

The Effect of Working Capital Management on Profitability of Food and Beverage Subsector Manufacturing Companies Listed on the Indonesia Stock Exchange

Working Capital
Management on
Profitability

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ABSTRACT

The manufacturing sector, notably the food and beverage industry, plays a pivotal role in Indonesia's economy, contributing 37.77% to the GDP in Q1 2022. This study delves into the working capital management of food and beverage manufacturing companies listed on the Indonesia Stock Exchange. With a focus on the cash conversion cycle (CCC), the research evaluates profitability using operating profit margin (OPM) and return on equity (ROE). The sector has exhibited positive international trade, with food and beverage exports reaching USD 10.92 billion and imports at USD 3.92 billion during the same period. To sustain and improve industry performance, companies must develop robust capabilities for profitability, emphasizing the efficient management of financial resources such as cash, receivables, inventory, and payables. The study provides valuable insights for companies, highlighting the significance of OPM and ROE in evaluating working capital and influencing overall profitability.

Keywords: Working Capital Management, Profitability, Manufacturing Companies, Indonesia

ABSTRAK

Sektor manufaktur, khususnya industri makanan dan minuman, memainkan peran penting dalam perekonomian Indonesia, memberikan kontribusi sebesar 37,77% terhadap PDB pada Q1 2022. Studi ini mendalami manajemen modal kerja pada perusahaan manufaktur makanan dan minuman yang terdaftar di Bursa Efek Indonesia. Dengan fokus pada siklus konversi tunai (CCC), penelitian ini mengevaluasi profitabilitas menggunakan margin laba operasi (OPM) dan return on equity (ROE). Sektor ini menunjukkan perdagangan internasional yang positif, dengan ekspor makanan dan minuman mencapai USD 10,92 miliar dan impor sebesar USD 3,92 miliar pada periode yang sama. Untuk mempertahankan dan meningkatkan kinerja industri, perusahaan harus

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mengembangkan kemampuan profitabilitas yang kuat, dengan menekankan pengelolaan sumber daya keuangan yang efisien seperti uang tunai, piutang, inventaris, dan hutang. Studi ini memberikan wawasan berharga bagi perusahaan, menyoroti pentingnya OPM dan ROE dalam mengevaluasi modal kerja dan mempengaruhi profitabilitas secara keseluruhan.

Kata kunci: Manajemen Modal Kerja, Profitabilitas, Perusahaan Manufaktur, Indonesia

INTRODUCTION

The manufacturing sector is one of the main sectors in a country's economy. This sector plays an important economic role towards development by contributing significantly to gross domestic product (Ejismont et al., 2020). In the food and beverage industry, the manufacturing sector plays an important role in economic growth.

The Ministry of Industry of the Republic of Indonesia noted that the food and beverage industry is one of the important sectors that support the performance of the non-oil and gas processing industry. In the first quarter of 2022, the food and beverage industry contributed more than a third or 37.77% of the GDP of the non-oil and gas processing industry. In terms of international trade, exports of food and beverage products until the first quarter of 2022 reached USD10.92 billion. The food and beverage industry also experienced a positive trade balance. In the same period, imports of food and beverage products amounted to USD3.92 billion.

To maintain and improve the positive performance of the food and beverage industry that has a significant impact on the Indonesian economy, companies in this sector need to have a strong ability to maintain their profitability. There are several factors that affect profitability, one of which is working capital management. (Phuong & Hung, 2020) in their research stated that companies will be able to increase their profitability and provide value to investors by implementing good and fair working capital management policies.

In this study, the component of working capital management that will be used is *cash conversion cycle* (CCC). In one study, profitability was measured using *operating profit margin* (OPM) and *return on equity* (ROE) (Aldubhani et al., 2022). This research was conducted to study the effect of working capital management on the profitability of food and beverage subsector manufacturing companies listed on the Indonesia Stock Exchange. This research focuses on OPM and ROE variables in measuring profitability for more accurate study results. That way, it can provide companies with various criteria for evaluating working capital that can affect their profitability (Osahon et al., 2021).

LITERATURE REVIEW

Working capital management is a management concept that focuses on finding the optimal level of cash, inventory, and debtors, and financing that level at the lowest possible cost through current liabilities to meet the day-to-day needs of the company. Working capital management is one of the challenges faced by companies, which can provide a comfortable and appropriate level of liquidity to enable companies to cover short-term financial obligations - resulting from financing their operations - to ensure the continuity of the company's business and maximize its profitability (Aldubhani et al., 2022).

Working capital management is a simple and straight forward concept of ensuring a firm's ability to fund the difference between short-term assets and short-term liabilities. Working capital management plays an important role in financial management because of its effect on firm performance, risk, and value. Efficient and effective working capital management ensures that the company will be able to continue its operations and have sufficient cash flow to meet the needs of both maturing short-term debt and upcoming operating expenses (Padachi, 2006).

Cash conversion cycle is the period required by the company to convert funds invested in the company's operational activities into cash received because of the company's operations (Akomeah & Frimpong, 2019; Telly, 2019; Uyar, 2009). The length of the cash

conversion cycle depends on the length of the inventory conversion period, account receivable period, account payable period (Kolias et al., 2020). The longer the expected cash conversion cycle, the greater the amount of investment required in working capital. It measures how long an investment is held in production before it is converted into cash, i.e. the period it takes for inventory to become sales and sales to become cash, which is then used to manage the company.

OPM is called *pure* in the sense that this amount is what is obtained from the company's operations by ignoring financial obligations in the form of interest and obligations to the government in the form of tax payments. If the higher the OPM, the better the operation of a company (Handayani & Yurniwati, 2020; Mahdi & Khaddafi, 2020). OPM is a ratio that measures the level of efficiency of a company by comparing operating profit with sales. According to Khan & Choudhary (2020), there is a negative relationship between CR and OPM, QR and OPM, and ITR and OPM, while a positive relationship exists between DTR and OPM.

ROE measures the company's ability to earn profits available to the company's shareholders or to determine the amount of return provided by the company for each rupiah of capital from the owner. This ratio shows the efficient use of own capital. The higher this ratio, the better. This means that the company's position is getting stronger, and vice versa (Adawiyah & Setiyawati, 2019; Hasanah & Sulistiyo, 2021; Renaldo et al., 2023). Firm Size is a scale which as a benchmark to determine the size of the company or to determine the company's financial condition in a certain period. A company can be said to be large or small if it knows the size of the company which can be seen from the value of total assets, net sales, and market capitalization (Dang et al., 2018).

Sales growth is an increase in company sales from a predetermined time to time. According to Fiana & Meliza (2022), states that sales growth describes a percentage of the increase in sales this year compared to last year. Then according to Putri & Rahyuda (2016), suggesting sales growth is sales growth shows the extent to which the company can increase its sales compared to total sales. Debt Ratio is a ratio used to measure how much a company's assets are financed by debt or how much debt a company influences asset financing (Hendrani & Septyanto, 2021; Hertina, 2021; Husna & Satria, 2019).

Based on the theoretical review that has been explained, the research framework will be as follows:

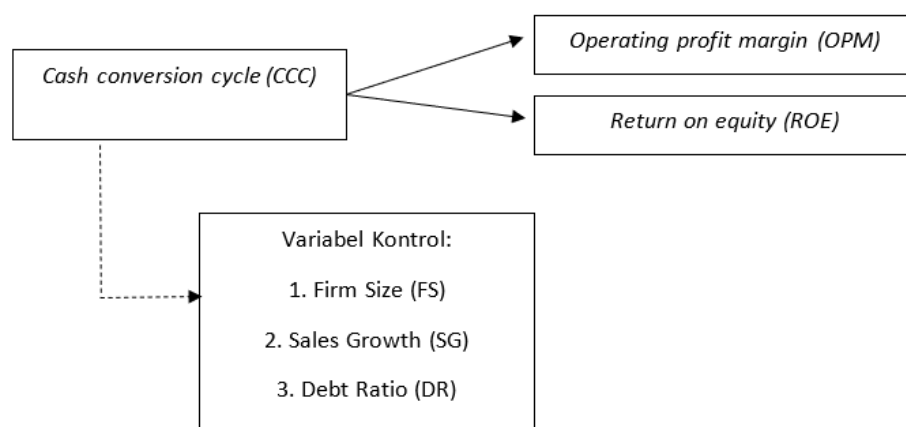


Figure 1. Research Model

METHODS

The type of research used in this study is hypothesis testing. Hypothesis testing is carried out to examine the effect of the independent variable, namely cash conversion cycle on the dependent variable, namely operating profit margin and return on equity. This research is included in panel data, which is a combination of cross section and time series data. The analysis sample used in this study is a consumer goods manufacturing

industry company in the food and beverage industry subsector in the 2018-2022 period listed on the Indonesia Stock Exchange.

The sample withdrawal method in this study uses purposive sampling, where the data collection is based on the specified criteria. These criteria are as follows:

Table 1. Sample Withdrawal Criteria

Description	Total
Consumer goods manufacturing industry companies in the food and beverage industry subsector in the 2018-2022 period listed on the Indonesia Stock Exchange.	26
Consumer goods manufacturing industry companies in the food and beverage industry subsector in the 2018-2022 period that publish their financial reports with the complete data needed.	25
The financial statements of consumer goods manufacturing industry companies in the food and beverage industry subsector in the 2018-2022 period which have the required data components and are in accordance with the variables of the study.	23
Total observation 23 companies x 5 years (2018-2022)	115

This study uses panel data regression because the data used in this study is a combination of cross section and time series data. This method is used to test the effect of cash conversion cycle on operating profit margin and return on equity. The regression model used in this study is as follows:

Model 1:

$$OPM_{it} = \beta_0 + \beta_1 CCC_{it} + \beta_2 FS_{it} + \beta_3 SG_{it} + \beta_4 DR_{it} + e_{it}$$

Model 2:

$$ROE_{it} = \beta_0 + \beta_1 CCC_{it} + \beta_2 FS_{it} + \beta_3 SG_{it} + \beta_4 DR_{it} + e_{it}$$

RESULTS AND DISCUSSION

Model Test

In panel data regression, there are three models used to analyze, namely the common effect model, fixed effect model, and random effect model. To determine the right model in the analysis and interpretation of the analysis, two stages of testing are carried out, namely the chow test and the Hausman test.

To determine a good and appropriate model between the common effect and fixed effect used in this study, a chow test is conducted. The Chow Test is based on the null hypothesis that there is no heterogeneity in individuals while in the alternative hypothesis there is heterogeneity in the cross section.

The hypothesis for the chow test is as follows:

H₀: The selected model is the Common Effect Model

H_a: The selected model is Fixed Effect Model

The decision-making is based on the following criteria:

1. If the cross-section probability of the chi-square $< \alpha$ 5% (0.05) then H₀ is rejected, meaning H_a is accepted, in which case the chosen model is the fixed effect model. Therefore, the Hausman test can be conducted.
2. If the cross-section probability of the chi-square $> \alpha$ 5% (0.05) then H₀ is accepted, meaning H_a is rejected, in which case the chosen model is the common effect model. Therefore, the Hausman test cannot be conducted.

Table 2. Chow Test Results

Model	Chi-Square	Prob.	Decision
Model 1	214.777901	0.0000	H ₀ is rejected
Model 2	142.800955	0.0000	H ₀ is rejected

Source: Data processed with Eviews9

Based on the results of data processing in table 1, it is found that the cross-section probability value of the chi-square model 1 is 0.0000 and model 2 is 0.0000. So that this research H₀ is rejected. This explains that the selected model is the fixed effect model. Therefore, testing is carried out with the Hausman test, to find out the best model between the fixed effect model and the fixed effect model. determine the best model between the fixed effect model and the random effect model to be used.

The Hausman test was conducted to determine a good and appropriate model between fixed effect and random effect used in this study. The Hausman test is also conducted to determine the characteristics of each model, whether the model has heterogeneity.

The hypothesis for the Hausman test is as follows:

H₀: The selected model is Random Effect Model

H_a: The selected model is the Fixed Effect Model

The decision-making is based on the following criteria:

1. If the cross-section probability of the chi-square $< \alpha$ 5% (0.05) then H₀ is rejected, meaning H_a is accepted, in which case the chosen model is the fixed effect model.
2. If the cross-section probability of the chi-square $> \alpha$ 5% (0.05) then H₀ is accepted, meaning H_a is rejected, in which case the selected model is the Random effect model.

Table 3. Hausman Test Results

Model	Chi-Square	Prob.	Decision
Model 1	5.518471	0.2381	H ₀ accepted
Model 2	2.222615	0.6949	H ₀ accepted

Source: Data processed with Eviews9

Based on the results of the data processing above on the Hausaman test, it is found that the probability value of the coss section of the chi-square model is 0.2381 and model 2 is 0.6949. This explains that the right model to use is the random effect model.

Goodness of Fit

The goodness of fit test is carried out with the aim of knowing how much the independent variables and control variables can explain changes in the dependent variable. In making its decision, the goodness of fit test has two criteria which are as follows:

1. If the Adjusted R² is close to 1, it indicates an increasingly goodness of fit model.
2. If the Adjusted R² is close to 0, it indicates a model that is not goodness of fit.

Table 4. Goodness of Fit Test Results

Model	R-squared	Adjusted R-squared
Model 1	0.272875	0.246434
Model 2	0.113460	0.081222

Source: Data processed with Eviews9

Based on the processing results of the random effect model in the data above, it is found that the Adjusted R value² model 1 is 0.246434 and model 2 is 0.081222. This explains that in model 1, the ability of the independent variables and control variables to explain changes in the dependent variable is 24.6434%, of which the remaining 75.3566% is influenced by other variables not included in the model. In model 2, the ability of the independent variables and control variables to explain changes in the dependent variable is 8.1222%, of which the remaining 91.8778%.

F test

In this stage, the F test or global test or it can also be said as anova test, all independent variables and control variables contained in the study will be tested for their influence together with the dependent variable. This is done to determine the feasibility of the regression model in this study to be used.

The hypothesis in the F test is as follows:

$H_0: \beta_1 = \beta_2 = 0$ (none of the independent variables and control variables affect the dependent variable)

$H_a: \beta_1 \neq \beta_2 = 0$ (there is at least one independent variable and control variable that affect the dependent variable)

The decision is based on the following criteria:

1. If the probability of F is significant $< \alpha 5\%$ (0.05) then H_0 is rejected, meaning H_a is accepted, which means that at least one independent variable and control variable simultaneously affect the dependent variable so that the regression model is suitable for use.
2. If the probability of F is significant $> \alpha 5\%$ (0.05) then H_0 is accepted, meaning H_a is rejected, which means that none of the independent variables and control variables simultaneously affect the dependent variable so that the regression model is not suitable for use.

Table 5. F Test Results

Model	F-statistic	Prob.	Decision
Model 1	10.32017	0.000000	H_0 is rejected
Model 2	3.519479	0.009620	H_0 is rejected

Source: Data processed with Eviews9

Based on the results of the data processing above, it is found that the independent variable in model 1 has a probability of $0.000000 < 0.05$ and for model 2 $0.009620 < 0.05$. This means that at least one independent variable and control variable simultaneously affect the dependent variable so that the regression model is feasible to use.

T test

The purpose of this test is to measure and determine the effect of the independent variable, namely cash conversion cycle on the dependent variable, namely operating profit margin and return on equity.

The hypothesis in the T test is as follows:

H_0 : Independent variables and control variables have no influence on dependent variable

H_a : Independent variables and control variables have an influence on dependent variable

In making its decision, the T test has two criteria as follows:

1. If the p-value $> \alpha 5\%$ (0.05) then H_0 is accepted, which means that the independent variable and the control variable have no influence on the dependent variable.
2. If the p-value $< \alpha 5\%$ (0.05) then H_0 is rejected, H_a is accepted, which means that the independent variable and the control variable have an influence on the dependent variable.

Table 6. Model 1 T Test Results

Independent and Control Variables	Dependent Variable		
	Operating profit margin (OPM)		
	Coefficient	Probability	Conclusion
Constant	3747.069	$0.0362/2 = 0.0181$	Significant
CCC	-3.792732	$0.0370/2 = 0.0185$	Significant
FS	-0.015208	$0.3086/2 = 0.1543$	Not Significant
SG	0.068734	$0.0001/2 = 0.00005$	Significant

DR -0.156698 0.0223/2 = 0.01115 Significant

Source: Data processed with Eviews9

Based on the T test results above, it can be concluded that Cash Conversion Cycle (CCC) has a negative and significant effect on Operating Profit Margin (OPM) with a probability value of 0.0185 ($\alpha < 5\%$) and a coefficient of -3.792732. This indicates that a decrease in cash conversion cycle time can contribute to an increase in the company's operating profit margin. Meanwhile, Firm Size (FS) does not show a significant effect on OPM with a probability value of 0.1543 ($\alpha > 5\%$). Sales Growth (SG) shows a positive and significant effect on OPM with a probability value of 0.00005 ($\alpha < 5\%$) and a coefficient of 0.068734, indicating that sales growth has a positive impact on operating profit margins. Debt Ratio (DR) also has a significant negative effect on OPM with a probability value of 0.01115 ($\alpha < 5\%$) and a coefficient of -0.156698, indicating that debt ratio management has the potential to significantly affect the company's operating profit margin. These findings provide important insights for decision makers in managing cash conversion cycle, firm size, sales growth, and debt ratio to improve operational performance.

Table 7. Model 2 T Test Results

Independent and Control Variables	Dependent Variable		
	Return on equity (ROE)		
	Coefficient	Probability	Conclusion
Constant	2493.448	0.4835/2 = 0.24175	Not Significant
CCC	-7.506729	0.0952/2 = 0.0476	Significant
FS	0.007692	0.7944/2 = 0.3972	Not Significant
SG	0.056537	0.2106/2 = 0.1053	Not Significant
DR	-0.460695	0.0066/2 = 0.0033	Significant

Source: Data processed with Eviews9

Based on the T test results above, it can be concluded that Cash Conversion Cycle (CCC) has a significant negative effect on Return on Equity (ROE) with a probability value of 0.0476 ($\alpha < 5\%$), and a coefficient of -7.506729. This indicates a significant relationship between a decrease in cash conversion cycle time and an increase in the company's return on equity. Meanwhile, Firm Size (FS) and Sales Growth (SG) show no significant effect on ROE, with probability values of 0.3972 and 0.1053 ($\alpha > 5\%$), respectively. However, Debt Ratio (DR) shows a negative and significant effect on ROE, with a probability value of 0.0033 ($\alpha < 5\%$) and a coefficient of -0.460695. These findings provide insights for practitioners and decision makers in designing financial strategies, where efficient management of the cash conversion cycle and attention to debt ratios can be key factors in improving a firm's financial performance.

Based on the results of the regression test conducted, this study shows that the cash conversion cycle has a negative and significant effect on operating profit margin. This is also like the results of research (2022) which states that there is a negative relationship between cash conversion cycle and operating profit margin. This explains that by reducing the cash conversion cycle, companies can increase their profitability, but this must be within the limits of the optimum level.

Based on the results of the regression test conducted, this study shows that the cash conversion cycle has a negative and significant effect on return on equity. This means that the higher or lower the cash conversion cycle of a company will affect the company's return on assets. The results of this study differ from the results of research conducted by Alvarez et al. (2021), where the results of the study found that there was a positive influence between working capital management on profitability.

The results of this study are also different from the research proposed by S et al., (2017), that there is no effect relationship between working capital management represented by cash conversion cycle on profitability. Where this explains that changes that occur in the cash conversion cycle will not affect return on equity.

CONCLUSION

This study aims to determine and examine the effect of working capital management on profitability in manufacturing companies in the food and beverage subsector, with a sample of 25 companies and using financial statement data from the Indonesia Stock Exchange for the last five years, 2018-2022. Based on the results of data testing and analysis, it can be concluded that Cash Conversion Cycle (CCC) has a negative and significant effect on Operating Profit Margin (OPM), indicating that a decrease in cash conversion cycle time can contribute to an increase in operating profit margin. In addition, the results also show that CCC has a negative and significant effect on Return on Equity (ROE), indicating that efficiency in cash conversion cycle management can have a positive impact on the company's return on equity. These conclusions provide important insights for practitioners and policy makers in designing financial management strategies that can simultaneously improve profitability and return on equity.

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