Financial Ratio to Predict the Growth Income: Study on Infrastructure Companies Listed on IDX

Ghina Kencana Mulia and Vina Kholisa Dinuka
Managerial Accounting Department, Politeknik Negeri Batam, Batam City, Riau Province, Indonesia

Abstract: This study aims to determine the effect of liquidity, solvency, activity, and profitability on profit growth in infrastructure sector companies in Indonesia. Liquidity is measured by Current Ratio (CR), solvency is measured by Debt-to-Equity Ratio (DER), activity is measured by Total Assets Turnover (TATO), and profitability is measured by Net Profit Margin (NPM). This study uses secondary data with data collection techniques using financial statements of infrastructure sector companies listed on the Indonesia Stock Exchange from 2014-2018. The purposive sampling method, obtained several 25 companies that fulfill the criteria with a total population of 80 companies, so that the total sample of observation for five years was 125 samples. Testing is assisted by the EViews 9 program using panel data regression analysis. The result shows that Total Assets Turnover has a significant positive effect on profit growth. While there is no significant positive impact between current ratio into income growth. This study also found that the Debt-to-Equity Ratio and Net Profit Margin have no significant adverse effect on profit growth in infrastructure sector companies.

1 INTRODUCTION

The increasingly growing competition in the business world encourages business actors to carry out company management to be more professional. One thing that can be done is to increase the value of a company's success by making profit growth a benchmark. The exposure to profit growth from the results of the resource performance process for a period can be reflected in the financial statements (Manurung & Silalahi).

Financial reports are addressed to two objects, namely internal parties, and external parties. Management and the ranks of managers are included in the targeted internal parties, while investors, creditors, the government, and employees are included in external parties. From the investor's point of view, the financial statements can be further processed through a comparison process and trend analysis with other companies in the same field. The financial statements can be used as consideration for determining investment policies for their investments for favorable prospects.

Nugroho, Nurdiansyah, and Erviana (2017) in their research mention that profit growth is a potential factor assessed by investors in determining the success of managing a company. Predicting future earnings can be done through financial ratio analysis. The ratios used are Current Ratio, Debt to Equity Ratio, Total Assets Turnover, Net Profit Margin.

Current Ratio works by appealing current assets and current liabilities, so that the higher the current assets, the higher the level of liquidity, meaning that the company can pay off its short-term debt before maturity (Mardiyanto, 2009).

Debt to Equity Ratio is part of the solvency ratio which refers to the calculation of how much debt is used to fund the company's capital (Salju, Dahri & Rosmayanti, 2018). DER shows the percentage of the company's health, if the ratio value obtained is high, it is likely that the company runs at the expense of creditors.

Total Assets Turnover is a ratio that calculates the company's cability to effectively empower all resources owned by the company. For company owners and creditors, this ratio is useful to show the amount of income that has increased due to the efficient and productive use of fixed assets (Chariri & Ghozali, 2003).

Net Profit Margin is a profitability ratio that measures the final result and knows the company's capability to yield a higher net profit than sales. Net Profit Margin is a ratio that can represent the

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company's wealth obtained from the net profit after tax on sales.

Profit as a measure of profit earned based on the difference in income and costs with a certain period profit is used as a basis for investment guidelines, dividend policies, and tax bases (Hanafi & Halim, 2005). The profit referred to in this study is profit after tax, where the profit is the result of the residual income obtained after deducting all expenses.

Although this study has been tested by previous researchers, there are mixed and inconsistent results. This is the reason why this research needs to be raised and reviewed. This research is development research from study entitled "Financial Ratio to Prediction the Growth Income" (Nugroho, Nurdiansyah & Erviana, 2017). The sample used in this test is the infrastructure, utilities, and transportation sectors. The infrastructure sector was chosen as a sample because this sector receives a lot of investment, and the government has the policy to prioritize development. As long as infrastructure is still a government priority, investment in this sector will continue to grow and increase (Mubarak, Hafidz, 2019). This information becomes an overview of the infrastructure sector in the future, the selected sample is the infrastructure, utilities and transportation sectors listed on the IDX for the period 2015 to 2019.

Based on the background that has been described, the researcher is interested in raising the title **"Financial Ratio Analysis to Predicting the Growth Income"**.

2 THEORETICAL STUDY

2.1 Agency Theory

Jensen & Meckling (1976) explained that through this theory it is stated that there is a separation of rights and obligations between managers and shareholders. Managers or management are called agents as parties who are authorized by shareholders and have the responsibility to manage all forms of activities in the company and are expected to be able to maximize the owner's profits.

Shareholders are called principals, which are parties who provide facilities and funds to run the company. To minimize conflicts between the principal and the agent, an agreement was made in the form of an employment contract. It is hoped that the agent will be able to maximize the owner's profit. The principal can provide a guarantee or award to management as a form of satisfaction with the results

of the company's performance for commensurate reciprocity.

2.2 Signaling Theory

Suteja (2012) explains how management should give signals or codes to financial statement users (principals) regarding the successes and failures of management (agents). The transfer of information from internal parties to external parties regarding the company's financial status often provides a better understanding of the company's prospects, there is an opportunity for asymmetric information to be provided between management and outsiders.

Good news that reaches the public will have an impact on changes in security prices. Asymmetric information reduction can be used as the solution for increasing the company's value. If management can provide a clear signal and impress the public, it will reduce the anxiety of external parties such as investors and creditors regarding the uncertainty of the company's prospects. The signal can be used as an indication of prosperity to the owners or shareholders.

2.3 Literature Review

Salju, Dahri, & Romayanti (2018) conducted a study with a sample of Distributor Prima Palopo using four financial ratios namely DER, WCTA, TATO, and NPM. After the testing process was carried out, the results showed that partially the DER and NPM variables had a positive influence, in contrast the WCTA and TATO variables did not positively impact.

Ifada & Puspitasari (2016) test whether financial ratios can predict future earnings by using the variables CR, DAR, TATO, GPM and NPM. The results showed that the variables TATO, GPM, and NPM had a significant and positive impact on income growth.

Kurniawati (2016) found empirical evidence that the variables of Fixed Assets Turnover (PAT) and ROA have a positive influence that is in line with changes in future earnings. The result of regression coefficient, the Time Interest Earned (TIE) variable has a negative effect. Manurung and Silalahi (2016) conducted a similar study with a sample of manufacturing companies from 2010 to 2013. The results found in this study were that the TATO & NPM variables had a significant positive impact on forecasting the income rise.

Utami (2017) examines financial ratios that can be used as benchmarks to predict profit growth with a sample of LQ45 index companies in 2013-2016.

From the results of the t-test used, the results show that TATO and ROA have a partial effect on profit increases, while DAR, CR and PER have no significant effect on predicting earnings changes.

Suprapti, Qonita, & Hidayat (2019) examine the analysis of financial performance in predicting revenue growth. The examiner uses CR, TATO, and ROA as the dependent variable in manufacturing companies for the 2016-2017 period. Based on the results obtained, only the CR and ROA variables have a positive influence in predicting an increase in profit, while the TATO variable has no effect in predicting an increase in profit.

Baraja & Yosya (2018) examined consumption sector companies listed on the IDX for the period 2014 to 2017 with the aim of research to determine the effect of liquidity ratios, profitability, activity, and solvency in changes in income. The finding proof that only profitability ratios have an impact on profit changes, this ratio is represented by NPM.

Andriyani (2015) has conducted tests on mining companies which concluded that the four variables studied influences on profit growth. The variables are CR, DAR, TATO, and ROA. Partially, the variable that has an influence on the increase in profit is ROA.

Prakarsa (2019) examines the predictions of mining sector companies in the next five years. The study was conducted using annual financial reports from 2013 to 2015 using several financial ratios, such as QR, DAR, DER, TATO, and Inventory Turnover. The researcher obtained the results that partially QR, DER and inventory turnover variables had a significant effect on increasing profits.

2.4 Hypothesis Development

2.4.1 Effect of Current Ratio on Profit Growth

CR can describe whether current assets can pay off a company's short-term debt. In other words CR can be used as a value to measure the margin of safety in a company (Kasmir, 2016). Research by Utami (2017) states that the CR variable does not have a significant impact on income growth. It proves that the company's capability to complete short-term obligations does not warrant the availability of capital to help the operational activities of the firm. Based on this statement, the hypotheses proposed from this study are:

H1: Current Ratio has a negative effect on growth

2.4.2 Effect of Debt to Equity Ratio on Profit Growth

DER is a ratio that can indicate a measure of the firm's capital ability to pay off its debts. The measuring tool for assessing this ratio is by comparing total debt to capital (Kasmir, 2016). The research of Snow, Dahri & Rosmayanti (2018) proof that DER has a positive impact on profit growth. Nugroho, Nurdiansyah, and Erviana (2017) also strengthen empirical evidence that DER has a positive effect on profit growth. Based on this statement, the hypotheses proposed from this study are:

H2: Debt to Equity Ratio has a positive influence on profit growth

2.4.3 Effect of Total Assets Turnover on Profit Growth

TATO is a measuring tool to show the amount of income that increases due to fixed assets. The higher the value of the comparison of sales to assets, it means the better the sales strategy or method used (Kasmir, 2016). In Utami's research (2017) it was found that TATO has a positive effect on profit growth by describing the level of efficiency in using all assets to increase sales. Based on this statement, the hypotheses proposed from this study are:

H3: Total Assets Turnover has a positive effect on profit growth

2.4.4 Effect of Net Profit Margin on Profit Growth

Companies with healthy financial conditions should have a positive NPM value. This is because a positive NPM value indicates the company has not suffered a loss. NPM can show the high or low level of profit/profit obtained by the company (Kasmir, 2016).

Baraja and Yosya (2018) state that the greater the NPM value, the better because the company is considered capable of achieving high enough income and will have a positive effect on increasing profits. Therefore, the fourth hypothesis is obtained as follows:

H4: Net Profit Margin has a positive effect on profit growth.

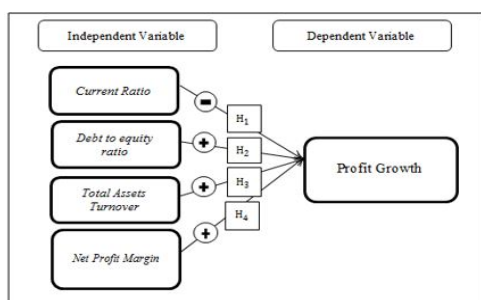The research model can be seen in Figure 1:

Figure 1: Research Model.

3 RESEARCH METHOD

This study uses a quantitative approach which is a type of structured, systematic, and planned research that aims to prove how the influence between the dependent variable and the independent variable is. The independent variables used are financial ratios represented by CR, DER, TATO, and NPM. While the dependent variable used is profit growth. Operational variables and their indicators can be seen in table 1:

Table 1: Operational variables and indicator.

Variable		Indicator	
Dependent Variable			
Profit Growth	=	Sales-Cost of Sales	
		Total Assets	
Independent Variable			
CR	=	Current Assets	
		Current Liabilities	
DER	=	Total Liabilities	
		Equity	
TATO	=	Sales	
		Total Sales	
NPM	=	(Net Profit / Net Sales) x 100%	

The population of this research is Indonesian companies from the infrastructure, utility, and transportation sector listed in the Indonesia Stock Exchange which provides the annual reports. The total population of 80 companies for five periods from 2015 to 2019 was obtained from the www.idx.co.id page.

This study is analyzed using the panel data regression equation using E-Views 9 software. Data analysis in this study uses descriptive statistical analysis. The estimation model was determined using the Chow test and Hausman test. The classical assumption test used is the heteroscedasticity test and multicollinearity test, and the hypothesis test is the coefficient of determination, t test, and f test.

4 RESULT AND ANALYSIS

This research using listed infrastructure companies during 2014-2018 with total 25 companies. This amount is reduced by the criteria of the research sample. The total sample for 2014-2018 that meets the criteria is 25 companies or 125 data samples.

4.1 Descriptive Statistical Analysis

Below is a descriptive statistical analysis table:

Table 2: Descriptive statistical table.

Variable	Mean	Max	Min	Std.Dev
Y	-0.287	16.202	-16.040	2.878
CR	2.206	49.774	0.134	5.921
DER	4.599	370.574	-3.171	33.069
TATO	0.665	7.043	0.064	1.013
NPM	-0.023	0.772	-3.859	0.569

4.2 Model Selection

4.2.1 Chow Test

Table 3: Chow Test.

Effect Test	Statistic	d.f.	Prob
Cross-section F	1.9042	(24,96)	0.0149
Cross-Section Chi-Square	48.6705	24	0.0021

Based on table 3, the value of Prob. Cross-section F is smaller than 5% alpha ($0.0149 > 0,05$), which means the best estimation model is FEM.

4.2.2 Hausman Test

This test aims to determine the suitable model between FEM or REM.

Table 4: Hausman Test.

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	12.186036	4	0.016

Based on table 4, the cross-section value is smaller than alpha 5% (0.016 < 0.05), which means that the best estimation model is the FEM, because the results of the Chow test and the Hausman test both shows that the correct model is FEM, so it is no need to do the next test, that is the Lagrange multiplier test.

4.3 Classic Assumption Test

4.3.1 Multicollinearity Test

	CR	DER	TATO	NPM
CR	1.00000	-0.04134	-0.10683	0.17244
DER	-0.04134	1.00000	-0.02760	-0.60091
TATO	-0.10683	-0.02760	1.00000	0.07668
NPM	0.17244	-0.60091	0.07668	1.00000

Figure 2: Multicollinearity Test.

The value of the correlation coefficient between variables has a value less than 0.8. This indicates that the data used in this test does not occur multicollinearity.

4.3.2 Heteroscedasticity Test

Table 5: Heteroskedasticity Test: Glejser.

Heteroskedasticity Test: Glejser			
F-statistic	0.127093	Prob. F (4,120)	0.9724
Obs*R-squared	0.527322	Prob. Chi-Square (6)	0.9708
Scaled explained SS	1.105051	Prob. Chi-Square (6)	0.8935

The table above shows that the value of Obs*R-squared is 0.527322 and the p-value is 0.9708. Where the value is > 0.05. It was concluded that the data did not experience heteroscedasticity problems.

4.4 Hypothesis Test

Table 6 Hypothesis Test.

Variable	Coefficient	t-statistic	Prob.
C	-1.169389	-2.822985	0.0058
CR	0.046117	0.857777	0.3932
DER	-0.010601	-0.985471	0.3269
TATO	1.227272	2.713606	0.0079
NPM	-0.586095	-0.742557	0.4596
Adjusted R-Squared			0.1342
Prob (F-Statistic)			0.0324
Model Result			Fixed

4.4.1 Coefficient of Determination

The Adjusted R-squared value in table 6 shows a value of 0.1342 or the equivalent of 13.42%. This value indicates that the amount of profit growth that is influenced by CR, DER, TATO, and NPM is 13.42%. 886.58% of the remaining value is explained by other variables not examined in this test.

4.4.2 F Test

The results of the F test with the dependent variable of the Profit Growth can be seen in table 6. The probability value (F-statistic) is 0.0324, this value is smaller than the alpha level (5%). This means that it can be said that CR, DER, TATO, and NPM simultaneously affect Profit Growth.

4.5 Results Discussion

The following is a summary table of test results from the study:

Table 7: Result Discussion.

Hypothesis	Result
H1: Current Ratio has negative effect on profit growth	Not Supported
H2: Debt to Equity Ratio has positive effect on profit growth	Not Supported
H3: Total Assets Turnover has positive effect on profit growth	Supported
H4: Net Profit Margin has positive effect on profit growth	Not Supported

4.5.1 Effect of Current Ratio on Profit Growth

Judging from the results of statistical tests, H1 states that the level of liquidity as measured by the CR variable has a positive and insignificant direction on profit growth, the test results do not support hypothesis 1. In line with Utami's research (2017) which explains that CR has no significant positive impact on profit growth. It means that the company's capability to complete short-term obligations does not warrant the availability of capital to help the operational activities of the firm, so that the profits to be achieved are not as expected.

The results of this study are supported by Andriyani (2015) who explains that CR does not have a significant impact on profit growth, because the CR value depends on the type of business firm, the faster the company pays off short-term debt, the greater the CR value obtained there are no special provisions that can state the amount of CR value that is considered good.

4.5.2 Effect of Debt-to-Equity Ratio on Profit Growth

Based on the results of statistical tests, it is stated that DER has a negative and insignificant direction on profit growth, so the test results do not support hypothesis 2. The company's reduced ability to increase the level of productivity as a result of less-than-optimal asset financing and will have an impact on the company's declining income level.

The results of a similar study by Baraja & Yosya (2018) explain that DER does not have a significant negative effect on profit growth, this variable is declared to have no effect because if the capital used comes from debt, the greater the burden that must be borne by the company. A high equity value will reduce the negative impact of declining profits, because the DER measurement uses the equity value as a divisor.

4.5.3 Effect of Total Assets Turnover Ratio on Profit Growth

Based on the finding of this research, it is stated that the TATO variable has a positive and significant direction on profit growth, so it can be concluded that hypothesis 3 is supported. The TATO value has a significant effect because the company can use its assets effectively. The relatively small tariffs and other costs in the infrastructure industry can support high sales levels.

In line with research by Utami (2017) which reveals that TATO has a significant positive impact on profit growth, the TATO variable assumes that the firm's asset turnover is very effective in generating profits, where if the company produces a faster asset turnover rate, the profit earned will rise. This is because the firm can take benefit from assets for sales increasing which has an impact on increasing profits.

4.5.4 Effect of Net Profit Margin on Profit Growth

Based on the finding of this research, it is shown that NPM has a negative and insignificant direction on the dependent variable, so the test results do not support hypothesis 4. The NPM value that does not have a negative impact on profit growth is due to the average value of NPM in the infrastructure industry during the research period only around the number -0.023. The unstable and fluctuating NPM value cannot affect profit growth because the change in profit value tends to be stable.

The results of this study are supported by Yanti (2017), where in theory a healthy company has a positive NPM value which indicates that the company does not suffer losses, but a low NPM value can occur because the profit from sales obtained by the company cannot cover operating expenses and high tax rates. imposed.

5 CONCLUSION

Based on the results of the tests and discussions that have been described, conclusions can be drawn regarding the effect of liquidity ratios, solvency, activity and profitability on listed infrastructure, transportation, and utilities sector companies on IDX from 2014 to 2018. The independent variables used in this study are Current Ratio (CR), Debt to Equity Ratio (DER), Total Assets Turnover (TATO), and Net Profit Margin (NPM). The dependent variable used in this study is profit growth. The test results show that only the TATO variable influences profit growth, while the CR, DER, and NPM variables have no effect on predicting profit growth.

The results of this study support agency theory, which requires shareholder trust in management. Management is expected to achieve the company's goal of achieving the highest profitability by maintaining the company's financial health. Management can control the good use of assets to help the company achieve maximum profit. Control of all assets can be seen through the TATO ratio,

where this ratio shows the level of efficiency of the company in using all assets. So that good asset control is needed in infrastructure sector companies.

The application of signal theory in this sector can be seen from all companies listed in the infrastructure sector which display the number of Sales and Total assets in the annual financial statements for each period. Information obtained that the average value of TATO in the infrastructure sector shows a value of 0.665. This value is less than 1, where net sales from the infrastructure sector are not able to cover total assets. The minimum value of asset utilization in the infrastructure industry is 0.064 or not less than 0, this indicates that all infrastructure sector companies use less debt than assets to generate sales. Good management performance can be seen from the ability to sell assets which is getting higher. The more effective the management in managing its assets, the better the level of efficiency in the use of assets to support sales.

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