

Determinants of Corporate Cash Holdings: Case of Agriculture Companies in Indonesia

Anggita Langgeng WIJAYA

Department of Accounting, Faculty of Economics and Business,
Universitas PGRI Madiun, Indonesia
Email: gonggeng14@gmail.com

Abstract

Objective: Cash holdings are one of the fundamental financial decisions for the company. This study aims to examine the determinants of cash holdings in agricultural companies on the Indonesia Capital Market.

Methods: The population in this study was all agricultural companies on the Indonesia Capital Market from 2012 to 2019. The sample was obtained through a purposive sampling method. Data analysis in this study used multiple regressions.

Results: This study found that profitability, liquidity, and operating cash flow positively affect the cash holdings of agricultural companies in Indonesia. This study also finds that leverage, firm growth, and firm size have no effect on cash holdings in agricultural companies on the Indonesia Capital Market.

Originality/Relevance: This study emphasizes the importance of profitability, liquidity, and operating cash flow as factors that affect the company's cash holdings for agricultural companies in Indonesia.

Theoretical/methodological contributions: The results of this study strengthen and complement the results of previous research on the factors that affect a company's cash holdings.

Social/management contributions: The findings of this study are important as an effort to map the condition of cash holdings of agricultural companies in Indonesia. This study also advises managers of agricultural companies in Indonesia to increase the company's cash holdings to anticipate future business risks.

Keywords: Cash Holdings, Financial Risk, Liquidity, Agriculture Companies.

Déterminants de la trésorerie des entreprises: cas des entreprises agricoles en Indonésie

Résumé

Objectif: La trésorerie est l'une des décisions financières fondamentales de l'entreprise. Cette étude vise à examiner les déterminants de la détention de liquidités dans les entreprises agricoles à la Bourse d'Indonésie.

Méthodes : La population de cette étude était constituée de toutes les entreprises agricoles cotées à la Bourse d'Indonésie de 2012 à 2019. L'échantillon a été obtenu par une méthode d'échantillonnage raisonné. L'analyse des données dans cette étude a utilisé la régression multiple.

Résultats: Cette étude a révélé que la rentabilité, la liquidité et les flux de trésorerie d'exploitation affectent positivement les liquidités des entreprises agricoles en Indonésie. Cette étude révèle également que l'endettement, la croissance de l'entreprise et la taille de l'entreprise n'ont aucun effet sur les liquidités détenues par les entreprises agricoles à la bourse indonésienne.

Originalité/Pertinence : Cette étude met l'accent sur l'importance de la rentabilité, de la liquidité et des flux de trésorerie d'exploitation en tant que facteurs qui affectent les liquidités de l'entreprise pour les entreprises agricoles en Indonésie.

Apports théoriques/méthodologiques : Les résultats de cette étude renforcent et complètent les résultats de recherches antérieures sur les facteurs qui affectent la trésorerie d'une entreprise.

Contributions sociales/de gestion: Les conclusions de cette étude sont importantes pour cartographier l'état des liquidités des entreprises agricoles en Indonésie. Cette étude conseille également aux dirigeants d'entreprises agricoles en Indonésie d'augmenter les liquidités de l'entreprise afin d'anticiper les risques commerciaux futurs.

Mots-clés : Trésorerie, Risque financier, Liquidité, Entreprises agricoles.

1. Introduction

This study will examine the determinants of corporate cash holdings in the agricultural industry on the Indonesian Capital Market. Many previous studies have researched cash holding, some studies in the USA, Europe, Asia, and some have conducted comparisons between countries. This study will analyze cash holdings in agriculture companies in Indonesia. Research on cash holding in Indonesia has been conducted by several previous studies, such as Wijaya et al. (2010), Limanta and Malelak(2015),Najema and Asma(2019). However, to the best of the author's knowledge, no research has been conducted on cash holdings that focus on Indonesia's agriculture companies.

There is an interesting initial phenomenon related to this research. The first is that Indonesia has long declared this country as an agriculture country, and indeed the fact is that most Indonesian people work in agriculture. However, the data shows that only very few companies with an agriculture base are listed on the Indonesia Capital Market. This fact is a sad condition for the analysis and thought of the author. The small number of agriculture companies on the Indonesia Capital Market can indicate the poor management of the agriculture industry in Indonesia.

The second phenomenon shows that in Indonesia, there is not much research in the field of accounting that focuses on agriculture companies as far as the authors know. Agriculture companies in the Indonesia Capital Market have a small number of samples. Many accounting studies in Indonesia prefer to use manufacturing, property, financial, and bank companies or other types of companies as research samples. Agriculture companies are the sample in research for non-financial company research studies but do not focus specifically on the agriculture sector because they involve various industrial sectors. One of the critical aspects of Indonesia's agriculture companies that the researcher wants to describe in this study is the condition of the company's cash holdings. According to Ginglinger and Saddour(2012), cash holding is a significant financial decision for company managers. Cash holding is an essential theme for research on the agriculture industry because companies have risks in managing biological assets. Besides, there are business risks related to climate change, disasters, and changes in natural conditions that will impact the company's products' production process and sales.

According to Gancherka and Westerman(2018), the Global Financial Crisis's occurrence in 2007–2008 has attracted the attention of many parties regarding the importance of company cash holdings. The occurrence of disease outbreaks such as Covid-19 that has hit almost all countries today also explains the importance of managing corporate cash holdings. Even though this research cannot or has not been able to analyze the effect of the Covid-19 pandemic on company cash holdings, it is still interesting to research cash holding. Cash is the company's most liquid asset and determines the company's various business activities.

Modigliani and Miller (1958)stated that cash holdings were unnecessary in a perfect capital market because companies can easily get cash in the capital market to finance their investments. This opinion applies to assume there are no transaction costs in the capital market. However, Ferreira and Vilela(2004)research that the companies in European Union countries have an average of 14.8% of the ratio of cash and cash equivalents of total companies. In emerging markets such as Indonesia, the business risks faced by companies and investors are very high Dittmar et al. (2003). Political stability, macroeconomic factors, and the effect of information asymmetric on various corporate financial decisions make a business risk difficult to predict, so companies need to manage cash holdings properly. This research is expected to contribute by providing an overview of the condition of agriculture companies' cash holdings. This study is also expected to explain the factors that influence the level of cash holdings in Indonesia's agriculture companies.

2. Literature Review

2.1. Corporate Cash Holdings

Cash holdings are the amount of cash and cash equivalents owned and recorded on the company's balance sheet(García-Teruel et al., 2009). Elkinawy and Hall(2007)explain that cash

holding can be a good indicator and can also be a bad indicator for a company. A company with high cash holdings has the potential for better investment opportunities and better operational performance. However, another opinion says that high cash holdings indicate agency problems, poor corporate governance implementation, and weak investor protection.

García-Teruel et al.(2012)explain two points of view regarding the company's cash holding. The first point of view states cash holding is related to the company's financial limits. The company makes a policy on cash holdings to maintain the firm financial flexibility. If the company has expensive and challenging access to debt, then cash availability will help the company make important investment decisions. The second perspective explains that large cash holding shows agency problems in the company. Company managers withhold cash in order to pay the company owners if the investment policy fails. Dittmar et al.(2003)state that if the investment fails, then the manager's assessment will be inadequate so that the manager has large cash holding to solve agency problems.

Jensen (1986)explains that in an imperfect capital market, external funding tends to be expensive. Investments funded by expensive external funds are a precarious condition for managers. The company tries to maintain financial flexibility by having cash holdings. Ozkan and Ozkan(2004) explain that investments using internal sources of funds have a lower risk for managers. However, a large amount of cash holding also has the potential to harm the company. Cash holdings which are too large can become unproductive assets and potentially lead to cash misuse for the manager's benefit. Some literature states that cash holding is a form of company manager personal interest (Jensen & Meckling, 1976), and consuming perquisites(Jensen, 1986). Opler et al.(1999)explain that management must decide the marginal cost of the advantages and disadvantages of having cash holdings.

Opler et al.(1999) assessed two advantages for a company to have cash holding. The first is the guarantee of security in transactions. Owning a cash holding company can pay for transactions made without liquidating assets owned to make payments. Second, cash holdings allow the company to continue to finance its operations and investments, especially if the source of funds is not available and or external sources of funds are expensive. The trade-off between the costs and benefits of owning company cash holding is a challenge for management to prosper the company owner.

Ferreira and Vilela(2004)explain that several theoretical models can explain its cash holding behavior. The first theory discusses postulates trade-off. The company considers the cash holding level with the weighted average between costs and marginal returns on cash holding. The advantages of having cash holdings for a company include: reducing the possibility of financial difficulties, source of investment costs, minimizing external funding costs, and risk of asset liquidation. The main cost of cash holding is the opportunity cost of investing and liquid assets. The second theory is the pecking order theory from Myers and Majluf(1984).In order to reduce the costs of information asymmetry and expensive external financing, companies must first fund their investment policies with retained earnings (lowest risk), then debt (low and high risk), and stock equity firms(Myers & Majluf, 1984).This theory does not suggest that companies have a cash target at a certain level but use cash holding as an intermediary between retained earnings and investment needs. The third theory is the free cash flow theory presented by Jensen (1986). This theory explains that company managers have an incentive to increase cash holdings to increase assets' value under the company manager's control and obtain discretionary benefits for the company's investment decisions. The availability of cash reduces the pressure on managers to perform at their best. Cash holding makes managers more flexible in making investment decisions according to their interests and not the shareholders' interests.

Lozano and Yaman(2020)explain that cash holdings are a policy related to hedging, which is the primary key to corporate financial decisions, especially in crisis times. The precautionary motive presented by Keynes (1937)is one of the dominant explanations in explaining the company's cash holdings. According to Lozano and Yaman(2020), when a company experiences a decline in business cash flow, managers must increase their cash holdings to prevent the worst possibility of debt

repayment failure. The thought patterns that the authors convey in this study are more likely to be the Precautionary Motives presented by Keynes (1937). Keynes (1937) Precautionary Motive is the company's motive for having cash holdings by considering unexpected events related to business and financing aspects. This theory is appropriate for countries with unstable economies and is thought to explain the phenomenon in agriculture companies on the Indonesia Capital Market.

2.2. Hypothesis Development

2.2.1. Profitability and Cash Holdings

Wu and Hsiao(2019)state that company performance indicators evaluate its manager's ability for limited company resources. The efficiency and effectiveness of company resource management can be seen from the company's profitability. Chukwuebuka and Grace(2019)explain that profitability is the company's ability to earn profits. Profitability figures can be analyzed from the difference between revenues and costs in the company's business activities. Gore (2009) explains that cash holding is a company effort to save the company money when economic conditions are good and use it when economic conditions are bad. Cash holding is a form of anticipation of the volatility of the company's earnings and managers' caution on the uncertainty of cash inflows and outflows of the company.

Al-Amarneh(2015)states, the companies with high profits will increase the company's amount of cash. Cash is a source of internal funds that will be used to finance profitable investments in the future. In crisis conditions, the effect of ROA on cash holdings is positive. Cash holdings are a form of corporate motivation to avoid financial difficulties. Lozano and Yaman(2020)explain that cash holdings are an attempt by company management to gain financial flexibility. When a company has uncertainty about future cash flow fluctuations and uncertainty over investment returns, cash holding becomes relevant.

Chukwuebuka and Grace(2019)explain that the higher its profitability, the higher its cash holdings. Cash holding is a further guarantee for security in financing external funding and managing corporate liquidity. The company's profitability is projected to be in line with the cash inflows so that the company's cash balance will be higher. Ferreira and Vilela(2004)explain that to increase company profits in the future. Company managers must quickly and carefully take up prospective investment opportunities. Managers cannot implement this policy if the company does not have sufficient internal cash balances or external financing conditions are not expensive. The researchers agree with some previous studies and suspect that profitability will positively impact the firm's cash holdings. According to Lozano and Yaman(2020), with the precautionary motive, companies with high profitability need to have high cash holdings and guard against uncertain business operations, expensive funding from the capital market, and the risk of economic crisis.

Pinkowitz et al. (2013)stated that since the 2008 crisis, companies with high profitability in the USA have high cash holding. Limanta and Malelak(2015) explain that companies with high profitability will have strong cash flow from their operational activities. It will have a positive impact on the company's cash holdings. Ginglinger and Saddour(2012)state that companies with high profitability will maintain firm value by taking profitable investment opportunities in the future. Investments in the future require cash, where one of the sources is the company's cash holdings. Aftab et al. (2018)explain that companies with high profitability can pay higher dividends to shareholders. The company also has an interest in paying debts that are due so that high profitability will positively impact the company's cash holdings.

H₁: Profitability has a positive effect on company cash holdings.

2.2.2. Liquidity and Cash Holdings

Couderc(2006)explains that cash holdings attempt managers to reduce the risk that companies face external funding sources. Companies with large cash holding companies will first finance the investment using available internal cash; if there is not enough, the new company will

use external sources of funds. Couderc(2006) also explains that cash holding is a form of company managers' anticipation of financial constraints in the future. Tran(2020)explains that the global crisis has affected the sensitivity of corporate cash flows. The financial crisis is a condition of uncertainty for the company, so the company tries to accumulate cash and face the crisis in that condition. Companies will also use more internal cash sources to finance company projects due to external funding source constraints.

Gill and Shah (2011)explain that companies need to maintain their liquidity level to pay debts on time. Liquidity provides flexibility for managers in carrying out company business operations. Shubita(2019)states, the companies with a conservative working capital policy will always maintain a minimum risk for the liquidity of the company's assets. Liquidity will affect the company's cash availability, equipment, and supplies and reduce debt risk. The management of the company's working capital will impact the profitability of the company's long-term assets.

Myers and Majluf(1984)explain that information asymmetry will make external sources of funding expensive. This condition makes company managers prefer to finance investment with internal sources of funds. García-Teruel et al.(2009)explained that the company's financial liquidity would greatly influence internal funds sources. With high liquidity, the company has sufficient cash sources to finance investment with internal funds without using external sources of funds. Corporate liquidity also reduces the risk of financial distress and strengthens the ability to pay the debt, especially if cash flows from operating activities are in poor condition.

Marwick et al. (2020)stated that managers do not need to hold high internal cash balances if the company has a high liquidity ratio because assets are highly liquid. As a result, the cash conversion cycle is relatively easy and fast. However, according to Lozano and Yaman(2020), companies need to anticipate business risks and certainty in the future. This decision is align with the Precautionary Motivation theory. Even though the company has conservatively adequate liquidity, it needs to have a safe amount of cash holdings. Based on this premise, the effect of liquidity and cash holdings is positive. The worst risks of investment failure, profit fluctuation, and financial difficulties are anticipated with cash holdings.

H₂: Liquidity has a positive effect on the company's cash holding.

2.2.3. Leverage and Cash Holdings

The effect of leverage on cash holdings has two perspectives: the same strong rationale. The relationship between leverage and cash holdings can be explained in terms of positive and negative effects. The first point of view shows a positive explanation between corporate leverage and cash holdings. Ozkan and Ozkan(2004)explain that a company's opportunity to grow due to high agency costs between shareholders and holders of the corporate debt obligation. The company's growth will increase the risk of external debt, so that companies need to anticipate extraordinary conditions by having high amounts of cash.

The second perspective describes the opposite relationship between leverage and corporate cash holdings. Leverage can play the role of a substitute for cash holdings(Marwick et al., 2020).The company's high financial leverage ratio can be interpreted as the company's ease in obtaining funds so that management can take a minimalist cash policy(García-Teruel et al., 2009).Cash holding reacts passively to internal sources of funds(Opler et al., 1999). If the company has difficulty sourcing internal funds for investment purposes, the company issues debt. Companies do not prefer to issue equity because adverse selection costs cause equity to be expensive. The company accumulates cash on hand and is used to paying debts when it matures and maintains a surplus of internal funds. Company investments are funded with cash holdings obtained from the company's cash flow and debt managed to invest and pay back debts.

This study uses a precautionary motive perspective on company cash holdings so that the researcher supports the argument that the effect of leverage on cash holdings is positive. Tran (2020)explains that the relationship between leverage and cash holdings can be analyzed from the perspective of the financial crisis. The financial crisis can be caused by internal factors in the

company experiencing operational problems or financial crises caused by external economic crisis factors. The company's significant impact is increasing the risk of default on its debt, leading to claims for bankruptcy of the company. The company is guarded against these unforeseen conditions by having a large number of cash holdings.

Ferreira and Vilela(2004)explain that an increase in financial leverage ratios indicates an increase in the company's debt, which can impact financial distress. The increase in corporate leverage must be balanced with financial flexibility in the form of company cash holdings to prevent financial distress. Regarding the precautionary motive, companies that have high leverage would be prone to the risk of financial difficulties and bankruptcy(Guney et al., 2007). This condition will make company managers form large amounts of cash holdings in anticipation of future bankruptcy risk.

H₃: Leverage has a positive effect on the company's cash holding.

2.2.4. Company Growth and Cash Holdings

Companies that are experiencing growth have a high need for cash to affect the balance of the company's cash holdings(García-Teruel et al., 2009). A growing company requires a large source of funding for investment purposes. When there are agency problems within the company, and information asymmetry is high, external funding becomes expensive. This situation will make company managers decide to have large cash to finance company investments in assets. Cash holdings are also needed to anticipate the consequences of serious agency problems on company growth.

Ferreira and Vilela(2004)explain that company growth shows investment opportunities expected to bring benefits in the future. A company that has a high asset growth rate is expected to have large amounts of internal cash. If the company misses an investment opportunity at this time, there is the potential for future losses that can even lead to bankruptcy. This concept reinforces the notion that the effect of company growth on cash holdings is positive. The relationship between company growth and cash holdings is positive because external costs are more expensive for companies with high growth(Guney et al., 2007). Companies with high growth are prone to agency problems. When companies have investment opportunities and expensive external funding, cash holding is a form of business so that investment opportunities are not lost. Cash holdings are a manager's attempt to deal with financial distress and to be able to fund prospective investment opportunities.

Marwick et al. (2020)state that growing companies will invest in company capital so that they need much cash to finance these investment opportunities. Dittmar et al. (2003)explained that companies need many funds to develop their industry and business. If the transaction costs and agency problems are great, the company prefers to use internal sources of funds rather than external funds sources. As a consequence of this decision, the company formed many company cash holdings in line with the company's growth.

Saddour(2006) states, the companies with high growth will accumulate large amounts of cash when there is information asymmetry. These cash holdings were formed with the aim of financing projects that would benefit the company. The greater the growth rate of a company, the company, will hold cash in larger amounts. Growing companies have an incentive to avoid bankruptcy and financial difficulties by having large amounts of cash holdings (Ozkan & Ozkan, 2004).

H₄: The company growth rate has a positive effect on cash holdings.

2.2.5. Operating Cash Flow and Cash Holdings

Ozkan and Ozkan(2004)explain that companies with high cash flow volatility will tend to have large cash holdings. Failure to obtain short-term cash flow will increase the cost of external financing. The company anticipates costs for liquidity difficulties and potential failure on investment by holding sufficient cash to face the worst possible risk for the company. Companies with high cash flow

fluctuations will face high operational risk, so designing a cash balance in a safe amount is necessary (Opler et al., 1999). This policy was implemented in order to avoid financial difficulties. The analysis has concluded that companies in the US and European countries with high cash flows take a policy to have significant cash holdings in the component of their assets (Ozkan & Ozkan, 2004). Cash flow has the potential to provide a source of corporate liquidity for investment and financing of maturing debt (Guney et al., 2007). Cash flow also assures possible financial difficulties and the opportunity for the company to lose prospective investments. If a company faces high cash flow fluctuations, the company will hold high amounts of internal cash. Saddaour (2006) states that when a company has high business operational risk, it will hold large cash holdings. This decision was made to avoid financial difficulties. If the company has a large operating cash flow, it will be used to finance profitable investments, pay debts, pay dividends, and in the end, it will accumulate in the company's cash holding.

Trans (2020) explains that companies with cash flow sensitivity tend to take more conservative financial policies by forming extensive cash holdings during financial crises. Crisis conditions are synonymous with increased business risk and uncertainty over corporate profits. The company is on guard to anticipate the worst events by having a large number of cash holdings. Ferreira and Vilela (2004) explain that cash flow guarantees the company's financial liquidity. The uncertainty of a company's cash flow can be interpreted as an increase in its business risk. The company anticipates this condition by establishing cash holdings for various business interests such as agency fees, investments, and debt payments. Companies that have large cash flows are expected to hold large amounts of cash as well.

Lozano and Yaman (2020) stated that high cash flow volatility impacts the uncertainty of the company's cash inflows and outflows. In this condition, companies need to anticipate by forming cash holdings in high balance amounts. Keynes (1937) explained that precautionary theory could be used to explain the company's cash holdings. When the company gets a negative condition on its cash flow, the company can protect itself by forming cash holdings. In this condition, the company tries to maximize its value through investment activities amid high external funding sources for the company.

García-Teruel et al. (2009) state that companies will prioritize internal sources of funds over external funds sources. If the company has a large cash inflow, the company will also increase its cash holding balance. Račić and Stanišić (2017) explain that by nature, company managers prefer internal sources of funding when compared to external funding. The higher the company's operating cash flow, the higher the company's cash holdings. High cash flow volatility will impact the company's operations and profitability, so the company anticipates having a high cash holding balance. This study assumes that the effect of cash flow on cash holdings is positive.

H₅: Cash flow has a positive effect on the company's cash holding.

2.2.6. Firm Size and Cash Holdings

The relationship between firm size and cash holdings referring to the results of previous research can be explained from the positive or negative side. Guney et al. (2007), Ginglinger and Saddaour (2012), and García-Teruel et al. (2009) stated that the effect of firm size on cash holdings is negative. and García-Teruel et al. (2009) explained that small companies will face higher information asymmetry and are more prone to liquidity disruptions than large companies. Managers of large companies can take financial policies by having cash holdings with small balances due to easy access to sources of funds. Račić and Stanišić (2017) explain that small companies are considered more at risk because they face financial constraints and large transaction costs, so that small companies tend to have large amounts of cash holding.

Referring to the precautionary motive, the researcher supports the opinion that firm size positively affects cash holdings. Opler et al. (1999) explained that large companies could accumulate large amounts of cash than small companies. Large companies tend to have many cash holdings to maintain the level of investment to maintain company profits and value (Ferreira & Vilela, 2004).

Saddaour(2006)states that the company has a large level of business operations. To finance business operations, the company requires proper working capital management. When external sources of funds are not cheap, large companies will minimize risk by holding large amounts of cash. Afza and Adnan (2007) found a positive effect between firm size and cash holdings in Pakistan's case. As a result, large companies will use internal funds first to fund their investments. Corporate cash holdings were established to deal with liquidity difficulties due to the company's cash flow uncertainty.

H₆: Firm size has a positive effect on cash holding.

3. Research Method

3.1. Research Data

This research was conducted on the Indonesia Capital Market with a research period from 2012 to 2019. This research has not analyzed the impact of covid-19 on agriculture companies because covid-19 confirmed in Indonesia in March 2020. The population of this study was all companies in the agriculture category in the Indonesia Capital Market. The research data is obtained from audited financial reports, annual reports, and summary documents of the performance of Indonesia Capital Market Companies. The sample selection technique was carried out by using the purposive sampling method. The research sampling criteria were defined as follows: 1) The sample is an agriculture company on the Indonesia Capital Market from 2012 to 2019. 2) The company has audited financial reports. 3) The company is not currently experiencing a capital deficiency.

3.2. Operational Definition of Variables

3.2.1. Independent Variable

1). Profitability

The profitability of the company is the independent variable in this study. Mule et al. (2015) explained that profitability is a financial ratio that shows its ability to generate earnings. In this research, return on assets (ROA) is a proxy for company profitability. Return on assets (ROA) is a financial ratio that compares the company's net income to its total assets(Mule et al., 2015).

2). Liquidity

The company's liquidity describes the company's ability to pay its short-term debt. The Current Ratio is used as a proxy for company liquidity in this study. The current ratio in this study is calculated by comparing the company's current debt and current assets, referring to Wairegi(2018).

3). Leverage

Leverage is the company's debt ratio which shows the company's ability to pay debts. Leverage is calculated by comparing the total debt to its total assets (García-Teruel et al., 2009).

4). Operating Cash Flow

Operating cash flow is measured by the ratio between operating cash flow and the company's total assets, according to Opler et al. (1999) and also Ozkan and Ozkan(2004).

5). Company growth

Company growth in this study is related to company investment opportunities. The growth of companies in this study is measured by the growth of company assets, according to Tran (2020).

6). Firm Size

The size of the company in this study is measured by the natural log of the company's total assets, according to Marwick et al. (2020).

3.2.2. Dependent Variable

Corporate cash holdings are the dependent variable in this research. Cash holdings are measured by the amount of cash and equivalents on the balance sheet divided by the company's total assets(García-Teruel et al., 2009).

3.3. Analysis Techniques

Data analysis in this research uses a multiple regression model. The regression equation model used in this study is presented as follows.

$$\text{CASH}_t = \alpha + \beta_1 \text{ROA}_t + \beta_2 \text{CR}_t + \beta_3 \text{LEV}_t + \beta_4 \text{GROWTH}_t + \beta_5 \text{CFO}_t + \beta_6 \text{LNSIZE}_t + e \quad (1)$$

Information: CASH_t = Cash Holdings, ROA_t = Profitability, CR_t = Current ratio, LEV_t = leverage, GROWTH_t = company growth, LNSIZE_t = FirmSize, CFO_t = operating cash flow, $\beta_1 - \beta_6$ = regression coefficient, and e = error.

4. Analysis and Discussion

4.1. Overview of Research Data

Based on the sample criteria that the researchers set, observations of agriculture companies in Indonesia were obtained with the details presented in table 1 as follows:

Year	2012	2013	2014	2015	2016	2017	2018	2019
Total Observations	15	15	19	19	19	19	19	16

Source: Author's Documents

Table 1 illustrates the number of agriculture companies per year on the Indonesia Capital Market that publish complete financial report data. The number of research observations during the study period was 141 company data. Based on the calculation of the debt ratio, it is known that four companies experience a capital deficiency so that they are excluded from the analysis stage. Observations of company profits show 45 companies with negative earnings data, so they are also excluded from the analysis. The test results on the outlier data showed ten outlier company data so that the number of observations used in this study was 82 agriculture company data.

4.2. Descriptive Statistics

Table 2 presents the descriptive statistics of the research sample.

Variable	N	Min	Max	Mean	SD
CASH	82	0.120	20.340	6.258	5.196
ROA	82	0.340	28.180	5.528	4.479
CR	82	1.140	807.700	189.265	180.421
LEV	82	8.230	85.290	47.461	20.214
GROWTH	82	-36.340	355.06	23.907	55.912
CFO	82	-27.680	27.27	6.242	7.137
LNSIZE	82	26.128	31.14	29.399	1.181

Source: Author Calculation Results

Table 2 shows that the average value of cash holdings for agriculture companies in Indonesia is 6.26%. This value is quite low compared to the European Union countries of 14.8% (Ferreira & Vilela, 2004). The cash holdings figure is still not safe to maintain company liquidity. The average company profitability is 5.53%, which shows that Indonesia's agriculture companies are still having difficulty generating profits. The average values for liquidity, leverage, company growth, cash flow, and firm size were 189.27, 47.46, 23.91, 6.24, and 29.39.

Table 3 below will provide an overview of the correlation between research variables.

Table 3. Correlation Matrix

	CASH	ROA	CR	LEV	GROWTH	CFO	LNSIZE
CASH	1						
ROA	0.454	1					
CR	0.504	0.277	1				
LEV	-0.488	-0.519	-0.615	1			
GROWTH	0.039	-0.095	-0.007	0.135	1		
CFO	0.352	0.321	0.046	-0.197	-0.134	1	
LNSIZE	0.036	-0.051	-0.237	0.055	0.020	0.185	1

Source: Author Calculation Results

Based on Table 3, we can see that the relationship between leverage and profitability has the largest correlation with a value of -0.519. In contrast, the relationship between company size and company growth has the smallest correlation with a value of 0.020. The researcher states that the data used in this study are free from classical assumptions as a prerequisite for the regression test. This study's data are free of data normality problems, multicollinearity, autocorrelation, heteroscedasticity, and autocorrelation tests.

4.3. Hypothesis Testing Results

The following table shows the results of the test on the hypothesis test of this study.

Table 4. Regression Results

Description	Coefficient	Std Error	t-Statistic	p-value
Constanta	-10.570	12.363	-0.855	0.395
ROA	0.272	0.122	2.229	0.029
CR	0.011	0.003	3.426	0.001
LEV	-0.026	0.032	-0.796	0.428
GROWTH	0.010	0.008	1.213	0.299
CFO	0.171	0.068	2.495	0.015
LNSIZE	0.446	0.403	1.108	0.271
F-Value	9.919			0.000
Adjusted R Square	39.8%			

Source: Author Calculation Results

Table 4 shows that the regression test results show the coefficient of determination (adjusted R^2) of 0.398. The analysis of the coefficient of determination shows that 39.8% of variations in changes in the corporate cash holdings can be explained by company profitability, liquidity, leverage, company growth, operating cash flow, and firm size. There are 60.2% changes in cash holdings of agriculture companies in Indonesia, which are influenced by other factors outside of this research model. Table 4 also explains the regression F test results, where the F value shows a value

of 9,919 with a p-value of 0.000. Based on these results, the regression model is fit with the data used in this study.

Table 4 also displays the results of testing the research hypothesis. The hypothesis 1 test results show that testing the profitability variable obtained a regression coefficient of 0.272 with a p-value of 0.029, so it can be concluded that profitability has a positive effect on the cash holdings of agriculture companies in Indonesia. Hypothesis 1 is supported. Hypothesis 2 test results show that testing the liquidity variable as measured by current ratio obtained a regression coefficient of 0.011 with a p-value of 0.001, so it can be concluded that liquidity positively affects agriculture companies' cash holdings in Indonesia. Hypothesis 2 is supported.

Hypothesis 3 test results show that testing the leverage variable obtained a regression coefficient of -0.026 with a p-value of 0.428, so it can be concluded that leverage does not affect agriculture companies' cash holdings in Indonesia. Hypothesis 3 is not supported. Hypothesis 4 test results show that company growth testing obtained a regression coefficient of -0.010 with a p-value of 0.299, so it can be concluded that company growth does not affect cash holdings of agriculture companies in Indonesia. Hypothesis 4 is not supported.

Hypothesis 5 test results show that testing of operating cash flows obtained a regression coefficient of 0.171 with a p-value of 0.015, so it can be concluded that operating cash flow positively affects cash holdings of agriculture companies in Indonesia. Hypothesis 5 is supported. Hypothesis 6 test results show that the company size test obtained a regression coefficient of 0.446 with a p-value of 0.271. Based on the analysis results, it can be concluded that firm size does not affect the cash holdings of agricultural companies in Indonesia. Therefore, hypothesis 6 is not supported.

4.4. Discussion

This study confirms that in Indonesia's case of agriculture companies, profitability, liquidity, and cash flow positively affect company cash holdings. This finding supports some of the precautionary motive theory as a company's motive for having cash holdings. Profitability has a positive effect on cash holdings in agricultural firms in the Indonesian Capital Market. The results of this study support Aftab et al.(2018), which states that companies with high profitability will hold high amounts of cash to maintain financial flexibility towards future investment decisions and dividend payments. The results of this study are in line with the precautionary motive theory proposed by Lozano and Yaman(2020). Agriculture companies in Indonesia need to guard against uncertain conditions in the future, and the company has accumulated high profits in cash holdings as a source of internal funding. Al-Amarneh(2015)explains that companies must have the courage to take prospective investment opportunities to optimize organizational performance and maintain company profitability in the future. Suppose the information asymmetry causes expensive external funding, and the capital market may not be perfect. In that case, the cash flow obtained from the company's profits is included in cash holdings for various business purposes and company investments.

The results also found that liquidity positively affects agriculture companies' cash holdings on the Indonesia Capital Market. This study supports Lozano and Yaman(2020)findings, which state that even though the company has good liquidity, the company will still have cash holdings to anticipate the company's business risks in the future. The results of this study also support the precautionary motive theory on corporate cash holdings. Tran (2019) explains that economic crisis conditions and financial distress will increase its business risk. In this condition, liquidity management is very important for business operations and affects its cash holdings.

This research also confirms the positive effect of operating cash flow on the company's cash holdings. These results support the findings of Lozano and Yaman(2020) and Račić and Stanišić(2017), who found a positive effect of cash flow on company cash holdings. The positive effect of cash flow on cash holding in this research supports the precautionary motive theory of corporate cash holdings, as revealed by Lozano and Yaman(2020). Company cash flows are set aside in cash accumulation, which will guard against uncertain conditions and risks faced by the company in the

future. This behavior shows the conservative financial policies and prudence of the company managers.

This study did not find any influence of leverage, company growth, and company size on cash holdings in Indonesia's case of agricultural companies. Leverage has no effect on cash holdings in the case of agricultural companies in Indonesia. The results of this study do not support Ferreira and Vilela(2004) and Guney et al. (2007), which states that there is a positive influence between leverage on company cash holdings. Research by Ferreira and Vilela(2004)using company data in several European capital markets, Guney et al. (2007) used financial data from the US, UK, Japan, Germany, and France, while this study used data from agricultural companies in Indonesia. In Ferreira and Vilela's(2004) research sample, leverage has an average of 26.38%. The average leverage in the study of Guney et al. (2007)amounted to 23.68%, while the leverage in this study had an average of 47.46%. The difference in the average leverage value in this study is quite in contrast to Ferreira and Vilela's(2004)research, Guney et al. (2007). Researchers suspect that this is why the results of this study do not support previous research conducted by Ferreira and Vilela(2004)and Guney et al. (2007).

The analysis results on company growth also provide insignificant results on the cash holdings of agricultural companies in Indonesia. The results of this study do not support previous studies by Marwick et al. (2020) and Guney et al. (2007), which states that there is a positive influence on company growth on company cash holdings. Previous research conducted by Guney et al. (2007) and Marwick et al. (2020)use the market approach as a measure of company growth, while this study uses asset growth as a measure of company growth. Researchers suspect that the difference in measurement of this variable causes the company's growth testing results in this study not to support previous studies conducted by Guney et al. (2007) and Marwick et al. (2020).

This study also did not find any effect of firm size on cash holdings in agricultural companies in Indonesia. This result does not support Afza and Adnan (2007), who have found a positive influence between firm size and cash holdings. Afza and Adnan (2007) researched non-financial companies in Pakistan. Research data by Afza and Adnan (2007) show that the average firm size value is 7.07, quite different from that of agricultural companies in Indonesia, with an average firm size of 29.33. The firm size in this study and Afza and Adnan (2007) use the same proxy, namely the natural log of total assets. Researchers assess that there is a dynamic difference between the mean value of firm size in the study by Afza and Adnan (2007) and the firm value in this study so that the results of this study do not support the results of previous studies conducted by Afza and Adnan (2007).

Apart from being caused by differences in data characteristics, differences in the types of industry of the sample companies, and differences in proxy measurement variables, researchers tried to provide an opinion about the differences in the results of this study with several previous studies. The first opinion is that the macroeconomic conditions in each country are not the same, so company managers face different business risks. Of course, business risks in developed countries and emerging market countries are not the same, so the business decisions taken by company managers in emerging markets are not always in line with the results of research in developed countries(Dittmar et al., 2003),(Wijaya et al., 2010).

The second opinion is that the researcher considers that the condition of the agricultural industry in Indonesia is not as good as other types of industries on the Indonesia Capital Market. In each industry, companies face different business risks (Wijaya et al., 2010), so that the way managers manage company cash is not the same. Researchers consider that agriculture in Indonesia still focuses on maintaining profit and business, not to experience problems with the company's liquidity and cash flow.

5. Conclusion

This study aims to test the determinants of corporate cash holdings in agriculture companies on the Indonesia Capital Market from 2012 to 2019. Based on the results of the analysis and

discussion in the previous section, it can be concluded that profitability, liquidity, and cash flow have a positive effect on company cash holdings. In contrast, leverage, growth, and firm size are not proven variables affecting the cash holdings of agriculture companies in Indonesia. The results of this study partly confirm the precautionary motive theory of corporate cash holdings.

The managerial implication of this research is that managers of Indonesian agricultural companies can consider increasing the number of company cash holdings to anticipate future uncertainty. Managers of agricultural companies in Indonesia can increase their cash holdings by maintaining liquidity, company profitability, and company cash flow. Managers can manage the company's liquidity to increase the company's profitability and cash flow. The increase in profitability in line with the increase in the company's cash flow will increase the company's cash holdings balance so that the company has a more secure cash balance in the face of business risks and company uncertainty in the future.

This study's limitations are that it does not pay attention to the number of cash dividends paid in the current year and the level of accounting conservatism in Indonesian agriculture companies' financial statements. Further research can be developed by examining other variables that affect the company's cash holdings, such as dividends and the level of accounting conservatism. Financial crisis conditions and covid-19 pandemic conditions can also be interesting areas for further research on cash holdings.

References

- Aftab, U., Javid, A. Y., & Akhter, W. (2018). The Determinants of Cash Holdings around Different Regions of the World. *Business & Economic Review*, 10(2), 151–182. <https://doi.org/10.22547/ber/10.2.7>
- Afza, T., & Adnan, S. M. (2007). Determinants of Corporate Cash Holdings : A Case Study of Pakistan. *Proceedings of Singapore Economic Review Conference (SERC)*, 164–165. https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=SERC2007&paper_id=166
- Al-Amarneh, A. (2015). Corporate Cash Holdings and Financial Crisis: Evidence from Jordan. *International Business Research*, 8(5). <https://doi.org/10.5539/ibr.v8n5p212>
- Chukwuebuka, I., & Grace, N. (2019). Effect of Profitability on Cash Holdings of Quoted Consumer Goods Companies in Nigeria. *International Journal of Research and Innovation in Applied Science*, IV(Ix), 78–85.
- Couderc, N. (2006). Corporate cash holdings: Financial determinants and consequences. *Revue Economique*, 57(3), 485–496. <https://doi.org/10.3917/reco.573.0485>
- Dittmar, A., Mahrt-Smith, J., & Servaes, H. (2003). International Corporate Governance and Corporate Cash Holdings. *The Journal of Financial and Quantitative Analysis*, 38(1), 111. <https://doi.org/10.2307/4126766>
- Elkinawy, S., & Hall, B. (2007). Cash Holdings and Firm Value during Latin American Financial Crises Cash Holdings and Firm Value during Latin American Financial Crises. *Paper Presented at The Financial Management Association 2007 Annual Meeting, Orlando, Florida*.
- Ferreira, M. A., & Vilela, A. S. (2004). Why do firms hold cash? Evidence from EMU countries. *European Financial Management*, 10(2), 295–319. <https://doi.org/10.1111/j.1354-7798.2004.00251.x>
- Gancherka, S., & Westerman, W. (2018). Financial and Institutional Determinants of Cash Holdings in the Oil and Gas Industry. *Journal of Corporate Finance Research / Корпоративные Финансы | ISSN: 2073-0438*, 12(3), 60–72. <https://doi.org/10.17323/j.jcfr.2073-0438.12.3.2018.60-72>
- García-Teruel, P. J., Martínez-Solano, P., & Sánchez-Ballesta, J. P. (2009). Accruals quality and corporate cash holdings. *Accounting and Finance*, 49(1), 95–115. <https://doi.org/10.1111/j.1467-629X.2008.00276.x>
- Gill, A., & Shah, C. (2011). Determinants of Corporate Cash Holdings: Evidence from Canada. *International Journal of Economics and Finance*, 4(1). <https://doi.org/10.5539/ijef.v4n1p70>
- Ginglinger, E., & Saddour, K. (2012). Cash Holdings, Corporate Governance and Financial Constraints. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2154575>
- Gore, A. K. (2009). Why do cities hoard cash? determinants and implications of municipal cash holdings. *Accounting Review*, 84(1), 183–207. <https://doi.org/10.2308/accr.2009.84.1.183>
- Guney, Y., Ozkan, A., & Ozkan, N. (2007). International evidence on the non-linear impact of leverage on corporate cash holdings. *Journal of Multinational Financial Management*, 17(1), 45–60. <https://doi.org/10.1016/j.mulfin.2006.03.003>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Keynes, J. M. (1937). The general theory of employment. *Quarterly Journal of Economics*, 51(2), 209–223. <https://doi.org/10.2307/1882087>
- Limanta, V. N., & Malelak, M. I. (2015). Factors Affecting Corporate Cash Holding of Financial Sector Companies (Non Bank) Listed in Indonesian Stock Exchange Period 2010 - 2015. *International Conference on Management & Entrepreneurship*, 1, 1–10. <http://repository.petra.ac.id/17831/>
- Lozano, M. B., & Yaman, S. (2020). The European Financial Crisis and Firms' Cash Holding Policy: An Analysis of the Precautionary Motive. *Global Policy*, 11(S1), 84–94. <https://doi.org/10.1111/1758-5899.12768>

- Marwick, A., Hasan, M. M., & Luo, T. (2020). Organization capital and corporate cash holdings. *International Review of Financial Analysis*, 68. <https://doi.org/10.1016/j.irfa.2020.101458>
- Michael C. Jensen. (1986). Agency Costs of Free Cash Flow , Corporate Finance , and Takeovers Agency Costs of Free Cash Flow , Corporate Finance , and Takeovers. *American Economic Review*, 76(2), 323–329.
- Modigliani, F., & Miller, M. H. (1958). American Economic Association The Cost of Capital, Corporation Finance and the Theory of Investment. *Source: The American Economic Review*, 48(3), 261–297.
- Mule, R. K., Mukras, M. S., & Mutunga, N. O. (2015). Corporate size, profitability and market value: an econometric panel analysis of listed firms in Kenya. *European Scientific Journal*, 11(13), 376–396.
- Myers, S., & Majluf, N. (1984). Stock issues and investment policy when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221.
- Najema, & Asma, R. (2019). Analisis Pengaruh Current Asset, Capital Expenditure, Cash Conversion Cycle, Cash Flow, Leverage, Market To Book Value Dan Net Working Capital Terhadap Cash Holdings Pada Sektor Industri Barang Konsumsi Di Bei. *Jurnal Sains Manajemen Dan Kewirausahaan*, 3(1), 16–26.
- Opler, T., Pinkowitz, L., Stulz, R., & Williamson, R. (1999). The determinants and implications of corporate cash holdings. *Journal of Financial Economics*, 52(1), 3–46. [https://doi.org/10.1016/s0304-405x\(99\)00003-3](https://doi.org/10.1016/s0304-405x(99)00003-3)
- Ozkan, A., & Ozkan, N. (2004). Corporate cash holdings: An empirical investigation of UK companies. *Journal of Banking and Finance*, 28(9), 2103–2134. <https://doi.org/10.1016/j.jbankfin.2003.08.003>
- Pinkowitz, L. F., Stulz, R. M., & Williamson, R. G. (2013). Is there a U.S. High Cash Holdings Puzzle after the Financial Crisis? *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2253943>
- Račić, Ž., & Stanišić, N. (2017). Analysis of The Determinants of Corporate Cash Holdings: Examples from Companies in Serbia. *The European Journal of Applied Economics*, 14(1), 13–23.
- Saddour, K. (2006). The Determinants and the Value of Cash Holdings: Evidence from French firms. *Cahier de Recherche CEREQ*, 6, 1–33. http://www.cereq.dauphine.fr/cahiers_rech/cereq200606.pdf
- Shubita, M. F. (2019). The impact of working capital management on cash holdings of large and small firms: Evidence from Jordan. In *Investment Management and Financial Innovations* (Vol. 16, Issue 3, pp. 76–86). [https://doi.org/10.21511/imfi.16\(3\).2019.08](https://doi.org/10.21511/imfi.16(3).2019.08)
- Tran, Q. T. (2020). Corporate cash holdings and financial crisis: new evidence from an emerging market. *Eurasian Business Review*, 10(2), 271–285. <https://doi.org/10.1007/s40821-019-00134-9>
- Wairegi, B. W. (2018). Effect Of Liquidity On Profitability Of Non-Financial Firms Listed At Nairobi Securities Exchange. *Master's Thesis, University of Nairobi*. Retrieved from: http://myweb.lmu.edu/ccfc/index_files/Fall07/Susan_Cash_Holdings_and_Firm_Value_in_Latin_America.pdf.
- Wijaya, A. L., Bandi, B., & Hartoko, S. (2010). Pengaruh Kualitas AkruaI dan Leverage terhadap Cash Holding Perusahaan. *Jurnal Akuntansi Dan Keuangan Indonesia*, 7(2), 170–186. <https://doi.org/10.21002/jaki.2010.10>
- Wu, T. J., & Hsiao, H. F. (2019). A study of performance evaluation on the introduction of enterprise resource planning into agriculture. *Custos E Agronegocio*, 15(3), 385–396.