



THE EFFECT OF CASH CONVERSION CYCLE ON THE PROFITABILITY OF THE RETAIL TRADE SECTOR COMPANIES

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ABSTRACT

One of the company's goals is to increase company value. To achieve these goals, the company must increase its profitability. To increase profitability, companies have to manage working capital effectively and efficiently. The effectiveness of working capital management can be measured using the Cash Conversion Cycle (CCC). CCC consists of Days Sales Outstanding (DSO), Days Sales Inventory (DSI), and Days Payable Outstanding (DPO). This study aims to determine the effect of the CCC and its components on company profitability. The type of data used in this study is secondary data collected from corporate financial reports. The population in this study are retail trading companies listed on the Indonesia Stock Exchange during the 2015-2019 period. The data analysis method used in this study is the multiple linear regression method for panel data and simple linear regression for panel data. The results showed that partially, DSO, DSI, and CCC harmed company profitability.

Meanwhile, the DPO has a positive effect on company profitability. Simultaneously, DSO, DSI, and DPO affect profitability. Therefore, companies need to pay attention to the CCC and its components (DSO, DSI, and DPO) and manage it properly.

Keywords: *Cash Conversion Cycle (CCC), Days Payable Outstanding (DPO), Days Sales Inventory (DSI), Days Sales Outstanding (DSO), Profitability, Return on Asset (ROA)*

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INTRODUCTION

Faster economic development causes increasingly strict competition. Companies must have advantages over competitors and have an effective and efficient performance to achieve their goals and continue to compete in the business world. Each company must have a purpose: to maximize profit, increase enterprise value, and provide added value to shareholders through dividends. One of the things that companies can do to

improve the company's value is to increase the company's profitability. To increase the company's profitability, the company can manage working capital effectively and efficiently.

According to Olfimarta & Wibowo (2019), working capital management is an activity that includes all management functions regarding current assets and short-term liabilities of a company. Working capital management aims to oversee the company's running in fulfilling its short-term obligations and the extent to which its operations can be financed with existing funding sources so that its paying power can be greater than its financial obligations. According to Raheman & Nasr (2007), *working capital management* is essential to company finances, directly affecting its liquidity and profitability. *Working capital management* every company needs to pay attention because it must adequately manage its current assets and current liabilities. However, because it is short-term, *working capital management* is often not considered. Poor *working capital management* will result in the company not meeting its short-term obligations, which will impact *financial distress*. *Financial distress* is a phenomenon where the company can no longer pay its debts, which causes bankruptcy.

In carrying out its operational activities, the company must manage working capital efficiently and effectively so that no shortage or excess will harm the company. Suppose the company experiences a lack of money. In that case, the company will experience liquidity problems where it cannot pay its short-term obligations on time, decreasing debtors' confidence in providing loans. In addition, one component of working capital is inventory. Too little stock can result in an *opportunity loss*, in which the company suffers a loss that comes from the loss of opportunity to earn profits due to the company running out of inventory.

Meanwhile, excessive working capital indicates unproductive funds, which means the company does not optimally use its funds to gain more profit. Excess working capital can be overcome by depositing working capital owned by the company or by making other investments so that the company can earn more profits. Based on the previous literature, the effectiveness of *working capital management* can be measured using the *Cash Conversion Cycle* (CCC). CCC consists of *Days Sales Outstanding* (DSO), *Days Sales Inventory* (DSI), and *Days Payable Outstanding* (DPO) (Lazaridiz and Tryfonidis, 2006).

According to the Central Statistics Agency (2019), in 2018, the industrial sector had the most significant contribution to the Indonesian economy. The Gross Domestic Product (GDP) of the industrial sector in 2018 reached Rp. 2,947.3 trillion or 19.82% of the national GDP of Rp. 14,837 trillion. The second-largest contribution was the trade sector, with a value of IDR 1,932 trillion or 13% of GDP. In 2018 retail trading companies in Indonesia had a Gross Domestic Product (GDP) growth rate of around 5% per year. Retail trading companies are a bridge that connects producers to customers, and retail trading companies are companies that pay more attention to working capital than other companies (Olfimarta & Wibowo, 2019).

The retail trade sector in Indonesia is currently showing the ability to progress with the increasing number of retail shops in various places. The retail trade sector is a trendy industrial sector and has dominated the lives of Indonesian people for generations. It is indicated by the spread of stalls and grocery stores in almost every area, from remote villages to big cities.

This study conducted a study on companies in the retail trade sector because retail businesses rarely immediately sell their inventory. They must maintain a higher level of working capital to ensure that they can meet short-term costs without relying on revenue from sales (Pernamasari & Purwaningsih, 2019). The companies studied are

included in the retail trading companies listed on the Indonesia Stock Exchange (ISE) in 2015-2019.

The research period is 2015-2019 because, since 2015, the retail trade sector has experienced a slowdown in sales growth and began to improve in 2018. It is due to changes in shopping behavior and technological advances that make *online* transactions easier. This research is expected to reflect retail trading companies' current state and financial development from year to year.

Research related to the effect of the *cash conversion cycle* on profitability has been done quite often in various countries. However, the results of these studies are also quite varied. Based on the results of previous studies, it was found that there was a *research gap*. This *research gap* is in the form of differences from the effects of previous studies, in which there are studies (Pais & Gama, 2015; Raheman & Nasr, 2007; Teruel & Solano, 2007). It states that CCC and its components affect profitability, but there are also studies (Ermawati, 2011; Quang, 2017; Setiyanto & Aji, 2018) that state that CCC does not affect profitability, but some of its components affect profitability. Therefore, this study was conducted to examine whether CCC and its components (DSO, DSI, DPO) affect the profitability of retail trading companies listed on the Indonesia Stock Exchange (ISE) in 2015-2019.

LITERATURE REVIEW

Working Capital Management

According to Olfimarta & Wibowo (2019), working capital management is an activity that includes all management functions regarding current assets and short-term liabilities of a company. Working capital management aims to oversee the company's running in fulfilling its short-term obligations and the extent to which its operations can be financed with existing funding sources. The power to pay is greater than the financial obligations that other parties must fulfill.

According to Gitman & Zutter (2015), the measurements of working capital management are the *Current Ratio*, *Quick Ratio*, and *Cash Conversion Cycle*. According to Adiguzel (2017), the concept of the cash conversion cycle was introduced by Gitman in 1974 as an answer to the lack of use of liquidity ratios (*current ratio* and *quick ratio*) in measuring and analyzing working capital management. The function of the liquidity ratio is to measure the extent to which the company's current assets cover its current liabilities. In a liquidation scenario, the company's existing assets are expected to cover its current liabilities. However, the company is expected to be a *going concern* and is not likely to conduct liquidation. The cash conversion cycle becomes an alternative to static financial ratios and an essential element in working capital management, which is considered part of the company's overall strategy.

Cash Conversion Cycle (CCC)

According to Hanafi (2004), the cash conversion cycle is a cash journey, from cash issued (to buy merchandise) to cashback again (receivables paid). *The Cash Conversion Cycle* is a comprehensive measure of working capital. It shows the time lag between spending on merchandise purchases and receipts on merchandise sales (Padachi, 2006). The cash conversion cycle measures the average time a company takes to acquire and sell its inventories, collect and collect receivables, and pay its debts. So the formula for the *Cash Conversion Cycle* (Keown, Martin, Petty, & Scott, 2010) is:

$$CCC = DSO + DSI - DPO$$

Information:

CCC = *Cash Conversion Cycle*

DSO = *Days Sales Outstanding*

DSI = *Days Sales Inventory*

DPO = *Days Payable Outstanding*

The cash conversion cycle can be either a negative or a positive number. A positive result indicates the number of days the company must borrow or commit capital while waiting for payment from customers. A negative impact shows the number of days the company has received cash from sales before paying its suppliers (Hutchison, Farris-II, & Anders, 2014). Suppose the company has a negative cash conversion cycle. In that case, it takes the company less time to sell its inventory and receive cash from its customers than pay for the stock to its suppliers. Ideally, companies would like to have a low and, if possible negative CCC. Because the shorter the CCC, the more efficient the company manages its cash flow and the more cash available, and the easier it is to pay the company's bills. According to Gitman (as cited by Moss & Stine, 1993), although it is rare, non - manufacturing firms are more likely to have a negative CCC than manufacturing firms. Non - manufacturing companies generally have smaller, faster-selling inventories and often sell their products for cash. Thus, non - manufacturing firms will have a shorter CCC.

On the other hand, shortening the cash conversion cycle can harm the company's profitability. If the inventory conversion period is too short, the company risks losing sales due to running out of stock and increasing *shortage costs*. Suppose the accounts receivable conversion period is too short. In that case, the company may lose sales from customers who require a more extended payment period than the company allows, and the company will lose good credit customers. Suppose the company increases the debt conversion period too much. In that case, the discount for early payments is forfeited, and the supplier may face financial problems, damaging the company's credit reputation. Having a low CCC is a good thing, but companies still have to pay attention to whether, with a low CCC, the company will be at a loss because of the loss of profitable customers and suppliers.

Days Sales Outstanding (DSO)

Days Sales Outstanding or receivable conversion period is the average time required by the company to collect its receivables (Gitman & Zutter, 2015). The formula for *Days Sales Outstanding* (Keown et al., 2010) is:

$$DSO = \frac{\text{Accounts Receivable}}{\text{Sales}} \times 365 \text{ days}$$

According to Setiyanto & Aji (2018), the faster the period of cash receipts shows that the working capital invested in receivables is lower, which is a good condition for the company. The faster the receivables turnover indicates the success of receivables collection, which also means the success of receivables management (Hanafi, 2004). Thus, the smaller the DSO, the higher the profitability of the company. The smaller the DSO means that the time it takes to convert receivables into cash is faster. That way, the company can use the cash to make other investments to increase its profitability.

Days Sales Inventory (DSI)

Days Sales Inventory or inventory conversion period is the average period it takes a company to sell its inventory to customers (Gitman & Zutter, 2015). The formula for *Days Sales Inventory* (Keown et al., 2010) is:

$$DSI = \frac{\text{Inventory}}{\text{Cost of Sales}} \times 365 \text{ days}$$

According to Setiyanto & Aji (2018), the longer the inventory turnover period, the more costs must be incurred. Thus, the smaller the DSI, the higher the profitability of the company. The smaller the DSI means the time it takes for the company to convert inventory into sales is getting faster, so its *carrying costs* will be smaller, and its profitability can increase.

Days Payable Outstanding (DPO)

Days Payable Outstanding or debt conversion period is the average period required by the company to pay its obligations (Gitman & Zutter, 2015). The formula for *Days Payable Outstanding* (Keown et al., 2010) is:

$$DPO = \frac{\text{Accounts Payable}}{\text{Cost of Sales}} \times 365 \text{ days}$$

According to Setiyanto & Aji (2018), the more extended the debt turnover period, the better because allocating funds for debt repayment can make investments. With the acquisition, the company can carry out production activities to increase the company's ability to generate profits. Thus, the greater the DPO, the higher the profitability of the company.

Profitability

Kasmir (2012) states that profitability is a ratio used to measure the efficiency of the use of company assets or the company's ability to generate profits during a specific period to see the company's ability to operate efficiently. The company's profitability shows the *stakeholders* (creditors, *suppliers*, and investors) about the extent to which the company can generate profits from the company's sales and investments. According to Subramanyam & Wild (2014), profitability measures its success in using its resources to generate profits. Profitability can be measured using various financial ratios. There are several types of profitability ratios that can be used to assess and measure company performance. According to Subramanyam & Wild (2014), the profitability ratios consist of *Gross Profit Margin*, *Operating Profit Margin (pretax)*, *Net Profit Margin*, *Return on Assets (ROA)*, and *Return on Equity (ROE)*. The consideration for using ROA as a measure of profitability is because ROA is a ratio used to measure how effective and efficient a company is in managing its assets to generate profits. ROA measures the company's overall ability to generate profits with the total amount of investments available to compare ROA between companies. With ROA, companies can assess the efficiency of the use of capital as a whole.

Return on Assets (ROA)

Return on Assets (ROA) is a profitability ratio that compares income with total assets (equivalent, total liabilities, and equity capital). ROA can be interpreted in two ways. It first measures the ability and efficiency of management in using company assets to generate an operating profit. Second, it reports the total return earned by capital providers (debt and equity), regardless of the source of capital (Nimer, Warrad, &

Omari, 2015). *Return on Assets* shows the company's ability to generate profits from the assets or assets it uses. This ratio shows how efficient the company is in utilizing its investments in its operational activities. The formula for ROA (Brigham & Houston, 2010):

$$ROA = \frac{\text{Net Income}}{\text{Total Asset}}$$

The greater the ROA value means that its performance in using its assets to generate profits is more effective and efficient.

Retail Trade Sector

According to Olfimarta & Wibowo (2019), retail trading companies are a bridge that connects producers to customers. This company buys various types of goods in specific quantities and sells these goods directly to consumers. Retailers usually carry out their activities by displaying their interests in the stores they own or rent. In this way, the buyer can see for themselves the various types of goods that will be purchased.

Based on the studies that have been conducted, this study partially confirms the effect of *Days Sales Outstanding* on profitability, the impact of *Days Sales Inventory* on profitability partly, and the impact of *Days Payable Outstanding* on profitability partially. In addition, this study also examines the simultaneous effect of *Days Sales Outstanding*, *Days Sales Inventory*, and *Days Payable Outstanding* on profitability. It ends with testing the impact of the *Cash Conversion Cycle* on profitability.

The research models tested are as follows:

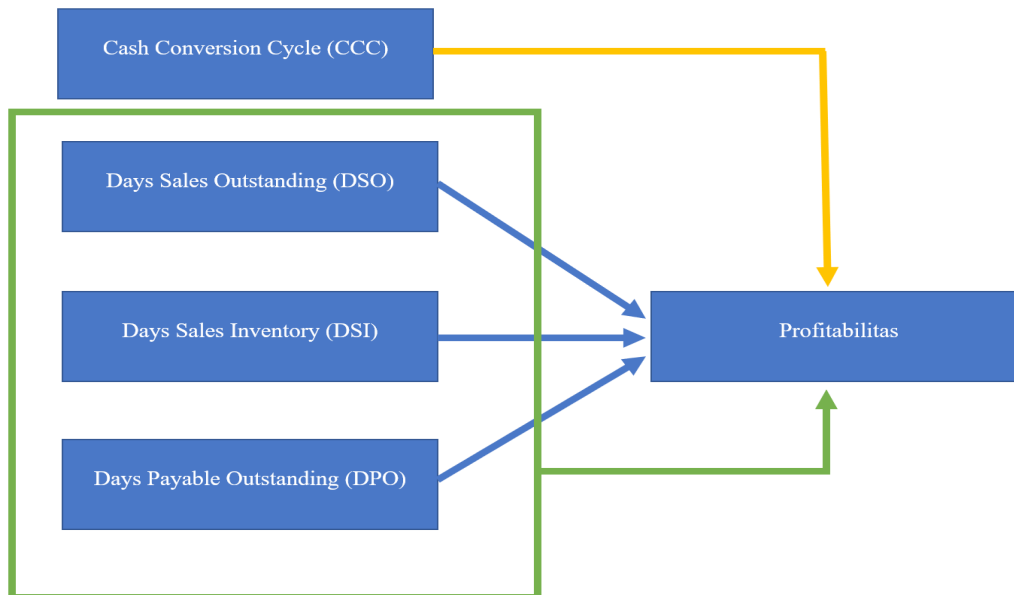


Figure 1. Research Model

RESEARCH METHODS

According to Sekaran & Bougie (2016), research is a process to find a problem after conducting an in-depth study and analyzing the situational factors that influence it.

Types of research

This research is *basic research* that aims to contribute to existing knowledge (Sekaran & Bougie, 2016), and this research is causal. This study is categorized into causal analysis because it examines and analyzes whether changes in the independent variables (DSO, DSI, DPO, and CCC) cause the dependent variable (profitability). Causal research aims to determine whether the independent variable affects the dependent variable.

Sampling Technique

The population of this study is companies engaged in the retail trade industry sub-sector listed on the ISE in 2015-2019. The total population of this study is 27 companies. The sampling technique used in this research is the *purposive sampling technique*. The criteria for sampling are as follows:

1. Companies that carry out *Initial Public Offering* (IPO) before 2015.
2. Companies that publish complete financial statements for the 2015-2019 period
3. The company has a positive profit during the 2015-2019 period

Table 1.
Sample Criteria Table

No	Criteria	Number of Companies
1	Total Retail Trading Company	27
2	Conducting IPO before 2015	20
3	Issuing financial statements for the period 2015-2019	18
4	Have a positive profit during the 2015-2019 period	8

Source: Processed Products

Companies that meet the predetermined sample criteria are:

Table 2.
List of Companies Used as Sample

No	Code	Company name
1	ACES	Ace Hardware Indonesia Tbk.
2	AMRT	Sumber Alfaria Trijaya Tbk.
3	CSAP	Catur Sentosa Adiprana Tbk.
4	ERAA	Erajaya Swasembada Tbk.
5	LPPF	Matahari Department Store Tbk.
6	MAPI	Mitra Adiperkasa Tbk.
7	MIDI	Midi Utama Indonesia Tbk.
8	RALS	Ramayana Lestari Sentosa Tbk.

Source: Processed Products

Data collection technique

Data collection is done to obtain the information needed in the research. The following is a data collection technique used in this study.

1. Literature review
This study was conducted by reading theories and previous research found in books and scientific journals.
2. Secondary data collection

In this study, the data used is secondary data obtained from the site www.idx.co.id. The data obtained is in the form of annual financial reports of retail trading sector companies *listed* on the official website of the Indonesia Stock Exchange (ISE) in the 2015-2019 period.

Data analysis method

1. Descriptive statistics

Descriptive statistics is a description to describe the research variables statistically. Descriptive statistics is a method that deals with collecting or presenting data to provide helpful information. The data study report consists of the minimum, maximum, amount of data, average weight, and standard deviation.

2. Panel Data Regression Model Selection

According to Ghozali & Ratmono (2018), panel data can be defined as a data set (*database*) in which the behavior of *cross-sectional* units (e.g., individuals, units, countries) is observed over time. In this study, the data used is *time-series* because it uses data from 2015–2019 and is *cross-sectional* because the data observed is more than one company, so the panel data analysis method is used. According to Widarjono (as quoted by Iqbal, 2015), to estimate model parameters with panel data, there are three commonly used techniques (models), namely:

- a. *Common Effect* Models
- b. *Fixed Effect* Model
- c. *Random Effect* Model

To determine the most appropriate model among the three approaches, it is necessary to do two of the three model estimation techniques to test, namely (Iqbal, 2015):

a. Chow test

The Chow test is used to determine whether the panel data regression technique with the *fixed effect* method is better than the *standard effect* method. The hypotheses formed in the Chow Test are:

$H_0 = \text{common effect model}$ $H_1 = \text{fixed effect model}$

If the value of *Prob. cross-section F* < 0.05 then reject H_0 .

If the value of *Prob. cross-section F* > 0.05 then H_0 is accepted.

b. Hausman Test

Hausman test is used to determine which one is better between the *fixed effect* model and the *random effect* model. The hypotheses formed in the Hausman test are:

$H_0 = \text{random effect model}$ $H_1 = \text{fixed effect model}$

If the value of *Prob. Random cross-section* < 0.05 then H_0 is rejected.

If the value of *Prob. Random cross-section* > 0.05 , then H_0 is accepted.

c. Lagrange Multiplier Test

The Lagrange Multiplier test was conducted to determine which model is better between the common and random effects. The hypotheses formed in the Lagrange Multiplier Test are:

$H_0 = \text{common effect model}$ $H_1 = \text{random effect model}$

If the value of *Prob.* < 0.05 , then H_0 is rejected.

If the value of *Prob.* > 0.05 , then H_0 is accepted.

3. Classic assumption test

The classical assumption test on the multiple linear regression model based on *Ordinary Least Square* (OLS) aims to test the feasibility of the regression

model used in this study (Ghozali, 2018). In panel data regression, only multicollinearity and heteroscedasticity tests should be performed (Iqbal, 2015).

a. Multicollinearity Test

The multicollinearity test tests whether the regression model found a correlation between independent variables (independent). A good regression model should not correlate with the independent variables. To determine whether there is multicollinearity in the regression model, it can be done by analyzing the correlation *matrix* of the independent variables. If the correlation value is 0.90, there is multicollinearity in the regression model (Ghozali, 2018).

b. Heteroscedasticity Test

Heteroscedasticity is a condition where there is an inequality of variance and residual from one observation to another observation in the regression model. A good regression model is one with homoscedasticity or no heteroscedasticity. The method used to test heteroscedasticity is using the White test (Ghozali, 2018). This test is performed by regressing the squared residual with the independent variable, the squared independent variable, and the multiplication (interaction) between the independent variables. If the value of Prob. > 0.05, it can be concluded that the regression model does not contain heteroscedasticity (Ghozali & Ratmono, 2018).

4. Panel Data Regression Analysis

To know the relationship between the variables, the data obtained must be processed and analyzed. The data analysis method used in this research is multiple linear regression analysis of panel data and simple linear regression analysis of panel data. Panel data regression analysis is a method used to model the effect of predictor variables on response variables in several sectors observed from an object of research over a certain period (Srihardianti, Mustafid, & Prahutama, 2016). Multiple linear regression analysis of panel data was used to model the effect of DSO, DSI, and DPO on company profitability. The following is a multiple linear regression equation for panel data used in this study:

$$Y = \alpha + \beta_1 X_{1_{it}} + \beta_2 X_{2_{it}} + \beta_3 X_{3_{it}} + \mu$$

Information:

- Y = Profitability
- α = Constant
- 1 = DSO Independent Variable Regression Coefficient
- 2 = DSI Independent Variable Regression Coefficient
- 3 = Regression Coefficient of Independent Variable DPO
- X1 = *Days Sales Outstanding* (DSO)
- X2 = *Days Sales Inventory* (DSI)
- X3 = *Days Payable Outstanding* (DPO)
- μ = *Disturbance Error*
- i = Entity i
- t = Period t

Simple linear regression analysis of panel data was used to model the effect of CCC on company profitability. The following is a simple linear regression equation for panel data used in this study:

$$Y = \alpha + \beta_4 X_{4_{it}} + \mu$$

Information:

- Y = Profitability
- α = Constant
- 4 = CCC Independent Variable Regression Coefficient
- X4 = *Cash Conversion Cycle (CCC)*
- μ = *Disturbance Error*
- i = Entity i
- t = Period t

The significance level in this study is 5%. This study determines the risk of error in rejecting or accepting the correct hypothesis as much as 5% and the confidence level to make decisions at least 95%.

5. Hypothesis testing

The following hypotheses were tested in this study:

First hypothesis

H₀₁ = *Days Sales Outstanding does not affect* profitability.

H_{A1} = *Days Sales Outstanding* impact on profitability.

Second hypothesis

H₀₂ = *Days Sales Inventory does not affect* profitability.

H_{a2} = *Days Sales of Inventory* effect on profitability.

Third hypothesis

H₀₃ = *Days Payable Outstanding does not affect* profitability.

H_{a3} = *Days Payable Outstanding* impact on profitability.

Fourth hypothesis

H₀₄ = *Days Sales Outstanding, Days Sales Inventory, and Days Payable Outstanding* simultaneously do not affect profitability.

H_{a4} = *Days Sales Outstanding, Days Sales of Inventory, and Days Payable Outstanding* simultaneous effect on profitability.

Fifth hypothesis

H₀₅ = *Cash Conversion Cycle does not affect* profitability.

H_{a5} = *Cash Conversion Cycle* effect on profitability.

The hypothesis test that will be carried out in this study is the coefficient of determination test, individual parameter test (t-test), and simultaneous test (F test).

a. Coefficient of Determination Test

The coefficient of determination (R²) essentially measures how far the model can explain variations in the independent variable. The value of R² small means independent variables' ability to explain the variation is minimal dependent variables. A value close to one means that the independent variables provide almost all the information needed to predict the interpretation of the dependent variable (Ghozali, 2018).

b. Individual Parameter Test (t-Test)

The t-statistical test shows how far the influence of one independent variable on the dependent variable is by assuming the other independent variables are constant (Ghozali & Ratmono, 2018). The basis for decision-making for this test is to compare the *p-value* with α , which is 0.05. If the *p-value* < *alpha* 0.05, then H₀ is rejected; if the *p-value* \geq *alpha* of 0.05, H₀ is accepted.

c. Simultaneous Test (F Test)

The F statistical test shows whether all the independent variables included in the model have a joint or simultaneous effect on the dependent variable (Ghozali & Ratmono, 2018). The basis for decision-making for this test is to

compare the *p-value* with, which is 0.05. If the *p-value* < *alpha* 0.05, then H0 is rejected; if the *p-value* ≥ *alpha* of 0.05, H0 is accepted.

RESULTS AND DISCUSSION

Descriptive statistics

Descriptive statistical analysis was used to describe the research variables statistically. The following are descriptive statistics of each variable used in this study:

Table 3.
Descriptive Statistical Analysis Results

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
DSO	40	0.24	53.91	13.6081	15,35049
DSI	40	42.48	242.26	100.4386	58,15897
DPO	40	15,19	170.19	69.6668	42.25753
CCC	40	-63.88	238.67	44.9396	78,21615
ROA	40	0.0032	0.4579	0.097830	0.1126518

Source: SPSS 25. Output Results

Panel Data Regression Model Selection Results

Before performing a regression, you must first determine which panel data regression model is the most appropriate. Three tests can be done to determine the most appropriate panel data regression model in this study. The tests that can be performed are the Chow test, Hausman test, and the Lagrange Multiplier test. In this study, the Chow test and Hausman test will be carried out first. If the two tests have the same result, there is no need to do the Lagrange Multiplier test.

a. Chow test

The following are the results of the Chow test that has been carried out:

Table 4.
Chow Test Results

Effect Test	Statistics	df	Prob.
Cross-section F	17.90291	(7.28)	0.0000
Cross-section Chi-square	68.01301	7	0.0000

Information:

Redundant Fixed Effect Test

Equation: Untitled

Test cross-section fixed effects

Source: EViews 10 *Output Results*

From Table 4, it is known that the value of *Prob.* of the *Chi-square cross-section* of 0.0000. This value is smaller than the significance level in this study which is 0.05. So H0 is rejected, which means that the correct model for panel data regression is the *fixed effect* model.

b. Hausman test

After it is known that the *fixed effect* model is better than the *common effect* model, the Hausman test will be conducted to determine whether the *fixed effect* model is better than the *random effect* model. The following are the results of the Hausman test that has been carried out:

Table 5.
Hausman Test Results

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Cross-section random	14.917987	4	0.0049

Information:

Correlated Random Effects – Hausman Test

Equation: Untitled

Test cross-section random effects

Source: EViews 10 *Output* Results

From Table 5, it is known that the value of *Prob* from a *random cross-section* of 0.0049. This value is smaller than the significance level in this study which is 0.05. So H_0 is rejected, which means that the correct model for panel data regression is the *fixed effect* model.

The Chow test and Hausman test that have been carried out show the same results, namely the panel data that is better used is the *fixed effect* model. So the Lagrange Multiplier test does not need to be carried out.

Classic assumption test

A good regression model must meet the classical assumption test. A classical assumption test was conducted to assess whether the regression model in the study was feasible to use.

a. Multicollinearity Test

The analysis of the multicollinearity test is as follows:

Table 6.
Multicollinearity Test Results

	DSO	DSI	DPO
DSO	1.0000000	-0.319681	-0.051491
DSI	-0.319681	1.0000000	-0.205092
DPO	-0.051491	-0.205092	1.0000000

Source: EViews 10 *Output* Results

The basis for decision making in the multicollinearity test are:

- a) if the correlation value is 0.90, then multicollinearity occurs in the regression model.
- b) if the correlation value is < 0.90 , there is no multicollinearity in the regression model.

From Table 6, it can be seen that there is no correlation value greater than or equal to 0.90, so it can be concluded that in this study, there was no multicollinearity between independent variables in the regression model.

b. Heteroscedasticity Test

The analysis of the heteroscedasticity test is as follows:

Table 7.
Heteroscedasticity Test Results with White Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.002725	0.001671	-1.631412	0.1136

DSO ²	-4.39E-07	1.57E-06	-0.278922	0.7823
DSI ²	1.01E-07	9.11E-08	1.104645	0.2784
DPO ²	3.43E-07	1.81E-07	1.892342	0.0685

Information:

Dependent Variable: RESID²

Method: Least Squares Panel

Date: 01/08/21 Time: 07:21

Sample: 2015 2019

Periods included: 5

Cross-sections included: 8

Total panel (balanced) observation: 40

Effect Specification

Cross-section fixed (dummy variables)

Source: EViews 10 *Output Results*

The basis for making decisions in the heteroscedasticity test using the White test are:

- a) if the value of *Prob.* > 0.05, then there is no heteroscedasticity in the regression model.
- b) if the value of *Prob.* 0.05, then there is heteroscedasticity in the regression model.

From table 7, it is known that DSO (X1) has a significance value of 0.7823, DSI (X2) has a significance value of 0.2784, and DPO (X3) has a significance value of 0.0685. These three variables have a significance value greater than 0.05, meaning that the X1, X2, and X3 are free from heteroscedasticity.

Panel Data Multiple Linear Regression

Based on the previous explanation, this regression model has passed the classical assumption test, and the panel data model used in this study is the *fixed effect* model. The following are the results of panel data multiple linear regression:

Table 8.
Panel Data Multiple Linear Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	0.098674	0.058620	1.683296	0.1031
DSO	-0.005191	0.001679	-3.092463	0.0044
DSI	-0.001218	0.000460	-2.650752	0.0129
DPO	-0.002758	0.000756	3.649949	0.001

R-squared	0.943521	Mean dependent var	0.097830
Adjusted R-squared	0.924045	SD dependent var	0.112652
Sum squared resid	0.031047	Akaike info criterion	-3.878232
Likelihood logs	88.56465	Schwarz criterion	-3.413791
F-statistics	48.44638	Hannan Quinn Criter.	-3.710305
Prob(F-statistic)	0.000000	Durbin-Watson stat	2.095480

Information:

Dependent Variable: ROA

Method: Least Squares Panel

Date: 01/08/21 Time 08:31

Sample: 2015 2019
The period included: 5
Cross-sections included: 8
Total panel (balanced) observation: 40
Effect Specification
Cross-section fixed (dummy variables)
Source: EViews 10 *Output Results*

From table 8 the regression equation can be arranged as follows:

$$\text{Profitability} = 0.098674 - 0.005191\text{DSO} - 0.001218\text{DSI} + 0.002758\text{DPO}$$

From this equation, it is known that the regression coefficient value of DSO is -0.005191 so that for one increase in DSO, the company's profitability will decrease by 0.005191. The regression coefficient value of DSI is -0.001218 so that with one increase in DSI, the company's profitability will decrease by 0.001218. The regression coefficient value of the DPO is 0.002758, so that for one increase in the DPO, the company's profitability will increase by 0.002758. The constant value in this model is 0.098674; this indicates that if the three independent variables (DSO, DSI, and DPO) are constant or equal to zero, then the profitability (ROA) will be 0.098674.

Multiple Linear Regression Hypothesis Test Results Panel Data

Hypothesis testing in panel data multiple linear regression was carried out through the coefficient of determination test, t statistical test, and F statistical test.

a. Coefficient of Determination Test Results

From table 8 . it can be seen the value of *adjusted R²* of 0.924045 or by 92.40%, which means the independent variable can explain the company's profitability in this study (DSO, DSI, and DPO) of 92.40%. In contrast, the remaining 7.60% is explained by other variables outside of this research model.

b. Individual Parameter Test Results (t-test)

T statistical test was conducted to determine the effect of the independent variables partially on the dependent variable. Based on Table 8, it can be seen that the independent variable X1 (DSO) has a significance value of 0.0044, the independent variable X2 (DSI) has a significance value of 0.0129, and the independent variable X3 (DPO) has a significance value of 0.0010. The significance value of the three variables is smaller than the research error rate of 0.05. It indicates that Ha1, Ha2, and Ha3 are accepted, which means that the variables X1 (DSO), X2 (DSI), and X3 (DPO) partially affect the Y variable (profitability).

c. Simultaneous Test Results (F Test)

The F statistical test was used to simultaneously determine the independent variables' effect on the dependent variable. From Table 8 . the known significance level of 0.000000. The significance value is smaller than the level of error in the research by 0.05, so it can be concluded that the variables X1 (DSO), X2 (DSI), and X3 (DPO) simultaneously or jointly affect the variable Y (profitability). So H04 is rejected, and Ha4 is accepted.

Simple Linear Regression Panel Data

The following are the results of simple linear regression of panel data:

Table 9.
Simple Linear Regression Results Panel Data

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	0.158555	0.020651	7.677863	0.0000
CCC	-0.001351	0.000444	-3.043757	0.0047

R-squared	0.928776	Mean dependent var	0.097830
Adjusted R-squared	0.910396	SD dependent var	0.112652
Sum squared resid	0.033721	Akaike info criterion	-3.746279
Likelihood logs	83.92558	Schwarz criterion	-3.366281
F-statistics	50.53107	Hannan Quinn Criter.	-3.608884
Prob(F-statistic)	0.000000	Durbin-Watson stat	1.372814

Information:

Dependent Variable: ROA

Method: Least Squares Panel

Date: 01/08/21 Time 08:34

Sample: 2015 2019

The period included: 5

Cross-sections included: 8

Total panel (balanced) observation: 40

Effect Specification

Cross-section fixed (dummy variables)

Source: EViews 10 *Output* Results

From table 9 . the regression equation can be arranged as follows:

$$\text{Company Profitability} = 0.158555 - 0.001351\text{CCC}$$

From this equation, it is known that the regression coefficient value of CCC is -0.001351 so that for one increase in DSO, the company's profitability will decrease by 0.001351. The constant value in this model is 0.158555; this indicates that if the three independent variables (DSO, DSI, and DPO) are constant or equal to zero, then the profitability (ROA) will be 0.158555.

Simple Linear Regression Hypothesis Test Results Panel Data

Hypothesis testing in simple linear regression of panel data is carried out through the coefficient of determination and t statistic tests.

a. Coefficient of Determination Test Results

From Table 9. it can be seen the value of *adjusted R*² of 0.910396 or by 91.04%, which means the independent variable can explain the company's profitability in this study (CCC) of 91.04%. At the same time, the remaining 8.96% is explained by other variables outside of this research model.

b. Individual Parameter Test Results (t-test)

Based on Table 9, it can be seen that the independent variable X4 (CCC) has a significance value of 0.0047. The significance value is smaller than the research error rate of 0.05. It indicates that Ha5 is accepted, which means that the X4 variable (CCC) affects the Y variable (profitability).

Discussion of Research Results

The following is a more in-depth discussion of the effect of the independent variables (DSO, DSI, DPO, and CCC) on the dependent variable (profitability).

1. Effect of *Days Sales Outstanding* on company profitability

The study results using statistical tests indicate that *Days Sales Outstanding* partially affects company profitability and has a negative relationship. The smaller the DSO means that the time it takes to convert receivables into cash is faster. That way, the company can use the cash to make other investments, such as depositing the cash to increase its profitability. Conversely, if the company converts receivables into old cash, it does not have more cash to invest. In this study, it is known that the company's ability to increase profitability is influenced by how quickly it takes the company from the time the credit sale occurs until the cash receipts for the sale. It shows that retail trading companies have efficiently managed cash from their receivable collection activities to increase profitability. It is following the results of previous studies conducted by Teruel & Solano (2007), Fauzan & Laksito (2015), and Pais & Gama (2015), which stated that *Days Sales Outstanding* harmed profitability.

2. Effect of *Days Sales Inventory* on company profitability

The study results using statistical tests indicate that *Days Sales Inventory* has a partial effect on company profitability and has a negative relationship. Theoretically, the faster it takes the company to change the inventory to sales, the more likely it will earn higher profits. Different things will happen if the opposite happens; if the company converts the list into sales, its stock will accumulate in the warehouse. The company will be less likely to increase profitability. A small DSI can minimize the risk of losses from changes in market prices and consumer tastes and help companies save costs from storage in company warehouses. In this study, it is known that the company's ability to increase profitability is influenced by how quickly it takes the company from the time the company buys merchandise until the company sells it. It shows that retail trading companies have managed their inventory efficiently to increase the company's profitability. It is following the results of previous research conducted by Teruel & Solano (2007), Pais & Gama (2015), and Quang (2017), which stated that *Days Sales Inventory* harmed profitability.

3. Effect of *Days Payable Outstanding* on company profitability

The study results using statistical tests showed that *Days Payable Outstanding* had a partial effect on company profitability and had a positive relationship. The bigger the DPO, the better the company because allocating funds for debt repayment can make investments. With the investment, the company can carry out its operational activities more smoothly to increase its ability to generate profits. The company can also make other investments, such as depositing cash to increase its profitability. Conversely, if the company's time to pay off debt is small, then the company does not have extra cash to invest. In this study, the company's ability to increase profitability is influenced by how quickly it takes the company from purchasing merchandise to pay for the goods. It shows that retail trading companies have managed their debt efficiently to increase the company's profitability. Following the results of previous research conducted by Ulum & Hartono (2017) and Setyadharma & Januarti (2019), it is following that *Days Payable Outstanding* had a positive effect on profitability.

4. Effect of DSO, DSI, DPO simultaneously on company profitability

The study results using statistical tests show that *Days Sales Outstanding*, *Days Sales Inventory*, and *Days Payable Outstanding* have a simultaneous effect on company profitability. In this study, it can be said that *Days Sales Outstanding*, *Days Sales Inventory*, and *Days Payable Outstanding* owned by retail trading companies can affect profitability. Companies need to properly manage all components of the cash cover cycle (DSO, DSI, and DPO) to increase the company's profitability. Things that can be done are with a company to manage cash efficiently from collecting receivables and credit selling and making payments to *suppliers* on time. Following the results of previous research conducted by Setyadharma & Januarti, (2019), which states that *Days Sales Outstanding*, *Days Sales Inventory*, and *Days Payable Outstanding* simultaneously affect profitability.

5. Effect of Cash Conversion Cycle on company profitability

The study results using statistical tests show that the *Cash Conversion Cycle* affects the company's profitability and has a negative relationship. In this study, it can be said that the *Cash Conversion Cycle* owned by retail trading companies can affect profitability. The smaller the cash conversion cycle, the better the management's ability to manage the company's working capital. The smaller the cash conversion cycle value means the smaller the value of the company's investment in working capital. While a large cash conversion cycle shows the company has a significant investment in its assets, this causes a decrease in the availability of cash, resulting in the company's operational activities not running smoothly, so that the company's profitability decreases. It is under the results of previous studies conducted by Lazaridis & Tryfonidis (2006), Pais & Gama (2015), and Herli & Hafidhah (2015), which stated that the *Cash Conversion Cycle* harmed profitability.

CONCLUSION

Based on the results of the research that has been done, there are several essential things obtained. *Days Sales Outstanding* affect the company's profitability. *Days Sales Outstanding* is an indicator to measure the average period required by the company since credit sales occur until cash receipts for these sales. Based on the regression results, it can be concluded that DSO partially affects company profitability. The smaller the DSO, the better the company's ability to manage its receivables. The company has cash that can be used to invest in its operational activities, increasing its profitability.

Days Sales Inventory affects the company's profitability. *Days Sales of Inventory* is an indicator for measuring the average period the company needs to change the inventory to sales. Based on the regression results, it can be concluded that DSI partially affects its profitability. The smaller the DSI, the risk of loss from changes in market prices and consumer tastes can decrease; besides, its storage costs will also be smaller to increase its profitability.

Days Payable Outstanding affects the company's profitability. *Days Payable Outstanding* is an indicator to measure the average period from the purchase of raw materials to pay for the goods or the time it takes the company to pay its obligations or debts. Based on the regression results, it can be concluded that DPO partially affects its profitability. The greater the DPO, the better the company's ability to manage its debt. The company has cash that can be used to invest in its operational activities, increasing its profitability.

Days Sales Outstanding, Days Sales Inventory, and Days Payable Outstanding affect the company's profitability. Based on the result of simultaneous tests that have been carried out, it can be concluded that days sales outstanding, days sales inventory, and days payable outstanding simultaneously affect the company profitability.

The Cash Conversion Cycle affects the company's profitability. *The Cash Conversion Cycle* measures the average time a company takes to acquire and sell its inventory, collect and collect receivables, and pay its debts. *The Cash Conversion Cycle* has three components, namely *Days Sales Outstanding (DSO)*, *Days Sales Inventory (DSI)*, and *Days Payable Outstanding (DPO)*. Based on the regression results that have been done, it can be concluded that CCC affects company profitability. The smaller the value of the cash conversion cycle means the company has more cash available that can be used to launch the company's operational activities to increase the company's profitability.

Companies in the retail trade sector rarely managed to sell all the inventory immediately, so the company must maintain higher working capital. It is necessary so that the company can meet short-term costs without relying on revenue from sales. The changes in shopping behavior and technological advances that make it easier to conduct online transactions will increase its growth in the retail trade. The cash conversion cycle needs to be managed and possible to improve the company's profitability. The short cash conversion cycle reflects the efficiency of sales in retail companies. The quick cash conversion cycle shows how quickly and efficiently a retail company buys, sells, and collects its inventory. Good cash conversion cycle management will ultimately increase the profitability of retail companies.

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