The Effect of Working Capital Management on Firms' Performance (The Case Study on Retail Companies Listed on Indonesian Stock Exchange Period 2016-2021)

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ABSTRACT

This study is aimed to analyze the effect of working capital management ratio such as average days of receivable, average days of inventory and average days of payable on firms' performance as measured by return on asset. The population of the study is retail companies listed on the IDX for the period 2016-2021. The sample selection was done by purposive sampling method and obtained 15 companies. The data used was secondary data in the form of financial statements from official website of IDX and each company. Methods of data collection were done by literature study and documentation. This study used a quantitative approach. The analytical methods used include descriptive statistical test, classical assumption test, panel data regression analysis. Based on the result of the study and data analysis using Eviews 12, the results obtained that average days of receivable has negative and significant effect on firms' performance, average days of inventory has positive and significant effect on firms' performance, average days of payable has negative and significant effect on firms' performance. Leverage as the control variable has negative and significant effect on firms' performance.

Keywords: Return on Asset, Average Days of Receivable, Average Days of Inventory, Average Days of Payable

1. Introduction

Company is required to be able to utilize the firms' resources and operate an optimal level of productivity to generate firms value (Keown, Martin, Petty, & Scoot, 1999). In achieving the optimal level of productivity, the important parties involved are the management of the firm (the agent) and the stockholders (the principal). The agent performs task for the benefit of the stockholders and has the responsibility in carrying out business activities and managing company funds. The financial manager of the firm determines the amount of cash should be kept in the account and the short-term financing should be used (Jensen & Meckling, 1976).

Firms' ability to carry on the business is greatly determined by the efficiency of working capital management (Ross, Westerfield, & Jordan, 2019). Working capital is the important element for the company since it uses to finance the firms' daily operations (Mandipa & Sibindi, 2022). Working capital is about the efficient management of all current accounts including current assets and current liabilities of the firm. Working capital should be efficiently managed which means the amount of working capital should be adjusted to the firms' necessities (Vicente-

Ramos, Porras, Quispe, & Zacarias, 2020). The efficiency of working capital management can be measured by the ratios of average days of inventory, average days of receivable, average days of payable (Melicher & Norton, 2017).

The management of working capital is closely related to retail company. Because retail company has the characteristic of keeping the high-level of working capital due to large-scale purchasing of inventories since it also closely relates to the end-consumer. Retail company engages in selling goods such as basic needs of life necessities and services to meet the needs of the end-consumers. Therefore, retail industry growth depends on the household consumption (Berman, Evans, & Chatterjee, 2018). According to Central Statistics Agency (2019), Indonesia retail companies have an important part in supporting the national economic growth. In 2018, retail sector had the contribution with a value of IDR 1.932 trillion or 13% of the gross domestic product (Olfimarta & Wibowo, 2019).

Table 1. Average ROA, Leverage, Average Days of Receivable, Average Days of Inventories and Average Days of Payable in Sample Companies

Years	ROA (%)	Average Days of Receivables (Days)	Average Days of Inventories (Days)	Average Days of Payables (Days)
2016	4	30	88	69
2017	4,4	32	91	65
2018	5,5	31	94	67
2019	5,2	28	84	51
2020	3,2	29	92	66
2021	3,6	25	95	62

From table 1, a gap phenomenon found in this study. It can be seen that average days of receivable in 2016-2017 experienced an upward trend from 30 to 32, while ROA in the same year experienced an increasing trend of 4% to 4,4%. According to Mabandla & Makoni (2019) the shorter the period of average days of receivable should be a positive sign in increasing the firms' value. It indicates company can immediately turn the receivables into cash. Oseifuah (2018) and Nguyen (2020) also stated that the faster the collection of receivables will increase firms' value.

Average days of inventory in 2017-2018 increased from 91 to 94. In the same year, ROA also increased from 4,4% to 5,5%. Oseifuah (2018) stated that the shorter average days of inventory period, would increase firms' value since the convertion of inventories into cash in a short period of time. Al-Debi'e (2011) and Shah (2016) also stated that average days of inventory has negative effect on firms' performance.

Meanwhile, average days of payable experienced an increasing trend in 2017-2018 from 65 to 67. In the same year, the ROA increased from 4,4% to 5,5%. This is not in line as stated by Mbawuni, et al (2016) that the longer the firms pay their debts, it will give impact in decreasing firms' profitability because firms with low profitability tend to suspend their bills to cover the losses.

According to the previous researchers and the description of the table, it can be seen there are gaps between the data of the variables and theory described. Therefore, this study aimed to find the empirical evidence and support the theory and the previous research related to the effect of working capital management on firms' performance with leverage as the control variable.

2. Literature Review

2.1 Agency Theory

Agency theory is the fundamental theory of this research. This theory is based on the principle of the relation between agent (management of the firm) and the principal (the stockholders). According to Jensen and Meckling (1976), agency theory explains about the nexus between the agent and the principal in which the principal engages the agent to perform tasks for the benefit of the principal including the delegation of decision-making authorization from principal to the agent and has the responsibility in carrying out business activities and managing company funds. Nonetheless, the principal desires the maximum return promptly of their investments in order to achieve an optimal level of stockholders' wealth.

2.2 Firms' Performance

ROA is a basic measure of the efficiency in which a company allocates and manages its resources. Return on assets establishes a relationship between profit after tax and total assets which reveals the efficiency of utilization of total resources of the business organization. (Ali & Haque, 2014) In (Ali & Faishal, 2020). ROA is considered as an overall indicator of profitability. It illustrates how profitable a company is with respect to assets it owns. It is derived from ratio of net income to total assets. The higher the ratio, more profitable is the company, that is, a higher ratio depicts that company is generating more profits using its assets (Singhania & Mehta, 2017).

2.3 The Effect of Average Days of Receivable on Firms Performance

The average days of collection is the span of time which company needs to recover its cash after receivables given to the customer. The longer it takes for the customer to pay their payables, the higher the number of receivables owned by company. The short period of receivable collections, indicates that firms manage their average days of collections effectively which leads to the increment of profitability. If the companies do not claim the receivables immediately, the firms will have less cash. it is lead to the disruption of operational activities since the cash is in the form of unpaid receivables (Ukaegbu, 2014).

This statement was supported by several previous researchers such as Mabandla & Makoni (2019), Nguyen (2020) and Vicente-Ramos, et al (2020), Shah (2016), stated that the average days of receivable has negative effect on firms' performance. Deloof (2003), stated that receivable management that is too strict can lead to customer dissatisfaction which will reduce the firms' revenue. However, the receivable management that is too weak can cause the piles of receivables which makes the recovery of receivables turn into cash takes longer. Based on the description above, it can be concluded that hypothesis for the average days of collection can be drawn:
H_1: Average days of receivable has negative effect on firms' performance

2.4 The Effect of Average Days of Inventory on Firms Performance

Average days of inventories is the period of time that the company needs to convert the inventories into cash. If the goods conversion rotates faster, indicates the inventories are well-managed which leads to good firm performance. If company needs to rotate the conversion much longer, implies that firms do not efficiently manage the inventory (Enqvist, Graham, & Nikkinen, 2014). Vicente-Ramos, et al, (2020), Al-Debi'e (2011), Raheman, et al, (2010), Shah

& Khan (2018), Enqvist, et al, (2014), Nguyen (2020), Shah (2016) supported the statement above. It is asserted that average days of inventories has negative effect on firms' profitability. The number of days of inventories had negative effect on firms' performance. Hence, the longer the period of time of inventories days will reduce the profitability. The second hypothesis can be drawn:

H₂: Average days of inventories has negative effect on firms' performance

2.5 The Effect of Average Days of Payable on Firms Performance

Average days of payable is the time needed for the company to pay its debt to the supplier. The longer the firms paying their debts, indicates the lower the firms' profitability. Firms with low profitability tend to suspend their bills to cover the losses. (Nguyen, 2020). This statement was supported by several previous researchers such as Mbawuni, et al, (2016), Al-Debi'e (2011), Enqvist, et al, (2014), Shah (2016), Kademi, et al, (2017) stated that the average days of payables has negative effect on firms' performance. The third hypothesis can be drawn:

H₃: Average days of payables has negative effect on firms' performance

3. Research Methodology

This study uses quantitative approach. This study is aimed to analyze the effect of working capital management on retail firms' performance listed on Indonesian Stock Exchange Period 2016-2021. The research data is obtained by collecting from firms' financial report through Indonesian Stock Exchange official website and each company. Methods of data collection was done by literature study and documentation. The population were 33 retail companies and the sample obtained were 15 companies through purposive sampling method with some criteria that can be seen below.

Table 2. Determination of Research Samples

No.	Criteria	Total
1.	Retail companies listed on Indonesia Stock Exchange Period 2016-2021	33
2.	Retail companies that did not published financial report in Period 2016-2021	10
3.	Outlier	8
The number of research sample		**15**
The number of research period		**6**
The number of research data		**90**

Table 3. The Calculation of Variables

No.	Variables	Calculation
1.	ROA	Profit after tax / Total assets
2.	ADR	Account receivable / (Sales / 360)
3.	ADI	Inventory / (Cost of goods sold / 360)
4.	ADP	Account payable / (Cost of goods sold / 360)
5.	LEV	Total liabilities / Total assets

4. Results

4.1 Descriptive Statistics

Table 4. The Result of Statistical Descriptive Analysis

Variables	N	Mean	Maximum	Minimum	Std. Dev.
ROA	90	0.043067	0.189000	-0.121000	0.049871

ADR	90	29.23333	108.0000	1.000000	30.16324
ADI	90	90.52222	286.0000	22.00000	63.98354
ADP	90	65.12222	270.0000	1.000000	47.34308
LEV	90	0.549556	3.320000	0.080000	0.371583

Based on table 4, it can be explained that the minimum value of return on asset is -0.121. The maximum value of return on asset is 0.189. The mean value of return on asset is 0.043067 which is less than the value of standard deviation value 0.049871. It indicates that the data is heterogenous. The minimum value of Average Days of Receivable is 1 day. The maximum value is 108 days. The mean value of Average Days of Receivable is 29.23333 days which is less than the standard deviation value 30.16324. It indicates that the data is heterogeneous. The minimum value of Average Days of Inventory is 22 days. The maximum value of Average Days of Inventory is 286 days. The mean value of Average Days of Inventory is 90.52222 days which is more than standard deviation value 63.98354. It indicates that the data is homogeneous. The minimum value of Average Days of Payables is 1 day. The maximum value of Average Days of Payable is 270 days. The mean value of Average Days Payable is 65.12222 days which is more than standard deviation value 47.34308. It indicates that the data is homogeneous. The minimum value of Leverage is 0.080. The maximum value of Leverage is 3.320. The mean value is 0.549556 which is more than the standard deviation value 0.371583. It indicates that the data is homogeneous.

4.2 Classical Assumption Test

4.2.1 Normality Test

Table 5. Jarque-Bera Test

Variable	Jarque-Bera Value	Probability	Judgement
Residual	0.204	0.903	Normal

From table 5, the probability value of Jarque-Bera test (0.903) is higher than the significance value (0.05). It indicates that the data is normally distributed.

4.2.2 Multicollinearity Test

Table 6. Correlation Matrix

	ADR	**ADI**	**ADP**	**LEV**
ADR	**1.000**	0.124	0.120	0.240
ADI	0.124	**1.000**	0.081	0.020
ADP	0.200	0.081	**1.000**	0.169
LEV	0.240	0.020	0.169	**1.000**

From table 6, all the correlation value of the variables are less than 0.80. It indicates that there is no multicollinearity within the regression model.

4.2.3 Heteroscedasticity Test

Table 7. Glejser Test

Variable	Probability	Judgement
ADR	0.670	No Heteroscedasticity
ADI	0.993	No Heteroscedasticity

ADP	0.841	No Heteroscedasticity
LEV	0.478	No Heteroscedasticity

From table 7, all the probability values of Glejser test are more than the significance value (0.05). It indicates that there is no heteroscedasticity in the panel data regression model.

4.2.4 Autocorrelation Test

Table 8. Durbin-Watson Test

Durbin-Watson stat	1.857

Based on the Durbin-Watson test results, it is obtained the $DW_{statistic}$ value of 1.857. This value is compared with DW_{table} by using 90 data and the number of variables is five that value of dU= 1.7758 and value of dL= 1.5420. Because $DW_{statistic}$ value is between of dU (1.7758) and 4-dU (2.2242), so it can be stated that there is no autocorrelation in panel data regression analysis.

4.3 Hypothesis Testing

Table 9. Panel Regression Analysis result

Variable	CEM		FEM		REM	
	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
C	0.082896	0.0000	0.079546	0.0000	0.082896	0.0000
ADR	-0.000335	0.0202	-0.000350	0.0568	-0.000335	0.0228
ADI	0.000194	0.0033	0.000212	0.0022	0.000194	0.0039
ADP	-0.000522	0.0000	-0.000516	0.0000	-0.000522	0.0000
LEV	-0.024803	0.0318	-0.021571	0.1012	-0.024803	0.0353
Chow Test		Prob. 0.712	CEM	F-test	0.000000	
Lagrange Multiplier		Prob. 0.468	CEM	Adj. R-Square	0.408876	

The regression equation can be obtained as follows:
$$ROA = 0.082896 - 0.000335ADR + 0.000194ADI - 0.000522ADP - 0.0248038LEV$$

Based on Chow Test and Lagrange Multiplier Test in model specification test, the appropriate model for data panel regression analysis is common effect model (CEM). The F-test value is 0,000000 < 0,05, it indicates the regression model simultaneously has significant effect on return on asset and the regression mode is fit for the regression analysis. The adjusted R-Square value is 0,408876, it indicates that return on assets as the dependent variable can be explained by average days of receivable (ADR), average days of inventory (ADI), average days of payable (ADP) and leverage (LEV) of 40.9 percent, while the remaining of 59.1 percent can be explained by the other variables which are not examined.

Based on the result of Common Effect Model from table 9 shows that probability value of average days of receivable is 0.0228 which is less than the significance value of 0.05. The coefficient value of average days of receivable is -0.000335 shows negative value. Thus, H_1 is accepted and H_0 is rejected, means the first hypothesis which stated average days of receivable has negative effect on firm performance is **supported/accepted.**

Based on the result of Common Effect Model analysis from table 9 shows that probability value of average days of inventory is 0.0039 which is less than the significance value of 0.05. The coefficient value of average days of inventory is 0.000194, shows positive value. Thus, H_1 is

rejected and H_0 is accepted, means the second hypothesis which stated that average days of inventory has negative effect on firms' performance is **not supported/rejected.**

Based on the result of Random Effect Model analysis from table 9 shows that probability value of average days of payable is 0.0000 which is less than the significance value of 0.05. The coefficient value of average days of payable is -0.000522 shows negative value Thus, H_1 is accepted and H_0 is rejected, means that the third hypothesis which stated average days of payable has negative effect on firm performance is **supported/accepted**.

Based on the result of Common Effect Model analysis from table 9 shows that probability value of leverage is 0.0353 which is less than the significance value of 0.05. The coefficient value of leverage is -0.024803 shows negative value Thus, leverage has negative effect on firm performance as control variable. It indicates that the lower the ratio, the more balanced the firms' funding to operate the firms' operation which will lead to better performance.

5. Discussion

From the result, average days of receivable has negative and significant effect on firms' performance. It can be explained that the decrement of average days of receivable is affecting the firms' performance significantly. The result is supported by Vicente-Ramos, et al, (2020), Al-Debi'e (2011), Mabandla & Makoni (2019), Raheman, et al, (2010), Oseifuah (2018), Shah & Khan (2018), Ng, et al, (2017), Shah (2016) which stated that average days of receivable has negative and significant on firms' performance. The negative effect of average days of receivable on firms' performance indicates that the faster the receivable collections, the more profitable for the firms. Because cash from receivable can be used for managing firms' operations and expanding the business. Thus, the higher the profit, the more the principal (stockholder) can achieve their optimal level of wealth. Also increasing company reputation as the trusted company which will lead to more investors invest in the company.

From the result, average days of inventory has positive and significant effect on firms' performance. It can be explained that the increment of average days of inventory is affecting the firms' performance significantly. The result is supported by Mabandla & Makoni (2019), Oseifuah (2018), Ng, et al, (2017), Kademi, et al, (2017), Abuzayed (2012) which stated that average days of inventory has positive and significant on firms' performance. The positive effect of average days of inventory on firms' performance indicates that the high performance of the firm is affected by the high days period of inventory. It contradicts from the hypothesis which stated the low period of average days inventory affects higher firms' performance. The contradiction from the hypothesis might be caused by the characteristic of retail company itself that keeping the high level of working capital to purchase the large-scale of inventories before the sale is made. It can be seen from the table 1 that average days of inventories period 2016-2021 tend to be higher than average days of receivable and average days of payable. In the period 2016-2018, average days of inventory increases from 88 days, 91 days to 94 days. In the same period the return on asset increases from 4%, 4,4% to 5,5% in 2016-2018. Also in 2021, which the average days of inventory is increased, in the point of 95 days, the return on asset at the same period also increase in the point of 3,6%. Although there is decrement of return on asset in 2019 and 2020 but the point is still in positive value as retail company is closely related to the end-consumer. The decrement in 2020 might be caused by covid-19 pandemic happened during the period made retail companies took more time in purchasing the goods from the manufacturer.

From the result, average days of payable has negative and significant effect on firms' performance. It can be explained that the decrement of average days of payable is affecting the

firms' performance significantly. The result is supported by Mbawuni, et al, (2016), Al-Debi'e (2011), Nguyen (2020), Enqvist, et al, (2014), Shah (2016), Kademi, et al, (2017) which stated that average days of payable has negative and significant effect on firms' performance. The negative effect of average days of payable on firms' performance indicates that the faster the firm pays the debt, the more profitable for the company. Because company will get discount from the supplier if they pay the debts earlier than the due date. Thus, company will have more cash which can be used for managing the operations and expanding the business instead of pays full without discount.

6. Conclusion

Based on the result above, it can be concluded that average days of receivable has negative and significant effect on retail firms' performance listed in Indonesian Stock Exchange Period 2016-2021, average days of inventory has positive and significant effect on retail firms' performance listed in Indonesian Stock Exchange Period 2016-2021, average days of payable has negative and significant effect on retail firms' performance listed in Indonesian Stock Exchange Period 2016-2021, leverage as the control variable has negative and significant effect on retail firms' performance listed in Indonesian Stock Exchange Period 2016-2021. The limitations of this research are the research samples that only 15 out of 33 retail companies listed on Indonesian Stock Exchange period 2016-2021.

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