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# The Effects of Agents' Competing Interests on Corporate Cash Policy and Cash Holdings Adjustment Speed: The Distribution and Service Industries\*

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## Abstract

**Purpose:** Controlling and minority shareholders sometimes have conflicting interests. Controlling shareholders who do not have adequate monitoring can exhibit a strong tendency to maximize their personal wealth. In this case, cash holdings can be the easiest means for them to pursue their personal interests. This study examined whether the largest shareholder's ownership proportion affected the speed at which firms adjust their cash holdings to target levels in Korean distribution and service companies. **Research design, data, and methodology:** The study uses regression analysis to examine 834 firm-year samples listed on the KOSPI between 2013 and 2018 in the distribution and service sectors. **Results:** The largest shareholder's ownership is positively related to a firm's cash holdings adjustment speed. That is, the larger the largest shareholder's ownership, the faster the firm adjusts its cash holdings to achieve the target level. **Conclusions:** This study contributes to the literature by providing evidence that the cash holdings adjustment speed in Korean service and distribution companies is affected by the largest shareholder's ownership. As the agency problem between controlling and minority shareholders in Korea is a major issue, minority owners' sensitivity to agency costs may help restrict controlling owners' ability to maximize their personal wealth.

**Keywords:** Largest Shareholder Ownership, Agency Problem, Cash Holdings Adjustment Speed, Distribution and Service Industries

**JEL Classification Code:** G30, G32, G34

## 1. Introduction

What is the appropriate level of corporate cash holdings, and how should a firm's policy on cash holdings be established? Highly liquid cash assets are characterized by very low profitability because they carry no liquidity premium. Nevertheless, firms have two motives for holding a certain level of cash: transactional, for conducting daily routine transactions, and precautionary, for hedging against unforeseen future needs (Keynes, 1937). In other words,

even though companies with cash holdings bear opportunity costs due to the low profitability of cash holdings, they hold an appropriate level of cash because they benefit from cost reductions related to these transactional and precautionary motives. In addition, after having set their target cash ratios to maximize corporate value, companies attempt to adjust their actual cash ratio to reach that target level when the actual ratio differs from the target (Ozkan & Ozkan, 2004).

However, despite the existence of target cash holdings, many firms hold excess cash. According to the agency theory perspective of the manager-shareholder relationship,

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managers have an incentive to hold excess cash; that is, to maintain the size of the assets under their managerial control (Jensen & Meckling, 1976). However, unlike in the Anglo-American world, the agency problem between controlling and minority shareholders is conspicuous in Korea and other East Asian countries. Controlling shareholders exercise absolute control over companies through cross-ownership of stocks, and they tend to transfer excess cash into fund management plans or new investments that are under their control instead of distributing excess cash to minority shareholders (La Porta, Lopez-de-Silanes, & Shleifer, 1999; Claessens, Djankov, & Lang, 2000; Fan & Wong, 2002). Under these circumstances, shareholders do not equally bear the agency costs resulting from controlling shareholders' opportunistic behaviors regarding cash holdings. Because minority shareholders have little capacity to actively monitor controlling shareholders, major shareholders bear the largest portion of the agency costs.

Since agency problems between controlling and minority shareholders are a major issue in South Korea, this study measures the target cash holdings of South Korean companies in the distribution and service industries. When there is a gap between the actual and target cash holdings, we examined whether the speed at which cash holdings adjust to the target level varies depending on the largest shareholders' percentage of equity ownership. The largest shareholder checks the controlling shareholder's pursuit of personal interests and, when cash holdings are low, monitors liquidity and quickly raises the cash holdings to the target level to avoid external financing costs. Conversely, when cash holdings are higher than the target level, the largest shareholder recognizes that their marginal value decreases and thus moves to quickly close the gap between the actual and target cash levels. As we enter the third year of the COVID-19 pandemic, the Korean distribution and service industry is undergoing more rapid change than any other industry. In particular, the change in consumption patterns brought about by the COVID-19 outbreak sparked greater competition among online and offline retailers, foretelling a fierce battle for market dominance. Under this circumstance, this study contributes to the literature by examining how the shareholding ratio of major shareholders affects the cash holding adjustment speed in the service and distribution industry.

The remainder of this paper is organized as follows. Section 2 provides an overview of prior research related to this study and uses this to establish the research hypothesis. Section 3 discusses the sample and models used for hypothesis testing. Section 4 reports the results of the empirical analysis, and Section 5 presents the conclusions and implications.

## **2. Literature Review and Hypothesis Development**

### **2.1. Major shareholders and the agency problem in Korean companies**

Companies in Korea and other East Asian countries display a unique ownership pattern: stock ownership is concentrated among a small number of individuals. These controlling shareholders exercise absolute control over companies, and their abuse of controlling power through cross-ownership of stocks is even more serious in countries with insufficient or no protection for minority shareholders (La Porta et al., 1999; Claessens et al., 2000; Fan & Wong, 2002). Specifically, when the controlling shareholder's voting rights are greater than their cash flow rights, a gap appears between ownership and control. When this gap occurs, the controlling shareholder acquires the benefits that arise from decision-making through their controlling interest but bears the decision-making risk only up to the limit of their ownership share. Accordingly, the larger the gap between ownership and control, the greater the incentive for a manager who is also the controlling shareholder to make decisions that are detrimental to corporate value (Fan & Wong, 2002). Additionally, when the controlling shareholder controls a company, the corporate governance structure, such as the board of directors, cannot effectively monitor that shareholder (Shleifer & Vishny, 1997; La Porta et al., 1999). Furthermore, when there is a conflict of interest between the controlling and minority shareholders and controlling shareholders are not actively monitored, they exhibit a strong tendency to maximize their personal wealth. Cash holdings can be the easiest means for them to pursue their personal interests.

However, not all shareholders equally bear the agency costs resulting from a controlling shareholder's opportunistic behaviors. A large share of such agency costs is borne by the company's major shareholders. Consequently, minority shareholders have limited incentive (and limited ability) to monitor controlling shareholders (Johnson, Boone, Breach, & Friedman, 2000). However, major shareholders do have an incentive to actively monitor decisions regarding the level of cash holdings because of their larger share of the potential agency costs.

### **2.2. Largest shareholder ownership and cash holdings adjustment speed**

A company sets a target cash level and adjusts its cash holdings to the target level when its actual cash holdings deviate from that target (Opler, Pinkowitz, Stulz, & Williamson, 1999). Dittmar and Duchin (2011) found that companies close the gap between their actual cash holdings and the target level by 21-46% per year. Jiang and Lie (2016)

reported that companies adjust the gap between actual and target levels of cash holdings by 31% every year; moreover, the adjustment speed is faster when the actual level of cash holdings is higher than the target level.

Companies with low levels of cash holdings are more likely to have liquidity problems due to debt repayments or payments to suppliers. A low level of cash holdings increases the risk of dependency on expensive external financing for investments (Opler et al., 1999). Therefore, if the level of a firm's cash assets falls short of the optimal level, the largest shareholder, seeking to maximize corporate value, will promptly take measures to fill the cash shortfall to avoid potential bankruptcy and costly external financing.

According to agency theory, controlling shareholders who pursue their own private interests prefer to hold cash rather than distribute it to shareholders. Thus, holding excess cash does not maximize the controlling shareholder's wealth. This is because a large amount of excess cash is used for NPV-negative projects that are designed to maximize the controlling shareholder's interests rather than those of the minority shareholders (Myers, 1977; Jensen & Meckling, 1976).

As noted earlier, minority shareholders have limited ability to monitor controlling shareholders or to bear the associated costs. Accordingly, a considerable share of the costs caused by the agency problem between controlling and minority shareholders is likely to be passed on to major shareholders. This gives major shareholders an incentive to actively participate in determining the firm's cash holdings. Consequently, the cash holdings adjustment speed is expected to vary according to the equity ownership share of the largest shareholder.

Specifically, considering a series of prior studies, it is expected that the higher the largest shareholder's ownership, the faster the cash holdings adjustment speed will be to reach the target level of cash holdings

**Hypothesis:** When there is a gap between the actual and target levels of cash holdings, the cash holdings adjustment speed, which is the firm's effort to adjust actual cash holdings to the target level, will increase as the largest controlling shareholder's stock ownership increases.

### 3. Research Model

#### 3.1. Measurement of cash holdings and target cash levels

The level of a company's cash holdings is measured by its cash holding ratio, which is obtained by dividing the sum of cash and cash equivalents by lagged total assets (Opler et al., 1999). To identify excess cash, the target level of cash holdings must be measured first. In this study, Eq. (1) was

formulated based on prior studies to calculate the target level of cash holdings by year (Bates, Kahle, & Stulz, 2005; Jiang & Lie, 2016).

$$\begin{aligned} CASH_{i,t} = & \alpha_0 + \alpha_1 SIZE_{i,t-1} + \alpha_2 TOBINQ_{i,t-1} + \alpha_3 CFO_{i,t-1} \\ & + \alpha_4 WC_{i,t-1} + \alpha_5 LEV_{i,t-1} + \alpha_6 RD_{i,t-1} \\ & + \alpha_7 DIV_{i,t-1} + Industry\ Dummies \\ & + \epsilon_{i,t} \end{aligned} \quad (1)$$

**Table 1:** Variable Definitions

| Variable | Description   |
|----------|---|
| CASH     | Cash and equivalents scaled by lagged total assets  |
| SIZE     | The natural logarithm of total assets   |
| TOBINQ   | Book value of total assets minus book value of equity plus market value of equity, all scaled by total assets |
| CFO      | EBITDA minus interest, taxes, and common dividends, all scaled by lagged total assets                         |
| WC       | Net working capital minus cash and equivalents scaled by lagged total assets                                  |
| LEV      | The ratio of total debt scaled by total assets  |
| RD       | The ratio of R&D expenses divided by lagged total assets  |
| DIV      | An indicator variable that equals one for firms paying a common dividend and zero otherwise                   |

#### 3.2. Measurement of the cash holdings adjustment speed

To maximize corporate value, companies adjust their actual cash holdings to their target cash level if the actual deviates from the target. However, since cash holdings adjustments involve costs, it is impossible to adjust actual cash levels precisely to the target level. Jiang and Lie (2016) noted that when a company's actual cash level deviates from its target cash level, the company attempts to make a partial adjustment; they proposed the following partial adjustment model:

$$\begin{aligned} Cash_{i,t} - Cash_{i,t-1} \\ = \gamma_0 + \gamma_1 (Cash_{i,t-1} - Cash^*_{i,t}) + \gamma_n Controls \\ + \epsilon_{i,t} \end{aligned} \quad (2)$$

$Cash_{i,t}$  = A company's actual cash holdings

$Cash^*_{i,t}$  = A company's target cash holdings per year estimated with Eq. (1)

In Eq. (2), the coefficient for deviation of the actual cash holdings from the target level represents a company's average cash holdings speed of adjustment to the target cash level (Jiang & Lie, 2016).

To examine the relationship between the largest shareholder's ownership (LARGE) and the speed at which the actual cash holdings level is adjusted to the target level, it is necessary to establish an interaction term. Accordingly, Eq. (3) is used to examine the effect of the largest shareholder's ownership on the cash holdings adjustment speed:

$$\begin{aligned}
 &Cash_{i,t} - Cash_{i,t-1} \\
 &= \gamma_0 + \gamma_1(Cash_{i,t-1} - Cash^*_{i,t}) \\
 &+ \gamma_2(Cash_{i,t-1} - Cash^*_{i,t}) \times LARGE_{i,t-1} + \gamma_3 LARGE_{i,t-1} \\
 &+ \gamma_n Controls + Industry Dummies + Year Dummies \\
 &+ \epsilon_{i,t} \tag{3}
 \end{aligned}$$

*Cash<sub>i,t</sub>* = A company's actual cash holdings  
*Cash\*<sub>i,t</sub>* = A company's target cash level per year estimated with Eq. (1)  
*LARGE* = Largest shareholder's ownership  
*Industry Dummies* = Industry dummies  
*Year Dummies* = Year dummies  
*i,t* = Company, year

If the largest shareholder tries to adjust the firm's cash holdings to the target cash level more rapidly as their ownership increases, the coefficient of the interaction term  $\gamma_2$  would have a significantly negative value.

## 4. Empirical Results

### 4.1. Sample Selection

This study's sample comprises companies listed on the Korea Stock Exchange (KOSPI) from 2013 to 2018 in the distribution and service sectors. Financial companies whose financial statements differ from those of non-financial companies and companies with a settlement month other than December were excluded from the sample. Financial data and stock price data used in the analysis were extracted from the Kis-Value database. The data regarding large shareholder ownership were collected from TS-2000 provided by the Korea Listed Companies Association. To reduce the effect of outliers on the results, the variables used in the analysis were winsorized at the 1% and 99% levels. A

final total of 834 firm-year observations derived through a series of processes were used for the analysis.

### 4.2. Descriptive Statistics

Table 2 presents the descriptive statistics for the analysis variables. The variable of interest, "CASH," was measured by dividing cash and cash equivalents by lagged total assets. The mean of CASH was 6.4%, confirming that distribution and service companies hold about 6% of their total assets in cash and cash equivalents.

**Table 2:** Descriptive statistics

| Variable | N   | Mean   | SD    | Min    | Median | Max    |
|----------|-----|--------|-------|--------|--------|--------|
| CASH     | 834 | 0.064  | 0.121 | 0.000  | 0.032  | 2.678  |
| LARGE    | 834 | 0.428  | 0.183 | 0.041  | 0.410  | 0.900  |
| SIZE     | 834 | 20.043 | 1.610 | 17.148 | 19.871 | 24.085 |
| TOBINQ   | 834 | 1.384  | 0.955 | 0.452  | 1.053  | 5.301  |
| CFO      | 834 | 0.039  | 0.074 | -0.163 | 0.032  | 0.243  |
| WC       | 834 | 0.017  | 0.187 | -0.405 | 0.008  | 0.598  |
| LEV      | 834 | 0.367  | 0.230 | 0.014  | 0.357  | 0.925  |
| RD       | 834 | 0.012  | 0.035 | 0.000  | 0.000  | 0.199  |
| DIV      | 834 | 0.704  | 0.457 | 0.000  | 1.000  | 1.000  |

Note: These variables are used in the regression model and are defined in Table 1.

Table 3 shows the Pearson correlation coefficients of the analysis variables. The analysis revealed that the largest shareholder's ownership (LARGE) had a significantly negative correlation with corporate cash holdings. The results of the correlation analysis showed bivariate relationships; however, factors that affect the dependent variable were not controlled in this analysis. Consequently, multivariate analysis was performed that included these control variables in the mode

**Table 3:** Correlation analysis results (N=834)

|        | CASH  | LARGE              | SIZE               | TOBINQ             | CFO               | WC                 | LEV                | RD                 | DIV                |
|--------|-------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|
| CASH   | 1.000 | -0.099<br>(<.0001) | -0.132<br>(<.0001) | 0.150<br>(<.0001)  | 0.097<br>(<.0001) | 0.161<br>(<.0001)  | -0.148<br>(<.0001) | 0.053<br>(0.0014)  | -0.058<br>(0.0004) |
| LARGE  |       | 1.000              | -0.050<br>(0.0025) | -0.150<br>(<.0001) | 0.066<br>(<.0001) | -0.013<br>(0.4412) | -0.124<br>(<.0001) | -0.179<br>(<.0001) | 0.174<br>(<.0001)  |
| SIZE   |       |                    | 1.000              | -0.069<br>(<.0001) | 0.218<br>(<.0001) | -0.176<br>(<.0001) | 0.169<br>(<.0001)  | 0.059<br>(0.0004)  | 0.244<br>(<.0001)  |
| TOBINQ |       |                    |                    | 1.000              | 0.128<br>(<.0001) | 0.078<br>(<.0001)  | -0.050<br>(0.0024) | 0.176<br>(<.0001)  | -0.073<br>(<.0001) |
| CFO    |       |                    |                    |                    | 1.000             | 0.089<br>(<.0001)  | -0.112<br>(<.0001) | 0.050<br>(0.0025)  | 0.268<br>(<.0001)  |
| WC     |       |                    |                    |                    |                   | 1.000              | -0.600<br>(<.0001) | 0.085<br>(<.0001)  | 0.190<br>(<.0001)  |
| LEV    |       |                    |                    |                    |                   |                    | 1.000              | 0.018<br>(0.2654)  | -0.312<br>(<.0001) |
| RD     |       |                    |                    |                    |                   |                    |                    | 1.000              | -0.057<br>(0.0006) |
| DIV    |       |                    |                    |                    |                   |                    |                    |                    | 1.000              |

Note: These variables are used in the regression model and are defined in Table 1. Values in parentheses are p-values.

### 4.3. Largest shareholder ownership and cash holding adjustments

This study aimed to test whether the speed of cash holdings adjustment to the target cash level increases as with increase in stock ownership of the largest shareholder when the level of actual cash holdings deviates from the target cash level. Table 4 presents the results of regression analysis for hypothesis testing. The coefficient of the interaction term,  $\gamma_2$ , is -1.518 and significant at the 1% level. This result suggests that largest shareholder ownership is positively correlated with the company's cash holdings adjustment speed, which means in turn that the higher the stock ownership of the largest shareholder, the faster the cash holdings adjustment speed to reach the target cash level. As the coefficient of  $\gamma_3$  calculated at 0.345 at the significance level of 1% indicates, the results verify that the higher the stock ownership of the largest shareholder, the stronger the tendency to secure cash in the future.

**Table 4:** The effect of the largest shareholder's ownership on cash holding adjustment speed

| Dependent variables: $Cash_{i,t} - Cash_{i,t-1}$     |                     |            |
|--|---------------------|------------|
| Variable   | Coeff.              | t-stat     |
| Intercept  | 0.063               | (0.97)     |
| $Cash_{i,t-1} - Cash_{i,t}^*$                        | -0.042              | (-1.99)**  |
| $(Cash_{i,t-1} - Cash_{i,t}^*) \times LARGE_{i,t-1}$ | -1.518              | (-6.73)*** |
| $LARGE_{i,t-1}$                                      | 0.345               | (5.58)***  |
| $SIZE_{i,t-1}$                                       | -0.001              | (-0.58)    |
| $TOBINQ_{i,t-1}$                                     | -0.002              | (-0.69)    |
| $CFO_{i,t-1}$  | 0.149               | (2.52)**   |
| $WC_{i,t-1}$   | -0.021              | (-0.81)    |
| $LEV_{i,t-1}$  | 0.007               | (0.34)     |
| $RD_{i,t-1}$   | 0.120               | (1.06)     |
| $DIV_{i,t-1}$  | -0.017              | (-1.8)*    |
| Year Dummies   | Included            |            |
| Model Fit  | Adj. R <sup>2</sup> | 0.400      |
|  | F-value             | 35.78***   |
| Sample Size  | 834                 |            |

Note: The symbols \*, \*\*, and \*\*\* denote significance at the 0.10, 0.05, and 0.01 levels, respectively (all two-tailed tests). The definitions of the variables are presented in Table 1.

## 5. Conclusion

Many recent studies in accounting attempted to approach corporate cash holdings from the perspective of free cash flow theory. Because a company's cash assets are not controlled by external capital providers, they are easier than

other assets for managers to divert for their own personal benefits (Lie, 2000).

In Korea and other East Asian countries, a controlling shareholder in a company is able to exercise control that goes beyond the scope of their share ownership through cross-ownership of stocks (Claessens et al., 2000; Fan & Wong, 2002). The higher the level of a company's cash holdings, the greater the controlling shareholder's discretionary power in the decision-making about fund management and investments. This discretionary power may be used by the controlling shareholder to initiate large-scale projects to gain prestige or make short-sighted investments rather than to pursue the best interests of the company as a whole. That is, a controlling shareholder who inherently seeks their own private interests has an incentive to increase the company's cash holdings. Consequently, excess cash holdings can cause agency problems between the controlling and minority shareholders.

The opportunity cost of a controlling shareholder's opportunistic behavior is not equally shared by all shareholders. A significant portion of these opportunity costs is borne by major controlling shareholders because minority shareholders have limited ability to bear such costs and little incentive to monitor controlling shareholders.

This study assumed that major shareholders do have an incentive to monitor decision-making related to a company's cash holdings and examined whether the largest shareholder's stock ownership affects the speed at which firms adjust their cash holdings to the target level. The analysis revealed that the greater the largest shareholder's stock ownership, the faster the cash holdings are adjusted to reach the target cash level. Put differently, the largest shareholder's stock ownership is positively correlated with the speed at which the sample firms adjust their cash holdings to the target level.

Prior studies of corporate policies regarding cash holdings have focused on the financial factors that determine the level of a company's cash holdings. Only a limited number of studies approach corporate cash policies from the standpoint of agency problems. Moreover, no research effort has yet been dedicated to analyzing corporate cash holdings and the speed at which actual cash holdings are adjusted to target levels. Amid repeated global financial crises, a company's cash holdings policy can have a significant impact on its liquidity and profitability. In addition, since quickly adjusting cash holdings to the target level can help secure financial stability, there is a need to research corporate cash holdings policies and adjustment speed. We found that the largest shareholder's ownership is positively related to a firm's cash holdings adjustment speed. This suggests that the larger the largest shareholder's ownership, the faster firms adjust their cash holdings to achieve the target level.



The drive to achieve eco-friendly operations, socially responsible management, and governance improvement (ESG goals) is in full swing in the Korean distribution and service industry. The “2020 Business Year Governance Report” by the Hyundai Department Store, E-Mart, and GS Retail in South Korea, which reflects these management principles, covered these topics more intensively than in the previous year’s report. From this perspective, this study offers several contributions.

In the distribution and service industry, we found that companies in which the largest shareholder holds a higher share of ownership have a faster speed of adjustment to achieve the target cash level. Regulatory agencies aiming to improve corporate governance can use the result of this study in the process of establishing a system for improving corporate governance in the distribution and service industry. In addition, the results suggest that investors in the distribution and service industry should review financial statements and make decisions with due consideration of corporate governance.

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