 ISSN: 1829-9865 (print)
2579-485X (online)

Implementation of Panel Data Regression on Profitability Sharia Stock in The Trade Sub-Sector

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Diterima 10 Maret 2025; Disetujui 12 Desember 2025; Dipublikasikan 25 Desember 2025

Abstract
Stocks are certificates that show proof of ownership of a company, and shareholders have claim rights to the company's profits and assets. To measure the company's performance in stocks, several ratios can be used. This study aims to determine the effect of net profit margin (NPM), current ratio (CR), and total asset turnover (TATO) on the profitability (ROA) of Retail Trading companies on the IDX. In this study using descriptive quantitative methods and the analysis used is panel data regression analysis. Panel data regression analysis is used to determine the effect of financial ratios on company profits. The population in the research is 93 companies in the retail trade sub-sector. By using purposive sampling obtained a sampling of 14 companies with a total of 42 samples. The results of this study indicate that the variable current ratio (CR) has a positive effect on return on assets (ROA), while net profit margin (NPM), total asset turnover (TATO) has a negative effect on return on assets (ROA). The model has an effect of 78%, the rest is influenced by other factors outside the research.

Keywords
stock, panel regretion, likuid ratio

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Introduction

Trade is a very important thing in the economic activities of a country. Very fast trade growth shows the level of prosperity and is a benchmark for the country's economy. The economic development of a country can be measured by economic growth, which shows the growth in the production of goods and services in an economic area within a certain time interval. This production is measured in terms of the value added concept created by the economic sectors in the region concerned which in total is known as the Gross Domestic Product (GDP). Thus, GDP can be used as an indicator to measure a country's economic performance or as a reflection of the success of a government in driving economic sectors.

Indonesia's economic growth when viewed from the contribution to the national GDP of the wholesale and retail industry sector during the 2019-2021 period always made a sizable contribution of between 13.02% - 12.93%, this shows that the wholesale and retail industry sector is one of the important in sustaining the Indonesian economy. The retail trade industry (retail) in Indonesia is currently showing the ability to progress with the increasing number of construction of retail shops in various places. This industry is growing and developing so fast in line with the population growth rate. This industry has become increasingly popular since the entry of modern retailers in Indonesia, such as Indomart, Alfamart, Carrefour and Hypermart (Nurviani, 2013).

Shares are proof of someone's ownership of a company, and shareholders are entitled to benefits in accordance with the agreement at the shareholder meeting. Shares are traded legally and supervised by the Financial Services Authority. Shares that can be purchased are shares in companies listed on the Indonesia Stock Exchange. With Islamic law, some stocks are categorized as sharia shares.

The law governing sharia stocks is listed in the DSN-MUI Fatwa No. 80/DSN-MUI/III/2011 concerning Application of Sharia Principles in Equity-Type Securities Trading Mechanisms in the Stock Exchange Regular Market. Sharia shares such as shares are owned by someone in a company but there are additional laws that are in accordance with Islamic principles.

Literatur Review

Profitability

Profitability is a ratio to measure the effectiveness of management as a whole which is indicated by the size of the profit level obtained in relation to sales and investment. To measure profitability used is Return on Assets (ROA), where this ratio is between net income to total assets.

The profitability ratio is a ratio that describes a company's ability to generate profits through all its capabilities and resources, which come from sales activities, use of assets, and use of capital. Profitability is used to measure the effectiveness of management based on the returns generated from loans and investments. This ratio can be used as a tool to measure the effectiveness of management performance. Good performance will be shown through the success of management in generating maximum profits for the company (Hery, 2015). One of the profitability ratios used to measure the level of profit is Return on Assets (ROA). ROA is used to measure a company's effectiveness in generating profits by utilizing its assets. ROA is the ratio between profit after tax to total assets. The greater the ROA, the better the company's performance, because the rate of return is greater

Net Profit Margin (NPM)

Net profit margin (NPM) is a ratio used by companies to compare profits with the total money generated by the company. In addition, this NPM is also used to analyze the company's financial stability.

Current Ratio (CR)

The liquidity ratio shows the extent to which current assets cover current liabilities. The greater the ratio of current assets to current liabilities, the higher the company's ability to cover its short-term liabilities. According to Kasmir in his book Analysis of Financial Statements, the liquidity ratio is a ratio that describes a company's ability to meet short-term obligations. Another function of the liquidity ratio is to show or measure

a company's ability to meet its maturing obligations, both its obligations to parties outside the company (business entity liquidity) and within the company (company liquidity). Cashmere (2012). The liquidity ratio that can be used as a measure is the Current Ratio (current ratio) (Ardiatmi, 2014). Current assets or current assets shown in the Current Ratio (CR) this ratio is used to determine how far the company's current assets are used to pay off current debts (liabilities) that will be due or paid soon. The Current Ratio is commonly used to measure short-term solvency (Sugiono, 2009).

Total Aset Turn Over (TATO)

The activity ratio is the ratio that measures the company's effectiveness in using its assets. The activity ratio can be measured using total assets turnover (TATO). This ratio can measure the turnover of all assets owned by the company and also measure the amount of sales obtained from each rupiah of assets obtained. This can show that if the company is able to manage its assets properly and can rotate its assets properly, the potential for the company to experience losses will be smaller. Total asset turnover (Total Asset Turnover) is the ratio used to measure the effectiveness of the company's total assets in generating sales, or in other words to measure how many sales will be generated from each rupiah of funds embedded in total assets (Hery, 2015).

Research Method

The data used in this research is secondary data. Data was obtained through the official website of the Indonesia Stock Exchange (IDX) www.idx.co.id and the financial statements of companies in the trade, service and investment sectors listed on the Indonesia Stock Exchange for the 2019-2022 period.

The population in this study were retail trading companies listed on the Indonesia Stock Exchange, namely 93 companies. By using purposive sampling obtained a sample of 14 companies. The sample used comes from Islamic stock companies in the retail trade sub-sector that are listed on the Indonesia Stock Exchange (IDX) during 2019-2022.

Furthermore, from 14 companies in 2019-2022, 42 samples were obtained to be studied. The analytical method used is panel data analysis. To find out the financial ratios that affect company profits, especially companies in the trading sub-sector.

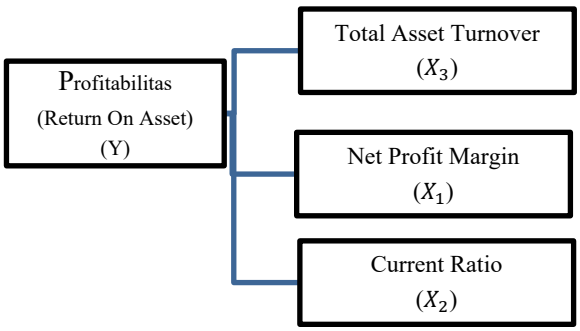

FIGURE 1. Definition of Variables

Table 1. Definition of Hypothesis

Hypothesis	Definition
H1	*Net Profit Margin influent* significant to *Return On Aset*
H2	*Curent Ratio influent* significant to *Return On Aset*
H3	*Total Asset Turnover influent* significant to *Return On Asset*

Result and Discussion

The equation that can be used to perform a panel data regression test is with the CR, DER, TATO variables on ROA as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$$

Notes :

Y	: Return On Asset (ROA)
α	: Constant
β	: Coefficient
X_1	: Net Profit Margin
X_2	: Current Ratio
X_3	: Total Asset Turnover

From the table 1, the F statistic value is 51.3899 with an F probability value of 1.9096e-13. With a probability value of F that is smaller than alpha 0.05, the effect of the variables simultaneously is said to be significant and H4 can be accepted which states that Net Profit Margin, Current Ratio, Total Asset Turnover have a significant effect on Return On Assets. So it can be concluded that NPM, CR, and TATO together have a significant effect on the ROA of retail trading companies listed on the IDX in the 2019-2022 period.

The results of the coefficient of determination can be seen in the table above which shows that the R^2 value is 0.80226, meaning that the ability of the regression model consisting of NPM, CR, and TATO as independent variables is able to explain variations in changes in ROA as the dependent variable of 80%. The remaining 20% change in ROA is explained by other variables outside the model, for example external company factors such as inflation.

Estimation Model Data Panel

Chow test

The Chow test was conducted to determine the most appropriate fixed effect or common effect model in this study. Following are the results of the chow test that has been carried out which can be seen in the table 2.

From the picture above it can be seen that the probability value of F is 2.2e-16 or p-value (2.2e-16) < 0.05, which means that Ho is rejected and H1 is accepted. So that the right model to use is the fixed effect (FE). Then the test is carried out again, namely the Hausman Test.

Hausman test

The Hausman test was carried out to determine the best model between the fixed effect or the random effect. The results of the Hausman test can be seen from the table 3.

Table 1. Simultaneous Regression Test (F Statistical Test) and Determination Coefficient Test

Total Sum of Square: 60.782
Residual Sum of Squares: 12.019
R-Squared: 0.80226
Adj. R-Squared: 0.78665
F-Statistic: 51.3899 on 3 and 38 DF, p-value: 1.9096e-13

Source: Results of Data Processing

Table 2. The Chow Test Result

Effect Test	Statistic	Df 1	Df 2	Prob
Cross-Section F	85.088	13	25	2.2e-16

Source: Results of Data Processing

Table 3. The Hausman Test Result

Tes Hypothesis	Chi-square	Df	Prob
Hausman test	12.282	3	0.006477

Source: Results of Data Processing

Based on the table 3, it shows that the probability value of the Hausman test is 0.006477, which means it is smaller than 0.05 (p-value <0.05). So it can be concluded that in this test Ho is rejected and H1 is accepted. That is, the model chosen to be used in conducting this research based on the Hausman test is the fixed effect model. So that from the two stages of testing it was concluded that when compared to the two models used in panel data analysis, namely CE, FE, and RE, the correct model to apply is the fixed effect (FE).

Classical Assumption Test Results

By using the random effect method, to produce more precise estimating model parameter values, it is necessary to detect whether the model deviates from the classical assumptions or not.

Normality Test

The results of the normality test show that the probability value is 1 which is greater than the significance value of 0.05 (p-value > α = 0.05, so it is decided that it fails to reject Ho and it can be concluded that the data is normally distributed.

Heteroscedasticity Test

Heteroscedasticity can be detected by looking at the graph plot between the predicted value of the dependent variable (ZPRED) and its residual (SRESID). Detection of the presence or absence of heteroscedasticity can be done by looking at the presence or absence of certain patterns and the scatterplot graph between SRESID and ZPRED where the Y axis is the Y that has been predicted, the X axis is the residual (Y prediction – Y actually) that has been studentized. Based on the scatterplots graph, it is found that the points spread randomly and are spread both above and below the number 0 on the Y axis. It can be concluded that there is no heteroscedasticity in the regression model, so the regression model is feasible to use to predict the financial performance of companies in the trading sub-sector retail based on the influence of the independent variables net profit margin, current ratio, and total assets turnover.

Multicollinearity Test

The results of the multicollinearity test above indicate that there are no symptoms of multicollinearity between the indicated independent variables. The VIF value of Net Profit Margin (NPM) is 1.009872 current assets (Current Ratio) is 1.059035 and Total Asset Turnover (TATO) is 1.048926, from the three independent variables the VIF value is less than 10, so it can be concluded that there is no multicollinearity in the regression.

Table 4. Results Of Multicollinearity Testing using the Variation Inflation Factor (VIF):

X1	X2	X3
1.009872	1.059035	1.048926

Source: Results of Data Processing

Table 5. The Panel Data Regression Results

	Estimate	Std.Eror	t-value	Pr(>|t|)
(Intercept)	0.226539	0.139325	1.6260	0.11222
NPM	-1.953635	0.227955	-8.5703	2.069e-10
CR	0.095042	0.035341	2.6893	0.01058
TATO	-0.168207	0.020808	-8.0839	8.844e-10

Hipotesis Test

Based on the table 5, the estimated model obtained from the panel data regression results shown in the table is as follows:

$$Y = -0.226539 - 1.953635\,NPM + 0.095042\,CR - 0.168207\;\;TATO$$

Effect of Net Profit Margin on Return On Assets

The regression coefficient value for NPM (Net Profit Margin) is -1.953635, the net profit margin probability value is 2.069e-10 or less than 0.05. It can be said that the net profit margin has a negative and very significant effect on the variable return on assets. So the third hypothesis (H1) which states that net profit margin has a negative effect is accepted.

The effect of the current ratio on return on assets

The regression coefficient value for current assets (Current Ratio) is 0.095042 and there is a probability value of 0.01058, this value is smaller than the probability value of 0.05, or a value of 0.01058 <0.05 then H2 is accepted and Ho is rejected, namely the Current Ratio variable has a positive and significant relationship to variable Return on Assets. This is consistent with Rahma's research (2016) that the Current Ratio has a significant positive effect on the variable Return on Assets. It can be said that the current ratio has a positive and significant effect on return on assets, so the first hypothesis (H2) can be accepted, namely the current ratio has a positive effect on return on assets.

Effect of Total Asset Turnover on Return On Assets

The regression coefficient value for TATO (Total Asset Turnover) is -0.168207 indicating that every increase of 1 unit in TATO (Total Asset Turnover) will cause profitability (Return On Assets) to increase by 0.16 or 16%, indicating that the higher the TATO (Total Asset Turnover) then the profitability (Return On Assets) will also be higher. The probability value is 8.844e-10 or less than 0.05, meaning that total asset turnover has a negative and very significant effect on return on assets. So that the third hypothesis (H3) which states that total asset turnover has a negative effect is accepted. From the results of simultaneous data analysis of the variables net profit margin (NPM), current ratio (CR), and total asset turnover (TATO) in this study it can be concluded that they have an influence on return on assets (ROA). This is based on a statistical F value of 51.3899 with a significance level of 1.9096e-13 which means <0.05. So the hypothesis which states that net profit margin (NPM), current ratio (CR), and return on assets (ROA) simultaneously have a positive effect, is proven.

Summary

Based on the results of the research that has been done, after going through the stages of data collection, data processing, data analysis and finally the interpretation of the results of the analysis regarding the effect of net profit margin (NPM), current ratio (CR), and total asset turnover (TATO) on return on assets (ROA), using normally distributed data and free from multicollinearity, the following conclusions are generated:

1. From the results of partial data analysis, it was found that the variable Net Profit Margin (NPM) has a significant negative effect on return on assets (ROA). This can be seen from the regression coefficient (β1) of -1.953635 with a significance level of 2.069e-10 which means less than 0.05. So the hypothesis which states that net profit margin (NPM) has a negative effect on return on assets (ROA), is proven.

2. From the results of partial data analysis, it was found that the variable current ratio (CR) has a significant positive effect on return on assets (ROA). This can be seen from the regression coefficient (β2) of 0.095042 with a significance level of 0.01058 which means less than 0.05. So the hypothesis which states that the current ratio (CR) has a positive effect on return on assets (ROA), is proven.

3. From the results of partial data analysis, it was found that the variable total asset turnover (TATO) has a significant negative effect on return on assets (ROA). This can be seen from the regression coefficient (β3) of -0.168207 with a significance level of 8.844e-10 which means <0.05. So the hypothesis which

states that total asset turnover (TATO) has a negative effect on return on assets (ROA), is proven.

To increase the profitability of the company must improve cash turnover properly, because the cash turnover ratio is the main source of company income. If turnover is higher, the amount of inventory stored will be low. This means that if the inventory turnover is high or fast, it will cause the gross profit to double if other factors are held constant. So, turnover will directly affect the profit earned, it can be said that the faster the inventory turnover in generating sales, the higher the profit earned. For future researchers, it is hoped that further research will be carried out by expanding more samples with more diverse characteristics and originating from various sectors, based on the Adjusted R-Square value of only 78%, further researchers can add other independent variables that are thought to have an influence on profitability, such as dividends, size, inventory turnover working capital, and based on research phenomena that need to be studied are operational costs because operational costs are a cost that must be considered to achieve company goals in the process of selling goods which is an important factor in smoothing the flow of sales so that company profits will increase.

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