The Effects of Liquidity, Solvency, and Profitability on Stock Price (a Study in PT. Telekomunikasi Indonesia Tbk. Period of 2004-2018)

Kusnandar¹, Maya Sari²
¹Magister of Management UPI, West Java, Indonesia, kusnandar@upi.edu
²Magister of Management UPI, West Java, Indonesia, mayasari@upi.edu

Corresponding author: Kusnandar¹

Abstract: This study aims to determine the effect of liquidity, solvency and profitability on stock prices. The research was conducted at PT Telekomunikasi Indonesia Tbk during the period of 2004-2018. Through a multiple regression analysis, the effect of liquidity, solvency and profitability was investigated by measuring current ratio, debt to equity ratio, and return on assets effects on stock prices. The findings reveal that changes in liquidity, profitability, and solvency are able to explain the changes being occurred on the share price of PT Telkom Indonesia during the period. Out of the three determinants, profitability performance is the only determinant that has a significant impact on stock price. These findings indicate that profitability performance becomes one factor that is most considered by investors in making investment decisions. Further, the profitability performance is also able to provide positive signals to the investors regarding the company prospects in the future.

Keywords: Liquidity, Solvency, Profitability, Stock Prices

INTRODUCTION

The phenomenon of stock prices in Indonesia has been fluctuating. In general, in 2013, most of the company's stock prices decreased, while in 2017 the share price increased. In the telecommunication sector, share prices in 2013 increased, although there were several companies that experienced a decline. Meanwhile, in 2016, the stock prices of telecommunication companies mostly decreased. A significant decline in share prices generally occurred in 2018. In PT. Telkom Indonesia, the share price decreased in 2008 and it got better in 2014 and 2016 where their share price increased. In 2018, share prices in PT. Telkom Indonesia continue to decline.
The purpose of establishing a company is to maximize company value. Company value can be referred to the views and thoughts of investors on the level of success the company can get at present time and in the future. By maximizing company value, the company will automatically maximize the satisfaction of its shareholders. This may be good news for the company as the shareholders will obviously not hesitate to invest their funds in the company. In other words, high firm value will be followed by an increase in shareholder wealth (Bringham and Houston, 2006). The value of the company is reflected in its share price. The stock price is an indicator of the success of company management. The continuous improvement of stock price of a company will make company good image to the investors or potential investors, which at the same time will reflect the company success in managing its business (Zuliarni, 2012).

According to the signal theory, corporate activity provides information to investors about the prospects for substantial future returns. This information acts a signal the management announces to the public to declare the company potential prospects in the future. This signal theory discusses how signals of success or failure in management (agent) should be conveyed to the owners of capital (principle). The submission of financial statements can be considered as a signal that is able to clarify whether the agent has acted based on the contract or not. Signal theory also predicts whether or not the announcement of the effect on stock prices and dividend is positive (Susilowati, 2011). According to Francis (1988), a fundamental analysis can be used to estimate stock prices by analyzing the financial and economic conditions of the companies who issue the shares. Fundamental analysis states that the value of share is strongly influenced by the performance of the company issuing the shares (Murtanto and Harkivent, 2000).

An ample of tests of signal effects from financial performance has been carried out, such as studies by Tahu & Susilo (2017) Susanto (2012), and Prayitno (2008). The previous studies indicate that there are three indicators that are mostly found in testing the effects of financial performance signals on stock prices, namely liquidity, solvency, and profitability.

Liquidity relates to the extent to which the company ability to complete its short-term obligations or which must be paid immediately. A company that can complete its financial obligations on time means that the company is in a liquid state. A liquid company has a means of payment or current assets that are greater than the debt smoothness (Komala & Nugroho, 2013). Studies conducted by Ojah et al. (2019), Mittelstaedt and Warshawsky (1993) state that the liquidity ratio has a significant effect on stock prices. On the contrary, Susanto (2012) and Susilawati (2012) studies reveal that liquidity results do not affect stock prices.

Solvency can be referred to the ratio of a company ability to meet its financial obligations. The solvency ratio leads to a high level of risk faced by shareholders with the possibility of their inability to pay their obligations (Barakat, 2014). Research conducted by Ojah et al. (2019) and Murniati (2016) state that the solvency ratio has a significant effect on stock prices, whereas Susanto (2012), Alvionita (2017) and Valintino & Sularto (2013) in their research show different results that solvency has no effect on stock prices.

Profitability is the company's ability to generate profits using assets or models. According to Shaheen and Malik (2012), profitability is the amount of money a company can make with whatever resources they have. Barakat (2014) and Menaje (2012) in their study
found that profitability ratio has a significant effect on stock prices. Having the same sound, studies conducted by Valintino and Sularto (2013) and Susanto (2012) show that profitability has a significant impact on stock prices.

Departing from the empirical gaps shown gained from previous studies, the present study will try to investigate the signal effects of liquidity, profitability, and solvency on stock price in PT Telkom Indonesia. This site is chosen since it is one of companies that owns the blue chip category share.

LITERATURE REVIEW

Signalling Theory

The theory underlying this research is signal theory. This theory serves to make it easier for investors to develop the shares needed by company management in determining the direction or prospects of the company in the future (Hanani, 2011). According to Krisna (2013), signal theory indicates the existence of asymmetric information between company management and related and authorized parties.

Capital market

The capital market can be formally defined as a market for various financial instruments or long-term securities that can be traded both in the form of debt and equity, whether issued by the government, public authorities, or private companies (Kesuma, 2019).

According to Kurniawan and Isynurwardana (2015), the capital market relates to a market for various long-term tradable financial instruments, such as bonds (obligations), equities (stocks), mutual funds, derivative instruments, and other instruments.

Stock price

According to Rinati (2012) shares can be defined as a sign of participation or ownership of a person or entity in a company. A share is a sheet of paper which explains that the owner of the paper is the owner. According to Husnan and Pudjiastuti (2012), share price is the present value of income that investors will receive in the future.

Share prices can be divided into three categories, namely:

a. Nominal Price
   The price that is stated in the share certificate determined by the issuer to value each share being issued
b. Prime Price
   This price is the price when the share price is listed in the stock exchange.
c. Market price
   Market price is the selling price from one investor to another. This price formed after the shares are listed in the stock exchange

Liquidity Ratio

Liquidity is an indicator of the company's ability to pay all its financial obligations on due date (Mulyadi, 2006). This ratio assumes that current assets are the main source of money to complete their long-term liabilities.

One of the liquidity ratios is the current ratio. Current Ratio describes the ability of all current assets to guarantee all current debt (Mulyadi, 2006).
Solvency Ratio

Solvency describes the company's ability to pay its long-term obligations or obligations if the company is liquidated (Susilawati, 2013). These ratios can be calculated from long-term items such as fixed assets and long-term debt.

Debt Equity Ratio is one of solvency ratio. Noverio and Dewayanto (2011) suggest that the debt to equity ratio relates to the ratio of the amount of debt to equity that measures the percentage of use of funds originating from creditors.

Profitability Ratio

According to Amanza (2012), profitability is referred to the company's ability to earn profits in relation to sales, total assets, and own capital. One of the profitability ratios is Return on Assets (ROA). Return on Asset (ROA) is part of the profitability ratio in analyzing the financial statements of the company's financial performance reports.

In addition, Prayitno (2008) asserts that Return on Assets (ROA) is one of the ratios that can be used in measuring the level of profit a company receives. High ROA indicates that the company's total assets generate high net income for shareholders.

Hypotheses

Based on the aforementioned theories, the hypotheses of the present study are formulated as follow:

\(H_1\): There is a significant effect of Liquidity on stock price
\(H_2\): There is a significant effect of Solvency on stock prices
\(H_3\): There is a significant effect of Profitability on stock prices
\(H_4\): There is a significant effect of Liquidity, Solvency, and Profitability simultaneously on stock prices

RESEARCH METHODS

The study was set as descriptive verification study. The descriptive method was employed to describe the variables being studied. Meanwhile, verification method was aimed to double-check the truth of previous research results. The data were collected through several data collection instruments namely documentation, meaning that the researcher collects the financial statements of PT. Telekomunikasi Indonesia Tbk. and other relevant data to be analyzed. Further, this study uses multiple regression analysis methods to test hypotheses. This was conducted by previously carrying out classical assumption tests that consists of normality test, autocorrelation test, multicollinearity test and heteroscedasticity test so that the multiple regression results will not be biased.

The variables being examined in this study consisted of three independent variables, namely liquidity, solvency, and profitability and one dependent variable, namely stock price. The data were obtained from the annual financial reports that have been published by PT. Telekomunikasi Indonesia Tbk. The operational research variables are described as follow:

<table>
<thead>
<tr>
<th>No.</th>
<th>Variable</th>
<th>Indicator</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Stock price</td>
<td>Closing stock price</td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>Liquidity</td>
<td>Current Ratio</td>
<td>( CR = \frac{\text{Current Assets}}{\text{Current Liabilities}} \times 100% ) (Mulyadi, 2006)</td>
</tr>
</tbody>
</table>
FINDINGS AND DISCUSSION
Normality Test

The normality test aims to test whether in the regression model, both the dependent variable and the independent variable have a normal distribution or not. The normality test data in this study used the normal plot graph test. The points that are formed are better spread around the diagonal line and the direction of the distribution follows the direction of the diagonal line, otherwise the available data will not be normally distributed (Imam Ghozali, 2011).

From the picture above, it can be seen that the data in the regression model is around the diagonal line, which means the data meets the data normality assumption. This data is supported by the results of the Shapiro-Wilk data normality test. Where the significant value is 0.115 > 0.05, which means that the data is normally distributed.

<table>
<thead>
<tr>
<th>Tests of Normality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shapiro-Wilk Statistic</td>
</tr>
<tr>
<td>SAHAM</td>
</tr>
</tbody>
</table>

Autocorrelation Test

The autocorrelation test was intended to test whether in a multiple linear regression model there is a correlation between the confounding error in period t with the error of the previous period (t-1). To test the presence or absence of autocorrelation problems, the Durbin
Watson test (DW test) can be performed by comparing the DW statistical value with the DW table (Mahapsari and Taman, 2013).

**Table 3. Durbin Watson Test**

<table>
<thead>
<tr>
<th>Model</th>
<th>Change Statistics</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R Square</td>
<td>F Change</td>
</tr>
<tr>
<td>1</td>
<td>.755</td>
<td>11.320</td>
</tr>
<tr>
<td>a. Predictors: (Constant), ROA, CR, DER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Dependent Variable: SAHAM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source: SPSS Data Analysis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the table above, it can be seen that the value of the Durbin-Watson table with \( k = 3 \) and \( n = 15 \) obtained the value of \( d_L = 0.814 \) and \( d_U = 1.7501 \). Since the Durbin-Watson value 1.211 lies between \( d_L \) and \( d_U \), a Run Test is necessary needed. The results of the Run Test test show the following results:

**Table 4. Run Test**

<table>
<thead>
<tr>
<th>Runs Test</th>
<th>Unstandardized Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Value( ^a )</td>
<td>-191.53287</td>
</tr>
<tr>
<td>Cases &lt; Test Value</td>
<td>7</td>
</tr>
<tr>
<td>Cases &gt;= Test Value</td>
<td>8</td>
</tr>
<tr>
<td>Total Cases</td>
<td>15</td>
</tr>
<tr>
<td>Number of Runs</td>
<td>10</td>
</tr>
<tr>
<td>Z</td>
<td>.556</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.578</td>
</tr>
<tr>
<td>a. Median</td>
<td></td>
</tr>
<tr>
<td>Source: SPSS Data Analysis</td>
<td></td>
</tr>
</tbody>
</table>

According to Ghozali (2011), the basis for making the Run Test decision is:

1. If the value is Asymp. Sig. (2-tailed) less than 0.05, this means that the residual data occurs systematically (there are signs of autocorrelation)
2. If the value is Asymp. Sig. (2-tailed) more than 0.05, this means that the residual data occurs randomly (there are signs of autocorrelation)

With the Asymp value. Sig. (2-tailed) of 0.578 that is higher than 0.05, it can be concluded that there are no autocorrelation symptoms. Thus, linear regression analysis can be continued.

**Multicollinearity Test**

Multicollinearity test aims to test whether the regression found a relationship between independent variables or not. To detect the presence or absence of multicollinearity in the regression model, it can be seen from the tolerance value and the variance inflation factor (VIF) value.
The multicollinearity test results in the table show that:

a. The VIF value of the Liquidity variable is 1.159 <5 and tolerance 0.863> 0.1, then the Liquidity variable is declared free of multicollinearity.
b. The VIF value of the Solvency variable is 1.346 <5 and tolerance 0.743> 0.1, then the Liquidity variable is declared free of multicollinearity.
c. The VIF value of the Profitability variable is 1.377 <5 and tolerance 0.726> 0.1, then the Profitability variable is declared free of multicollinearity.

### Heteroscedasticity Test

This test aims to test whether in the regression model there is an inequality of variance from the residuals of one observation to another. The results of the heteroscedasticity test using a scatterplot graph are shown in the following figure:

In the scatter plots graphic above, it can be seen that the dots are spread randomly, above or below the zero on the Y axis. Thus, it can be concluded that there is no heteroscedasticity problem in the regression model that is being used.

### Multiple Linear Regression Equation

The regression equation model in this study is applied to test the effect of liquidity, solvency and profitability on stock prices.
Table 6. Coefficients of Regression Equation  

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-5920.153</td>
<td>1549.564</td>
</tr>
<tr>
<td>CR</td>
<td>1389.871</td>
<td>728.470</td>
</tr>
<tr>
<td>DER</td>
<td>1764.943</td>
<td>880.088</td>
</tr>
<tr>
<td>ROA</td>
<td>42692.977</td>
<td>9407.695</td>
</tr>
</tbody>
</table>

a. Dependent Variable: SAHAM  
Source: SPSS Data Analysis

Thus, the multiple linear regression equation of this study is as follows:

\[
\hat{Y} = -5920 + 1390 \text{CR} + 1765 \text{DER} + 42692 \text{ROA}
\]

Hypotheses Testing  

a. Partial Hypotheses Testing

Partial testing was conducted by using the t test. The decision making was carried out by comparing the t value of each regression coefficient with the t Table value (critical value) and the significance value according to the significance level used in the study. The result can be seen in the following table.

Table 7. Coefficient T Count  

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-5920.153</td>
<td>1549.564</td>
<td>-3.821</td>
<td>.003</td>
</tr>
<tr>
<td>CR</td>
<td>1389.871</td>
<td>728.470</td>
<td>.306</td>
<td>1.908</td>
</tr>
<tr>
<td>DER</td>
<td>1764.943</td>
<td>880.088</td>
<td>.347</td>
<td>2.005</td>
</tr>
<tr>
<td>ROA</td>
<td>42692.977</td>
<td>9407.695</td>
<td>.794</td>
<td>4.538</td>
</tr>
</tbody>
</table>

a. Dependent Variable: SAHAM  
Source: SPSS Data Analysis

From the results of the regression analysis, some descriptions can be seen as follows:

a. T count value of Liquidity Variable (CR) is 1.908 while the T Table is at the 5% significant level is 2.2009. This calculation results show that the T count is lower than the T table (1.908 < 2.2009) with the significance value 0.083 that is higher than 0.05 (H1 is rejected). Accordingly, it can be concluded that, partially, liquidity (CR) does not have a significant effect on stock prices.

b. The Solvency variable (DER) has a T value of 2.005 while the T table at the 5% significant level is 2.2009. This calculation reveals that the T count is lower than the T table (2.005 < 2.2009) with the significance value 0.070 that is higher than 0.05 (H2 is rejected). Thus, it can be said that partially, solvency (DER) also has no significant effect on stock prices.

c. Meanwhile, the T count value of profitability variable (ROA) is 4.538 while the T table at 5% significant level is 2.2009. This calculation shows that the T count is higher than the T table (4.538 > 2.2009) and the significance value is 0.001 that is lower than 0.05 (H3 is accepted). Thus, it can be concluded that, partially, profitability (ROA) has a significant effect on stock prices.
b. Simultaneous Hypotheses Testing

Simultaneous hypotheses testing was done by using the F test to determine the effect of the independent variables including liquidity, solvency and profitability simultaneously on the dependent variable stock price.

Table 8. ANOVA F Count

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>12243588.123</td>
<td>3</td>
<td>4081196.041</td>
<td>11.320</td>
<td>.001</td>
</tr>
<tr>
<td>Residual</td>
<td>3965919.611</td>
<td>11</td>
<td>360538.146</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16209507.733</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: SAHAM
b. Predictors: (Constant), ROA, CR, DER

Source: SPSS Data Analysis

From the results of the regression analysis, it can be seen that simultaneously, the independent variables have a significant effect on the dependent variable. This can be proven from the calculated F value (11.320) with the F table value at the 5% significant level is 3.59. This result shows that the F count is higher than the F table (11.320 > 3.59), and the significance value 0.001 is lower than 0.05 (H4 is accepted). Thus, it can be concluded that liquidity (CR), solvency (DER), and profitability (ROA) simultaneously have a significant effect on stock prices.

Coefficient of Determination

The coefficient of determination serves to see the extent to which all independent variables can explain the dependent variable.

Table 9. Determination Coefficient

<table>
<thead>
<tr>
<th>Model Summarya</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>R Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.869a</td>
<td>.755</td>
<td>.689</td>
<td>600.448</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), ROA, CR, DER
b. Dependent Variable: SAHAM

Source: SPSS Data Analysis

Based on the results of the above calculations, it can be seen that the effect of the three independent variables (independent) on the share price variable is expressed by the coefficient of determination (R2), which is 68.9%. This means that 68.9% of the variation in stock prices can be explained by variations in the current ratio, debt to equity ratio (DER) and return on assets (ROA). The remaining 31.1% may be explained by other variables.

Discussion

Based on the research results, it is obtained that the Liquidity value as measured by the current ratio has a T count value of 1.908 while the T Table is at a significant level of 5% of 2.209, so that the calculation results show that the T count is lower than the T table (1.908 <2.209) The significance value is 0.083 or it can be said that it is greater than 0.05 so that it rejects H1. Thus, it can be said that the current ratio partially does not have a significant effect on stock prices. This is in line with research conducted by Susanto (2012)
and Susilawati (2012) which shows that liquidity results partially do not affect stock prices, but it is not in line with research conducted by Ojah et al. (2019) and Mittelstaedt & Warshawsky (1993) where liquidity partially affects stock prices.

The results of the study of solvency as measured by the Debt to Equity Ratio (DER) have a T value of 2.005 while the T table is at the 5% significant level of 2.2009, so that the calculation results show that the T count is lower than the T table (2.005 < 2.2009) the significance value is 0.070 or it can be said that it is greater than 0.05 so that it rejects H2. Thus, it can be said that the Debt to Equity Ratio partially has no significant effect on stock prices. This is in line with research conducted by Susanto (2012), Alvionita (2017) and Valintino and Sularto (2013) which show that the results of partial solvency have no effect on stock prices, but are not in line with research conducted by Ojah et al. (2019) and Murniati (2016) where partially solvency affects stock prices.

The results of the research on Profitability as measured by Return on Assets (ROA) has T count value of 4.538 while the T Table at a significant level of 5% is 2.2009. This results shows that the T count is higher than Table T (4.538 > 2.2009) with the significance value 0.001 that is lower than 0.05 (H3 is accepted). Thus, it can be concluded that Return on Assets (ROA), partially, has a significant effect on stock prices. This is in line with research conducted by Barakat (2014) and Menaje (2012) which show that profitability, partially, affects stock prices, however, it is different from study conducted by Valintino and Sularto (2013) and Susanto (2012) where profitability is found to partially affect the stock price.

From the results of the regression analysis, it can be seen that simultaneously, the independent variables including Liquidity (CR), Solvency (DER), and Profitability (ROA) have a significant effect on the dependent variable, in this case stock price. This can be proven by the calculated F value that is higher than the F table value at the 5% significant level (F value (11.320) > F table (3.59)), at the significance value of 0.001. This indicates that H4 is accepted proving that Liquidity (CR), Solvency (DER), and Profitability (ROA) simultaneously have significant effect on stock prices.

**CONCLUSION AND SUGESTION**

From the results of data analysis and discussion of the study, it can be concluded that it is found that partially, liquidity (CR) and solvency (DER) have no significant effect on stock prices, meanwhile partially, profitability (ROA) has a significant effect on stock prices. Simultaneously, the study found that Liquidity (CR), Solvency (DER), and Profitability (ROA) have a significant effect on stock prices. Furthermore, it was also revealed by the study that the effect of the current ratio, debt to equity ratio (DER) and return on assets (ROA) on stock prices is 68.9%, while the rest is influenced by other factors.

Some suggestions are also given to further researchers. It is expected that future researchers add independent variables and try to increase the research sample. It is also expected that issuers and company management consider the profitability ratio through Return on Assets (ROA) more in making decisions to determine the share price. This is due to the ability of the level of ROA to influence the company's stock price. Some suggestions are also addressed to investors or potential investors who will invest in a company, not to just rely on this ratio analysis because there are many other factors that are not mentioned in this study that can show the value of a company based on its share price.
REFERENCE


