ATLANTIS PRESS
Advances in Social Science, Education and Humanities Research, volume 308
16th International Symposium on Management (INSYMA 2019)

Factors affecting company's cash holding

A. Herlambang, W. Ria Murhardi & D. Cendrati
University of Surabaya, Surabaya, Indonesia

ABSTRACT: This study aims to analyze the factors affecting several companies' cash holdings. Some of the factors were net working capital (NWC), cash flow, capital expenditure, leverage, and market-to-book. The samples used in this study were 318 non-financial companies listed in the IDX in 2013-2017. The approach used was a quantitative approach with the linear regression method. The result of the study was that net working capital (NWC), capital expenditure, and leverage had a negative significant effect on cash holding. On the other hand, cash flow had a positive significant effect on cash holding, and market-to-book did not have any effect on cash holding.

Keywords: cash holding, net working capital, cash flow, capital expenditure, leverage

1 INTRODUCTION

Cash holding is the amount of cash and cash equivalents held by the company. Cash is important for the company because it signifies the company's ability to fulfill its obligations in a timely manner. Ahrends et al. (2018) stated that cash held (cash holding) is an important thing for the company because using the cash held in investment, the company can eliminate the cost of liquidating assets.

Ahrends *et al.* (2018) stated in his research that net working capital has a negative influence on the company's cash holdings. Opler *et al.* (1999) found that companies, in general, have high net working capital in order to invest when the cash held in the company is low, or when the external funding is too high. Net working capital which can function as the cash substitute can reduce the amount of the company's cash holdings (Guizani, 2017).

Hofmann C. (2006) in the study of Ahrends et al. (2018) and Ozkan & Ozkan (2004) found a positive relationship between cash flow and cash holding because high cash flow signifies a large amount of cash inflows and outflows, so companies must provide higher cash holdings in order to fulfill their obligations.

Guizani (2017) in his research concluded that capital expenditures have a negative effect on corporate cash holdings. Capital expenditures in the company aim to increase assets for the company, in which these assets can also help the company's cash requirement if the company experiences a lack of cash, so companies with high capital expenditures will have lower cash holdings (Riddlick & Whited, 2009). Bates et al. (2009) said that if capital expenditures create assets as collateral, capital expenditures can reduce the cash requirements held.

Research by Suen (2011) stated that large corporate debt will increase the probability of bankruptcy. Therefore, in order to avoid this probability, companies with high debts will also have high cash holdings. Faulkender (2004) found that companies, especially small companies, will hold more cash when the amount of debt increases due to limited access to the mod-al market. In addition, Gao et al. (2013) in the research of Sei-fert & Gonenc (2018) stated that large corporate debt will increase retained cash to

reduce net debt and fulfill the company's interest obligations.

D'Mello et al. (2008) found that there was no relationship between market-to-book (MTB) because market value was not only caused by growth opportunities, but also by many factors such as profitability, asset efficiency, market perception of the company, and position the company relative to the company's industry, so that the market-to-book ratio became inaccurate to describe the company's growth opportunities. Meanwhile, Ferreira & Villela (2004) found a negative relationship because company managers with poor investment opportunities will hold more cash to ensure that there is fund to invest in projects that may cause growth despite the negative NPV of the project. Based on the previous studies, it could be seen that net working capital, cash flow, capital expenditure, and leverage affect the company's cash holdings.

2 RESEARCH METHODS

The variables used in this study were one dependent variable, four independent variables, and one control variable. The dependent variable used in this study was *cash holdings*. The independent variables in this study were net working capital (NWC), cash flow, capital expenditures, and leverage. Finally, the control variable in this study was market-to-book.

This study used a sample from all non-financial sector companies listed on the Indonesia Stock Exchange (IDX) over the period of 2013-2017. The research samples were also selected based on the calculation of net working capital, cash flow, capital expenditure, leverage, and market-to-book with the following criteria: the companies were not financial or banking sector companies, the companies always issued consecutive financial statements in 2013-2017, the companies had all variable data needed in the financial statements for the period of 2013-2017, and the companies were not suspended by the Indonesia Stock Exchange (IDX). After going through a selection based on the above criteria, a sample of 318 companies was obtained.

3 RESULTS AND DISCUSSIONS

Before conducting a regression test, classic assumption tests were performed. The classic assumption tests performed were normality test, multicollinearity test, autocorrelation test, and heteroskedasticity test.

Data normality test was performed using Eviews 8 program by looking at the result of Jarque-Bera test. The result of the test showed that the probability of this research sample was 0.000000. This score means that the data were not normally distributed because the sample probability score was significant or lower than 0.05 (5%). However, there were some normality assumptions that could justify the theory on the normality of data Central Limit Theorem on Berenson, *et al.* (2012, p.211) stated that "If the sample size is large enough, the distribution of sample means will be approximately normal even if the samples came from a population that was not normal." Berenson, et al. (2012, p.211) also stated that the number of samples referred to were at least 30. "For most population distributions, regardless of shape, the sampling distribution of the mean is approximately normally distributed if samples of at least 30 are selected." The data samples used in this study were 318, so the data distribution was assumed to be close to normal.

The result of multicollinearity test in this study shows that there was no high correlation score (more than 0.8 or less than -0.8) between the independent variables used. It means that the data used in this study was free from multicollinearity.

The autocorrelation test results on this research data had positive autocorrelation. This positive autocorrelation indicated that the errors that occur in the study were always followed by errors with the same sign. According to Gurajati (2004), autocorrelation generally occurs in the data in the form of time series. This happens because observations on time series data follow a natural sequence between times which can lead to intercorrelations, especially when the time span between consecutive observations is in a short range. Thus, the autocorrelation test was conducted to analyze data in the form of time series was in order to see whether there was a linear relationship between a series of observations sorted by time. However, since the form of observation data used in this study was the Data Panel, which was a combination of time-series and cross-section, testing of autocorrelation was not required in this study.

Heteroscedasticity test had a probability (F-statistic) of 0.000000, so the data of this study was heteroscedasticity. To overcome the problem of heteroscedasticity, it was necessary to use a cross-section weight on Generalized Least Square/Weight Least Square (GLS) and white cross-section on the coefficient of the covariance method.

The data panel produced three research models, namely common effects, fixed effects, and random effects. Therefore, it was necessary to do the Chow test and Haus-man Test to find out which model was the most suitable to be used in research. The results of the Chow test and the Hausman test showed that

the best model for this study was the fixed effect model.

Table 1. The results of the regression testing

Variable	Coefficient	t-Statistic	Prob.
C	0.142548	23.33225	0.0000
NWC	-0.097441	-10.38742	0.0000***
CF	0.080427	10.24493	0.0000***
CAPEX	-0.034470	-7.907343	0.0000***
LEV	-0.099441	-8.622416	0.0000***
MTB	-0.000446	-0.962084	0.3362
R-squared			0.950833
Adjusted R-squared			0.938338
F-statistic			76.09480
Prob(F-statistic)			0.000000

It can be concluded from table 3.1 that the result of the net working capital, capital expenditure, and leverage variables had a significant negative effect on cash holding. Cash flow variable had a significant positive effect on cash holding. Meanwhile, the market-to-book variable had an insignificant negative effect on cash holding.

The research regression test had an F-statistical probability value of 0.000000. Therefore, the results show that the net working capital, cash flow, capital expenditure, leverage, and market-to-book variables together had a significant effect on the cash holding at the level of 1%. That is, the independent variables used in this study could be used to estimate the income variables well.

In the regression equation, it could be seen that the net working capital (NWC) variables had a negative coefficient at the 1% significance level. The negative sign in the net working capital (NWC) variable indicated that if the net working capital (NWC) was higher, then the cash holding would be lower. Therefore, net working capital (NWC) had a significant negative effect on cash holding so that H1 was accepted. Myers & Rajan (1998) in the study of Drobetz & Grüninger (2006) and Bates et al. (2009) stated that Net working capital (NWC) or net working capital is liquid assets that can be subsidized into cash with lower conversion costs than other assets. This causes companies to have a tendency not to save large amounts of cash.

The results of the research for cash flow variable (CF) indicate that cash flow had a significant positive effect on cash holding at a significance level of 1%. This indicates that the higher the cash flow, the higher the cash holding (Myres & Rajan, 1998). Ferreira & Vilela (2004) also stated that even though companies are in a condition of lack of cash, liquid assets can be easily liquidated. This was supported by Hofmann C. (2006) in the study of Ahrends et al. (2018) who stated that cash flow has a positive effect on cash holdings because high cash flow signifies a large amount of cash inflows and outflows, so companies must provide larger cash holdings in order to fulfill company obligations.

The capital expenditure (CAPEX) variable had a negative coefficient value at a significance level of 1%. The negative sign in the variable capital expenditure (CAPEX) indicates that if the expenditure capital (CAPEX) became higher, then the cash holding would be lower. Therefore, capital expenditure (CAPEX) had a significant negative effect on the cash holding. This result was supported by Kim et al. (2011) who stated that expenditure capital aims to increase or add new assets to the company, and because these assets can be a guarantee when needed, the company's need to hold cash will decrease.

The leverage variable (LEV) had a negative coefficient value at a significance level of 1%. This negative sign on the leverage variable (LEV) indicates that if leverage (LEV) became higher, then the cash holding would be lower. Therefore, leverage (LEV) had a significant negative effect on the cash holding. This was supported by Kim et al. (2011) who stated that capital expenditure aims to increase or add new assets to the company, and because these assets can be a guarantee when needed, the company's need to hold cash will decrease.

The market-to-book (MTB) variable had a negative coefficient with a significance level of 0.3362 or 33.62%. The negative sign in the market-to-book (MTB) variable indicates that if the market-to-book (MTB) became higher, then the cash holding would be lower. A significant level of more than 10% indicates that the market-to-book (MTB) variable had a negative effect but it was not significant for the cash holding. D'Mello et al. (2008) in his research stated that market value is not only caused by growth opportunities, but also caused by many factors such as asset profitability, management efficiency, market perceptions of the company, and the company's relative position in the company's industry. Therefore, the market-to-book ratio became inaccurate to describe the company's growth opportunities.

The coefficient of determination used in this study was adjusted R^2 with a value of 0.938338 or 93.83%. This coefficient means that changes in the cash holding variable could be explained properly by the net working capital variable, cash flow, capital expenditure, leverage, and market-to-book of 93.83%. While the rest was explained by other variables which were not included in this study.

4 CONCLUSION

Based on the results of the research and statistical tests that had been conducted, it was found that the net working capital, capital expenditure, and leverage variables had a significant negative effect on the company's cash holding. The cash flow variable had a significant positive effect on the company's cash holding. Market-to-book variable had no significant negative effect on the company's cash holding.

Based on this research, it is recommended that investors consider factors related to cash holding, such as net working capital (NWC), cash flow, capital expenditure, leverage, and market-to-book ratio before making a decision to invest in a company. Investors are expected to buy shares of companies that have a net working capital (NWC), capital expenditure, high cash flow and market-to-book, with a low level of leverage.

For companies listed on the Indonesia Stock Exchange (IDX), this research can be a consideration for making decisions in determining the company's working capital management. Companies are expected to convert excess cash in the form of liquid assets, so that it does not hold funds in the form of too much cash because funds in the form of cash are less profitable for stakeholders. Companies are also expected to choose internal funding sources compared to external funding sources because internal funding sources tend to have lower conversion costs than external funding sources. In addition, companies are expected to be able to present the real data so that investors can make maximum use of company data for investment purposes.

REFERENCES

Cons Ahrends, M., Drobetz, W., & Komikos, N.K. (2018). Corporate Cash Holdings in the Shipping Industry. *Transportation Research Part E, 112, 107-124. doi:10.1016/j.tre.2017.10.016*

Berenson, M.L et.al (2012). *Basic Business Statistics Concept and Application*. 12th.ed. New Jersey: Prentice Hall.

D'Mello, R., Krishnaswam, S., & Larkin, J.P. (2008). Determinants of Corporate Cash Holdings: Evidence from Spin-offs, *Journal of Banking & Finance, 32: 1209-1220. doi: 10.1016/j.jbankfin.2007.10.005*

Drobetz, W., & Grüninger, M.C. (2006). Corporate Cash Holdings: Evidence from Switzerland, *Research Report*, University of Basel. *Retrieved from http://hdl.handle.net/10419/127507*

Ferreira, M.A., & Vilela, A.S. (2004). Why Do Firms Hold Cash? Evidence from EMU Countries, *European Financial Management, 10(2): 295-319*.

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. doi: 10.1016/j.bir.2017.05.003*

Gujarati, D.N., (1995). *Basic Econometrics*, 3rd.ed. New York City: Mc Graw-Hill.

Gujarati, D.N., (2004). *Basic Econometrics*, 4th.ed. New York City: Mc Graw-Hill.

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: 568-574. doi: 10.1016/j.ijhm.2010.10.004*

Opler, T., Pinkowitz, L., Stulz, R., & Wiliamson, R. (1999). The Determinants and Implications of Corporate Cash Holdings, *Journal of Financial Economics, 52: 3-46. doi: 10.1016/j.ijhm.1999.12.056*

Ozkan, A., & Ozkan, N. (2004). Corporate Cash Holdings: An Empirical Investigation of UK Companies, *Journal of Banking & Finance, 28: 2103-2134. doi: 10.1016/j.jbankfin.2003.08.003*

Seifert, B., & Gonenc, H. (2018). The Effects of Country and Firm-level Governance on Cash Management, *Journal of International Financial Markets, Institutions & Money, 52: 1-16. doi: 10.1016/j.intfin.2017.12.001*

Suen, C.M. (2011). The Determinants of Cash Holdings: Evidence from Dutch Listed Firms, (*Unpublished Master Thesis)*, Netherlands: University of Twente.