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FACTORS AFFECTING CASH HOLDING IN TECHNOLOGY COMPANIES

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ABSTRACT
The purpose of this study was to examine the effect of net working capital [NWC], capital expenditure [CAPEX], growth opportunities [GROWTH], and firm size [SIZE] on cash holding. The research method used is multiple linear regression analysis. The sampling technique used was purposive sampling which resulted in 10 technology companies listed on the IDX. The regression test results show that capital expenditure has a negative and significant effect on cash holding and firm size has a positive and significant effect on cash holding. Meanwhile, net working capital has a positive and insignificant effect on cash holding and growth opportunities have a negative and insignificant effect on cash holding.

Keywords*: cash holding, net working capital, capital expenditure, growth opportunities, firm size.*

1. INTRODUCTION

The year 2020 was a nightmare for many companies around the world, including in Indonesia, due to the COVID-19 pandemic that lasted for approximately two years. This made it difficult for businesses to grow or even sustain themselves. Not only companies suffered, investors were also affected. Only a few sectors, such as technology, benefited during this crisis. To combat the spread of the virus, the government imposed preventive measures, making people work and study from home. Activities that used to be done in person switched to online, benefiting tech companies. However, other sectors, such as transportation and logistics, did not experience the same.

Most sectors experienced a decline during the pandemic, affecting the country's economy and making investors wary. Many investors have temporarily stopped investing to minimize risk as the stock market is considered high-risk. Investing can bring both profits and losses, so it is crucial for investors to research companies, their financial health, and the timing of their investments to make informed decisions. To prevent unwise investments, the US Federal Reserve raised interest rates, which affected the global economy. This influenced investors to consider low-risk options such as the banking sector for more stable returns.

Rising interest rates have also impacted the technology sector, particularly companies known as "growth stocks" that rely on constant funding for rapid growth. One company in the tech sector is PT Envy Technologies Tbk, which is facing financial difficulties, leading to concerns that its shares will be delisted.

Companies usually rely on bank loans for funding, and higher interest rates make these loans more expensive, hindering expansion and causing financial stress.

A company's financial health can be determined through its financial statements, which provide a snapshot of its performance. These statements include information on cash and cash equivalents, a critical asset for day-to-day operations, expansion, and risk management.

To determine whether a company has good cash management, it can be seen from the company's cash availability. Cash is a highly liquid asset, which can be used by companies in fulfilling their operational activities and paying company obligations in various situations. Cash can also be used by companies in expanding, which is intended to expand the company's business while advancing and increasing company profits. As I have said before, technology companies are among the growth stocks that need funding or what is called the burn rate for expansion. In addition, cash also plays an important role in protecting the company from the risk of cash shortages. Therefore, to avoid the risk of a company's cash shortage, an effort that can be made is to impose a cash hold or what is called a cash holding.

According to Wulandari & Setiawan (2019 in Valent & Yanti, 2023) [21], Cash holding refers to the amount of cash and cash equivalents a company has, which can be easily converted into cash. To avoid having too much or too little cash, companies need to maintain an ideal level of cash holding. This means having the right amount of cash as determined by the company to support its operational activities. If cash availability is too low, it may impair the company's ability to meet its financial obligations. On the other hand, having too much cash on hand can lead to unexpected expenses and transactions. The size of a company's cash availability is a crucial factor, so it is important for companies to keep their cash levels at an ideal point to ensure smooth operations.

Many studies have been conducted to understand the factors that affect the level of cash holding of companies. The first factor that can affect cash holding is net working capital. According to research by Adiputra & Nataherwin (2022) [1], Fawazzin (2022) [10], and Valent & Yanti (2023) [21], it is explained that net working capital has a significant positive effect on cash holding. Net working capital refers to the amount of assets or money owned by a company that comes from the difference between the company's current assets and its current liabilities. These assets or funds are used for the company's daily operations. In addition, net working capital serves as an indicator of the company's financial health and its ability to meet its obligations. However, these findings contradict research conducted by Arfan et al. (2017) [6] and Bangun & Natsir (2022) [7], which state that net working capital has no significant or positive effect on cash holding.

The second factor that can affect cash holding is capital expenditure. According to research by Hadiwijaya & Trisnawati (2019) [12] and Radiman et al. (2022) [19], it is explained that capital expenditure has a significant positive effect on cash holding. Capital expenditure is the allocation of money planned in the budget to acquire fixed assets that have an economic life of more than one accounting period. With a long economic life, these assets can increase business production capacity and strengthen business operations. Examples of such fixed asset purchases include warehouses or land. In addition to adding to the company's assets, the allocation of these funds is also used for the maintenance of the company's assets. However, these findings contradict research conducted by Guizani (2017) [11] and Hengsaputri & Bangun (2020) [14], which state that capital expenditure has no significant or positive effect on cash holding.

The third factor that can affect cash holding is growth opportunities. According to research by Mesfin (2016) [18] and Arfan et.al. (2017) [6] explain that growth opportunities have a significant positive effect on cash holding. Growth opportunities refer to the opportunities that companies have to invest in profitable businesses. This opportunity includes various prospects that encourage

companies to allocate their resources and capital into businesses that have the potential for profit and expansion. These opportunities can take many forms, including new product lines, market diversification, and strategic partnerships, mergers and acquisitions. In other words, growth opportunities are the lifeblood of corporate progress, offering companies the chance to grow, innovate and establish a foothold in the global market. However, these findings contradict research conducted by Andreas & Tjakrawala (2023) [5] and Lim & Yanti (2023) [17], which state that growth opportunities do not have a significant or positive effect on cash holding.

The fourth factor that can affect cash holding is company size. According to research by Kariuki et.al. (2015) [15] and Afif & Prasetiono (2016) [2] explain that firm size has a significant positive effect on cash holding. Company size can be determined by looking at aspects such as total assets, total, and average company sales. When a company grows in these aspects, it generally indicates that the business has reached a level of success and can attract significant financial investment. In essence, larger companies are often perceived to be more financially stable and prosperous, making them more attractive to investors and lenders. However, these findings contradict research conducted by Wijaya & Bangun (2019) [23] and Davidson & Rasyid (2021) [9], which state that firm size has no significant or positive effect on cash holding.

This research is a replication of research conducted by Valent & Yanti (2023) [21]. The main differences between this study and the research of Valent & Yanti (2023) [21] are as follows: (1) The independent variables used in this study include net working capital, capital expenditure, growth opportunities, and firm size, while Valent & Yanti's (2023) [21] research uses institutional ownership, board size, growth opportunities, and net working capital as independent variables. (2) My research focuses on technology sector companies as samples, while Valent & Yanti's (2023) [21] research covers manufacturing sector companies as a whole. (3) The research period for this study is from 2020 to 2022, while Valent & Yanti's (2023) [21]
research covers 2016 to 2019.

The rest of the paper is organized as follows. Section 2 introduces the background used in this study, including the underlying theories used in this study. Section 3 presents the research model and hypotheses used in this study. Then, section 4 explains the population, sample size, sample criteria, and proxies. Section 5 shows the research findings. Finally, Section 6 concludes this paper and provides directions for future research.

Trade-off Theory

This research is based on the Trade-off Theory, introduced by Myers in 1977, which provides a strategic framework for firms to determine the ideal amount of cash reserves to maintain in their operations. The theory relies on a careful balancing act, where firms need to weigh the benefits and disadvantages of holding cash. On the one hand, there are marginal costs associated with holding cash. These costs mainly consist of opportunity costs arising from tying up capital in low-yielding assets, including missed short-term investment opportunities and the costs of executing transactions and precautionary measures. Lim and Yanti (2023) [17].

On the other hand, there are marginal benefits of cash holdings. These benefits include various advantages provided by cash reserves, such as protecting the firm from potential financial distress by ensuring liquidity during unexpectedly difficult times, thus avoiding the need to sell assets at unfavorable prices. Cash can also serve as a means to capture growth opportunities as it can be quickly utilized for strategic investments or acquisitions. In addition, having sufficient cash can

enable companies to implement policies that minimize external financing, thereby reducing the associated costs and risks.

However, it is important to emphasize that striking the right balance is crucial. If the company has too much cash, it risks missing out on valuable investment opportunities and will probably have excessive idle resources that could be used more productively. On the other hand, if the company has too little cash, it may find itself in a financially precarious position, with limited resources to deal with unexpected challenges or exploit growth prospects. In such cases, high funding costs and missed investment opportunities can erode a company's financial health and potential long-term success. Trade-off Theory therefore underscores the importance of careful cash management to ensure that optimal cash holdings are aligned with a firm's specific needs and objectives.

Pecking-order Theory

In addition to the Trade-off Theory, this study is also based on the Pecking-Order Theory introduced by Myers and Majluf in 1984, offering valuable insights into how firms make financial decisions, especially when it comes to funding their investments. According to this theory, firms follow a certain hierarchy of funding sources when they need capital for investment purposes. Their first and preferred choice is to use internal funds, mainly retained earnings. Internal funding is preferred because it is seen as a cost-effective and relatively low-risk option. Kudu & Salim (2021) [16]

However, if internal funds are insufficient for their investment needs, companies then turn to external sources as a second alternative, usually by issuing debt. This decision is taken with the realization that debt comes with its own risks and liabilities. If the amount of debt is deemed excessive and too risky, then the company uses the last alternative, which is issuing new equity, which means reducing its ownership in the company.

At its core, Pecking-Order Theory emphasizes that cash acts as a buffer between retained earnings and the funding needed for investment. As a result, this approach often leads companies not to set specific cash targets, so they hold excess cash generated from day-to-day operations. This cash hold serves as a safety net, ensuring that the company can efficiently meet its investment needs while minimizing financial risks.

Cash Holding

Cash holding refers to the amount of money a company keeps for various purposes and can be understood in two different ways. Suherman (2017 in Hanaputra & Nugroho 2021) [13] defines cash holding as cash available for distribution to investors and for investment in physical assets.

Net Working Capital

Net working capital, as explained by Kieso et al. (2019 in Aldri & Rasyid 2023) [3], is basically the difference between current assets and current liabilities of the company. This is an indicator of the company's ability to meet short-term debt using its liquid assets.

Capital Expenditure

According to Herry (2015 as cited in Hanaputra & Nugroho 2021) [13], capital expenditure refers to money spent by companies to obtain fixed assets, increase the production capacity and operational efficiency of existing fixed assets, and extend the useful life of these fixed assets. Investing through capital expenditures is very important for companies because it allows for

sustainable growth and increases the value of the company in the eyes of the public, as explained by Amalia (2018 as cited in Hengsaputri & Bangun 2020) [14].

Growth Opportunities

Growth opportunity, as described by Tantama & Yanti (2018 in Fawwazin 2022) [10], refers to a company's ability to maintain its economic existence amidst a constantly evolving business and economic landscape. The faster a company grows, the more financial resources it needs to support its expansion. In addition, according to Saputri & Kuswardono (2019 in Widjaja & Thio, 2023) [22], growth opportunities signify the level of growth that allows a company to achieve consistent income through profitable ventures.

Firm Size

Firm size refers to how big or small a company is in terms of assets, sales volume, and average sales per company. It is a measure of the scale of the company. Similarly, as noted by Christian & Fauziah (2017 in Davidson & Rasyid 2021) [9], firm size can also be described by the firm's total assets and sales metrics. Larger company size is generally associated with success and the ability to raise significant amounts of money. Basically, it is a way to understand how well the company is performing and its financial capacity.

According to the Trade-off Theory and Valent & Yanti (2023) [21], having a large amount of net working capital will be beneficial for the company because it can reduce the cost needed to obtain external funds. Net working capital refers to funds that are available in liquid form, which means that the company does not need to hold large amounts of cash to maintain its liquidity. This means the company does not need to rely heavily on the capital market when it needs additional funds, as the cost required to convert non-cash current assets into cash is lower. As a result, the company can reduce the amount of cash it holds. However, if net working capital is negative, which means current liabilities exceed current assets, the company may face liquidity difficulties and need to set aside some cash. To measure net working capital, simply subtract total current liabilities from current assets, then divide the result by total assets. Based on this framework, it can be formulated:
H1: Net working capital has a negative and significant influence on cash holding.

According to the Trade-off Theory and Hadiwijaya & Trisnawati (2019) [12], typically, firms that invest a lot of capital aim to avoid the additional costs associated with borrowing money or external funding. Therefore, these firms tend to hold more cash or easily liquidated assets. They prioritize liquidity and avoid additional capital costs that may arise from taking out loans or external financing. This can help companies maintain financial flexibility and reduce the risks associated with relying too heavily on external sources of funding. In this scenario, the company's strategy involves balancing between necessary capital expenditure and ensuring that the company has sufficient cash. Based on this framework, it can be formulated as follows:
H2: Capital expenditure has a positive and significant influence on cash holding.

According to Valent & Yanti (2023) [21], companies that have high growth potential and large debt face the risk that they tend to keep a lot of cash to fund projects that are expected to be profitable. In addition, they may also face high risks associated with bankruptcy, especially if their company value drops significantly during financial distress. Therefore, to avoid the high costs associated with bankruptcy and financial distress, companies usually prefer to hold significant cash reserves. The Pecking-Order theory also indicates that firms tend to prefer to fund their projects with internal funds rather than seeking costly external funding, such as high-interest loans or issuing securities that are prone to information asymmetry. Adverse selection costs make external funding sources

more expensive and difficult to obtain. Therefore, the greater a firm's growth opportunities, the more cash they have. This growth is often measured by the ratio of market value to book value, as it reflects market expectations of the firm's growth potential. In this framework, it can be concluded that firms tend to hold more cash when they have high growth opportunities to mitigate risks and avoid expensive external funding costs. Based on this framework, it can be formulated:
H3: Growth opportunities have a significant and positive influence on cash holding.

According to the Pecking-Order Theory and Wijaya & Bangun (2019) [23], large companies, due to their advantages, can easily enter the stock market and obtain additional funding from external sources. This is why many large companies reduce their cash reserves or even have no cash reserves at all. On the other hand, the bigger a company is, the greater its responsibility. However, this is not the case for small businesses, which often find it difficult to access the stock market. Therefore, small companies tend to keep more cash on hand to meet their operational needs. Based on this line of thought, it can be concluded that:
H4: Firm size has a negative and insignificant influence on cash holding.

In summary, the hypothesis are shown below:
*H*1: Net working capital has a negative and significant effect on cash holding.
*H*2: Capital expenditure has a positive and significant effect on cash holding.
H3: Growth opportunities have a positive and significant effect on cash holding.
H4: Firm size has a negative and insignificant effect on cash holding.

The research model of this study as presented in Figure 1 below:

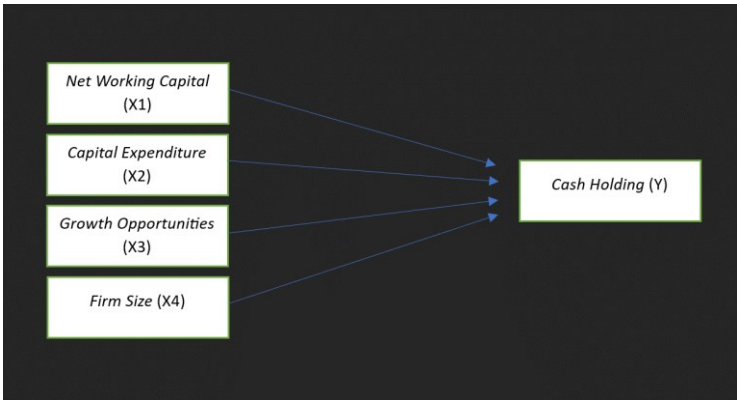

Figure 1. The Research Model

2. RESEARCH METHOD

This research focuses on all technology companies listed on the Indonesia Stock Exchange from 2020 to 2022, as many as 13 companies were selected as research samples. The selection process uses purposive sampling with certain criteria: (1) Technology companies that are consistently present on the IDX from 2020 to 2022; (2) Companies with consistent financial reports; (3) Companies that use the Rupiah currency. This study uses multiple regression analysis to test 10 sets of panel data (10 samples in 3 periods). However, after the outlier test, only 10 companies were used as samples for this study. Eviews 12 software, student edition, was used to process the data for this study. The operationalization of the research variables is outlined in Table 1.

Table 1. The Operationalization of Research Variables

Variable	Proxies and Formulas	Source
Cash Holding	$\frac{\text{Cash \& Cash Equivalent}}{\text{Total Assets – Cash \& Cash Equivalent}}$	Guizani, 2017
Net Working Capital	$\frac{\text{Net Current Assets – Cash \& Cash Equivalent}}{\text{Total Assets – Cash \& Cash Equivalent}}$	Ali et al., 2016
Capital Expenditure	$\frac{\text{Net Increase in PPE}}{\text{Total Assets}}$	Chireka & Fakoya, 2017
Growth Opportunities	$\frac{\text{Market Value of Equity}}{\text{Book Value of Equity}}$	Arfan et al., 2017
Firm Size	Logarithm of Total Assets	Ali et al., 2016

3. RESULTS AND DISCUSSIONS

The result of descriptive statistical test of 30 data of dependent and independent variable in technology company can be seen in the following table.

Table 2. Descriptive Statistics
Source: Data Processing using EViews 12

	Y	X1	X2	X3	X4
Mean	0.126333	0.607067	0.037667	6.364267	27.78743
Median	0.128500	0.645000	0.009000	2.150000	27.87405
Maximum	0.244000	0.938000	0.476000	43.31000	31.42581
Minimum	0.006000	0.097000	-0.067000	0.406000	25.09521
Std. Dev.	0.068139	0.262975	0.109501	11.83365	1.631064
Skewness	-0.220399	-0.507238	3.133887	2.601802	0.434899
Kurtosis	2.336697	2.067241	12.13578	8.073608	2.662458
Jarque-Bera	0.792841	2.374001	153.4343	66.02374	1.088104
Probability	0.672724	0.305135	0.000000	0.000000	0.580392
Sum	3.790000	18.21200	1.130000	190.9280	833.6229
Sum Sq. Dev.	0.134647	2.005518	0.347721	4061.025	77.15068
Observations	30	30	30	30	30

The chow test shows the cross-section chi-square probability value is 0.0000. It is smaller than the level 5% significance. It indicates Ha is accepted and the estimation model chosen from the Chow Test is Fixed Effect Model (FEM).

Table 3. Chow Test Result
Source: Data Processing using EViews 12

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	7.229320	(9,16)	0.0003
Cross-section Chi-square	48.679462	9	0.0000

After Chow Test, Hausman test is used to proven the model used in this research is Random Effect Model (REM). The Hausman test shows that the probability value of random cross-section is 0.9284, bigger than the level 5% significance. Therefore, Ha is accepted and the model used in this research is Random Effect Model (REM).

Table 4. Hausman Test Result
Source: Data Processing using EViews 12

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.873060	4	0.9284

After Hausman Test, Lagrange Multiplier test is used to proven the model used in this research is Common Effect Model (CEM). The Lagrange Multiplier test shows that the probability value of Breusch-Pagan cross-section is 0.002, smaller than the level 5% significance. Therefore, Ha is accepted and the model used in this research is Random Effect Model (REM).

Table 5. Lagrange Multiplier Test Result
Source: Data Processing using EViews 12

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one -sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	13.61842 (0.0002)	0.997239 (0.3180)	14.61566 (0.0001)

Here is a summary table of the classical assumption test results for the variables to be used:

Table 6. Classical Assumption Test
Source: Data Processing using EViews 12

Classic Assumption Test	Method	Criteria	Result	Conclusion
Normality Test	*Jarque-Bera*	*p – value > 0.05*	0.817111	Data is normally distributed
Autocorrelation Test	*Durbin-Watson*	-2 < DW > 2	1.170849	Free from autocolleration problem
Heteroscedasticity Test	*Breusch-Pagan Godfrey*	Prob. Chi-Square Obs*R Squared > 0.05	0.1721	Free from heteroscedasticity problem
Multicollinearity Test	*Variance Inflation Factor*	Centered VIF <10; Coefficient Variance < 0.80	Centered VIF NWC = 1.580174 CAPEX = 1.410471 GROWTH = 1.051232 SIZE = 1.144397 Coefficient Variance NWC = 0.002271 CAPEX = 0.011690 GROWTH = 0.000000746 SIZE = 0,0000427	Free from multicollinearity problem

From the results of multiple regression analysis (shown in Table 7), the adjusted R2 value of 0.149583 indicates that 14.95% of the dependent variable in this study, namely financial distress, can be explained by the independent variables in the form of net working capital, capital expenditure, growth opportunities, and firm size. While the remaining 85.05% is explained by other variables outside the variables in this study. The results of the simultaneous significance test (F-test) show that the independent variables in this study simultaneously affect the dependent variable, with a Prob (F-Statistic) value of 0.089488. The hypothesis test results are shown in Table 2, which shows the suitability of the regression model used.

Table 7. Multiple Regression Analysis Results
Source: Data Processing using EViews 12

Dependent Variable: Y
Method: Panel EGLS (Cross-section random effects)
Date: 10/20/23 Time: 23:50
Sample: 2020 2022
Periods included: 3
Cross-sections included: 10
Total panel (balanced) observations: 30
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	0.016660	0.059297	0.280963	0.7811
X2	-0.183587	0.081914	-2.241219	0.0341
X3	-7.94E-05	0.000676	-0.117549	0.9074
X4	0.020159	0.010949	1.841171	0.0775
C	-0.436520	0.315753	-1.382473	0.1791

Effects Specification	S.D.	Rho
Cross-section random	0.058373	0.7931
Idiosyncratic random	0.029812	0.2069

Weighted Statistics

R-squared	0.266882	Mean dependent var	0.035730
Adjusted R-squared	0.149583	S.D. dependent var	0.030238
S.E. of regression	0.027885	Sum squared resid	0.019440
F-statistic	2.275227	Durbin-Watson stat	1.865574
Prob(F-statistic)	0.089488		

Unweighted Statistics

R-squared	0.445961	Mean dependent var	0.126333
Sum squared resid	0.074600	Durbin-Watson stat	0.486143

The multiple linear regression is obtained as follows:

CASH HOLDING = 0.016660 NWC - 0.183587 CAPEX - 0,0000794 GROWTH + 0.020159 SIZE + e

According to the results of the partial significance test (T-test), independent variables that affect the dependent variable are net working capital, capital expenditure, growth opportunities, and firm size where the Prob value for each variable is below 0.1. The results are shown as follows:

Table 8. The Results of Hypotheses Testing

	Hypothesis	Coefficient	Significance	Conclusion Ha
H1	Net Working Capital has a insignificant positive influence on Cash Holding.	0.016660	0.7811	H1 Rejected
H2	Capital Expenditure has a significant negative influence on Cash Holding.	-0.183587	0.0341	H2 Rejected
H3	Growth Opportunity has a insignificant negative influence on Cash Holding.	-0.0000794	0.9074	H3 Rejected
H4	Firm Size has a positive significant influence on Cash Holding.	0.020159	0.0775	H4 Rejected

4. CONCLUSIONS AND SUGGESTIONS

The first hypothesis, which states that net working capital has a negative and significant effect on cash holding, is rejected. This is because technology companies need large funds. These funds can be referred to as the burn rate which will be used to expand. Therefore, the net working capital ratio of technology companies cannot determine the optimal or ideal amount of cash holding. In addition, the technology sector studied in the study only amounted to 10 companies and was still in the pandemic period so that the research results obtained were not significant. The results of this study are in line with Arfan et al. (2017) [6], Hanaputra & Nugroho (2021) [13], Afif & Prasetiono (2016) [2], and Silvy & Rasyid (2021) [20].

The second hypothesis, which states that capital expenditure has a positive and significant effect on cash holding, is rejected. This can be caused because technology companies tend to make capital expenditures for intangible assets higher than PPE. In 2021, PT Kioson Komersial Indonesia Tbk has an amount of intangible assets of IDR 6,966,510,070, while the amount of PPE is IDR 1,166,669,105. This proves that capital expenditures made are more concentrated on intangible assets. The results of this study are in line with research conducted by Hengsaputri & Bangun (2020) [14] and Kudu & Salim (2021) [16].

The third hypothesis, which states that growth opportunities have a positive and significant effect on cash holding, is rejected. This is because the optimal level of cash holding is not influenced by growth opportunities. Companies with limited growth opportunities will have less cash. Limited growth opportunities indicate uncertainty in future investment. That is what makes companies use cash for short-term investments that are more profitable than long-term investments or even leave money idle. That way, the company will avoid financial problems and minimize unwanted risks. Conversely, if the company sees prospects in the future, of course, the company will tend to have a lot of cash to invest. The money is obtained from external funding, the goal is to be able to easily access the capital market. By entering the capital market, the company will get funds from investors, which can then be used for business expansion. The results of this study are in line with research conducted by Valent & Yanti (2023) [21], Hengsaputri & Bangun (2020) [14], Lim &

Yanti (2023) [17], Andreas & Tjakrawala (2023) [5], Aldri & Rasyid (2023) [3], Widjaja & Thio (2023) [22], and Chireka & Fakoya (2017) [8].

The fourth hypothesis, which states that firm size has a negative and insignificant effect on cash holding, is rejected. Optimal cash is not influenced by the size of the company. Large companies may have small cash standards, but can utilize them optimally. Vice versa, small companies if they cannot utilize cash optimally, then they will need large cash to develop their business. In essence, using sufficient cash is an effective and efficient step for the welfare of the company. Another view states that, the larger the company, the more stable cash balances they will generate, have resources for their investments, and have minimal risk of financial difficulties. Meanwhile, small companies are generally more vulnerable to financial difficulties due to unstable cash. The results of this study are in line with research conducted by Kariuki et al. (2015) [15], Afif & Prasetiono (2016) [2], Wijaya & Bangun (2019) [23], Davidson & Rasyid (2021) [9], Aldri & Rasyid (2023) [3], Silvy & Rasyid (2021) [20], and Chireka & Fakoya (2017) [8].

This research only used 4 independent variables, namely net working capital, capital expenditure, growth opportunities, and firm size. Second, the samples used in the study were limited to 30 technology enterprises. Third, the period in this study was only three years, namely from 2020-2022.

Some suggestions for further researchers are:
For future research: (a) include other independent variables like leverage, cash flow, profitability, or liquidity; (b) use moderating variables; (c) extend the observation period to demonstrate the long-term impact of the independent variables; (d) involve companies outside the technology sector, such as consumer goods companies, to yield diverse results.

For investors: based on this study, it's advisable for investors to identify more profitable investment opportunities and reduce associated risks within this sector.

For the researched technology companies, based on the findings on factors affecting cash holding, it is hoped that appropriate decisions will be made in managing their cash effectively. Additionally, this research's contribution is expected to aid in the sustainable development of the technology sector industry.

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