



Cash Holding in Manufacturing Companies: A Study of Indonesia

Ardani Musa¹, Muhammad Arfan^{2*}, Nuraini A³

Department of Accounting, Faculty of Economics and Business, Universitas Syiah Kuala, Banda Aceh, Indonesia

*Corresponding Author: arfan_rais@unsyiah.ac.id

Abstract

Objective – This study aims to examine the effect of company size, net working capital, and financial leverage on cash holding in manufacturing companies listed on the Indonesia Stock Exchange.

Design/methodology – This study is a hypothesis testing research using secondary data in the form of the financial statements of the sampled companies. Its population includes manufacturing companies listed on the Indonesia Stock Exchange for the period of 2012-2016. 87 companies were taken as samples according to predetermined criteria and 435 observations were made. To test the hypotheses, panel data regression analysis was used, where the fixed effect model (least square dummy variable-LSDV) was selected as the estimation model.

Results – The results show that (1) company size has no effect on cash holding in manufacturing companies for the 2012-2016 period, and (2) net working capital and financial leverage have a negative effect on cash holding in manufacturing companies in the 2012-2016 period. The results support the existing hypothesis and theories such as trade off theory, agency theory, and pecking order theory. In addition, the results of this study can be used as a reference for investors and creditors whose net working capital and financial leverage are important factors in assessing the cash holdings of manufacturing companies in Indonesia, so that they can be used as basic guidelines in making investment decisions and financing company activities. Furthermore, the results of this study are also useful for managers of manufacturing companies in Indonesia in determining the optimal level of cash holding in which it is necessary to consider two influencing factors: net working capital and financial leverage.

Keywords: Cash Holding, Company Size, Net Working Capital, Financial Leverage.

1. Introduction

Manufacturing companies are no different from other types of companies such as service companies where cash is a form of asset that can be used immediately to meet the company's operational needs. There are three motives for a company to hold cash: a transaction motive, a precaution motive, and a speculation motive (Keynes, 1936). Cash in the company is called cash holding (Bates, Kahle, & Stulz, 2009). Cash holding is cash on hand or available for investment on physical assets and for distribution to investors (Gill & Charul, 2012).

Determining cash holdings at the optimal point is very essential because cash is the element of working capital most needed by the company to fulfill the company's operational activities. Both excess cash holdings and cash shortfall have consequences for the company and shareholders. Like a double-edged knife, excess cash holdings has disadvantages such as lower returns when compared to investing in real assets. On the other hand, cash shortfall can disrupt the operational company activities. One of the company's funding policies is how much cash policy the company must have that is sufficient for operational needs (transaction motive) as a source of investment funds to pursue future business opportunities (speculation motive) or for precautionary needs in case of external shocks.

In the Indonesian context, there is a phenomenon showing that several manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the years 2012-2016, have cash (cash holding) that varies widely, ranging from 0.2% of total assets to 70.1% of total assets. In addition, the percentage of cash holding in each company per year during 2012-2016 varies. The cash holding phenomenon is an interesting issue to analyze further empirically in this study, and what factors can explain the cash holding phenomenon.

Based on the results of previous study, factors that influence cash holding include company size, market to book ratio, net working capital, cash flow, financial leverage, return on assets, and investment in fixed assets (Afza & Adnan, 2007; Arfan et al., 2017; Bigelli & Sánchez-Vidal, 2012; Christian & Fauziah, 2017; Daher, 2010; Dianah, Basri, & Arfan, 2014; Ferreira & Vilela, 2004; Ginglinger & Khaoula, 2007; Guizani, 2017; Jinkar, 2013; Marfuah & Zulhilmi, 2014; Nofryanti, 2014; Ogundipe, Ogundipe, & Ajao, 2012; Opler, Pinkowitz, Stulz, & Williamson, 1999; Racic & Stanišić, 2017). In this study, the factors that will be analyzed for their influence on cash holding are company size, net working capital, and financial leverage. These three factors were chosen because they still raise a gap between the results of previous studies regarding the influence of these three factors on cash holding, both from the presence and absence of influence or from the side of the influence (positive or negative).

Company size is a description of the size of a company. The big companies are considered to be more capable of increasing company value because management has the flexibility to use company assets to increase productivity (Saputra & Fachrurrozie, 2015). Based on the trade off theory, there is a negative relationship between company size and cash holding. The bigger a company is, the easier it is for the company to get external financing, so that they are more likely to hold small amounts of cash or not create cash reserves. Research results by Ferreira & Vilela (2004) indicate that company size has a negative effect on cash holding. D'Mello, Krishnaswami, & Larkin (2005), Bates et al., (2009), Kim, Kim, & Woods (2011) and Gill & Charul (2012) also found the same case.

Furthermore, net working capital is obtained through reducing the company's current assets from the liabilities. If the results show that the net working capital is negative, it is estimated that the company is experiencing liquidity difficulties. In this condition, the company will keep more cash. Bates et al., (2009) stated that net working capital can be used as a substitute for company cash. This is due to the ease in changing its form into cash when the company needs it at any time. Thus, the increase in net working capital owned by the company results in a decrease in the level of cash holding. This has been proven by D'Mello et al.,(2005), Afza & Adnan (2007), Bates et al., (2009), Kim et al., (2011), Ogundipe et al., (2012) and Arfan et al., (2017) who found a negative relationship between net working capital and cash holding.

Another factor that influence cash holding is financial leverage. There are two opinions regarding the relationship between financial leverage and company cash holding. First, companies with high financial leverage have a high financial constraint tendency because they faced the high external funding costs (Guney, Ozkan, & Ozkan, 2007). Companies with high financial constraints have the tendency to hold higher cash. This raises an assumption that financial leverage as a proxy for financial constraint has a positive relationship with the company's cash holding. In one hand, companies that have a high financial constraint tend to go bankrupt. Of course, this condition is not expected by the company management. Therefore, companies that have high financial leverage have a motive to hold more cash to prevent bankruptcy (Al-Najjar, 2013; Al-Najjar & Belghitar, 2011; Kim et al., 2011).

Second, there is an opinion that financial leverage has a negative effect on cash holding. Agency theory states that there is a negative relationship between financial leverage and cash holding (Jensen & Meckling, 1976). Companies with high financial leverage have the ability to obtain external funding easily and at lower cost, thus enabling companies to reduce the amount of cash held (Ferreira & Vilela, 2004). The

higher the level of financial leverage indicates the lower cash holdings. This is in accordance with the findings of Arfan et al., (2017), Dianah et al., (2014), Guizani (2017), Jinkar (2013), Nofryanti (2014), Ogundipe et al., (2012, Racic & Stanišić (2017) who found that financial always had a negative effect on cash holdings.

This study refers to the previous one by Dianah et al., (2014) as the basis for selecting variables because it is necessary to focus on the information contained therein. The similarity between this study and the previous one is in the research analysis unit of manufacturing companies. The difference between them can be seen in the study period and research variables, and the analysis method. The previous research used the research period from 2010-2012, while this study used the 2012-2016 period. In previous research, the variable was growth opportunities, net working capital, financial leverage, while in this study, company size, net working capital and financial leverage were used as variables. The company size as a substitute variable for growth opportunities is used to prove that company size has an effect on cash holding. Furthermore, the previous studies used a cross-section data regression model, while this study used a panel data model that overcomes the weaknesses contained in cross data regression-section.

Based on this background, this study aims to examine the effect of company size, net working capital, and financial leverage on cash holding in manufacturing companies listed on the Indonesia Stock Exchange. The next sections of this paper follow this order: the second part is a theoretical framework and a hypothesis that provides a brief explanation of the concept of cash holding, the relationship between cash holding and its influencing factors and the hypotheses; the third part is a research method that explains the methods used in this research such as sampling, data collection methods, analysis methods, etc; the fourth part is the research result that explains the findings of this research; and finally the fifth part is the conclusions and limitations of the study and suggestions for further research.

2. Theoretical Frameworks and Hypothesis

Company Size and Cash Holding

Based on the trade-off theory, the relationship between company size and cash holding is negative. Company size has an inverse relationship with cash holding because large companies tend to invest in growth opportunities (growth opportunities) rather than hoard them (Harris & Raviv, 1990). The existence of diversification in the investment will have an impact on stable cash flow with the small possibility of financial distress (Titman & Wessels, 1988). Large companies have easy and cheap access to funding (Ferri & Jones, 1979). The opposite is certainly the case for small companies.

Bigelli & Sánchez-Vidal (2012) research results show that big companies take advantage of their scale of economy that allows them to secure the external finance relatively quickly and at lower cost. Moreover, they take advantage of their economic scale to reduce transaction costs, which are fixed costs incurred in external loan (Kim et al., 2011). That is why big companies do not need to accumulate large amounts of cash to avoid underinvestment as small companies do.

The results of research conducted by Ferreira & Vilela (2004) indicate that there is a negative relationship between company size and cash holding. Bigelli & Sánchez-Vidal (2012), Daher (2010), Ogundipe et al., (2012), Christian & Fauziah (2017) and Guizani (2017) found the same case of the negative influence of company size on cash holding.

H1: Company size has a negative effect on cash holding

Net Working Capital and Cash Holding

According to the trade-off theory, there is an inverse relationship between net working capital and cash holding. This is because net working capital consists primarily of current assets in lieu of cash. According to Ogundipe et al., (2012), net working capital is used as a proxy for investment in current assets which can be used as a substitute for cash. When needed, net working capital can be liquidated quickly to cover the cash shortage that the company needs (Ferreira & Vilela, 2004).

Companies with large net working capital generally hold small amounts of cash. In other words, net working capital has a negative effect on cash holding (Afza & Adnan, 2007; Ogundipe et al., 2012; Opler et al., 1999). Net working capital is also sometimes needed to maintain the continuity of the company's activities without having to wait from the company's main income or revenue such as sales so that when the company has high net working capital, it will automatically reduce their cash balance (Opler et al., 1999). In general, companies with this condition will hold cash in low amounts (Afza & Adnan, 2007). This is consistent with the findings of Ferreira & Vilela (2004), D'Mello et al., (2005), Daher, (2010), Kim et al., (2011), Ogundipe et al., (2012), William & Fauzi (2013), Jinkar (2013), Dianah et al., (2014), Nofryanti (2014), Hapsari (2015), Guizani (2017), Racic & Stanišić (2017) and Arfan et al., (2017) showed the evidence that net working capital has a negative effect on cash holding.

H2: Net working capital has a negative effect on cash holding

Financial Leverage and Cash Holding

Leverage has a relationship with the practice of earnings management, where investors will see the smallest company leverage ratio because the leverage ratio affects the impact of company risks that occur especially the risk of debt default (Perdana, 2019). Trade-off theory postulates that high financial leverage exposes companies to financial difficulties and bankruptcy. Companies that have high financial leverage will prevent this by holding more cash to prevent bankruptcy (Al-Najjar, 2013; Al-Najjar & Belghitar, 2011; Kim et al., 2011).

Managers who want to improve shareholders' welfare must design the company's cash holding at the right level between the profits and costs that must be borne by the company. If financial leverage is considered as a company's ability to issue debt, the effect of financial leverage on cash holding is negative (Ginglinger & Khaoula, 2007; Opler et al., 1999).

Ferreira & Vilela (2004) stated that companies with a higher level of financial leverage have the ability to obtain external funding more easily and cheaply, thus it enables the company to reduce the amount of cash held. Furthermore, Marfuah & Zuhilmi (2014) stated that the higher the level of financial leverage, the lower the company's cash holdings. If the company can easily obtain funding sources from debts, the company can hold a low amount of cash.

Research conducted by Ogundipe et al., (2012), Jinkar (2013), Dianah et al., (2014), Nofryanti (2014), Guizani (2017) Racic & Stanišić (2017) and Arfan et al., (2017) found a negative effect of financial leverage on cash holdings.

H3: Financial leverage affects cash holding

3. Research Method

Population and Sample

This study aims to examine the effect of the independent variables (company size, net working capital, and financial leverage) on the dependent variable (cash holding) through hypothesis testing. The population in this study were 144 manufacturing companies listed on the Indonesia Stock Exchange in the 2012-2016 period. The samples in this study was taken by purposive sampling method. The number of samples of manufacturing companies over the period of 2012 to 2016 from this study were 87

companies with 5 years of observational data, thus, the total observations made of the study was 435. Samples were taken based on balanced panel data.

Operationalization of Variables

The operationalization matrix of the research variables is shown in table 1.

Table 1. Variable Operationalization Matrix

Variable	Operational Definition	Measurement	Scale	Measurement Reference
Company Size (X1)	Company size is the size of the company seen from the amount of equity value, sales value or asset value.	$UP = \ln(\text{total asset})$	Ratio	Riyanto (2008, p.313)
Net Working Capital (X2)	Net working capital is all current assets component less total current liabilities (short-term debt). Current debt includes accounts payable, note payable, short term bank payable (one years), salary payable, and other current debts	$NWC = \frac{WC - C}{\text{Total Assets}}$ $Ket : WC \text{ (Working Capital)} = \text{Current Assets} - \text{Current Liabilities}$ $C = \text{Cash}$	Ratio	Subramaniam, Tang, Yue, & Zhou (2011)
Financial Leverage (X3)	Leverage is a comparison between total debt and total assets.	$FL = \frac{\text{Total debt}}{\text{Total Assets}}$	Rasio	Raharjaputra (2009, p.200)
Cash Holding (Y)	Cash holding defined as cash that is in the company or available for investment in physical assets and to distribute to investors	$CHD = \frac{\text{cash} + \text{cash equivalents}}{\text{Total Assets}}$	Rasio	Gill & Charul (2012)

Analysis Method

This study used combined data of cross-section and time series data known as panel data. Cross-section data is used because this study takes data from many companies consisting of 87 manufacturing companies as the research samples. Then, the time series data is used because it looked a time span of five years, from 2012-2016. The combination of these two data results in 435 research observations (87 companies for 5 years).

According to Basuki & Prawoto (2017:276) there are three models that can be used to perform panel data regression. The three models are Pooled OLS/common effect, fixed effect and random effect. Considering that panel data is a combination of cross-section data and time series data, the model can be written as follows:

$$Y_{it} = \alpha + b_1X_{1it} + b_2X_{2it} + b_3X_{3it} + e_{it}$$

Explanation:

- Y : Cash Holding
 α : Intercept (constant)
 X_{1it} : Company size
 X_{2it} : Net working capital
 X_{3it} : Financial leverage
 ε : Error term
 i : Company
 t : Time

4. Research Result

Panel Data Regression Model Selection

Chow Test

Chow test is a test to determine the common effect (OLS) or fixed effect model that is most appropriate to use in estimating panel data. The chow test results are shown in table 2.

Redundant Fixed Effects Tests

Equation: Untitled

Test cross-section fixed effects

Effects Test	Statistics	d.f.	Prob.
Cross-section F	15.219155	(86,345)	0.0000
Cross-section Chi-Square	681.782081	86	0.0000

Source : Eviews 10, data processed, 2019

Table 2. Chow Test Results

Table 2 shows the two values of the cross-section probability F are 0.0000 and the Chi square cross-section probability is 0.0000, smaller than alpha 5%, so that the null hypothesis is rejected and the alternative hypothesis is not rejected. Based on these results, it can be stated that the best model to use is the fixed effect model.

Hausman Test

After doing the Chow test, the results show that the fixed effect model is the right model for panel data regression, the Hausman test is then performed. The Hausman test is used to determine whether a fixed effect model or random effect model is most appropriate. Table 3 displays the results of the Hausman test.

Correlated Random Effects-Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	21.020444	3	0.0001

Source : Eviews 10, data processed, 2019

Table 3. Hausman Test Results

Based on table 3, the probability value of cross-section random is 0.0001 which is smaller than alpha 5%, which means that the null hypothesis is rejected and the alternative hypothesis is not rejected. Thus, based on the Hausman test, the best model to use in this study is the fixed effect model.

Hypothesis Testing Results

The results of the panel data regression model for the fixed effect model are presented in table 4.

Cross-section fixed effects test equation:

Dependent Variable: Y

Method: Panel Least Squares

Sample: 2012-2016

Periods included: 5

Cross-section included: 87

Total panel (balanced) observations:435

Variable	Coefficient	Std. Error	Prob.
C	0.244739	0.097032	0.0120
X1	0.001882	0.003397	0.5798
X2	-0.152897	0.033408	0.0000
X3	-0.379253	0.027021	0.0000
Adjusted R-square	0.315128	S.D. depent var	0.125965
S.E. of regression	0.104245	Akaike info criterion	-1.674995
Sum square resid	4.683674	Schwarz criterion	-1.637521
Log likelihood	368.3115	Hannan-Quinn criter.	-1.660205

Table 4. Fixed Effect Model Regression Results

F-statistic	67.56487	Durbin-Watson stat	0.408150
Prob(F-Statistic)	0.000000		

Source : Eviews 10, data processed, 2019

Based on table 4, the panel data regression equation is obtained as follows:

$$Y = 0,244739 + 0,001882X_1 - 0,152897X_2 - 0,379253X_3 + e_{it}$$

The Effect of Company Size on Cash Holding

Based on the results of the t test presented in table 4, company size has a significance level of 0.5798. This shows that the significance value ($0.5798 > 0.05$). These results indicate that the value is greater than 0.05. This result shows an insignificant result. In other words, the company size has no effect on cash holding. Thus, the variation in company size is not able to explain variations in cash holding in manufacturing companies on the IDX for the 2012-2016 period. An insignificant result has also been found by (Christian & Fauziah, 2017; Hapsari, 2015; Jinkar, 2013; Ogundipe et al., 2012; Racic & Stanišić, 2017; Rahmawati, 2014).

The results of this study do not support the previous hypothesis and are also contrary to the trade-off theory which states that small companies have a higher level of cash holdings than big companies. The big companies are considered to have more diversification than small companies, so they are less susceptible to bankruptcy costs (Al-Najjar & Belghitar, 2011).

The Effect of Net Working Capital on Cash Holding

Based on the test results presented in Table 4, net working capital has a significance level of 0.0000. The significance value indicates ($0.0000 < 0.05$). This explains that the significance value is smaller than 0.05. Thus it can be stated that net working capital has an effect on cash holding. The coefficient value of net working capital is -0.152897 (negative sign), which means that net working capital has a negative effect on cash holding. This negative effect means that the higher the net working capital of a company, the lower its cash holding is, and vice versa.

The results of this study support the previous proposed hypothesis and are in accordance with the trade-off theory, where there is an inverse relationship between net working capital and cash holding. This net working capital consists of current assets in lieu of cash. According to Ogundipe et al., (2012) net working capital is used as a proxy for investment in current assets which can be used as a substitute for cash. When needed, net working capital can be liquidated quickly to cover the cash shortage that the company needs (Ferreira & Vilela, 2004).

The results of this study are also in line with the findings of Ferreira & Vilela (2004), D'Mello et al., (2005), Daher, (2010), Kim et al., (2011), Ogundipe et al., (2012), William & Fauzi (2013), Jinkar (2013), Dianah et al., (2014), Nofryanti (2014), Hapsari (2015), Guizani (2017), Racic & Stanišić (2017) and Arfan et al., (2017) who found that net working capital has a negative effect on cash holding.

The Effect of Financial Leverage on Cash Holding

Based on the regression results presented in table 4, financial leverage (X_3) has a significance level of 0.0000. This shows that the significance value is smaller ($0.0000 < 0.05$). Thus, it can be concluded that financial leverage has an effect on cash holding. Financial leverage coefficient of -0.379253 (negative sign) indicates that financial leverage has a negative effect on cash holding. This negative influence can be interpreted that the higher the financial leverage of a company, the lower its cash holding is, and vice versa.

The results of this study are consistent with the previous hypothesis, where financial leverage has an effect on cash holding and the results show that financial leverage has a negative effect on cash holding. The results of this study are also consistent with

the agency theory described in the previous section which points out that there is a negative relationship between financial leverage and cash holding.

In the results of their research, Ferreira & Vilela (2004) explained that companies with a low level of financial leverage can cause a lack of supervision from external parties. Therefore, it allows the greater managerial discretion to gain benefits for themselves when cash is at a higher level so the managers can use it.

Another reason for this is that high financial leverage reflects the ease which helps a company get external funding. This is the reason why companies with high financial leverage do not hold too much cash because they are considered to provide lower returns when compared to investing in other assets. This is also in line with the pecking order theory. An additional reason is that companies with high debt ratios have low cash reserves because they also have to pay their debt installments plus the interest. A company with a high level of financial leverage will have a low cash holding rate. The results of this study are also consistent with the findings of Jinkar (2013), Dianah et al., (2014), Nofryanti (2014), Hapsari (2015), Guizani (2017) and (Arfan et al., 2017) who found a negative relationship between financial leverage and cash holding.

Implications of Research Results

The results of this study provide two implications on both theory and practice. On theory, the research results support the hypothesis based on existing theories such as the trade-off theory, agency theory, and pecking order theory. On practice, the implications of the results of this study include (1) it can be used as a reference for investors and creditors that to assess the cash holding of manufacturing companies in Indonesia it is important to pay attention to the level of net working capital and financial leverage, so that it can be used as basic guidance in investment decision making and corporate activity funding, (2) it can be useful for managers of manufacturing companies in Indonesia that in determining the optimal amount of cash holding, it is necessary to consider two factors that influence it; net working capital and financial leverage.

5. Conclusions

Based on the findings regarding the effect of company size, net working capital, and financial leverage on cash holding in manufacturing companies on the IDX for the 2012-2016 period, it can be concluded that company size has no effect on cash holding. This means that the size of the manufacturing companies on the IDX is not able to explain cash holding. This result is also inconsistent with the trade-off theory which states that small companies have a higher level of cash holdings than big companies because big companies are considered to have diversification so that they are less susceptible to bankruptcy costs. Then, net working capital has a negative effect against cash holding. This result is consistent with the trade-off theory that there is an inverse relationship between net working capital and cash holding. This is because net working capital consists of current assets in lieu of cash. Furthermore, financial leverage has a negative effect on cash holding. Low financial leverage leads to less supervision from external parties, thus allowing the greater managerial discretion when cash is at a higher level. In addition, high financial leverage reflects the ease that a company can get external funding and do not hold too many clusters because they are considered to provide lower returns when compared to investments in other assets.

This research is limited by several circumstances. First, the selection of variables that are thought to affect cash holding consists of three variables. This allows for other factors that may have a greater influence on cash holding to be left out. Out of the three variables, there is one variable that is unable to explain variations in cash holding, the company size. Second, the unit of analysis in this study is only companies in the manufacturing sector. Therefore its results cannot be generalized to all sectors on

the IDX, especially for financial sector companies that have different capital structures.

Based on the results of this research, it is suggested that future research to add other variables that are expected to influence company policy in terms of cash holding such as growth opportunity, profitability, capital expenditure and so on. It is also suggested that the research population is not only limited to the manufacturing sector but also other sectors on the IDX, hence the research results can be generalized to all sectors on the IDX.

References

- Afza, T., & Adnan, S. M. (2007). Determinants of corporate cash holdings: A case study of Pakistan. *Proceedings of Singapore Economic Review Conference (SERC)*, 1–12.
- Al-Najjar, B. (2013). The financial determinants of corporate cash holdings: Evidence from some emerging markets. *International Business Review*, 22(1), 77–88.
- Al-Najjar, B., & Belghitar, Y. (2011). Corporate cash holdings and dividend payments: evidence from simultaneous analysis. *Managerial and Decision Economics*, 32(4), 231–241.
- Arfan, M., Basri, H., Dianah, A., Handayani, R., Abd Majid, M. S., & Fahlevi, H. (2017). Determinants of cash holding of listed manufacturing companies in the Indonesian Stock Exchange. *DLSU Business & Economics Review*, 26(2), 1–12.
- Basuki, A. T., & Prawoto, N. (2017). *Analisis regresi dalam penelitian ekonomi & bisnis: Dilengkapi aplikasi SPSS & EVIEWS*. Depok: Rajagrafindo Persada.
- Bates, T., Kahle, K., & Stulz, R. (2009). Why do US firms hold so much cash than they used to be? *Journal of Finance*, 64, 1985–2021.
- Bigelli, M., & Sánchez-Vidal, J. (2012). Cash holdings in private firms. *Journal of Banking & Finance*, 36, 26–35.
- Christian, N., & Fauziah, F. (2017). Faktor-faktor penahanan dana (cash holding). *Global Financial Accounting Journal*, 1(1), 13–24.
- D'Mello, R., Krishnaswami, S., & Larkin, P. J. (2005). An analysis of the corporate cash holding decision. In *Working Paper*. Retrieved from https://scholarworks.uno.edu/econ_wp/35
- Daher, M. (2010). The determinants of cash holdings in UK public and private firms Management School. Lancaster University, United Kingdom.
- Dianah, A., Basri, H., & Arfan, M. (2014). Pengaruh peluang pertumbuhan, modal kerja bersih, dan financial leverage terhadap cash holding pada perusahaan manufaktur di BEI. *Jurnal Akuntansi*, 3(2), 13–2.
- Ferreira, M. A., & Vilela, A. S. (2004). Why do firms hold cash? Evidence from EMU countries. *European Financial Management*, 10(2), 295–319.
- Ferri, M. G., & Jones, W. H. (1979). Determinants of financial structure: A new methodological approach. *The Journal of Finance*, 34, 631–644.
- Gill, A., & Charul, S. (2012). Determinants of corporate cash holdings: Evidence from Canada. *International Journal of Economics & Finance*, 4(1), 70–79.
- Ginglinger, E., & Khaoula, S. (2007). Cash holdings, corporate governance and financial constraints. *HAL Id: Halshs-00162404, Université Paris-Dauphine, Place Du Maréchal de Lattre, 75775 -Paris Cedex, 16*, 1–34.
- Guizani, M. (2017). The financial determinants of corporate cash holdings in an oil rich country: Evidence from Kingdom of Saudi Arabia. *Borsa Istanbul Review*, 17(3), 133–143.
- 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), 1–23.
- Hapsari, A. A. (2015). Faktor-faktor yang mempengaruhi jumlah pemegang kas di

- perusahaan (Factors influencing the amount of cash holding in the company). *Jurnal Manajemen Dan Bisnis Indonesia*, 3(1), 97–112.
- Harris, M., & Raviv, A. (1990). Capital structure and the information role of debt. *Journal Finance*, 45, 321–349.
- Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3, 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Jinkar, R. T. (2013). Analisa faktor-faktor penentu kebijakan cash holding perusahaan manufaktur di Indonesia. *Mini Economica*, 42, 129–146.
- Keynes, J. M. (1936). The general theory of employment. In *Interest & Money*. London: Harcourt Brace.
- Kim, J., Kim, H., & Woods, D. (2011). Determinants of corporate cash-holding levels: An empirical examination of the restaurant industry. *International Journal of Hospitality Management*, 30(3), 568–574.
- Marfuah, M., & Zulhildi, A. (2014). Pengaruh growth opportunity, net working capital, cash conversion cycle, dan leverage terhadap cash holding perusahaan. *Jurnal Ekonomi Dan Bisnis Optimum*, 5, 32–43.
- Nofryanti, N. (2014). Pengaruh net working capital, growth opportunity dan leverage terhadap cash holding: Studi empiris pada perusahaan property and real estate yang terdaftar di Bursa Efek Indonesia tahun 2009-2013. *Jurnal Ilmiah Akuntansi Universitas Pamulang*, 2(4), 450–475.
- Ogundipe, L. O., Ogundipe, S. E., & Ajao, S. K. (2012). Cash holding and firm characteristics: Evidence from Nigerian emerging market. *Journal of Business, Economics and Finance*, 2, 45–58.
- Opler, T., Pinkowitz, L., Stulz, R., & Williamson, R. (1999). The determinants and implications of corporate cash holdings. *Journal of Financial Economics*, 52, 3–46.
- Perdana, A. A. (2019). The influence of institutional ownership, leverage, and audit committee on earnings management: Evidence of companies listed on the Indonesia stock exchange. *Journal of Accounting Research, Organization and Economics*, 2(2), 97–112. <https://doi.org/10.24815/jaroe.v2i2.14633>
- Racic, 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.
- Rahmawati, Z. A. (2014). Faktor-faktor yang mempengaruhi keputusan cash holding pada perusahaan food and beverages yang terdaftar di BEI. *Jurnal Ilmiah Fakultas Ekonomi Brawijaya*, 2(2), 1–15.
- Saputra, H. G., & Fachrurrozie, F. (2015). Determinan nilai perusahaan sektor property, real estate, & building construction di BEI. *Accounting Analysis Journal*, 4(2), 1–9.
- Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. *Journal of Finance*, 43(1), 1–19.
- William, W., & Fauzi, S. (2013). Analisis pengaruh growth opportunity, net working capital, dan conversion cycle terhadap cash holding perusahaan sektor pertambangan. *Jurnal Ekonomi & Keuangan*, 1(2), 72–90.