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ANALYSIS OF FINANCIAL PERFORMANCE OF CERAMIC, PORCELAIN, AND GLASS SUB-SECTOR INDUSTRIES

Kevin Adhiya Kurniawandi
Universitas Ciputra Surabaya

Abstract: One of the basic industrial and chemical companies listed on the Indonesia Stock Exchange (IDX) is the ceramic, porcelain, and glass sub-sector industry. In 2013, there was a 100,82% increase in company profits but in 2015–2018 there was a decrease in sales due to the large number of ceramic imports originating from China and India, resulting in a decline in performance from the company. The government is trying to help increase the performance of local companies by increasing the import tax by 10%. The purpose of this study was to determine the effect of liquidity ratios, solvency ratios, and activity ratios on return on assets (ROA). The samples used in this study were 48 companies from the ceramic, glass, and porcelain sub-sector cluster listed in the Indonesia Stock Exchange (IDX). Data collection uses secondary data from the company's financial statements. Data analysis was done using multiple linear regression on SPSS version 22. The results of this study indicate that the current ratio and total asset turnover have a positive effect on return on assets. Meanwhile, debt to equity ratio, cash turnover, accounts receivable turnover, and inventory turnover had no effect on return on assets (ROA).

Keywords: current ratio, debt to equity ratio, total asset turnover, cash turnover, account receivable turnover, inventory turnover, and return on assets (ROA)

INTRODUCTION

The development of manufacturing companies is increasing rapidly in Indonesia. One of the manufacturing companies is an industrial company in ceramic, porcelain, and glass sub-sector. There are 8 companies in the ceramic, porcelain, and glass industry that have been listed on the Indonesia Stock Exchange. The ceramic, porcelain and glass companies in Indonesia experienced a very high in-

*Corresponding Author.
e-mail: keviadia@gmail.com

crease in 2013. The increase in profit occurred in 2013 at the Association of Indonesian Ceramics, Tbk. by 100,82%. An increase in profits shows that the market in Indonesia is developing with 2 types of products, namely local and imported products. The development of ceramic, porcelain, and glass industrial companies in Indonesia led to competition between companies. However, there was also intense competition between local products and imported products. The competition between the two products had prompted the government to take action to reduce the number of imported goods in Indonesia. Not only that, but the government also increased the tax rate by 10% for imported ceramic goods in 2018. The policy towards increasing taxes on imported goods has an impact on sales in 2019 which had increased by 9%. The increase in sales was able to provide an assessment of company performance measured through several ratios. Financial performance appraisal can be measured through financial reports provided by the company. Assessment of company performance can be seen from various aspects and one of them is the profit growth generated by the company each year. Ratios that can measure company performance are the ratio of profitability, solvency, liquidity, asset management, debt management, and market value (Brigham & Houston Joel, 2018). Seeing the company's performance is very important, so this study aims to determine the company's financial performance and assessment of companies in the ceramic, porcelain, and glass industry.

Previous research conducted by (Hantono et al., 2019) resulted in the conclusion that CR, DER, accounts receivable turnover, cash turnover, and inventory turnover had an influence on ROA. The results of this study are in line with the research from (Nurafika & Almadany, 2018) cash turnover and inventory turnover have a positive effect on ROA, but accounts receivable turnover has no effect on ROA. Research conducted by (Wulandari et al., 2020) showed that CR and TATO have a positive effect on profitability, and DER, cash turnover has no effect on profitability. The results of this study are not in line with the research by (Angelina et al., 2020), stating that CR has an effect on ROA, but DER, TATO, and cash turnover have no effect on ROA. Previous research conducted by (Riski, 2018) resulted in the conclusion that CR and TATO have an effect on ROA. The results of research conducted by (Novitasari & Mahardhika, 2019) stated that DER and long-term debt to equity ratio has a negative effect on ROE.

Based on the introduction above, the aim of this study is to determine the effect of CR, DER, TATO, cash turnover, accounts receivable turnover, and inventory turnover on ROA. There are 6 hypotheses in this study, namely:

H_1: CR has a positive effect on ROA
H_2: DER has a positive effect on ROA
H_3: TATO has a positive effect on ROA
H_4: Cash turnover has a positive effect on ROA
H_5: Receivable turnover has a positive effect on ROA
H_6: Inventory turnover has a positive effect on ROA

METHOD

This research is a quantitative study by examining the effect of CR, DER, cash turnover, inventory turnover, and accounts receivable turnover on ROA. The type of data used is the company's financial statements from 2012–2019. Financial reports are obtained from the official company website as well as the Indonesia Stock Exchange. Data management is carried out using SPSS.

Population and Sample

The population in this research is the ceramic, porcelain, and glass sub-sector industry companies that were listed in the IDX between 2012–2019. The research samples used were 6 companies in the ceramic, porcelain, and glass sub-sectors and the sample size is 48. The sampling technique was the purposive sampling method. Some of the criteria for the research sample are:

1. Companies in the sub-sector of ceramics, porcelain, and glass listed in the IDX between 2012–2019.
2. Companies that have published complete financial reports from 2012–2019.

Operational Definition and Variable Measurement

Dependent Variable

When the ROA (return of assets) value is higher, the company can reduce the burden of running the company's operations so that it can improve company performance (Hantono et al., 2019).

$$\text{ROA} = \frac{\text{EAT}}{\text{Total Assets}}$$

Dependent Variable

A high MBV (market book value) indicates higher interest of investors to invest by seeing the performance or high company value (Inah & Redawati, 2019).

$$\text{MBV} = \frac{\text{Price per Share}}{\text{Book Value per Share}}$$

Independent Variable

Current assets that have high value explains that the company has good performance because the company can fulfil its obligations (Tunyi et al., 2019).

$$\text{CR} = \frac{\text{Current Assets}}{\text{Current Liability}}$$

Independent Variable

Debt to Equity Ratio is a calculation of the solvency ratio. When a company has a high DER value, it is an indication of an unhealthy company condition because the total debt owed by the company is greater than the total capital (Hantono et al., 2019).

$$\text{DER} = \frac{\text{Total Liability}}{\text{Total Equity}}$$

Independent Variable

High total asset turnover will have an impact on company valuation. The high value of TATO shows that management can utilize each of its assets to increase the company's share price (Hantono et al., 2019).

$$\text{TATO} = \frac{\text{Sales}}{\text{Total Assets}}$$

Independent Variable

High cash turnover shows that the company is using its cash effectively and efficiently. An increase in sales has an impact on increasing profits (Nurafika & Almadany, 2018).

$$\text{Cash Turnover} = \frac{\text{Sales}}{\text{Average Cash}}$$

Independent Variable

High accounts receivable turnover shows that the company can efficiently use capital to improve the company (Nurafika & Almadany, 2018).

$$\text{Receivable Turnover} = \frac{\text{Sales}}{\text{Average Receivable}}$$

Independent Variable

High inventory turnover shows that the company can efficiently manage inventory to increase sales and company profits (Nurafika & Almadany 2018).

$$\text{Inventory Turnover} = \frac{\text{COGS}}{\text{Average Inventory}}$$

Data Analysis Method

Data analysis method is using SPSS. The research was conducted using multiple linear regression tests. Before performing the regression test, several classical assumption tests were carried out. The stage in testing the classical assumptions is the normality test with the Kolmogorov-Smirnov Test. The heteroscedasticity test used the Glejser test, multicollinearity test by taking 2 tolerance values and VIF values. Autocoleration test with the Durbin-Watson test.

RESULTS

Descriptive Statistics

Table 1 has shown that the minimum value of CR is -1,47 and the maximum value is 0,77. The mean value in this study is 0,1833. The minimum value of CR

is -1,47 from IKAI in the 2017 financial statements. In 2017, IKAI carried out a business plan, namely importing with world producers to compete with other companies. From this step, the value of current liabilities increased drastically by Rp 48 billion. The maximum value of KIA was 0,77 in the 2012 report, while this year the company had an increase in current assets of Rp 66 billion. Meanwhile, the minimum value of DER is -1,07 and the maximum value is 0,73 and has a mean value of -0,1637. The minimum value of DER is -1,07 from IKAI in the 2016 financial statements. In 2016, the company's equity in this company experienced a decline due to bearing a total loss of IDR 472 billion. The maximum value of MLIA is 0,73 in the 2015 financial statements and the company had increased its performance from 2014 as proven by the DER improvement.

According to Table 1 were found the minimum value of TATO is -2,07 and the maximum value is 0,28 and has a mean value of -0,2235. The minimum value of TATO is -2,07 from IKAI in the 2018 financial report, the company experienced a decreased performance from 2017 which was unable to compete in the market so that in 2018 sales only reached 0,84% of its total assets. The maximum value of TOTO is 0,28 in the 2014 financial statements, this company had sales of 184,18% of its total assets, which is IDR 2,05 trillion. Furthermore, the minimum value of PPKS is -0,53 and the maximum value is 3,00 and the mean value of 1,9516. The minimum value of PPKS is -0,53 from the IKAI in the 2018 financial statements. This is because in that year the net cash was used to pay suppliers, transaction costs from the acquisition of subsidiaries, interest payments, etc. and amounted to IDR 47,5 billion. The maximum value of AMFG was 3,00 in the 2015 financial statements, the company in that year expanded so that its cash management towards sales was 1,01 times.

Table 1 in this study has pointed out that the minimum value of PPPT is 0,32 and the maximum value is 1,37 and the mean value is 0,7466. The minimum value of PPPT is 0,32 from KIA in the 2017 financial report. In this year, there were many credit sales to related parties with KIA, thereby increasing the PPPT ratio. The maximum value of IKAI was 1,37 in the 2019 financial report, an increase in sales of Rp 73 billion but the increase in receivables was only Rp 15,4 billion which was only 21% of sales made in 2019.

The study result in Table 1 showed the minimum value for PPPR is 0,8 and the maximum value is 1,28 and the mean value is 0,6483. The minimum value of PPPR is 0,8 of the IKAI in the 2019 financial report because the company has a final stock of IDR 34,29 billion and only issues goods with an HPP of IDR 22,16 billion so that the company provides too many goods for the needs of the following year. The maximum value of ARNA was 1,28 in the 2014 financial statements, the year ARNA issued goods with an HPP of Rp 1,09 trillion and only had an ending inventory of Rp 58,18 billion, where the company is doing well in its corporate activities.

Table 1 Descriptive Statistics

Descriptive Statistics				
	N	**Minimum**	**Maximum**	**Mean**
LG10_CR	43	-1,47	,77	,1833
LG10_DER	43	-1,07	,73	-,1637
LG10_TATO	43	-2,07	,28	-,2235
LG10_PPKS	43	-,53	3,00	1,9516
LG10_PPPT	43	,32	1,37	,7466
LG10_PPPR	43	,08	1,28	,6483
LG10_ROA	43	-3,11	-,57	-1,2960

Classic Assumption Test

Normality Test, Heteroscedasticity, Autocorrelation, and Multicollinearity

Based on Table 2, the value of the normality test of the ROA model has a value above 0,05, which indicates that the data from the sample taken is normal. Table 3 illustrates the value of the heteroscedasticity test results in this study as more than 0,05 in each variable in the ROA research model. It can be said that the data used is homoscedastic. Table 4 describes the autocorrelation test on the ROA model. The ROA model has a result of 2,173 which lies in excess of dU 1,8265. These results indicate that the data in the ROA model does not have autocorrelation symptoms. Table 5 shows the results of the multicollinearity test, in the ROA model the tolerance value has a value of more than 0,1 and a VIF value of less than 10 which indicates that the data used does not have multicollinearity.

Table 2 Normality Test

N	43
Asymp. Sig. (2-tailed)	0,083

Table 3 Heteroscedasticity Test

LG10_CR	0,079
LG10_DER	0,223
LG10_TATO	0,226
LG10_PPPKS	0,395
LG10_PPPT	0,97
LG10_PPPR	0,917

Table 4 Autocorrelation Test

Durbin-Watson
2,173

Table 5 Multicollinearity Test

	Collinearity Statistic	
	Tolerance	**VIF**
LG10_CR	0,911	1,097
LG10_DER	0,727	1,376
LG10_TATO	0,971	1,03
LG10_PPKS	0,894	1,118
LG10_PPPT	0,773	1,293
LG10_PPPR	0,929	1,076

The results of data analysis from the financial statements are shown in the F test in Table 6. The data has a result of 1,718,678 on ROA, which exceeds the F table value of 2,44 and the result is a significance value of less than 0,05, indicating that the independent variable affects the ROA model.

Table 6 F-test

	F	Sig
ROA	1,718,678	0,000

Multiple Linear Regression Analysis Test

Based on the results of the regression test analysis, the equation can be formulated as follows:

ROA = -0,548 + 0,156CR - 0,88DER + 0,952TATO - 0,266PPKS + 0,328PPPT + 0,194PPPR

From this formula, if the independent variable remains constant, meanwhile the ROA has a coefficient of -0,31. The CR coefficient is 0,156 and it can be conducted that the increase in CR will increase ROA by 0,156. The relationship between CR and ROA has a positive effect and also has a unidirectional relationship. The CR value of 0,156 indicates that each increase of CR unit will increase the company's financial performance, namely the ROA variable of 0,156. If the value of CR increases, the company's ROA will also increase with CR. The DER coefficient of -0,88 means that each DER will decrease ROA by -0,88. This indicates a negative relationship, which means that each increase in DER will decrease ROA. The relationship between DER and ROA is an inverse correlation. The DER value of -0,88 in this study indicates that each increase of one DER unit means that it will decrease the company's financial performance, namely the ROA variable of -0,88. If the DER value increases, the company's ROA will decrease in the opposite direction to DER. TATO coefficient is 0,952, indicating that each increase in TATO will increase ROA by 0,952. It can be implied that TATO will increase ROA and the correlation of TATO and ROA is positive and unidirectional. The TATO value of 0,952 means that each increase of one TATO unit will increase the company's financial performance, namely the ROA variable, as much as 0,952. If the TATO value increases, the company's ROA will also increase with the TATO. The PPKS coefficient has a value of -0,266, indicating that every increase in PPKS will reduce ROA by the coefficient value of 0,266. PPKS and ROA have a negative and inverse relationship. The PPKS value of -0,266 indicates that each increase of one PPKS unit means that it will reduce the company's financial performance, namely the ROA variable, as much as -0,266. If the PPKS value increases, the company's ROA will decrease in the opposite direction to DER. The PPPT coefficient of 0,328 means that PPPT and ROA have a positive and unidirectional relationship. This relationship can be explained that each increase in PPPT will increase ROA by 0,328. The PPPT value of 0,328 indicates that each increase of one PPPT unit will

increase the company's financial performance, in this study refers as ROA, with the value of 0,328. The study result examined if the PPPT value increases, the company's ROA will also increase with the PPPT. The PPPR coefficient is 0,194 which means that PPPR and ROA have a positive and unidirectional relationship. It can be explained that each PPPR increase will increase the ROA by 0,194. The PPPR value of 0,194 indicates that each increase of one PPPR unit will increase the company's financial performance, namely the ROA variable, as much as 0,194. If the PPPR value increases, the company's ROA will also increase with the PPPR.

Table 7 shows the significance of the test results for each variable tested. The significance value of CR on ROA is less than 0,05 and based on the regression results, the direction of the relationship is positive. So, it can be concluded that there is a significant positive effect between CR and ROA. As a result, the first hypothesis is accepted. The significance value of DER on ROA is greater than 0,05 and the direction of the relationship is negative, so it can be concluded that there is no significant influence between DER and ROA. Therefore, in this study the second hypothesis is rejected. The significance value of TATO to ROA is less than 0,05 and based on the regression results, the direction of the relationship is positive. So, it can be concluded that there is a significant positive effect between TATO and ROA. As a result, the third hypothesis is accepted. The significance value of PPKS on ROA is greater than 0,05 and based on the regression results, the direction of the relationship is negative. So, it can be concluded that there is no significant influence between PPKS and ROA. As the result, the fourth hypothesis is rejected. The significance value of PPPT on ROA is higher than 0,05 and following by the regression analysis states the direction of the relationship is negative. So, it can be found that there is no significant influence between PPPT and ROA. As the result, the fifth hypothesis is rejected. The significance value of PPPR on ROA is greater

Tabel 7 t-Test

ROA	B	Sig	Explanation
CR	0,156	0,039	Significant
DER	-0,88	0,309	Insignificant
TATO	0,952	0,000	Significant
PPKS	-2,66	0,275	Insignificant
PPPT	0,328	0,281	Insignificant
PPPR	0,194	0,085	Insignificant

than 0,05 and based on the regression results, the direction of the relationship is positive. So, it can be concluded that there is no significant influence between PPPT and ROA. As a result, the sixth hypothesis is rejected.

Adjusted R^2 Test

Based on Table 8, it can be seen that the adjusted R^2 value of ROA is 0,997 or 99,70%. This explains that the independent variables are CR, DER, TATO, PPKS, PPPT, and PPPR from this study can explain 99,70% of ROA.

DISCUSSION

The results showed that the current ratio affects the return of assets so that the first hypothesis is accepted. The increased CR value indicates that the company has been able to fulfill its obligations and has a good performance in increasing profits. So when CR increases, ROA increases. The results of this study are in line with (Angelina et al., 2020). However, these results are not in line with the research by (Solihin, 2019) that stated how increased CR has an impact on decreasing ROA. The result of the second hypothesis research is accepted, as it shows that debt to equity affects the return of assets. Higher DER will result in the increase in ROA. When the amount of debt approaches the amount of capital, it will affect profitability. The results of the study are in line with Hantono et al. (2019) and Angelina et al. (2020). The results of the study on TATO and ROA showed a positive influence and the sixth hypothesis was accepted. The increase in TATO will be followed by an increase in ROA. This shows that the company makes use of every asset it owns to increase company profit. These results are in line with those of (Supardi et al., 2018). The PPKS variable does not affect ROA so that the fourth hypothesis is rejected. This is because an increase in PPKS cannot increase ROA due to an increase in PPKS which shows that the company manages cash efficiently, but it cannot be ascertained that cash management can have an impact on increasing company profit or sales. This study is in line with the research results of Hantono et al. (2019) and Angelina et al. (2020). Also, the relationship between PPPT does not affect ROA so that the fifth hypothesis is rejected. This is because high credit

sales have an impact on increasing the number of company receivables so that this can affect company profits. The results of this study are in line with Hantono et al. (2019). PPPR has no significant effect on ROA. PPPR can reduce the risk of loss so that this can have an impact on the increase in company profits. The results of this study are in line with Nurafika & Almadany (2018).

Conclusion

Based on the results of the research on the financial performance of industrial companies in the ceramic, porcelain, and glass sub-sector, it can be concluded that CR and TATO affect ROA. DER, PPKS, and PPPT variables do not affect ROA. On the other hand, CR variable has a positive effect on ROA, and TATO affects ROA.

Limitations and Suggestions

In this study, there are several limitations, including the researcher only uses six companies because many companies are newly established so that they are not included in the research criteria.

Suggestions obtained from this research for further research are subsequent research should use samples from other companies in other industries. For example, from basic industry and chemicals sub-sectors. Using other sectors as samples will produce different results because the samples used are different and have different industry characteristics. Adding other variables following the characteristics of the industry to be studied so the results obtained can be maximized based on the research conducted.

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