

The Influence of Working Capital Management on the Profitability of Manufacturing Companies

Seto Sulaksono Adi Wibowo¹, Rizky Aulia Ryalvin²

seto@polibatam.ac.id¹, rizky.4111711003@students.polibatam.ac.id²

Managerial Accounting Study Program, Batam State Polytechnic, Jl. Ahmad Yani, Batam Centre, Batam 29461, Indonesia ^{1,2}

Abstract. This study aims to determine the effect of cash turnover, account receivable turnover, inventory turnover, and working capital turnover on company profitability. The population in this study is manufacturing companies which are listed in the Indonesia Stock Exchange for the 2016 – 2020 period. The number of samples used is 38 companies which are selected by using purposive sampling technique. The data analysis technique which used is double regression analysis by using SPSS 20 program. This study can be beneficial for manufacturing companies as reference and consideration in planning, making decisions, and evaluating business activities related to working capital management. As for readers, this research can add insight into working capital management and company profitability. The result of this study is showing that inventory turnover has significant effect on company profitability, while cash turnover, account receivable turnover, and working capital turnover has no significant effect on company profitability.

Keywords: Cash Turnover, Account Receivable Turnover, Inventory Turnover, Working Capital Turnover, Profitability, ROA

1 Introduction

The manufacturing industry has an important role in the Indonesian economy. This sector is a mainstay in accelerating the Indonesian economy because it has an influence in spurring the value of investment and exports. Industrial activities always have a wide-ranging effect on the economy at the regional and national levels. These effects include an increase in the added value of domestic raw materials, foreign exchange earnings, and absorption of local workers.

Competition in business faced by manufacturing companies is always getting tighter along with the times. This encourages companies to be able to process working capital through working capital management so that the company continues to benefit from the business being undertaken. Companies that cannot maintain short-term funding are more likely to experience bankruptcy [3].

Working capital management is the management of company investments in the form of short-term assets. About one-third to one-half of the company's total assets are working capital. In CFO magazine's working capital scorecard issue June 2008, companies that are able to reduce their

working capital needs by \$1 billions or more, are the most improved companies [3]. Two main benefit of better working-capital management are cash conservation and trimming costs, following with virtue of leaner operation, increasing cash flow, and lower interest payment [3]. A proper working capital management can support the use of resources more efficiently so that there are no unnecessary expenses or idle funds. Working capital management is a determinant in the optimization of investment in current assets and a combination of short-term financing to support investment in current assets [2]. According to [3], companies with good working capital management are more likely to have smooth processes in marketing and manufacturing; good communication and matrix between sales, finance, and production departments; as well as good discipline in factory operations. In short, working capital management has quite significant role in the success of a firm's continuing business.

By explanation of manufacturing industry's role and the importance of working capital management above, this research is done in purpose to know the working capital management from selected components, which are cash turnover, account receivable turnover, inventory turnover, and working capital turnover, to profitability in manufacturing companies. This research adopts previous research by [7]. Previous research concluded that cash turnover, accounts receivable turnover, and inventory turnover had a significant effect on profitability. Previous research has three independent variables, while this research will have four independent variables. An additional independent variable in this research is working capital turnover. The basis of the research on the addition of working capital turnover variables is [6], which results in the conclusion that working capital turnover has a positive and significant effect on profitability (ROA). This research and previous research also have difference in the range of years of the object of research. The sample used by [7] is manufacturing company listed on the Indonesia Stock Exchange in the period 2012-2014. Meanwhile, in this research the sample used was a manufacturing company listed on the Indonesia Stock Exchange in the 2016-2020 period.

2 Literature Review

2.1 Agency Theory

This research uses Agency Theory as Grand Theory. This concept explains the relationship between management and shareholders, where management is the agent appointed by the shareholders (principals) to manage the company. The company has current assets (working capital) which are managed through working capital management to support the company's operations. Working capital management is controlled by company management who has a position as an agent in Agency Theory. The value of each component of the company's working capital and profit and loss is displayed in the accounting information in the form of the company's financial statements. Therefore, the management of working capital plays a role in the success of the agent to carry out the responsibility for managing the company that has been assigned by the principal (shareholder).

2.2 Working Capital Component

Working capital is a company's current assets and consists of cash, marketable securities, accounts receivable, and inventory [3]. Working capital management is the management of the company's investment in short-term assets. The purpose of working capital management according to [2], among others are to meet the company's liquidity needs, fulfill obligations to be on time with sufficient working capital, ensure sufficient inventory to meet purchases from customers, and others.

This research use four working capital components, which are cash turnover, account receivable turnover, inventory turnover, and working capital turnover. Cash turnover is used to measure the level of cash availability to pay obligations (debts) and costs related to the sale of the company [2]. Cash turnover indicates the ability of cash to generate profits for the company so that it can be seen how many times the cash rotates in a certain period [4]. Accounts receivable turnover shows how often receivables turn into cash in one period [2]. Inventory turnover indicates the number of times inventory is replaced in one year [2]. Working capital turnover shows the ability of working capital to rotate in a cash cycle of the company [5].

2.3 Profitability

The dependent variable in this study is profitability with ROA (Return on Assets) ratio. ROA is a ratio that measures how well the company utilizes its assets to generate profits.

2.4 Hypothesis Development

2.4.1 Cash Turnover and Profitability

Cash is used for material purchases and production costs. All these expenditures aim to maintain and increase production capacity. Smooth and increasing production will increase the number of available finished goods which will be distributed to the consumer level. The more often the production of goods is completed in a period, the sales growth will also increase. The higher the sales figure, the potential for increasing the company's income in that period is also increasing. The higher the cash turnover value, the better the efficiency of using cash and the higher the company's profit. Therefore, the first hypothesis of this research is as follows.

H₁ : Cash turnover has a positive and significant effect on profitability.

Previous research has result that cash turnover has positive and significant effect on profitability in manufacturing company listed on the Indonesia Stock Exchange in 2012-2014 year period.

2.4.2 Accounts Receivable Turnover and Profitability

When the account receivables turnover rate is high, it means account receivables can be billed by the company to consumers quickly. Account receivables also turn into cash more quickly. Then the cash can be used to continue to carry out or improve the company's operational activities and other activities that have the potential to provide profits for the company. Account receivables that are rapidly rotating also indicate that the company's sales are getting higher due to the large number of purchase transactions on credit from consumers. High sales have the

potential to bring profitability to the company. Based on the description above, the second hypothesis of this research is as follows.

H₂ : Accounts receivable turnover has a positive and significant effect on profitability.

Previous research has result that account receivable turnover has positive and significant effect on profitability in manufacturing company listed on the Indonesia Stock Exchange in 2012-2014 year period.

2.4.3 Inventory Turnover and Profitability

If more finished goods are being sold to customer, the higher the company's sales. High sales will potentially bring profits for the company.

H₃ : Inventory turnover has a positive and significant effect on profitability.

Previous research has result that inventory turnover has positive and significant effect on profitability in manufacturing company listed on the Indonesia Stock Exchange in 2012-2014 year period.

2.4.4 Working Capital Turnover and Profitability

Working capital in the company continues to rotate to generate profits which are then used for the purchase of raw materials, then produced, and the products are sold to the market to generate profits again. Increased working capital also provides potential for companies to increase production capacity and develop marketing, so that company operations run more smoothly and have an effect on increasing profits. Therefore, the fourth hypothesis of this study is as follows.

H₄ : Working capital turnover has a positive and significant effect on profitability

Previous research has result that working capital turnover has positive and significant effect on profitability in food and beverage companies listed on the Indonesia Stock Exchange in 2010-2014 year period.

3. Research Method

3.1 Independent Variable

3.1.1 Cash Turnover

$$\text{Cash Turnover} = \frac{\text{Revenue}}{\text{Average Cash}} \quad \text{Average Cash} = \frac{\text{Opening Balance of Cash in Beginning of Year} + \text{Closing Balance of Cash in End Year}}{2} \quad (1)$$

3.1.2 Accounts Receivable Turnover

$$\text{Accounts Receivable Turnover} = \frac{\text{Revenue}}{\text{Average of Accounts Receivable}} \quad \text{Average of Accounts Receivable} = \frac{\text{Accounts Receivable on Beginning of Year} + \text{Accounts Receivable on Closing of Year}}{2} \quad (2)$$

3.1.3 Inventory Turnover

$$\text{Inventory Turnover} = \frac{\text{Revenue}}{\text{Average of Inventory}} \quad \text{Average of Inventory} = \frac{\text{Inventory on Beginning of Year} + \text{Inventory on Closing of Year}}{2} \quad (3)$$

3.1.4 Working Capital Turnover

$$\text{Working Capital Turnover} = \frac{\text{Revenue}}{\text{Average of Working Capital}} \quad \text{Average of Working Capital} = \frac{\text{Current Assets on Beginning of Year} + \text{Current Assets on Closing of Year}}{2} \quad (4)$$

3.2 Dependent Variable

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}} \quad (5)$$

3.3 Types and Sources of Data

The source of the data for this research is the financial statements in IDX (Indonesian Stock Exchange) website, namely www.idx.go.id, so it is included in the category of secondary data (existing evidence). The type of data used is ratio data.

3.4 Research Locations and Objects

This research is located in Batam State Polytechnic. The object of this research is a manufacturing company listed on the Indonesia Stock Exchange in 2016-2020. This research choose this period selection as the research was done during 2021 until beginning of 2022 and by taking the closest year period and extend the range of years, it is expected to have more reliable, accurate, and up to date financial information of manufacturing industries. Moreover, this research is engaged with business and management field which always tend to develop and adapting in time being. Research with fresh datas is more likely to give close estimation.

3.5 Sampling Techniques

The technique used in this research is non-probability sampling, with the type of purposive sampling. The sample criteria in this study are as follows.

1. Manufacturing companies listed on the Indonesia Stock Exchange for the period 2016-2020
2. Companies that publish financial statements for the period 2016-2020
3. The company publishes financial statements using the rupiah currency
4. The company must be in a state of profit in the specified period

3.6 Data Analysis Techniques

The data analysis technique used in this research is multiple linear regression. The formula used is:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \quad (6)$$

Where:

Y = Profitability (ROA) as dependent variable

α = Constant

$\beta_1 - \beta_4$ = Coefficient of independent variable

X_1 = Cash turnover as independent variable

X_2 = Accounts receivable turnover as independent variable

X_3 = Inventory turnover as independent variable

X_4 = Working capital turnover as independent variable

ε = error term

If the significance value of the independent variable in the coefficient table is below 0.05, then the independent variable has a significant effect on the dependent variable. If the significance value of the independent variable is above 0.05, then the independent variable has no significant effect [1].

4 Results and Discussion

4.1 Characteristics of Data

The characteristics of the data in this study are the annual financial statements of companies listed on the Indonesia Stock Exchange in the period 2016 - 2020 through the official website www.idx.co.id. The population taken for this research are companies that are members of the manufacturing sector in all sectors. The sampling technique used is purposive sampling. Based on the results of data collection and sampling, the total companies that meet the criteria are 38 companies.

4.2 Descriptive Statistics

Table 1. Descriptive Statistics

Name of Variable	N	Minimum	Maximum	Mean	Std. Deviation
Cash Turnover (X_1)	190	0.709	81.511	14.537	16.336
Accounts Receivable Turnover (X_2)	190	1.850	12.184	5.783	2.177
Inventory Turnover (X_3)	190	2.139	15.154	6.527	2.396
Working Capital Turnover (X_4)	190	0.456	4.043	1.884	0.636
Profitability (Y)	190	0.001	0.243	0.070	0.056

4.3 Discussion of Multiple Linear Regression Test Results

Table 5. Multiple Linear Regression Coefficient

Model	β	t	Sig.
(Constant)	0.03996	2.67729	0.00809
Cash Turnover (X_1)	-0.00010	-0.29824	0.76586
Accounts Receivable Turnover (X_2)	0.00289	1.35125	0.17827
Inventory Turnover (X_3)	0.00758	3.60161	0.00041
Working Capital Turnover (X_4)	-0.01838	-1.70326	0.09020

Based on the table above, the following multiple linear regression equation is obtained.

$$Y = 0.03996 - 0.00010X_1 + 0.00289X_2 + 0.00758X_3 - 0.01838X_4 \quad (7)$$

4.4 Multiple Linear Regression Test Results

The regression equation above can be described as follows.

$\alpha = 0.03996$ means that if the variables of cash turnover, accounts receivable turnover, inventory turnover, and working capital turnover are equal to zero, then the profitability value is 0.03996.

$\beta_1 = -0.00010$ means that every time the cash turnover increases by 1 unit, the profitability will decrease by the multiplier coefficient of the cash turnover, which is 0.00010 assuming other variables are constant.

$\beta_2 = 0.00289$ means that every time the receivables turnover increases by 1 unit, then profitability will increase by the multiplier coefficient of receivables turnover, which is 0.00289 assuming other variables are constant.

$\beta_3 = 0.00758$ means that every time inventory turnover increases by 1 unit, then profitability will increase by the multiplier coefficient of receivables turnover, which is 0.00758 assuming other variables are constant.

$\beta_4 = -0.01838$ means that every time working capital turnover increases by 1 unit, then profitability will decrease by the multiplier coefficient of receivables turnover, which is 0.01838 assuming other variables are constant.

Based on the results of the significance of each variable from the multiple linear regression test output, the proof of the hypothesis from this study can be summarized in the table below.

Table 6. Summary of Hypothesis Test Results

Hypothesis	Independent Variable	Dependent Variable	Sig.	Remarks	Result of Test
H ₁	Cash Turnover (X ₁)	Profitability (ROA)	0.76586	Insignificant effect	H ₁ is rejected
H ₂	Accounts Receivable Turnover (X ₂)	Profitability (ROA)	0.17827	Insignificant effect	H ₂ is rejected
H ₃	Inventory Turnover (X ₃)	Profitability (ROA)	0.00041	Significant effect	H ₃ is accepted
H ₄	Working Capital Turnover (X ₄)	Profitability (ROA)	0.09020	Insignificant effect	H ₄ is rejected

4.4.1 Effect of Cash Turnover on Profitability

Based on the results of the study, it was found that the significance value of cash turnover was $0.76586 > 0.05$ with a beta coefficient of -0.0010 . So it can be said that the influence of cash turnover on profitability is not significant and has negative direction. Working capital investment in dominant manufacturing companies tends to other current assets so that cash turnover has little effect on profitability. In addition, cash management can also be the reason for the weak effect of cash turnover on profitability. Cash management is carried out by the company so that the amount of cash held can be minimized to the point where the cash is sufficient to carry out normal business activities. The cash held by the company also aims to reduce the risk of cash shortages in terms of financial needs. In hypothesis development, cash turnover was expected to be higher due to high sales. But investment focus and cash management are possibly causing the result to be not having significant effect.

There are three main motives for companies to have cash, namely transaction motives, precautionary motives, and speculation motives. Transaction motive is the company's motive in providing payment for business transaction activities. The precautionary motive is the motive for maintaining cash balances for unforeseen needs. The speculative motive is a motive that is carried out in order to benefit from cash investment in other forms of liquid investment or to take advantage of opportunities when the price of the company's needs is falling. These three motives are the basis of cash management. Low cash turnover does not mean the company is in a low profit state because there are possible precautionary motives and speculative motives which are the basic reasons for the company in maintaining cash balances. High cash turnover also does not mean the company is in a high profit state because it is possible for the company to issue cash with transaction motives that are not related to product sales. Speculative motives can also be the reason, where the company uses cash for other investments in the current year

or purchases raw materials when prices are falling in the current year for production in the following year.

4.4.2 Effect of Accounts Receivable Turnover on Profitability

Based on the results of the study, it was found that the significance value of receivables turnover was $0.17827 > 0.05$ with a beta coefficient of 0.00289. It can be said that the influence of receivables turnover on profitability is not significant and has positive direction. Receivables that are always rotating means that receivables can be billed to consumers quickly so that they turn into cash in a fast state as well. This cash can be used to maintain or improve the company's operational activities and other activities that have the potential to provide profits for the company. Fast accounts receivable turnover also indicates the number of credit sales transactions in the current year, as explained in hypothesis development.

However, based on the results of the test, the influence of receivable turnover is not significant on working capital. This is because if consumers pay their debts, then what happens is only the addition of cash balances without any changes in the company's total assets, so that the speed of receivables turnover has no effect on profitability because it does not affect the company's income. Another reason for no significant effect of receivables turnover is the company's policies in receivable management. Companies that set strict credit payment terms indicate that the company prioritizes credit safety over increasing profits. Strict credit payment terms, for example, are short payment deadlines and charging high interest on late payments. Receivable payment terms that are not strict will result in slow receivables turnover. The basis for this decision in accounts receivable management is outside of the company's sales activities, resulting in accounts receivable turnover having no significant effect on profitability.

4.4.3 Effect of Inventory Turnover on Profitability

Based on the results of the study, it was found that the significance value of inventory turnover was $0.00041 > 0.05$ with a beta coefficient of 0.00758. It can be said that the influence of inventory turnover on profitability is significant with positive direction. Fast inventory turnover means that there are many sales transactions that are profitable for the company. Thus, the company's profitability increases. Fast inventory turnover also means that inventory is not held in the warehouse for a long time. Companies do not have to wait long to get cash from funds invested into inventory.

Fast inventory turnover will reduce the cost of storing and maintaining inventory, reducing the risk of loss due to price declines, and minimizing the risk of loss due to damage and decreased quality of goods. Reducing these costs provides an increase in the company's net profit figure, due to getting the amount of net profit, the amount of sales is reduced by selling costs, administrative costs, and others. The turnover of investment in inventory is very liquid so that it affects the high profit earned. The result of this test is accordance with the hypothesis.

4.4.4 Effect of Working Capital Turnover on Profitability

Based on the results of the study, it was found that the significance value of working capital turnover was $0.09020 > 0.05$ with a beta coefficient of -0.01838 . It can be said that the influence working capital turnover on profitability is not significant on profitability with negative direction. If the company's working capital is too large, this indicates that some of the funds are idle. This means that the funds that have been invested into working capital do not rotate to generate profits for the company, whereas hypothesis development has contrast theory. This can result in a decrease in the company's profitability. Ineffective use of working capital in operational financing in a certain period also causes a decline in company profitability.

The measure of profitability in this study is ROA, where the net profit divider is total assets. There are many other factors that affect the amount of total assets, not just working capital or current assets. In addition, if the cost of revenue and other expenses such as selling expenses, general and administrative expenses experience a significant increase, it will affect the company's net profit because net profit is calculated from total gross sales minus total selling expenses.

5 Conclusion

5.1 Conclusion

Based on the results of multiple linear regression tests through the SPSS program on manufacturing companies listed on the Indonesia Stock Exchange for the period 2016 – 2020 (purposive sampling method), it can be concluded that :

1. Cash turnover has no significant effect on profitability (ROA)
2. Accounts receivable turnover has no significant effect on profitability (ROA)
3. Inventory turnover has a significant effect on profitability (ROA)
4. Working capital turnover has no significant effect on profitability (ROA)

5.2 Limitations

This research is limited to companies listed on the Indonesia Stock Exchange in 2016 – 2020. Then, the independent variables of this study are limited to cash turnover, accounts receivable turnover, inventory turnover, and working capital turnover.

5.3 Suggestions

1. It is recommended for manufacturing companies to pay more attention to working capital management in carrying out business activities.
2. For further research, it is recommended to examine companies outside the manufacturing sector or choose certain manufacturing sub-sectors, such as the consumer goods industry,

basic and chemical industries, and various industry. The selected period can also be extended so that the number of samples is more numerous and varied. The independent variables used can also be added to the next research.

References

- [1] Janie, D. N. : Statistik Deskriptif & Regresi Linier Berganda dengan SPSS. Semarang University Press (2012)
- [2] Kasmir : Pengantar Manajemen Keuangan. Kencana (2010)
- [3] Melicher, R. W., & Norton, E. A. : Introduction to Finance: Markets, Investments, and Financial Management. John Wiley & Sons, Inc (2017).
- [4] Reimeinda, V., Murni, S., & Saerang, I. : Analisis Pengaruh Modal Kerja terhadap Profitabilitas pada Industri Telekomunikasi di Indonesia. Jurnal Berkala Ilmiah Efisiensi. pp 207-218 (2016)
- [5] Sugiono, A., & Untung , E. : Panduan Praktis Dasar Analisa Laporan Keuangan. PT Grasindo Jakarta (2016)
- [6] Syafitri, R. A., & Wibowo, S. S. : Pengaruh Komponen Modal Kerja terhadap Profitabilitas Perusahaan Manufaktur yang Terdaftar di BEI. Jurnal Akuntansi, Ekonomi, dan Manajemen Bisnis, pp. 34-40 (2016)
- [7] Utami, M. S., & Dewi S, M. R. : Pengaruh Manajemen Modal Kerja terhadap Profitabilitas Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia . E-Journal Manajemen Unud. pp. 3476-3503 (2016)