



## The Effect of Optimal Cash and Deviation from Target Cash on the Firm Value: Empirical Study in Indonesian Firms

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### Info Article

#### History Article:

Received 24 December 2018

Approved 24 May 2019

Published March 2019

#### Keywords:

Optimal Cash; Deviation from Target Cash; Corporate Governance; Investment; Debt.

### Abstract

The aim of this paper is to examine the effect of cash, optimal cash holding, deviation from target cash (the target adjustment model) on the firm value. This research uses a sample of Indonesian publicly traded firms for the period 2001-2017 (3,349 observation). This paper uses a dynamic panel fixed effects model to estimate optimal cash holdings. Hypothesis testing uses GLS fixed effect and interaction effect uses regression moderated analysis. Research finds that: first, cash, optimal cash, and deviation from target cash have an effect on the firm value. Second, corporate governance moderates the effect of cash, optimal cash, and deviation from target cash on the firm value. Third, investment positively moderates the effect of cash on the firm value. Investment negatively moderates the effect of optimal cash, deviation from target cash on the firm value. Debt negatively moderates the effect of cash, optimal cash on the firm value. Debt positively moderates the effect of deviation from target cash on the firm value.

## Pengaruh Kas Optimal dan Deviasi dari Kas Target pada Nilai Perusahaan: Studi Empiris di Indonesia

### Abstrak

Tujuan penelitian ini menguji pengaruh kas, kas optimal perusahaan, dan deviasi dari kas target (model penyesuaian ke kas target) pada nilai perusahaan. Riset menggunakan sampel perusahaan yang sudah go public selama periode 2001-2017 (3.349 observasi). Penelitian menggunakan model panel dinamis fixed effects untuk mengestimasi kas optimal. Pengujian hipotesis menggunakan regresi GLS fixed effect, dan efek interaksi menggunakan model regresi berjenjang. Temuan penelitian menunjukkan bahwa: Pertama, kas, kas optimal, deviasi dari kas target berpengaruh pada nilai perusahaan. Kedua, interaksi tata kelola perusahaan terhadap pengaruh kas, kas optimal, dan deviasi dari kas target pada nilai perusahaan menghasilkan temuan yang beragam. Ketiga, investasi memperlemah pengaruh kas pada nilai perusahaan. Investasi memperkuat pengaruh kas optimal, dan deviasi dari kas target pada nilai perusahaan. Utang memperlemah pengaruh kas, dan kas optimal pada nilai perusahaan. Utang memperkuat pengaruh deviasi dari kas target pada nilai perusahaan.

JEL Classification: G3, G34

How to Cite: Kristanto, H., Hanafi, M. M., & Lantara, I. W. N. (2019). The Effect of Optimal Cash and Deviation from Target Cash on the Firm Value: Empirical Study in Indonesia Firms. *Jurnal Dinamika Manajemen*, 10(1), 1-13.

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ISSN

2086-0668 (print) 2337-5434 (online)  
DOI: 10.15294/jdm.v10i1.17359

## INTRODUCTION

Cash holding is initially the object of study in the academic field, stated by Keynes (1937), known as the theory of liquidity preference. A company's motives to own cash are a precautionary motive, transactional motive, and speculative motive. Cash holding research is then developed into several approaches such as: agency problem (Jensen & Meckling, 1976; Jensen, 1986), liquidity level, trade off theory (Miller & Orr, 1966; Opler et al., 1999), pecking order theory (Ferreira & Vilela, 2004), and agency theory approach (Bates et al., 2009; Lozano & Duran, 2017).

Theoretically, in a perfect capital market that level and dynamic changes of cash holding is irrelevant decision (Opler et al., 1999; Shipe, 2015; Orlova & Rao, 2018). There are many studies conducted to test and to explain cash holding built based on many theories such as trade off, financial hierarchy, agency theory, corporate governance theory, and market timing theory (Opler et al., 1999; Chen et al., 2015). A company should predict the optimal amount of company's cash holding to run the company's operation efficiently and to increase the value of the company. Some researches try to determine factors influencing company's cash holding and to obtain various findings (Pinkowitz et al., 2006; Luo & Hachiya, 2005; Lozano & Duran, 2017).

The median of cash to total asset ratio in several countries is various in the period of 1989-2009 (Chen et al., 2015). The amount of cash holding in countries like New Zealand is 2.3%, Russia is 3.6%, Australia is 5.2%, Sweden is 10.1%, Singapore is 13.7%, and Hong Kong is 16.6%. The mean of company's cash holding (cash+cash equivalent/total asset) is 5.9%, while the mean of company measured using Tobin's Q is 1.146 (Kristanto et al., 2017). The company tends to increase cash holding due to the increase of company's operational transaction and precautionary motive for the uncertain future (Bates et al., 2009; Almeida et al., 2014; Chen et al., 2015).

Theoretically and empirically, cash holding is a controversy in which the use of a big amount of cash holding will bring many benefits as well as a large capital cost. The importance of cash holding, that is, precautionary motive, reducing transactional cost, and decreasing asymmetrical information problem (Opler et al., 1999). Some empirical studies find the positive relationship between cash holding and company's value (Pinkowitz et al., 2006; Sadrour, 2006; Fresard, 2010; Loncan & Caldeira, 2014).

Company's cash generally has a dynamic change due to the internal and external condition of the company. Cash evaluation conducted using time varying and optimal level of cash holding always grows (Shipe, 2015; Lozano & Duran, 2017). Dynamic change in achieving cash holding at the optimal level will motivate the company to adjust the cash to the optimal level actively. Cash holding speed of adjustment reflects some factors, namely: (1) the cost of deviation from the target ratio; (2) the cost of cash adjustment and; (3) the manager's desire to adjust the cash ratio (Jiang & Lie, 2016).

Cash adjustment is an expensive activity. If the ratio is below the target, the company will cut investment and add new capital so that the adjustment cost increases. If the cash ratio is above the target and there is positive excess cash, the company can pay debt or dividend. Manager's desire to adjust the cash or speed of cash holding can be various. A manager will use excessive cash to increase the value of the company (Opler et al., 1999). A different opinion (Jensen, 1986), namely due to the desire to get the personal benefit, the manager will use excess cash for inefficient activities, which is more into the manager's interest. Company and manager try to achieve optimal cash and to make the right cash policy (Shipe, 2015; Jiang & Lie, 2016; Orlova & Rao, 2018).

Managerial ownership is an individual or group that has a combination of share ownership and the ability to control and or managerial directly within the company (Fama & Jensen, 1983). The great control ability is due to a large

proportion of share ownership in the company. Managerial ownership is a professional manager inherited with large ownership of share, and it leads to agency conflicts (Lozano & Duran, 2017).

Empirical evidence of the influence of institutional ownership toward company value is various. Some researches show that institutional ownership has negative influence toward company value, while other researches state that it gives positive influence toward company value (Thomsen & Pederson, 2000; Johnsen & Milton, 2003). Commissioner board has important role in a company. Through optimal control, independent commissioner can reduce the excess risk and moral hazard behavior taken by non-independent commissioner board (Byrd & Hickman, 1992; Coles et al., 2001).

Company that has cash or free cash flow tends to do excess investment, even when the company has low opportunity for investment (Opler et al., 1999; Richardson, 2006; Wang et al., 2015; Lewellen & Lewellen, 2016). Other researcher also finds that company that has a big amount of cash tend to do acquisition, followed by the decrease of operational performance (Harford, 1999; Chen et al., 2016). Company's operational performance will be lower in the future than company that runs investment, while the negative relationship is getting stronger when the free cash flow is high (Lau & Block, 2012).

Debt can be a monitoring mechanism and reduce problems by reducing agency cost of free cash flow, so that it increases the company's value. Banking debt can replace monitoring mechanism, especially when the company's management is weak (Gillan, 2006; Byers et al., 2008). Debt will force the manager to increase cash for paying interest and loan.

This research is motivated by the importance of optimal cash holding and cash speed of adjustment to increase company's value. Companies in Indonesia have a mean of cash very low compared to countries in ASEAN (1994–2013). Mean of cash Indonesian company are recorded at 5.8% – 7.00%, Singapore 14% –

20%, Philippines 14% – 32%, Malaysia 7% – 17%, and Thailand 8% – 14% (Cruz, 2015).

Besides, this research is also inspired from cash research, optimal cash, and speed of adjustment that shows various results. The excess cash holding is not only able increases company's value but also decrease the value. Company should make continuous adjustment about excess cash holding into the optimal level in order to increase company's value (Shipe, 2015; Orlova & Rao, 2018). This research aims to test the effect of cash, optimal cash holding, and deviation from target cash on the firm value (non-financial firm) in Indonesia. The steps are conducting test the strength of interaction factor are managerial ownership, institutional ownership, independent commissioner, investment, and debt.

### **Hypothesis Development**

Cash management using Boumol model (1952) is to identify that cash should be balanced so the cash need will not be too high or low. Meanwhile, cash model of Miller and Orr (1966) is conducted by determining upper and lower limit of the cash balance. A research by Miller and Orr (1996) and Opler et al. (1999) uses the cash management model by comparing the benefits and costs of cash holding to identify the optimal level of company liquidity. The pecking order theory model reveals that the optimum level of company cash is the manager's preference function by using internal resources to reduce transaction costs and asymmetric information. A research related to cost-benefit and liquidity that lead to a positive impact on company performance is carried out by Pinkowitz et al. (2006).

In the development of literature on cash holding, the use of methodology of cash holding speed of adjustment is the same approach as in testing trade off theory in the capital structure literature (Byoun, 2008; Nisasmara & Musdholifah, 2016). The benefits of the cash holding speed of adjustment toward the optimal target level are suppressing over investment, maintaining cash reserves, and smoothing the effect

of substantially changing economic condition which is the indication of good cash management (Shipe, 2015; Orlova & Rao, 2018).

The speed of adjustment measured by volatility of cash holding indicates an increase in company value measured by Tobin's Q (Shipe, 2015). The results of research also show a significant and positive relationship between cash holding speed of adjustment and company value. This is consistent with cash management, in which cash holding will always be dynamically adjusted to the optimal cash level. Therefore, the hypothesis is:

H1: Cash, optimal cash, and deviation from target cash has an effects on the firm value.

Agency problems occur because of a contract between the owner and manager, where both parties are the maximum welfare (Jensen and Meckling, 1976). The board of directors plays an important role in maintaining the effectiveness of corporate governance, especially in public companies where agency problems emerge from the separation between owners and managers. The board of directors is only one of several mechanisms that can reduce agency conflicts within the company.

Some studies have found that company with weak corporate governance tends to spend cash holding faster for inefficient investments. Inefficient investments are caused by weak corporate governance. This will have consequences on the profitability of the company as well as the company's value. Coles et al. (2008) state that larger management will provide greater monitoring to improve company performance. In the structure of board of commissioner of company toward management performance will be more effective if there is no domination in decision making. Demsetz (1983) finds a negative relationship that the development of managerial ownership can reduce company performance. Insiders have incentive to prioritize their interest by accumulating cash holding to be higher than normal cash holding. Faulkender and Wang (2006) founds that marginal cash value decreases while holding cash increases. The volatility

of the company's cash holding will be different from companies with different managerial ownership. Large excess cash holding will tend to cause agency problems (Chen et al., 2015). Therefore the hypothesis is:

H2: The managerial ownership negatively moderates the effect of cash, optimal cash, and deviation from target cash on the firm value.

The participation of institutional investor, besides as an institutional business diversification, will influence company business activities because the function and control role of institutional ownership will be different from the holder of ordinary share. If the institution has a large percentage of share ownership, institutional investors tend to be more intensive in persuading the company's internal management because they have bigger ownership (Graves & Waddock, 1990). The contribution of institutional investors has significantly changed the organizational governance, both in strategy and organizational structure (Chew & Gillan, 2009). Institutional investors will reduce opportunistic problems and agency costs, supporting external finance and cash holding allocations on projects that have a positive NPV. Therefore, the hypothesis is:

H3: The institutional ownership positively moderates the effect of cash, optimal cash, and deviation from target cash on the firm value.

Through optimal supervision, independent commissioners can reduce excessive risk taking and moral hazard behavior taken by non-independent commissioners. The greater representation of independent commissioners, the bigger the function of strategic control from the commissioner (Byrd & Hickman, 1992; Coles et al., 2001). Through close supervision, independent commissioners can reduce the excessive risk as a result of the behavior of the commissioners. The independent board is expected to be able to carry out the responsibility to monitor the management team to work effectively, in-

creasing shareholder prosperity (Shipe, 2015). Therefore, the hypothesis is:

H4: The independent commissioner positively moderates the effect of cash, optimal cash, and deviation from target cash on the firm value.

Based on the free cash flow hypothesis developed by Jensen (1986), various empirical studies have found a relationship of free cash flow, over investment and decreased performance. From the study, it is found that company that had excess cash or free cash flow tend to overinvest, even when the company face low investment opportunity (Opler et al., 1999). Other researchers also find that company that has a lot of cash tend to make acquisitions followed by decreased operating performance (Harford, 1999). The company performance in the future will be lower in companies that make investment expenditures, and this negative relationship is stronger when there is abundant free cash flow (Lau & Block, 2012).

High investment may cause financial problem for a company if it keeps financing the investment. The speed of change of external environment and investment opportunity may influence the level of optimal cash. The level of cash will turn to get high volatility in high tech company (investments with large funds) compared to the low tech company (investment with moderate funds). Company that has high investment opportunity will be slowly adjusting excess cash holding into optimal level cash holding. Company with high investment opportunities or high tech company would be more slowly adjusting cash level compared to low tech company (investment with moderate funds) (Shipe, 2015). Therefore, the hypothesis is:

H5: The investment negatively moderates the effect of cash, optimal cash, and deviation from target cash on the firm value.

Debt has benefits, especially in terms of minimizing tax, improving manager discipline, and minimizing cost caused by asymmetrical information. Besides these advantages, debt also

has costs, namely increasing the probability of bankruptcy, opportunism of managers and the majority of shareholders by substituting costs to creditors and reducing financial flexibility (Jensen & Smith, 2000; Dittmar & Mahrt-Smith, 2007). The increase of debt will create agency problems and have negative implications to cash holding. Companies with high debt level will increase financial distress and the possibility of bankruptcy, so the cash holding will be used more carefully and efficiently. Debt will give a positive signal and benefits for the use of optimal cash holding, deviation standard target cash to increase firm value.

The possibility of taking fund from internal source and access to internal funding has a significant influence on how fast the company adjusting cash holding to the target (Orlova & Rao, 2018). The research finds that the internal fund tendency and costs of external fund are potential sources in influencing the cash holding speed of corporate adjustments (Byoun, 2008; Faulkender et al., 2012). The CEO specialist in growing and high tech company will be faster doing a cash holding speed of adjustment (Orlova & Rao, 2018). Growing and high tech company has a tendency to have high investment opportunities and high debt. Good cash management or proactive cash management has a tendency to increase the company's value. Therefore, the hypothesis is:

H6: The debt positively moderates the effect of cash, optimal cash, and deviation from target cash on the firm value.

## METHOD

This research uses data from Indonesian Capital Market Directory (ICMD), Bloomberg (BNI Corner) FEB UGM database, Osiris. We use the purposive sampling method. The samples of the issuers listed on the IDX and used are non-financial companies. Having all research variable data during the years 2001-2017 or 3.349 observation. Dependent variable used in this study is Tobin's Q or the company's value. Tobin's Q is (market value of all standing stocks

+ debt)/total assets. Independent variables in this study are cash, optimal cash holding, and deviation from target cash. Moderating variables are managerial ownership (%), institutional ownership (%), independent commissioners (%), investment and debt. Optimal cash holding predicted using optimal cash model from Opler et al. (1999):

$$\text{Cash}_{i,t} = \alpha_0 + \beta_1 \text{MTB}_{i,t} + \beta_2 \text{Sales Growth}_{i,t} + \beta_3 \text{Size}_{i,t} + \beta_4 \text{NWC}_{i,t} + \beta_5 \text{CapExp}_{i,t} + \beta_6 \text{Lev}_{i,t} + \beta_7 \text{Div}_{i,t} + \beta_8 \text{Age}_{i,t} + \beta_9 \text{Industri}_{i,t} + \epsilon_{i,t}$$

Where is:

- Cash = cash & cash equivalent/total assets
- MTB = the market value of equity/total assets
- Sales Growth =  $\text{sales}_{t_0} - \text{sales}_{t-1} / \text{sales}_{t_0}$ , size is the natural log of total assets
- NWC = the net working capital/total assets
- Cap Exp = capital expenditure/total assets
- Leverage = total debt/total assets
- Dividend = a dummy 1 for those who pay dividends
- Dummy 0 = for those who do not pay dividends
- Age = the natural log of company age
- Industry = a dummy variable

Deviation from target cash model or Byoun (2008) model is used to measure the cash holding speed of adjustment. The greater the deviation from target cash, the slower the cash holding speed of adjustments. While the smaller the deviation from target cash, the faster the cash holding speed of adjustments (Jiang & Lie, 2016; Orlova & Rao, 2018).

Cash holding speed of adjustment or deviation from target cash (DTC) is:

$$\text{Deviation from target cash} = \text{Cash}_{t_0} / \text{Asset}_{t-1} - \text{Cash}_{t_0} / \text{Asset}_{t_0}$$

Where is:

- Cash<sub>t<sub>0</sub></sub> = cash and cash equivalent at t0
- Asset<sub>t-1</sub> = a total asset at t-1
- Asset<sub>t<sub>0</sub></sub> = a total asset at t0

We use dynamic panel fixed effect regression to estimate optimal cash holding. GLS fixed model regression and moderated regression

uses to hypothesis test. Variable diagnostic, coefficient diagnostic and residual diagnostic uses testing specification model (Wooldridge, 2015).

## RESULT AND DISCUSSION

Estimating cash holding uses dynamic panel fixed effects regression. Description of estimation variable of cash holding in this research is presented in Table 1. Cash and cash equivalent/total assets in the companies have an average company cash of 8.89% of total assets. The finding is consistent with previous empirical study (Opler et al., 1999; Chen et al., 2015). The number of commissioners, shows that the mean is 35.93% of the total number of commissioners. The average managerial ownership is 2.51%. The institutional ownership of the company has a mean of 0.1645. The average company's investment is 48.56% of the total assets. The company debt measured by the debt/ total asset sample has a mean of 0.4238.

The dynamic estimation models use the cross-section fixed effect specifications. The dynamic panel fixed effect can be seen on Table 2.

**Table 1.** Descriptive for Each Variables Research

	Mean	Max	Min	Std. Dev
C_TA	.0889	.7235	.0059	.0969
MTB_TA	.6115	2.1689	.0042	.5403
Sales	.0229	2.1663	.0082	.9150
Size	6.0824	8.4707	2.7533	.7625
NWC_TA	.4103	.8076	.0029	.3062
CE_TA	.0487	.7844	.0000	.0622
Debt_TA	.2924	.6634	.0004	.2055
DIV	.4580	1.0000	.0000	.4983
LOGAGE	.0824	6.0031	2.7533	.7625
Z_IB	.3593	.4541	.0000	.1526
Z_KM	.0251	.5845	.0000	.0663
Z_KI	.2645	.8759	.0000	1.4196
Z_Inv	.4835	.7204	.0114	.3222
Z_Debt	.2922	.6911	.0004	.2909
Observation:		3.349		

Result indicating that the R-square is 80.71%, and the adjusted R-square is 79.37%. We testing specification model with residual diagnostics, redundant fixed effects, and dynamic forecast method (Wooldridge, 2015). Model estimation fixed effects in this research are best linear unbiased. Normality residual test find that p-value is 0.000. Panel cross-section heteroscedasticity LR Tests shows that residuals are homoscedastic. Redundant fixed effects Test find that statistic value is 7.05605 and p-value is 0.000. In this research, we find that the estimation model fixed effects show better than random effect model. Dynamic forecast show that value of the bias proportion model is 0.000. This result indicates that forecast C\_TA is the same with actual C\_TA.

The results of the prediction of the determination of the cash holding show that MTB\_TA (the market to book/total asset), Sales, NWC\_TA or (net working capital/total asset), CE\_TA (capital expenditure/total asset),

debt (debt/total asset), dividends are influence the optimal cash holding. Variable size and age (LOGAGE) do not significantly influence the optimal cash holding. Regression coefficient indicate that market to book value, sales growth, net working capital, capital expenditure, C\_TA (-1) are positively relation with cash holding. This result consistent with previous research (Opler et al., 1999; Venkiteshwaran, 2011; Orlova & Rao, 2018). The coefficient of cash / total assets (-1) or the previous year's cash, is 0.3753 and is positive, indicating that the greater the cash of the previous year will increase the optimal amount of cash holding. Coefficient has 0.0016 significant.

The finding market to book has positive effect to optimal cash and consistent with previous studies (Opler et al., 1999; Venkiteshwaran, 2011). Sales growth, net working capital, capital expenditure, dividends has positive influence the optimal cash holding. The finding consistent with previous research (Venkitesh-

**Table 2.** Summary of the Estimation Model of Company's Cash

	Panel Least Square			Dynamic Panel Least Square			Dynamic Panel Fixed Effects		
	Coef.	t-stat		Coef.	t-stat		Coef.	t-stat	
Constanta	.1076	7.717	***	.0000	.007		.0217	1.8263	***
MTB_TA	.0138	11.670	***	.0071	8.036	***	.0016	1.9543	**
Sales	.0001	.097		.0073	1.910	**	.0029	1.8027	**
Size	-.0090	-3.810	***	-.0000	-.554		.0002	.1172	
NWC_TA	.0576	11.080	***	.0314	8.308	***	.0623	13.358	***
CE_TA	.0557	2.243	***	.0950	5.215	***	.0271	2.9281	***
DEBT_TA	-.0520	-7.530	***	-.0180	-3.424	***	-.0063	-2.2510	**
DIV	.0494	14.390	***	.0131	5.003	***	.0061	4.3637	***
LOGAGE	-.0030	-.570		.0165	2.981	***	.0023	.7244	
C/TA (-1)	-	-	-	.6635	53.35	***	.3753	27.1860	***
F-statistic	105.6400			488.12			60.1460		
Prob (F-statistic)	.0000			.0000			.0000		
R-square	.2019			.5830			.8071		
Adjusted R2	.2000			.5818			.7937		
D-W Stats	.6397			2.2299			2.1296		
N	3.349			3.152			3.152		

Note: \* = significant at the level of 10%, \*\* = significant at 5%, \*\*\* = significant at 1

waran, 2011; Chen et al., 2015; Orlova & Rao, 2018). Debt is negative relation with cash holding (Shipe, 2015; Orlova & Rao, 2018).

Hypothesis testing can be seen from the multivariate analysis summary in Table 3. The results of H1 testing show that cash, optimal cash holding has a positive effect on the firm value. The greater the cash amount or the company cash holding, the higher the firm value. Deviation from target cash are negatively related to the firm value. Low deviation from target cash

indicate faster the cash speed of adjustment to target cash. The wider the deviation from target cash, then the lower value of the company will be.

The first hypothesis (H1) test results support the theory and previous empirical studies. The optimal cash holding decision is a decision that must be made by the manager in maintaining the company's liquidity and the company's operational liquidity. Many companies are significantly different in terms of optimal cash and

**Table 3.** Moderated Regression Result

	Tobin's Q					
	F-stat	$\beta$	t	Adj. R <sup>2</sup>	$\Delta$ Adj. R <sup>2</sup>	Prob.
Cash/total asset (C_TA)	34.193	.293	4.526	.663		.000
Interaction effect:						
C_TA * Insider ownership	32.769	-.997	-1.84	.656	(.002)	.064
C_TA * Institutional ownership	36.225	.476	2.814	.679	.015	.004
C_TA * Board independent	33.680	.866	2.371	.662	.004	.017
C_TA * Investment	34.152	.632	1.940	.675	.011	.052
C_TA * Debt	34.197	-.38	-1.59	.675	.007	.100
Optimal Cash Holding (OCH)	44.378	2.845	9.485	.720		.000
Interaction effect:						
OCH * Insider ownership	33.000	1.354	4.530	.343	.012	.010
OCH * Institutional ownership	43.915	-.02	-.06	.721	.000	.951
OCH * Board independent	43.924	6.016	3.284	.720	.005	.001
OCH * Investment	40.403	-4.86	-3.51	.703	(.021)	.000
OCH * Debt	35.541	-10.6	-9.36	.737	.012	.000
Deviation from Target Cash (DTC)	37.660	-.226	-4.17	.685		.000
Interaction effect:						
DTC * Insider ownership	31.005	1.454	4.650	.643	.003	.000
DTC * institutional ownership	37.449	-.21	-1.16	.686	(.001)	.110
DTC * Board independent	36.827	.482	1.185	.682	.000	.236
DTC * Investment	37.221	-.35	-5.31	.685	(.002)	.000
DTC * Debt	38.276	.389	1.549	.691	.001	.121



cash levels which are influenced by many factors. The cash holding policy is related to the efficiency of company management because it affects the company's operational activities every day such as investment, financial behavior and other activities (Byoun, 2008; Shipe, 2015).

The pecking order theory model reveals that the optimum level of company cash is the manager's preference function by using internal resources to reduce transaction costs and asymmetric information. Empirical studies found positive cash, optimal cash holding relationships with firm value (Kalcheva & Lins, 2007; Loncan & Caldeira, 2014). The results of this study are also consistent with the results of a research in various countries, such as USA, Taiwan, Malaysia, Australia, Sweden, Pakistan. The results of the research conducted by these researchers indicate that the company's cash holding is positively related to the company's value in various sizes or proxies (Cruz, 2015).

The results of H2 test shows that managerial ownership positively moderates the effect of optimal cash holding, deviation from target cash on the firm value. Meanwhile, managerial ownership negatively moderates the effect of cash on the firm value. This result shows different result from the hypothesis of this study.

Result indicates that managerial ownership has run good control over cash management because the small average of managerial ownership, so it minimizes the importance of personal interests. These results are consistent with the findings of which explain that managerial ownership will help equate interests between managers and shareholders, but have little voting rights towards the company. There was a significant relationship between managerial ownership and company performance (Jensen & Meckling, 1976; McConnell & Servaes, 1990). The findings of managerial ownership reinforce the relationship between optimal cash holding and firm value. This result being consistent with the findings of Iona et al. (2017) who found indications that dispersed managerial ownership would minimize managers utilizing excess cash holding. A negative excess cash holding will

reduce the value of the company and indicate an agency conflict.

The results of H3 test show that institutional ownership does not moderate the effect of optimal cash holding, deviation from target cash on firm value. Meanwhile, institutional ownership moderates the effect of cash on the firm value. The entry of institutional investors in addition to institutional business diversification will also affect the company's business activities or the management of the company by managers, because of the role of institutional ownership control will be different from ordinary shareholders. Institutional investors are different from individual investors who do not interfere in the internal affairs of companies that have shares (Graves & Waddock, 1990). Institutional ownership tends to be only short-lived and more concerned with the company's stock price on the market, and will take for when prices are high.

Institutional ownership does not moderate the effect of cash holding speed of adjustments and firm value. There is a tendency that institutional ownership is reluctant to control the company's cash management too deeply; cash management is the responsibility of the financial manager. Institutional ownership is more trusting in terms of company's managerial abilities, so that control of the company's cash management becomes very weak. The argument reveals that institutional ownership tends to be associated with low performance. Institutional ownership is often involved in various business groups, and those are legally separate from the company formally or informally (Heugens, Van Essen & Van Oosterhout, 2009; Lozano & Duran, 2017). Institutional investors are different from individual investors who do not interfere the internal affairs of companies that have shares.

The result of H4 testing show that independent board positively moderates the effect of cash, optimal cash on the firm value. Independent boards do not interact the effect of deviation from target cash on the firm value. The results of testing this hypothesis are consistent

with the findings of several previous studies. Research by Black et al. (2006) found that there is a positive role between independent commissioners, board of commissioners, and company performance. The existence of a good board of commissioner structure can mitigate (prevent) the controlling party from holding cash that will be used for its own interests and ignore the interests of investors. The board of commissioners plays an important role in countries where investor protection is weak and in emerging markets (Claessens & Yurtoglu, 2012; Hidayat & Utama, 2017; Tulung & Ramdani, 2018). In this research find that the board of commissioners not plays an important role to monitoring and control about cash holding speed of adjustment.

Several studies show that the greater representation of independent commissioners, the bigger the control function of the commissioner will be. Through optimal supervision, independent commissioners can reduce excessive risk taking and moral hazard behavior taken by non-independent commissioners. The board of directors has the responsibility to monitor, to enforce discipline, and to remove ineffective management teams, ensuring that managers act based on the interests of shareholders (Fama, 1980). The greater representation of independent commissioners, the bigger the function of strategic control from the commissioner will be (Byrd & Hickman, 1992; Coles et al., 2001).

The result of H5 test shows that investment negatively moderates the effect of optimal cash holding on the firm value. Meanwhile, investment positively moderates the effect of cash on the firm value. The results of this study support the findings of the free cash flow hypothesis developed by Jensen (1986), various empirical studies have find a relationship between free cash flow, overinvestment, and decreased performance. Some empirical studies find a negative role of investment with performance (Harford et al., 2008; Lau & Block, 2012). The results of hypothesis testing show that investment do not moderate the effect of deviation from target cash or cash holding speed of adjust-

ment on the firm value. This indicates that the company or company manager is very careful in maintaining the company's optimal cash. Good cash management will be resistant to changes in investment made by the company.

The results of H6 test show that debt negatively moderates the effect of cash, optimal cash on the firm value. Meanwhile, debt does not moderate the effect of deviation from target cash on the firm value. This hypothesis test indicates that the greater of firm debt, the higher tendency to weaken the relationship between cash, optimal cash holding and firm value. The higher firm debt, the greater company's burden in paying short and long-term obligations will be. The greater obligation to pay the debt burden, the company needs sufficient cash reserves to maintain the company's liquidity will be.

## CONCLUSION AND RECOMMENDATION

The company's cash theme is initially the object of study in the academic field put forward by Keynes (1937). The results of this study indicate the cash/total assets, optimal cash holding, deviation from target cash has an effect on the firm value. These findings make an optimal cash management guide, the speed of adjusting to optimal cash in increasing firm value. These results indicate that the higher the optimal amount of holding cash, the higher the company's value caused by the speed of adjusting to optimal cash will be.

Corporate governance moderates the effect of cash, optimal cash holding, and deviation from target cash on the firm's value shows that mixed results. This indicates that corporate governance has been not optimal actions in carrying out monitoring and control of optimal cash management and acceleration to the company's optimal cash. Investment positively moderates the effect of cash on the firm value. Investment negatively moderates the effect of optimal cash holding, deviation from target cash on the firm value. Large investments will reduce the free cash flow or cash of the company, so there is a tendency for liquidity to decline and

the value of the company will decrease. Debt negatively moderates the effect of cash, optimal cash holding on the firm value. Debt positively the effect of deviation from target cash on the firm value.

The theoretical implications of the results of this study are able to provide additional literature of cash holding, the moderating factor of cash holding and cash holding speed of adjustment to firm value in Indonesia. The methodological implications of the results of this study are able to explain the various prediction models of cash holding determinants. The results of this study are expected to provide managerial contribution, namely to provide managerial input on the importance of optimal cash holding and cash holding speed of adjustment to increase company's value.

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