

Determinants Of Corporate Cash Holdings: Evidence Of The Mining Sector In Indonesia

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Abstract: This paper investigates the empirical determinants of corporate cash holdings for a sample of the Mining Sector in Indonesia. We focus on company characteristics and macroeconomic variables towards cash holding. The data analyzed is secondary data for the 2012-2016 period from the Indonesia Stock Exchange. The analytical tool used is panel data regression. The results found that internal factors consisting of returns on assets and leverage have a significant effect on cash holding of mining companies, while external factors such as inflation, gross domestic product and interest rates have no significant cash holding effect.

Index Terms: Cash Holdings, Mining Sector, Indonesia.

1. INTRODUCTION

Mining companies are the object of interest not only for investors but also researchers. The Indonesia Stock Exchange (IDX) recorded an increase in mining sector shares entering 2018. During the trading of the 2017 stock exchange, the mining sector only experienced an increase of 15.03 percent. However, entering early 2018, the mining sector ranks in the top two shares sector with the highest return. Based on Bloomberg data, five listed mining sector companies with the largest share price increases since the beginning of the year were mostly inhabited by coal issuers. The share price of PT Alfa Energi Investama Tbk (FIRE) recorded the highest increase, namely 285.91 percent, followed by PT Bukit Asam Tbk (PTBA) by 72.16 percent, PT Bayan Resources Tbk (BYAN) by 66.04 percent, PT Vale Indonesia Tbk (INCO) by 55.02 percent and PT Dian Swastatika Sentosa Tbk (DSSA) 47.66 percent. Cash holding companies are the focus of research because of the role of cash in the company. Cash holding or in a foreign language commonly referred to as cash holding is defined as cash that is in hand or available for investment in the form of physical assets and to be distributed to investors [1]. [2] describes financial managers who play a role in determining the optimal level of cash holding company. When there is cash inflow, a manager can decide to distribute it to shareholders in the form of dividends or perhaps save it to meet the company's investment needs in the future. There are several examples related to the role of cash in companies, especially related to mining companies. For example, in dividend distribution the two members of a mining SOE holding company, PT Bukit Asam Tbk (PTBA) and PT Aneka Tambang Tbk (ANTM), who distribute dividends differ greatly due to large cash differences. The use of internal cash for acquisitions, where PT Indika Energy Tbk (INDY) is targeting coal mines in the Sumatra and Kalimantan regions by budgeting funds of US \$ 300 million for the acquisition of several mining companies whose entire funds are taken from internal cash. There are several factors that affect cash holding, namely internal and external factors. Internal factors include company size, return on equity and leverage. External factors include inflation, gross domestic product and interest rates. The results of empirical studies show the relationship between internal and external factors and cash holding. [3], [4], [5], [6], [7] found a negative relationship between size and leverage and cash holding. Whereas [5], [4] and [3] found a positive relationship. On the external side, a significant

negative relationship was found between inflation and cash holding [9]; [10]; and [11]. Whereas [4] and [12] found a positive relationship between GDP and cash holding.

2 LITERATURE REVIEW

There are 3 main theories used to explain cash holding, namely trade-off theory, pecking order theory, and free cash flow theory. First, the trade-off theory in cash holding shows that if management is concerned with maximizing shareholder wealth, it must achieve an optimal level of cash holding by weighing marginal benefits and marginal costs of cash holding [4]. Second, pecking order theory states that there is asymmetric information between companies and prospective lenders and increasing the benefits of collecting cash holding for external costs is more expensive for companies with high asymmetric information [13]. To minimize costs associated with financing, companies will prefer to use internal resources for investment funds; after that, it will turn to debt and to equity [4]. As a result, keeping cash holding as much as possible is desirable for companies that have high investment opportunities, especially for those who have difficulty finding external costs [14]. Third, free cash flow theory, predicts that shareholders will choose to limit managers' access to free cash flow to reduce agency conflict over its spread. Cash holdings are also seen as free cash flow because cash can be used by managers to serve their own interests at the expense of shareholders, thus exacerbating conflicts of interest between two parties [15]. The relationship between size and cash holding is ambiguous. On the other hand, large companies show less information asymmetry and face lower costs from external financing than small companies [16]. As a result, the need for cash will decrease with increasing size of the company. Moreover, large companies tend to reduce cash in order to easily diversify and are less likely to experience financial difficulties [5]. This can also be seen from [17] who explain the model of money demand by companies that shows that there is economies of scale in cash management. This will make large companies easier and cheaper to get financing. Thus, raising funds is relatively more expensive for smaller companies encouraging them to save more money than larger companies. Furthermore, it is generally accepted that larger companies, because of diversification, have a lower probability of financial difficulties [18]. The influence of corporate leverage on cash holding is likely to face financial distress and bankruptcy is negative. Therefore, it is expected

to hold more cash holding to reduce this possibility [4], [7], [19]. In contrast to the view, pecking order theory states that the level of debt increases when investment is greater than retained earnings, and thus holding cash is reduced when investment is smaller than retained earnings showing a negative relationship between leverage and holding cash [4]. The majority of studies have found that increasing leverage will reduce cash [4], [7]; [8]; [2]. In addition, [20] and [21] found a nonlinear relationship between these two variables. Despite the different results found [21] who observed first there was a negative relationship and then positive at a higher level of leverage. Along with the leverage and size of the company, profitability also affects the company's cash holding level. A profitable company is expected to save a lower amount of money because of the greater availability of cash flow from operations [19]. The trade-off theory states that there is a negative correlation between cash holding and profitability; because profitable companies have sufficient cash flow to avoid underinvestment problems [22]; and [19]. whereas according to the pecking order theory, regarding capital returns, profitable companies use their profits as a source to create liquidity and cash, and therefore do not tend to hold more money [16]. Therefore [4] found a positive relationship between return on equity and corporate cash holding. [4] and [8] also support the pecking order theory; because more profitable companies have easy access to external capital markets at lower costs, pay dividends to their shareholders, and pay off their debts. Therefore, they tend to collect more money to avoid the possibility of being unable to be credited or lacking liquidity. Inflation has several adverse effects on the economy, one of which is that it can reduce the value of wealth in the form of money. Based on the hypothesis of [10] it is said that if inflation increases, the company's cash holding decreases. The level of a company's cash holding depends on changes in the inflation rate itself. To deal with high levels of inflation in companies, managers tend to reduce non-interest-bearing cash so that cash holding becomes very valuable. The results of research conducted by [10], [23], they revealed that there was a significant negative relationship between inflation and cash holding. Interest rates generally increase during periods of inflation and the purchasing power of money decreases because prices also increase. Rising interest rates make people and companies interested in saving or investing. As a result, cash requirements are lower to support the company's operational activities and the community will hold a small amount of cash only to support certain transaction volumes [24]. [32] results of the study according to [11], interest rates have a significant negative effect on cash holding. While [19], [25], said that there is a significant positive relationship between interest rates and cash holding. [26] use GDP as a measure of economic growth. They found that cash holding is very valuable in countries with high levels of economic growth and financial development. In the academic literature, GDP is used as a proxy for measuring economic growth. Overall, the company is responsive to fluctuations in economic growth. The decline in economic growth raises uncertainty about business conditions and the company holds some cash as a motive to guard against adverse changes in the future. Therefore, it is expected that there is a negative relationship between GDP growth and corporate cash holdings. [12] found a significant positive relationship between GDP and cash holding. Companies tend to hold excess cash when GDP increases and vice versa. [23] also said that GDP

has a positive but not significant relationship to cash holding.

3 RESEARCH METHOD

Data

Research data using quantitative data. The data used comes from the summary of financial statements sourced from the Indonesia Stock Exchange (www.idx.co.id). While macroeconomic data as an external factor comes from the Indonesian Central Statistics Agency (BPS)

Population and Sample

The population in this study is the mining sector companies listed on the Indonesia Stock Exchange in December 2016 amounted to 42 companies. Determination of the sample using purposive sampling technique with a sample size of 25 companies

Empirical Model

The dependent variable used is cash holding, which is measured using the ratio of cash and cash equivalents divided by total assets in the company. The independent variable consists of Size which is the size of a company measured using the natural logarithm of total assets, leverage (Lev) measured using total debt divided by total assets, return on equality (ROE) measured by net income divided by equity, inflation (INF), GDP and interest rates (INTR) using annual data.

$$\text{Cash}_{i,t} = \alpha + \beta_1 \text{SIZE}_{i,t} + \beta_2 \text{ROE}_{i,t} + \beta_3 \text{LEV}_{i,t} + \beta_4 \text{INF}_{i,t} + \beta_5 \text{GDP}_t + \beta_6 \text{INTR}_t + \varepsilon_{i,t}$$

Analysis of research data using panel data regression. In panel data regression, there are three methods / models for estimating panel data parameters [27]. These three models are: first, the Common-Constant Method (Pooled Ordinary Least Square / PLS). Second, the Fixed Effect Method (FEM) and the third, the Random Effect (REM) Model. To determine the chow and Hausman tests

4 RESULTS AND DISCUSSION

A description of all the variables can be seen in table 1. Overall the average value of all research variables is smaller than the standard deviation so that it provides information that the average value of each variable becomes a representation of each variable analyzed except for the variable ROE and leverage.

Table 1.
Descriptive statistics

Variable	Mean	Std. Dev	Min	Max	Obs.
Cash	0.13	0.12	0.0002	0.52	125
Size	15.22	1.35	11.92	18.23	125
ROE	5.91	14.68	-38.20	43.10	125
Lev	0.95	0.85	0.04	3.94	125
INF	9.25	0.13	9.06	9.43	125
PDB	5.5	2.41	3.00	8.40	125
INTR	6.38	0.91	4.80	0.52	125

There is a close relationship between the independent variables showing the multicollinearity in the model. Table 2 provides information about the absence of correlation between independent variables.

Table 2

Correlation Matrix for the Explanatory Variables

	Size	ROE	Lev	INF	PDB	INTR
Size	1	0.129	-0.042	0.099	-0.007	0.088
ROE		1	-0.190	-0.293	0.131	-0.152
Lev			1	-0.076	-0.049	-0.112
INF				1	-0.406	0.378
PDB					1	0.497
INTR						1

holding variables with internal factors (Size, ROE and Leverage) and external (INF, GDP and INTR) of mining companies listed on the Indonesia Stock Exchange in 2012-2016 which can be seen in table 3. Analysis using panel data regression with the Fixed Effect model. This was chosen after a chow test and a test of results. Overall on all feasible models that can be seen from the significant R Square and calculated F values.

Regression analysis focused on the relationship between cash

Table 3
Estimations Results of Panel Regression with Independen Variabel Cash

Explanator Variables	OLS		Fixed Effect		Random Effect	
	Coefficient	Prob.	Coefficients	Prob.	t-Statistics	Prob.
Constanta	1.241184 (1.487581)	0.1395	1.491011*** (2.900893)	0.0046	1.393157 (1.510075)	0.1337
Size	0.012437** (2.346152)	0.0206	0.014115** (2.384660)	0.0191	0.013492 (1.517975)	0.1317
ROE	0.001924*** (3.149993)	0.0021	0.001207** (2.119917)	0.0366	0.001514** (1.983690)	0.0496
Lev	-0.039263*** (-4.544444)	0.0000	-0.028622** (-2.437692)	0.0167	-0.033515*** (-2.727457)	0.0074
INF	-0.137493 (-1.366433)	0.1744	-0.169113** (-3.174585)	0.0020	-0.156744 (-1.494906)	0.1376
PDB	-0.003462 (-1.039358)	0.3008	-0.003442** (-2.451650)	0.0161	-0.003510 (-0.580913)	0.5624
INTR	0.004016 (0.369181)	0.7127	0.005689 (0.650226)	0.5171	0.005115 (0.324325)	0.7463
R-squared	0.217178		0.557407		0.171764	
F-statistic	5.456101		3.946158		4.078589	
Prob(F-statistic)	0.000052		0.000000		0.000939	
Prob. Chow Test			0.000000			
Prob Hausman Test					1.000000	
Number of obs	125		125		125	

*, **, and *** denote significance at 10%, 5% and 1% levels, respectively

The results of the study found the influence of internal and external factors on cash holding in mining companies listed on the Indonesia Stock Exchange in 2012-2016. On internal factors consisting of company size, ROE and leverage, only company size has no significant effect on the positive size coefficient of the company, while ROE and Leverage have a significant effect on cash holding with positive and negative coefficients on cash holding. For external factors consisting of inflation, GDP and interest rates found insignificant results on cash holding. These results indicate that external factors have no significant impact on the cash needs of mining companies in Indonesia. Internal factors that have a significant effect on cash holding are ROE and Leverage variables. ROE has a positive and significant effect on cash holding. Positive means an increase in the company's profitability increases the company's cash holding, or vice versa. This result is in line with the pecking order theory which states that the company will use the company's profits as a source for the company in creating liquidity and cash. This is why companies will tend to hold more money. These results are in line with research conducted by [4] and [8] also support the pecking order theory, because more profitable companies have easy access to external capital markets at lower costs, pay dividends to their shareholders, and pay their debts. Another internal factor that significantly influences cash holding is leverage. Leverage has a negative and significant effect on cash holding in mining companies in Indonesia. Negative means increasing the company's leverage will reduce the company's cash holding, or vice versa. This result is in line with the majority of studies conducted which found a negative influence of leverage on cash

holding [4], [5], [6], [2]. The existence of negative and significant results shows that mining companies in Indonesia use loans as substitutes to hold cash because leverage can act as a proxy of the company's ability to deal with debt problems.

6 CONCLUSION

The profitability of a company can be affected by the board of directors. Many studies show that board size and female directors who have a large size is good for corporate performance. This study found that board size has a positive and significant impact on company performance. On the contrary, female directors have had insignificant results on company performance. For control variables such as Firm age, Firm size and firm leverage have a significant influence on firm performance. The results suggest that credit expansion by RDB can be need to increase the number of directors to improve company performance. But the increase should also be careful because the more the number of directors increasingly bureaucratic so many opinions and more financing that spend to finance the board of directors so that it can result in reduced profits will be reduced. When the profit-sharing generated by the company is small then investors are looking for other companies to invest in order to earn substantial profit sharing.

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