Analysis of Liquidity, Leverage, and Activity Ratio on the Financial Profitability of Indonesian Telecommunications Industry

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Abstract: This study aimed to analyze the effects of liquidity, leverage, and activity on the profitability of telecommunications companies listed on the Indonesian stock exchange. The analytical method used in this study is multiple linear regression analysis, where the data is obtained from Indonesia Stock Exchange. The sample used in this study is telecommunications companies listed on the Indonesia Stock Exchange. This research approach is quantitative. The results obtained in this study show that liquidity, leverage, and activity have a significant effect on profitability. Partially, liquidity has a negative and significant effect on profitability, leverage has a negative and significant effect on profitability, while activity has a positive and significant effect on profitability. Firstly, for companies should increase the company profitability by reducing liquidity which can reduce company profits so that it can attract investors to invest in their companies and can also improve their financial performance. Second, for investors, in assessing a company, it is better to pay attention to other factors that affect the company’s profitability, such as company size, company growth, and dividend policy. Third, for further researchers, it is hoped that further researchers will use a larger research sample and add other variables that can affect profitability.

Keywords: Liquidity Ratio, Leverage Ratio, Activity Ratio, Profitability Ratio
JEL Classification Code: E44, E43, E31

1. INTRODUCTION

The economic system in Indonesia has shown a significant improvement, which can be seen from the growing development of the industrial world, both small, medium, and large. In its current development, the industrial sector has a considerable role in supporting economic growth. The story of the industrial sector is part of a long-term effort expected to expand employment opportunities and equalize business opportunities to support the achievement of development goals (Othuon et al., 2021). Industrial development in Indonesia is one of the most critical components. Industry allows our economy to develop rapidly and improve, thereby bringing about changes in the structure of the national economy. The sector’s development involves science and technology and expanding job opportunities (Arfah et al., 2020). The development of the telecommunications industry has also increased the interest of investors and potential investors in the industry because this industry has opportunities and prospects in the future, given the high number of users of telecommunications services in Indonesia. There are five companies engaged in the telecommunications sector listed on the Indonesia Stock Exchange from 2011 to 2015: PT. Telekomunikasi Indonesia Tbk, PT. XL Axiata Tbk, PT. Indosat Tbk, PT. Bakrie Telecom Tbk, and PT. Smartfren Telecom Tbk. The competition between the five companies is very tight in fighting over the considerable number of potential consumers in Indonesia to maintain and increase their respective market share. Of course, investors in the stock market will be more interested in doing business in and investing in this industry. However, uncertainty in investing in the market encourages investors to be careful in deciding which shares to buy to maximize returns combined with certain risks in each investment decision. Before investing, an investor must consider several factors.
factors, including assessing the company’s financial performance. By knowing the company’s financial performance, we can get an overview of the development of the company’s financial performance, then analyze it to assess what has been achieved and in the future. For the company’s management, this performance appraisal will significantly affect the preparation of the company’s business plans that will be implemented in the future for the company’s survival (Hossain et al., 2021; Mitrega & Choi, 2021).

Financial statements are the result of accounting processes that can be used as a communication tool between financial data or activities of a company and parties with interest in such financial data or activities (Best et al., 2001). The financial statements consist of a balance sheet, income statement, statement of changes in equity, a cash flow statement, and notes to financial statements. The measure used in the analysis of financial statements is to use financial ratios. A financial ratio is an index that connects two accounting numbers and is obtained by dividing one number by another (Horne, 2012:163). With these methods and techniques, we can find out the development of a company now and in the future so that it will be able to decide whether the company’s financial condition is good or wrong later, or whether the profitability or profit achieved by the company is good or not. Profitability measures the effectiveness of management, which is indicated by the size of the level of profit obtained concerning sales and investment. The better the profitability ratio, the better it describes the ability of the company to earn high profits (Ozcelik, 2020). The amount of profit is used to assess the company’s performance. Companies can maximize their profits if the financial manager knows the factors that significantly influence the company’s profitability. To maximize each element, it is necessary to have asset management, cost management, and debt management. In asset management, companies need to pay more attention to managing their working capital to be more efficient because working capital is a relatively large part of assets. As a company engaged in the telecommunications industry, it requires more efficient management of working capital. The point is that the company should provide working capital that is tailored to the needs of the company. However, excessive working capital, particularly working capital in the form of cash and securities, can harm the company because it causes significant funds to accumulate without productive use (Ahmed et al., 2020). This causes the company to lose the opportunity to make a profit. In addition, excess working capital will also cause waste in the company’s operations.

Therefore, management with a high level of effectiveness is needed to achieve the company’s goals. Measurement of the level of management effectiveness shown by the profit generated from sales and investment income can be done by knowing how big the profitability ratio is (Maqbool & Zameer, 2018). By knowing the profitability ratios owned, the company can monitor the company’s development from time to time. In addition to the problems regarding the consequences of working capital turnover, another factor is the company’s liquidity problem. The rapid development of several companies is not or has not been supported by strict supervision; this causes many issues, such as misuse of credit distribution, which eventually becomes terrible loans so that the industrial company becomes severely bankrupt (liquidation), as it is known that telecommunications industry companies, which are industries in their activities, rely on capital from investors. Therefore, telecommunications industry companies must be able to maintain financial health or liquidity. So that financial distress and the possibility of bankruptcy can be detected early to determine the direction of management policy. According to Horne and Machowicz in their book, Principles of Financial Management, it is said that the ability to earn profits is inversely proportional to liquidity (Van Horne & Wachowicz, 2001). This is a problem for companies that are faced with conflicting issues of liquidity and profitability. When the company sets a significant asset, the possibility that it will occur at the level of liquidity will be safe. Still, the expectation of a substantial profit will decrease, impacting the company’s profitability or vice versa. The higher the liquidity, the better the company’s position in the eyes of creditors because there is a greater possibility that the company will be able to pay its obligations on time.

On the other hand, from a shareholder perspective, high liquidity is not always profitable because it can generate idle funds that can be used to invest in projects that benefit the company. The number of companies in the industry and current economic conditions has created tight competition between companies in the telecommunications industry. The competitors in the telecommunications industry make every company must improve its performance so that its goals
can still be achieved. The primary purpose of companies, especially companies that have gone public, is to increase the prosperity of the owners or shareholders through increasing company value (Dong et al., 2020; Liu et al., 2021). If the company increases the amount of debt as a source of funds, it can increase financial risk. If the company cannot manage the funds obtained from debt productively, it can negatively impact and decrease the company’s profitability. Conversely, if the debt can be adequately collected and used for productive investment projects, it can positively influence and impact company profitability (Notta & Vlachvei, 2014). Another variable that affects the increase in company profitability is leverage. This is because debt financing or financial power, according to Brigham & Houston (2021), has three important implications: First, obtaining funds through debt allows shareholders to maintain control over companies with limited investments. Second, creditors look at the equity or funds deposited by the owner to provide a small portion of the total financing. Most of the company’s risk lies with creditors. Third, if the company obtains a more extensive take on investments financed by borrowed funds than interest payments, the return on the owner’s capital will be greater.

Meanwhile, Nugroho et al. (2019) states that leverage can increase shareholder returns, but with the risk of losses increasing in gloomy times. If the company employs more debt than its capital, the level of leverage will decrease because the interest expense that must be borne also increases. This will have an impact on profitability. Profitability is the net result of several company policies and decisions. The profitability ratio measures how much the company’s ability to generate profits. Profitability is a factor that should receive significant attention because, to be able to carry on its life, a company must be in good condition. Without profit, companies will find it difficult to attract outside capital. In conducting a company’s financial analysis, in addition to looking at the company’s financial statements, it can also be done using financial performance analysis. The following is the return on equity data for the telecommunications industry listed on the Indonesia Stock Exchange, which can be seen in the following table 1:

| No | Firm Code | 2016   | 2017   | 2018   | 2019   | 2020   |
|----|-----------|--------|--------|--------|--------|--------|
| 1  | TLKM      | -36,86 | 27,41  | 26,25  | 24,93  | 24,96  |
| 2  | EXCL      | 20,67  | 17,99  | 6,75   | -6,38  | -0,18  |
| 3  | ISAT      | 4,96   | 2,80   | -16,14 | -13,09 | -8,77  |
| 4  | BTEL      | -17,92 | -191,63| 262,59 | 74,03  | 69,05  |
| 5  | FREN      | -73,43 | -31,36 | -83,10 | -34,81 | -22,86 |

Source: www.idx.co.id

In connection with this explanation, the previous research conducted by Ardiatmi & Sampurno (2014) entitled Analysis of the Effect of the Current Ratio, Debt to Equity Ratio, Total Asset Turnover, Firm Size, and Debt Ratio on Profitability (ROE) showed the results that the current ratio had a negative and significant effect. On profitability (ROE), in contrast to Putra et al. (2014) research entitled The Effect of Liquidity and Leverage on Profitability and Firm Value, with the result that liquidity has no significant effect on profitability and firm value. Meanwhile, Hantono (2019) entitled the analysis of current ratio and debt to equity ratio on profitability with the result that the debt-to-equity ratio has a negative and significant effect on profitability, in contrast to research, in comparison to Julita & Prabowo (2021) study entitled the effect of debt-to-equity ratio and long term. Term debt to equity ratio to profitability (ROE), with the result that the debt-to-equity ratio does not significantly affect ROE. Another study, Silvy & Yulianti (2013), entitled The Effect of Working Capital Policy on Profitability, showed that working capital turnover and working capital funding (debt structure) had a positive and significant effect on profitability, in contrast to Ismail & Hasan (2020) research on the analysis of the effect of solvency ratios, liquidity, and profitability. Activity on the profitability of its capital (ROE), with the result that the movement partially has no significant effect on ROE.

Periodic measurement of the company’s financial performance is carried out to ensure that the company’s objectives can be achieved. Financial performance information helps assess the company’s financial condition in generating cash flows from existing sources. The policies carried out by the company in obtaining the sources of funds needed and their use must consider all
2. Literature Review and Hypothesis Development

Every change, whether in services, trade, or industry, especially the telecommunications industry listed on the Indonesia Stock Exchange, must aim to seek profitability. Profitability is the company’s ability to earn profits in relation to sales, total assets, and own capital. To maximize profits, it is necessary to have asset management, cost management, and debt management. In asset management, the need for companies to manage their working capital is needed by every company to finance their daily operations; in determining an efficient working capital policy, companies are faced with the problem of a trade-off between liquidity and profitability factors (Van Horne & Wachowicz, 2001). If the company decides to set a large amount of working capital, it is likely that the level of liquidity will be maintained, but the opportunity to earn large profits will decrease, which will eventually have an impact on decreasing profitability. Conversely, if the company wants to maximize profitability, it may affect the company’s liquidity level. The higher the level of liquidity, the better the position of the company in the eyes of creditors because there is a greater possibility that the company will be able to pay its obligations on time. On the other hand, from a shareholder perspective, high liquidity is not always profitable because it can generate idle funds that can be used to invest in projects that benefit the company. In addition to the problems mentioned above, the company is also faced with the problem of determining the source of funds. Fulfillment of a company’s funding needs can be met from the company’s internal sources, namely by seeking capital withdrawals through the sale of shares to the public or retained earnings that are not shared and reused as capital. Fulfillment of the company’s funding needs can also be met from external sources, namely by borrowing funds from creditors such as banks, non-bank financial institutions, or companies that can also issue bonds to be offered to the public. According to Forbes-Mewett et al. (2009), debt financing or financial leverage can be used to increase shareholder returns, but with the risk of increased losses in bad times. If the company uses more debt than its own capital, the level of leverage will decrease because the interest expense that must also be borne must increase, so this will have an impact on decreasing profitability. Therefore, these three variables, namely: working capital, liquidity, and leverage, are interrelated with each other, the purpose of which can affect the increase in company profitability.

Yudha et al. (2017), in his research the effect of liquidity and leverage on profitability and firm value in banking companies listed on the Indonesia Stock Exchange using the path analysis model. The results of this study indicate that liquidity has an insignificant positive effect on profitability and firm value, and leverage has a significant positive effect on profitability and firm value. Widjanto & Mildawati (2022), in his research "Analysis of the effect of liquidity ratios, activity, and leverage on profitability (ROE) in Food and Beverage Companies listed on the Indonesia Stock Exchange uses a multiple regression analysis model and partial and multiple regression testing. The results of this study partially show that the current ratio has a significant positive effect on ROE, and inventory turnover and DER have a significant negative effect on ROE. The simultaneous current ratio, inventory turnover, and DER have a significant positive effect on ROE. Lumarapow & Tumiwa (2020), in his research "The Influence of Working Capital Policy on Profitability in Hotel and Restaurant Companies on the Indonesia Stock Exchange," Uses multiple regression analysis models and partial and multiple regression testing. The results of this study show that partially the structure of assets, working capital turnover, and working capital funding have a significant positive effect on profitability, and liquidity has an insignificant positive effect on profitability while simultaneously having a significant positive effect on profitability. Gusmartina et al. (2021), in her
research, the effect of the Debt-to-Equity Ratio and Long-Term Debt to Equity Ratio Simultaneously on the Company’s Profitability as Measured by Return on Equity (ROE). A case study on a telecommunications company listed on the Indonesia Stock Exchange. using the multiple regression analysis model and partial and multiple regression testing, the results of this study show that the partial debt-to-equity ratio has no significant effect on ROE and the long-term debt-to-equity ratio has a significant effect on profitability. Simultaneously, DER and the long-term debt to equity ratio have a significant effect on ROE.

Fenton (2017), in her research "Analysis of the effect of solvency, liquidity and activity ratios on own capital earnings (ROE) in property and real estate companies listed on the Indonesia Stock Exchange for the period 2005-2012". Using multiple regression analysis models and partial and multiple regression testing. The results of this study show that the debt-to-equity ratio and current ratio partially have a positive and significant effect on return on equity. Meanwhile, working capital turnover partially has no significant effect on return on equity; simultaneously, debt to equity ratio, current ratio, and working capital turnover has a significant effect on ROE. Dewi (2016), in his research the influence of liquidity, solvency, and activity on the financial performance of Mining Companies on the Indonesia Stock Exchange," uses multiple regression analysis models and partial and multiple regression testing. The results of this study show that the current ratio, debt to equity ratio, and inventory turnover simultaneously affect the return on equity. In the current partial ratio, the debt-to-equity ratio has a positive and significant effect on return on equity, while inventory turnover has no effect on ROE. Damar et al. (2016), in her research, “analyzes the effect of current ratio, debt to equity ratio, total asset turnover, firm size, and debt to ratio on Profitability (ROE) case study on food and beverage manufacturing companies listed on the Indonesia Stock Exchange in 2008–2012.” Using multiple regression analysis models. The results of this study show that partially current ratio has a negative and significant effect on ROE, debt to equity ratio has a positive and significant effect on ROE, total asset turnover has no significant effect on ROE, and firm size has a negative and significant effect on ROE, and debt ratio has no effect on ROE. Hantono (2019), in his research analysis of the current ratio and debt to equity ratio to profitability in metal and similar manufacturing companies listed on the Indonesia Stock Exchange for the 2009-2013 period. The results of this study indicate that the current ratio and debt to equity ratio partially have a significant negative effect on return on equity. While working capital turnover partially has no significant effect on Return on Equity. Simultaneously the current ratio and debt to equity ratio have a significant effect on ROE. Mufidah & Sucipto (2020) Effect of liquidity and solvency on the profitability of telecommunications companies listed on the Jakarta Islamic Index for the period 2010-2014. Using linear regression analysis. The results of this study indicate that liquidity (CR) has a positive and insignificant effect on the profitability of telecommunications companies listed in JII. Based on the existing problems, a framework of thinking and the influence of liquidity, leverage, and activity on profitability can be made systematically, namely:

![Conceptual Framework](image-url)

**Figure 1: Conceptual Framework**
Based on the background, problem formulation, literature review, and previous research, the following hypothesis is formulated:

H1: Liquidity has a negative and significant effect on the profitability of the telecommunications industry listed on the Indonesia Stock Exchange.

H2: Leverage has a negative and significant effect on profitability in the telecommunications industry listed on the Indonesia Stock Exchange.

H3: Activities have a positive and significant effect on profitability in the telecommunications industry listed on the Indonesia Stock Exchange.

3. Research Method and Materials

3.1. Research Approach

The approach used in this study is a quantitative approach, which is an approach in which research proposals, hypotheses, go to the field, data analysis, and data conclusions are written up to the point of using aspects of measurement, formula calculation, and certainty of numerical data to produce the required information. The object of this research is the telecommunications industry listed on the Indonesia Stock Exchange, considering that the company has complete financial statements, has been actively operating until December 2015, and has never been delisted. Its financial statements have been audited, so this is what makes it easier for researchers to get the data needed for research. In contrast, the research and writing time is estimated to take approximately three months, from November 2019 to January 2021.

3.2. Data Collecting

Quantitative data is measured on a numerical scale (numbers), such as company financial statement data. Qualitative data is data that cannot be calculated or data that is not in the form of numbers, such as company developments and other data related to this research. The source of data in this study comes from secondary data, namely data obtained from the financial statements of the telecommunications industry listed on the Indonesia Stock Exchange for the period 2016-2020. The method used in the data collection instrument related to this discussion is through documentation, namely data collection techniques carried out by collecting written data, documents originating from telecommunications industry companies listed on the Indonesia Stock Exchange (IDX), and some literature derived from library materials.

3.3. Sampling Method

The population in this study is the service industry in the telecommunications sector listed on the Indonesia Stock Exchange, with as many as six companies. The sample of this study consists of five companies from 2014 to 2020. The following list of names of companies listed on the Indonesia Stock Exchange is shown in Table 2. The sampling method used is the purposive sampling method, with the aim of getting a representative sample in accordance with predetermined sample criteria. The criteria set for sampling are as follows:

1. Companies whose shares are still actively operating until the end of 2020.
2. The company publishes its financial statements regularly and earns a profit every year.
3. The company did not experience a delisting from the Indonesia Stock Exchange (IDX) during the estimation period.
4. The financial statements have been audited and submitted until the end of 2020.

For more details, a list of telecommunication industry companies that are researched and listed on the Indonesia Stock Exchange will be presented according to the following criteria:
Based on the data above, it appears that there are five telecommunications industry companies studied, so the number of years of observation in this study is seven years, so the number of words is $5 \times 7 = 35$.

### 3.4. Data analysis method

The method used in this research is quantitative analysis. Quantitative analysis is a form of analysis using numbers and statistical calculations to analyze a hypothesis and requires several analytical tools. Quantitative analysis can be used to help solve problems with tools related to statistics and mathematics so that the resulting decisions can be justified. In performing multiple regression analysis, the classical assumption is first tested to fulfill the BLUES (Best linear unbiased) estimation of the regression estimation. In linear regression testing, there are several stages that must be passed, for example, the normality test using the Kolmogorov & Smirnov test method. The second is the multicollinearity test. Value The value of $R^2$ by an empirical regression model estimation is very high, but individually, many independent variables do not significantly affect the dependent variable. Third, the multicollinearity test can also be seen from the Tolerance and Variance Inflation Factor (VIF) values, with the basis of decision making as follows: If the tolerance is above 0.1 and the VIF value is below 10, then there is no multicollinearity problem, meaning that the regression model is good. If the tolerance is less than 0.1 and the VIF value is above 10, then there is a multicollinearity problem, meaning that the regression model is not good. Fourth is the autocorrelation test; One of the methods used to detect the presence or absence of autocorrelation is the Durbin-Waston Test (DW Test). This test is only used for level one autocorrelation (first order autocorrelation) and requires an intercept (constant) in the regression model, and there are no more variables among the independent variables. Fifth, test the hypothesis, that is, through the F-statistical test. Use the F-test to test the effect of independent, jointly, or simultaneous variables on the dependent variable. The F-test criteria are as follows: If $F$-count $< F$-estimated, then $H_0$ is accepted and $H_a$ is rejected, meaning that there is no simultaneous influence between independent variables on the dependent variable. If $F$-calculated $> F$-estimated, then $H_0$ is accepted and $H_a$ is rejected, meaning that there is an influence between the independent variables simultaneously on the dependent variable.

The F-test can be done only by looking at the significance of F-value contained in the output of the regression analysis. If the significant F-value is less than (0.05), it can be said that there is a significant effect between the independent variables on the dependent variable simultaneously. Furthermore, the T-test is to test the effect of the independent variable partially on the dependent variable. The criteria for the T-test are as follows: If $t$-calculated $< t$-estimated, then $H_0$ is accepted and $H_a$ is rejected, meaning that there is no influence between the independent variables partially on the dependent variable. If $t$-calculated $> t$-estimated, then $H_a$ is rejected, and $H_0$ is accepted, meaning that there is an influence between the independent variables partially on the dependent variable. The t-test can be done only by looking at the t-significance value of each variable contained in the output of the regression analysis. If the t-significance is less than (0.05), it can be said that there is a significant effect between the independent variables on the dependent variable.

Next is the coefficient of determination test ($R^2$) and multiple regression analysis. Regression analysis is an analysis to see the effect of profitability, financial risk, firm size, managerial ownership, and earnings management using the following formula:

| No | Communication Company Name               | Code |
|----|------------------------------------------|------|
| 1  | PT. Telekomunikasi Indonesia Tbk         | TLKM |
| 2  | PT. XL Axiata Tbk                        | EXCL |
| 3  | PT. Indosat Tbk                          | ISAT |
| 4  | PT. Bakrie Telecom Tbk                   | BTEL |
| 5  | PT. Smartfren Telecom Tbk                | FREN |
\[ Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + e \]

Info:
- \( Y \): Profitability
- \( X_1 \): Liquidity
- \( X_2 \): Leverage
- \( X_3 \): Activity
- \( \alpha_0 \): intercept (regression intersection point)
- \( \alpha_1 - \alpha_3 \): coefficient
- \( e \): error-term

4. Results and Discussion

4.1. Description Analysis

Descriptive analysis of the data taken for this study is from 2014 to 2020, with as many as 35 observational data. The explanatory variables in the descriptive statistics used in this study include the minimum, maximum, mean, and standard deviation of one dependent variable, namely profitability, and three independent variables, namely liquidity, leverage, and activity. Descriptive statistics are concerned with collecting and ranking data. Descriptive statistics describe the sample used in this study.

a. The liquidity ratio is a ratio that measures the company’s ability to meet its short-term obligations by using the company’s liquid assets. In this study, to measure the liquidity ratio used, the current ratio (current ratio) The current ratio is a ratio to measure the company’s ability to pay short-term obligations or debts that are due immediately when billed in their entirety. The following is the data on the liquidity (current ratio) of telecommunications companies listed on the Indonesia Stock Exchange from 2014 to 2020:

| Firm Code | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| TLKM      | 60.58 | 91.49 | 95.80 | 116.04| 116.31| 106.22| 135.29|
| EXCL      | 33.41 | 48.83 | 38.81 | 41.86 | 73.69 | 86.44 | 64.46 |
| ISAT      | 54.63 | 51.55 | 55.05 | 75.43 | 53.13 | 40.63 | 49.46 |
| FREN      | 42.48 | 21.52 | 25.63 | 28.14 | 36.36 | 31.02 | 53.08 |
| BTEL      | 83.99 | 81.62 | 32.08 | 26.75 | 8.95  | 2.51  | 0.84  |

b. Leverage ratio measures the company’s ability to pay debts if it is liquidated. In this study, the debt to equity ratio was used to measure the leverage ratio. The debt to equity ratio is used to assess debt to equity. The following is the leverage data for telecommunication companies listed on the Indonesia Stock Exchange.

| Firm Code | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| TLKM      | 122.18| 97.58 | 68.99 | 66.28 | 65.26 | 63.59 | 77.86 |
| EXCL      | 211.03| 132.62| 127.65| 130.68| 163.25| 356.33| 317.58|
| ISAT      | 204.67| 193.73| 177.28| 184.73| 230.08| 275.14| 317.59|
| FREN      | 500.22| 385.25| 276.16| 187.69| 420.22| 348.27| 202.34|
| BTEL      | 127.05| 137.79| 179.56| 452.66| -86.04| -295.64| -119.27|

c. Activity Ratio is a ratio used to measure the effectiveness of the company in using its assets. This study is used to measure the activity ratio, namely working capital turnover.
capital turnover is one of the ratios to measure or assess the effectiveness of the company’s working capital during a certain period. The following is data on the activities of telecommunication companies listed on the Indonesia Stock Exchange:

### Table 5: Data on the Activities of Telecommunication Companies Listed on IDX

| Firm Code | Working capital turnover |
|-----------|-------------------------|
| TLKM      | 3.99 3.66 3.35 2.76 2.51 2.66 0.21 |
| EXCL      | 6.91 7.92 5.59 5.73 3.64 1.76 2.25 |
| ISAT      | 2.58 3.21 3.13 2.70 3.33 2.80 2.70 |
| FREN      | 0.68 0.84 1.20 1.93 1.21 1.46 1.37 |
| BTEL      | 1.58 1.93 2.73 3.07 4.45 7.89 7.96 |

d. Profitability is the ability of a company in its operational activities to obtain a return on sales, total assets, and own capital. This study used the ratio of return to equity (ROE) to measure the profitability level. Return to equity compares net profit after tax with own equity participation. The following is the profitability data calculated by telecommunication companies’ ROE on the Indonesian stock exchange:

### Table 6: Profitability Data of Telecommunication Companies Listed on IDX

| Firm Code | Return on Equity |
|-----------|------------------|
| TLKM      | 22.70 20.45 -36.86 27.41 26.21 24.93 24.96 |
| EXCL      | 19.42 24.68 20.67 17.99 6.75 -6.38 -6.18 |
| ISAT      | 8.19 3.55 4.96 2.80 -16.14 -13.09 -8.77 |
| FREN      | -91.40 3.37 -73.43 -31.36 -83.10 -34.81 -22.86 |
| BTEL      | 1.95 0.19 -17.92 -191.63 262.59 74.03 69.05 |

With the data shown in the table above, we can see the descriptive analysis below as follows:

### Table 7: Descriptive Statistical Analysis Results

| Descriptive Statistics | N | Minimum | Maximum | Mean | Std. Deviation |
|------------------------|---|---------|---------|------|----------------|
| Liquidity_CR           | 35 | .84     | 135.29  | 56.1166 | 33.00812 |
| Leverage_DER           | 35 | -385.25 | 500.22  | 157.5800 | 182.81157 |
| Activity_PMK           | 35 | .21     | 7.96    | 3.1906  | 2.04180 |
| Profitability_ROE      | 35 | -191.63 | 262.59  | 1.1123  | 65.75397 |
| Valid N (listwise)     | 35 |         |         |       |               |

Table 7 shows that the amount of data used in this study is 35 data samples taken from the annual published financial statements of manufacturing companies in the telecommunications industry sector listed on the Indonesia Stock Exchange for the period 2014 to 2020. The table above also shows that there is a dependent variable, namely profitability. And three independent variables, namely liquidity, leverage, and activity. The profitability variable is the dependent variable as measured by (ROE) Return On Equity, showing a minimum value of -191.63% and a maximum value of 262.59% with an average of 1.11% with a standard deviation of 65.75%. Where the mean value is smaller than the standard deviation, it indicates that the data is potentially not normally distributed, but further tests will still be carried out on the classical assumption test. The average value (mean) of liquidity is 56.11%, indicating the high liquidity from 2014 to 2020 has increased, with a maximum value of 135.29%. And a minimum of 0.84% standard deviation of 33.00% smaller than the mean of 56.11%. By looking at the size of the standard deviation, which is smaller than the average, the data used in the liquidity variable has a small distribution, so it can be concluded that the data is normally distributed. The average (mean) leverage of 157.58% shows the high leverage from 2014 to 2020 has increased, with a maximum value of 500.22% and a minimum of-385.25%. The standard deviation of leverage is greater than the mean value of 182.81%.
looking at the value of the standard deviation, which is greater than the average, the data used for the leverage variable has a large distribution, so it can be concluded that the data used is not normally distributed. The activity variable has the smallest (minimum) value of 0.21% and the highest (maximum) of 7.96%, with an average (mean) of 3.19% and a standard deviation value of 2.04%. This shows that the data on the activity variable has a very small distribution. Because the standard deviation is smaller than the mean, it can be concluded that the variable data is normally distributed.

4.2. Normality Test

The data normality test was conducted to determine whether the data distribution was normal. A nonparametric statistical Kolmogorov-Smirnov (KS) test was performed. If the Kolmogorov-Smirnov is greater than the alpha value (0.05), then the data follows a normal distribution, and vice versa. If the Kolmogorov-Smirnov is less than the alpha value (0.05) or below, the data distribution is not normal. The results of the Kolmogorov-Smirnov One Sample test can be seen in Table 9 below:

| Table 8: Kolmogorov Smirnov Test |
|----------------------------------|
| **One-Sample Kolmogorov-Smirnov Test** |
| N                                      | 35 |
| Normal Parameters^a,b               |    |
| Mean                                   | 0.0000000 |
| Std. Deviation                         | 48.3502449 |
| Most Extreme Differences              |    |
| Absolute                               | 0.219 |
| Positive                               | 0.212 |
| Negative                              | -0.219 |
| Test Statistic                        | 0.219 |
| Asymp. Sig. (2-tailed)                | 0.076^c |
| a. Test distribution is Normal.       |    |
| b. Calculated from data.              |    |
| c. Lilliefors Significance Correction.|    |

Based on the results of the normality test in table 8 above, the Kolmogorov-Smirnov Z value for the research variable is 0.219 with a significance level of 0.076. The significance value of the normality test is greater than the alpha value of 0.05, so it can be concluded that the data in this variable follows a normal distribution. Multicollinearity Test The multicollinearity test aims to test whether the regression model finds a correlation between the independent variables. A good regression model should not have a correlation between the independent variables, and if the independent variables are interrelated, then this variable is not orthogonal. So that in performing multicollinearity detection, it can be seen from the tolerance value and VIF. Therefore, according to Ghozali (2009: 96) that the most used VIF value is less than 10, which can be seen in the following table 9:

| Table 9: Multicollinearity Test Results |
|----------------------------------------|
| **Collinearity Statistics**            |
| No | Variables            | Tolerance | VIF   |
|----|----------------------|-----------|-------|
| 1  | Liquidity Ratio (X1) | 0.848     | 1.179 |
| 2  | Leverage Ratio (X2)  | 0.848     | 1.179 |
| 3  | Activity Ratio (X3)  | 0.728     | 1.373 |

Based on the results of statistical data processing in table 10 collinearity, the liquidity tolerance is 0.848 with a VIF of 1.179, leverage with a tolerance of 0.848, and a VIF of 1.179, and activity with a tolerance of 0.728 and a VIF of 1.373. activity) less than ten means that the data used in the regression model does not have multicollinearity problems. Next, the autocorrelation test is used to determine whether there is a correlation between the residuals in one observation and other observations in the regression model.
Table 10: Autocorrelation Test Results

| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|---------|----------|-------------------|---------------------------|---------------|
| 1     | .678*a  | .459     | .407              | 50,63579                  | 2,031         |
| a. Predictors: (Constant), Activity_PMK, Leverage_DER, Liquidity_CR |
| b. Dependent Variable: Profitability_ROE |

From the results of spss 24 data processing, a DW value of 1.669 was obtained, while from the DW table with a significant level of 0.05 and the number of data (n) = 35 and nk = 3 received DL values = 1.28 and DU = 1.65 because the value of DU = 1.65 < 2.03 < 2.35 (4-1.65) means that the regression data does not have autocorrelation.

4.3. Hypothesis Test

F-test is used for significant influence between free variables on bound variables. The testing technique is carried out by comparing the calculated F-calculated with the F-estimated value at a substantial level of 0.05 level of confidence of 95%. The results of hypothesis testing through the F-Test can be seen in table 11 below:

Table 11: F-Test

| Model          | Sum of Squares | Df | Mean Square | F     | Sig     |
|----------------|----------------|----|-------------|-------|---------|
| 1              | Regression     | 67518,515 | 3  | 22506,172 | 8,778 | <.000*a |
| Residual       | 79483,369      | 31 | 2563,980   |       |         |
| Total          | 147001,884     | 34 |             |       |         |
| a. Dependent Variable: Profitability_ROE |
| b. Predictors: (Constant), Activity_PMK, Leverage_DER, Liquidity_CR |

Based on the results of F-test presented in the table above, the value of F-calculated = 8.778 while F-estimated = 2.91. Because the F-calculated = 8.778 > F-estimated = 2.91 and has a significant value is sig.< 0.01. These results prove that simultaneously or together, liquidity (X1), leverage (X2), and activity (X3) have a significant effect on the profitability of telecommunications companies listed on the Indonesia Stock Exchange. The t-test is used to test the effect of the independent variable on the dependent variable partially or individually and can also be used to see the influence of the most dominant independent variable. Technically, the test is done by comparing the t-calculated value with the t-estimated at the significant level = 0.05. Based on the calculation results in the attachment, the results of the t-test test can be presented in table 12 below:

Table 12: T-Test Results

| No | Variables | T-calculated Value | Sig  | Results     |
|----|-----------|--------------------|------|-------------|
| 1  | Liquidity (X1) | 1,765              | 0.003| Significant |
| 2  | Leverage (X2)  | 3,895              | 0.000| Significant |
| 3  | Activity (X3)  | 1,936              | 0.012| Significant |

The results of the partial test (t-test), which are summarized in the table 12, can be explained as follows:

1. Regression test for liquidity variable X1, Regression test for liquidity variable on profitability can be done with the following steps:
   - H0: ρ = 0 (no effect between X1 on Y)
   - Ha: ρ = 0 (there is an effect of X1 on Y)
• Level of confidence = 95% with probability of error = 0.05
• The critical area for the value of t-estimated = 1.69 while the value of t-calculated X1 = 1.765; therefore, the t value of liquidity variable (X1) is greater than the value of t-estimated (1.765 > 1.69) and the significant value (sig) is smaller than which is implied (0.003 < 0.05). These results indicate that there is a significant effect of the liquidity variable on the profitability variable.

2. Regression test for the leverage variable (X2) test the leverage variable on profitability, it can be done with the following steps:
• H0: = 0 (no effect between X2 on Y)
• Ha: 0 (there is an effect of X2 on Y)
• Level of confidence = 95% with probability of error = 0.05.
• The critical area of t-estimated value = 1.69 While the value of count X2 = 3.895; therefore, the t-calculated value of the leverage variable (X2) is greater than the value of t-estimated (3.895 > 1.69) and the significant value (sig) is smaller than the required (0.000 < 0.05). These results indicate a significant influence of the leverage variable on the profitability variable.

3. Regression test for activity variable (X3) Regression test for activity variable on profitability, it can be done with the following steps:
• H0: = 0 (no effect between X3 on Y)
• Ha: 0 (there is an effect of X3 on Y)
• Level of confidence = 95% with error probability = 0.05
• The critical area of t-estimated value = 1.69, While the value of count X3 = 1.936; therefore, the count value of the activity variable (X3) is greater than the value of t-estimated (1.936 > 1.69), and the significant value (sig) is smaller than implied (0.015 <0.05). These results indicate a significant effect of the activity variable on the profitability variable.

4.4. Coefficient of Determination Test (R2)

The coefficient of determination essentially measures how much the model’s ability to explain the variation of the dependent variable (dependent). The value of R^2, which is close to one, means that the independent variables provide almost all the information needed to predict the variation of the dependent variable (dependent). The results of the calculation of the coefficient of determination can be seen in table 13 below:

| Model Summary^a | Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|----------------|-------|---------|----------|-------------------|--------------------------|---------------|
|                | 1     | .678^a  | .459     | .407              | 50.63575                 | 2.031         |
| a. Predictors: (Constant), Activity_PMK, Leverage_DER, Liquidity_CR |
| b. Dependent Variable: Profitability_ROE |

Based on the results of the calculation of the coefficient of determination, it is said that the correlation between liquidity, leverage, and activity on profitability, the correlation coefficient value is R = 0.678. Because this R value is positive and close to 1, there is a positive and moderate relationship between liquidity, leverage, and activity on profitability. The value of the coefficient of determination R^2 = 0.459 indicates that as much as 45.9% of the company's profitability variables are influenced by liquidity, leverage, and activity. The significance is 54.1%, influenced by other variables not examined.
4.5. Multiple Linear Regression Analysis

Multiple linear regression analysis, as in table 14, is used to measure how much liquidity, leverage, and activity affect telecommunications industry companies listed on the Indonesia Stock Exchange so that the regression equation is:

Table 14: Multiple Linear Regression Analysis Results

| Variables      | Coefficient | t-ratio | Probability Significance | Results                  | VIF |
|----------------|-------------|---------|--------------------------|--------------------------|-----|
| Liquidity_CR   | -0.218      | 1.765   | 0.003                    | Negative and Significant | 1.179|
| Leverage_DER   | -0.201      | 3.895   | 0.000                    | Negative and Significant | 1.179|
| Activity_PMK   | 7.942       | 1.936   | 0.012                    | Positive and Significant | 1.373|
| Constant       | -4.829      | -1.156  | 0.877                    |                          |     |

Based on the results of the processed data above, a regression equation can be obtained, namely:

\[ \hat{Y} = (-4.829) + (-0.218) X_1 + (-0.201) X_2 + 7.942 X_3 \]

Based on the regression equation model, it can be interpreted as follows:

a. The constant value = -4.829 means that assuming the independent variable is ongoing, the profitability value is -4.829 units.

b. If the liquidity variable (X1) increases, it will decrease the profitability value by -0.218 units.

c. If the leverage variable X2 increases, it will decrease the profitability value by -0.201 units.

d. If the activity variable X3 increases, it will increase the profitability value of 7,942 units.

Thus, the analysis of free variables' influence on bound variables has been carried out following the framework of thought proposed by the researcher.

4.6. Discussion

The discussion in this study analyzes the effect of liquidity, leverage, and activity on profitability in telecommunications companies listed on the Indonesia Stock Exchange from 2009 to 2015. Based on the results of the data analysis carried out can be described as follows:

1. The effect of liquidity on profitability

The first hypothesis is proposed stating that liquidity has a negative and significant effect on profitability. The result of this research is that the regression coefficient for the liquidity variable is -0.218 with a substantial value of 0.003, which is significant at 0.05 because it is smaller than 0.05. Thus, the first hypothesis, which states that liquidity has a negative and significant effect on profitability, can be accepted. The negative relationship indicates that if the liquidity variable increases, it will cause a decrease in the profitability variable. Following the theory presented by Horne (2012), profitability is inversely proportional to liquidity. The larger the funds placed to meet the company's liquidity, the company may lose the opportunity to get additional funds because the funds owned do not generate profits. The results of this study are in line with the results of research conducted by Rizka Firiyan (2013) with the title of research on the effect of liquidity on profitability at Bumi Indo Kabel company using simple regression analysis, which states that liquidity has a negative and significant effect on profitability. Meanwhile, Ardiatmi's research (2014) states that the current ratio negatively and significantly affects profitability. Still, it is not in line with the results of study by Putra (2012), who found that liquidity has no significant effect. The greater the current ratio, the greater the company's ability to meet its short-term obligations.
This shows that the company has placed many funds on the current asset side. Placing too large funds on the asset side has two very different effects. On the one hand, the company’s liquidity is getting better. But on the other hand, the company loses the opportunity to gain additional profit because the funds that should be used for profitable investments are reserved for meeting liquidity.

2. Effect of Leverage (Debt to Equity Ratio) on Profitability

The second hypothesis proposed states that leverage has a negative and significant effect on profitability. The study’s results obtained that the regression coefficient for the leverage was -0.201 with a significance value of 0.000. This value is significant at 0.05 because it is smaller than 0.05; thus, the second hypothesis, which states that leverage has a negative and significant effect on profitability, can be accepted following the theory put forward by (Kasmir, 2013:151). Leverage measures the company’s ability to pay debts if a company is liquidated. A leverage ratio measures the extent to which the company’s assets are financed with debt. That is, how much the company bears a debt burden compared to its assets. In a broad sense, it is state that leverage is used to measure the company’s ability to pay all its short-term and long-term obligations if the company is dissolved (liquidated). Debt has a bad effect on the company’s performance because the higher the level of debt, the higher the interest expense, which will reduce the company’s profits. The higher the leverage (debt to equity ratio) indicates, the greater the company’s burden on external parties; this is likely to reduce the company’s performance because the level of dependence on outsiders is higher. Thus, leverage has a negative effect on the company’s profitability. (Brigham and Houston, 2001). The results of this study support the results of Widianto’s research (2012), showing a significant negative effect of Debt-to-Equity Ratio on Return on Equity, and Hantono’s (2015) research on DER with profitability where companies with low-profit growth will strengthen the relationship between DER which has a negative effect on profitability, while Julita’s research (2013) states that there is no significant effect between Debt-to-Equity Ratio on Return on Equity. The results of this study identify those changes in company debt used for company operational activities can produce optimal profits with minimum debt costs, so changes in DER can increase company performance or profit (ROE).

3. Effect of Activity (working capital turnover) on Profitability

The third hypothesis states that activity (working capital turnover) positively and significantly affects profitability. The results obtained that the regression coefficient for the activity variable was 7.942 with an essential value of 0.012, where this value was significant at 0.05 because it was smaller than 0.05. Thus, the third hypothesis, which states that activity has a positive and significant effect on profitability, can be accepted. Working capital turnover will affect profitability; a low level of profitability when associated with working capital can indicate the possibility of low sales volume compared to the costs used. So, to avoid that, it is hoped that there will be proper working capital management within the company. Companies that are state to have a high level of profitability mean that the efficiency of using working capital is also high (Munawir, 2004). The company uses working capital for operational activities. The funds issued by the company are expected to be returned for further operational activities. These results prove that the higher the volume of sales produced, the faster the working capital rotates so that the capital returns quickly to the company accompanied by high profits or in the sense that the company has increased profits. The results of this study support the results of research by Yulianti (2013) and Chary (2011), showing a significant positive effect of working capital turnover on ROE, while Zanita’s study (2013) states that there is no significant effect of Working Capital Turnover on Return on Equity.

5. Conclusion

Based on the results of the research that has been done, it can be concluded that: this study aims to determine and analyze the effect of liquidity, leverage, and activity on profitability in telecommunications companies listed on the Indonesia Stock Exchange in the period 2016 - 2020. Based on the results of the study, the conclusions that can be drawn are as follows: The liquidity variable has a negative and significant effect on the profitability of telecommunications companies listed on the Indonesia Stock Exchange. The first hypothesis is accepted. The leverage variable has a
positive and significant effect on the profitability of telecommunications companies listed on the Indonesia Stock Exchange. The second hypothesis is acceptable. The activity variable has a positive and significant effect on the profitability of telecommunications companies listed on the Indonesia Stock Exchange. The third hypothesis is acceptable. Based on the conclusions above, the suggestions that can be given are: Firstly, for companies should increase the company profitability by reducing liquidity which can reduce company profits so that it can attract investors to invest in their companies and can also improve their financial performance so that they are seen as good by investors. Second, for investors, in assessing a company, it is better to pay attention to other factors that affect the company’s profitability, such as company size, company growth, and dividend policy. Third, for further researchers, it is hoped that further researchers will use a larger research sample and add other variables that can affect profitability.

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