

## The Determinant Of Cash Holding

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**Abstract:** This study examines the effect of investment opportunity sets, net working capital, and profitability on cash holding. Cash holding is a liquid asset that has the benefits of supporting the company in the company's routine operational activities. The application of cash holding in a company can be influenced by investment opportunities, net working capital, and profitability. From 2016 to 2021, the research population consists of food and beverage companies listed on the Indonesia Stock Exchange. The research sample uses purposive sampling, so there are 15 companies. The study uses secondary data by collecting the company's annual report the data analysis method used in Panel Data Regression utilising the Eviews version 9 application. The results indicate that the investment opportunity set, net working capital, and profitability simultaneously affect cash holding. Partially, only the location of investment opportunities affects cash holding. Meanwhile, net working worth and profitability do not affect cash holding.

**Keywords:** Cash Holding; Investment Opportunity Set; Net Working Capital; Profitability.

**Abstrak:** Penelitian ini bertujuan untuk menguji pengaruh investment opportunity set, net working capital, dan profitabilitas terhadap cash holding. Cash holding adalah aset likuid yang memiliki manfaat untuk mendukung perusahaan dalam kegiatan operasional rutin perusahaan. Penerapan cash holding dalam perusahaan dapat dipengaruhi oleh investment opportunity set, net working capital dan profitabilitas. Populasi penelitian merupakan perusahaan makanan dan minuman yang tercatat pada Bursa Efek Indonesia periode 2016 – 2021. Sampel penelitian menggunakan purposive sample, sehingga total 15 perusahaan. Penelitian menggunakan data sekunder dengan mengumpulkan laporan tahunan perusahaan. Teknik analisis data yang digunakan adalah Regresi Data Panel menggunakan aplikasi Eviews versi 9. Hasil penelitian menunjukkan investment opportunity set, net working capital, dan profitabilitas secara simultan mempengaruhi cash holding. Secara parsial hanya investment opportunity set berpengaruh terhadap cash holding. Sedangkan net working capital, dan profitabilitas tidak berpengaruh terhadap cash holding.

**Kata Kunci:** Cash Holding; Investment Opportunity Set; Net Working Capital; Profitability.

## INTRODUCTION

Cash holding is company-owned cash invested in physical assets (Gill and Shah, 2012; Guizani, 2017). Cash holding is the most liquid asset and encourages routine company operations. The company's cash holding policy prevents cash shortages (Arfan et al., 2017). Companies with higher cash holdings are more adaptable to a recession than companies with lower cash holdings. An economic slowdown describes the weakening state of the country's economy as shown by a decrease in Gross Domestic Product (GDP), so economic growth in real terms is negative. The company's cash management is crucial (Sari and Ardian, 2019).

Several ASEAN countries, especially Indonesia, will experience a recession in 2020, highlighting the importance of optimal cash holding management. When the economy weakens, asset values fall. As an economic parameter, Gross Domestic Growth (GDP) shows that several ASEAN countries experienced negative growth in 2020. The Philippines had the worst change, at -10.78 per cent, followed by Myanmar at -9.99 per cent, Thailand at -6.09 per cent, and Indonesia at -3.14 per cent.

**Table 1.** GDP of ASEAN Countries (per cent)

Negara	2016	2017	2018	2019	2020	Avarage
Vietnam	6.210	6.810	7.080	7.020	2.910	6.010
Lao PDR	7.020	6.890	6.250	5.460	0.440	5.210
Cambodia	6.940	6.840	7.470	7.050	-3.140	5.030
Indonesia	5.030	5.070	5.170	5.020	-2.070	3.640
Malaysia	4.450	5.810	4.770	4.300	-5.590	2.750
Myanmar	5.750	6.400	6.750	1.690	-9.990	2.120
Philippines	5.550	5.400	4.870	4.680	-10.780	1.940
Thailand	3.440	4.180	4.190	2.270	-6.090	1.600
Singapore	3.330	4.520	3.500	1.350	-5.390	1.460
Brunei Darussalam	-3.610	0.210	-0.990	2.830	0.230	-0.270

Source: [www.data.worldbank.org](http://www.data.worldbank.org)

According to the Central Statistics Agency data, the State of Indonesia in the period 2018-2020, Indonesia's quarterly GDP had a regular pattern in 2018-2019 due to the increase and decrease in the value of GDP, which tended to be stable and experienced a significant contraction in the first quarter of 2020. Overall, Indonesia's GDP growth with a y-on-y trend in 2019-2020 shows a dangerous growth trend. The reason was the lack of recovery in global economic conditions.



**Figure 1.** Gross Domestic Product Growth Rate 2018-2020

Source: [www.bps.go.id](http://www.bps.go.id)

The economic recession has made cash holding management severe and essential. Extensive cash holdings in a company can cause a conflict with the agency. Company managers use accumulated cash holdings information to avoid capital market oversight (Farinha et al., 2018). Agency costs are typical in firms where management and shareholders share ownership and internal control. According to agency theory, managers of low-investment-opportunity companies prefer to hold cash instead of paying dividends (Farinha et al., 2018). The exploitation of excessive financial reserves by management for personal gain at the detriment of shareholders is a matter of agency. According to the theory proposed by (Keynes, 1937) companies with cash holdings are; 1) companies that incur small costs. If the company uses cash, then the company's assets do not have to be sold. 2) companies that are difficult to get sources of funds from outside cash. 3) the company's cash holding can be used as a financing source when funding in the stock exchange is challenging.

A cash holding company could help a company invest. Companies accumulate cash as a precaution to fund operations and future financial needs (Martínez-Sola et al., 2018). The company's decision to manage cash holdings is crucial for efficient financial management. Cash holdings describe a company's financial strategy, business plan, and external macro-environment and corporate governance. The company's cash holding management can avoid risks while meeting daily business needs. This statement implies that the company can invest its cash and use flexible capital allocations to reduce operational cash flow risks. Cash is a liquid asset with low profitability because it cannot generate revenue or profit. Cash holding must be investigated (Ye, 2018).

One factor affecting cash holding is the investment opportunity set (IOS), companies that manage cash well have a high IOS when they find profitable investment prospects. Building up cash reserves will help the company overcome financial limits or financing issues when making suitable investments. According to (Guizani, 2017), When a company's investment prospects are limited, accumulating cash is preferable to raising dividends. If investment opportunities are in high demand, companies must have cash reserves to obtain financing.

Net working capital (NWC) represents cash holding (Morais et al., 2019) because businesses can quickly liquidate it to raise funds. The company's net working capital must

be modest. High-Net-Working-Capital firms are cash-strapped. Profitability depends on cash management, and it gauges a company's earnings. *Profitability* is an indicator that determines a business's capacity to generate returns. Thus, companies with profits can better invest in projects because they can save cash to pay for investments and accumulate some money for the company (Al-Najjar and Clark, 2017). Cash holding management reduces the risk that a company cannot meet its short-term obligations and what its normal operations require.

This research analyses the effects of investment opportunity sets, net working capital, and profitability on cash holding simultaneously and partially.

## **THEORETICAL REVIEW**

**Theory of Agency.** (Jensen and Meckling, 1976) proposed this theory to define agent-shareholder relationships. This agency relationship shows how shareholders empower managers to make good decisions. Their relationship is not always harmonious. In companies that separate ownership and internal control between managers and shareholders, agency conflict causes agency costs. At the expense of shareholders, managers who hoard wealth for personal benefit contribute to agency costs. In agency theory, a conflict of interest appears among managers and agents due to the separation of ownership and control. According to this theory, cash holdings increase agency costs and conflicts of interest (Al-Najjar and Clark, 2017).

**Cash Holding.** Cash is vital to a company's growth and survival. Keynes believed cash holding companies were motivated by trading, preventive, and speculative motivation. According to (Farinha et al., 2018), companies with high expenses or a lack of external funding urge business managers to keep high cash holdings on their firm balance sheets. Especially when facing future investment demands related to significant growth rates.

**Investment Opportunity Set (IOS).** According to theory proposed by (Myers, 1977) IOS is an investment decision that combines a company's assets with future investment opportunities. Some companies do not disseminate information about investment opportunities that inform required investment cash flows. Sound financial management helps companies avoid losing investment opportunities.

**Net Working Capital (NWC).** Companies must manage cash, inventory, receivables, and other current assets for smooth operations. Current assets and liabilities make up net working capital. Positive capital occurs when current assets exceed current liabilities (Ross et al., 2015). Net Working Capital is one of the working capitals that can keep a company moving because it can fund operational activities (Wiyono and Kusuma, 2017).

**Profitability.** Every company wants maximum profitability. Profitability is a crucial element of operational activities to ensure a company's survival and market success. Profitability indicates a company's sales or earnings from assets and investments (Lukman, 2018).

**Hypothesis Development.** Companies have the same investment prospects as competing companies that tend to have substantial accumulations of cash holdings based on the cause of having cash holdings. According to economics, companies with accumulated cash holdings will survive when they own higher investment opportunities to lower the chance of releasing those opportunities and prevent future financial problems (Thakur and Kannadhasan, 2019). Due to the abundance of investment options, companies must maintain high cash reserves to avoid losing valuable investment chances. Previous studies by (Gill and Shah, 2012) and (Kim et al., 2011) found a positive relationship between the investment opportunity set and cash holding.

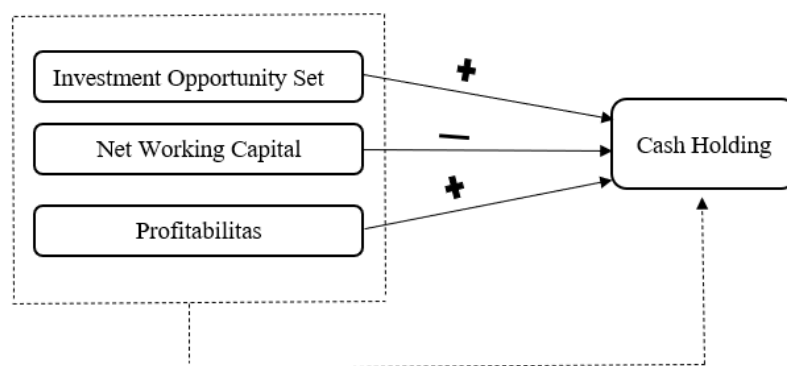
**H1:** Investment Opportunity Set has a positive effect on cash holding.

Net Working Capital is a substitute for liquid assets and is inversely related to cash. Net Working Capital as liquid assets drives companies to be less cash-reliable in the capital market (Guizani, 2017). Companies can readily liquidate their Net Working Capital to raise funds. The NWC of the firm must be below. High-net-working-capital companies have high cash reserves. It implies that net working capital, which can substitute cash, will not accumulate cash holdings in large amounts. According to (Morais et al., 2019), Net Working Capital harms cash holding.

**H2:** Net Working Capital harms cash holding.

Profits measure a company's success. High-return companies can hoard cash to control future investments (Guizani, 2017). The company's cash reserves should affect profits. Extensive cash holdings affect a company's ability to profit from investments, and small cash holdings jeopardise the company's liquidity. Meanwhile, Profitability affects cash holding (Sari and Ardian, 2019).

**H3:** Profitability has a positive effect on cash holding.



**Figure 2.** Research Model

Note:

————> = Partial

-----> = Simultaneous

## METHODS

This research analyses quantitative data from structured questions. The 2016-2020 IDX food and beverage group includes the data analysis unit. This investigation was conducted in a natural setting. Researchers obtain data through observation or yearly IDX financial reports, and the author acquires research-related information. The research spans over a year and contains panel data or a combination of time series and cross-sections. Operational variables used in this study are:

**Cash Holding.** This research measures cash holding by dividing cash and equivalent cash by total assets minus cash and cash equivalents.

$$Cash\ Holding = \frac{Cash\ and\ Equivalent\ Cash}{Total\ Asset - Cash\ and\ Equivalent\ Cash} \dots\dots\dots(1)$$

**Investment Opportunity Set.** This variable calculates the market-to-book-value-assets ratio by comparing the total assets minus the book and market equity value (number of outstanding shares multiplied by the closing price) to the total assets.

$$IOS = \frac{Total\ Asset - Book\ Value\ of\ Equity + Market\ Value\ Equity}{Total\ Asset} \dots\dots\dots(2)$$

**Net Working Capital.** This variable represents working capital as liquid assets and liabilities, with working capital being positive if current assets exceed current liabilities (Ross et al., 2015). This study calculates net working capital by dividing the difference between current assets and current liabilities by total asset

$$NWC = \frac{Current\ Asset - Current\ Liabilities - Cash\ and\ Equivalent\ Cash}{Total\ Asset} \dots\dots\dots(3)$$

**Profitability.** Profitability is one measure of a company's profitability. This study's profitability was measured by return on assets (ROA). Profitable companies will amass cash (Al-Najjar, 2013).

$$ROA = \frac{Net\ Income}{Total\ Asset} \dots\dots\dots(4)$$

A non-probability sampling technique is a sample selection strategy in which population members do not have the same chance of becoming a sample (Sekaran and Bougie, 2017). The authors took samples using the following criteria based on the procedure utilised in this investigation.

**Table 2.** Sampling Criteria

Criteria	Total
Publicly traded food and beverage companies on the Indonesia Stock Exchange (IDX) in 2016 – 2021	40
Food and beverage corporations listed on IDX from 2016 – to 2021	(20)
Submitted audited financial reports of Food and beverage companies on the IDX in 2016-2021	(5)
Number of research samples	15
Total data in research (15 x 6 years)	90

Based on the criteria that the researcher has used, the total companies that the authors use as samples in the study are 15 companies, and the period used is six years, so the number of observations is 90 times.

This study employed descriptive statistics, which describes sample data and inferences that cannot be formed. The researcher acquired descriptive statistics such as variance, standard deviation, mean, minimum and maximum values on an interval scale (Sekaran and Bougie, 2017).

Data analysis. This study combines time-series and cross-sectional data and applies a panel data regression approach. A cross-section is data processing at different times from various companies as research objects for food and beverage corporations listed on the Indonesia Stock Exchange (IDX) with 40 companies. The time-series data used by the researcher is the 2016-2021 period.

The analysis of this research panel data model has the following equations:

$$CH = \alpha + \beta_1 IOS_{i,t} + \beta_2 NWC_{i,t} + \beta_3 ROA_{i,t} + e.....(5)$$

Notes:

- CH = Indicators are used to measure Cash Holding.
- $\alpha$  = Constant
- IOS = Indicators used to measure the Investment Opportunity Set
- NWC = Indicators used to measure the Net Working Capital
- ROA = Indicators used to measure the Profitability
- $\beta_1, \beta_2, \beta_3$  = The coefficient of regression for each independent variable
- e = Error Term
- t = Time
- i = Company

According to (Basuki and Prawoto, 2016), in The application of panel data used to determine the estimation of the regression model, three model approaches can be implemented, namely the standard effect model, fixed effect model and random effect model. The typical effect model is the most straightforward approach because it only

combines time series and cross-section data. The method used in this approach is the least-squares in estimating or Ordinary Least Square (OLS). The fixed-effect model posits that the intercept's disparity inequality accommodates the difference between individuals. This estimation model is the Least Squares Dummy Variable (LSDV) technique. The random effect model estimates panel data, namely the possibility of interrelated disturbance variables between individuals. The method of mentioning this model is the Error Component Model (ECM) or Generalized Least Square (GLS). The model in the proper selection is used to manage panel data regression. According to (Basuki and Prawoto, 2016) it is stated that several tests can be carried out, namely; 1. the chow test that is used in determining the correct fixed effect or common effect model used in estimating panel data; 2. the Hausman test. A random-effect model or fixed-effect model is used to determine the best panel data model; 3. The Lagrange multiplier test has used the test to determine the most appropriate panel data model and the frequent effect or random-effect model.

According to (Basuki and Prawoto, 2016), the standard effect model, fixed-effect model, and random effect model can estimate a regression model using panel data. The usual effect model incorporates time series and cross-section data. This method uses Least Squares Estimation (OLS). The fixed-effect model implies that the intercept accommodates inequality. LSDV is an estimating model. The random effect model estimates panel data, including individual and temporal disturbance factors. Error Component Model (ECM) or Generalized Least Square describes this model (GLS). The correct model manages panel data regression. According to (Basuki and Prawoto, 2016), numerous tests can be run, including (1) the chow test, which determines the correct fixed or common effect model for estimating panel data, and (2) the Hausman test. The best panel data model is random or fixed-effect. (3) A Lagrange multiplier test was used to determine the panel data model.

Hypothesis Testing (Test F). The simultaneous or F statistical test tries to obtain independent influence on dependent variables simultaneously (Basuki and Prawoto, 2016). Simultaneous testing was carried out through the F table significance level of 0.05 ( $\alpha$  equals 5 per cent). If  $p$  more than 0.05, the independent variable does not affect the dependent variable. If  $p$  less than 0.05, the independent variable influences the dependent variable.

Test the determination coefficient ( $R^2$ ). This test determines the regression model's appropriateness. How well the regression fits the data in this circumstance. Coefficient of determination measures how well the independent variable describes the dependent variable. 0 and 1 represent the coefficient of determination. If  $R^2$  is 0, no data fluctuation can be attributed to the independent variable. If  $R^2$  is 1, the data and regression model match correctly (Sekaran and Bougie, 2017).

Partial Hypothesis Testing (T-test). The t-test is used to examine the effect of each independent variable on the dependent variable (Basuki and Prawoto, 2016). Implementation of the test with a confidence level of 95 per cent or a significance of ( $\alpha$  equals 5 per cent). If the significance is above 0.05, the independent variable has almost no effect on the dependent variable. If the significance is less than 0.05, it partially indicates the independent variable's influence on the dependent variable.



## RESULTS

Outliers. Outliers are unusual observations. Outliers influence research; thus, they are not mistakes (Sekaran and Bougie, 2017). Observation data sample data in this study were 15 companies with 90 data, and outlier testing was carried out with a boxplot. Data variations in variable regression based on the boxplot approach were not used for analysis. SPSS Version 25 was used to test six unreasonable sample data from 15 sample companies, so the researcher did not use the unreasonable data in table 3 in the study.

**Table 3.** Outlier Company List

No	Company Code	Company Name
1	ROTI	Nippon Indosari Corporindo Tbk
2	ULTJ	Ultra Jaya Milk Industry & Trading Company Tbk
3	ADES	Akasha Wira International Tbk
4	DLTA	Delta Jakarta Tbk
5	CEKA	Wilmar Cahaya Indonesia Tbk
6	ICBP	Indofood DBP Sukses Makmur Tbk

Statistics. This test described each variable's sample data. Descriptive statistics show the independent variables' mean, maximum, minimum, and standard deviation. Table 4 presents descriptive Eviews 9 statistics.

**Table 4.** Descriptive Statistical Results

	CH	IOS	NWC	ROA
Mean	0.098	2.507	-0.085	0.039
Maximum	0.279	12.263	0.340	0.607
Minimum	0.008	0.704	-2.442	-2.640
Std. Dev.	0.076	3.005	0.435	0.404
Observations	54	54	54	54

The statistical test conducted in this study consisted of one dependent variable, namely cash holding and three independent variables, namely investment opportunity set, net working capital and profitability. The research object studied was 54 observations over six years, from 2016-to 2021. Table 4 presents the maximum value of cash holding is 0.279, owned by Multi Bintang Indonesia Tbk (MLBI) in 2021. The minimum value owned by Budi Starch & Sweetener Tbk (BUDI) is 0.008 in 2019. The mean value is 0.098, and the standard deviation is 0.076, implying that if the standard deviation is lower than the mean, the data is homogeneous (grouped data).

Then the maximum value of the independent variable investment opportunity set is 12.26, owned by Multi Bintang Indonesia Tbk (MLBI) in 2018. The minimum value of 0.704 is owned by Budi Starch & Sweetener Tbk (BUDI) in 2020. The mean and standard deviation of the IOS variable is 2.507 and 3.00. The data is heterogeneous (not grouped) because the standard deviation is greater than the mean.

The second independent variable is net working capital. The maximum and minimum values of the NWC variable owned by FKS Food Sejahtera Tbk (AISA) are 0.340 in 2016 and - 2.442 in 2018. The mean and standard deviation of the NWC variable are -0.085 and 0.435. The value of the NWC standard deviation is greater than the mean, or the data is heterogeneous (data not grouped).

The last independent variable is profitability, as measured by ROA. The maximum and minimum values of the ROA variable owned by FKS Food Sejahtera Tbk (AISA) are 0.607 in 2019 and - 2.640 in 2017. The mean and standard deviation of the ROA variable are 0.039498 and 0.404064. The data is heterogeneous (not grouped) because the standard deviation is greater than the mean.

Panel Data Regression Analysis. This study uses the E-Views 9.0 application to test panel data regression, choosing the best estimation model among the Common Effect Model, Fixed Effect Model, and Random Effect Model. The Chow test compares the Common Effect Model with the Fixed Effect Model. The Chow test was conducted with the following hypotheses: H0: The best model is the Common Effect Model (CEM), and H1: the best model is the Fixed Effect Model (FEM). Reject H0 if the cross-section chi-square value is less than 0.05; the Fixed Effect model is accepted. The results of the Chow test are presented in table 5.

**Table 5.** Chow Test Result

Effect Test	Statistic	d.f.	Prob.
Cross-section F	10.406	(8,420)	0.000
Cross-Section Chi-Square	59.003	8	0.000

The results of the Chow test in table 5 above show that the value of the chi-square cross-section is 0.000 less than 0.050. Thus, the Fixed Effect Model is better than the Common Effect Model based on the test criteria. After performing the Chow test and the selected Fixed Effect Model, proceed to the Hausman test.

Hausman test determines whether hypothesis testing uses a Fixed or Random Effect Model. If the random cross-section probability is above 0.050, H0 is accepted, and the Random Effect Model is utilised. They use the Fixed Effect Model if the random cross-section probability is less than 0.050. Table 6 shows Hausman test findings.

**Table 6.** Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	12.786	3	0.005

Source: Output Eviews 9 (2022)

In table 6, Hausman's test demonstrates that a probability (cross-section random) of 0.005 is less than 0.050. The test requirements favour the Fixed Effect Model over the Random Effect Model. The researcher identified the Fixed Effect Model as the best estimation model; hence, the Hausman test was used. The fixed Effect Model was used to test the hypothesis. Table 7 shows FEM estimates results.

**Table 7.** Fixed Effect Model Estimation Result

$$CH_{it} = 0.162^{**} - 0.025^{**} IOS_{it} - 0.010 NWC_{it} - 0.009 ROA_{it}$$

$$R^2 = 0.703; \text{Adj. } R^2 = 0.062; F\text{-Stat} = 9.041; \text{Prob. } F\text{-Stat.} = 0.000$$

Note : \*Significant at  $\alpha = 0.010$ ; \*\*Significant at  $\alpha = 0,050$ ; \*\*\*Significant at  $\alpha = 0,100$

Classic Assumption Test. Panel regression analysis assumes heteroscedasticity and multicollinearity. Multicollinearity test difficulties develop if one or more independent variables are perfectly correlated. Multicollinearity testing is done by examining the output correlation.

**Table 8.** Multicollinearity Test Result

	IOS	NWC	ROA
IOS	1.000	-0.192	0.230
NWC	-0.192	1.000	0.459
ROA	0.230	0.459	1.000

The correlation between independent variables is less than 0.8, indicating there is no multicollinearity. The heteroscedasticity test This test compares residual variances between observations. Good regressions avoid heteroscedasticity. The Glejser test was utilised. There is no heteroscedasticity if the independent variable's significance is over 0.050.

**Table 9.** Heterokedastisitas Test Result

Variable	T Value	Significance	Conclusion
IOS	0.836	0.407	There is no heteroscedasticity.
NWC	-0.180	0.857	There is no heteroscedasticity.
ROA	0.784	0.436	There is no heteroscedasticity.

In table 9, the researcher can conclude that the study variables did not have heteroscedasticity (the data has a homogeneous variant or is homoscedasticity) because all sig values are over 0.050, homoscedasticity is assumed heteroscedasticity is absent.

F-Test. The F test determines the combined effect of independent factors on the dependent variable if the significance is 0.050 (5 percent). Reject H0 if the value is less than 0.05 and the independent variable impacts the dependent variable. Table shows F test results for the research regression model.

**Table 10.** F Test Result

R-squared	0.703	Mean dependent var	0.098
Adjusted R-squared	0.625	S.D dependent var	0.076
S.E. of regression	0.047	Akaike info criterion	-3.081.937
Sum squared resid	0.092	Schwarz criterion	-2.639.940
Log-likelihood	9.521.230	Hannan-Quinn critrerion	-2.911.476
F-statistic	9.041	Durbin-Watson stat	1.827.708
Prob(F-statistic)	0.000		

The regression model's F value is 9.041, and its significance is 0.000, or less than 0.050. The researcher can conclude that H<sub>0</sub> is rejected, and independent variables can alter the dependent variable. Investment Opportunity Set, Net Working Capital, and profitability affect cash holdings in food and beverage corporations listed on the Indonesia Stock Exchange for 2016-2021.

R<sup>2</sup> determination test. This test determines the regression model's appropriateness. The coefficient of determination describes the dependent variable using the independent variable (Sekaran and Bougie, 2017).

**Table 11.** Coefficient of Determination Test Result (R<sup>2</sup>)

R-squared	0.703
Adjusted R-squared	0.625
S.E. of regression	0.047
F-statistic	9.041
Prob(F-statistic)	0.000

Table 11 indicates the R<sup>2</sup> value of 0.703 or 70.3 per cent, showing that the independent factors, investment opportunity set, networking capital, and profitability explain only 70.300 percent of the dependent variable (cash holding) and the remaining 29.700 percent is explained by other variables outside investigation.

A partial test (t-test) tests whether the independent variable affects the dependent variable. The researcher tested regression results with a 95 percent confidence level t-test (Sekaran and Bougie, 2017). Reject H<sub>0</sub> if it the significantly less than 0.050. The t-test findings are:

**Table 12.** Partial Test Result

Variable	Coefficient	t-Statistic	Prob.	Criteria	Conclusion
C	0.162	8.280	0.000	Less than 0.050	Significant
IOS	-0.025	-3.429	0.001	Less than 0.050	Significant
NWC	-0.010	-0.462	0.645	More Than 0.050	Not Significant
ROA	-0.009	-0.495	0.623	More Than 0.050	Not Signifikan

Based on the effect validity test (t-test) in table 12, one independent variable significantly affects cash holding, namely the investment opportunity set (0.001 less than 0.050). The investment opportunity set variable is -0.025. If the investment opportunity set increases by 1, cash decreases by 0.025. If cash drops by 1, investment opportunities rise by 0.021. The regression coefficient for networking capital is -0.010, the t-count is -0.462, and the significance is 0.645. The significance value is greater than the preset fault tolerance (0.645 over 0.050), indicating that Net Working Capital does not affect cash holding. Table 12 shows the profitability variable's regression coefficient of -0.009, t-count of -0.495, and significance of 0.623. The significance value is greater than the preset fault tolerance (0.623 over 0.050), indicating profitability does not affect cash holding.

## DISCUSSION

Statistical results show that investment opportunity set, net working capital, and profitability simultaneously affect cash holding. According to table 12, Simultaneous results, the probability F-statistic is 0.000 less than 0.050. Partially, only the investment opportunity set has a significant effect on cash holding. Net working capital and profitability do no affect on cash holding.

Investment opportunity set had a significant negative effect on cash holding. Table 12 shows t-statistics -3.429 and prob value variable IOS 0.000 are less than 0.050. H1 rejected. This result was consistent with (Gill and Shah, 2012), whose investment opportunity set affects cash holding. IOS in this study is measured by the number of assets used by the company in running its business. In general, IOS describes the magnitude of investment opportunities but adjusts to the company's spending choices in the future. The results of this study indicate that a decrease in the set of investment opportunities will affect the level of cash holdings, which will be higher. The company will continue to accumulate cash in an optimal amount. Management is advised to continue to increase its cash holdings even though it has few investment opportunities to ensure funds availability if there are future profitable investment opportunities. Companies with large cash holding have more investment opportunities than those with financial difficulties (Arfan et al., 2017). According to (Thakur and Kannadhasan, 2019) every company has the same investment opportunities. High-quality investment opportunities will save cash to avoid underinvestment risk (Guizani, 2017), indicating that cash holding management is essential for financing profitable investment projects.

Net working capital does not affect cash holding. H2 rejected. The probability value of the NWC variable is 0.645, more than 0.050. This result indicates that NWC is a liquid asset that is easily liquidated so that the high NWC does not affect the decrease in cash holding. Net working capital and cash holding have the same role as company liquidity.

Companies that hold large amounts of cash intend to maintain company liquidity. In some conditions, current assets that can be relied upon are cash holdings because NWC is not easily liquidated during financial crises. Companies with a conservative working capital strategy will increase cash reserves during a recession. Research (Martínez-Sola et al., 2018) states that Net Working Capital does not affect cash holding. Higher net working capital has more cash. These results mention the argument that the company decides inventory, receivables, and cash holding policies simultaneously, so NWC does not affect cash holding. Inconsistent with research (Guizani, 2017), NWC negatively affects cash holding. Companies with liquid assets such as NWC will be easy to convert into cash, and they need to have less cash holding.

Profitable companies are more likely to invest in future worthwhile projects, so accumulated cash is used to finance these investments. Profitable companies can hold cash (Al-Najjar and Clark, 2017). We found inconsistent results with those (Sari and Ardian, 2019), which state that profitability affects cash holding. According to Table 12, the probability value of the ROA variable is 0.623, more than 0.050. H3 rejected. Meaning profitability does not affect the cash holdings. This result indicates that ROA does not affect cash holding. They are arguing that some profitable companies do not maintain levels of liquidity. Then, when a company loses money, the ROA or profit ratio does not affect cash holding because no profit influences the company to hold cash. Another possible argument is that profitable companies have not been able to manage their cash holdings properly. This argument supports the agency theory, which states that significant cash holdings cause agency problems if they cannot manage cash holding properly.

Cash holding management needs to be improved, as well as the factors influencing it. Food and beverage companies are one of the companies that need to pay attention to cash holding management. The reason is that the food and beverage industry is one of the national corporate sectors that can create new product innovations. Based on Figure 1, food and beverage companies experienced a decline in GDP due to several companies experiencing financial difficulties and negative profits. However, food and beverage companies can experience slow growth because they are a sector that produces finished goods needed in daily life. Optimal cash holding ownership in this sector can assist the company in meeting the need for sufficient funds to finance all of the company's operational activities.

## CONCLUSION

According to this study, net working capital and profitability do not affect the cash holdings of food and beverage companies listed on the Indonesia Stock Exchange (IDX) for 2016-2021. But, a variable investment opportunity set affects cash holdings. Meanwhile, simultaneously investment opportunity set, net working capital and profitability affect cash holding, and the independent variable can explain cash holding by 70.300 percent. Other variables explain the remaining 29.700 percent. We suggest adding cash flow, advantage, company size, etcetera to future cash holding research. Different company sectors and measurement scales are also offered for further investigation. This study concludes that cash holding management is essential to overcome future financial difficulties because it is a liquid asset. Cash can help companies invest profitably. Optimal

control is needed. Too much cash is insufficient for a company because it generates no income.

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