

## ANALYSIS OF THE INFLUENCE OF SIZE, LEVERAGE, TOBINS' Q AND CASH FLOW ON CORPORATE CASH HOLDINGS

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### ABSTRACT

Holding liquid assets such as cash can be a double-edged sword for a firm. On the one hand, it provides flexibility to firms allowing them to avoid costs from underinvestment in positive-NPV projects due to lack of resources. Cash holding is an important asset on firms' balance sheets, receives much attention from companies, investors, and analysts. The objectives of this research are to analyse the impact of size, leverage, Tobins' Q and cash flow to cash holdings.

The research methods used are descriptive research and explanatory research. Sampling in this study using purposive sampling, which is the manufacturer companies that listed at IDX in period 2010-2012. The technique analyses used are multiple regressions with classic assumption. The classic assumption consists of normality testing, multicollinearity, heteroscedasticity and autocorrelation.

Based on the result and analysis, the conclusion that can be drawn in this research are: (1) There is positive impact of size to cash holdings, (2) There is impact of leverage to cash holdings, (3) There is impact of Tobin's Q to cash holdings, (4) There is impact of cash flow to cash holdings.

Keywords: size, leverage, Tobin's Q, cash flow, cash holdings.

### INTRODUCTION

#### Background

In a world of perfect capital markets, holdings of liquid assets are irrelevant. If cash flow turns out to be unexpectedly low, such that a firm has to raise funds to keep operating and to invest, it can do so at zero cost. Since there is no liquidity premium in such a world, holdings of liquid assets have no opportunity cost. Hence, if a firm borrows money and invests it in liquid assets, shareholder wealth is unchanged. A firm to be short of liquid assets, if it has to cut backinvestment, cut back dividends or raise funds by selling securities or assets. A firm can make it less likely that it will be short of liquid assets in a particular state of the world by having lower leverage, or by hedging. Consequently, an optimal theory of liquid asset holdings has to address the issue of why it is more efficient for the firm to hold an additional dollar of liquid assets instead of decreasing leverage by some amount, or increasing hedging.

If firms hold cash for potential growth opportunities and to react to the underinvestment problem arising from financing related predation risk in imperfect product markets as in Haushalter et al. (2007), the imperfect correlation mentioned above implies that diversified firms would need less cash on hand to meet their investment demands at any one point in time. Also, the availability of cash flow from one segment as potential capital for another segment reduces diversified firms' need for external capital and further reduces their benefits of holding cash.

Subramaniam et.al. (2011) found that size, leverage, Tobins' Q and cash flow affect the cash holdings. Meanwhile Carrascal (2010) concluded that size did not affect cash holdings, Guney (2007) stated that leverage and growth (tobins' Q) did not affect cash holdings. Bates et.al. (2009) said that cash flow did not affect cash holdings. So this research gap will be the phenomenon that attractive to be analyzed. So this research

will analyze the factors influence corporate cash holdings which are size, leverage, Tobins' Q and cash flow.

Related to above issues, the writer composes this thesis with the title "ANALYSIS OF THE INFLUENCE OF SIZE, LEVERAGE, TOBINS' Q AND CASH FLOW ON CORPORATE CASH HOLDINGS".

### Research Questions

- a. Is there any impact of size to cash holdings?
- b. Is there any impact of leverage to cash holdings?
- c. Is there any impact of Tobins' Q to cash holdings?
- d. Is there any impact of cash flow to cash holdings?

### Research Objectives

- a. To analyze the impact of size to cash holdings.
- b. To analyze the impact of leverage to cash holdings.
- c. To analyze the impact of Tobins' Q to cash holdings.
- d. To analyze the impact of cash flow to cash holdings.

## LITERATURE REVIEW

### Theoretical Review

Trade off theory is idea that company chooses how much debt finance and equity finance to use by balancing cost of benefit. Like debt, cash holding generates costs and benefits; and is very important in financing the growth opportunities of the firm. The principal benefit of holding cash is it forms a safety buffer (Subramaniam et.al., 2011) which allows firms to avoid the costs of raising external funds or liquidating existing assets and which allows firms to finance their growth opportunities.

According to this theory, cash holding will be determined by growth of a company to support the cost of financing because cash holding generates costs and benefits of a company. The firm's characteristics such as size that determine by total assets also affect the cash holdings decisions. Meanwhile,

leverage can have a positive or a negative effect on the cash level (Saddour, 2006). Firm chooses their cash holding levels by balancing the marginal costs and the marginal benefits of holding cash. The main cost is the opportunity cost of capital invested in liquid assets instead of in other assets with a higher return (Martinez, 2010).

### Pecking Order Theory

Extending pecking order theory (Myers and Majluf in Subramaniam et.al. (2011) to the explanation of the determinants of cash, leads to the conclusion that there is no optimal cash level.

### Previous Research

Subramaniam et.al. (2011) analyze whether the organizational structure of firms (i.e., whether a firm is diversified or focused) affects their cash holdings. Using Compustat firm level and segment-level data that research found that diversified firms hold significantly less cash than their focused counterparts.

### Theoretical Framework

#### Dependent Variable (Cash Holdings)

Dependent variable is what researcher measures and what is affected during the experiment or observation. So, the writer chooses cash holding as dependent variable.

#### Independent Variables

Independent variable is what researcher think will affect the dependent variable. According to Subramaniam et.al. (2011) that found size, leverage, Tobins' Q and cash flow affected cash holdings; the writer chooses those factors as independent variables.

#### Hypothesis

H1: There is positive impact of size to cash holdings

H2: There is negative impact of leverage to cash holdings

H3: There is positive impact of Tobin's Q to cash holdings

H4: There is positive impact of cash flow to cash holdings

## METHODOLOGY

### Research Method

### Descriptive Research

In preparing this thesis the writer did literature reviews and learnt other data sources related to the issues discussed to enhance and complement the topic discussion.

### Explanatory Research

Explanatory research is conducted to provide a better understanding of a situation. It is not designed to come up with final answers or decisions. Through explanatory research, researchers hope to produce hypotheses about what is going on in a situation.

## Sampling Design

### Population

The population in this thesis are the manufacturer companies that listed at IDX.

### Sample

Sampling in this study using purposive sampling, that are the manufacturer companies that listed at IDX in period 2010-2012.

## RESULT AND ANALYSIS

### Company Profile

Number of companies that consistently within manufacturer company from 2010 – 2012 are 137 companies. List of the companies that become samples in this research can be seen in Appendices.

### Data Analysis

the mean of variable CH (cash holding) is 0.095479. This means the proportion between cash and assets the companies is 9.5479%. Meanwhile, mean of SIZE is 13.710447, this means the average from 411 data consists of the average ln of total asset is 13.710447.

### Classic Assumption Test

#### Normality Test

Normality test in this research is using Kurtosis and Skewness and also Jarque

Bera. A variable is normal distribution if skewness equal to zero ( $S=0$ ) and Kurtosis equal to three ( $K=3$ ).

### Multicollinearity Test

A good regression model should have no correlation between each independent variables (Gujarati, 1993 : 188 ), means that regression model should be free from multicollinearity. Because all the tolerance value  $> 0.1$  and  $VIF < 10$  so this regression model free from multicollinearity problem, means that this regression is a good model.

### Heteroscedasticity Test

Heteroscedasticity test has purpose to see whether there is inequality of variance of the residuals of the observations to other observations. If variance of residuals is fixed, it is called homoscedasticity. Otherwise, it is called heteroscedasticity. the significant t for variable SIZE is 0.779, variable LEV is 0.896, for variable Tobins' Q is 0.396 and CF is 0.337. All of the significant is higher than 0.05. Thus, the researcher concludes that there is no heteroscedasticity.

### Autocorrelation Test

The next assumption that must be fulfilled is that the residuals are not correlated serially from one observation to the next. This means the size of the residuals for one cases has no impact on the size of residuals for the next cases. The value of Durbin-Watson (d) is 2.255, that is between du (1.5) and 4-du (2.5). Thus, there is no autocorrelation. It means the regression is a good model.

### Multiple Regression Analysis

The general purpose of multiple regressions is to learn more about the relationship between independent variables and dependent variable.

**Table 1. Multiple Regression Analysis**

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.001	.026		-.034	.973		
	SIZE	.005	.002	.144	2.961	.003	.964	1.038
	LEV	-.003	.001	-.032	-2.466	.019	.977	1.023
	TobinsQ	.001	.000	.037	2.075	.045	.920	1.087
	CF	.185	.050	.186	3.674	.000	.887	1.127

a. Dependent Variable: CH

Source : self calculation using SPSS

$$CH = -0.001 + 0.005 \text{ SIZE} - 0.003 \text{ LEV} + 0.001 \text{ TobinsQ} + 0.185 \text{ CF} + e$$

**Hypothesis testing**

**H1: There is impact of size to cash holdings**

From the regression result, the significant of SIZE is  $0.003 < 0.05$  with positive regression coefficient (+0.005) so H1 accepted. This means there is impact of size to cash holdings which is positive impact.

**H2: There is impact of leverage to cash holdings**

From the regression result, the significant of LEV is  $0.019 < 0.05$  with negative regression coefficient (-0.003) so H2 accepted. This means there is impact of leverage to cash holdings which is negative impact.

**H3: There is impact of Tobin's Q to cash holdings**

From the regression result, the significant of Tobin's Q is  $0.045 < 0.05$  with positive regression coefficient (+0.001) so H3 accepted. This means there is impact of Tobin's Q to cash holdings which is positive impact.

**H4: There is impact of cash flow to cash holdings**

From the regression result, the significant of cash flow is  $0.000 < 0.05$  with positive regression coefficient (+0.185) so H4 accepted. This means there was impact of cash flow to cash holdings which is positive impact. Firms can use their cash flow as a

source of liquidity to finance their investments.

**Interpretation of Results**

From the results and analysis, it can be said that there was impact of size to cash holdings, so the hypothesis accepted. Size is large or small size of firm according to total assets. The second hypothesis was accepted. This means there was impact of leverage to cash holdings. Leverage is proportion between debt and asset of firm. Leverage increases the discipline of capital markets. Thus, less leveraged firms can accumulate large amounts of cash without being subject to monitoring by capital markets.

The last hypothesis is accepted, this means there was impact of cash flow to cash holdings. Firms can use their cash flow as a source of liquidity to finance their investments. Thus cash flow can be seen as a cash substitute and would be correlated to cash level. This result was related to the previous research (Subramaniam et.al., 2011). Extending pecking order theory Myers and Majluf in Subramaniam et.al. (2011) to the explanation of the determinants of cash, leads to the conclusion that there is no optimal cash level. It is used as a buffer between retained earnings and investment needs.

## CONCLUSION

Based on the result and analysis, so the conclusion that can be drawn in this research are:

1. There was impact of size to cash holdings, so the hypothesis is accepted. This can be seen from the significant of SIZE is  $0.003 < 0.05$  with positive regression coefficient (+0.005). Size is large or small size of firm according to total assets. Large firms have high level of operational cash flow; therefore they increased their cash holdings. It shown that size gave positive impact to cash holdings.
2. There was impact of leverage to cash holdings, so the hypothesis is accepted. This can be seen from the significant of LEV is  $0.019 < 0.05$  with negative regression coefficient (-0.003). Size is large or small size of firm according to total assets. Large firms have high level of operational cash flow; therefore they increased their cash holdings. It shown that size gave positive impact to cash holdings.
3. There was positive impact of Tobin's Q to cash holdings, so the hypothesis is accepted. This can be seen from the significant of Tobin's Q is  $0.045 < 0.05$  with positive regression coefficient (+0.001). One of the concerns of firms with strong growth opportunities is to guarantee their financing. Indeed, these firms can face two situations: either outside funds are insistent or they are expensive when accessible. In such situations, these firms will be forced to forgo these projects. However, if firms hold enough cash levels, they can use it to seize all their profitable investment opportunities. This would lead firms to accumulate cash. Moreover, firms with strong growth opportunities have greater financial distress costs. In fact, positive NPV of intangible growth opportunities, which is part of the firm value,

disappears in case of bankruptcy. These firms should then hold large amounts of cash to avoid this high financial distress costs. It shown that Tobins' Q gave positive impact to cash holdings.

4. There was impact of cash flow to cash holdings, so the hypothesis is accepted. This can be seen from the significant of cash flow is  $0.000 < 0.05$  with positive regression coefficient (+0.185). Firms can use their cash flow as a source of liquidity to finance their investments. Thus cash flow can be seen as a cash substitute and would be correlated to cash level. It shown that cash flow gave positive impact to cash holdings.

## Recommendation

The recommendation from this research are:

1. When the investor wants to make investment decision in stock market, should consider the factors affecting cash holding, such as size, leverage, growth and cash flow because from this research, they are empirically affected cash holding.
2. In the future research with similar topic, can be analyze another factors that affected cash holding, such as profitability and type of industry.

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