

Corporate Governance In Cash Management, Net Working Capital, And Cash Holding

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Abstract: Manufacturing companies need effective cash management to meet their capital expenditures and cash holding. Effective cash management needs to be supported by good governance so that it can determine adequate cash holding. Independent variables in this study were measured by cash flow, cash conversion cycle, capital expenditure, net working capital, and board of commissioners' activities. Governance measured by the board of commissioners' activities is also a moderation variable. The data in this study were processed and analyzed using Eviews 10 for the period 2017 to 2020. The panel's data regression results show that the cash conversion cycle and net working capital have a negative influence on cash holding. Cash flow, capital expenditure, and board of commissioners' activities have no effect. The moderation regression test results show that the board of commissioners' activities could not moderate the influence of cash flow, cash conversion cycle, capital expenditure, and net working capital on cash holding.

Keywords: Cash Management; Net Working Capital; Board Of Commissioners' Activities; Cash Holdings.

Abstrak: Perusahaan manufaktur perlu manajemen kas yang efektif agar dapat memenuhi belanja modal dan kas di tangan. Manajemen kas yang efektif perlu didukung tata kelola yang baik sehingga dapat menentukan kas di tangan yang memadai. Variabel independen dalam penelitian ini diukur dari *cash flow*, *cash conversion cycle*, *capital expenditure*, *net working capital*, dan aktivitas dewan komisaris. Tata kelola yang diukur dengan aktivitas dewan komisaris juga menjadi variabel moderasi. Data dalam penelitian diolah dan dianalisis menggunakan Eviews 10 untuk periode 2017-2020. Hasil regresi data panel menunjukkan *cash conversion cycle* dan *net working capital* memiliki pengaruh negatif terhadap penentuan kas di tangan. *Cash flow*, *capital expenditure*, dan aktivitas dewan komisaris tidak memberikan pengaruh. Hasil uji regresi moderasi menunjukkan aktivitas dewan komisaris tidak dapat memoderasi pengaruh *cash flow*, *cash conversion cycle*, *capital expenditure*, dan *net working capital* dalam penentuan kas di tangan.

Kata Kunci: Manajemen Kas; *Net Working Capital*; Aktivitas Dewan Komisaris; Kas Di Tangan.

INTRODUCTION

Since the beginning of 2020, the Covid-19 pandemic has disrupted company operations and aspects of people's lives. Adequacy of cash in hand (cash holding) in a company is one of the main keys that ensure the sustainability of operational activities in a company. (Ye, 2018) states that determining the amount of cash holding will reflect the company's business planning and the company's financial strategy, as well as reflect the governance process within the company.

The decision in determining the amount of cash holding is highly dependent on company management. (Florackis and Sainani, 2016) state that companies will reserve cash holding which tends to be high if company management has difficulty obtaining external funding. Conversely, companies tend to have low precautionary motives if the



company's chief financial officer (CFO) has the ability to negotiate to obtain external funding.

The Covid-19 pandemic has made cash management a necessity. Companies with effective cash management will avoid having unproductive funds, have certainty that the company can fulfil its operational activities, and can still have reserves of funds for unexpected events (Fahlevi and Nariski, 2018). Cash management that influences the determination of the amount of cash holding includes measuring the level of cash flow, cash conversion cycle, capital expenditure, and net working capital.

Research by (Maheshwari and Rao, 2017) and (Tayem, 2017) found that the level of a company's cash flow can increase the amount of cash holding of a company. The company will have a large amount of cash holding if it has a positive cash flow level. By having a positive cash inflow, the company has internal sources of financing to meet its operational needs and can store reserves in the form of cash holding.

(Astuti et al., 2019) Their research found a negative effect between the cash conversion cycle on the amount of cash holding. A long cash conversion cycle will reduce the amount of cash holding because the company will prioritize using the funds on hand to meet investment and liquidity needs. Conversely, a company's short cash conversion cycle is an opportunity for the company to get cash in faster so that it can have a large amount of cash holding.

Manufacturing companies tend to have high capital expenditure levels. Therefore, the amount of cash held by manufacturing companies has decreased because it will be used to meet these capital expenditures. The negative relationship between capital expenditure and cash holding was found in research by (Maheshwari and Rao, 2017) and (Guizani, 2017).

(Guizani, 2017) and (Tayem, 2017) in their research found that a high value of net working capital will be followed by a low amount of cash in the hands of the company because net working capital is believed to be able to replace the need for cash holding for the company. Net working capital in the form of non-cash current assets includes liquid company assets. Net working capital has the characteristic of being able to be converted into cash in the not-too-distant future. In addition, the net working capital conversion process does not require high costs. Thus, the company is not worried if it has high net working capital even though it has low cash holding.

One of the companies that have capital expenditure in the form of non-current assets in a large enough amount is a manufacturing company because it is needed in converting raw materials into finished goods. If the company needs liquid funds quickly, the company can convert some of its non-current assets at any time. However, the conversion process generally takes a long time and can affect the liquidity of manufacturing companies. Therefore, to minimize the liquidity risk, manufacturing companies must determine the most adequate amount of cash holding.

Management decision-making to determine the amount of cash holding needs to be supported by the supervision of corporate governance so that decisions taken can protect the rights of internal and external stakeholders. Oversight through corporate governance is necessary to ensure management does not make decisions that only serve the interests of management. Governance can be measured from the activities of the board of commissioners, namely from the number of meetings held by the board of commissioners. (Maarif et al., 2019) Stated that board of commissioners meetings with company



management can be a means of supervision and an opportunity to provide direction to management.

For companies affected by the Covid-19 pandemic, cash management is a necessity during this pandemic crisis, and cash management must become an integral part of risk management and company action plans during the Covid-19 pandemic (Kilpatrick et al., 2020). In order for manufacturing companies in Indonesia to revive, manufacturing companies are encouraged to have effective cash management supported by corporate governance so that the amount of cash holding can be determined optimally and adequately. This research was conducted to determine the role of corporate governance as a moderating variable between cash management and net working capital in determining the amount of cash held in Indonesia's manufacturing companies.

THEORETICAL REVIEW

Pecking Order Theory. Financing decisions by companies are closely related to investment decisions made by companies. Investment decisions made by companies can potentially reduce the amount of cash held. In accordance with the pecking order theory, companies will sort their financing sources by selecting financing sources that have a smaller risk (Suci and Ruhayat, 2021). Therefore, investment decisions by companies will utilize internal financing sources first. However, if the value of the investment to be made by the company exceeds the amount available in internal funding, then the company will potentially experience a decrease in the amount of cash holding because the existing reserves will be used to meet these investment needs.

Trade-off Theory. In the trade-off theory, companies will choose between holding a certain amount of cash in hand or using cash to make investments that have the potential to provide benefits for the company. The company will incur a marginal cost if the company decides to hold some cash as a reserve fund and at the same time miss profitable investment opportunities. This marginal cost can be exchanged for the marginal benefits that the company will get if the company has the most optimal amount of cash holding so that the company can maximize the value they get from the exchange (Tayem, 2017).

The maximum marginal benefit will be felt by the company if the company has an adequate amount of cash holding. By having an adequate amount of cash, the company will avoid incurring the costs of converting non-cash assets as well as the costs of seeking external funding. Companies must avoid experiencing a shortage of cash holding because the company will lose profitable investment opportunities and must incur high costs to obtain additional financing.

Agency Theory. In this theory, management has the power to decide the management and use of cash in the hands of the company. Conflicts of interest between shareholders as owners and management as agents can occur due to excess cash inflows (Hayati, 2020). Management is required to be able to improve the welfare of shareholders by ensuring the availability of funds to be distributed as dividends. Based on this decision, management must invest company resources in the form of liquid assets, namely cash holding.

Conversely, if management is not focused on increasing the welfare of shareholders, management will make decisions to use existing cash to add assets. The decision to add assets will be an advantage for management because the existing assets will be fully under



management control. However, this condition has the potential to cause an increase in the cost of cash holdings and agency costs.

Cash Holding. The pandemic has caused a change in the trend of companies to reserve funds, especially when there is a decline in company income (Demary et al., 2021). The need for cash holding is the main thing that needs to be considered so that the company can meet its fixed operating expenses and maintain its liquidity. The company's decision in determining the amount of cash holding will also affect the company's investment decisions and sources of financing.

Cash Management. (Fahlevi and Nariski, 2018) State that cash management aims to help companies ensure that companies are able to meet their operational needs and prevent idle and unproductive funds, but at the same time, they can still have reserves of funds for unexpected events. (Kilpatrick et al., 2020) stated that cash management must be an integral part of risk management and company action plans, especially for companies affected by the Covid-19 pandemic. The results of this research describe a number of cash management strategies (Kilpatrick et al., 2020). The first is encouraging companies to focus on the cash-to-cash conversion cycle. Second, the company must change the company's capital expenditure strategy. Third, the company must have management of the company's debts and receivables and carry out inspections on them.

Cash Flow and Cash Holding. Companies affected by the pandemic need to manage their cash because, during the pandemic, the company experienced a decrease in revenue. Positive cash inflows are a source of internal financing and reserves in the form of cash holding. Therefore, companies that have positive cash inflows must be able to take advantage of this opportunity to increase the amount of cash holding.

A positive relationship between the level of a company's cash flow and determining the amount of cash holding was found by (Barasa et al., 2018; Jebran et al., 2019; Maheshwari and Rao, 2017; D. M. Sari and Ardian, 2019; Tayem, 2017). Meanwhile, (Liadi and Suryanawa, 2018) found a negative relationship between the level of cash flow and the amount of cash holding, and (Astuti et al., 2019) found cash flow did not affect the determination of the amount of cash holding.

Cash Conversion Cycle and Cash Holding. In his research, (Kilpatrick et al., 2020) found that during the Covid-19 pandemic, the company's focus changed from previously prioritizing profit/loss growth to focusing on accounts receivable and accounts payable management. Previously, in normal and stable economic conditions, the company and stakeholders focused on efforts to increase profit/loss growth. Due to the pandemic conditions, the company has shifted to managing its cash conversion cycle so that the company can meet its needs for liquid assets in the form of cash holding and minimize working capital needs during the pandemic.

In accordance with the pecking order theory, a long company cash conversion cycle will result in increased internal funding needs. A short cash conversion cycle will benefit the company because the company does not need a long time to get the cash needed to fund investments and fulfil its liquidity. The shorter the company's cash conversion cycle, the faster the company gets to cash in so that large amounts of cash holding can be met quickly to increase internal financing reserves.

(Astuti et al., 2019; Juardi et al., 2021; Wulandari and Setiawan, 2019) Their research found that the shorter the cash conversion cycle, the greater the amount of cash in the hands of the company. On the other hand, (Suci and Ruhayat, 2021) find that the longer



the cash conversion cycle, the greater the amount of cash holding. Meanwhile, (Sari et al., 2019) found the cash conversion cycle did not affect the determination of the amount of cash in the hands of the company.

Capital Expenditures and Cash Holding. In the pecking order theory, companies that have a high level of capital expenditure tend to have a small amount of cash holding because the company's capital expenditure will use the cash holding that is currently available. Thus, the greater the amount of capital expenditure issued by the company, the lower the amount of cash holding.

During the pandemic, there was uncertainty and instability in the company's cash flow. Due to the pandemic, the company must reassess the company's capital expenditure plan because capital expenditure is related to the amount of cash in the company's hands. Therefore, in order for the company to maintain an adequate amount of cash holding, the company can postpone capital expenditures that are not urgent (Kilpatrick et al., 2020). Companies need to have sufficient cash holding to maintain smooth operations. Urgent capital expenditures can still be made if these expenditures can increase the company's competitiveness.

(Arfan et al., 2017; Guizani, 2017; Herlambang et al., 2019; Maheshwari and Rao, 2017; Serly and Melendy, 2021; Tayem, 2017) find that high levels of corporate capital expenditure will reduce the amount of cash holding because it is used to finance capital expenditure. (Thu and Khuong, 2018; Trinh and Thuy Mai, 2016) Found contradictory results, namely, the amount of cash holding will increase as the company's capital expenditure increases. Meanwhile, (Amalia et al., 2018; Liadi and Suryanawa, 2018) found that the determination of the amount of cash holding was not influenced by the company's capital expenditures.

Net Working Capital and Cash Holding. During the pandemic, many companies experienced a decline in cash inflows. By having liquid assets, the company has a guarantee that the company can maintain its operational effectiveness and efficiency and make profitable investments even though there is a decrease in cash flow. Net working capital in the form of non-cash current assets can be an alternative to cash holding because net working capital includes liquid company assets that can be quickly converted into cash. According to the trade-off theory, there is an inverse relationship between net working capital and cash holding (Guizani, 2017). Net working capital can serve as a substitute for cash holding in the company (Guizani, 2017; Tayem, 2017). Therefore, the greater the value of the net working capital owned by the company, the lower the amount of cash in the hands of the company.

(Herlambang et al., 2019; Maheshwari and Rao, 2017; Serly and Melendy, 2021; Tayem, 2017) Conducted research on the relationship/influence of the level of net working capital on the amount of cash holding. The results of their research found that the greater the net working capital, the smaller the amount of cash holding. Conversely, an increase in net working capital will increase the amount of cash holding found by (Astuti et al., 2019; Jebran et al., 2019; Juardi et al., 2021; Liadi and Suryanawa, 2018; Wulandari and Setiawan, 2019). Meanwhile, (Arfan et al., 2017; Maarif et al., 2019) found net working capital did not affect the amount of cash holding.

Governance and Cash Holding. Corporate governance can be interpreted as an internal control activity of a structured company (Hayati, 2020). Good corporate governance can be seen from the existence of a system that regulates the



linkages/relationships that exist between company stakeholders, namely between management, the board of directors, shareholders, and other interested parties (Yanti et al., 2019).

Governance within the company can be a management monitoring tool in making decisions to determine the amount of cash holding. Such oversight is necessary to ensure that management does not make decisions that only serve the interests of management so that the rights of internal and external stakeholders can be protected. One of the measurements of governance is by looking at the activities of the board of commissioners, namely in the form of the number of meetings held by the board of commissioners in one year.

Companies that have low governance will be an opportunity for management to hold too much cash in hand and make investments that only benefit management (Akhtar et al., 2018). (Maarif et al., 2019) stated that board of commissioners meetings with company management can be a means of oversight and an opportunity to provide direction to management. More meetings held by the board of commissioners will prevent management from holding too much cash holding because the board of commissioners wants to ensure that adequate internal funding needs are available to finance investment and company liquidity.

Governance Moderation Against Cash Holding. Corporate governance through meetings held by the board of commissioners can be an effective monitoring tool for company owners to provide direction to management in utilizing cash in hand more efficiently (Akhtar et al., 2018). (Hayati, 2020) her research state that the board of commissioner's activities can moderate the effect of cash flow and the cash conversion cycle on determining the amount of cash in the hands of a company. Cash inflows and accelerating company cash conversion cycles, will be a source of internal funding and a source of cash holding. The activities carried out by the board of commissioners play a role in overseeing company policies to ensure faster receipt of company cash.

(Hayati, 2020; Maarif et al., 2019) Found that board of commissioners activities cannot strengthen the effect of net working capital on determining cash holding. Meanwhile, the board of commissioner's activities that strengthen the effect of capital expenditure on the determination of cash holding is found in the results of research by (Maarif et al., 2019). Conversely, (Hayati, 2020) found that the board of commissioner's activities were not able to strengthen the effect of capital expenditure on determining cash holding.

The hypotheses developed in this study are as follows and can be seen in **Figure 1**

H₁: Cash flow has a positive effect on cash holding

H₂: The cash conversion cycle has a negative effect on cash holding

H₃: Capital expenditure has a negative effect on cash holding

H₄: Net working capital has a negative effect on cash holding

H₅: Board of commissioner's activities has a negative effect on cash holding

H₆: Board of commissioners activities strengthen the influence of cash flow, cash conversion cycle, capital expenditure, and net working capital to cash holding



Research Model

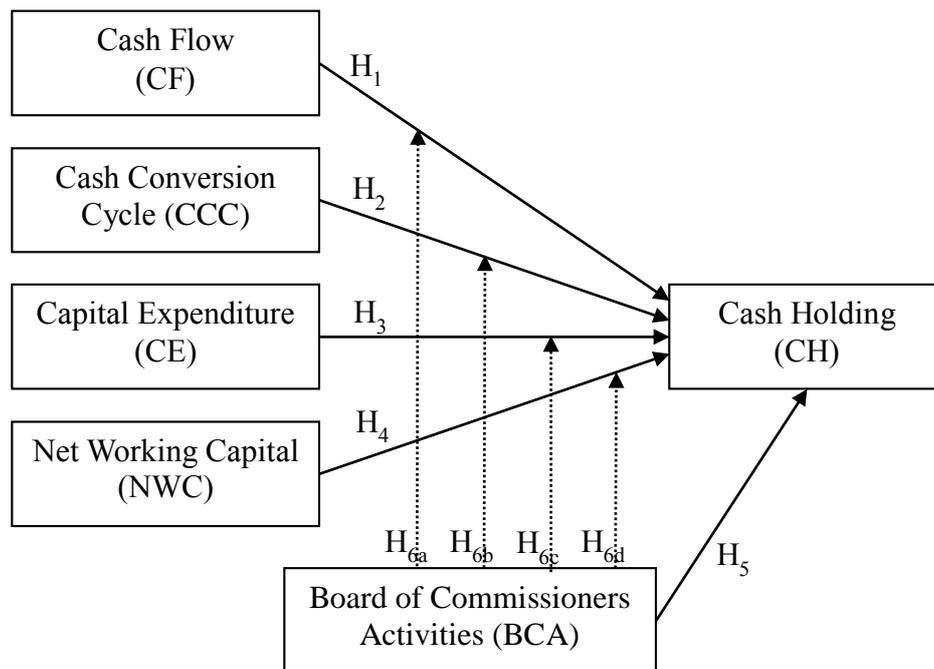


Figure 1. Research Model

METHODS

The population in this study are companies from the processing/manufacturing industry, which during the 2017 to 2020 observation year, were listed on the IDX. The sample in this study was taken using a purposive sampling technique with the criteria for manufacturing companies listed on the IDX in a row during 2017-2020, did not carry out an IPO, was not delisted or suspended during the year of observation, and did not suffer losses in any of the study periods. Data were processed from as many as 236 of 59 samples of manufacturing companies. In this study, data were processed using Eviews version 10.0.

The variables tested consist of cash flow, cash conversion cycle, capital expenditure, net working capital, and board of commissioners activities as independent variables and cash holding as the dependent variable. The board of commissioners activity variable is also a moderating variable. The measurement of each variable can be seen in **Table 1**.

The research model used for H₁, H₂, H₃, H₄ and H₅ is panel data regression with the following equation:

$$CH = \alpha + \beta_1CF + \beta_2CCC + \beta_3CE + \beta_4NWC + \beta_5BCA + \varepsilon \dots\dots\dots (1)$$

Meanwhile, the research model for H₆ is a moderating regression with the following equation:



$$CH = \alpha + \beta_1 CF + \beta_2 CCC + \beta_3 CE + \beta_4 NWC + \beta_5 BCA + \beta_6 CF * BCA + \beta_7 CCC * BCA + \beta_8 CE * BCA + \beta_9 NWC * BCA + \varepsilon \dots\dots\dots (2)$$

What is meant by α in the equation above is a constant. The regression coefficient is described by $\beta_1 - \beta_9$, and the error is described by ε .

Table 1. Definition of Operational Variables

Variab le	Name of Variable	Measur em ent Scale	Variable Measurement	Source
CC	Cash Holding	Ratio	<u>Cash and Cash Equivalent</u> Total Assets	(Hayati, 2020; Jebran et al., 2019)
CF	Cash Flow	Ratio	<u>Earnings Before Interest dan Tax + Depreciation</u> Total Assets	(Tayem, 2017)
CCC	Cash Conversion Cycle	Ratio	Cash Conversion Cycle (CCC) = DI + DR – DP Days of Inventory (DI) = $\frac{\text{Inventory}}{\text{Cost of Goods Sold} / 365}$ Days of Receivable (DR) = $\frac{\text{Trade Receivables}}{\text{Revenue} / 365}$ Days of Payable (DP) = $\frac{\text{Trade Payables}}{\text{Cost of Goods Sold} / 365}$	(Astuti et al., 2019; Hayati, 2020)
CE	Capital Expenditure	Ratio	<u>Fixed Assets – Fixed Assets₁</u> Total Assets	(Guizani, 2017; Trinh and Thuy Mai, 2016)
NWC	Net Working Capital	Ratio	<u>Current Assets – Current Liabilities – Cash and Cash Equivalent</u> Total Assets	(Guizani, 2017; Tayem, 2017)
BCA	Board of Commissioners Activity	Ratio	\sum Board of Commissioners meeting	(Hayati, 2020; Maarif et al., 2019)

RESULTS

Descriptive Statistical Analysis. The results of descriptive statistics can be seen in **Table 2.** **Table 2** describes the average value for cash holding, cash flow, cash conversion cycle, and board of commissioners activities which is greater than the standard deviation value. This result can be interpreted as a low variation of the four variables from the sample companies. Meanwhile, the average value for capital expenditure and net working capital is lower than the standard deviation value, which means a high variation of the two variables.



Table 2. Descriptive Statistical Test Results

	CH	CF	CCC	CE	NWC	BCA
Mean	0.108	0.144	111.850	0.022	0.128	7.530
Median	0.083	0.112	98.165	0.012	0.120	6.000
Maximum	0.416	0.810	355.778	0.355	0.544	38.000
Minimum	0.002	0.018	-76.327	-0.489	-0.316	1.000
Std. Dev.	0.089	0.117	75.032	0.071	0.162	4.690

Source: Processed data (2022)

For the average cash holding value of 0.107, it is greater than the standard deviation value of 0.089. The maximum cash holding value of the sample company is 0.416, meaning that the highest amount of cash in the hands of the sample company is 41.562 per cent of the company's total assets. Meanwhile, the minimum cash holding value of 0.002 indicates the lowest amount of cash in the hands of the sample company, which is 0.238 per cent of the company's total assets.

Table 2 shows the maximum cash flow value of 0.809 and the minimum value of 0.018. These results show that the highest sample company's cash flow rate is 80.976 per cent of the company's total assets, with the lowest cash flow rate of 1.847 per cent of the company's total assets. The cash flow variable has an average value of 0.144, which is also greater than the standard deviation value of 0.0185.

The average cash conversion cycle value of 111.849 is greater than the standard deviation value of 75.032. The cash conversion cycle of the sample companies has a maximum value of 355.777 or 356 days and a minimum value of -76.327 or -77 days. This figure shows that sample companies get cash in the longest, within 356 days after the due date for payment of the debt to suppliers, and the fastest way to get cash in is 76 days before the due date for payment of the debt to suppliers.

The average value for the board of commissioners activities is 7.530, which is greater than the standard deviation value of 4.690. The maximum score for the board of commissioners activities is 38, and the minimum score is 1. These results indicate that the maximum number of meetings held by the board of commissioners of the sample companies is 38 meetings and at least one meeting in one current year.

The average value of capital expenditure is 0.022, which is lower than the standard deviation value of 0.071. The capital expenditure variable has a maximum value of 0.355 and a minimum value of -0.489. The sample companies in this study have the highest level of capital expenditure, 35.503 per cent of the company's total assets. The lowest sample company's capital expenditure level is -48.913 per cent, which means that the sample company has a negative capital expenditure level or there is a decrease in the number of its fixed assets.

The net working capital of the sample companies has an average value of 0.128, which is lower than the standard deviation value of 0.162. The maximum value of net working capital is 0.548, which means that the sample companies have the highest net working capital in the form of non-cash current assets of 54.379 per cent of total assets. The minimum net working capital value is -0.316, which means that there are still current

debts of the sample companies that cannot be met with existing non-cash current assets of 31.575 per cent of total assets.

Multicollinearity Test Results. Table 3 is the result of the multicollinearity test. These results show that all independent variables in this study are not correlated with each other, as shown by the correlation coefficient value, which is less than 0.90. Thus it can be concluded that there is no multicollinearity.

Table 3. Multicollinearity Test Results

	CC	CCC	CE	NWC	BCA
CC	1.000	-0.125	-0.185	-0.082	-0.062
CCC	-0.125	1.000	-0.140	0.524	0.048
CE	-0.185	-0.140	1.000	-0.066	0.061
NWC	-0.082	0.524	-0.066	1.000	-0.093
BCA	-0.062	0.048	0.061	-0.093	1.000

Source: Processed data (2022)

Estimation Model Selection. The selection of the estimation model was carried out for two regression equations, namely the panel data regression equation without moderation (Regression 1) and the regression equation with moderation (Regression 2). The selection of the estimation model is made by the Chow test and Hausman test. From the results of the Chow Test and Hausman Test with all significance levels below 0.050, it can be concluded that for the two regression equations, the results of the fixed effect model are the best estimation models. The results of the Chow test and Hausman test for the two regression equations are shown in Table 4 below.

Table 4. Estimation Model Selection

Equation	Chow Test		Hausman Test	
	Probability of cross-section chi-square	Conclusion	Probability of cross-section random	Conclusion
Regression 1	0.000	Fixed Effect Model	0.000	Fixed Effect Model
Regression 2	0.000	Fixed Effect Model	0.000	Fixed Effect Model

Source: Processed data (2022)

Panel Data Regression Test Results. The results of regression equation 1, namely the panel data regression equation without moderation for H₁, H₂, H₃, H₄ and H₅, are as follows:

$$CH = 0.180 - 0.065 CF - 0.000 CCC - 0.035 CE - 0.443 NWC + 0.002BCA..... (3)$$

The regression equation without moderation has a constant value of 0.180, which means that the amount of cash holding of the company will increase by 0.180 units if all the independent variables, namely cash flow, cash conversion cycle, capital expenditure, net working capital, and board of commissioners activities are zero or do not change. The regression coefficient values for cash flow, cash conversion cycle, capital expenditure, and



net working capital have negative values, while the board of commissioners' activities have positive regression coefficient values.

The value of the cash flow regression coefficient of -0.065 means that the amount of cash holding of the company will decrease by 0.065 units if the company's cash flow increases by 1 unit but with the condition that the other independent variables are zero or fixed. The cash conversion cycle has a negative regression coefficient, which means that it will also reduce the amount of cash holding by 0.000 units if the cash conversion cycle increases by 1 unit and the other independent variables are zero or fixed.

The capital expenditure regression coefficient is -0.035. This means that the amount of cash holding of the company will decrease by 0.035 units if capital expenditure increases by 1 unit, but with the condition that all other independent variables have a value of zero or do not change. Meanwhile, the amount of cash holding will decrease by 0.443 units if net working capital increases by 1 unit and other independent variables are fixed or have a zero value. Meanwhile, the value of the regression coefficient for the board of commissioners activities is 0.002, meaning that a 1 unit increase in board activity will increase the amount of cash holding by 0.002, and all other independent variables are fixed or zero. **Table 5** describes the results of the regression test for regression equation 1.

The panel data regression test results in **Table 5** show a significance level for the F test of 0.000. This value is lower than 5 per cent, which means that regression model 1 of this study meets the feasibility of the model. Together or simultaneously, all independent variables, namely cash flow, cash conversion cycle, capital expenditure, net working capital, and board of commissioners activities, have a significant influence in determining the amount of cash holding.

Table 5. Regression 1 Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.180	0.018	10.128	0.000
CF	-0.065	0.047	-1.379	0.170
CCC	-0.000	0.000	-2.002	0.047
CE	-0.035	0.041	-0.866	0.388
NWC	-0.443	0.051	-8.625	0.000
BCA	0.002	0.001	1.696	0.092
R-squared	0.877			
Adjusted R-squared	0.833			
Prob(F-statistic)	0.000			

Source: Processed data (2022)

Adjusted R² in **Table 5** shows a value of 0.833. This value means that 83.300 per cent of the determination of the amount of cash holding can be explained by cash flow, cash conversion cycle, capital expenditure, net working capital, and board of commissioners activities. Meanwhile, as much as 16.720 per cent is explained by other variables that are not proxied in this study.

Moderation Regression Test Results. The results of the regression equation with moderation for H₆ are as follows:

$$\begin{aligned}
 CH = & 0.203 - 0.098 CF - 0.000 CCC - 0.028 CE - 0.469 NWC \\
 & - 0.000 BCA + 0.006 CF*BCA + 0.000 CCC*BCA \\
 & + 0.000 CE*BCA + 0.004 NWC*BCA \dots\dots\dots (4)
 \end{aligned}$$

The results of the moderation regression test can be seen in **Table 6** below. The discussion of the results will be explained in the next section.

Table 6. Moderation Regression Test Results (Regression 2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.203	0.028	7.127	0.000
CF	-0.098	0.160	-0.609	0.544
CCC	-0.000	0.000	-2.189	0.030
CE	-0.028	0.121	-0.228	0.820
NWC	-0.469	0.089	-5.280	0.000
BCA	-0.000	0.004	-0.218	0.827
CF*BCA	0.006	0.024	0.236	0.814
CCC*BCA	1.720	1.530	1.126	0.262
CE*BCA	3.910	0.014	0.003	0.998
NWC*BCA	0.004	0.011	0.378	0.706

Source: Processed data (2022)

DISCUSSION

Effect of Cash Flow on Cash Holding. The cash flow variable in the panel data regression model has a negative regression coefficient of 0.065 with a significance level of 0.1698, which is greater than 0.050 (see **Table 5**). H_1 , which states that cash flow has a positive effect on cash holdings, cannot be accepted. The cash flow variable in this study has no significant effect on determining the amount of cash in the hands of the company.

In the pecking order theory, it is stated that company management will prioritize the use of internal funds to finance investment activities and liquidity needs. Therefore, positive cash inflows will become a source of funds for internal financing. Positive cash inflows also serve as a reserve fund for the company if investment activities and liquidity needs are met. However, the results of this study indicate that positive cash flow cannot be a source of reserves for companies. The negative influence in the results of this study indicates that positive cash flow as a source of internal financing is not sufficient to meet investment activities and the company's liquidity needs, so the reserve of funds in the form of cash holding will decrease.

With a significance level greater than 0.050, it indicates that the company's cash flow has no effect and is not a determining factor in management determining the amount of cash holding. This result is in line with the research of (Astuti et al., 2019), who found cash flow did not affect the determination of the amount of cash holding. The results of this study are not in line with research from (Barasa et al., 2018; Jebran et al., 2019; Maheshwari and Rao, 2017; Sari and Ardian, 2019; Tayem, 2017) where they found that there was a significant positive relationship between the level of the company's cash flow and the determination of the amount of cash holding. The results of this study are also not in line with those (Liadi and Suryanawa, 2018), who found a significant effect in a negative direction between the level of cash flow and the amount of cash holding.



Effect of Cash Conversion Cycle on Cash Holding. The results of the regression test in **Table 5** show that the cash conversion cycle has a negative regression coefficient of 0.000 and a significance level lower than 0.050, namely 0.047. Thus, H_2 , which states that the cash conversion cycle has a negative effect on cash holdings, can be accepted. The company's cash conversion cycle is one of the factors that influence management in determining the amount of cash holding.

In accordance with the pecking order theory, a short cash conversion cycle will help companies obtain the cash needed to fund investments and fulfil their liquidity in a short time. In addition, with a short cash conversion cycle, the company has the opportunity to increase the amount of cash holding to add to its reserves. Conversely, a company's long cash conversion cycle will potentially reduce the amount of cash holding because internal funding will be used to meet investment and liquidity needs. Effective cash management by focusing on accelerating the cash conversion cycle will help companies increase their reserves in the form of cash holding.

This study obtained the same results as the research of (Astuti et al., 2019; Juardi et al., 2021; Wulandari and Setiawan, 2019), where the shorter the cash conversion cycle, the greater the amount of cash in the hands of the company. This research produces findings that are contrary to the research of (Suci and Ruhiyat, 2021), where the longer the cash conversion cycle, the greater the amount of cash holding. This research is also not in line with the research by (Sari et al., 2019), who found the cash conversion cycle does not affect the determination of the amount of cash in the hands of a company.

Effect of Capital Expenditure on Cash Holding. The capital expenditure variable has a regression coefficient of -3523 and a significance level of 0.388, which is greater than 0.050 (see **Table 5**). These results indicate that an increase in the company's capital expenditure can reduce the amount of cash holding, but the effect is not significant. Thus, H_3 , which states that capital expenditure has a negative effect on cash holdings, cannot be accepted.

In the pecking order theory, it is stated that companies tend to have a low amount of cash holding if the company has a high level of capital expenditure because the cash holding will be used to finance its capital expenditure. Therefore, the greater the amount of capital expenditure issued by the company, the lower the amount of cash holding. However, the results of this study indicate that an increase in capital expenditure does not have a significant effect on reducing the amount of cash holding.

This research supports the research results of (Amalia et al., 2018; Liadi and Suryanawa, 2018), who found that determining the amount of cash holding is not affected by the company's capital expenditures. This research contrasts with the results of research by (Arfan et al., 2017; Guizani, 2017; Herlambang et al., 2019; Maheshwari and Rao, 2017; Serly and Melandy, 2021; Tayem, 2017), who find high levels of corporate capital expenditure will significantly reduce the amount of cash holding because it is used to finance capital expenditure. The results of this study have a direction that is contrary to the research of (Thu and Khuong, 2018; Trinh and Thuy Mai, 2016), who found that the amount of cash holding will increase as the company's capital expenditure increases.

Effect of Net Working Capital on Cash Holding. **Table 5** shows that net working capital has a negative regression coefficient of 0.443 and a significance level below 0.050, which is 0.000. This result can be interpreted that an increase in net working capital will



significantly reduce the amount of cash holding. Thus, H_4 , which states that net working capital has a negative effect on cash holdings, can be accepted.

In the trade-off theory, it is stated that there is an inverse relationship between net working capital and cash holding (Guizani, 2017). Net working capital will be a substitute for cash holding (Guizani, 2017; Tayem, 2017) because net working capital is one of the company's liquid assets that can be converted into cash quickly with low conversion costs. Therefore, if the company increases the value of its net working capital, it will have an impact on decreasing the amount of cash in the hands of the company.

This study obtained results that support the research of (Herlambang et al. 2019; Maheshwari and Rao, 2017; Serly and Melandy, 2021; Tayem, 2017), namely the greater the net working capital, the smaller the amount of cash holding. However, this research is not in line with the research of (Astuti et al., 2019; Jebran et al., 2019; Juardi et al., 2021; Liadi and Suryanawa, 2018; Wulandari and Setiawan, 2019) who get an increase in net working capital will increase the amount of cash holding. This research is also contrary to the research of (Arfan et al., 2017; Maarif et al., 2019), who found net working capital did not affect the determination of cash holding.

Effect of Board of Commissioners Activities on Cash Holding. Corporate governance, as measured by the board of commissioners activities, has a regression coefficient of 0.002 with a significance level above 0.050, which is 0.092 (see **Table 5**). This result can be interpreted that the board of commissioner's activities do not influence the determination of the amount of cash holding. H_5 , which states that the board of commissioner's activities has a negative effect on cash holding, is unacceptable.

(Maarif et al., 2019) Stated that board of commissioners meetings with company management can be a means of oversight and an opportunity to provide direction to management. Board of commissioners activities which are calculated from the number of meetings held by the board of commissioners in 1 year are expected to be a form of supervision over management decision-making in determining the amount of cash holding. This form of oversight ensures that management does not make decisions that only serve management's interests so as to protect the rights of internal and external stakeholders. However, the results of this study indicate that the board of commissioner's activities have not been effective. The more meetings held by the board of commissioners have no effect on determining the amount of cash held.

Board of Commissioner Activities as Moderating Variable. Based on the results of the moderation regression test in **Table 6** shows that the variables cash flow, cash conversion cycle, capital expenditure, and net working capital with the interaction of board of commissioners activities have a significance level greater than 0.05. This result means that H_6 is unacceptable.

Table 6 shows that the interaction between cash flow and board of commissioners activities has a significant level above 0.050, which is 0.814. This result can be interpreted that the board of commissioner's activities cannot moderate the effect of cash flow on determining the amount of cash holding. The same results were also obtained in the interaction of the cash conversion cycle with the board of commissioners activities, with a significance level of 0.262, which is greater than 0.050. The Board of commissioner's activities also cannot moderate the effect of the cash conversion cycle on determining the amount of cash holding. These two results contradict that (Hayati, 2020) that found the



board of commissioner's activities can moderate the effect of cash flow and the cash conversion cycle on determining the amount of cash holding.

The significance level of the interaction of capital expenditure with the board of commissioner's activities shows a value of 0.998, which is greater than 0.050. The Board of commissioner's activities cannot moderate the effect of capital expenditure on the determination of cash holding. The results of this moderation regression test support the results of research by (Hayati, 2020; Maarif et al., 2019), who found that the board of commissioner's activities cannot strengthen the effect of net working capital on determining cash holding.

The interaction of capital expenditure with the board of commissioners activities has a significance level greater than 0.050, which is 0.706. Thus, the board of commissioner's activities also cannot moderate the effect of capital expenditure on determining the amount of cash holding. This result is in line with (Hayati, 2020), which states that the board of commissioner's activities are not able to strengthen the effect of capital expenditure on determining cash holding. However, these results are not in line with the results of research by (Maarif et al., 2019), where the board of commissioner's activities can strengthen the effect of capital expenditure on determining cash holding.

The results of the panel data regression in regression 1 conclude that the board of commissioner's activities does not affect the determination of the amount of holding. The activities carried out by the board of commissioners should be able to play a role in overseeing company policy. Because the board of commissioner's activities in this study have not effectively influenced management decisions in determining the amount of cash holding, the interaction of this variable with cash flow, cash conversion cycle, capital expenditure, and net working capital cannot moderate the effect of these four variables on determining the amount of cash holding.

CONCLUSION

The results of the panel data regression test in this study indicate that together cash flow, cash conversion cycle, capital expenditure, net working capital, and board of commissioners activities have a significant influence on cash holdings. Partially, cash flow, capital expenditure, and board of commissioners activities do not have a significant effect on cash holdings. In contrast, the cash conversion cycle and net working capital have a significant negative effect on the determination of the amount of cash holding. From these results, it can be concluded that the longer the cash conversion cycle and the greater the net working capital value of the sample companies, the lower the amount of cash in the hands of the company.

The results of the moderation regression test showed that the interaction of board of commissioners activities with cash flow, cash conversion cycle, capital expenditure, and net working capital could not moderate the influence of these four variables on management decisions in determining the amount of cash holding. From the partial panel data regression results, board of commissioners activities, as measured by the number of meetings in 1 year, has not become an effective monitoring tool, so it cannot show a significant moderating effect on the influence of cash flow, cash conversion cycle, capital expenditure, and net working capital on cash holding.



For future research, the determination of cash holding can be measured from the factors of financial performance and other corporate governance. Corporate governance can be measured from other variables such as the number of audit committees, the number of commissioners, institutional ownership, and other corporate governance measurements. Research can also be expanded by adding years of observation or changing the sample company outside the manufacturing company.

REFERENCES

- Akhtar, T., Tareq, M. A., Sakti, M. R. P., and Khan, A. A. (2018). Corporate governance and cash holdings: the way forward. *Qualitative Research in Financial Markets*, 10(2), 152–170. <https://doi.org/10.1108/QRFM-04-2017-0034>.
- Amalia, C. I., Arfan, M., and Saputra, M. (2018). The Effect of Financial Leverage and Capital Expenditure to Cash Holding of Manufacturing Company Listed in Indonesia Stock Exchange. *International Journal of Academic Research in Business and Social Sciences*, 8(5), 307–314. <https://doi.org/10.6007/ijarbss/v8-i5/4103>.
- Arfan, M., Basri, H., Handayani, R., Majid, M. S. Abd., Fahlevi, H., and Dianah, A. (2017). Determinants of Cash Holding of Listed Manufacturing Companies in the Indonesian Stock Exchange. *DLSU Business and Economics Review*, 26(2), 1–12.
- Astuti, A. W., Wiyono, G., and Mujino. (2019). Analisis Cash Holding Berbasis Kekuatan Kas Dan Modal Kerja Bersih. *JBTI: Jurnal Bisnis: Teori Dan Implementasi*, 10, 137–149. <http://journal.umy.ac.id/index.php/bti>.
- Barasa, C., Achoki, G., and Njuguna, A. (2018). Determinants of Corporate Cash Holding of Non-Financial Firms Listed on the Nairobi Securities Exchange. *International Journal of Business and Management*, 13(9), 222–235. <https://doi.org/10.5539/ijbm.v13n9p222>.
- Demary, M., Hasenclever, S., and Hüther, M. (2021). Why the COVID-19 Pandemic Could Increase the Corporate Saving Trend in the Long Run. *Intereconomics*, 56(1), 40–44.
- Fahlevi, H., and Nariski, B. R. (2018). Cash Management In Indonesian Local Governments: A Study On The Relationship Between Government Profile And Cash Holding. *Simposium Nasional Keuangan Negara 2018*.
- Florackis, C., and Sainani, S. (2016). How Do Chief Financial Officers Influence Corporate Cash Policies? *Journal of Corporate Finance*, Forthcoming. <https://ssrn.com/abstract=2932832> Electronic copy available at: <https://ssrn.com/abstract=2932832> Electronic copy available at: <https://ssrn.com/abstract=2932832>.
- Guizani, M. (2017). The Financial Determinants Of Corporate Cash Holdings In An Oil-Rich Country: Evidence From Kingdom Of Saudi Arabia. *Borsa Istanbul Review*, 17(3), 133–143. <https://doi.org/10.1016/j.bir.2017.05.003>.
- Hayati, N. (2020). Corporate Governance Sebagai Variabel Moderating Dengan Net Working Capital, Capital Expenditure, Cash Conversion Cycle, Cash Flow, Dan Growth Opportunity Yang Dapat Mempengaruhi Cash Holding. *Business Management Analysis Journal (BMAJ)*, 3(2), 84–111. www.idx.co.id.
- Herlambang, A., Murhardi, W. R., and Cendrati, D. (2019). Factors Affecting The Company's Cash Holding. *Advances in Social Science, Education and Humanities Research*, 308, 24–27. <https://doi.org/10.1016/j.tre.2017.10.016>.



- Jebran, K., Iqbal, A., Bhat, K. U., Khan, M. A., and Hayat, M. (2019). Determinants Of Corporate Cash Holdings In Tranquil And Turbulent Period: Evidence From An Emerging Economy. *Financial Innovation*, 5(3). <https://doi.org/10.1186/s40854-018-0116-y>.
- Juardi, Mujjani, S., Silfianah, N., and Sari, S. N. (2021). Pengaruh Cash Conversion Cycle, Net Working Capital Terhadap Cash Holding. *Jurnal Vokasi Administrasi Bisnis*, 3(1), 51–66. <http://ojs.stiami.ac.id>.
- Kilpatrick, J., Dess, J., and Barter, L. (2020). *COVID-19 Managing cash flow during a period of crisis*.
- Liadi, C. C., and Suryanawa, I. K. (2018). Pengaruh Ukuran Perusahaan, Net Working Capital, Cash Flow, dan Cash Conversion Cycle pada Cash Holding. *E-Jurnal Akuntansi Universitas Udayana*, 24(2), 1474–1502. <https://doi.org/10.24843/eja.2018.v24.i02.p24>.
- Maarif, S., Anwar, C., and Darmansyah. (2019). Pengaruh Interest Income Growth , Net Working Capital, Dan Capital Expenditure Terhadap Cash Holding Dengan Aktivitas Dewan Komisaris Sebagai Variabel Moderasi. *JURNAL MADANI: Ilmu Pengetahuan, Teknologi, Dan Humaniora*, 2(1), 163–173.
- Maheshwari, Y., and Rao, K. T. V. (2017). Determinants of Corporate Cash Holdings. *Global Business Review*, 18(2), 416–427. <https://doi.org/10.1177/0972150916668610>
- Sari, D. M., and Ardian. (2019). Cash Holding, Cash Flow dan Profitability: Studi pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia. *Jurnal Dinamika Akuntansi Dan Bisnis*, 6(1), 29–38. <https://doi.org/10.24815/jdab.v6i1.12142>.
- Sari, L. P., Kurniawati, S. L., and Wulandari, D. A. (2019). The determinants of cash holdings and characteristics of the industrial business cycle in Indonesia. *Jurnal Keuangan Dan Perbankan*, 23(4), 525–539. <https://doi.org/10.26905/jkdp.v23i4.3326>.
- Serly, and Melandy, D. (2021). Analisis Faktor Penentu Tingkat Cash Holdings pada Perusahaan di Indonesia. *Conference on Management, Business, Innovation, Education and Social Science*, 1(1), 1210–1219. <https://journal.uib.ac.id/index.php/combines>.
- Suci, N. I., and Ruhayat, E. (2021). Pengaruh Investment Opportunity Set, Cash Conversion Cycle, Dan Agresivitas Pajak Terhadap Cash Holding Pada Perusahaan Property Dan Real Estate. *Prosiding Sarjana Akuntansi Tugas Akhir Secara Berkala*, 1(1). <http://openjournal.unpam.ac.id/index.php/SAKUNTALA>.
- Tayem, G. (2017). The Determinants of Corporate Cash Holdings: The Case of a Small Emerging Market. *International Journal of Financial Research*, 8(1), 143–154. <https://doi.org/10.5430/ijfr.v8n1p143>.
- Thu, P. A., and Khuong, N. V. (2018). Factors Effect on Corporate Cash Holdings of the Energy Enterprises Listed on Vietnam’s Stock Market. *International Journal of Energy Economics and Policy*, 8(5), 29–34. <http://www.econjournals.com>.
- Trinh, T. H., and Thuy Mai, P. T. (2016). The Determinants of Corporate Liquidity in Real Estate Industry: Evidence from Vietnam. *International Journal of Economics and Finance*, 8(7), 21. <https://doi.org/10.5539/ijef.v8n7p21>.
- Wulandari, E. A., and Setiawan, M. A. (2019). Pengaruh Growth Opportunity, Net Working Capital, Cash Conversion Cycle dan Dividend Payout terhadap Cash



- Holding (Studi Empiris pada Perusahaan Property dan Real Estate yang Terdaftar di Bursa Efek Indonesia Tahun 2014-2017). *Jurnal Eksplorasi Akuntansi*, 1(3), 1259–1274.
- Yanti, Susanto, L., Wirianata, H., and Viriany. (2019). Corporate Governance, Capital Expenditure Dan Cash Holdings. *Jurnal Ekonomi*, 24(1), 1–14. <https://doi.org/10.24912/je.v24i1.452>.
- Ye, Y. (2018). A Literature Review on the Cash Holding Issues. *Modern Economy*, 09(06), 1054–1064. <https://doi.org/10.4236/me.2018.96068>.

