelihood of experiencing *financial distress* will be higher, and vice versa. High activity indicates that the company has a high number of sales.

The larger the size of the company, the more assets the company has, so the more assets that the company can rotate to generate sales. Therefore, the larger the size of the company, the less likely the company will experience financial distress. So it can be concluded that the size of the company can strengthen the relationship between activities and financial distress.

Signalling Theory states that a good quality company will deliberately signal to the market, thus the market is expected to be able to distinguish between good and bad quality companies (Hartono 2020). Research conducted by (Tania and Wijaya, 2021) shows that the ability of company size moderates the influence of activity on *financial distress*.

Based on the above arguments, the hypotheses that can be formulated are as follows:

H9 = *Size moderates the effect of Activity on Financial Distress* H9 = *Firm Size moderates the effect of Activity on Financial Distress*

Method

Population is a complete group of entities that can be people, events, or objects that have certain characteristics, that are located in an area and meet certain conditions related to the research problem" (Sugiyono, 2018). The population used in this study is manufacturing companies in the form of financial statements downloaded from www.idx.co.id, which is as many as 168 companies. The sampling technique used in the study is *the purposive sampling* method. In this method, sampling is based on a certain criterion. The criteria used can be based on judgment or based on certain quotas

According to the research objective which is to test the hypothesis, the research design used in this study was an explanatory research design. *Explanatory* research is research that is used to explain causal relations between variables through hypothesis testing which is formulated or often referred to as explanatory research. In other words, the researcher's intention to conduct a causal study is to be able to state that variable X causes variable Y. So that if variable X is removed or changed in some way, problem Y is solved (note that often, however, not only one variable causes problems in organization).

The data analysis method in this study uses 2 data analysis methods, namely multiple regression and *Moderated Regression Analysis* (MRA). Multiple regression analysis is an analysis used to determine whether there is an influence of independent variables on bound variables. Meanwhile, MRA or also called interaction test is used to test the relationship between independent and dependent variables in which there are factors that strengthen or weaken the variable. (Ghozali, 2021:150). Interaction testing is often referred to as *Moderated Regression Analysis* (MRA) which is a special application of multiple liner regression where the regression equation contains interaction elements. The hypothesis test of the dependent variable, namely *Financial Distress*, was regressed into the variables *Leverage*, *Liquidity*, and *Activity*. Where in the hypothesis test it is analyzed using ordinary linear regression with a moderating effect.

Research Finding

Regression Test Result

In this study, the data obtained will be processed using *multiple regression* model. Regression method can be used to show how the independent variable affects the dependent variable. After getting a good research model, then it is tested on the hypotheses proposed in this study.

The following table will show the results of the calculations for regression analysis.

Table 1. Colliniarity Test

Variabel	Collinearity Statistics	
	Tolerance	VIF
Ln_Leverage	0.639	1.174
Ln_Likuiditas	0.667	1.499
Ln_Aktivitas	0.805	1.242
Ln_Moderasi1	0.555	3.914
Ln_Moderasi2	0.620	3.170
Ln_Moderasi3	0.530	1.884
Ln_Moderasi4	0.514	3.819
Ln_Moderasi5	0.598	1.671
Ln_Moderasi6	0.348	2.870

Source : Processed Data, 2022

The Effect of Leverage on Financial Distress

The results of this study show that *leverage* has positive and significant effect on *Financial Distress*. This is evidenced by the coefficient value of 0.798 and the t arithmetic value of 2.592 > from the t table of 1.985 and a small significance value of 0.05 ($\alpha = 5\%$) which is $0.011 < 0.05$. It can be interpreted that *leverage* has positive and significant effect on *Financial Distress*. So this result states that *leverage* affects on *Financial Distress*.

The Effect of Liquidity on Financial Distress

This study shows that *Liquidity* has negative and significant effect on *Financial Distress*. This is proven by the coefficient value -0.748 and the t arithmetic value of -2.461 > from the t table of 1.985 and small significance value of 0.05 ($\alpha = 5\%$) which is $0.016 < 0.05$. It

can be interpreted that *Liquidity* has negative and significant effect on *Financial Distress*. So this result states that *Liquidity* affects on *Financial Distress*.

The Effect of Activity on *Financial Distress*

The results of this study indicate that there is significant negative effect between activities on *financial distress*. This is proven by the coefficient value -0.559 and the t arithmetic value of -2.256 > from the table of 1.985 and a small significance value of 0.05 ($\alpha = 5\%$) which is $0.027 < 0.05$. It can be interpreted that the activity has negative and significant effect on *Financial Distress*. So this result states that the activity affects on *Financial Distress*.

The Effect of Leverage on *Financial Distress* Moderated by Profitability

The first moderating is leverage profitability or the interaction between *leverage* and profitability which produces a coefficient of -0.004 then the t-count value is -2.129 > from the table of 1.985 and a significant value of 0.031 which is smaller than 0.05. Based on these results, it can be said that the profitability of the moderating variable has negative and significant influence in moderating the influence of *leverage* on *financial distress*.

The Effect of Liquidity on *Financial Distress* Moderated by Profitability

Liquidity profitability is an interaction between liquidity and profitability which produces a coefficient of -0.097 then the t-count value is -2.113 > from the table of 1.985 and a significant value of 0.037 and less than 0.05. Based on these results, it can be said that profitability is a moderating variable and has negative and significant influence in moderating the effect of liquidity on *financial distress*.

The Effect of Activity on *Financial Distress* Moderated by Profitability

Activity profitability is the third moderator which is the interaction between activity and profitability which produces a coefficient of 0.370 then the t-count value of 0.727 < from the table of 1.985 and a significant value of 0.469 and greater than 0.05. Based on these results, it can be said that profitability is not a moderating variable and has no influence in moderating the effect of activity on *financial distress*.

The Effect of Leverage on *Financial Distress* Moderated by Firm Size

The fourth moderating is leverage firm size or the interaction between leverage and firm size which produces a coefficient of -0.017 then the t-count value is -2.079 > from the table of 1.985 and a significant value of 0.040 and less than 0.05. Based on these results, it can be said that firm size is a moderating variable and has negative and significant effect in moderating the effect of leverage on *financial distress*.

The Effect of Liquidity on *Financial Distress* Moderated by Firm Size

Liquidity firm size fifth moderating is the interaction between liquidity and firm size which produces a coefficient of -0.207 then the t-count value is -3.004 > from the table of 1.985 and a significant value of 0.020 and less than 0.05. Based on these results, it can be said that company size is a moderating variable and has negative and significant influence in moderating the effect of liquidity on *financial distress*.

The Effect of Activity on *Financial Distress* Moderated by Firm Size

Activity firm size is the sixth moderating which is the interaction between activity and firm size which produces a coefficient of -0.031 then the t-count value of -0.435 < from the table of 1.985 and a significant value of 0.469 and greater than 0.05. Based on these results, it can be said that firm size is not a moderating variable and has no influence in moderating the effect of activity on *financial distress*.

Coefficient of Determination (R^2)

The coefficient of determination (R^2) is used to determine the percentage of the independent variable that can explain the dependent variable. The coefficient of determination of *leverage*, *liquidity* and activity variables on *Financial Distress* can be seen in the following table:

Table 2. Coefficient Of Determination (R^2)

Model	R	R Square
1	0,765	0,579

Source: Processed Data, 2022

From the table above, it can be seen that the size of R square (R^2) is 0.579. This figure is used to see the magnitude, *leverage*, *liquidity*, activity profitability on *financial distress*. This figure means that the effect of *Leverage*, *Liquidity* and *Activity* on *Financial Distress* simultaneously is 57.90%, the remaining 42.10% (100-57.90%) is influenced by other factors.

Discussion

The Effect of Leverage on Financial Distress

The results of hypothesis test in the study show that the variable *leverage* effect on *Financial Distress*. In this study, leverage is measured by DER. The effect of this research is because the DER for 2019 - 2020 has increased which shows that the composition of the company's total debt is greater than the total net capital it has, resulting in a large burden on the company to outsiders as well. The company cannot manage its debt properly and optimally, it will have bad impact on the company's financial.

The research is in line with that conducted by Atika (2018), Ardian (2019), Bernardin and Indriani (2020) and Sari and Putri (2019) which state that the *leverage* ratio also has significant positive effect on the possibility of *Financial Distress* in a company. However, it is different from the research of Syalam et al (2019) and Susesti (2020). Their research findings show that DER has no effect on *financial distress*. Then Zulfa (2018) with the finding that *leverage* has negative effect on *financial distress*.

The Effect of Liquidity on Financial Distress

The results of the study indicate that *liquidity* has effect on *Financial Distress*. The higher the liquidity ratio, which in this study is proxied by the current ratio, it illustrates that the company is able to manage its current assets in meeting its financial obligations so as to prevent the company from *financial distress*.

This finding is in line with research conducted by Atika (2018) then Lumbantobing (2020) and Tania and Wijaya (2021). In their research which states that the liquidity ratio that uses the *Current Ratio* (CR) in its measurement has significant and negative effect on the possibility of *Financial Distress* in an area. company. However, it is different from the research of Dirman (2020), then Mahanani and Sugiarto (2020) and Mujiani (2020) which in their research show that liquidity has no effect on *financial distress*.

The Effect of Activity on Financial Distress

The results showed that the activity has significant effect on *Financial Distress*. The higher the activity ratio which in this study is proxied by the *Total Asset Turnover Ratio* (TATO) indicates the company's ability to manage the turnover of all assets effectively and efficiently so that sales have increased, so that the company will avoid *financial distress*.

This finding is in line with research conducted by Alifiah (2018), then Ardian (2019), which shows that the activity ratio proxied by the *Total Asset Turnover Ratio* (TATO) is

significantly negatively related in influencing the possibility of *Financial Distress* in a company. This is different from the findings of research conducted by Bernardin and Indriani (2020) and Kristiana (2021), which in their research show that activity has no effect on *financial distress*.

The Effect of Leverage on Financial Distress in Profitability Moderation

The results showed that significant profitability was able to moderate the effect of *leverage* on *Financial Distress*. This shows that profitability weakens the influence of *leverage* on *Financial Distress*, because the higher the profitability, the higher the profits are obtained by the company, so that the company is able to cover its debts with the profits earned by the company, then the possibility of the company experiencing *financial distress* also decreases.

Research conducted by Zulfa (2018) and then Sari and Putri (2019) shows that *leverage* has positive and significant effect, *leverage* has negative and significant effect, *operating capacity* has negative and insignificant effect on *financial distress*. Profitability can moderate the relations between liquidity and *financial distress*. In contrast to the research findings of Kristiana (2021), which found that profitability could not moderate the relations between liquidity and *financial distress*.

The Effect of Liquidity on Financial Distress in Profitability Moderation

The results showed significant profitability was able to moderate the effect of *Liquidity* on *Financial Distress*. This means that profitability is able to weaken the influence of *Liquidity* on *Financial Distress*. The higher the profitability, the easier the profits will obtained by the company to meet its short-term obligations. In addition to profitability, some of the company's assets are reflected in current assets. The more current assets owned, the company will pay its obligations on time, so it will avoid the condition of *Financial Distress*.

This finding is in line with Hidayat and Arif (2019) and Lela, Wijaya and Sudrajat (2021). In their research which states that the liquidity ratio that uses the *current ratio* (CR) in its measurement has significant negative effect on the possibility of *Financial Distress* in a company. Companies that have high enough profitability will make the their current assets increase. This has impact on the company's ability to fulfill current obligations so that it can avoid *financial distress*. However, it is different from the research conducted by Kristiana (2021) and Susesti (2020) which the research findings show that profitability is not able to moderate the effect of liquidity on *financial distress*.

The Effect of Activity on Financial Distress in Profitability Moderation

Profitability does not moderate the effect of activity on *Financial Distress*. It is because companies get profits to cover liabilities compared to using them for the purposes of their activities, so the profits obtained have no effect in moderating the effect of activities on *financial distress*.

This study is in line with the findings of Zulfa (2018) and Mahanani and Sugiarto (2020) who state that profitability does not mediate the effect of activity ratios on financial distress. However, it is different from the research of Kristiana (2021) and Mujiani (2020) which state that profitability is able to moderate the effect of activity on *financial distress*.

The Effect of Leverage on Financial Distress in Firm Size Moderation

The research findings showed that significant firm size was able to moderate the effect of *leverage* on *Financial Distress*. This means that the size of the company weakens the influence of leverage on *Financial Distress*. The larger the size of the company, the more it will reduce the risk of *financial distress*. It is because large companies will have good assets or finances so they tend to be better at managing their debts.

This research finding is consistent with the research conducted by Lela et al. (2021) and Cristie and Fuad (2020) which shows that firm size moderates the effect of leverage on financial

distress. In contrast to research findings (Mujiani 2020) with research findings moderated leverage through firm size does not affect the occurrence of *financial distress*.

The Effect of Liquidity on Financial Distress in Firm Size Moderation

The research findings showed that significant firm size is able to moderate the effect of *liquidity* on *financial distress*. This means that the size of the company is able to weaken the influence of *liquidity* on *Financial Distress*. A large company size can be said to have a lot of assets to serve as collateral to borrow funds from creditors. If the company is considered large in size and has the strength to pay off its short-term obligations according to the specified maturity date, then the company can avoid *financial distress*.

This study is in accordance with that conducted by Tania and Wijaya (2021) and Simorangkir (2020) which found that moderated liquidity through firm size has effect and strengthens the occurrence of *financial distress*. In contrast to research Mujiani (2020) and Susesti (2020) found that firm size does not moderate the effect of liquidity on *financial distress*.

The Effect of Activity on Financial Distress in Firm Size Moderation

Firm size does not moderate the effect of activity on *Financial Distress*, because companies that have large or small company sizes can experience *financial distress*. Companies with large size (large total assets) allow the company to fund the management or purchase of assets from outside the company. If a company has more assets that are not used and these assets are not managed effectively, especially if the funding comes from third parties, then the company will not be able to generate sales and increase the debt owned by the company, this situation can potentially lead to financial difficulties.

This study is in line with research findings of Tania and Wijaya (2021), Zulfa (2018), Lumbantobing (2020) and Sari and Putri (2019) which state that firm size does not moderate the effect of activity on *financial distress*. different from research of Cristie and Fuad (2020) and Dirman (2020) which state that firm size moderates the effect of activity on *financial distress*.

Conclusion

Based on the results of this study, several conclusions were obtained which are briefly presented as follows:

1. *Leverage* has a positive and significant effect on *Financial Distress*. This is because in this study the company's DER continues to increase, meaning that the composition of the company's debt continues to increase and is larger than the total amount of net capital it has, resulting in a large burden on the company to external parties as well, which has a bad impact on the company's financial condition so that the possibility of the company experiencing financial distress also increases.
2. *Liquidity* has a negative and significant effect on *Financial Distress*. The higher the liquidity ratio, which in this study is proxied with *the current ratio* , it illustrates that the company is able to manage its current assets in fulfilling its financial obligations so that it can avoid the company from *financial distress*.
3. Activities have a negative and significant effect on *Financial Distress*. The higher the activity ratio, which in this study is proxied with *the Total Asset Turnover Ratio* (TATO), shows the company's ability to manage the turnover of all assets effectively and efficiently so that sales increase, so that the company will avoid *financial distress*.
4. Negative and significant profitability is able to moderate the influence of *leverage* on *Financial Distress*. This shows that profitability weakens the influence of *leverage* on *Financial Distress*, because the higher the profitability, the higher the profit the company gets, so that the company is able to cover its debt with the profits obtained by the company, so that the likelihood of company failure will decrease even though the value of the *leverage*

ratioThe company is also large, but with high profitability, the possibility of the company experiencing *financial distress* also decreases.

5. Negative and significant profitability is able to moderate the influence of *Liquidity* on *Financial Distress*. This means that profitability is able to weaken the influence of *Liquidity* on *Financial Distress*. The higher the profitability of the company, the profits obtained by the company will make it easier for the company to meet its short-term obligations through these profits. So it can be concluded that good profitability will strengthen the influence of the company in managing its current assets so that it can reduce the risk of bankruptcy.
6. Profitability does not moderate the influence of activity on *Financial Distress*. It does not moderate profitability to *financial distress* because profits are used by companies to cover liabilities rather than using them for the purposes of their activities, so that the profits obtained have no effect in moderating the influence of liquidity on *financial distress*.
7. Negative and significant company size is able to moderate the influence of *leverage* on *Financial Distress*. This means that the size of the company weakens the influence of *leverage* on *Financial Distress*. Because the larger the size of the company, it will reduce the risk of *financial distress*. This is because large companies will have good assets or finances so that they tend to be better at managing their debts.
8. Negative and significant company size is able to moderate the influence of *Liquidity* on *Financial Distress*. This means that the size of the company is able to weaken the influence of *liquidity* on *Financial Distress*. The size of a large company can be said to have a lot of assets to be used as collateral to borrow funds from creditors. If the company is said to be of large size and strength in paying off its short-term obligations according to the set maturity date, then the company can avoid *financial distress*.
9. Company size does not moderate the influence of activity on *Financial Distress*, because companies that have large or small company sizes can experience *financial distress*. A company with a large size (large total assets) allows the company to fund the management or purchase of assets from outside the company. If the company has more unused assets and these assets are not managed effectively let alone the funding comes from a third party, then the company will not be able to generate sales and further increase the debt owned by the company, such a situation can potentially lead to financial difficulties.

Limitation

1. This study only uses variables, *leverage*, *liquidity*, and activity as the dependent variable and *Financial Distress* as the dependent variable and profitability and firm size as *moderating* variables.
2. The observation period of this research is only from 2019-2020 and in one company, namely a manufacturing company.

Implication

The results of this study will provide input for users of financial statements:

1. Investors and creditors, it is hoped that this research can be a basis for assessing management performance which is an initial consideration in the exchange transaction process and investment decision-making process.
2. For management, it is hoped that this research can be a motivation to improve management performance, so that it can be reflected in the financial statements prepared and as a basis for decision-making regarding policies related to the ratio of financial performance to investment decisions.
3. For decision-makers (executives), it is hoped that this research can be used as a basis for assessment and consideration in future decision-making

Suggestion

1. A company should increase sales growth so that profitability increases so that the company avoids financial difficulties. Because with high profitability, it will have the ability to manage its debt well, so that a company can avoid the potential for bankruptcy.
2. For further researchers, further research is expected to analyze *Financial Distress* in other sub-sectors, such as the basic and chemical industry sector or the various industrial sectors. This is intended to obtain a detailed and comparable picture of the practice of managing *Financial Distress* in various sectors of companies listed on the Indonesia Stock Exchange.
3. Further research can use independent variables other than liquidity, leverage and activities such as managerial ownership.

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