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Factors Determining Cash Holding in Manufacturing Companies

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ABSTRACT
This research aimed to reveal the influences of profitability, firm size, leverage, and capital expenditure on cash holding. In this study, 34 manufacturers listed on IDX from 2016 to 2018 were chosen using a purposive sampling strategy. Secondary data in the form of financial statements was utilized. Data analysis was performed with descriptive statistics and hypothesis testing with data panel regression analysis using EViews version 10. As the results, firm size has no significant influence on cash holding, while leverage and capital expenditure has negative and significant influences on cash holding. Meanwhile, profitability has a positive and significant influence on cash holding. It is suggested that this study should be extended, other independent variables should be added, and the different proxy should be used in future research.

Keywords: *Profitability, Firm Size, Leverage, Capital Expenditure, Cash Holding*

1. INTRODUCTION

Cash is a kind of liquid current asset, thus cash is the main thing that must be owned by a company in order to manage its operational activities. Having a large amount of cash can provide various benefits, such as to finance the unexpected cash necessities, and etc. However, having a large amounts of cash can also provide losses for the company, such as lost of opportunities for companies to earn the income due to idle cash. Therefore, companies need to understand about cash management, which is a company's management system that regulates cash flow to maintain company liquidity and utilizes idle funds and cash planning.

According to Gill and Shah (2012) [1], cash holding is defined as the cash owned by a company or available for investment in the form of physical assets and dividend to investors. According to Keynes in Ali et al (2016) [2], there are three motives or reasons for companies to possess the cash, 1) Transaction motive, in which cash is maintained to meet short-term cash inflows and outflows; 2) Precautionary motive that expresses the idea that private businesses and people keep cash on the assumption that they will be able to meet future demands that are currently unforeseeable; 3) Speculative motive, which means that cash is currently being held for speculation against possible future interest-rate increase.

Several factors that are thought to affect cash holding include profitability, firm size, leverage, and capital expenditure. Gitman and Zutter (2015) [3] defined profitability as the relationship between revenue and costs resulting from the use of the company's assets, either fixed assets or current assets. From the explanation above, it can be said that profitability is the company's ability to generate profit from various activities and resources in the company. According to Thu and Khuong (2018) [19] companies with high levels of profitability are usually followed by good investment opportunities, because the rate of return on these investments is getting higher. Therefore, companies with high level of profitability tend not to hold too much cash compared to those with lower level of profitability.

Firm size is one among the predictors of cash holding. According to Borhanuddin (2011) [4], company size is defined as a scale to classify the size of the company as indicated by total assets. Firm size has a close relationship with cash holding. According to Guizani (2017) [5], companies with large sizes usually have better access to stock market, so they have a smaller amount of cash-on-hand. This is because large companies have held public trust so that it is easier to access the market.

Leverage is a ratio comparing total debt with total assets owned by the company. Ali et al (2016) [2] explained that leverage is a condition in which a company buys its assets on credit with the belief that the profit from these assets will be greater when being compared to excess debt owned by the company, which can increase financial distress and cause bankruptcy. According to Kim et al. (2011) [6], leverage can increase risk as well as profit for the company. One of the risks that can be posed by leverage, is the interest expense that must be paid by the company and the possibility of getting penalty from a third party. One of the benefits of leverage is that it allows businesses to boost their purchasing power. Organizations with high

level of leverage typically hold less cash than those with lower level of leverage. Leverage can be utilized to replace cash in order to meet a company's operational funding requirements.

According to Gitman (2009) [7], capital expenditure is a company's expenditure that is expected to generate profits over a period of more than one year. Syamsuddin (2011) [8] defined capital expenditure as expenditures made by companies for investment purposes, such as buying new fixed assets (the purchase of land, buildings, machinery, and vehicles), to replace old fixed assets or increase the economic benefits of fixed assets owned by the company, and to finance short-term working capital, such as purchasing raw materials, paying salaries or wages, and paying other operational costs. According to Selcuk and Yilmaz (2017) [9], companies by conducting more capital expenditures can create more assets that can be used as guarantees in debt. Therefore, companies that often conduct capital expenditures have a smaller amount of cash holding when being compared to those that rarely conduct capital expenditures. By this way, despite being a non-earning asset, firms often maintain more cash than their normal working capital requirement. This article will assist future researchers, scholars, and managers in understanding what motivates organizations to hold cash.

2. LITERATURE REVIEW

A trade-off is a circumstance in which someone must choose between two or more items, sacrificing / losing one element for a specific reason, in exchange for another aspect of higher quality. According to Marfuah and Zulhilmi (2015) [10], about the Trade-Off Theory, cash-holding companies are managed by balancing the costs and benefits of holding cash. The best cash management option has to be aligned with the company's objective of maximizing the shareholders' value. The Miller and Orr (1966) [11] model provides cost efficiency of cash balances that determine the limit (maximum value) and return point, which is the target level of cash balances. When the cash balance surpasses the upper control-limit (maximum level), the excess cash is invested elsewhere to reach the target cash balance, and the remaining cash is returned to the company (Z). When cash falls below the lower control-limit (minimum level), the investment is sold to obtain cash, allowing the goal cash balance to be met (Miller and Orr, 1966) [11].

Jinkar (2013) [12] argued that the Pecking-Order Theory suggests that there is a sequence of sources of funds in making corporate funding decisions. According to this approach, when a corporation need cash for investment purposes, it should initially fund investment prospects by using the internal funds. When the internal fund is insufficient, the company will use an external approach, with debt as the second source of financing and equity as the final source of financing. On contrary to Trade-Off Theory, the Pecking-Order Theory holds the view that there is no optimal level of cash holding, but cash has a role as a buffer between investment needs and retained earnings. This theory explains the companies' financing behavior which have a preference to use internal sources of funds rather than those from external parties. As a result, the company's motivation for holding cash is to avoid borrowing money from outside sources. When retained earnings are insufficient to fund new investments, the firm will issue new debt with its cash holdings, and when it is able to repay the loan, the corporation will issue securities.

The following is a description of this study's framework of thinking:

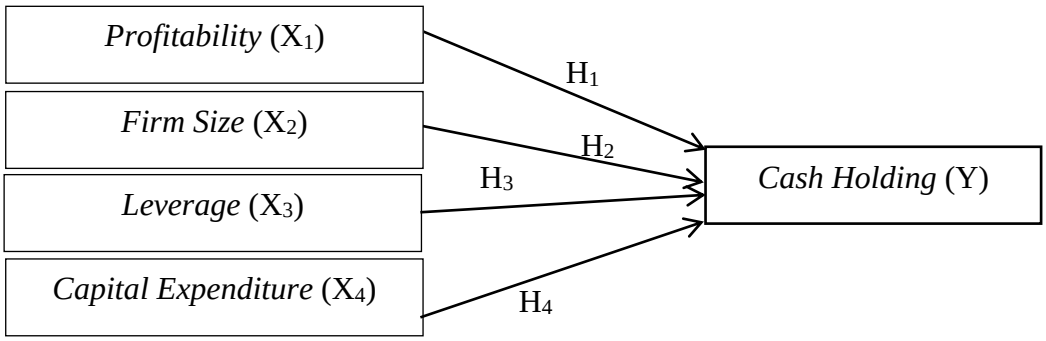

Figure 1 Framework of Thinking

The hypotheses of this research were formulated as follows:

H_1 : Profitability positively and significantly influences Cash Holding.

H_2: Firm Size negatively and significantly influences Cash Holding.

H_3 : Leverage negatively and significantly influences Cash Holding.

H_4 : Capital Expenditure negatively and significantly influences Cash Holding.

3. METHODOLOGY

The subjects used in this study are manufacturing-sector companies that were listed in the Indonesia Stock Exchange (IDX) from the year 2016 to 2018. This study used the purposive sampling technique, which is a sampling technique used to collect data with the criteria that have been determined at the beginning of the study. The criteria used in this sampling process are: 1) Manufacturing companies listed in IDX in a row during the 2016 – 2018 period; 2) Companies in the manufacturing sector that published their financial statements completely for the period of 2016 – 2018; 3) Companies in the manufacturing sector that used Rupiah currency in presenting their financial statements for the period of 2016 – 2018; 4) Companies in the manufacturing sector that did not suffer any loss during the period of 2016 – 2018; and 5) Manufacturing companies whose fixed asset values during 2016 – 2018 period have increased. From these criteria, a sample of 34 companies was obtained with a total of 102 data for 3 periods.

In this study, cash holding becomes the dependent variable. Cash holding is defined by Gill and Shah (2012) [1] as the cash held by a corporation, which is ready to be invested in fixed assets and dispersed to investors. According to Chireka and Fakoya (2017) [13], cash holding can be calculated using the formula as follow:

$$CASH = \frac{Cash\ and\ Cash\ Equivalent}{Total\ Assets}$$

Profitability, based on Sartono (2012) [14], is a company's ability to generate profits, which is related to sales, assets, and owned capital. Return on Assets is used to measure profitability in this study (ROA). Profitability, according to Aftab, Javid, and Akhter (2018) [15], can be calculated using the following formula:

$$ROA = \frac{Net\ Income}{Total\ Assets}$$

The size of the firm is this study's second independent variable. According to Borhanuddin and Ching (2011) [4], a scale to categorize the size of a company as indicated by the value of stock, firm value, or total assets is defined as a scale to classify the size of the company. According to Selcuk and Yilmaz (2017) [9], the following formula is used to calculate firm size:

$$\text{SIZE} = \ln\ (Total\ Asset)$$

Sjahrial (2009) [16] defined leverage as the use of assets and sources of cash derived from loans that carry interest as a fixed expense with the goal of enhancing shareholders' potential earnings. Debt-to-Assets is used to measure the leverage in this study (DAR). In Chireka and Fakoya's study (2017) [13], the following formula was utilized to calculate leverage:

$$DAR = \frac{Total\ Debt}{Total\ Assets}$$

Capital expenditure, according to Keown et al. (2011) [17], is a periodic expenditure made by a company for the formation of new capital to add the number of fixed assets which are beneficial for longer than one period, such as maintenance costs to maintain or increase the economic life, capacity, as well as asset quality. According to Chireka and Fakoya (2017) [13], capital expenditure can be computed by using the formula as follow:

$$CAPEX = \frac{Fixed\ Asset_t - Fixed\ Asset_{t-1} + Depre}{Total\ Assets}$$

The sample data was tested using the descriptive statistical tests, and then the model selection tests, such as Chow test and Hausman tests, were then performed. Meanwhile, the hypothesis test used the coefficient-of-determination test, the F-statistical test, and then the t-statistical test. The significance value used is 5%.

4. DATA ANALYSIS RESULTS

Statistical testing was carried out on 102 data points. The cash-holding variable (CASH) has a maximum value of 0.415624, a minimum value of 0.010552, a mean of 0.121025, and the standard deviation of 0.086227, based on the descriptive statistical tests.

The profitability variable (PFT) has a maximum value of 0.920997, a minimum value of 0.000782, a mean of of 0.103708, and the standard deviation of 0.126243.

The firm size variable (SIZE) has a maximum value of 33.47373, a minimum value of 26.31928, a mean of of 29.28271, and the standard deviation of 1.583675.

The leverage variable (LEV) has a maximum value of 0.726369, a minimum value of 0.076894, a mean of of 0.417162, and the standard deviation of 0.177501.

The capital expenditure variable (CAPEX) has a maximum value of 0.805597, a minimum value of 0.065303, a mean of 0.270548, and the standard deviation of 0.146116.

The next step is to conduct testing to determine the best approach in estimating the panel model. The first test was the Chow test to provide an understanding of the more appropriate approach model between the common-effect model and the fixed-effect model. The results of Chow-test show the probability value of the cross-section F of 0.0000 (less than 0.05), meaning that the fixed-effect model is more suitable than the common-effect model. The next test, is the Hausman-test to provide an understanding of which approach model is more appropriate between the random-effect model and the

fixed-effect model. The results of the Hausman-test show a random cross-section probability value of 0.1249 (> 0.05), meaning that the random-effect model is more suitable than the fixed-effect model, so it is necessary to carry out further testing, namely the Lagrange multiplier test to provide an understanding of which model is the best among the common-effect model and the random-effect model. The result of the Lagrange-multiplier test is 0.0000 (less than 0.05) meaning that the more suitable model is the random-effect model. The approach used to estimate the model in this study used a random-effect model. The equation of the multiple linear regression model in this study is as follow:

$$CASH = 0.207295 + 0.2403350PFT_{i,t} + 0.0000757 - 0.222032LEV_{i,t} - 0.150625CAPEX_{i,t}$$

The random-effect research model above can show the influence of independent variables on the dependent variable, namely cash holding (CASH). The regression equation that has been formulated was obtained from the coefficient of each variable. A regression coefficient greater than 0 has a meaning that the independent variable positively influences cash holding, but if the coefficient is less than 0, then the independent variable negatively influences cash holding.

The regression coefficient for the profitability variable is 0.240335. This value is greater than zero, hence there is a positive relationship between profitability and cash holding. This value states that if the profitability value increases by one unit, then the cash-holding value will also increase by 0.240335 . In contrast, if the profitability value drops by one unit, then the cash holding value falls by 0.240335. Profitability has a positive link with cash holding, as indicated by this positive regression coefficient.

The regression coefficient for the firm size (SIZE) variable is 0.000757. This value states that if the firm size value increases by one unit, then the cash-holding value will also increase by 0.000757. The firm size coefficient greater than 0 indicates that there is positive relationship between firm size and cash holding. Conversely, if the firm size value decreases by one unit, then the cash holding value will also decrease by 0.000757.

The regression coefficient for the leverage variable (LEV) is -0.222032. This value states that if the value increases by one unit, then the cash holding value will decrease by 0.222032. Conversely, if the leverage value decreases by one unit, then the cash holding value will increase by 0.222032. This shows that the relationship between leverage and cash holding is negative, because the regression coefficient of leverage is less than 0.

The regression coefficient for the capital expenditure variable is -0.150625. This value means that if the value of capital expenditure increases by one unit, then the value of cash holding will also decrease by 0.150625. Conversely, if the value of capital expenditure decreases by one unit, then the value of cash holding will also increase by 0.150625. This explains that capital expenditure has a negative relationship with cash holding.

The multiple determination coefficient test is used to measure the model's ability to explain the variation of the dependent variable. The result of the adjusted R^2, which shows a value of 0.221243, means that 22.12% of profitability, firm size, leverage, and capital expenditure variables can explain the variation in cash holding variable. Meanwhile, as much as 77.88% of variation in the cash holding variable is influenced by variations from other independent variables not included in this study. The figure in this model does not fully describe how well the independent variable can explain the dependent variable, because in the random-effect model, the adjusted R-squared number obtained, will tend to be smaller than the adjusted R-squared value generated by the fixed-effect model. Thus, the figure of 22.12% does not necessarily indicate that the independent variable has limited ability in explaining the dependent variable in this study. Moreover, previous studies also support the statement that profitability, firm size, leverage and capital expenditure are more or less able to explain cash holding.

The F-test is used to show whether all independent variables simultaneously and significantly influence the dependent variable. The value of F-test in this study is 0.000010, meaning that the independent variables in this study simultaneously provides a significant influence on cash holding. This illustrates that the independent variables in this study are feasible and suitable for the use in predicting the dependent variable. The hypothesis is accepted if the probability value of the t-test is less than 0.05. The results of t-test can be seen as follows:

Table 1 t-Test Results

Variable	*Coefficient*	*Prob*
C	0.207295	0.2976
PFT	0.240335	0.0001
SIZE	0.000757	0.9121
LEV	-0.222032	0.0001
CAPEX	-0.150625	0.0032

Source: Output from EViews version 10

5. DISCUSSION

According to the finding on profitability variable in this study, H_1 was accepted. Because the profitability variable (PFT) has a large, positive, and significant influence on cash holding, it is permissible to employ this variable as a factor influencing cash holding in a business. The finding from this study supports prior research conducted by Wahyudi (2017) [18], which found that profitability has a considerably favorable impact on cash holding. This is, however, contradictive to Thu and Khuong's (2018) [19] research, which found that profitability has a large negative impact on cash holding. The finding from this study is not in line with the Guizani's (2017) finding, which claimed that profitability has no substantial impact on cash holding.

This study rejected H_2, which means that the firm size (SIZE) variable does not have a positive and significant influence on cash holding so that this variable is not suitable to be used as a factor affecting cash holding in a company. The result of this study has the same conclusion as those from previous research conducted by Thu and Khuong (2018) [19], Zulyani and Hardiyanto (2019) [20], Chireka and Fakoya (2017) [13], and Wahyudi (2017) [18], concluding that firm size has no influence on cash holding. However, this result is different from the research results by Selcuk and Yilmaz (2017) [9], Musarat and Ullah (2015) [21], and Guizani (2017) [5], which stated that firm size has a significant influence on cash holding.

The result of this study also has the same conclusion as those of previous studies conducted by Thu and Khuong (2018) [19], Musarat and Ullah (2015) [21], Guizani (2017) [5], Marfuah and Zulhilmi (2015) [10], and Selcuk and Yilmaz (2017) [9], which stated that leverage significantly affects cash holding. However, the result of this study differs from those of Zulyani and Hardiyanto (2019) [20], Chireka and Fakoya (2017) [13], and Simanjuntak & Wahyudi (2017) [18], concluding that leverage does not have a significant influence on cash holding.

In this study, the result also concludes that capital expenditure has a negative and significant influence on cash holding. The result of this study accepted H_4, which means that the capital expenditure (CAPEX) variable has a negative and significant influence on cash holding so that this variable is appropriate to be used as a factor that affects cash holding in a company. The result of this study has the same conclusions as those of previous studies conducted by Selcuk and Yilmaz (2017) [9], Chireka and Fakoya (2017) [13], and Guizani (2017) [5], which stated that capital expenditure significantly affects cash holding. However, this result is different from the research of Najema and Asma (2019) [22] which stated that capital expenditure does not significantly affect cash holding.

6. CONCLUSIONS

The t-Test result for profitability variable shows a coefficient of 0.240335 and a probability value of 0.0001, thus it can be concluded that profitability has a positive and significant influence on cash holding, which means that H_1 was accepted.

Firm size (SIZE) shows a coefficient of 0.000757 and a probability value of 0.9121, thus it can be concluded that firm size (SIZE) does not have a negative and significant influence on cash holding, which means that H_2 was rejected.

Leverage (LEV) shows a coefficient of -0.222032 and a probability value of 0.0001, so it can be concluded that leverage (LEV) has a negative and significant influence on cash holding, which means that H_3 was accepted.

Capital expenditure (CAPEX) shows a coefficient of -0.150625 and a probability value of 0.0032, so it can be concluded that capital expenditure (CAPEX) has a negative and significant influence on cash holding, which means that H_4 was accepted.

There are several limitations to this research, namely as follows: 1) The research period is only limited to three years, namely 2016 – 2018; 2) The research sample is limited only to manufacturing companies; and 3) Testing the influence on cash holding in this study is only limited to four independent variables, namely profitability, firm size, leverage and capital expenditure.

Based on some limitations mentioned above, suggestions are given for further research, namely: 1) Future research should extend the research period so that the research results can be better generalized; 2) The population used for further research should not be only manufacturing industry companies, but also other industries, in order to know whether the independent variables in this study play a role in cash-holding companies in other sectors; and 4) The next research should add more independent variables.

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