Determinants of Cash Holding under Financial Constraints and Cash Holding Adjustment Speed-Focusing on Diversified Enterprise

Sooeun Kim[1], HyunsooKim[2]
Associate Professor, Department of Global Finance and Management, Sangmyeong University, Korea
Visiting Professor,Culture and Art Management,Sangmyeong University, Korea
Corresponding author: Sooeun Kim

ABSTRACT:*Financially unrestricted enterprises classified according to capital market accessibility, credit rating level and dividend payment status are easy to access the capital market, and therefore are subject to low financial constraints due to low interest costs in external financing, which is evidence that they can quickly adjust their cash holding ratio to reach their target cash holding ratios while financially restricted enterprises cannot adjust their cash holding ratios quickly because of difficulties in obtaining outside financing through the capital market.That is, it was found that the diversified companies listed on the securities market of Korea Exchange have a target cash holding ratio, and when the actual cash holding ratio deviates from the target cash holding ratio, the gap is partially adjusted every year. And financial constraints, as well as traditional cash holding determinants, have been shown to affect cash holding adjustment rates.Therefore, it is necessary for diversified companies to manage their cash holdings at an appropriate level in order to preserve their shareholder value, but it may be somewhat excessive for current companies because their cash holding can bring future uncertainty. Governments and companies should consider well the institutional support, which can turn cash into future investments and the strategic investment which can secure future growth engines in advance.*
KEY WORD:*Diversified Enterprise, Cash Holding, Financial Constraints, Cash Holding Adjustment Speed*

I.   INTRODUCTION AND LITERATURE REVIEW

Companies that have proceeded with diversification want to lead future investments by creating future profitability through aggressive investments such as an expansion of external margins. As uncertainty in the global economy is growing, most companies show the trend to prefer cash holding instead of an investment. The global trend shows that shareholders are trying to increase shareholder value by mentioning shareholder-friendly policies such as dividends while watching out excessive cash holding. Since the past, companies have focused on a business expansion that increases the scale of the company by expanding their businesses through diversification. Since the outbreak of the global financial crisis, they expanded their businesses in a conservative approach, making choices and focus. While many global studies are underway on the determinants of cash holding, the research on cash holding adjustment rates is somewhat insufficient.

In particular, studies on the characteristics of cash holdings by the diversified companies and the detail value on how much cash holding adjustments are made are insufficient yet. Among the precedent studies on determinants of cash holdings, in particular, Ozkan and Ozkan (2004) noted that the determinants of a company's cash holdings adjust their cash holdings to recover if they deviate from their target cash holding ratios, identified that the adjustment cost of capital structure and the adjustment rate is influenced depending on the status of financial constraints such as capital market access, cash flow level and credit score level in the field of cash holding and capital structure.

Ferreira and Vilela (2004) stated that, in the view of surplus cash flows, the managers increase cash holding despite inadequate investment opportunities because they increase cash holdings for their gain rather than maximize shareholder wealth. Besides, the theory of surplus cash flows argues that an increase in the excess cash flows reduces the leverage ratio through debt repayment and further increases cash holding when there is still room. In addition, as the size of the entity increases, the equity ratio becomes dispersed, increasing cash holdings during the process of management's discretion.

Opler et al. (1999) and Ferreira and Vilela (2004) discovered that the companies with higher investment opportunities may be involved in the aggressive investment to grab the investment chance despite higher interest cost due to crisis awareness that financial difficulties may result in the increased funding cost and miss the investment chance, which will bring the increase rate of estimated loss, they tend to increase cash

holding to prevent this. The funding sequence theory by Myers and Majluf (1984) does not measure the cash holding adjustment speed without considering the target leverages. It brought a theoretical interpretation that differed somewhat from other researchers, suggesting that the leverage ratio fluctuates passively depending on the changes in internal finance. If an entity uses internal financing for investment, the leverage ratio increases owing to a decrease in equity capital, and if the internal funding for the investment, the leverage ratio decreases due to the rise in equity capital.

Therefore, the funding sequence theory can be said to correspond to a hierarchy theory that procures investments in the order in which information costs are lowest in the context of asymmetric information. This study intends to research the determinants of cash holding and the cash holding adjustment ratio by diversified entities under financial constraints.

A total of 22 years from 1996 to 2017 was set as the analysis period, and 4,271 companies-years are analyzed as sample data only for the diversified companies listed on the Korea Exchange. Since the data used in this study are cross-sectional data, it might have the problem of heteroscedasticity and the series correlation of time series data simultaneously. This study forms the panel data in which time-series and cross-sectional data are integrated for the analysis.

Ⅱ. INTRODUCTION AND LITERATURE REVIEW

This study set the decision model of target cash holding, as shown in Formula (1) according to the methodology by Ferreira and Vilela (2004) and Ozkan (2004).

$$TC_t = \alpha_0 + \sum_{k=1}^{M} \alpha_k X_{k,t} \quad (1)$$

Where TC_t= target cash holding ratio in t year.
$X_{k,t}$=the k'th company characteristic variables in t year.

Ozkan and Ozkan (2004) suggested a partial adjustment model, as shown in Eq. (2) under the assumption that the companies will partially adjust the actual cash holdings towards the target cash holdings if the actual cash holdings deviate from the target cash holdings.

$$C_t - C_{t-1} = \theta(TC_t - C_{t-1}) \quad (2)$$

Where, C_t=actual cash ratio in t year
θ_t=Cash holding adjustment speed in t year

When aligning the formula (2) against the actual cash ratio(C_t) in t years, it becomes the formula (2a).

$$C_t = (1 - \theta)C_{t-1} + \theta TC_t \quad (2a)$$

Substituting formula (1) into Formula (2a) yields Formula(3).

$$C_t = (1 - \theta)C_{t-1} + \theta TC_t$$
$$= (1 - \theta)C_{t-1} + \theta(\alpha_0 + \sum_{k=1}^{M} \alpha_k X_{k,t}) \quad (3)$$

Formula (3) establishes a regression model such as Formula (4) to analyze the effect of business diversification companies on cash holding adjustment rates under financial constraints.

$$C_t = \beta_0 + \beta_1 C_{t-1} + \sum_{k=1}^{M} \gamma_k X_{k,t} + \epsilon_t \quad (4)$$
Where, $\beta_1 = 1 - \theta$

For the simplicity of models and variables, the year subscript (t) is indicated, and the company subscript (i) is omitted.

$$\theta = 1 - \beta_1$$
$$\beta_0 = \theta\alpha_0$$
$$\gamma_k = \theta\alpha_k$$

$X_{k,t}$= kth firm characteristic variable in t year
$X_{1,t}$= RD_t= R & D investment rate in t year
$X_{1,t}$= MB_t= M/B ratio in t year

$X_{2,t} = CEA_t =$ Capital cost ratio in t year
$X_{3,t} = SGA_t =$ sales and general maintenance costs ratio in t year
$X_{4,t} = SIZE_t =$ company scale in t year
$X_{5,t} = DEFA_t =$ financial deficit ratio in t year
$X_{6,t} = DEPA_t =$ depreciation ratio in t year
$X_{7,t} = PROFIT_t =$ profitability ratio in t year
$X_{8,t} = DIVIDEND_t =$ dividend ratio in t year
$X_{9,t} = LEVERAGE_t =$ leverage ratio in t year
$X_{10,t} = CHAEBOL_t =$ CHAEBOL Dummy in t year
$\epsilon_t =$ Error term

The actual cash holding ratio(C_t) used as a dependent variable in formula (4) shall be measured as the ratio of [(t-year cash and cash equivalents asset)/(t-year total asset -t-year cash and cash equivalents)] in accordance with the methodology of Opler et al. (1999) and Dittmar et al. (2003).

If the regression coefficient (β_1)of the 1st time cash holding ratio (C_{t-1})is estimated, the cash holding adjustment rate (θ)is measured as $\theta = 1 - \beta_1$ by subtracting the regression coefficient (β_1)of the 1st time cash holding ratio. If the cash holding adjustment rate (θ) is 1, it means that the actual cash holding ratio is quickly adjusted toward the target cash holding ratio. If the adjustment speed (θ) is 0, it means that the cash holding ratio is not adjusted.

In formula (4) the ratio of R&D investment (RD_t), which is a descriptive variable, is measured [(t-year R&D investment)/(t-year asset total)], the ratio of MB (MB_t) is measured [(t-year debt total + t-year equity capital market capitalization)/(t-year asset total)], and the ratio of capital expenditure (CEA_t) is measured[(t-year fixed assets - t-1 year fixed asset)/(t-year asset total)], the ratio of sales and general management expenses (SGA_t) is measured [(t-year sales and general management expenses) / (t -year sales)], and the company size ($SIZE_t$) is measured in log [t-years total assets (1 million won)], The ratio of financial deficit($DEFA_t$) is measured[(t-year cash dividend + t-year net investment + t-year net working capital change-t-year interest and after-tax operating cash flow) / t-year asset totals] according to the measurement method by Frank and Goyal (2003)], the depreciation ratio ($DEPA_t$)is measured [(t-year depreciation)/(t-year total assets)], the profitability ratio ($PROFIT_t$) is measured [(t-year EBITDA)/(t-year asset total)], the dividend ratio ($DIVIDEND_t$)is measured [(t-year dividend)/(t-year total assets)], and the leverage ratio(L_t) is measured [(t-year debt total)/(t-year debt total +t-year equity capital market capitalization], the chaebol dummy ($CHAEBOL_t$) is measured by assigning a value of 1 in case of chaebol during the analysis period, or assigning a value of 0 otherwise.

III. DATA AND DESCRIPTIVE STATISTICS

This study selected the sample companies among the listed companies on the securities market of the Korea Exchange. First, the study excluded the companies of which financial and stock price data are not available in KIS Value Library, FnGuide and TS2000 from January 1, 2001 to December 31, 2017, also excluded the financial sectors such as bank, securities, and insurance because they differ from the general manufacturing business from the view of capital structure, business method, and governmental supervision. Besides, the de-listing entity during the analysis period is excluded from the sample entity, while the merged entity or the control target entity during the analysis period is also excluded from the sample entity because they might have the problem with the continuity of the financial data. Also, an entity that has less than 1 billion won in total assets or no turnover may generate an abnormal data to the variables, is excluded from the sample entity, and 1% top and bottom variables are winsorized to control the effect of abnormal data on the analysis result.

The number of firm-years of diversified companies that satisfy the above conditions is 3,406. Diversified companies are defined as companies with at least two business units that belong to different standard industry classification codes under the Korean Standard Industry Classification (KSIC) (Tong, 2011). Diversified companies are classified into financially constrained and non-constrained companies according to the status of their financial constraints.

The classification of the sample according to the capital market access adopted the method of Faulkender and Smith (2007), If the company's new liabilities issued amount of new shares issued amount, the debt repayment amount or the capital decrease account for more than 5% of total asset, the company is classified into approaching companies, or if under 5%, classified into non-approaching company, and the example classification according to the credit rating level adopted the method by Aivazian et al.(2006), companies are classified into low credit rating and high credit rating companies based on the Median of credit scores of Korea Credit Rating Information Co., Ltd, and the example classification according to the status of dividend payment adopted the method of Lintner(1956), companies are classified into the dividend-paying companies and not dividend paying companies based on dividend payments.

<Table1> identified the probability distribution characteristics, the existence of anomalies, the direction and size of the correlation, and the likelihood of multicollinearity of the variables through the analysis of the basic statistics, correlations, and multicollinearity of the diversified enterprise. In the analysis of the basic statistics of diversified enterprises, the average (median) ratio of cash holdings is 6.75% (3.86%), and the average (median) ratio of R&D investment is 0.76% (1.20%),the average (median) of MB ratio is 0.8406 (0.8298), the average (median) of capital expenditure ratio is 6.52% (5.04%), and the average (median) of sales and general administrative expenses ratio is 16.65% (11.16%), the average (median) of the company size is 25.4217 (25.3076), the average (median) of the fiscal deficit ratio is 5.68% (5.81%), and the average (median) of the depreciation ratio is 0.51% (0.28%),The average (median) of the ratio of profitability is 6.91% (6.84%), the average (median) of the ratio of dividends is 1.38% (1.16%), and the average (median) of the ratio of leverage shows 52.5% (50.04%). As a result of the analysis, the distribution of the variables was slightly more stable, since most of the enterprise characteristics variables were not significantly affected by extreme values, and abnormal values deviating 1% of the top and bottom variables are winsorized.

In the correlation analysis, the case with a significant correlation between variables and the case without a substantial correlation are mixed, but in the former case, the correlation coefficient does not exceed 0.5 so that the multicollinearity is not concerned (Kennedy, 1992). In addition, when the status of multicollinearity is checked by measuring the variance inflation factors (VIFs) for each variable, the VIF value of the change ratio of cash holdings was 2.76, which was the largest but smaller than the criteria of multicollinearity (Neter et al., 1990). Therefore, the multiple collinearityproblem that frequently occurs in regression analysis using financial variables is not concerned.

<Table 1> Analysis of basic statistics, correlation and multicollinearity of diversified companies

	$CASH_t$	RD_t	MB_t	CEA_t	SGA_t	$SIZE_t$	$DEFA_t$	$DEPE_t$	$PROFIT_t$	$DIVIDEND_t$	$LEVERAGE_t$
Average	0.0675	0.0076	0.8406	0.0652	0.1665	25.4217	0.0568	0.0051	0.0691	0.0138	0.5250
Standard deviation	0.1043	0.0158	0.4613	0.2729	0.1495	1.7168	0.2537	0.0075	0.0815	0.0104	0.2609
Median	0.0386	0.0120	0.8298	0.0504	0.1116	25.3076	0.0581	0.0028	0.0684	0.0116	0.5004

Variables		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	VIFs
(1)	$CASH_t$	1											
(2)	RD_t	-0.238**	1										1.38
(3)	MB_t	0.046**	0.162**	1									1.02
(4)	CEA_t	-0.102*	-0.284**	0.132*	1								1.16
(5)	SGA_t	0.085**	0.152**	0.024*	0.107*	1							1.53
(6)	$SIZE_t$	-0.197**	0.132**	-0.188**	0.210**	0.068	1						1.74
(7)	$DEFA_t$	-0.107**	-0.066*	0.180**	-0.050*	0.044*	0.036*	1					1.50
(8)	$DEPE_t$	0.059*	0.280*	0.205**	-0.133	0.253**	0.126**	-0.153**	1				1.22
(9)	$PROFIT_t$	0.326**	0.067**	0.184**	0.029*	0.065**	0.008*	-0.027	-0.208*	1			1.09
(10)	$DIVIDEND_t$	0.107*	-0.170*	-0.055*	0.108*	0.008**	0.017	-0.034*	-0.101*	0.253*	1		1.18
(11)	$LEVERAGE_t$	-0.173*	-0.053**	0.177**	0.253**	0.156*	0.154*	0.190**	0.044	-0.205**	-0.080*	1	1.10

Note) **, * refer significant at 1% and 5% levels (both sides), respectively.

IV. EMPIRICAL RESULTS

This section analyzes the effect of an entity's business diversification under financial constraints on the determinants of cash holding and the cash holding adjustment speed. To this end, diversified entities are classified into financially restricted and unrestricted entities, depending on financial constraints, and the classification criteria include the capital market accessibility, credit rating level and dividend payment status.

<Table 2> shows the results of an analysis of the effect of capital market access on the rate of cash holding adjustment. When looking at the ratio of cash holding by an access entity in the capital market, the coefficient(β_1) of cash holding ratio (C_{t-1}) in the t-1 year is 0.176, so the cash holding adjustment rate ($\theta = 1 - \beta_1$) is measured at 0.824. The fact that cash holding adjustment rate (θ) is 0.824 means that if the actual cash holding rate deviates from the target cash holding rate, the gap is partially adjusted at about 82.4% per year.

Therefore, it was found that it takes about 1.21 years to fully adjust the gap between the target cash holding ratio and the actual cash holding ratio in order to achieve that target if companies have a target cash holding ratio. Besides, comparing the cash holding adjustment rates of the capital market approaching companies and non-approaching companies, the former adjusts at 0.824, much faster than the latter at 0.592.

These results verify the fact that the capital market access companies can adjust the cash holding ratio quickly to achieve the target cash holding ration because their easy access to the capital market will bring the less financial constraint due to low-interest cost for external funding. Unlike this, capital market non-access companies are not able to adjust their cash holding ratios quickly because they are subject to financial constraints due to difficulties in external financing through the capital market.

Therefore, it can be said that the capital market approaching a company can maintain a stable cash holding policy by quickly adjusting the cash holding ratio. Among the control variables, MB ratio, sales and general management ratio, depreciation ratio, profitability ratio and dividend ratio had a significant positive(+) effect on cash holding ratio by 1 ~ 10% while R & D investment ratio, capital Expenditure ratio, company size, financial deficit ratio, leverage ratio, and chaebols dummy have a significant negative (-)effect on cash holding ratio at the 1 ~ 10% level.

<Table 2> The effect of capital market accessibility on the cash holding adjustment speed

Variables		Approaching company	t value	Non-approaching company	t value
Constant	β_0	0.462***	7.29	0.204*	1.90
$CASH_{t-1}$	β_1	0.176***	10.83	0.408***	22.55
RD_t	γ_1	-0.527***	-4.96	-0.351***	-3.40
MB_t	γ_2	0.011***	3.20	0.028***	5.39
CEA_t	γ_3	-0.001*	-1.69	-0.001**	-2.06
SGA_t	γ_4	0.143**	2.25	0.088***	3.59
$SIZE_t$	γ_5	-0.018***	-7.76	-0.006**	-2.44
$DEFA_t$	γ_6	-0.003**	-2.07	-0.091***	-5.83
$DEPE_t$	γ_7	0.046	1.08	0.168*	1.72
$PROFIT_t$	γ_8	0.057***	3.42	0.185***	7.66
$DIVIDEND_t$	γ_9	0.391***	4.05	0.488***	6.61
$LEVERAGE_t$	γ_{10}	-0.016*	-1.85	-0.018	-1.59
$CHEOBOL_t$	γ_{11}	-0.001*	-1.85	-0.001	-1.57
Adjustment speed(θ)	$1 - \beta_1$	0.824		0.592	
Number of observation		884		2,522	
$Adjusted - R^2$		0.3196		0.1937	
$F - value$		252.14***		200.31***	

( ) refers to t-value in which the corrected stanard error by White(1980)is applied, ***, **, * refer to significant at 1%, 5%, 10% level respectively.

<Table 3> shows the results in which the impact of credit rating level on the cash holding adjustment speed is analyzed. When researching the cash holding ratio of a high-credit rating entity, the coefficient(β_1) of cash holding ratio (C_{t-1}) in t-1 year is 0.308, so the cash holding adjustment speed($\theta = 1 - \beta_1$) is measured at 0.692. The fact that the cash holding adjustment speed (θ) is 0.692 means such a gap is partially adjusted by about 69.2% every year when the actual cash holding ratio deviates from the target cash holding ratio.

Also, when comparing the cash holding adjustment rates of the high credit rating companies and the low credit rating companies, the adjustment rate of the former is 0.692, which is faster than the latter adjustment rate of 0.591. These results verify the fact that the high credit rating companies can adjust the cash holding ratio quickly in order to achieve the target cash holding ration because their easy access to the capital market will bring less financial constraint due to low-interest costs for external funding.

Unlike this, low credit rating companies are not able to adjust their cash holding ratios quickly because they are subject to financial constraints due to difficulties in external financing through the capital market.

Therefore, it can be said that a great credit rating company can maintain a stable cash holding policy by quickly adjusting the cash holding ratio.

<Table 3>Soundness verification on the effect of credit score level on adjustment speed of cash holdings

Division		High credit rating companies	t value	Low credit rating companies	t value
Constant	β_0	0.403***	8.96	-0.116**	-2.35
$CASH_{t-1}$	β_1	0.308***	12.46	0.409***	2.66
RD_t	γ_1	-0.668***	-3.99	-0.304**	-2.08
MB_t	γ_2	0.018***	3.42	0.009***	3.60
CEA_t	γ_3	-0.004*	-1.70	-0.001	-1.14
SGA_t	γ_4	0.206**	2.51	0.177***	3.86
$SIZE_t$	γ_5	-0.029***	-5.03	-0.012***	-5.88
$DEFA_t$	γ_6	-0.080***	-5.09	-0.012*	-1.90
$DEPE_t$	γ_7	0.068*	1.69	0.152*	1.87
$PROFIT_t$	γ_8	0.185***	3.76	0.031**	2.44
$DIVIDEND_t$	γ_9	0.322***	3.29	0.399***	4.95
$LEVERAGE_t$	γ_{10}	-0.031*	-1.90	-0.027**	-2.33
$CHEOBOL_t$	γ_{11}	-0.003	-1.52	-0.005	-1.08
Adjustment speed(θ)	$1-\beta_1$	0.692		0.591	
Number of observation		1,703		1,703	
$Adjusted - R^2$		0.2658		0.2307	
$F - value$		189.73***		105.64***	

( ) refers to t-value in which the corrected stanard error by White(1980)is applied, ***, **, * refer to significant at 1%, 5%, 10% level respectively.

<Table 4> shows the results in which the impact of dividend payment level on the cash holding adjustment speed is analyzed. When the cash holding ration of dividend companies, the coefficient (β_1) of the cash holding ratio (C_{t-1}) in t-1 year is 0.204, the cash holding adjustment rate($\theta = 1 - \beta_1$) is measured as 0.796. The fact that the cash holding adjustment speed (θ) is 0.796 means such a gap is partially adjusted by about 79.6% every year when the actual cash holding ratio deviates from the target cash holding ratio.

In addition, comparing the cash holding adjustment rates of the sample of dividend and non-dividend entities, the former's adjustment rate is 0.796, which is faster than the latter's adjustment rate of 0.545.

These results verify the fact that the dividend companies can adjust the cash holding ratio quickly in order to achieve the target cash holding ration because their easy access to the capital market will bring less financial constraint due to low-interest costs for external funding.

Unlike this, non-dividend companies are not able to adjust their cash holding ratios quickly because they are subject to financial constraints due to difficulties in external financing through the capital market. Therefore, it can be said that a dividend company can maintain a stable cash holding policy by quickly adjusting the cash holding ratio.

<Table 4>Soundness verification on the effect of dividend payment level on adjustment speed of cash holdings

Division		Dividend Company	t value	Non dividend Company	t value
Constant	β_0	0.308***	4.19	0.266**	2.24
$CASH_{t-1}$	β_1	0.204***	6.72	0.455***	13.69
RD_t	γ_1	-0.507***	-4.11	-0.388***	-3.70
MB_t	γ_2	0.008***	3.02	0.021***	4.95
CEA_t	γ_3	-0.001	-1.53	-0.002**	-2.10
SGA_t	γ_4	0.161**	2.30	0.106***	3.44
$SIZE_t$	γ_5	-0.016***	-7.49	-0.010**	-2.50
$DEFA_t$	γ_6	-0.010**	-1.99	-0.077***	-4.19
$DEPE_t$	γ_7	0.053	1.40	0.176*	1.83
$PROFIT_t$	γ_8	0.063***	3.52	0.172***	7.20
$DIVIDEND_t$	γ_9	0.338***	3.46	0.458***	5.78
$LEVERAGE_t$	γ_{10}	-0.020*	-1.91	-0.025	-1.64
$CHEOBOL_t$	γ_{11}	-0.001	-1.52	-0.001	-1.06
Adjustment speed(θ)	$1-\beta_1$	0.796		0.545	
Number of observation		2,229		1,177	
Adjusted $-R^2$		0.2576		0.1486	
$F-value$		214.56***		172.93***	

( ) refers to t-value in which the corrected stanard error by White(1980)is applied, ***, **, * refer to significant at 1%, 5%, 10% level respectively.

V. CONCLUSION AND DISCUSSION

This study conducted an empirical analysis of the determinants of cash holdings and the cash holding adjustment speed for the diversified companies listed on the securities market of Korea Exchange under financial constraints. The status of financial constraints is determined by the accessibility to the capital market, credit rating levels and status of dividend payments. The cash holding adjustment speed of capital market access entities was 0.824, which is faster than the non-accessor company's adjustment rate at 0.592.

It means that when the actual cash holding ratio deviates from the target cash holding ratio, capital market access and non-access companies adjust the gap by 82.4% and 59.2% respectively each year. Among the conventional cash holding determinants, it was proved that the MB ratio, the sales, and general management ratio, the depreciation cost ratio, the profitability ratio, and the dividend ratio have a significantly positive (+) impact on the cash holding ratio, and the R&D investment ratio, the capital expenditure ratio, the corporate size, the fiscal deficit ratio, leverage ratio, and the chaebol dummy have a significant negative (-) effect on the cash holding ratio.

The cash holdings adjustment rate of high credit rating companies is 0.692, which is faster than the cash holdings adjustment rate of low credit rating firms at 0.591, this means the top credit rating companies can adjust such a gap faster than low credit rating companies if the actual cash holding ratio deviates from the target value. The cash holding adjustment ratio of the dividend firm is 0.796, which is faster than the non-dividend firm's cash holding rate at 0.545, this means the dividend companies can adjust such a gap faster than non-dividend companies if the actual cash holding ratio deviates from the target value.

Financially unrestricted enterprises classified according to capital market accessibility, credit rating level and dividend payment status are easy to access the capital market, and therefore are subject to low financial constraints due to low interest costs in external financing, which is evidence that they can quickly adjust their cash holding ratios to reach their target cash holding ratios while financially restricted enterprises

cannot adjust their cash holding ratios quickly because of difficulties in obtaining outside financing through the capital market.

That is, it was found that the diversified companies listed on the securities market of Korea Exchange have a target cash holding ratio, and when the actual cash holding ratio deviates from the target cash holding ratio, the gap is partially adjusted every year. And financial constraints, as well as traditional cash holding determinants, have been shown to affect cash holding adjustment rates.

Therefore, it is necessary for diversified companies to manage their cash holdings at an appropriate level in order to preserve their shareholder value, but it may be somewhat excessive for current companies because their cash holding can bring future uncertainty. Governments and companies should consider well the institutional support, which can turn cash into future investments and the strategic investment which can secure future growth engines in advance.

However, since this study was conducted only on diversified companies listed on the Korea Exchange's securities market and analyzed only to those that meet strict sampling standards, there are many limitations in generalizing the interpretation of the analysis results. Besides, since this study is only an early-stage study of the cash holding determinants and the cash holding adjustments speed of diversified entities under financial constraints, It is considered to be necessary to expand the sample company further and diversify the analysis method for more accurate research in the future.

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