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An Empirical Study of Quick Ratio and Profitability on Manufacturing Firms in Indonesia

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ABSTRACT

This study intended to test the effect of the quick ratio on manufacturing firms' profitability in Indonesia. To measure the profitability, three dependent variables were used: Net Profit Margin (NPM), Return On Assets (ROA) and Return On Equity (ROE). Several variable controls were used: firm size, variability in net operating income, sales growth, gross domestic product growth, and leverage. A total of 158 manufacturing firms with published financial statements from 2012 to 2016 were analyzed using a regression method. It is found that quick ratio has positive effects on manufacturing firms' NPM and ROA. However, the same effect is not found on ROE.

Keywords: *Indonesia; Manufacturing Firms; Net Profit Margin; Profitability; Quick Ratio; Return on Assets; Return on Equity*

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1. Introduction

Profit is every business's main goal because profit determines a company's sustainability and existence (Umobong, 2015). This means the company must run its operations effectively and efficiently to generate maximum profit. More specifically, effectiveness relates to the goals to be achieved by the company, while efficiency relates to the imposition of minimal costs. In maintaining the sustainability and existence of a company, managers try to design daily operational strategies whose main goal is to generate profits for the company (Thuraisingam, 2015). This is done because one measure of the effectiveness of the manager's performance is seen from the amount of profit generated for the company (Subramanyam & Jhon, 2009).

The company's profitability reflects the size of a company's profit in an accounting period. This can be measured using profitability ratios, such as Return on Assets, Return on Equity, Net Profit Margin, Earnings per Share, and Price Earning Ratio (Weygandt et al., 2013). Profitability ratios measure the profit or success of a company in a certain period. Reeve et al. (2014) add that these profitability ratios focus on the relationship between operational results and available resources.

Company profitability cannot be separated from company liquidity because if a company's liquidity is insufficient to pay short-term obligations, this will affect the company's operations and impact profitability (Saleem & Rehman, 2011). Companies with adequate liquidity will not use their operational funds to finance short-term liabilities. Therefore, liquidity management of a company is needed to maximize the company's profit. In addition, profitability can reflect the efficiency of planning and controlling liquidity (Eljelly, 2004).

Liquidity manages current assets to meet short-term obligations (Khan & Ali, 2016). Liquidity is a prerequisite in ensuring that the company can meet its short-term obligations by owning a profitable business. Therefore, the availability of liquidity within the company is also an indicator of the company's health. The company must be able to maintain its liquidity and be able to generate maximum profit. For this reason, business management in a company must be carried out efficiently and profitably.

Furthermore, Dahiyat (2016) added that liquidity balances current assets and liabilities. This is supported by Harrison et al. (2014), who add that, on the one hand, companies with a high level of liquidity have a better ability to pay short-term obligations than companies with low liquidity. However, on the other hand, too high a company's liquidity is also not good. If the company invests too many assets in current assets, it cannot maximize the capital so that it can be turned into profit for the company. Therefore, Padachi (2006) suggests that every company must balance liquidity and profitability in its operational activities. In other words, the company must ensure it does not lack liquidity or excess liquidity (Yusoff, 2017). Therefore, the company must determine the optimal level of liquidity to generate high profits (Khan & Ali, 2016).

In connection with company liquidity management, measuring a company's liquidity can use the static method by paying attention to the quick ratio as an indicator in assessing a company's liquidity (Richards & Laughlin, 1980). However, the effect of the quick ratio on profitability is still controversial. Several previous studies have found that the quick ratio has a negative effect on company profitability. Thuraisingam (2015) states that if liquidity (profitability) increases, then profitability (liquidity) decreases. This poses a dilemma for company managers in deciding whether to increase profitability or maintain company liquidity in an ideal position.

Theoretically, Harison et al. (2014) and Eljelly (2004) suggest that, generally, a lower level of liquidity can generate more profit than companies with high liquidity. This can occur due to

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unnecessary costs and profit losses because of holding excess liquidity. This is supported by research by Saleem & Rehman (2011) on oil and gas companies in Pakistan, research by Dahiyat (2016) on banks in Jordan, and research by Yusoff (2017) on consumer product companies in Malaysia which found that there was a negative correlation between liquidity and company profitability.

In contrast to the results of previous studies, several subsequent studies found that liquidity, as measured by the quick ratio, positively affects company profitability. This can happen when the company has high liquidity while funding from external parties is expensive. It is more profitable for companies to use current assets to finance operations and make investments than external party funds (Umobong, 2015). Thus, the company will continue to increase its liquidity until it reaches the optimal point to maximize its profit. This is supported by research from Awan (2014) on the food sector in Pakistan, Ehiedu (2014) on the industrial sector and domestic products, Khidmat & Rehman (2014) on the chemical sector in Pakistan, Eheidu (2014) research on domestic and industrial products in Pakistan, Umobong (2015) on pharmaceutical companies in Nigeria, Khan & Ali (2016) on the banking sector in Pakistan, Demirgunes (2016) on retail companies in Turkey, Janjua et al. (2016) on the cement industry in Pakistan, Bibi & Amjad (2017) on retail and manufacturing companies in Karachi, and Ibrahim (2017) on commercial banks in Iraq.

Previous studies have shown that there is an influence between the quick ratio on the company's profitability. This is different from the research by Thuraisingam (2015) in the food and beverage, pharmaceutical and chemical industries, diversified holdings, clothing and shoes, store supplies, and manufacturing which found no significant effect between quick ratios on company profitability. According to Thuraisingam, there are other factors not included in this study that have a greater influence. Based on these studies, there are inconsistencies in the results of previous studies. As shown in previous studies, it was found that there was a difference in the measurement of the variables used. Second, there are differences in the selection of research objects, as it is known that every industry has different characteristics.

The manufacturing industry in Indonesia, this industry has several sectors that produce various important goods for consumption. According to Kementerian Investasi Republik Indonesia (2019), this industry alone contributed 20.27% of the national economy. The same source also pointed out that this industry has higher productivity and a sporadic domino effect in adding more value to materials, hiring more labor, and generating huge taxes for the country. Even so, the manufacturing industry in Indonesia is the biggest in ASEAN, so doing research related to this industry is interesting. This is an empirical issue that needs to be investigated further. Based on the above background, the researcher is interested in conducting research titled: "An Empirical Study of Quick Ratio and Profitability on Manufacturing Firms in Indonesia". Therefore, the following hypothesis was developed:

Ha: Quick ratio has a significant effect on company profitability.

2. Literature Review

2.1. Quick Ratio

The quick ratio is one of the most widely used profitability ratios to analyze a company's financial position. This ratio still uses short-term or current assets and short-term liabilities in its calculation. However, there are differences in the use of accounts in short-term assets, whereas, in the quick ratio, only the most "liquid" short-term assets are used (Dahiyat, 2016). This means that only short-term assets are most quickly used, sold, or converted into cash, to pay off short-

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term obligations. In contrast, current assets that require more time to be converted into cash are excluded (i.e., inventories). In short, it can be said that this ratio is safer in assessing company liquidity.

2.2. Trade-off Theory

Trade-off theory suggests that a combination of debt and equity financing can be achieved through balanced costs and benefits of debt financing (Adesola, 2009). As Shah & Ilyas (2014) explain, the cost of debt financing is the increasing potential for bankruptcy because the company must pay interest and principal on the loan. While the benefits exist, a tax shield arises because of interest payments by the company, thereby reducing the corporate tax paid. This is where the dilemma arises for companies in finding the optimal point of debt and equity funding. According to Etale & Bingilar (2016), this theory should not be completely ignored because it explains that companies with high levels of leverage attract high debt costs, which will affect profitability and make it difficult for companies to obtain funding from other sources.

The trade-off theory can also be seen from the liquidity side. Etale & Bingilar (2016) argue that companies seek to obtain an optimal level of liquidity to balance the costs and benefits of storing or hoarding cash. Etale and Bingilar explain that keeping cash costs are low returns and tax losses. While the benefit of saving cash is that companies can save on transaction costs to obtain funds and do not need to liquidate assets to pay debts. In addition, companies can also use liquid assets to fund investments. Similarly, the optimal level of liquidity can be achieved through a trade-off between risk due to low liquidity and returns from internal funding (Kim et al., 1998). From this, it is implied that the company can experience a dilemma in obtaining the optimal level of liquidity because it must carefully consider the existing conditions so as not to make a wrong step in formulating the right strategy.

2.3. Pecking Order Theory

The pecking order theory was first proposed by Donaldson in 1961 and popularized by Myers in 1984. Myers (1984) explains that because companies prioritize internal funding, external funding is the next choice. Myers added that if external funding is needed, the company chooses the instrument with low risk (bonds) first and then chooses the riskier funding instrument (shares). It can be concluded that this theory can be likened to a rung of the ladder where the bottom rung is internal funding with low risk and the top rung is external funding through the sale of shares or equity. The higher the stairs, the greater the risk.

Companies can choose internal funding when it has high liquidity. The availability of internal funds will reduce dependence on external funding. This will reduce the cost of funding from outside the company. In addition, companies with long cash conversion cycles tend to require more operational funds than companies with short cash conversion cycles. Good cash conversion cycle management will reduce the use of funds and costs from outside parties so that if costs can be minimized with the assumption that sales increase, this will increase profits for the company.

3. Research Methodology

This study used STATA software to run multiple regression analyses to evaluate whether the quick ratio influences company profitability. Before the researcher conducted a regression analysis, the classical assumption test was first carried out to detect and overcome the problems of multicollinearity and heteroscedasticity. In this study, the normality test was not carried out because the number of samples was > 30, so the distribution of the average sample was close to

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the normal distribution. The autocorrelation test was also not carried out because this study used panel data (time series and cross-section). Autocorrelation arises because the residuals in individuals tend to affect the same individuals in the next period. Autocorrelation problems often occur in time series data. For the regression model, the following formula is used:

$$\mathbf{PROF= \beta_0 + \beta_1 QR + \beta_2 SG + \beta_3 LEV + \beta_4 SIZE + \beta_5 VNOP + \beta_6 GDP + \varepsilon}$$

Descriptions:
PROF = Profitability (ROA, ROE, net profit margin)
QR = Quick Ratio
SG = Sales Growth
LEV = Leverage
SIZE = Logarithm of Total Natural Assets
VNOI = Variability of Net Operating Income
GDP = Gross Domestic Product

This study used two main variables. The independent variable in this study was liquidity, measured using the quick ratio. The dependent variable was profitability proxied by ROA, ROE, and net profit margin. In addition to the two variables above, this study used control variables: sales growth, leverage, total assets, variability in net operating income, and growth in the gross domestic product (GDP). Previous studies have used these five variables as control variables, such as research from Soekhoe (2012) using firm size, leverage, and GDP. Furthermore, research from Bhatia & Srivastava (2016) used size, sales growth, leverage, variability in net operating income, and GDP.

Sampling in this study was a purposive sampling technique. The criteria for selecting the sample in question are as follows:

1) The study samples were manufacturing companies listed on the Indonesia Stock Exchange.
2) The companies sampled in this study were manufacturing companies that published the required financial data during the 2012-2016 research period.
3) Based on the sampling criteria, 158 manufacturing companies in Indonesia were obtained.

4. Results and Discussion

There were 749 data observed from 158 manufacturing companies in Indonesia from 2012-2016. The regression results in **Table 1** showed that the quick ratio significantly positively affects net profit margin and ROA in manufacturing companies in Indonesia for the period 2012–2016. This can be seen in the p-value <0,05; the coefficient values were 0,0652 and 0,0468, respectively. Probability F-Stat <0,05 so that this model can be accepted and the independent variables in this model could explain the dependent variable, namely NPM, and ROA of 22,1% and 22,6%, respectively, while other factors outside the model influenced the rest. This can be seen in the value of the coefficient of determination or adjusted R2. However, **Table 1** also shows that the quick ratio does not affect ROE because the p-value is >0,05.

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Table 1. The Regression Results of Quick Ratio on Net Profit Margin, Return on Assets, and Return on Equity

Variables	*NPM*	*ROA*	*ROE*
QR	0,0652***	0,0468***	0,0417
	(4,24)	(4,97)	(1,21)
Sales growth	0,0427*	0,0402**	0,0712
	(2,54)	(2,82)	(1,56)
Leverage	-0,126*	-0,104**	-0,176
	(-2,26)	(-2,79)	(-0,84)
Firm Size	0,0282	0,00998	0,00486
	(1,88)	(0,99)	(0,15)
VNOI	-6,79e-05	-0,000917	0,0120
	(-0,01)	(-0,24)	(0,84)
GDP	3,444***	2,925***	3,765
	(4,47)	(4,93)	(1,86)
Cons.	-0,781*	-0,337	-0,439
	(-2,24)	(-1,47)	(-0,60)
N	749	749	749
Adjusted R2	0,2216	0,2262	0,0355
F-Stat	11,38	15,80	2,06
Probability	0,0000	0,0000	0,0611

Notes: the values shown are the coefficient of regression. It was marked with * sign indicating: * p <0,05, ** p <0,01, *** p <0,001. Numbers in ( ) are t count, and the t-table value at p-value 0,05 was ±1,96.

Based on the results of this study, it can be seen that the quick ratio positively influences the net profit margin and ROA of manufacturing companies in Indonesia for the period 2012–2016. This study's results align with Awan (2014) and Khidmat & Rehman (2014), which found that liquidity positively affects company profitability. However, this study's results differ from Eljelly (2004), which found that liquidity negatively affects company profitability.

The quick ratio can positively affect the company's profitability because the availability of liquidity will make companies choose to use internal funds compared to external funds in daily operations so that the risks and costs of debt and equity can be reduced. If costs can be minimized with the assumption that sales remain or increase, this will increase the company's profitability. The results of this study support the pecking order theory, where when a company needs funds, the company will prioritize using internal funding, and external funding, such as bonds and stocks, will be the next choice.

5. Conclusion

This study has some limitations. Firstly, this study only uses one independent variable, the quick ratio. Further study can use another independent variable that theoretically affects company profitability. Secondly, this study only focuses on manufacturing companies listed on Indonesia Stock Exchange from 2012-2016. Many other industries in Indonesia can be explored related to this topic. Further research can be conducted to compare the effect of the Quick ratio

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on profitability in different industries without limiting it to manufacturing companies.

Despite these limitations, this study is still relevant and can contribute to the research topic, especially in enriching the study of the liquidity and profitability of a company. This study may also give additional literature and empirical evidence related to liquidity and profitability. Practically, this study can give useful information to some potential users, such as managers and investors of manufacturing companies, in making such managerial and investment decisions.

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7. Declaration of Conflicting Interests

The authors have declared no potential conflicts of interest concerning this article's research, authorship, and/or publication.

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