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Factors Affecting Cash Holding in Pharmaceutical Sub-Sector Manufacturing Companies

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Abstract

This study aimed to determine the effect of profitability, leverage, and firm size on cash holding in Pharmaceutical Sub-Sector Manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the period 2017-2022. The sampling technique used in this study was purposive sampling, and seven company samples were obtained from 11 pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange (IDX) for the period 2017-2022. The analysis technique consists of descriptive statistical analysis and multiple linear regression analysis. The results showed that partial profitability positively affects cash holding, leverage hurts cash holding, and firm size has a positive effect on cash holding. Simultaneously, profitability, leverage, and firm size affect cash holding. The coefficient of determination is 0.537 or 53.7%, indicating that profitability, leverage, and firm size can explain cash holding by 53.7%. Other variables outside the research variables influence the remaining 46.3%.

Keywords: Cash Holding, Profitability, Leverage, Firm Size.

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Introduction

In a company, cash has a vital role because it can affect the company's liquidity level and reflect its ability to meet all its short-term obligations (Siregar et al., 2022). The company's cash policy is a step to protect the company from cash shortages. One of the tasks of company managers is to maintain cash (cash holding) in a sufficient position to reinvest in company assets, distribute it to investors, and keep it in the company. Effective and efficient cash management is reflected in the company's ability to ensure the availability of sufficient cash to meet its needs. One form of corporate cash management is to hold cash at an optimal point. Holding large amounts of cash will provide benefits, one of which is saving the cost of converting into cash so that the company can immediately handle a sudden need for cash. However, holding large amounts of cash also has disadvantages, such as the company losing the opportunity to earn

additional profits due to idle cash.

Cash holding is the amount of money owned by the company. Some of the company's money is used for operations, such as raw materials and purchasing finished goods. So, some of the remaining money is used for investment and dividend distribution to investors. Cash holding plays a vital role for the company. Holding large amounts of cash provides benefits, including savings in conversion costs (Puspa Putri & Siswanti, 2022). According to Keynes (1937) in Veda Chandra & Prima Dewi (2021), there are three motives or reasons for companies to carry out cash holding: transaction, precaution, and speculation. The purpose of the transaction is to meet the company's daily needs, such as making payments, transactions, and other operational activities. The purpose of the precaution motive is to anticipate circumstances that cannot be predicted, and the company must make unexpected expenses. The purpose of speculation motive is to buy investment products such as securities or bonds.

According to research (Suherman, 2017), many factors affect cash holding in companies, including cash flow, cash flow variability, cash conversion cycle, liquidity, leverage, net working capital, sales growth, and firm size. The first factor that affects cash holding is profitability. Profitability is a ratio that assesses a company's ability to earn profits. This ratio measures the level of management effectiveness in a company. This is indicated by the profit generated from sales and investment income (Kasmir, 2016). Companies with high profitability allow the level of cash received by the company to be higher than companies with low profitability. The second factor that affects cash holding is leverage. Leverage is a ratio that measures how much the company depends on creditors to finance the company's assets (Darmadji, 2012). High leverage indicates that the company maintains little cash and can quickly obtain funds from external companies. This is because the company uses cash to pay obligations and interest that will mature, which affects its cash holding (Nur Oktafiana & Hidayat, 2022). The third factor that affects cash holding is firm size. Firm size is a scale calculated by the total assets and sales level, which can describe the company's size. The larger the company's size, the easier it is to obtain its funding sources (Rahman, 2021). Firm size can also reflect the company's finances; the larger the size, the stronger the finances are. Large companies are believed to have stable business activities and are careful enough to see situations and opportunities to invest their cash without worrying about experiencing cash shortages.

Poor cash holding management is one of the reasons why it is difficult for companies to develop and anticipate unexpected expenses. When the company has difficulty obtaining external financing, the importance of the cash element will be felt; this makes the company experience financial distress, which leads to bankruptcy (Susanto & Tirta, 2021). Companies that have cash holdings can have the risk of financial distress due to uncertain economic conditions. In this study, the companies used are pharmaceutical sub-sector manufacturing companies. Pharmaceutical companies are included in the goods and consumption sector; the community or country needs their products. In addition, this company, especially in 2020 or since the Covid-19 pandemic, has increased its profits. Amid the severe impact of the pandemic, the health sector is a significant concern. This is because the health sector is one of the sectors that is not negatively affected by the Covid-19 virus but is experiencing a positive impact.

Literature Review

Trade off Theory

Trade-off theory was first introduced in 1963 by Modigliani and Miller in an American Economic Review article entitled "Corporate Income Taxes on the Cost of Capital: A Correction". This theory explains the company's capital structure decision, where the company will balance the use of debt and equity. Modigliani and Miller argued that companies can increase the company's value by using debt up to the point where the tax benefits of debt begin to balance the costs of bankruptcy and other financial costs. Trade-off theory explains that there is a balance between costs and benefits in the use of debt. The main benefit of using debt is tax deductibility, as debt interest is tax deductible, thus reducing the firm's cost of capital. However, using debt also brings costs, such as bankruptcy costs, that increase along with the company's financial risk. Therefore, companies need to determine the optimal level of debt by considering the balance between tax benefits and bankruptcy costs Modigliani & Miller (1963). Nurul Husna and Haryanto (2019) explain that trade-off theory is also applied in corporate cash management. This theory states that companies determine the optimal level of cash holdings by considering the costs and benefits of holding cash. The benefits of holding cash include increasing company liquidity, reducing the risk of bankruptcy, and providing flexibility in making investment decisions. On the other hand, the costs of holding cash include opportunity costs, where the company loses potential profits that could be obtained if the cash is invested.

In practice, firms must make complex capital structure and cash management decisions. These decisions involve the analysis of benefits and costs and consider various external and internal factors, such as market conditions, government policies, and the company's business strategy. Therefore, applying trade-off theory in financial decision-making requires a comprehensive and flexible approach. Several recent studies have tested the validity of trade-off theory in different contexts. For example, Agyei et al. (2020) research shows that large companies are more likely to follow the trade-off theory when determining their capital structure. This study found that firms with high profitability and easy access to capital markets are likelier to use large amounts of debt, as they can utilize the tax benefits of debt without facing significant bankruptcy costs. On the other hand, research by Korteweg and Westerfield (2022) found that many small and medium-sized firms are more likely to avoid debt and rely more on internal equity to finance their investments. This is due to these firms' high bankruptcy costs and financial risks. The results of this study indicate that the a pplication of trade-off theory may vary depending on the characteristics and conditions of the company. In the context of cash management, research by Kahle and Stulz (2021) found that companies with a high level of uncertainty are more likely to hold large amounts of cash as a buffer against financial risk. This study also shows that firms with limited access to capital markets and high investment opportunities are more likely to hold large amounts of cash. These findings support the argument that firms must weigh the costs and benefits of holding cash according to their business conditions and strategies.

Pecking Order Theory

The Pecking Order Theory was first introduced by Donaldson in 1961, but this theory was named by (Myers and Majluf, 1984). This theory explains the preference order in funding sources companies use to meet their financing needs. When companies need funds for

investment, they choose the cheapest and most accessible funding source first. In this order, internal funding (retained earnings) is the first choice, followed by external funding through debt and, finally, through equity issuance (Trihantoro, 2021). According to Myers and Majluf (1984), companies prefer internal funding due to information asymmetry between management and external investors. Management that knows more about the company's internal conditions will utilize internal sources of funds first to avoid additional costs and close supervision from outside. The use of debt is only considered if internal funding is insufficient, and equity issuance is the last choice because it is considered the most expensive and can cause dilution of ownership. More recent research has examined the validity of Pecking Order Theory in various contexts. For example, research by Seifert and Gonenc (2018) shows that firms' funding patterns often follow the order proposed by this theory. Firms often use retained earnings to fund their investments and turn to debt when retained earnings are insufficient. Only under certain conditions where all internal sources of funds and debt are insufficient do firms consider equity issuance. However, Pecking Order Theory does not always apply universally to all companies. Research by Didier et al. (2021) found that while some large companies tend to follow this funding order, many small and medium-sized companies are more flexible in their approach to funding. They may use debt or equity more often based on market conditions and available investment opportunities, suggesting that firm size and access to capital markets influence funding decisions.

In the context of cash management, this theory also provides an essential insight into how firms manage their liquidity. Larger and more stable firms tend to have more cash reserves and use internal funding to avoid the risks associated with external financing. In contrast, smaller and more uncertain firms may use debt or equity more often to ensure continuity of operations and growth. Several other studies also support this argument. For example, a study by Bongini et al. (2021) shows that firms with strong capital structures and easy access to capital markets are more likely to follow the funding sequence proposed by Pecking Order Theory. This study found that companies with high profitability and good financial stability use internal funding and debt before considering equity issuance. Research by Nastiti et al. (2020) also found that companies in countries with more developed financial systems and better information transparency are more likely to follow this funding order. This suggests that the financial and regulatory environment also plays a vital role in corporate funding decisions. Firms often use retained earnings to fund their investments and turn to debt when retained earnings are insufficient. Only under certain conditions, where all internal sources of funds and debt are insufficient, do companies consider issuing equity. Research conducted by (Demmou et al., 2021) found that smaller companies with higher uncertainty may use debt or equity more often to ensure continuity of operations and growth. The results of this study indicate that the application of trade-off theory may vary depending on the characteristics and conditions of the company.

Cash Holding

Cash holding is cash which is included in the current assets category. Cash holding is an amount of cash and cash equivalents owned by a company that can be easily converted into cash. If the company is unstable, it has cash holding to pay debts, finance investment opportunities, and asset reserves (Meilyani et al., 2019). However, excessive cash management

can have a negative impact on the company because the company loses the opportunity to make a profit. After all, unused cash does not generate income. The problem often faced by financial managers is how to carry out the company's operational activities while maintaining the company's cash balance. Optimally available cash in the company will affect the company's profits. The company's optimal and safe amount of cash ranges from 5% to 10% of current assets. Cash that is less than 5% will complicate the company's operational activities (Pandiangan, 2022). With the availability of sufficient cash, the company will be able to carry out its operational activities and take advantage of its investment opportunities (Sari & Ardian, 2019). Trade-off theory in cash management states that companies must balance the benefits and costs of holding cash. The benefits of holding cash include improving liquidity, reducing the risk of bankruptcy, and providing flexibility in making investment decisions. On the other hand, the costs of holding cash include opportunity costs, where the firm loses potential profits that could have been earned if the cash was invested. Therefore, companies need to determine the optimal level of cash holdings by considering the balance between these benefits and costs. Recent research by Nguyen and Nguyen (2022) shows that firms with high levels of uncertainty are more likely to hold large amounts of cash as a buffer against financial risk. This study also shows that firms with limited access to capital markets and high investment opportunities are more likely to hold large amounts of cash. These findings support the argument that firms must weigh the costs and benefits of holding cash according to their business conditions and strategies.

Holding too large an amount of cash can also burden the firm. Research by Couzoff et al. (2022) found that companies with excessive cash tend to experience a decrease in firm value because investors see unused cash as a sign that the company cannot find profitable investment opportunities. Therefore, financial managers must maintain an optimal cash balance to maximize firm value. In addition, research by Almeida et al. (2021) shows that companies that hold large amounts of cash can be more flexible in dealing with economic uncertainty and financial crises. Sufficient cash allows companies to continue operating without seeking external funding that may be difficult to obtain during times of crisis. Thus, having sufficient cash reserves can also increase the firm's resilience to economic shocks. On the other hand, research by Kahle and Stulz (2021) found that companies that hold large amounts of cash can also take advantage of investment opportunities that suddenly arise. Available cash allows companies to act quickly in taking over such opportunities without waiting for approval from lenders or capital markets. This gives a competitive advantage to companies that have sufficient cash reserves. However, it is also important to note that too little cash can also be a problem. Companies that need more cash may face difficulties meeting short-term obligations and may increase the risk of bankruptcy. Therefore, financial managers should ensure that the company has enough cash to meet its operational needs and short-term obligations. In the context of trade-off theory, the decision on the amount of cash to be held by the company should be based on a thorough analysis of the benefits and costs of holding the cash. The company must consider market conditions, business strategies, and financial risks in determining the optimal level of cash. Thus, companies can maintain their liquidity and financial flexibility without sacrificing profitable investment opportunities or facing the risk of bankruptcy.

Profitability affects Cash Holding

Profitability is the company's ability to generate profits from its operational activities, reflecting management's efficiency in using assets to generate profits. High profitability indicates good cost management and significant income from operations, which increases the company's value and attracts investment. Cash holding is the amount of cash and cash equivalents a company has that can be easily converted into cash, which is essential to ensure liquidity, finance day-to-day operations, support investments, and provide reserves against economic uncertainty. Sufficient cash reserves allow companies to respond quickly to opportunities or challenges, maintain operational stability, and reduce financial risk. In the pecking order theory introduced by Myers and Majluf (1984), firms prioritize internal funding (retained earnings) before turning to external funding, such as debt or equity issuance, to avoid additional costs and scrutiny. The relevance of the trade-off theory in holding cash is that firms must balance the benefits and costs of holding cash. The main benefits of holding cash are improving liquidity, reducing bankruptcy risk, and providing investment flexibility. However, the opportunity cost needs to be considered as cash not used for investment could potentially miss out on additional revenue opportunities. More profitable companies hold more cash because they have greater operating cash flow. Research by Sari and Ardian (2019) shows that more profitable companies tend to hold more significant amounts of cash. Another study by Syah (2024) also supports this finding, showing that companies with high profitability tend to hold more cash because they have strong operational cash flow.

H_1: *Profitability affects Cash Holding*

Leverage affects Cash Holding

Leverage is using debt to finance a company's operations and investments. Using leverage increases potential returns for shareholders but also carries higher financial risks. When leverage is high, companies take on more debt, thus requiring sufficient cash reserves to manage interest and principal payment obligations and maintain financial stability. The relationship between leverage and cash holding is meaningful because firms with high leverage tend to hold more cash to manage bankruptcy risk and ensure sufficient liquidity to meet debt obligations on time. Sufficient cash reserves also allow firms to respond quickly to profitable investment opportunities without seeking external funding sources. Empirical research shows a positive relationship between leverage and cash holding. A study by Susanto and Kurniawan (2023) found that companies in Indonesia with high leverage tend to hold more cash in anticipation of economic uncertainty and bankruptcy risk. Research by Putri and Sudirgo (2020) also found a positive relationship between leverage and cash holding, suggesting that companies with high leverage hold more cash to manage financial risk. Budianto and Dewi (2023) support these findings, suggesting that highly leveraged firms in Indonesia hold more cash to deal with economic uncertainty and maintain operational stability.

H_2: *Leverage affects Cash Holding*

Firm Size affects Cash Holding

Firm size refers to the scale of operations and assets owned by a company, usually measured by total assets, total revenue, or number of employees. This size affects various operational and financial aspects, including cash management or cash holding. Large firms tend to hold different amounts of cash than small firms, mainly because they have better access to capital markets, allowing them to obtain external funding more easily. With this access, large firms can only hold small amounts of cash as they can rely on external funding when needed. The relationship between firm size and cash holding is essential in financial management. Large firms have more complex cash flow management and more resources to manage liquidity. They can better deal with economic uncertainty and market volatility because they have sufficient cash reserves for operational and investment needs. In contrast, small firms may have to hold more cash in reserve due to limited access to capital markets and external funding. Empirical studies show a positive relationship between firm size and cash holding. Research by Yudha (2023) found that large firms in Indonesia tend to have more enormous cash reserves than small firms due to better access to capital markets. Nugraeni and Triyono (2023) showed that large companies in the Indonesian manufacturing sector have higher cash holding levels. The study by Lestari and Nugroho (2021) supports these findings, showing that large firms in the Indonesian financial sector hold significant cash reserves to manage financial risks.

H_3: *Firm Size affects Cash Holding*

Profitability, Leverage and Firm size affect Cash Holding

The relationship between profitability, leverage, firm size, and cash holding policy is essential in corporate finance. Profitability is the ability of a company to generate profits from its operations, often measured by the ratio of net income to sales or assets. Leverage reflects the use of debt in the financial structure to fund activities. Firm size is seen from total assets, revenue, or number of employees, which indicates the scale of operations and potential influence in the market. Research in Indonesia shows a significant relationship between profitability and the decision to hold more cash. High profitability allows strong cash flow from operations, increasing cash reserves. In addition, leverage also affects cash holding policy. Companies with high leverage are more conservative in holding cash to pay interest and debt installments. Empirical studies show that companies with low leverage have a more aggressive cash-holding policy. Firm size also plays an important role. Large firms with better access to capital markets often have efficient cash-holding policies, utilizing economies of scale to reduce operating costs. In contrast, small firms have to keep more cash in reserve: these three factors- profitability, leverage, and firm size- interact with each other in determining cash holding policy. Recent empirical studies in Indonesia, such as by Simanjuntak (2020), Lestari et al. (2022), and Hermanto & Dewinta (2023), confirm that profitability, leverage, and firm size play a crucial role in cash holding policy.

H_4*: Profitability, Leverage and Firm size affect Cash Holding*

Research Methods

The object of research is a scientific target to obtain data with specific purposes and uses about something objective, valid, and reliable about something (certain variables) (Sugiyono, 2013). The research object used in this study is Cash Holding and influencing factors, namely Profitability, Leverage, and Firm size. The sample in this study consisted of pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange, with the criteria being pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange for 2017-2022. Pharmaceutical sub-sector companies that publish annual financial reports consecutively during 2017-2022. Pharmaceutical sub-sector companies that earned profits during the 2017-2022 period. The type of data used in this study is quantitative data in the form of secondary data from the financial statements of pharmaceutical sub-sector companies in the 2017-2022 period obtained from the official website of the Indonesia Stock Exchange (www.idx.co.id) and the official websites of related companies.

Result and Discussion

Result

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	42	0.01	0.92	0.1319	0.14180
DAR	42	0.08	0.79	0.3314	0.16966
Firm Size	42	25.80	30.94	28.5814	1.33831
Cash Holding	42	0.00	0.32	0.1719	0.09454
Valid N (listwise)	42				

Source: Data processed using SPSS 25.

The minimum value shows the lowest value of each variable, the maximum value shows the highest value of each variable, the mean shows the average value of each variable, and the standard deviation shows the standard deviation of each research variable. In the Return on Asset (ROA) variable, the increasing ROA value indicates that the profit generated by the company is also increasing, which will affect the amount of company cash. The increasing profit will affect the company's cash holding; the higher the amount of cash, the greater the company's cash holding, and vice versa. Based on the results of descriptive statistical output, the ROA variable has a minimum value of 0.01, owned by PT Phapros Tbk with the company code PEHA in 2021 and PT Pyridam Farma Tbk with the company code PYFA in 2021. The maximum value is 0.92, owned by PT Merck Tbk with the company code MERK in 2018. The average value (mean) is 0.1319, and the standard deviation is 0.14180, where the standard deviation value is greater than the average value, indicating a large enough gap between the lowest and highest ROA values.

Debt to Total Asset Ratio (DAR) variable, the greater the DAR value indicates that the amount of cash holding has decreased because the company uses the cash to pay obligations and interest expenses when due. Conversely, the lower the DAR value, the increased cash holding. Based on the descriptive analysis output results, the DAR variable has a minimum value of 0.08 and was owned by PT Industri Jamu & Farmasi Sido Muncul Tbk with the

company code SIDO in 2017. The maximum value is 0.79, owned by PT Pyridam Farma Tbk with the company code PYFA in 2021. The average value (mean) is 0.3314, and the standard deviation is 0.16966, where the standard deviation value is smaller than the average value, indicating no large enough gap between the lowest and highest DAR values. Firm size Variable, If the size of the company gets bigger, the obligations of the company must be fulfilled. Large companies will try to maintain their liquidity to anticipate unexpected things in the future. Based on the descriptive analysis output results, the firm size variable has a minimum value of 25.80, owned by PT Pyridam Farma Tbk with the company code PYFA in 2017. The maximum value is 30.94, which will be owned by PT Kalbe Farma Tbk with the company code KLBF in 2022. The average value (mean) is 28.5814, and the standard deviation is 1.33831, where the standard deviation value is smaller than the average value, indicating no significant gap between the lowest and highest firm size values. Cash Holding Variable: a high cash holding value indicates that the company has a large amount of cash and can meet unexpected needs without using funds from external parties. Based on the descriptive analysis output results, the cash holding variable has a minimum value of 0.00, owned by PT Pyridam Farma Tbk with the company code PYFA in 2017. The maximum value is 0.32, and it was owned by PT Merck Tbk, with the company code MERK in 2018. The average value (mean) is 0.1719, and the standard deviation is 0.09454, where the standard deviation value is smaller than the average value, indicating no significant gap between the lowest and highest cash holding values.

Table 2. Normality Test

One-Sample Kolmogorov-Smirnov Test

Unstandardized Residual

N		42
Normal Parameters[a.b]	Mean	0.0000000
	Std. Deviation	0.06195965
Most Extreme Differences	Absolute	0.046
	Positive	0.046
	Negative	-0.041
Test Statistic		0.046
Asymp. Sig. (2-tailed)		0.200

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.
Source: Data processed using SPSS 25.

Table 3. Multicolonierity Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics	
		B	Std. Error	Beta	Tolerance	VIF
1	(Constant)	-0.725	.245			
	ROA	0.255	.071	.382	.992	1.008
	DAR	-0.156	.065	-.280	.830	1.205
	Firm Size	.032	.008	.453	.833	1.200

a. Dependent Variable: Cash Holding
Source: Data processed using SPSS 25.

Based on previous tests, the One-Sample Kolmogorov-Smirnov test results show that the data is normally distributed. This can be seen from the significance value of Asymp. Sig. (2-tailed) of 0.200. This result is greater than the significance level of 5% or 0.05. This means that the data is normally distributed, so this research model has fulfilled the normality test.

Based on Table 3, the Multicolonierity Test results show that the regression model in this study does not occur multicolonierity because the coefficient between independent variables has a tolerance value greater than 0.10 and the Variance Inflation Factor (VIF) is smaller than 10, which indicates that no variable has a tolerance value less than 0.10. Therefore, the independent variables in the regression model are free from multicollinearity.

Table 4. Autocorrelation Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.755	.570	.537	.06436	.855

a. Predictors: (Constant), Firm Size, ROA, DAR
b. Dependent Variable: Cash Holding
Source: Data processed using SPSS 25.

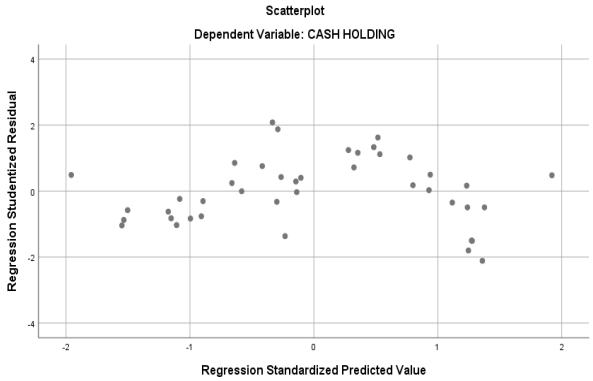

Figure 1. Heteroscedasticity Test
Source: Data processed using SPSS 25.

Based on Table 4, the results of the Autocorrelation test show that the Durbin-Watson (D-W) value in this study is 0.855, which means it is located between -2 and +2, so it can be concluded that there is no autocorrelation. This means that the sample variant can describe the population variant. Figure 1 shows that there is no heteroscedasticity in this study because no clear pattern is formed along with the dots spreading above 0 and Y, so it can be concluded that the data meets the requirements of heteroscedasticity. This means there is an inequality of variance from the residuals of one observation to another.

The constant value (α) is negative -0.725; this reflects the opposite or negative influence of the independent variable on the dependent variable. This shows that if the independent variables, namely Return on Asset (ROA), Debt to Total Asset Ratio (DAR), and Firm size, are worth (0), there will be a decrease in the dependent variable, namely cash holding of 0.725. The regression coefficient value of Return on Asset (ROA) is 0.255; this reflects the unidirectional or positive influence of the Return on Asset (ROA) variable with cash holding. This shows that if Return on Asset (ROA) increases by 1%, cash holding will increase by 0.255, assuming other variables are constant. The debt to total asset ratio (DAR) regression coefficient value is -0.156,

which reflects the opposite or negative effect of the debt to total asset ratio (DAR) variable with cash holding. This shows that if the Debt to Total Asset Ratio (DAR) increases by 1%, the cash holding will decrease by 0.156, assuming other variables are constant. The regression coefficient value of firm size (firm size) is 0.032, which reflects the unidirectional or positive effect of the firm size variable with cash holding. This shows that if the firm size increases by 1 rupiah, the cash holding will increase by 0.032, assuming that the other variables are constant.

Table 5. Multiple Linear Regression Analysis Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	-.725	.245	
	ROA	.255	.071	.382
	DAR	-.156	.065	-.280
	Firm Size	.032	.008	.453

a. Dependent Variable: Cash Holding
Source: Data processed using SPSS 25.

Table 6. Partial Test (t Test)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.725	.245		-2.958	.005
	ROA	.255	.071	.382	3.578	.001
	DAR	-.156	.065	-.280	-2.401	.021
	Firm Size	.032	.008	.453	3.889	.000

a. Dependent Variable: Cash Holding
Source: Data processed using SPSS 25.

Return On Asset (ROA)

The test results based on the significance value show the sig. Value on Return on Asset (ROA) of 0.001. This means that the sig. The value of ROA is smaller than 0.05 (0.001 is smaller than 0.05). Based on a comparison of the t count and the t table, the test results show a t value of 3.578 (3.578 is more significant than 2.02439). So, the hypothesis is accepted, which means that ROA has a positive effect on Cash Holding.

Debt to Total Asset Ratio (DAR)

The test results based on the significance value show the sig. Value on Debt to Total Asset Ratio (DAR) of 0.021. This means that the sig. The value on DAR is smaller than 0.05 (0.021 is smaller than 0.05). The test results based on the comparison of t count and t table show the t value of -2.401 (-2.401 is smaller than 2.02439). So, the hypothesis is accepted, which means that DAR has a negative effect on Cash Holding.

Firm Size

The test results based on the significant value show the sig. Value on Firm size of 0.000. This means that the sig. The value of firm size is smaller than 0.05 (0.000 is smaller than 0.05). The test results based on the t count and t table comparison show the t value of 3.889 (3.889 is

more significant than 2.02439). So, the hypothesis is accepted, which means that firm size positively affects Cash Holding.

Table 7. Simultaneous Test (F Test)

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.209	3	.070	16.823	.000
Residual	.157	38	.004		
Total	.366	41			

a. Dependent Variable: Cash Holding
b. Predictors: (Constant), Firm Size, ROA, DAR
Source: Data processed using SPSS 25.

The test results in this study produced a calculated F value of 16,823 with a significance value of 0.000. The test results based on the significant value show the sig. Value is smaller than 0.05 (0.000 is smaller than 0.05). The test results based on the comparison value of F count and F table show the value of F count of 16,823 (16,823 greater than 2,845). It can be concluded that return on assets (ROA), debt to total asset ratio (DAR), and firm size simultaneously affect cash holding.

Tabel 8. Coefficient of Determination (R2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.755	.570	.537	.06436

a. Predictors: (Constant), Firm Size, ROA, DAR
b. Dependent Variable: Cash Holding
Source: Data processed using SPSS 25.

The previous determination test results obtained an R2 value of 0.537 or 53.7%. This shows that the independent variables (ROA, DAR, and Firm Size) influence the dependent variable: cash holding of 0.537 or 53.7%. At the same time, the remaining 46.3% is influenced by other variables not included in this study. The Standard Error of the Estimate result in this study is 0.06436. Standard Error of the Estimate measures the number of regression model errors in predicting the dependent variable. A value of 0.06436 indicates that the regression model correctly predicts the dependent variable because it is close to 1. Because the more significant the Standard Error of the Estimate value, the independent variables provide almost all the information needed to predict variations in the dependent variable.

Discussion

Effect of Profitability (ROA) on Cash Holding.

The results of this study indicate that return on assets (ROA) positively affects a company's cash holdings. This positive effect confirms that the higher the profitability, the greater the cash the company holds. This interpretation aligns with the basic concept that more profitable companies tend to have more substantial cash flow, which allows them to hold more cash. This study indicates that companies with a high level of profitability can pay higher dividends, avoid the risk of debt default, and have sufficient cash availability for operational

and investment needs. The results of this study support the hypothesis that profitability has a positive effect on cash holding. This hypothesis states that more profitable firms tend to hold more cash to support their operations and reduce financial risk. This finding is consistent with the pecking order theory, which states that firms with high profitability are more likely to use internal funding, such as retained earnings, as the primary source of capital financing. This theory emphasizes that firms prefer to use internal funds before turning to external funding sources, such as debt because the use of internal funds reduces the cost of capital and the risk of bankruptcy. This research is also consistent with several other financial theories, including the trade-off theory, which states that firms must balance the costs and benefits of holding cash. Firms with high profitability have more cash that can be used as a buffer to cope with economic uncertainty and market volatility and finance unexpected investment opportunities. In this context, higher cash holding is an effective risk management form.

This finding aligns with a study by Simanjuntak (2020), which found that more profitable companies tend to hold more cash. Research by Lestari et al. (2019) also supports this finding by showing that companies with lower leverage, often more profitable, have more aggressive cash-holding policies. Furthermore, research by Hermanto and Dewinta (2023) found that large companies with high levels of profitability tend to have efficient cash-holding policies, suggesting that firm size and profitability interact to influence their financial policies. The practical implications of these findings are significant. When developing cash management strategies, financial managers should consider the firm's profitability level. Profitable firms should prioritize internal funding to support their growth and operations and minimize financial risks. By holding more cash, firms can increase their financial flexibility, ensuring they have sufficient reserves to cope with market uncertainty and capitalize on emerging investment opportunities. These findings provide valuable guidance for firm management in designing more effective and efficient financial policies. With the right cash management strategy, companies can better manage risks and improve long-term financial performance. In addition, having sufficient cash reserves can also increase investors' and creditors' confidence in the company's financial stability, which in turn can reduce the cost of capital and improve access to external funding sources. This is a crucial step to ensure the sustainability and growth of the company in the long run.

The Effect of Leverage (DAR) on Cash Holding.

The results of this study indicate that the Debt to Total Asset Ratio (DAR) hurts cash holding. The interpretation of this result is that the higher the company's leverage, the lower the amount of cash held by the company. This aligns with the basic concept that high leverage indicates an increase in debt, reducing the available cash. When companies have high debt, they have to set aside a large portion of cash to pay loan principal and interest, thus reducing the amount of cash that can be held for operational and investment purposes. The results of this study support the hypothesis that leverage negatively affects cash holding. This hypothesis states that companies with a high level of leverage tend to hold less cash because most of the cash is used to fulfill debt obligations. This finding is consistent with the pecking order theory, which states that companies prioritize internal funding before turning to external funding. When retained earnings are insufficient to fund investment, companies will use debt. However, using this debt will reduce the available cash because the company must pay back the debt and interest.

Trade-off theory also supports this research, which emphasizes the importance of balancing the benefits and costs of holding cash. Highly leveraged firms face high debt costs and must reduce cash holding to pay their debt obligations. In this context, lower cash holding results from the firm's strategy to manage its high debt burden. With high leverage, firms are also at risk of penalties or fines in the event of late debt payments, which further reduces the amount of available cash.

This finding aligns with a study conducted by Lestari et al. (2019), which found that companies with a high level of leverage tend to have a more conservative cash-holding policy. Research by Susanto and Kurniawan (2023) also shows that companies with high leverage tend to keep less cash because most resources are used to fulfill debt obligations. Furthermore, research by Hermanto and Dewinta (2023) supports these findings by showing that large firms with high leverage tend to reduce their cash holding to manage higher financial risks. The practical implications of these findings are significant for corporate financial management. Financial managers should consider the firm's leverage level when designing cash management strategies. Highly leveraged firms should focus on effective debt management to ensure they have enough cash to meet debt obligations without sacrificing operational liquidity. In addition, firms should consider the impact of leverage on their cash holding policy, ensuring that they have sufficient cash reserves to cope with market uncertainty and avoid penalties or fines due to late debt payments. Companies can develop more efficient financial strategies by understanding the relationship between leverage and cash holding. For example, companies may consider lowering their leverage levels through debt reduction or increasing internal funding, such as retained earnings, to improve liquidity and financial flexibility. This will help companies manage financial risks and ensure sufficient cash reserves to support continued growth and business operations.

Effect of Firm size on Cash Holding.

The results of this study indicate that firm size has a positive effect on cash holding. The interpretation of this result is that the larger the size of the company, the greater the amount of cash held by the company. This aligns with the basic concept that large companies perform better than small companies and are more able to manage and hold cash. This study shows that large companies can manage their cash flow and liquidity better, so they can hold more significant amounts of cash for operational and investment needs. The results of this study support the hypothesis that firm size has a positive effect on cash holding. This hypothesis states that large companies tend to hold more cash because they have more excellent resources and better access to capital markets. This finding is consistent with the pecking order theory, which states that large firms are more likely to use internal funding before turning to external funding. With better access to capital markets, large companies can quickly obtain external funding to hold a manageable amount of cash. The trade-off theory also supports this research, which states that firms must balance the costs and benefits of holding cash. Large companies with more excellent capabilities and resources can easily access capital markets, so they do not need to hold large amounts of cash in reserve. In contrast, small firms with limited access to capital markets tend to hold more cash to meet operational needs and cope with economic uncertainty.

This finding aligns with a study by Lestari et al. (2019), which found that large companies tend to have more efficient cash-holding policies. Research by Susanto and Kurniawan (2023)

also shows that large companies with good performance tend to hold more cash because they have stronger cash flow and better access to external funding sources. Furthermore, Putra Hermanto and Dewinta's (2023) research supports these findings by showing that large firms have a more flexible and efficient cash-holding policy, allowing them to manage financial risks better. The practical implications of these findings are significant for corporate financial management. Financial managers should consider firm size when designing cash management strategies. Large firms should leverage their advantage in access to capital markets to optimize their liquidity and financial flexibility. Large firms can ensure sufficient reserves to cope with market uncertainty and capitalize on emerging investment opportunities by holding more cash. In addition, large companies should consider efficient cash-holding policies to manage financial risks and ensure they can adequately fulfill their obligations. On the other hand, small firms should focus on effective cash management to ensure they have enough liquidity to support daily operations and deal with economic uncertainties. Taking these findings into account, small firms can develop more efficient financial strategies and ensure they have sufficient cash reserves to overcome challenges they may face.

The Effect of Profitability, Leverage, and Firm size on Cash Holding.

The results of this study indicate that profitability (ROA), leverage (DAR), and firm size significantly affect the company's cash holding. The interpretation of these results indicates that changes in one or all three variables will affect the amount of cash the company holds. This fact is to the basic concept of financial management, which states that internal factors such as profitability, capital structure, and firm size play an important role in determining cash policy. The research hypothesis states that profitability, leverage, and firm size simultaneously affect cash holding. The results of this study support the hypothesis by showing that the three variables jointly affect management's decision regarding the amount of cash to be held by the company. This finding aligns with the pecking order theory, which states that companies prefer internal funding rather than external. More profitable firms (high ROA) tend to have more cash to support their operations and investments. On the other hand, firms with high leverage (high DAR) will hold less cash because they have to set aside most of the cash to pay debts. Firm size also affects cash holding, with large firms tending to hold more cash as they have better access to capital markets and more significant resources to manage liquidity.

The results of this study are also consistent with trade-off theory, which emphasizes the importance of balancing the benefits and costs of holding cash. Firms with high profitability will be more able to hold cash as a buffer against uncertainty, while firms with high leverage should reduce cash holding to meet debt obligations. Large companies with excellent capabilities and resources can manage their liquidity more effectively and efficiently. Previous research by Lestari et al. (2019) shows that large companies with low leverage tend to have more aggressive cash-holding policies. Susanto and Kurniawan (2023) found that companies with high profitability tend to hold more cash, while companies with high leverage hold less cash. Research by Hermanto and Dewinta (2023) supports this finding, showing that large companies tend to have more flexible and efficient cash-holding policies. The practical implications of these findings are significant for corporate financial management. Financial managers should consider the level of profitability, leverage, and firm size when designing cash management strategies. Profitable firms should prioritize internal funding to support their

growth and operations and to minimize financial risks. By holding more cash, companies can increase their financial flexibility, ensuring they have sufficient reserves to cope with market uncertainty and capitalize on emerging investment opportunities. Highly leveraged companies should focus on effective debt management to ensure they have enough cash to meet debt obligations without compromising operational liquidity. Large companies should leverage their advantages in access to capital markets to optimize their liquidity and financial flexibility.

Conclusion

This study examines the effect of profitability (Return on Asset), leverage (Debt to Total Asset Ratio), and firm size on cash holding in Pharmaceutical Sub-Sector Manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the period 2017-2022. Data analysis found that profitability has a positive effect, leverage has a negative effect, and firm size has a positive effect on cash holding. In addition, the three variables simultaneously affect cash holding in the companies studied.

This research significantly contributes to the science and practice of financial management. In the academic context, this study strengthens our understanding of the factors that influence cash-holding policies, especially in the pharmaceutical manufacturing sector. From a practical perspective, the results of this study can be used by financial managers in formulating effective cash management strategies, considering profitability, leverage, and firm size. The originality of this study lies in its focus on pharmaceutical companies in Indonesia and the specific time period, which provides relevant and up-to-date insights for practitioners and academics. However, this study has several limitations. First, this study only covers pharmaceutical sub-sector manufacturing companies listed on the IDX, so the results may need to be generalizable to other sub-sectors. Second, this study is limited to 2017-2022, which may reflect short-term conditions. Third, only three independent variables were tested in this study. At the same time, other factors such as cash flow, cash flow variability, and liquidity may also significantly affect cash holding. For future research, it is recommended to expand the scope of companies and periods and add other independent variables to gain a more comprehensive understanding of the factors that affect cash holding.

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