# THE IMPACT OF LIQUIDITY ON FINANCIAL DISTRESS

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## ABSTRACT

This research conducted using 7 year-period data to examine the financial performance fluctuation before and after pandemic COVID-19. The purpose is to analyze the Impact of Liquidity towards Financial Distress with Firm Size as the Moderating Variable. The independent variable used in this research is Liquidity measured by Current Ratio. The dependent variable is Financial Distress which is measured by using Altman Z-Score formula. In addition, moderating variable Firm Size is measured by Ln multiply to Total Assets. By having the secondary data from infrastructure sector companies listed on the IDX in 2017-2023 and using purposive sampling method, 43 infrastructure companies are chosen as the samples from total of 65 companies. The data analysis in this research is using descriptive statistics, including minimum, maximum, mean and standard deviation. Then, multiple linear regression with classical assumption tests was used in this research. With that, data is processed through SPSS Statistics 25. The result of this study shows that Liquidity has significant impact towards Financial Distress. However, Firm Size is not able to moderate the relationship between Liquidity and Financial Distress since Liquidity has no significant impact towards Financial Distress through Firm Size as its moderating variable.

**Keywords**: **Financial Distress, Liquidity, Firm Size, Current Ratio**

## 1. INTRODUCTION

1.1Background of Study

A company's business condition can fluctuate over the time. When a company faces downturn or financial distress, one of the effects is shown when a company conducting layoff (detikFinance, 2023). Layoff can be a sign of a company suffering in economy or cutting cost. Another condition that lead to financial distress is that the management is unable to organize the finance well. The external factors are coming from stronger competitors, especially from foreign countries like China (BBC News Indonesia, 2024). It should not be underestimated as the impact will be in declining of financial performance and the worst case is that the company may face bankruptcy or liquidation (Widarjo & Setiawan, 2012).

According to the study presented by Aprillia & Tarigan (2022), Indonesia was on the 72th rank out of 141 countries for infrastructure development in 2019 based on the World Economic Forum. Infrastructure project performance was still low back then in Indonesia because of quality inefficiency. It became a bigger challenge starting early 2020 where the country's focus more on the healthcare to recover from the pandemic COVID-19 (Kementrian Keuangan Badan Kebijakan Fiskal, 2021). Thereby, government had formed strategies to economy optimization and recovery. One of them is by boosting infrastructure building, including the new capital city of Indonesia called *IKN* and all around Indonesia (Kementrian Koordinator Bidang Perekonomian Republik Indonesia, 2023). As a result, the country's economy gets better throughout the time which give positive impacts to the society in various aspects. Toll road has enhanced the accessibility and effectiveness between regions (Kementrian Sekretariat Negara Republik Indonesia, 2024)

In 2020, Indonesia has signed infrastructure contracts in amount of 183.77 trillion rupiah (Indonesia Corruption Watch, 2022). Meanwhile, the debt to GDP ratio has reached the highest point with 39.9% in year 2020 (Badan Keahlian DPR RI, 2024). Yet, the ratio number has been controlled and lowered until year 2024. It is a form of awareness to mitigate the long-term risk. In addition, there are six state-owned enterprises suffering financial distress. Half of them are from infrastructure companies. The causes are lack of management control and miss analyzing before investment (Rexy, 2024).

Factors which cause large companies to bankrupt are not only sales performance depletion, but also the inability to meet the debt obligations. It is said as the main factor of bankruptcy where companies will have to pay a large amount of interest expense while also struggling with the huge amount of money borrowed (detikFinance, 2024). A globally well-known kitchen utilities production brand called Tupperware just went bankrupt on September 2023 due to inabilities to meet the debt as much as $1.2 billion USD eventhough finally the brand were bought by 3rd party (CNBC Indonesia, 2024). For this reason, it's important for a company to keep in track its financial ratios to keep a good company's performance and mitigate financial distress.

Moreover, the commonly-used liquidity measurement is Current Ratio. Current Ratio is able to measure how capable a company in fulfilling its short-term obligations or liabilities (CNN Indonesia, 2023). Indonesia government has regulated the maximum debt of Infrastructure Funding Companies in Indonesia companies in the Minister of Finance Regulation *PMK* 010 *no* 100 Year 2009 Chapter 23, which is as much as 10 times from the company's equity (Menteri Keuangan Republik Indonesia, 2009). While According to *PMK* 010 Year 2015, the maximum creditable interest debt expenses for companies is when the Debt-to-Equity Ratio not exceeding 4. If the ratio is more than 4 over 1, the interest expenses are uncreditable. This

regulation stimulate corporations to utilize the creditable expenses while also maintaining the leverage number not too high since the creditable amount is maximized up to 4 for DER.
According to Dirman (2020), if a company has larger amount of assets, it shows a higher ability of fulfilling the obligations, and hence can avoid financial distress. Amount of assets can indicate how large a company size is. Thereby, this research would like to use Firm Size as a moderating variable to test the influence to the research model.

**Table 1.1 The Phenomena of Liquidity and Financial Distress in Infrastructure Companies listed in Indonesia Stock Exchange in the period of 2019 and 2020**

| Company | Year | Current Ratio | Altman Z-Score |
|---|---|---|---|
| PT Bali Towerindo Sentra Tbk (BALI) | 2019 | 0.326 | 1.321 |
| | 2020 | 0.625 | 1.290 |
| PT Indonesia Kendaraan Terminal Tbk (IPCC) | 2019 | 3.289 | 5.245 |
| | 2020 | 4.449 | 1.333 |
| PT Jasa Armada Indonesia Tbk (IPCM) | 2019 | 3.813 | 4.430 |
| | 2020 | 2.805 | 5.085 |

Data are collected from three samples of infrastructure company, with code of company BALI, IPCC, and IPCM. BALI data shows increasing in number of the Current Ratio from 0.326 to 0.625 while the Altman Z-Score decreases from 1.321 to 1.290. Based on the research and theory mentioned previously, the Current Ratio and Altman Z-Score should have aligned since the larger a company's assets, it has better capabilities of fulfilling the obligations, so less likely to suffer financial distress. Data from IPCC also shows the increasing of Current Ratio followed with the decreasing of Altman Z-Score from 2019 to 2020. While IPCM data shows the contrary case where the Current Ratio decreased, followed by increasing of Z-score which indicating a better financial performance. It means that the higher Current Ratio not always lead to better financial performance since the Z-Score should be higher while Current Ratio increases. These 2 years period of 2019 and 2020 are chosen since it shows a larger gap in financial performance due to pandemic COVID-19.
By having some researchers gap and taking the recommendations of previous researches, the writer would like to conduct further analysis and interpretation through this research titled "THE IMPACT OF LIQUIDITY TOWARDS FINANCIAL DISTRESS (WITH FIRM SIZE AS THE MODERATING VARIABLE)".

## 1.2Problem Limitation

With purpose to enhance the research focus and efficiency, this paper does not include all of the variables that affect financial distress. This study has one main independent variables and one dependent variable, with one moderating variable. Additionally, four control variables were added in the data analysis. The main independent variable is Liquidity with Leverage, Dividend Policy, Sales Growth and Efficiency as the control variables. While Financial Distress is the dependent variable and Firm Size as the moderating variable. Furthermore, the research is conducted specifically to companies from infrastructures sector which are listed in the Indonesia Stock Exchange for the year 2017-2023, which are from 7 years respectively and will be sorted using purposive sampling method. This research will use multiple linear regression as the analyzing tool after passing the classical assumption tests.

## 1.3Problem Formulations

The problem of formulations for this study are as follow:

1. Does liquidity have significant impact toward financial distress?
2. Does the moderating variable of firm size have significant impact towards liquidity on financial distress?

1.4 Objectives of The Research

By conducting this research, it's expected that readers can have deeper understanding and wider knowledge on financial distress and the factors influencing it. Besides, this research can provide further comprehension of the impact of profitability to financial distress which may help mitigate risk of bankruptcy caused by performance declining, especially in infrastructure sector companies.

## 2. LITERATURE REVIEW

2.1 Theoretical Background

Relating to this research topic, agency theory implied in testing the impact of profitability towards financial distress. It's found by Jensen & Meckling (1976), explaining the difference between interest of the principal and the agent. In this topic regarding financial distress, the agents is the board of management while shareholders act as the principal. This concept is explained where the board of management play an important role which determine whether the company will experience gain or loss. Due to different interest between management and shareholders, the shareholders would need to observe their company's financial performance regularly to ensure there is no financial distress.

**1.** Current Ratio

By using current ratio, a company can measure its ability to meet its debt payment and maintain enough assets for paying its obligations (E. F. Brigham & Houston, 2019). Hence, a good company should have sufficient liquid assets to ensure its short-term liabilities are covered.

**2.** Quick Ratio

Unlike in the current ratio, inventory is excluded from the quick ratio calculation. As inventory is a form of products to be sold by a company, there is no exact maturity date, only expiry date for certain products. Thereby, quick ratio shows a company's competence to use its current assets to fulfill its current liabilities, without depending on the unsold products (E. F. Brigham & Houston, 2019).

2.1 Previous Researches

1. Khaeria & Kristianti (2023)

This research was published by Jurnal Manajemen Indonesia from Universitas Telkom Indonesia entitled "The Impact of Corporate Governance and Liquidity on Financial Distress with Firm Size as Moderating Variable". The study used quantitative data from companies in real estate and property sector listed on IDX from year 2017 up to 2021. The regression model is logistic regression. The result states that Liquidity and Corporate Governance have simultaneous significant impact on Financial Distress. Liquidity has no partial significant influence towards Financial Distress. Firm size has no impact on the correlation between Liquidity and Financial Distress.

2. Andaris & Dasman (2024)

Title of the research is "Does Firm Size Have a Moderating Effect On Financial Distress? Evidence: Infrastructure Sector in Indonesia Stock Exchange". This research used secondary data from infrastructure sector companies listed on IDX from 2020 to 2023, implementing

purposive sampling method. The regression model is logistic regression. As a result of this research, each of the Liquidity and Leverage has partial significant impact on Financial Distress on different significance level. However, each of the independent variables has no significant impact towards Financial Distress. Firm Size has the ability to moderate Liquidity and Leverage on affecting Financial Distress, yet it has no impact on Profitability variable.

3. Saputri (2019)

The research entitled "The Effect of Leverage, Liquidity and Profitability on Financial Distress with the Effectiveness of the Audit Committee as a Moderating Variable" by having the mining sector companies data from 2013-2016. By using the moderating regression analysis, the research result shows that all of the independent variables have no significant impact towards the dependent variable. The moderating variable of Audit Committee is able to moderate the Leverage and Profitability on the relationship with the dependent variable.

4. Dirman (2020)

This research was published online by the International Journal of Business, Economics and Law. Title of the research is "Financial Distress: The Impacts of Profitability, Liquidity, Leverage, Firm Size and Free Cash Flow". It is an international published paper. Population of the research is from year 2016 to 2018 with 90 samples were used. Using purposive sampling, the data are collected from the manufacturing companies specifically in chemical industry sector. The research results show that liquidity has no impact towards financial distress while firm size shows negative impact to financial distress.

5. Ramadani & Ratmono (2023)

The title of this research is "*Pengaruh Profitabilitas, Likuiditas dan Leverage terhadap* Financial Distress", published by Jurnal Manajerial dan Kewirausahaan UNTAR. Data are from consumption sector firms registered on the IDX in 2016-2020. There are 8 samples of company chosen through purposive sampling method and processed using data panel regression. As a result, all of the independent variables have significant effect on Financial Distress simultaneously. Each of the independent variables Profitability and Leverage has partial significant influence on Financial Distress. However, the result indicated Liquidity doesn't have significant impact towards Financial Distress.

6. Anistasya & Setyawan (2022)

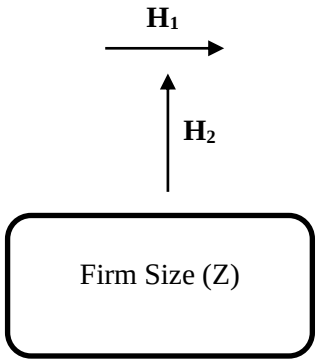
The research was published online with title "*Pengaruh Profitabilitas, Likuiditas dan* Leverage *terhadap* Financial Distress" by Jurnal Managerial dan Kewirausahaan. In this research, purposive sampling technique was used for data from consumer goods manufacturing sector companies listed on the IDX year 2016-2020. The result shows that all independent variables has significant influence on financial distress simultaneously. While each of the profitability and leverage variables are partially having significant impact on financial distress, yet liquidity has no significant influence on the financial distress. The measurements used are Return on Assets, Current Ratio and Debt to Assets Ratio.

7. Marbun & Malau (2022)

The research entitled "The Effect of Profitability and Liquidity on Financial Distress in The Sub Sector Property Listed on The Indonesia Stock Exchange in 2018" by having the property subsector companies data from year 2018. Purposive sampling method, logistic regression and descriptive statistics were used in the research. The research result shows that both Liquidity and Profitability have significant influence on Financial Distress both partially and simultaneously.

8. Nurhamidah & Kosasih (2021)

The research title is "*Pengaruh* Current Ratio, Debt to Equity Ratio, *dan* Return on Equity *terhadap* Financial Distress". 5 textile companies from 2014-2019 were chosen as the sample with purposive sampling method. Moreover, logistic regression, Hosmer-and-Lemeshow's fit test, Wald hypothesis test, and Omnibus test were used in the research. The result indicates that Liquidity as measured by Current Ratio has negative and significant impact towards Financial Distress. Additionally, all of the independent variables have significant impact towards Financial Distress simultaneously.
The hypothesis of the study are as follow:
$H_1$: Liquidity has significant impact towards Financial Distress.
$H_2$: Liquidity has significant impact towards Financial Distress through Firm Size as the Moderating Variable.




Source: Prepared by the Writer (2025)

2.2 Hypothesis Development
2.3.1 The Impact of Liquidity towards Financial Distress
For a company's long-term run, the operational activities should be supported by larger amount of current assets compared to the current liabilities (Sudaryanti & Dinar, 2019). Based on Tyaga & Kristanti (2020)'s research, company with good liquidity ratio is less probably to suffer financial distress. The increase of liquidity shows significant effect on financial distress (Andaris & Dasman, 2024). Thereby, the higher the liquidity ratio, the higher the Altman Z-score should be since higher number indicates a better financial performance.
The first hypothesis of this research:
**$H_1$ : Liquidity has significant impact towards Financial Distress.**
2.3.2 The Impact of Liquidity with Firm Size as the Moderating Variable towards Financial Distress
Firm size is one of the important aspects considered by investors before making a financial decision (Muzharoatiningsih & Hartono, 2022). An extremely poor financial performance can be the consequence of low liquidity due to inability to fulfill short-term obligations. In addition, a firm with small size of assets is less likely to have backup financial to cover the crisis of financial distress while also would be harder to gain investor's trust (Ariyanti et al., 2024). A

research conducted by Lela et al. (2021) proved that the firm size can affect in financial difficulties by lessening the liabilities using the assets owned. According to a previous study result, Firm Size has the ability to moderate the relation of Liquidity and Financial Distress in a significant way, which strengthen the influence of one variable to the other (Andaris & Dasman, 2024).
The research hypothesis is made as below:
**$H_2$ : Liquidity has significant impact towards Financial Distress through Firm Size as the Moderating Variable.**

## 3. RESEARCH METHODOLOGY

The method used for this research is the quantitative research method, specifically using purposive sampling. The criterias for this sampling method are companies listed on Indonesia Stock Exchange which are classified as infrastructure sectors. Firstly, the data was gathered from the Indonesia Stock Exchange (IDX) and SnP Capital IQ knowing the list of the companies in Indonesia as the secondary data. The research's purpose is to test the impact of Liquidity on Financial Distress with Firm Size as its moderating variable from the infrastructure companies listed on the IDX from 2017 to 2023, seven years respectively. The data analysis will be processed through software IBM SPSS Statistics 25.

### 3.1 Operational Variables

According to E. Brigham & Gapenski (1999), financial distress is when a company is struggling with its cashflow in terms of liquidity to meet or fulfill the current obligations. In a corporation, financial distress can occur due to lack of management capability and experiences in organizing a corporation, especially the financing department (Amaniyah, 2023). Financial distress that lead to bankruptcy would involve high cost. Where based on theory by Westgaard & Wijst (2001), liquidity risk and business has the connection in cycle where would affect the macroeconomics of a corporation. One of the commonly-used measurement for financial distress is Altman Z-score with formula as below (Yusbardini & Rashid, 2019):

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$$

With :
$X_1$ = Working Capital to Total Assets
$X_2$ = Retained Earnings to Total Assets
$X_3$ = Earnings Before Interest and Taxes to Total Assets
$X_4$ = Market Value of Equity to Book Value of Total Debt
$X_5$ = Sales to Total Assets

Liquidity is the measurement of how able a company fulfill its short-term liabilities by the current condition (Subramanyam & John, 2014). According to Mamduh & Halim (2018), there are two points of describing financial distress, such as the liquidity problems to insolvency. Thereby, a higher liquidity ratio means a company is having a better condition because it has enough current assets to maintain the responsibilities (Amanda & Tasman, 2019). There are two types of measurement for liquidity ratio. In this research, Current Ratio is used.

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

### 3.2 Sample

**Table 2.1 Determination of Samples**

| No. | Criteria | Amount |
|---|---|---|
| 1 | Infrastructure companies listed in the Indonesia Stock Exchange or IDX in period of year 2017-2023 | 65 |
| 2 | Minus: Infrastructure sector companies which don't have their financial reports posted completely on the IDX for year 2017-2023 | 12 |
| 3 | Minus: Infrastructure Companies which don't have complete information of the retained earnings and shares outstanding | 1 |
| 4 | Minus: Infrastructure Companies which don't have complete information of Market Value of Shares in 2017-2023 | 9 |
| Number of Samples (Company) | | **43** |
| Total Data (2017-2023) | | **301** |

Source: Prepared by the Writer (2025)

## 4. RESULT AND DISCUSSION

### 4.1 Descriptive Statistics Analysis

This research is using 43 companies as samples from 2017-2023 with total of 301 data before any treatment of outlier. The descriptive statistics test results are as below.

**Table 4.1 Descriptive Statistics Output**

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Liquidity | 301 | .027 | 83.478 | 2.12867 | 5.541544 |
| Leverage | 301 | -34.930 | 149.869 | 1.91046 | 9.247418 |
| Dividend Policy | 301 | -4.270 | 311.429 | 2.72863 | 25.684647 |
| Sales Growth | 301 | -3.079 | 8.985 | .12124 | .743726 |
| Efficiency | 301 | .000 | 1.361 | .42697 | .283187 |
| Financial Distress | 301 | -16.749 | 29025.089 | 100.52018 | 1672.767838 |
| Valid N (listwise) | 301 | | | | |

Source: Data Processed using IBM SPSS Statistics 25 (2024)

Liquidity as proxied by Current Ratio shows the minimum value of 0.027 that belongs to PT First Media Tbk or known as KBLV in the year of 2020. The following value is 83.478 which is the maximum value coming from PT Himalaya Energi Perkasa Tbk or known as HADE in the year of 2018. Leverage as measured by Debt-to-Equity Ratio shows the minimum value of -34.930 that belongs to PT Centratama Telekomunikasi Indonesia Tbk or known as CENT in the year of 2022. The following value is 149.869 which is the maximum value coming from PT First Media Tbk or known as KBLV in the year of 2021.

Dividend Policy with Dividend Payout Ratio as the measurement, shows the minimum value of -4.270 that belongs to PT Indonesia Kendaraan Terminal Tbk or known as IPCC in the year of 2020. The following value is 311.429 which is the maximum value coming from PT LCK Global Kedaton Tbk or known as LCKM in the year of 2022. Sales Growth shows the minimum value of -3.079 that belongs to PT Himalaya Energi Perkasa Tbk or known as HADE in the year of 2017. The following value is 8.985 which is the maximum value coming from PT LCK Global Kedaton Tbk or known as LCKM in the year of 2017. Efficiency as proxied by Total Asset Turnover shows the minimum value of 0 that belongs to PT Leyand International Tbk or known as LAPD in the year of 2022. The following value is 1.361 which is the maximum value

coming from PT Cardig Aero Services Tbk or known as CASS in the year of 2019. Financial Distress using Altman Z-Score Model shows the minimum value of -16.749 that belongs to PT Himalaya Energi Perkasa Tbk or known as HADE in the year of 2023. The following value is 29025.089 which is the maximum value coming from PT LCK Global Kedaton Tbk or known as LCKM in 2017.

## 4.2 Pearson Correlation Analysis

**Table 4.2 Pearson Correlation Analysis**

| Correlations | | | |
|---|---|---|---|
| | | Liquidity | Financial Distress |
| Liquidity | Pearson Correlation | 1 | .171** |
| | Sig. (2-tailed) | | .003 |
| | N | 292 | 292 |
| Financial Distress | Pearson Correlation | .171** | 1 |
| | Sig. (2-tailed) | .003 | |
| | N | 292 | 292 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | |

Source: Data Processed Using IBM SPSS Statistics 25 (2024)

Through the Pearson Correlation analysis table above, the relationship between liquidity and financial distress as the main independent variable and dependent variable respectively in this research, are having significant correlation statistically. The P-value shows 0.003 or 0.3% which means liquidity has significant impact on financial distress with 0.01 level of significance. The Pearson correlation is 0.171 which means the relationship is positive within the range of 0.00 to 0.199, so both variables are having low correlation.

## 4.3 Summary of Classical Assumption Test Result

**Table 4.3 Summary of Classical Assumption Test**

| Classical Assumption Test | Type of Test | Results |
|---|---|---|
| Normality Test | Kolmogorov-Smirnov (K-S) Test | The regression model is normally distributed |
| Multicollinearity Test | Tolerance Value and VIF | No multicollinearity exists |
| Heteroscedasticity Test | Glejser Test | No heteroscedasticity in the first four independent variables, yet heteroscedasticity exists in the last independent variable |
| Autocorrelation Test | Significance Value | No autocorrelation exists |

Source: Concluded by the Writer (2024)

## 4.4 Multiple Linear Regression

Multiple linear regression has purpose to test the impact of independent variables, such as Liquidity, Leverage, Dividend Policy, Sales Growth, and Efficiency towards Financial Distress in Infrastructure sector companies listed at IDX on period of year 2017-2023.

**Table 4.4 Multiple Linear Regression Analysis**

| Coefficients[a] | | | | |
|---|---|---|---|---|
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |

| | | B | Std. Error | Beta | | |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 4.433 | 1.065 | | 4.163 | .000 |
| | Liquidity | .613 | .246 | .152 | 2.492 | .013 |
| | Leverage | -.076 | .060 | -.074 | -1.280 | .202 |
| | Dividend Policy | .029 | .030 | .060 | .980 | .328 |
| | Sales Growth | 1.142 | 1.172 | .057 | .974 | .331 |
| | Efficiency | -3.690 | 1.962 | -.110 | -1.881 | .061 |
| a. Dependent Variable: Financial Distress | | | | | | |

Source: Data Processed Using IBM SPSS Statistics 25 (2024)

From the Table 4.4, the multiple regression model is stated as follows:

$AZS = 4.433 + 0.613CR_1 – 0.076DER_2 + 0.029DPR_3 + 1.142SG_4 – 3.690TATO_5 + e$

## 4.5 Moderated Regression Analysis (MRA)

**Table 4.5 MRA on Liquidity (First Step)**

| Coefficients[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.737 | .662 | | 4.137 | .000 |
| | Liquidity | .687 | .233 | .171 | 2.955 | .003 |
| a. Dependent Variable: Financial Distress | | | | | | |

Source: Data Processed Using IBM SPSS Statistics 25 (2024)

According to table 4.5, there is significant influence of Liquidity on Financial Distress with the significance value of 0.003 < 0.05.

The first equation is as follows:

$AZS = 2.737 + 0.687CR_i + e$

**Table 4.6 MRA on Liquidity (Second Step)**

| Coefficients[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 55.615 | 7.832 | | 7.101 | .000 |
| | Liquidity | .199 | .228 | .049 | .872 | .384 |
| | Firm Size | -1.773 | .262 | -.384 | -6.773 | .000 |
| a. Dependent Variable: Financial Distress | | | | | | |

Source: Data Processed Using IBM SPSS Statistics 25 (2024)

According to table 4.6, there is no significant influence of Liquidity on Financial Distress where the significance value is 0.384 > 0.05 after adding the variable Firm Size. While there is significant effect indicated between Firm Size and Financial Distress with significance value of 0.000 < 0.05.

The second equation is as follows:

$AZS = 55.615 + 0.199CR_i – 1.773FS_i + e$

**Table 4.7 MRA on Liquidity (Third Step)**

| Coefficients[a] | | | | |
|---|---|---|---|---|
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |

| | | B | Std. Error | Beta | | |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 52.845 | 8.941 | | 5.910 | .000 |
| | Liquidity | 1.852 | 2.576 | .461 | .719 | .473 |
| | Firm Size | -1.674 | .304 | -.363 | -5.504 | .000 |
| | Moderating 1 | -.061 | .095 | -.406 | -.644 | .520 |
| a. Dependent Variable: Financial Distress | | | | | | |

Source: Data Processed Using IBM SPSS Statistics 25 (2024)

According to the Table 4.7 above, there is significant influence between the Firm Size (Z) and Financial Distress (Y) since the significance value is 0 < 0.05. moreover, Liquidity has no significant affect on the Financial Distress as the significance value is 0.473 > 0.050. The moderating variable of Firm Size shows no significant impact towards the relationship of Liquidity to Financial Distress since the significance value is 0.520 > 0.050. Therefore, the result can be concluded that $H_2$ is rejected since Firm Size is unable to act as the moderating variable for the research model, which means Firm Size is not a moderator for Liquidity towards Financial Distress.

The third equation is as follows:

$AZS = 52.845 + 1.852CR_i - 1.674FS_i – 0.061CR_i * FS_i + e$

## 4.6 Model Specification Test (F-Test and Adjusted R Square)

**Table 4.8 F-Test Result without Moderating Variable**

| ANOVA[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 1233.910 | 5 | 246.782 | 3.051 | .011[b] |
| | Residual | 23133.242 | 286 | 80.885 | | |
| | Total | 24367.152 | 291 | | | |
| a. Dependent Variable: Financial Distress | | | | | | |
| b. Predictors: (Constant), Efficiency, Dividend Policy, Leverage, Sales Growth, Liquidity | | | | | | |

Source: Data Processed Using IBM SPSS Statistics 25 (2024)

As can be seen from the table above, the significance value is 0,011 less than the significance level is 0,05. This indicates that hypothesis formulated ($H_1$) namely Liquidity has significant impact towards Financial Distress is accepted, hence null hypothesis ($H_0$) is rejected.

**Table 4.9 Coefficient of Determination ($R^2$) without Moderating Variable**

| Model Summary | | | | |
|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .295[a] | .087 | .071 | 7.39863 |
| a. Predictors: (Constant), Efficiency, Dividend Policy, Leverage, Sales Growth, Liquidity | | | | |

Source: Data Processed Using IBM SPSS Statistics 25 (2024)

Based on the SPSS output on Table 4.9 above, the Adjusted R Square is 0.071. Therefore, the result shows that the variable $X_1$ is able to explain Financial Distress (Y) as much as 7.1%, while the remaining 92.9% will be explained by another variables not used in this research.

## 4.7 Hypothesis Testing or T-Test

**Table 4.10 T-Test Result**

| Coefficients[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 4.433 | 1.065 | | 4.163 | .000 |
| | Liquidity | .613 | .246 | .152 | 2.492 | .013 |
| | Leverage | -.076 | .060 | -.074 | -1.280 | .202 |
| | Dividend Policy | .029 | .030 | .060 | .980 | .328 |
| | Sales Growth | 1.142 | 1.172 | .057 | .974 | .331 |
| | Efficiency | -3.690 | 1.962 | -.110 | -1.881 | .061 |
| a. Dependent Variable: Financial Distress | | | | | | |

Source: Data Processed Using IBM SPSS Statistics 25 (2024)

The t-test result using significance value of 5% can be concluded that the Liquidity ($X_1$) has significant impact towards Financial Distress (Y) because the significance value is 0.013 < 0.05, hence $H_1$ is accepted. Moreover, Efficiency ($X_5$) has significant influence on Financial Distress with 10% level of significance since the significance value is 6.1%. However, another three control variables have no significant impact on Financial Distress in any level of significance.

## 5. CONCLUSION

This research analyzes the impact of Liquidity towards Financial Distress with Firm Size as the Moderating Variable. Control variables in this research are Leverage, Dividend Policy, Sales Growth and Efficiency. The data is collected from infrastructure sector companies listed on the Indonesia Stock Exchange.

Based on the findings, results can be concluded as below:

The first hypothesis ($H_1$) is accepted.

Liquidity as proxied by Current Ratio has significant impact towards Financial Distress. $H_1$ is proven through the secondary data collected from the infrastructure sector companies listed on the Indonesia Stock Exchange. It shows the higher liquidity can lead to a higher Altman Z-Score for Financial Distress, so the better financial performance a company have.

The second hypothesis ($H_2$) is rejected.

Firm size, as proxied by Ln multiplied with Total Assets, is not able to moderate the relationship between Liquidity and Financial Distress. This study resulted that Liquidity has no significant impact towards Financial Distress through Firm Size as the moderating variable.

Knowing this research having limitations, for the future researchers, pther sector companies can be used or added, also another period of year can be added for more detail and most updated result.

## APPENDIX

Total population of infrastructure companies listed on the IDX in 2017-2023 are 65 companies (IDX Channel, 2023).

Sample of 43 infrastructure companies which are used to be processed in this research:

| No | Code | Company Name |
|---|---|---|
| 1 | ACST | PT Acset Indonusa Tbk |
| 2 | ADHI | PT Adhi Karya (Persero) Tbk |
| 3 | BALI | PT Bali Towerindo Sentra Tbk |

| | | |
|---|---|---|
| 4 | BUKK | PT Bukaka Teknik Utama Tbk |
| 5 | CASS | PT Cardig Aero Services Tbk |
| 6 | CENT | PT Centratama Telekomunikasi Indonesia Tbk |
| 7 | CMNP | PT Citra Marga Nusaphala Persada Tbk |
| 8 | DGIK | PT Nusa Konstruksi Enjiniring Tbk |
| 9 | EXCL | PT XL Axiata Tbk |
| 10 | FREN | PT Smartfren Telecom Tbk |
| 11 | GMFI | PT Garuda Maintenance Facility Aero Asia Tbk |
| 12 | HADE | PT Himalaya Energi Perkasa Tbk |
| 13 | IBST | PT Inti Bangun Sejahtera Tbk |
| 14 | IDPR | PT Indonesia Pondasi Raya Tbk |
| 15 | IPCC | PT Indonesia Kendaraan Terminal Tbk |
| 16 | IPCM | PT Jasa Armada Indonesia Tbk |
| 17 | ISAT | PT Indosat Ooredoo Hutchison Tbk |
| 18 | JKON | PT Jaya Konstruksi Manggala Pratama Tbk |
| 19 | JSMR | PT Jasa Marga (Persero) Tbk |
| 20 | KARW | PT Meratus Jasa Prima Tbk |
| 21 | KBLV | PT First Media Tbk |
| 22 | LAPD | PT Leyand International Tbk |
| 23 | LCKM | PT LCK Global Kedaton Tbk |
| 24 | LINK | PT Link Net Tbk |
| 25 | META | PT Nusantara Infrastructure Tbk |
| 26 | MPOW | PT Megapower Makmur Tbk |
| 27 | NRCA | PT Nusa Raya Cipta Tbk |
| 28 | PBSA | PT Paramita Bangun Sarana Tbk |
| 29 | PORT | PT Nusantara Pelabuhan Handal Tbk |
| 30 | POWR | PT Cikarang Listrindo Tbk |
| 31 | PPRE | PT PP Presisi Tbk |
| 32 | PTPP | PT PP (Persero) Tbk |
| 33 | SSIA | PT Solusi Tunas Pratama Tbk |
| 34 | SUPR | PT Solusi Tunas Pratama Tbk |
| 35 | TBIG | PT Tower Bersama Infrastructure Tbk |
| 36 | TGRA | PT Terregra Asia Energy Tbk |
| 37 | TLKM | PT Telekomunikasi Indonesia (Persero) Tbk |
| 38 | TOPS | PT Totalindo Eka Persada Tbk |
| 39 | TOTL | PT Total Bangun Persada Tbk |
| 40 | TOWR | PT Sarana Menara Nusantara Tbk |
| 41 | WEGE | PT Wijaya Karya Bangunan Gedung Tbk |
| 42 | WIKA | PT Wijaya Karya (Persero) Tbk |
| 43 | WSKT | PT Waskita Karya (Persero) Tbk |

Source: Prepared by the Writer (2024)

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