



## PRIMARY RESEARCH

# Corporate diversification and cash holding

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**Abstract.** Cash holding is one of company's internal funding sources that might be used for investment purposes. In fact, corporate investment funding policy may affect the magnitude of the cash holding because management must decide proper sources of the funds, *i.e.* internal and external priorities, and which sources will be taken first. This study aims at testing whether diversification strategies may reduce or increase the tendency of companies to save cashes in a company, either a financially-constrained, financially non-constrained or all of them. The sample taken in this study is manufacturing companies listed at the Indonesian Stock Exchange during 2006-2011. They are selected by using a purposive sampling. Analytical techniques applied are the data analysis panel with the Ordinary Least-Squared (OLS) approach. The results indicate that diversification strategies have a negative and insignificant influence to the change of cash holding in a company. Companies tend to keep cash holding in response to a lower positive cash flow in a diversified company. The influence is stronger on a constrained company than a financially non-constrained one. The cash flows have a positive influence on cash holding. The trend is stronger on financially-constrained corporations. Meanwhile, market-to-book value of assets have an insignificant and positive influence to cash holding company. These influences also apply to financially non-constrained ones. However, the influence of market-to-book value of company assets in financially non-constrained companies cannot be determined as they have no systematic pattern on either debt ratio, payout ratio, book-to-market asset ratio or the size of assets.

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**INTRODUCTION**

Corporate cash holding policy has been recently attracting the attention of researchers. Several researchers have noted that there is a significant increase of cash holding companies. Song & Lee (2012) have found that on average, cash holding companies in East Asia have experienced an increase of 12.1 percent in 2006 from 6.7 percent in 1996. Besides, Bates, Kahle & Stulz (2009) have found that on average, the ratio of cash holding companies in any industrial sector in the United States have increased to two-fold, from 10.5 percent to 23.2 percent during 1980-2006.

In particular, cash holding policy is tightly related to corporate liquidity and profitability. From the viewpoint of liquidity, a cash holding company used to support company's operations in doing transactions. From the viewpoint of profitability, cash holding company must be managed effectively and efficiently, and be maintained at an optimal level because cash holding may not generate profit directly.

Furthermore, cash holding is also one of internal funding sources of a company, which can be used for investment purposes. Investment policy will have an effect to a massive cash holding because management has to decide proper sources of the funds, whether it is internal or external, and priority funding sources for being taken first (pecking order theory).

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A company that has high asymmetric information and meets barriers to access external stock markets (financially-constrained) will be more likely to depend on its internal funding resources to finance its investment activities. In other words, a cash holding company tends to be stronger than others.

Recently, researches have begun to pay attention to the effect of diversification on cash holdings (Duchin, 2009), the marginal value of the dollar (Tong, 2011), the value of a company during the 2008 financial crisis (Kuppuswamy & Villalonga, 2010), and the sensitivity of cash flows to cash holding (Tecluzion, 2012). Duchin (2009) has found that diversification may reduce cash holdings. Besides, Tong (2011) has found that diversification may reduce the marginal value of the dollar. Next, Kuppuswamy & Villalonga (2010) have found that diversifications are taken to increase company value during the financial crisis, particularly the value of financially-constrained companies. Then, Tecluzion (2012) have found that industrial diversifications may reduce the tendency of companies to save cashes when their cash flows happen to be positive. In fact, the strategy has a stronger influence on financially-constrained ones.

Looking at those progress, it is important to observe the trend of companies that conduct diversifications related to the sensitivity of cash holding, which considers that cashes cannot generate profits directly. In short, the presence of diversifications is expected to reduce the tendency to hold cashes. Hence, the company's goal to implement diversification strategies for creating added values can be fulfilled.

### Objective of the Study

This study aims at testing whether diversification strategies may reduce or increase the tendency of companies to save cash in a company, either a financially-constrained, financially non-constrained, or all them.

## LITERATURE REVIEW

### Diversification Strategy

Diversification exists as a corporate-level strategy. The strategies refer to actions taken by a company to gain competitive advantages through the selection and management over a group of different businesses to compete in several industries or markets products. In fact, diversification strategy may enhance strategic competitiveness, increasing total company value and maximizing business benefits that may ensure more stable cash flows. According Pandya & Rao (1998), a

diversified venture company aims at expanding its business from a core business to cover other product markets and improve overall company performance. Montgomery (1994) has stated that a diversification is a situation in which a company has multiple business units or subsidiaries.

Furthermore, diversification is taken as a strategy for a variety of reasons or motives. Walter & Barney (1990) have mentioned some of them, including

1. To reduce the risk or anticipating a low cash with implications for the desire to utilize a debt.
2. Anti-competition motive, to exploit market shares.

Besides, Hitt *et al.* (2001) have noted the reasons of companies to use diversification as a corporate-level strategy, including

1. To improve the competitiveness of an entire company strategically. In fact, when a diversification increases strategic competitiveness, total company value would also increase.
2. To obtain a greater market power than what others (competitors) have done through a vertical integration.
3. To neutralize the market strength of competitors by neutralizing advantages held by other companies with similar purchasing outlets owned by competitors.
4. To expand portfolio companies to reduce managerial risks, *e.g.* if one business fails, top-level executives would still work in the diversified firm.

### Understanding Financial Constraint

In general, a financially-constrained company is one facing limitations in obtaining an external funding to finance its internal investment projects. On the other hand, a financially non-constrained company is one that does not have the financial limitations. Kaplan & Zingales (1995) have stated that a firm may shift to be as financially-constrained one when the company faces a difference between the cost of capitals from internal sources and the capital costs of external funding. Besides the shortage of internal funding, a company may also face a difficult position because it has run into difficulties to obtain external funding.

According to Hennessy & Whited (2006), companies may have access to profitable investment prospects, yet there is a limited chance to fund these investments with an external financing. In fact, it is relatively more expensive than an internal financing due to taxes, costs of financial distress, transaction costs, agency problems, and asymmetric information (Fazzari *et al.*, 1988). Thus, a financially-constrained company tends to use liquidity to fund its investment activities.

### Trade-off Theory

The cash holdings trade-off theory states that the level of an optimal liquidity is a trade-off between costs and benefits of holding cashes. In particular, some of the benefits are directly associated with holding cashes. First, cash holdings may significantly reduce financial difficulties because it may act as a safety measure in facing unexpected losses or increased constraints of an external funding. Second, cash holdings may enable companies to establish an optimal investment policy even when the company is experiencing financial problems (financially constrained). Then, cash holdings may contribute to minimizing the costs due to an increase in external funds or liquidate existing assets because it may further act as a buffer between the company and the use of fund resources. Costs incurred as a result of holding cashes, on the other hand, is an opportunity cost for a capital invested in illiquid assets (Ferreira & Vilela, 2004).

### Pecking Order Theory

The pecking order theory according to Myers & Majluf (1984) has described a hierarchy minimizing financial costs associated with an external financing due to asymmetric information and signal problems. In the hierarchy, internal funding has the highest priority, which is followed by a low risky debt, leaving equity as a last choice (Myers & Majluf, 1984). In fact, a highly profitable company may have a low level of debts due to abundant sources of internal funds. The financing order is mainly purposed to minimize the costs from asymmetric information and other expenses.

### Free Cash Flow Theory

Jensen (1986) has defined a free cash flow as the cash flow of a remaining funding throughout a project, which then result in a net present value (NPV) discounted at a relevant level of capital costs. In fact, a free cash flow is the one that often triggers different interests between shareholders and managers. Cash holdings may have been regarded as a free cash flow because it can be used by managers to meet their own interests at the expense of shareholders' interests, thus intensifying the conflict of interest between these two parties (Harford, 1999; Jensen, 1986).

### RESEARCH METHODOLOGY

Diversification strategy has been negatively related to cash holding sensitivity in both financially constrained and non-constrained companies. In fact, cash flow has been positively related to companies' cash holdings.

Besides, market-to-book ratio has also been positively related to the cash holding. Then, size has been negatively related to companies' cash holding. Based on these assumptions, the proposed research model is

$$\Delta \text{cashholding}_{it} = \alpha + \beta_1 \text{DiverD}_{i,t} + \beta_2 \text{CF}_{i,t-1} + \beta_3 \text{DiverD}_{i,t} * \text{CF}_{i,t-1} + \beta_4 \text{MTB}_{i,t-1} + \beta_5 \text{Size}_{i,t} + \beta_6 \text{CAPEX}_{i,t} + \beta_7 \Delta \text{NWC}_{i,t-1} + \beta_8 \Delta \text{STD}_{i,t-1} + \epsilon_{i,t}$$

$\Delta$  cashholding: change in cash holding  
 DiverD<sub>i,t</sub> : dummy diversification variable  
 CF : cash flow  
 MTB : market to book value of assets  
 Size : size of the company  
 CAPEX : capital expenditure  
 $\Delta$ NWC : change in net working capital  
 $\Delta$ STD : change in short-term-debt

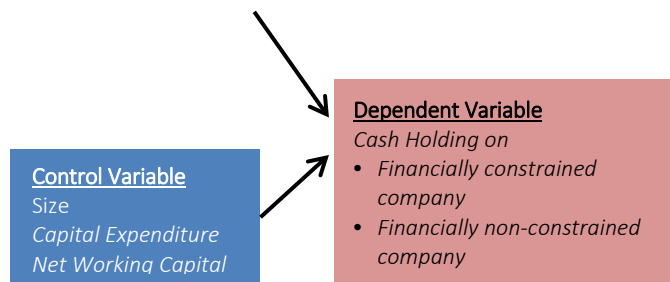


FIGURE 1. Research model

### DATA ANALYSIS

Looking at Table 1, the average increase in terms of the change of cash holdings during the period under observation appears to be amounted at 1.23 % of total assets with a standard deviation of 7.21 %. Besides, the average value of the dummy diversification variable is at 0.6329 with a standard deviation of 0.482. In other words, it shows that 63.29 % of the 316 observations applied diversification strategy.

Cash flow variable has an average value of 0.0366 with a standard deviation of 0.1275. Besides, companies under observation have a market value of assets amounted to 1.4955 from the book value of their assets. The average size of companies observed during the period of investigation amounted to 27.4152. The value is the calculation result of the natural logarithm of total assets. Next, the average capital expenditure amounted to 0.0142 with a standard deviation of 0.1075. Then, the average increase of changes in net working capital and short-term-debt are 0.0261 and 0.0069 with a standard deviation of 0.222 and 0.104, respectively.

TABLE I. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
<i>Change in Cash Holdings</i>	316	-0.3240	0.4270	0.0123	0.0721
<i>DivD</i>	316	0.0000	1.0000	0.6329	0.4828
<i>Cash Flow</i>	316	-0.4390	1.4800	0.0366	0.1275
<i>Market to Book Value</i>	316	0.1810	15.0030	1.4955	1.5258
<i>Size</i>	316	23.1886	31.2969	27.4152	1.4139
<i>Capital Exp</i>	316	-1.1920	0.3600	0.0142	0.1075
<i>Change in NWC</i>	316	-0.6920	2.6550	0.0261	0.2224
<i>Change in STD</i>	316	-0.5780	0.8430	0.0069	0.1040
<i>Valid N (listwise)</i>	316				

## RESULTS AND DISCUSSION

Looking at the statistics (Table 2, 3 and 4), it clearly appears that diversification strategy has no significant negative effect to cash holding companies, meaning that entire companies in the sample are diversifiable to reduce cash holdings held by each company with a small influence. These results contradict Teclezion (2012) who has found that diversification strategy has a positive effect on cash holding companies.

Diversification has no significant positive effect on cash holding of financially-constrained company. These findings indicate that situations in which a diversification can improve cash holdings are held by financially-constrained companies, but the effects are small. The influence may have been caused since a company that has financial limitations has not been able to operate in an efficient internal capital market

so that diversification cannot create value for the company. This finding is consistent with Teclezion (2012) who found that diversification has a positive but insignificant effect on the cash holdings of financially-constrained companies.

Furthermore, the diversification effect in financially non-constrained companies cannot be identified because there is no systematic pattern in all criteria. Basically, a financially non-constrained company is a diversified one that does not have limitations in accessing external capital markets, so there is no need to hold huge amount of cashes, however, the company may also active in internal capital markets because it is the least expensive source of funds. Statistically, any insignificant effect is intended for long-term synergy, which is a new, bigger and better force. Diversification strategy aims to improve management capabilities, so a company may be better managed, gain new strength in market share and win competitions. The synergy cannot produce perceived benefits within a quick time frame, because it takes time for an adjustment.

Based on the statistics, the cash flow appears to have a significant and positive effect on company cash holdings. It shows that the company would tend to save larger cashes when there is a positive cash flow, meaning that the cash flow sensitivity of cash holdings would also be positive. Apparently, both financially-constrained and non-constrained companies have a tendency to save cashes over a positive cash flow. Financially-constrained company has a higher lean to save cashes when there is a positive cash flow, as compared to financially non-constrained firm. In most constraint criteria, the coefficient of cash flow for financially-constrained companies show a higher value than for non-constrained ones. These results confirm Teclezion's work (2012) that has suggested that financially-constrained firms tend to save larger

TABLE 2. Regression output of Ordinary Least Square – All firms

Variable	All Firms	
	Coefficient $\beta$	Significance
<i>Constant</i>	-0.063	0.203
<i>DiverD</i>	-0.001	0.820
<i>Cash Flow</i>	0.191***	0.000
<i>DiverD * Cash Flow</i>	-0.182***	0.002
<i>Market to Book Value</i>	0.004	0.191
<i>Size</i>	0.002	0.196
<i>Capital Exp</i>	-0.007	0.865
<i>Change in NWC</i>	0.039*	0.083
<i>Change in STD</i>	-0.010	0.748
Observations		270
R <sup>2</sup>		0.127
Adjusted R <sup>2</sup>		0.101
Prob (F-stat)		0.000

Notes: \* Significant at  $p < 0.1$

\*\* Significant at  $p < 0.05$

\*\*\* Significant at  $p < 0.01$

**TABLE 3.** Regression output of Ordinary Least Square – Financially-constrained

Variable	Financially Constrained							
	Debt ratio		Payout ratio		Book to market		Assets size	
	Coeff. $\beta$	Sig.	Coeff. $\beta$	Sig.	Coeff. $\beta$	Sig.	Coeff. $\beta$	Sig.
Constant	-0.179***	0.003	-0.168	0.000	-0.079	0.410	-0.077	0.419
DiverD	0.002	0.695	0.004	0.392	0.002	0.837	-0.003	0.675
Cash Flow	0.212***	0.000	0.008	0.843	0.422***	0.001	0.247***	0.000
DiverD * Cash Flow	-0.240***	0.001	-0.011	0.823	-0.372**	0.014	-0.168**	0.041
Market to Book Value	-0.012***	0.000	0.001	0.857	0.000	0.978	0.014***	0.008
Size	0.007***	0.001	0.006***	0.000	0.003	0.394	0.003	0.467
Capital Exp	-0.760**	0.022	0.039	0.257	-0.122*	0.096	-0.091	0.137
Change in NWC	0.024	0.274	0.014	0.405	0.051	0.197	0.002	0.948
Change in STD	0.007	0.754	-0.028	0.210	-0.032	0.549	0.024	0.510
Observations	131		138		138		120	
R <sup>2</sup>	0.281		0.170		0.154		0.265	
Adjusted R <sup>2</sup>	0.234		0.119		0.101		0.212	
Prob (F-stat)	0.000		0.002		0.005		0.000	

Notes: \* Significant at  $p < 0.1$ \*\* Significant at  $p < 0.05$ \*\*\* Significant at  $p < 0.01$ 

cashes when their cash flow is positive or increased.

Next, the interaction between cash flow and diversification strategy has a negative effect to cash holding companies, both in financially-constrained and financially non-constrained ones. It means that diversification may reduce the tendency of companies to hold cashes to increase cash flows. The influence is stronger in financially-constrained companies.

Market-to-book value of assets refers to investment opportunities in the future with no significant and positive effect on cash holding companies. It means that when the investment opportunity is profitable in the future, the company would tend to increase its cash reserves in order to meet the investment needs. In fact, cash is the most inexpensive source of funds compared to debts and stocks, yet the opportunities

**TABLE 4.** Regression output of Ordinary Least Square – Financially non-constrained

Variable	Financially Non-constrained							
	Debt ratio		Payout ratio		Book to market		Assets size	
	Coeff. $\beta$	Sig.	Coeff. $\beta$	Sig.	Coeff. $\beta$	Sig.	Coeff. $\beta$	Sig.
Constant	-6.405E-5	0.999	0.064	0.516	0.031	0.647	-0.049	0.611
DiverD	-0.001	0.870	0.013	0.432	-0.001	0.854	0.008	0.290
Cash Flow	0.187***	0.001	0.499***	0.001	0.177***	0.000	0.140**	0.030
DiverD * Cash Flow	-0.168***	0.004	-0.405**	0.032	-0.160***	0.005	-0.146*	0.059
Market to Book Value	0.011***	0.003	0.003	0.459	-7.548E-5	0.965	-0.007**	0.027
Size	0.000	0.939	-0.003	0.478	-0.001	0.807	0.002	0.520
Capital Exp	-0.034	0.463	-0.169*	0.060	-0.010	0.710	0.038	0.400
Change in NWC	-0.013	0.518	0.127**	0.049	0.003	0.813	0.080**	0.034
Change in STD	0.003	0.930	-0.004	0.965	0.034	0.309	-0.034	0.519
Observations	125		118		146		132	
R <sup>2</sup>	0.144		0.240		0.107		0.143	
Adjusted R <sup>2</sup>	0.090		0.184		0.055		0.087	
Prob (F-stat)	0.009		0.000		0.044		0.013	

Notes: \* Significant at  $p < 0.1$ \*\* Significant at  $p < 0.05$ \*\*\* Significant at  $p < 0.01$

have small influence on cash holding companies.

Furthermore, the statistics show that the size of a company has no significant and positive effect on the change in cash holding companies. It indicates that large companies have a tendency to hold larger cashes. The findings confirm the pecking order theory, which states that large companies have a better performance compared to smaller companies that have abundant sources of internal funds (Opler *et al.*, 1999). However, the result counters prior works by Ferreira & Vilela (2004) and Teclezion (2012). At financially-constrained companies, the size of company has a positive influence on changes in cash holdings, but it is only significant in terms of debt ratio criterion and payout ratio. The findings are not consistent with Teclezion's suggestion (2012), which has stated that company size has a significant and negative effect on financially-constrained companies. In financially non-constrained firms, company size has an insignificant and negative effect. It means that large companies are not experiencing financial constraints by holding lower cashes because they have accesses to external funding sources. In addition, large firms tend to have a lower chance to face a bankruptcy compared to small companies; hence, they hold lower cashes.

On the other hand, capital expenditure (*Capital Exp*) has an insignificant and negative effect on cash holding companies. Besides, the expenditure also has negatively affected financially-constrained ones but only significant in terms of debt ratio criterion and book-to-market ratio. In financially non-constrained companies, capital expenditure has a significant and negative effect, but in terms of payout ratio only.

Next, changes in net working capital have a significant and positive effect on changes in cash holding companies. It means that an increased net working capital may also increase convertible amount of capital into cashes, and the possibility of cashes being held by companies hence also increases. Thus, changes in cash holdings are stated to be positive. In fact, the variable has a positive influence on firms with financial constraints but insignificant at all financial constraint criteria. For these firms, the variable has a positive effect on most criteria, but only significant at

the payout ratio and asset size criteria. It indicates that when a company has a net working capital, it would assist the company to maintain liquidity and simplify management to keep cash holdings; however, the effect is small. In fact, the findings are not consistent with prior works by Opler *et al.* (1999), Ferreira & Vilela (2004), Almeida *et al.* (2004), Tong (2011), Bates *et al.* (2009), and Teclezion (2012).

Then, changes in short-term debts have a negative and insignificant effect to cash holding companies. These results indicate that when companies increase the use of short-term debts, they have enough bases to stand with small amounts of cash, since short-term debts may also be taken as a substitution of cashes for investment and finance company operations. In fact, this finding is consistent with existing researches conducted by Opler *et al.* (1999), Bates *et al.* (2009), and Teclezion (2012). Apparently, the current investigation cannot find any systematic pattern at either financially-constrained or non-constrained companies, so it is difficult to determine the influence of these variables on cash holding. The result is contrary to some existing researches, *e.g.* Almeida *et al.* (2004) and Teclezion (2012).

## CONCLUSION

This research has indicated that diversification strategies have a negative and insignificant influence to the changes of cash holding in a company. Corporations tend to keep cash holding in response to a lower positive cash flow in a diversified company. The influence is stronger in a constrained company than financially non-constrained one. The cash flows have a positive influence on cash holding. The trend is stronger on constrained corporations. Meanwhile, market-to-book value of assets have an insignificant and positive influence to cash holding companies. These influences also apply to financially non-constrained ones. However, the influence of market-to-book value of company assets in financially non-constrained firms cannot be determined as they have no systematic patterns on either debt ratio, payout ratio, book-to-market asset ratio or the size of assets.

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– This article does not have any appendix. –