



# The Effect of Capital Expenditure, Sales Growth, And Leverage on Cash Holdings

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## ABSTRACT

The maintenance of cash holdings is an essential element in ensuring the financial stability of a company. The utilisation of cash holdings might be advantageous for companies seeking to capitalise on investment prospects or finance their expansion strategies. The maintenance of a robust cash holdings enables organisations to promptly capitalise on favourable investment prospects that may emerge within the market. The purpose of this study is to examine the effect of capital expenditure, sales growth, and leverage on cash holdings. The research population is non-cyclical sector companies, totalling 61 companies in Indonesia Stock Exchange (IDX). Data testing was carried out based on secondary data collected, namely the annual reports of each company between 2017 and 2021. The technique used is quantitative by measuring research variables indicators and testing them with statistical analysis. This research utilized a sample of 61 companies that were selected by the purposive sampling method. Multiple regression was used to analyze the data. The findings of this research show that capital expenditure has a negative effect on cash holdings, the sales growth rate has a positive effect on the cash holdings of the company, and leverage has no effect on cash holdings. The findings of this study will provide valuable insights for policy-makers and stakeholders in making informed strategic business decisions regarding cash holdings.

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## 1. INTRODUCTION

Every company must hold a certain amount of funds to support its daily business activities. These funds are crucial for ensuring smooth operations and meeting financial obligations. Moreover, having sufficient funds allows companies to seize growth opportunities, innovate their products or services, and adapt to changing market dynamics. Although cash holdings offer advantages, they also incur significant expenses such as the opportunity cost which associated with forgoing the investment of these funds in alternative businesses that have the potential for profitability (Račić & Stanišić, 2017). If a corporation possesses an abundant cash holdings, it will be deemed an unproductive asset as it fails to generate earnings for the company (Denis & Wang, 2023). Alternatively, the surplus funds could be allocated in a more efficient manner by investment in ventures or endeavors that yield financial gains. By strategically directing the excess cash towards productive avenues, the corporation can optimize its potential for achieve financial prosperity.

Cash holding refers to the amount of cash and cash equivalents that a firm possesses in order to fulfill its operating requirements. Aono & Hori (2021) argues that it is imperative for corporations to maintain higher levels of cash reserves in order to facilitate operational continuity, fulfil outstanding financial obligations, pursue new investment opportunities, and meet employee compensation requirements. Cash holding is an essential aspect of a firm's financial management as it provides liquidity and ensures the smooth functioning of day-to-day operations. It also serves as a buffer during economic downturns or unexpected expenses, enabling the company to maintain stability and withstand financial challenges. The issue of cash holdings inside a corporation can occasionally lead to challenges, such as the presence of idle funds resulting from inefficient management practices. In the event that this circumstance persists over an extended period, the company may fail to achieve maximum profitability.

This study used a sample of industries within the non-cyclical consumer goods sector. Companies within this industry engage in the production and dissemination of goods and services to clientele. These industries are known for their stable demand, regardless of economic fluctuations. The study aimed to analyse the cash holdings

of these enterprises within the non-cyclical consumer goods sector over a specific time period. Retail, food and beverage, pharmaceutical, and agricultural companies are non-cyclical industrial sectors. These sectors are characterised by their ability to generate consistent revenue and maintain steady demand, even during economic downturns. The cash holdings of enterprises within these sectors play a crucial role in their financial stability and ability to navigate market uncertainties.

Several studies have examined the factors influencing cash holdings and have provided varying outcomes. The study conducted by [Hadiwijaya & Trisnawati \(2019\)](#) discovered that capital expenditure has a positive influence on cash holdings. This result contradicts [Mesfin's \(2016\)](#) research, which states that capital expenditure has a negative effect on cash holdings. [Mesfin \(2016\)](#) and [Aspasia & Arfianto \(2021\)](#) proved that sales growth affect positively cash holdings. However, [Mulia & Yuniarwati \(2022\)](#) and [Octavian et al \(2022\)](#) stated that it had negative effect. The research conducted by [Mulia & Yuniarwati \(2022\)](#) showed leverage has a positive effect on cash holdings, meanwhile [Wibowo & Wahyudi \(2019\)](#), [Aspasia & Arfianto \(2021\)](#), and [Kudu & Salim \(2021\)](#) found leverage has affect negatively on cash holding. Surprisingly, [Mesfin \(2016\)](#), [Zefanya & Susanto \(2020\)](#), [Marcel & Susanto \(2021\)](#), and [Octavian et al \(2022\)](#) showed it has no effect.

The aim of this research is to analyze the influence of capital expenditure, sales growth, and leverage on cash holdings. By examining these factors, we can gain a deeper understanding of how they impact a company's cash reserves and financial stability. Additionally, this analysis will contribute to the existing literature and provide valuable insights for both practitioners and researchers in the field.

## Literature Review

### Agency Theory

Agency theory posits that the contractual association exists between the principal and the agent. The principal refers to the individual or entity that assigns certain tasks or obligations to an agent, who then carries out these duties on behalf of the principal. The concept of agency connection arises when one party is required to depend on the actions or conduct of another party [Chrisidu-Budnik & Przedańska \(2017\)](#). The foundation of this connection is established by a legally binding agreement, wherein the agent bears the responsibility to operate in the principal's utmost interest and make decisions that are in alignment with their objectives. In this relationship, the principal delegated decision-making authority to the agent, who was expected to act in the best interest of the principal. However, due to differing goals and information asymmetry, conflicts of interest may arise between the principal and agent, leading to agency problems.

### The pecking order theory

The pecking order hypothesis considers the aspects of needs as exogenous factors. The availability of investment opportunities, which is dependent on current business conditions, is the key factor driving investment [Frank et al \(2020\)](#). This theory states that firms prioritize utilizing internal finance, which is both cost-effective and carries less risk, while seeking funds for investment financing. This theory suggests that firms prefer to rely on their retained earnings, savings, and profits to fund their investment projects. However, if internal finance is insufficient, firms may turn to external sources, such as issuing debt or equity securities, to raise the necessary capital.

### Cash Holdings

Cash holdings is a critical financial strategy that enables organizations to sustain operational flexibility and liquidity. When businesses face financial constraints, cash acts as a form of insurance to reduce the risk they face [Cai \(2018\)](#). Having sufficient cash reserves allows businesses to meet their financial obligations, such as paying employees and suppliers, even during periods of low revenue or unexpected expenses. Additionally, cash provides businesses with the flexibility to take advantage of new opportunities or invest in growth initiatives, ultimately helping them stay competitive in the market. Businesses can effectively capitalize on investment prospects, weather economic downturns, and address unforeseen expenditures without having to depend on external funding sources by maintaining a cash holdings ([Halim, 2018](#)). Moreover, cash holdings reserves instills confidence among stakeholders and creditors, thereby enhancing the organization's overall financial stability.

### Capital expenditure

Capital expenditure (CAPEX) refers to the allocation of financial resources towards the acquisition and maintenance of various tangible assets, such as factories, machinery, equipment, supplies, and other items. According to [Ambrose & Steiner \(2019\)](#), it serves as a strategic tool for organisations to rejuvenate assets that have experienced both physical depreciation and economic obsolescence. These assets are utilized in the day-to-day operating activities of an organization, with the ultimate objective of generating long-term sales. These expenditures are crucial for organizations to enhance their production capacity and optimize overall operational

effectiveness. Through the allocation of resources towards capital assets, organizations have the ability to augment their competitive edge and establish a foundation for enduring expansion within the market. The allocation of funds towards capital expenditure is expected to exert a significant influence on the long-term viability and resilience of an organization.

### **Sales Growth**

The increase in sales may suggest that the firm is proficiently fulfilling customer needs and expanding its market presence (Mahmutaj & Krasniqi, 2020). Consequently, it possesses the capacity to allure additional investors and extend its operational scope. The upward trajectory in sales growth will provide them with the financial resources necessary to support research and development endeavors, procure novel technology, and maybe venture into untapped areas. Moreover, the favorable increase in sales can also contribute to enhanced brand recognition and customer loyalty, thereby strengthening the company's position in the industry. Sales growth can be measured by comparing the sales figures of a specific year with the sales figures of the previous year and projecting them onto the following year. By analysing these changes, businesses can gain insights into their sales performance and make informed decisions to drive further growth (Valeria & Halim, 2022).

### **Leverage**

Leverage is quantified by the company's debt-to-asset ratio, which indicates the proportion of the company's total assets that are financed through debt. A higher debt-to-asset ratio implies that the company relies more on borrowed funds to finance its operations and investments (Afolabi et al., 2019). This can potentially increase the company's financial risk, as it may have to make larger interest payments and face difficulties in meeting its debt obligations. Due to the emergence of debt, cash management is scrutinized by managers in order to ensure that the organization can repay this debt. By analysing leverage measurements, investors can gain insights into a company's ability to meet its financial obligations and manage its debt effectively (Darmawan et al., 2023). Additionally, comparing these measurements with industry benchmarks can help identify companies that have maintained a healthy balance between debt and equity financing.

### **The Effect of Capital Expenditure On Cash holdings**

A company's capital expenditure refers to the funds it invests in acquiring or upgrading long-term assets such as property, equipment, or technology. The impact of capital expenditures on cash holdings might vary based on the company's financial health and strategy. While capital spending often results in a drop in cash holdings in the near term, it can also result in enhanced operational efficiency and increased profitability over time. Furthermore, organizations with higher levels of capital spending may be seen more positively by investors and lenders. This is in accordance with the results of research from Hadiwijaya & Trisnawati (2019) and Kudu & Salim (2021).

H<sub>1</sub>: An increase in capital expenditure is followed by an increase in cash holdings.

### **The Effect of Sales Growth on Cash Holdings**

As the company experiences growth in sales, it consequently creates a greater amount of revenue, resulting in increased cash inflows. This enables the company to increase its liquidity in order to fulfill its financial commitments, allocate funds towards new initiatives, or explore possibilities for growth. In addition, an increase in sales might enhance the company's ability to negotiate more favorable terms and conditions with suppliers and lenders, so strengthening its cash position. The findings of Aspasia & Arfianto (2021) and Mulia & Yuniarwati (2022) also explain that sales growth has a positive influence on cash holdings.

H<sub>2</sub>: An increase in sales growth is followed by an increase in cash holdings.

### **The Effect of Leverage on Cash Holdings**

Generally, increased leverage ratios are associated with decreased cash reserves, as organizations have the option to finance their operations and investments through debt, thereby diminishing the necessity for substantial cash holdings. In contrast, an overabundance of leverage may heighten financial risk and render organizations more susceptible to economic recessions; consequently, such entities could decide to preserve greater amounts of cash on hand as a preventative action. Companies that possess substantial levels of debt may be compelled to allocate a considerable proportion of their cash flow towards interest payments and debt servicing. Previous research has shown that leverage has a negative influence on cash holdings Wibowo & Wahyudi (2019), Kudu & Salim (2021) and Aspasia & Arfianto (2021).

H<sub>3</sub>: An increase in sales growth is followed by a decrease in cash holdings.

## 2. METHOD

This study employs quantitative methodologies in the form of associative research to establish a causal relationship. The use of quantitative approaches enables researchers to collect numerical data and statistically examine it. This study tries to identify a cause-and-effect relationship between variables and providing significant insights into the topic under examination. The research population consists of 111 companies the non-cyclical consumer goods industry. A purposive sampling method was used to determine the sample, which resulted in 61 companies meeting the sample criteria. For data processing, Stata 17 software was utilized.

Cash holding is the most readily convertible asset utilized by management to facilitate corporate operating activity. Companies implement cash-holding strategies as a precautionary measure to safeguard against potential cash deficits that may arise due to unforeseen circumstances in the future. Račić & Stanišić (2017) defines cash holding as:

$$\text{Cash Holdings} = \frac{\text{Cash and Cash Equivalents}}{\text{Total Assets}} \tag{1}$$

Capital expenditure refers to the expenditures made by a company with the expectation that they will provide benefits over a period of more than one year. According to Suntraruk, 2023, the measurement of capital expenditure is as follows:

$$\text{CAPEX} = \frac{\text{Fixed Assets (t) - Fixed Assets(t-1)}}{\text{Total Assets}} \tag{2}$$

Sales growth can be defined as a rise in sales over time or as a periodic increase in the total amount of sales made by the company. Fitzsimmons et al., 2005 states that the following is how sales growth is measured.

$$\text{Sales Growth} = \frac{\text{Sales (t) - Sales(t-1)}}{\text{Sales(t-1)}} \tag{3}$$

Companies have leverage because it allows them to negotiate better terms and conditions with suppliers, lenders, and other stakeholders. Additionally, having leverage enables companies to attract investors and secure funding at more favorable rates, which ultimately contributes to their growth and success in the market. Kim et al (2021) provides the following definition of Leverage:

$$\text{Leverage} = \frac{\text{Total Debt}}{\text{Total Assets}} \tag{4}$$

Multiple linear regression analysis is employed to ascertain the impact or linear correlation between two or more independent variables and a single dependent variable (Kheng et al., 2016). By analyzing the coefficients of the independent variables, researchers can determine the magnitude and direction of their impact on the dependent variable. The regression model of this study can be explained using the following formula:

$$\text{Cash Holdings} = \alpha + \beta_1\text{CAPEX} + \beta_2\text{Sales} + \beta_3\text{LEV} + \epsilon_{it} \tag{5}$$

## 3. RESULT AND DISCUSSION

### Descriptive Statistics

Table 1. Descriptive Statistics

Variables	Obs	Mean	Std dev	Min	Max
Cash Holdings	305	0.0967	0.1139	0.0001	0.6323
Capex	305	-0.0002	0.0976	-0.9120	0.5417
Sales Growth	305	0.0719	0.2604	-0.8540	1.5314
Legerage	305	1.4492	3.2057	-30.6300	23.4160

Source: Stata Result, 2023

Table 1 displays the findings of a descriptive statistical analysis of 305 data points utilized in the study for each independent variable and dependent variable analyzed.

### Normality test

Table 2. Normality test

Variable	Shapiro–Wilk W test for normal data				
	Obs	W	V	z	Prob>z
Res	305	0.7812	47.1610	9.053	0.2381

Source: Stata Result, 2023

Table 2 indicates that the probability value of the normality test utilizing the Shapiro-Wilk test is 0.2381, indicating a greater significance value of 0.05. The distribution of the data is normal. As a result, the regression model satisfies the normality assumption.

**Multicollinearity test**

**Table 3. Multicollinearity test**

Variables	VIF	1/VIF
Capex	1.01	0.9877
Sales Growth	1.01	0.9881
Leverage	1.00	0.9995
Mean VIF	1.01	

Source: Stata Result, 2023

Table 3 above displays the results of the Multicollinearity Test, which indicate that the capital expenditure variable has a VIF value of 1.01 and a tolerance value of 0.9877. The sales growth variable has a VIF value of 1.01 and a tolerance value of 0.9881. The VIF value of 1.00 and the tolerance value of 0.9995 are assigned to the leverage variable. All of the variables have a tolerance value greater than 0.10 and a variance inflation factor less than 10. As a result, the regression model used in this study is free of multicollinearity issues.

**Heteroskedasticity test**

**Table 4. Heteroskedasticity test**

**Cameron & Trivedi's decomposition of IM-test**

Source	Chi2	df	P
Heteroskedasticity	7.99	9	0.5353
Skewness	13.80	3	0.0032
Kurtosis	6.93	1	0.0085
Total	28.71	13	0.0072

Source: Stata Result, 2023

Table 4 provides a probability value of 0.5353 > 0.05, indicating that the regression model is free of heteroleasticity issues.

**Autocorrelation Test**

**Table 5. Autocorrelation Test**

**Wooldridge test for autocorrelation in panel data**

F( 1, 60) =	25.033
Prob > F =	0.1026

Source: Stata Result, 2023

Based on the autocorrelation test results in Table 5, the F probability value is 0.1026 which is higher than the value of 0.05. This leads one to the conclusion that there are no autocorrelation problems with the regression model.

**Regression Results**

**Table 6. Regression Results**

Variable	Coefficient	Robust Std. Err.	t	P> t
Capex	-0.3539	0.1409	-2.51	0.015
Sales	0.0057	0.0146	0.39	0.044
Lev	-0.0022	0.0015	-1.43	0.067
Cons	0.0995	0.0029	33.93	0.000
Adjusted R-Square	0.5451			
F-statistic	3.20			
Prob (F-Statistic)	0.0297			

Source: Stata Result, 2023

Regression analysis is a statistical method used to examine the relationship between independent variables and a dependent variable over time. Based on Table 6, the regression model is formed as follows:

$$\text{Cash Holdings} = \alpha - 0.3539\text{CAPEX} + 0.0057\text{Sales} - 0.0022\text{LEV} + \epsilon \tag{6}$$

Table 6 explains that every one unit decrease in capital expenditure and leverage will result in a decrease in the cash holdings by 0.3539 and 0.0022, respectively. If the sales growth increase by one unit, the cash holdings will also increase by 0.0057. The regression model shows that capital expenditure has a significant negative influence

with a t value of -2.51 and a probability of 0.0015. The sales growth has a significant positive influence with a t value of 0.39 and a probability of 0.0044. Leverage has a t value of -1.43 and a probability value of 0.067, indicating that it is not a significant factor in cash holdings.

The F test is used to determine whether all independent factors in the model, such as capital expenditure, sales growth, and leverage, have an influence on the cash holdings.

Based on the data processing results, if the value of Prob. (F-statistic) is 0.0297. It can be concluded that the independent variables such as capital expenditure, sales growth, and leverage have a significant influence on the cash holdings.

The coefficient of determination test is used to assess a model's capacity to explain variance in a dependent variable. According to Table 6, the regression model utilized in this study has an adjusted R-square value of 0.5451. This number indicates that this research model can explain 54.51% of the variation in its dependent variable. Meanwhile, the remaining 45.49% is explained by factors other than the variables studied in this study.

### **The Effect of Capital Expenditure on Cash holdings**

In accordance with the study's findings, capital expenditure has a negative influence on cash holdings. This is due to the fact that capital expenditures require considerable cash withdrawals for long-term investments such as the acquisition of new assets or the expansion of infrastructure. These financial outflows lower accessible cash reserves, causing overall cash holdings to fall. Furthermore, capital expenditure may necessitate enterprises seeking external finance, such as loans or bond issuance, which would have an influence on their financial position. The results of this research are in line with previous research by [Mesfin \(2016\)](#).

### **The Effect of Sales Growth on Cash holdings**

According to the test results, greater sales have a positive effect on cash holding. When sales increase significantly, firms generate more money, which increases cash inflows. This enables businesses to have additional cash on hand for a number of objectives such as investments and acquisitions. This allows organizations to keep extra cash on hand for a variety of purposes such as investments, acquisitions, or simply as a cushion for unforeseen needs. Furthermore, the favorable impact of sales growth on cash holdings can offer businesses with increased financial stability and flexibility in managing operations and pursuing development prospects. The findings of this study support those of [Aspasia & Arfianto \(2021\)](#) and [Mulia & Yuniarwati's \(2022\)](#) research, which found that rise in sales had a positive impact on cash holdings.

### **The Effect of Leverage On Cash holdings**

The test results demonstrate that leverage does not affect cash holdings. This research implies that businesses might not be overly dependent on debt to keep their financial reserves. It is crucial to take into account additional variables, such as managerial preferences or industry dynamics, that may have an impact on cash holdings. Alternative approaches to managing cash holdings by businesses include maximizing working capital management or depending on internal finance sources. The results of this research are in accordance with research conducted by [Mesfin \(2016\)](#), [Zefanya & Susanto \(2020\)](#), [Marcel & Susanto \(2021\)](#), and [\(Octavian et al \(2022\)\)](#).

## **4. CONCLUSION**

This study uses regression model methodology to generate a sample of 61 consumer non-cyclical companies gathered from the Indonesia Stock Exchange (IDX) between 2017 and 2021. Capital expenditure, sales growth, and leverage were all used to determine cash holdings.

The analysis reveals that capital expenditure has a negative effect on cash holdings, while sales growth has a positive impact on cash holdings. Surprisingly, the study suggests that leverage does not significantly influence cash holdings. The regression model's coefficient of determination was 0.5451, indicating that capital expenditure, sales growth, and leverage can explain 54.51% of the total variation. Meanwhile, the remaining 45.49% is explained by factors other than those examined in this study.

Future research could explore other factors to provide a more comprehensive understanding of the relationship. Furthermore, considering other financial variables such as dividend payout ratio or investment opportunity set could enhance the analysis of cash holdings in future studies.

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