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The Influence of Net Working Capital, Growth Opportunity, Leverage, and Profitability on Cash Holding in Infrastructure Companies on The Indonesia Stock Exchange

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ABSTRACT

This study examines the influence of net working capital, growth opportunity, leverage, and profitability on cash holdings. The research data was taken from 22 infrastructure companies listed on the Indonesia Stock Exchange from 2019 to 2022. We used multiple linear regression with the SPSS 26 analysis tool as the statistical method to analyze the data. The results show that net working capital, leverage, and profitability have a significantly positive effect on cash holding, while growth opportunity was found to be insignificant to cash holding. Simultaneously, net working capital, growth opportunity, leverage, and profitability significantly affect cash holdings.

INTRODUCTION

Cash is a company's most liquid asset, used to carry out its operational activities. A large amount of cash makes the company considered more liquid, whereas a small amount of cash is considered illiquid. Since a company's performance is reflected in its liquidity level, it must maintain a sufficient amount of cash to gain the trust of stakeholders. Cash is usually used to buy shares, pay dividends to investors, conduct investment activities, and meet all company operational needs (Alicia et al., 2020). The company will realize that managing cash is an important activity when the company is faced with a situation where it is difficult to obtain funding from external parties while the company is on the brink of bankruptcy (Saputri & Kuswardono, 2019). The company must have a strategy for determining the appropriate amount of cash. Holding too much cash is not always good either, as it could mean that the company is not maximizing the use of its assets to achieve optimal profits. A cash balance that is too small is also risky for the company when it has large due obligations. Companies that are deemed unable to meet their obligations will be viewed unfavorably by potential investors. The theories presented regarding the relationship between net working capital, growth opportunity, leverage, and profitability toward cash holding do not always align with the facts on the ground. This is marked by a gap between theory and the existing data or facts.

Table 1
Phenomenon gap

No	Code	Year	NWC	GO	Leverage	Profitability	CH
1.	BUKK	2019	0.08	0.07	0.48	0.10	0.08
		2020	0.07	0.05	0.42	0.08	0.14
		2021	0.06	0.05	0.36	0.09	0.11

No	Code	Year	NWC	GO	Leverage	Profitability	CH
		2022	0.07	0.19	0.38	0.07	0.08
2.	LCKM	2019	0.78	0.00	0.09	0.01	0.06
		2020	0.80	0.01	0.08	0.03	0.09
		2021	0.84	0.00	0.08	0.01	0.07
		2022	0.87	-0.01	0.06	0.00	0.06
3.	META	2019	0.06	0.17	0.37	0.04	0.11
		2020	0.02	0.15	0.42	0.01	0.06
		2021	0.10	0.12	0.48	0.00	0.14
		2022	-0.08	0.69	0.68	0.01	0.04
4.	PBSA	2019	0.47	0.08	0.25	0.01	0.06
		2020	0.47	-0.02	0.23	0.06	0.08
		2021	0.55	0.10	0.25	0.10	0.20
		2022	0.52	0.10	0.24	0.15	0.20
5.	PTPP	2019	0.16	0.12	0.73	0.01	0.16
		2020	0.11	-0.04	0.73	0.00	0.14
		2021	0.06	0.03	0.74	0.00	0.11
		2022	0.09	0.03	0.74	0.00	0.09

Source: Data Processed (2024)

The increase in net working capital value is usually followed by an increase in cash holding value. However, the cash holding value above does not always show a proportional change to the change in net working capital. This is evidenced by the company with the stock code LCKM, where in 2021 and 2022, the net working capital increased by 5% and 3.5% but did not drive an increase in cash holding. The increase in net working capital of PTPP in 2022 was followed by a decrease in cash holdings. In 2022, BUKK's growth opportunity increased significantly to 0.19, while the company's cash holding decreased by 0.03. This contradicts the idea that companies with greater growth opportunities will prepare a larger cash balance to invest when there is an opportunity. Expenditures for future investments are what lead companies to hold onto their cash to use it appropriately. META in 2022 and PTPP in 2021 had the largest increase in growth opportunity but failed to increase their cash holding value. The drastic decline in PBSA's growth opportunity in 2020 by 0.1 did not cause cash holding to decrease further. High leverage makes cash play a significant role in preventing financial distress. The cash balance is decreasing because the company relies too much on debt rather than its assets, causing the company to continuously pay off its debts and interest according to the due dates. A different situation was experienced by BUKK in 2021 and LCKM in 2022, where the decrease in leverage did not lead to an increase in cash holding. BUKK's leverage in 2021 decreased by 14.2%, but cash holding also decreased by 21.4%. LCKM's cash holding in 2022 did not increase when leverage decreased by 25%. A significant increase in debt was experienced by PT. PP (Persero) Tbk in 2022. A significant increase in debt can pose a risk if the company does not have sufficient liquid assets. A large increase in debt was experienced by PT. PP (Persero) Tbk in 2022. A slight increase in profit of around 1.3% from 2021, from Rp361 billion to Rp366 billion in 2022. The increase in profit was accompanied by an increase in debt in 2022, with PT. PP (Persero) Tbk has a debt of Rp42.7 trillion compared to Rp41.2 trillion in 2021. ROA is at 0.47%, which is relatively small. PTPP's management of its assets relative to its net profit is not yet efficient enough. DAR is at an unhealthy level of 74.27%, making PTPP's ability to pay its obligations considered inadequate. (Setiawati, 2023). This cash holding becomes one of the solutions because it provides the advantage of minimizing the risk of financial difficulties and preventing asset liquidation when the company struggles to pay its due debts. However, holding cash must also be considered in terms of its amount. The company must manage cash optimally to avoid being in a position of excess or shortage. The company risks repaying debts that are due and other obligations if it does not have sufficient cash reserves, which can lead to a negative perception by external parties. Holding a large amount of cash is not always good; it can prevent the company from maximizing the profits it should earn from the proper use of cash (Alicia et al., 2020). The possibility of conflict between managers and shareholders is another issue that can arise if too much cash is retained.

Shareholders want dividends to be distributed immediately, but company management believes that cash should be used according to actual needs to prevent undesirable situations. The high profitability of the company will increase the amount of cash because the company's ability to utilize its assets to generate profit is very high. The discrepancy between theory and the facts observed in META in 2022 and PTPP in 2021, where significantly increased profitability resulted in a decrease in cash holding levels.

LITERATURE REVIEW

Trade-off Theory

This theory can be understood as a situation of making decisions where one thing must be sacrificed for certain reasons to obtain another more beneficial thing. The trade-off theory as stated by Mugumisi & Mawanza (2014) suggests that companies must consider the optimal level between costs and benefits when holding cash. The trade-off theory also states that when a company decides on the amount of cash balance to hold, the company must compare the benefits of holding cash with the risks of holding the cash balance. In terms of transactional motives and precautionary motives, companies benefit from holding cash. With the transaction motive, the company does not need to liquidate assets because there is enough cash for direct payments, which reduces transaction costs. The advantage of the precautionary motive allows the company to avoid future risks if it requires more cash reserves. Managers must determine the minimum value of holding cash by measuring the marginal benefits and costs of holding cash. The goal is to reduce financial problems and find the right investment policy even when the company is facing financial difficulties (Wijaya & Bangun, 2019)

Pecking Order Theory

This theory explains the order in which a company uses its capital. According to this theory, companies prioritize internal funding or retained earnings over external funding. According to Gitman & Zutter (2015), the pecking order theory is a company policy that prioritizes safer methods when choosing which funding to pursue. If capital is insufficient, then other potentially riskier funding steps will be taken. When a company needs funds for investment, it will use financing that is considered easier, such as internal financing. However, when the investment funds are deemed insufficient, the company will choose to obtain other funds through external financing or debt.

Cash Holding

Cash holding is the cash that a company retains or keeps to anticipate unexpected future expenses, investment purposes, or distributing dividends to shareholders. The higher the company's cash balance, the less likely it is that the company will experience financial problems. However, according to Darmawan & Nugroho (2021), companies should not hold too much cash because it can affect the company's profitability. The company must manage cash holding optimally so that the benefits of holding cash are felt more than the costs incurred from holding cash. One potential loss from holding cash is the inability to take advantage of investment opportunities effectively.

Net Working Capital

Net working capital is the capital used by a company to run its operations. Simanjuntak & Wahyudi (2017) define net working capital as working capital that is positive when current assets are greater than current liabilities. The more net working capital a company has, the more assets are converted into cash. Net working capital functions as good working capital, so if the company needs funds to run its operations, net working capital can be quickly converted into cash. This is because net working capital is very liquid to be converted into cash if the company requires funds.

H1: Net working capital has a significantly positive effect on cash holding.

Growth Opportunity

According to Kasmir (2015), growth opportunity is an indicator of a company's ability to maintain its economic position in the business sector. A company growing rapidly will require more capital for expansion. Investors receive a good signal when a company's growth rate is high because it is considered that the company generates high profits. According to the pecking order theory, companies with high growth rates tend to be very eager to invest, which means they must have a lot of money to invest. Companies must take advantage of future investment opportunities by maximizing their assets as a form of commitment to ensure the company continues to grow. Company growth is also accompanied by a need for more financing. Liquid assets can help the company take bold investment steps when the risk of borrowing funds is higher. When the company sees high growth opportunities, it chooses to hold more cash for investment.
H2: Growth opportunity has a significant positive effect on cash holding.

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Leverage

Leverage is defined as a measure that indicates the extent to which a company's debt is used in asset management (Gitman & Zutter, 2015). In this study, leverage is defined as the extent of fund usage derived from debt. Of course, the interest that must be paid will become an additional cost. The company can be at risk if it always relies on debt as funding, especially when the company's finances are not good. The company's cash reserves will also decrease if the debt ratio is high because it has to pay off the debt along with the interest. The company believes that borrowing funds from external parties will generate income that exceeds the level of its debt. Increasing debt can reduce the amount of cash available for debt and interest payments.
H3: Leverage has a significant negative effect on cash holding.

Profitability

According to Gitman & Zutter (2015), profitability is the result obtained from the costs incurred by the use of the company's assets to support operational activities. High profitability indicates that the business is performing well. High profitability indicates effective use of assets, but a lack of cash reserves can pose risks during economic crises or unexpected challenges. The balance between efficient asset utilization and adequate cash availability is crucial for achieving sustainable financial performance. Based on the pecking order theory, financing decisions prioritize internal sources over external sources. A company must have a high level of profitability. The company's ability to generate profits and liquid assets increases along with its profit level. The source of financing from internal funds comes from a large cash balance.

H4: Profitability has a significant positive effect on cash holding.

RESEARCH METHOD

Population and Sample

Sugiyono (2018) states that the population is a generalization area, which is a subject or object with certain characteristics and qualities to be studied and then concluded. Infrastructure companies listed on the IDX from 2019 - 2022 are the research population. The sample is a part of the population as a representative that reflects the characteristics of that population. (Sugiyono, 2018). The sampling technique used is purposive sampling. Sekaran & Bougie (2016)

state that purposive sampling is a sampling method determined by the researcher. There are 22 companies included in the research sample.

Operational Variables
Dependent Variable

Cash holding is the cash retained or stored by the company to anticipate unexpected future expenditures, invest purposes, or distribute dividends to shareholders. The calculation of cash holding according to Elnathan & Susanto (2020) is measured as follows:

$$Cash\ Holding = \frac{cash\ and\ cash\ equivalents}{Total\ asset}$$

Independent Variable
Net Working Capital

This variable is a part of current assets that substitutes cash because it is used when cash reserves are insufficient. The measure determining the magnitude of net working capital follows Wulandari & Setiawan (2019):

$$NWC = \frac{current\ asset - current\ liabilities}{Total\ asset}$$

Growth Opportunity

Growth opportunity is also depicted by the increase in the company's assets each year. The potential for growth based on Zulhilmi's (2015) research is measured using the formula:

$$GO = \frac{total\ asset\ year\ i - total\ aset\ year\ (i-1)}{total\ aset\ year\ (i-1)}$$

Leverage

Leverage is a ratio that illustrates the extent to which borrowed funds are used on the company's assets to generate profits. Leverage in this study is measured by DAR and based on the research of Simanjuntak & Wahyudi (2017):

$$DAR = \frac{total\ debt}{total\ asset}$$

Profitability

Profitability will illustrate a company's ability to generate profit from all its assets. This research measures profitability using ROA.

$$ROA = \frac{net\ profit\ after\ tax}{total\ asset}$$

RESEARCH RESULTS AND DISCUSSION

Descriptive Statistical Analysis

In the study, 22 companies were selected as the research sample that met the criteria, resulting in a total data count (N) = 88 observations. However, it is necessary to exclude some samples (data outliers), because after the normality test, it was found that the data distribution is not normal. The extreme values produced for a single variable or combination are known as outliers. An outlier is a case or data point that has features that are very different from the others. (Ghozali, 2018). The number of samples identified as outliers is 8, so this data must be removed from the observation. The final number of data (N) processed with the regression model in this study includes 80 observation data.

Table 2
Descriptive Statistics

	N	Min	Max	Mean	Std. Deviation
NWC	80	-.32	.87	.0900	.23878
GO	80	-.17	.25	.0686	.09501
DAR	80	.07	.86	.5353	.18783
ROA	80	.00	.16	.0453	.03881
CH	80	.00	.36	.1069	.08462
Valid N (listwise)	80				

Source: Data Processed (2024)

Normality Test

Table 3
Normality Test

		Unstandardized Residual
N		80
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.06399391
Most Extreme Differences	Absolute	.067
	Positive	.067
	Negative	-.046
Test Statistic		.067
Asymp. Sig. (2-tailed		.200[c,d]

Source: Data Processed (2024)

The data table shows that the data is normally distributed because the Asympy. Sig. (2-tailed) value is 0.200, which is greater than the significance level of 0.05 or 5%.

Multicollinearity Test

Table 4
Multicollinearity Test

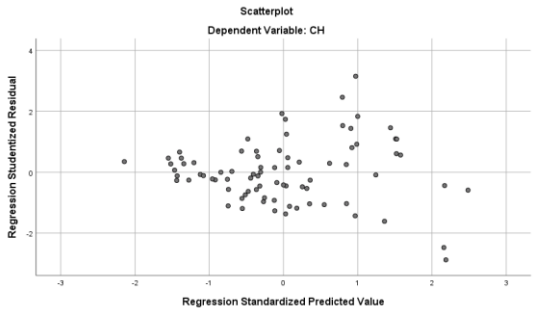
Model		Colinearity Statistic	
		Tolerance	VIF
1	(Constant)		
	NWC	.619	1.615
	GO	.839	1.191
	DAR	.537	1.862
	ROA	.653	1.531

Source: Data Processed (2024)

The table results show that each dependent variable does not have multicollinearity. This is evidenced by NWC having a VIF value of 1.615 < 10 and a tolerance value of 0.619 > 0.1. The GO variable has a VIF value of 1.191 < 10 with a tolerance of 0.839 > 0.1. The DAR variable has a VIF value of 1.862 < 10 and a tolerance value of 0.537 > 0.1. Likewise, ROA has a VIF value of 1.531 < 10 and a tolerance of 0.653 > 0.1.

Heteroscedasticity Test

Image 1
Heteroscedasticity Test



Source: Data Processed (2024)

The results of the graph indicate that the points do not form a specific pattern, being evenly distributed above and below the zero mark on the Y-axis. This means that this study does not have a heteroscedasticity problem.

Autocorrelation Test

Table 5
Autocorrelation Test

R	R square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.654[a]	.428	.398	.06568	1.094

Source: Data Processed (2024)

This test examines whether the linear regression model correlates with the residual errors of period t and the errors of period t-1. The Durbin-Watson method is used in this test. If the DW number is between -2 and +2, it means there is no autocorrelation. The table above shows a Durbin-Watson

value of 1.094, indicating that there is no autocorrelation.

Partial t-test

The t-test will show the effect of one variable X partially on variable Y. The basis for decision-making in the partial test is through the probability (significance) value, namely: If the sig. value > 0.05, then variable X does not have a significant effect on variable Y. If the sig. value < 0.05, then variable X has a significant effect on variable Y.

Table 6
t-test results (partial)

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	-.019	.040		-.477	.634
	NWC	.272	.039	.768	6.924	.000
	GO	.008	.085	.008	.089	.930
	DAR	.145	.054	.322	2.702	.009
	ROA	.513	.236	.236	2.179	.032

Source: Data Processed (2024)

From the table, the following conclusions can be drawn:

1. The net working capital variable has a sig. value of 0.00 < 0.05 and a β coefficient value of 0.272. This means that net working capital has a significant positive effect on cash holding. Therefore, the first hypothesis (H1) is accepted.
2. The growth opportunity variable has a sig. value of 0.930 > 0.05 and a β coefficient value of 0.008. This means that growth opportunity has a non-significant positive effect on cash holding. Therefore, the second hypothesis (H2) is rejected.
3. The leverage variable has a sig. value of 0.009 < 0.05 and a β coefficient value of 0.145. This means that leverage has a
significant positive effect on cash holding. Therefore, the third hypothesis (H3) is rejected.
4. The profitability variable has a sig. value of 0.032 < 0.05 and a β coefficient value of 0.513. This means that profitability has a significant positive effect on cash holding. Therefore, the fourth hypothesis (H4) is accepted.

F Test (Simultaneous)
Table 7
Simultaneous Test Results (F test)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.242	4	.061	14.037	.000[b]
Residual	.324	75	.004		
Total	.566	79			

Source: Data Processed (2024)

From the F test, the calculated F value is 14.037 with a significance level of 0.000 < 0.05, indicating that net working capital, growth opportunity, leverage, and profitability simultaneously have a significant effect on cash holding.

Coefficient of Determination Test (R^2)
Table 8
(R^2)

R	R square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.654[a]	.428	.398	.06568	1.094

Source: Data Processed (2024)

From the results of the table, the adjusted R Square value is 0.398 or 39.8%, which means the contribution of the net working capital, growth opportunity, leverage, and profitability variables affects the cash holding value by 39.8%, while the remaining 60.2% is contributed by other variables.

Table 9
Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.
		B	Std. Error			
1	(Constant)	-.019	.040		-.477	.634
	NWC	.272	.039	.768	6.924	.000
	GO	.008	.085	.008	.089	.930
	DAR	.145	.054	.322	2.702	.009
	ROA	.513	.236	.236	2.179	.032

Source: Data Processed (2024)

From the results above, the research regression equation can be formulated as follows:
CH = -0.019 + 0.272 NWC + 0.008 GO + 0.145 DAR + 0.513 ROA + e
The multiple linear regression equation is interpreted as follows:
1. The constant value of -0.019 means that if the variables net working capital, growth opportunity, leverage, and profitability are valued at 0, then cash holding will be valued at -0.019.
2. The net working capital coefficient value of 0.272 indicates that NWC has a positive relationship with cash holding, meaning that if NWC increases by 1 unit, it will raise the value of cash holding by 0.272, assuming other independent variables remain constant.

3. The coefficient value of growth opportunity of 0.008 indicates that GO has a positive relationship with cash holding, meaning that if GO increases by 1 unit, it will raise the value of cash holding by 0.008, assuming other independent variables are considered constant.
4. The coefficient value of leverage (DAR) of 0.145 states that leverage has a positive relationship with cash holding, meaning that if leverage increases by 1 unit, it will raise the value of cash holding by 0.145, assuming other independent variables are considered constant.
5. The coefficient value of profitability (ROA) of 0.513 indicates that profitability has a positive relationship with cash holding. This means that if profitability increases by 1 unit, it will raise the value of cash holding by 0.513, assuming other independent variables are considered constant.

DISCUSSION

The Influence of Net Working Capital on Cash Holding

The research results indicate that net working capital has a significantly positive effect on cash holding. The data processing results show a significantly positive value, meaning that the higher the net working capital, the more cash holding it possesses. This is due to the fact that net working capital serves as a good substitute for cash. Thus, net working capital can easily be converted into cash if the company needs money to run its operations. According to the findings of the study by Simanjuntak & Wahyudi (2017), net working capital can be easily converted into cash

when needed due to its ease of conversion. An increase in net working capital also raises the cash balance. Companies that are highly liquid have higher cash balances than companies that tend to be less liquid. This result is in line with Boriçi & Kruja (2016) that net working capital has a positive effect on cash holding.

The Influence of Growth Opportunity on Cash Holding

Companies with high growth opportunities will tend to hold or retain more cash, but the impact is not very significant. Companies with significant growth opportunities tend to hold more cash. When growth opportunities increase, companies will use cash for business activities and investments to generate substantial profits. Because growth opportunities are viewed positively, companies must prepare larger cash reserves to anticipate large expenditures. The research results indicate that growth opportunity has a positively insignificant effect. The insignificant effect can be interpreted as any change in growth opportunity, whether an increase or decrease, does not have a significant impact on cash holding. Companies with high growth opportunities can use external funding to meet their growth prospects rather than utilizing internal funds, which means the company's cash balance is not significantly affected. The research findings are in line with Damayanti & Syahwildan (2023). This research contradicts Sudarmi & Nur (2018), who concluded that growth opportunity has a significant negative impact on cash holding.

The Influence of Leverage on Cash Holding

The analysis results show that leverage has a significantly positive effect on cash holding. The higher the company's leverage, the more cash holding increases, which means that higher leverage makes the company more active in its operational activities to increase the company's cash that will be used to pay off the company's debts. The increasing operational needs will make the company more diligent in managing its cash to avoid financial problems and develop the company to meet its obligations on time. The research results are in line with Alicia et al. (2020), which state that leverage has a significantly positive effect on cash holding. This contrasts with the findings of Saputri & Kuswardono (2019), which indicate that leverage has a significantly negative effect on cash holding.

The Influence of Profitability on Cash Holding

Based on the regression test and t-test, the profitability coefficient value is 0.513 and the sig. value is 0.032, which means profitability has a significantly positive influence on cash holding. The higher the level of profitability of a company, the greater the company's ability to generate profits. An increase in the ROA value indicates an increase in productivity, thereby increasing the profits generated by the company. The larger the company's profits, the larger the amount of cash the company holds. The research findings are in line with Simanjuntak & Wahyudi (2017). However, these results contradict Sudarmi & Nur (2018), who found that profitability has a significant negative effect on cash holding.

CONCLUSION

From the analysis conducted, it can be concluded:

1. Net working capital has a significant positive effect on cash holding, the test obtained a sig. value of 0.00 < 0.05 and a coefficient value of β 0.272.
2. Growth opportunity has a not significant positive effect on cash holding, the test result obtained a sig. value of 0.930 > 0.05 and a coefficient value of β 0.008.
3. Leverage has a significant positive effect on cash holding, the test result obtained a sig. value of 0.009 < 0.05 and a coefficient value of β 0.145.

4. Profitability has a significant positive effect on cash holding, the test result obtained a sig. value of 0.032 < 0.05 and a coefficient value of β 0.513.
5. Simultaneously, the variables of net working capital, growth opportunity, leverage, and profitability have a significant effect on cash holding.

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