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Moderated by Cash Conversion Cycle: Growth Opportunity and Capital Expenditure on Cash Holding

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Abstract---*This study aims to provide empirical evidence regarding the effect of growth opportunity and capital expenditure on cash holding with cash conversion cycle as a moderating variable. The theories used in this study are the trade-off theory and the pecking order theory. The population in this study is health sector companies listed on the Indonesia Stock Exchange for the period 2020-2023. This research uses a quantitative approach. The sampling technique used was purposive, and a sample of 20 companies, or 80 total observations. The data analysis technique in the study used Moderated Regression Analysis (MRA). The results of the analysis provide evidence that growth opportunity has a positive effect on cash holding, capital expenditure has no significant effect, then the cash conversion cycle can strengthen the influence between growth opportunity and cash holding and weaken the influence between capital expenditure and cash holding. The theoretical implications of this research can confirm the trade-off theory and pecking order theory based on the test results that have been carried out. The practical implications of this study can provide knowledge related to the effect of growth opportunity and capital expenditure on cash holding and the role of cash conversion cycle as a moderating variable that can be taken into consideration for investors, companies, and further researchers.*
Keywords---*Cash Conversion Cycle, Cash Holding, Capital Expenditure, Growth Opportunity.*

Introduction

Understanding the company's cash holdings is very important, especially in the context of a rapidly developing economy such as Indonesia, because high growth prospects will encourage companies to have sufficient cash holdings so that they can fund various opportunities that arise and support their business growth (Jebran et al., 2019). Not only to support growth, but cash holding is also very important for companies to deal with times of crisis. Cash holding has a very important role because if a company has higher cash, the company can increase capital expenditure and R&D spending, so that the company's performance can recover faster after a financial crisis (Chang & Yang, 2022). Based on a report from corporate restructuring advisor Alvarez & Marsal Inc., nearly 1 in 7 large publicly traded companies in Indonesia are experiencing financial difficulties. The report, which is based on data from 2019 to 2022, suggests that weak balance sheets and capital structures are the main factors behind these financial difficulties.

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A company's cash holding is influenced by various variables. However, based on the phenomenon that has been described, this study will focus on growth opportunity and capital expenditure as independent variables because both variables are relevant to the object and period of research, namely health sector companies during 2020-2023, which includes the COVID-19 pandemic period. As already explained, health sector companies during the pandemic experienced significant growth. The COVID-19 pandemic has also resulted in increased capital expenditure requirements for the health sector.

The effect of growth opportunity on cash holding has been studied before. Previous research conducted by Ashhari & Faizal (2018), Sethi & Swain (2019), Magerakis et al. (2020), Ali et al. (2021), Hoque et al. (2022), found a positive influence between growth opportunity and cash holding. A positive influence means that if the growth opportunity increases, the company's cash holdings will also increase. Trade-off theory states that companies with growth potential need sufficient cash reserves to avoid lost investment opportunities. If the company uses internal financing, such as cash, the company can avoid the high costs associated with external financing, such as issuing new shares or going into debt (Sethi & Swain, 2019).

Many previous studies have found that growth opportunity has a negative effect on cash holding, including Aftab et al. (2018), Jebran et al. (2019), Alfira et al. (2021), Yudhyani et al. (2022), and Lintungan & Surjadi (2023). A negative effect means that if the growth opportunity increases, the company's cash holdings will decrease. Companies with high growth opportunities tend to have lower cash holdings because companies prefer to reinvest their funds into the business to drive growth rather than keep them in cash (Lintungan & Surjadi, 2023).

The growth of a company is also supported by capital expenditure, which also affects the cash holdings owned by the company (Magerakis et al., 2020). Capital expenditure is the cost incurred to obtain fixed assets, improve operational efficiency and productive capacity of fixed assets, and extend the useful life of fixed assets. Previous studies conducted by Singh & Misra (2019), Tran (2020), Chen et al. (2020), Radiman et al. (2021), and Santioso & Daryatno (2023), found that capital expenditure has a positive effect on cash holding. A positive effect means that if capital expenditure increases, the company's cash holdings will also increase. Companies with high capital expenditure have high cash holdings to avoid transaction costs and precautionary motives to anticipate unexpected events (Tran, 2020).

Conversely, Chireka & Fakoya (2017), Guizani (2017), Ashhari & Faizal (2018), Jebran et al. (2019), Magerakis et al. (2020), and Gupta & Bedi (2020) found that capital expenditure has a negative effect on cash holding, namely, the higher the capital expenditure of a company, the smaller the cash holding it has. The negative effect means that if capital expenditure increases, the company's cash holdings will decrease. Companies prefer to use internal funds first to finance capital expenditure and other investments, causing the company's cash holdings to decrease (Jebran et al., 2019). In addition, companies with high capital expenditure mean that they have many assets that can be used as collateral to get loans, thus reducing the need for companies to have too much cash holding (Gupta & Bedi, 2020).

The results of previous studies related to the effect of growth opportunity and capital expenditure on cash holding show inconsistencies between findings. The difference in findings encourages researchers to retest using a contingency approach. The contingency approach is used to examine the possibility of other variables as moderating factors or mediating the influence of the independent variable on the dependent variable. Researchers suspect the influence of variables that moderate the effect of growth opportunity on capital expenditure with cash holding, namely, the cash conversion cycle (Irawan et al., 2022).

In this study, the cash conversion cycle is a moderating variable because it can strengthen the influence of the independent variables on cash holding. The cash conversion cycle is the period it takes for a company to convert inventory and receivables into net cash, after taking into account payment obligations to suppliers. This cycle is closely related to the presence of cash in the company because it determines how long cash remains in the company. How fast or slow the cash conversion cycle can moderate the effect of growth opportunity and capital expenditure on cash holding.

In the health sector, the cash conversion cycle must be considered because payments can be made through third-party insurers such as insurance. Based on Rivenson et al. (2011), third-party insurers can pay claims on various schedules from days to months, which requires hospitals to finance operational cash outflows in the short term. In addition, claim denials are common, which requires hospitals to invest significant resources in collections and other revenue cycle activities. These conditions create uncertainty and risk associated with the timing and amount of cash inflows, so hospitals have a precautionary motive to hold cash.

Literature review and hypothesis development

Based on trade-off theory, cash holding is done by considering the trade-off between the advantages and disadvantages of storing cash. According to Chireka & Fakoya (2017), the benefits of cash holding come from transaction cost motives, namely reducing transaction costs from external funding, and precautionary motives, namely protecting the company from uncertainty or difficult times. The disadvantage of cash holding, according to Hanaputra & Nugroho (2021), is that it eliminates investment opportunities because companies prefer to hold cash. Based on this theory, growth opportunities will encourage companies to conduct cash holding because it provides benefits, namely reducing the possibility of companies releasing investment opportunities and also preventing expensive external financing (Sethi & Swain, 2019). Based on the pecking order theory, companies tend to use internal sources of funds compared to external sources of funds because they are cheaper and faster to access and do not incur transaction costs such as the cost of issuing securities in the capital market (Ali et al., 2021). Pecking order theory also predicts that companies with growth opportunities will have high cash holdings to have sufficient internal funding sources to finance investment opportunities and to avoid financial distress (Ashhari & Faizal, 2018). The results of research conducted by Uyar & Kuzey (2014), Wasiuzzaman (2014), Guizani (2017), Maheshwari & Rao (2017), Ashhari & Faizal (2018), Sethi & Swain (2019), Putri et al. (2020), Ali et al. (2021), and Hoque et al. (2022), say that growth opportunities have a positive influence on cash holding.
H1: Growth opportunity has a positive effect on cash holding.

According to the trade-off theory, companies hold cash because of its benefits related to transaction cost avoidance and precautionary motives. Companies that have high capital expenditure will hold cash to prevent transaction costs associated with external capital and opportunity costs for inadequate resources (Tran, 2020). This is in line with research conducted by Santioso & Daryatno (2023), where companies with high capital expenditure tend to keep cash as protection against transaction costs associated with external funding and also to avoid lost opportunities due to a lack of resources.

Based on Halim & Novianty (2023), capital expenditure can result in a decrease in cash holdings in the short term, but capital expenditure can also improve operational efficiency and increase profitability. When the capital expenditure owned by the company is large enough, the company also has more assets, which in turn can increase the level of cash holdings owned by the company (Radiman et al., 2021).

The results of research by Trinh & Mai (2016), Aftab et al. (2018), Hadiwijaya & Trisnawati (2019), Singh & Misra (2019), Tran (2020), Chen et al. (2020), Radiman et al. (2021), and Santioso & Daryatno (2023) state that capital expenditure has a positive effect on cash holding.
H2: Capital expenditure has a positive effect on cash holding

Following trade-off theory, companies with growth potential require sufficient cash reserves to avoid loss of investment opportunities. High cash holding also helps companies fund growth and investment opportunities with internal funds, namely company cash, so that companies can avoid the high costs that can arise in external financing, such as issuing new shares or going into debt (Sethi & Swain, 2019). Then, based on the pecking order theory, companies tend to use internal sources of funds, so that this theory also predicts that companies with growth opportunities will have high cash holdings to have sufficient internal funding sources to finance investment opportunities and to avoid financial distress (Ashhari & Faizal, 2018).

The positive effect of growth opportunity on cash holding can be strengthened by the cash conversion cycle as a moderating variable. Based on trade-off theory, the precautionary motive is one of the benefits of companies keeping cash. The longer the cash conversion cycle period, the longer the process of getting cash will be, so the company will prepare a large amount of cash holding according to the precautionary motive to meet its operational needs (Suci & Ruhiyat, 2021). Conversely, a good cash conversion cycle can minimize the need for large cash reserves and external loans (Das, 2015). Based on the pecking order theory, companies prefer to use internal sources of funds so that the longer the cash cycle occurs, the greater the need for internal corporate funding that is cheap and not risky to pay for the company's needs so that the company will have more cash holding (Humendru & Pangaribuan, 2018).

Based on the trade-off theory and pecking order theory that have been described, a longer cash conversion cycle will strengthen the positive relationship between growth opportunity and cash holding because companies need more cash to fund their operational needs and growth opportunities. This is in line with research by Ashhari & Faizal (2018), Sethi & Swain (2019), Magerakis et al. (2020), Ali et al. (2021), and Hoque et al. (2022) which found that growth opportunity has a positive effect on cash holding and research by Bigelli & Vidal (2012), Anjum & Malik (2013), William & Fauzi (2013), Das (2015) and Humendru & Pangaribuan (2018) which found that cash conversion cycle has a positive effect on cash holding.

H3: Cash conversion cycle strengthens the positive effect of growth opportunity on cash holding.

Based on the trade-off theory, capital expenditure has a positive effect on cash holding, which is based on the benefits of cash holding related to transaction cost avoidance and precautionary motives (Tran, 2020). Companies with high capital expenditure tend to hold cash as a protection against transaction costs associated with external funding and to avoid losing opportunities due to a lack of resources (Santioso & Daryatno, 2023).

The positive effect of capital expenditure on cash holding can be strengthened by the cash conversion cycle as a moderating variable. According to Suci & Ruhiyat (2021), the longer the cash conversion cycle period, the longer the process of obtaining cash will be, so that the company will prepare a large amount of cash holding to meet its operational needs according to the precautionary motive of the trade-off theory. Based on the pecking order theory, companies prefer to use internal funding sources, so that the longer the cash conversion cycle, the greater the need for internal funding, such as cash, which is cheaper and less risky according to Humendru & Pangaribuan (2018).

Based on the trade-off theory and pecking order theory that have been explained, a long cash conversion cycle of a company means that the company has a slow cash turnover, so this condition will strengthen the positive influence of capital expenditure on cash holding, which causes the company to hold more cash. This is in line with research by Singh & Misra (2019), Tran (2020), Chen et al. (2020), Radiman et al. (2021), and Santioso & Daryatno (2023) which found a positive influence of capital expenditure on cash holding and research by Bigelli & Vidal (2012), Anjum & Malik (2013), William & Fauzi (2013), Das (2015) and Humendru & Pangaribuan (2018) which found a positive influence of cash conversion cycle on cash holding.

H4: Cash conversion cycle strengthens the positive influence of capital expenditure on cash holding.

Methods

The population used in this study is the health sector companies on the Indonesia Stock Exchange (IDX). The sample is part of the number and characteristics of the population (Sugiyono, 2020). The samples taken are companies in the population that meet the sampling criteria. The sample of this study amounted to 20 companies with a total of 80 observations. The sampling method used is the purposive sampling method. The purposive sampling method is a sampling method that is determined using certain criteria. The sample selection criteria used in this study are as follows.

1) Companies listed consecutively on the IDX during the period 2020-2023.
2) Companies publish financial reports during the period 2020-2023.

The data analysis technique used in this study is Moderated Regression Analysis and data processing in this study uses the Statistical Package for Social Science (SPSS) application.

Result and Discussion

Model Feasibility Test Results (F Test)

The model feasibility test (F test) is used to determine whether the moderated regression analysis (MRA) model in this study is feasible to use. If the F significance value is less than 0.05, then the analysis model is considered feasible and vice versa if the F significance value is greater than 0.05, then the analysis model is considered unfeasible. The results of the model feasibility test (F test) in this study can be seen in Table 1.

Table 1
Model Feasibility Test Results

Model		F	Sig.
1	Regression	7,212	0,000

Secondary Data, 2024

Table 1 shows that the calculated F value is 7.212 with a significance p-value (Sig. F) of 0.000, which is also smaller than $\alpha = 0.05$. This means that the model used in this study is feasible. These results provide the meaning that MTBV, CAPEX, MTBV*CCC, and CAPEX*CCC can predict or explain the cash holding phenomenon in health sector companies listed on the IDX in 2020-2023.

Determination Coefficient Test (R^2)

The determination coefficient (R2) is used to determine and measure the model's ability to explain variations in independent variables. The results of the determination coefficient test of this study can be seen in Table 2.

Table 2
Determination Coefficient Test (R^2)

Model	R	*R Square*	*Adjusted R Square*	*Std. Error of Estimate*
1	0,572	0,328	0,282	0,29408

Secondary Data, 2024

Based on Table 2, the adjusted R2 value is 0.282 or 28.2 percent. This shows that cash holding variations can be influenced by MTBV, CAPEX, MTBV*CCC, and CAPEX*CCC by 28.2 percent, while the remaining 71.8 percent is explained by other factors not explained in the research model.

Results of Moderated Regression Analysis (MRA)

Moderated Regression Analysis (MRA) is a data analysis technique used to determine the role of moderating variables on the influence of independent variables on dependent variables. The results of the Moderated Regression Analysis are presented in Table 3.

Table 3
Moderated Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	*Std. Error*	Beta	t	Sig.
1	*Constant*	-0,956	0,096		-9,974	0,000
	MTBV	0,080	0,021	0,415	3,800	0,000
	CAPEX	-0,114	0,262	-0,046	-0,435	0,665
	CCC	-0.000084	0,000	0,019	0,185	0,853
	MTBV*CCC	0,173	0,046	0,400	3,729	0,000
	CAPEX*CCC	0,129	0,047	0,290	2,734	0,008

Secondary Data, 2024

Growth Opportunity on Cash Holding

In Table 3, the significance value of the MTBV variable is 0.000, which is smaller than the significance level of α = 0.05, indicating that the independent variable influences the dependent variable. The MTBV coefficient value is positive, which is 0.080. This means that MTBV has a positive and significant effect on the CH of health sector companies listed on the IDX for the 2020-2023 period. The first hypothesis in this study is supported, namely that growth opportunity has a positive and significant effect on cash holding. The results of this study are in line with the studies of Uyar & Kuzey (2014), Wasiuzzaman (2014), Guizani (2017), Maheshwari & Rao (2017), Ashhari & Faizal (2018), Sethi & Swain (2019), Putri et al. (2020), Ali et al. (2021), and Hoque et al. (2022), which state that growth opportunity has a positive effect on cash holding. The results of this study also support the trade-off theory and the pecking order theory, which state that companies with high growth opportunities will also have high cash holdings. Based on the trade-off theory, cash holding is carried out by considering the trade-off between the advantages and disadvantages of storing the cash. According to Chireka & Fakoya (2017), the benefits of cash holding come from transaction cost motives and precautionary motives. Uyar & Kuzey (2014), stated that companies with greater growth opportunities hold cash to reduce the cost of financial distress, consistent with the trade-off theory. In line with this opinion, Wasiuzzaman (2014) also stated that companies with better growth opportunities will have higher cash levels to avoid financial distress according to the trade-off theory and are related to precautionary motives. According to Ashhari & Faizal (2018), the trade-off theory states that companies with better growth opportunities tend to maintain higher cash reserves to avoid cash shortages when needed, especially companies with limited access to external financing.

Capital Expenditure on Cash Holding

In Table 3, the significance value of the CAPEX variable is 0.665. This significance value is greater than the significance level of α = 0.05, which indicates that the independent variable has no effect on the dependent variable. The CAPEX coefficient value is negative, which is -0.114. This means that CAPEX has a negative but insignificant effect on the CH of health sector companies listed on the IDX for the 2020-2023 period. The second hypothesis in this study is not supported, namely that capital expenditure has a positive and significant effect on cash holding. The results of this study are in line with the research of Maarif et al. (2019), Hengsaputri & Bangun (2020), Gunawan et al. (2021), Kudu & Salim (2021), and Badri & Yohanson (2023), which found that capital expenditure has no significant effect on cash holding. Based on Gunawan et al. (2021), capital expenditure does not have a significant effect on cash holding because the assets owned by the company are financed with debt, so that the purchase or replacement of fixed assets does not have a significant effect on the cash owned by the company. Badri & Yohanson (2023), also stated that companies use debt financing to support asset investment so that the impact of acquisition or replacement of fixed assets on cash holding is not significant. Although the trade-off theory states that companies with high capital expenditure tend to keep cash reserves to anticipate external capital transaction costs and potential loss of opportunities due to limited resources, the need for cash holding will decrease if the company has cash equivalents such as loans.

Cash Conversion Cycle Moderates the Effect of Growth Opportunity on Cash Holding

Based on Table 3, the regression coefficient value of MTBV (β1) is positive at 0.080 with a significance value of 0.000 (significant). The regression coefficient value of MTBV * CCC (β4) is positive at 0.173 with a significance value of 0.000 (significant). This shows a unidirectional influence because both have positive coefficient values, so it can be concluded that the CCC variable is a moderating variable that strengthens the positive influence of MTBV on CH of health sector companies listed on the IDX for the 2020-2023 period. In Table 3, the CCC variable has a significance value (β3) of 0.853 (not significant), and MTBV*CCC has a significance value (β4) of 0.000 (significant). This indicates that the moderating variable falls into the pure moderator type, namely, the moderating variable only acts as a variable that strengthens the influence of the independent variable on the dependent. The third hypothesis in this study is supported, namely that the cash conversion cycle strengthens the positive influence of growth opportunity on cash holding. The results of this study are in line with the studies of Bigelli & Vidal (2012), Anjum & Malik (2013), William & Fauzi (2013), Das (2015), Humendru & Pangaribuan (2018), Suci & Ruhiyat (2021), and Yuliani et al. (2024), which states that the cash conversion cycle has a positive effect on cash holding. The results of this study also support the trade-off theory and the pecking order theory. Based on the pecking order theory, companies prioritize the use of internal funding sources so that the longer the cash cycle occurs, the greater the need for cheap and non-risky internal funding to pay for the company's needs, so that the company will have more cash holding (Humendru & Pangaribuan, 2018). Conversely, if a company has a shorter cash conversion cycle, the company will have a lower cash balance requirement for both public and private companies (Bigelli & Vidal, 2012). This is in line with Anjum & Malik (2013) and William & Fauzi (2013), who also found that companies with fast conversion cycles have relatively smaller cash balances.

Cash Conversion Cycle Moderates the Effect of Capital Expenditure on Cash Holding

Based on Table 3, the CAPEX regression coefficient value (β1) is negative at -0.114 with a significance value of 0.665 (not significant). The CAPEX*CCC regression coefficient value (β5) is positive at 0.129 with a significance value of 0.008 (significant). This shows that there is a non-unidirectional influence, so that it can be concluded that the CCC variable is a moderating variable that weakens the negative influence of CAPEX on CH of health sector companies listed on the IDX for the 2020-2023 period. In Table 3, the CCC variable has a significance value (β3) of 0.853 (not significant) and CAPEX*CCC significance (β5) of 0.008 (significant). This indicates that the moderating variable falls into the pure moderator type, namely, the moderating variable only acts as a variable that weakens the influence of the independent variable on the dependent variable. The fourth hypothesis in this study is not supported, namely that the cash conversion cycle strengthens the positive effect of capital expenditure on cash holding. The results of this study are in line with the studies of Bigelli & Vidal (2012), Anjum & Malik (2013), William & Fauzi (2013), Das (2015), Humendru & Pangaribuan (2018), Suci & Ruhiyat (2021), and Yuliani et al. (2024) which state that the cash conversion cycle has a positive effect on cash holding. The results of this study also support the trade-off theory and the pecking order theory. Companies, based on the trade-off theory, carry out cash holding by

considering the trade-off of the benefits and disadvantages of cash holding where one of the advantages of cash holding is related to the precautionary motive. According to Suci & Ruhiyat (2021), the longer the cash conversion cycle period, the longer the process of obtaining cash will be so that the company will prepare large amounts of cash holding according to the precautionary motive to meet its operational needs. Based on Das (2015), a good cash conversion cycle can minimize the need for external loans and excessive cash holding.

Conclusion

This study produces empirical evidence that confirms the trade-off theory and the pecking order theory. The first empirical evidence produced from this study is that growth opportunity has a positive effect on cash holding. Based on the trade-off theory, companies need to hold more cash to avoid financial constraints when there are good growth opportunities, according to the transaction motive, and to avoid financial difficulties, according to the precautionary motive. Based on the pecking order theory, companies with high growth opportunities have more cash because cash is the cheapest source of funding that allows companies to avoid investment delays and the cost of issuing securities in the market. The second empirical evidence obtained is that the cash conversion cycle can strengthen the positive effect of growth opportunity on cash holding and weaken the negative effect of capital expenditure on cash holding, thus confirming the trade-off and pecking order theories. The longer the cash conversion cycle period, the longer the process of obtaining cash, so companies prepare large amounts of cash holding according to the precautionary motive to meet operational needs and support growth opportunities, thus strengthening the positive effect of growth opportunity on cash holding. Then, even though the company uses cash holding for capital expenditure, the company still maintains enough cash holding as a reserve to meet operational and capital expenditure needs when the cash conversion cycle is long, thereby weakening the negative impact of capital expenditure on cash holding.

Managerial Implication

The results of this study can be used as a contribution for interested parties, especially related to the company's cash holding, where growth opportunity is found to have a positive effect on cash holding, and cash conversion cycle strengthens the positive effect but weakens the negative effect of capital expenditure on cash holding. The findings of this study can be used as additional considerations for investors when they want to invest their capital in a company and for company managers when they want to make decisions related to the company's cash holdings. Investors can pay attention to the information provided by the company in making decisions when investing, especially related to cash holding.

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