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Article

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Is Blockholder Dispersion Attracting Foreign Investors?

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ABSTRACT

This paper examines the impact of blockholder dispersion on the foreign ownership in the Korean stock market over the period 2005-2016. We use the Herfindahl Index as a substitute variable for blockholder dispersion. Results show that a lower Herfindahl Index leads to a higher foreign ownership of the publicly listed companies in Korea. This implies that foreign investors prefer companies with dispersed ownership. We confirmed that foreign investors also preferred firms with low volatility, small dividend yields, large, low leverage, and high accounting performance. We have also found that the behavior of foreign investors is different before and after global financial risk. Our findings contribute to our understanding regarding to the relation between foreign investors and ownership dispersion in Korean stock markets.

Keywords: Foreign Ownership; Blockholder Dispersion; Ownership; Firm Characteristics

1. Introduction

The purpose of this study is to analyze the effect of ownership dispersion on the foreign ownership. In other words, we analyze whether foreign investors prefer companies with a dispersed ownership or a concentrated ownership. This study uses Herfindahl Index as a substitute variable for blockholder dispersion. Blockholder is a shareholder with at least 5% share in the company (Dlugosz, Fahlenbrach, Gompers, & Metrick, 2006).

Why should this study be done? First, there are

studies on the relation between foreign investors and information asymmetry in the previous research (Kang & Stulz, 1997; Choe, Kho, & Stulz, 1999; La Porta, Lopez-de-Silanes, & Shleifer, 1999; Dahlquist & Robertsson, 2001). There are also studies that analyze the characteristics of firms preferred by foreign investors. They focus on the relation between foreign ownership and firm characteristics (Kang & Stulz, 1997; Dahlquist & Robertsson, 2001; Lin & Shiu, 2003; Lilzebohm & Loflund, 2005; Han, Zheng, Li, & Yin, 2015). The results of the analysis showed that foreign investors prefer large, low risk, low leverage, and high cash holdings firms. And some studies have analyzed the relation between foreign investment behavior and corporate governance (or ownership) (Kim, Eppler-Kim, Kim, & Byun, 2010; Huang & Zhu, 2015). However, previous research shows that the empirical results of the effects of

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ownership structure and firm characteristics on foreign ownership are not consistent, and few previous studies have focused on blockholders as a substitute variable for ownership.

Second, the OECD Corporate Governance Factbook (2015) showed that since 1998, the market capitalization of companies with high concentration of ownership such as family businesses has continued to increase in the global market. However, it is also reported that market capitalization of companies with dispersed ownership is decreasing. Thus, there is no consensus on which the dispersion and concentration of ownership has a positive effect on the firm value. The degree of ownership dispersion is very important in terms of corporate governance (or ownership). However, it is rare to analyze the relation between foreign investors and ownership dispersion in previous studies except Kim et al. (2010) in Korea. In other words, it is hard to find studies on whether foreign investors prefer companies with dispersed ownership in the Korean stock market.

This study is similar to the study of Kim et al. (2010). However, this study is different from them in some respects. First, Kim et al. (2010) used the ownership proportion of large shareholders as the measure of ownership concentration. However, the ownership proportion of large shareholders has a limitation in that it could not accurately measure the ownership concentration. So this study uses the Herfindahl index of blockholder as a substitute for ownership dispersion. Second, Kim et al. (2010) analyzed the effect of ownership structure on foreign ownership through OLS. However, we use the panel least squares through panel data. Third, we examine the factors that foreign investors prefer by dividing the period of risk.

Thus, this study focuses on the relation between foreign ownership and ownership dispersion in the Korean stock market. We also analyze the characteristics of firms preferred by foreign investors. The analysis period is from 2005 to 2016, and the sample is for companies listed on the KRX (Korea exchange). We use the Herfindahl Index as substitution variables for ownership dispersion. This study also analyze the

effect of blockholder dispersion on foreign ownership through panel least squares. This study has two contributions. First, this study uses a proxy for blockholder dispersion using the Herfindahl index. Second, these results contribute to the understanding of the relation between foreign investors and blockholder dispersion during the pre and post of global financial crisis in the Korean stock market.

II. Literature Review

So far, many research has been done on the relation between foreign investor and stock return, the firm of foreign investors prefer, and the relation between foreign investors and corporate governance.

First, there is study on the relation foreign investor and stock return. For example, Choe et al. (1999) examined the effect of foreign investors on Korean stock returns from November 30, 1996 to the end of 1997. Prior to the Korean economic crisis, they found strong evidence of positive feedback trading and group training by foreign investors. During the crisis period, the crowds are loosened and most of the positive feedback transactions of foreign investors disappear. They also found that negative abnormal returns did not follow as foreign investors adjusted the market quickly and efficiently for large-scale sales.

Second, there are studies on firms preferred by foreign investors. Prior research analyzes and employs various factors favored by foreign investors. For example, Kang and Stulz (1997) analyzed that foreign investors have more shares of company in manufacturing industries, low unsystematic risk, good performance, large companies, and low leverage. Controlling for firm size, they showed that small firms have higher stock turnover, and firms that have ADRs have higher foreign ownership. La Porta et al. (1999) argued that foreign investors favor companies that are well-invested and well-known in order to overcome the asymmetric limitations of information. Dahlquist & Robertsson

(2001) analyzed foreign ownership using a set of data of ownership and properties of Swedish firms. They showed that foreigners prefer large firms, low dividend firms, and companies with large cash positions. Lin & Shiu (2003) examined foreign ownership in the Taiwan stock market from 1996 to 2000. They showed that foreign investors prefer large firms and low market-to-book on the basis of the viewpoint of information asymmetry. They also showed that foreign investors prefer companies with high export ratios, and foreign investors have more stocks with high beta and low dividend yields. Lilzebohm & Loflund (2005) investigated the determinants of foreign investment in the Finnish stock market where foreign investment was permitted in 1993. They found that foreign investors are related to two factors. One is the investment barrier associated with dividend yield, liquidity, size and profitability, and the other is profitability or risk related factors. Han et al. (2015) investigated the impact of financial liberalization on China's emerging capital markets. They examined that foreign institutional investors reduce volatility and act as market stabilizers. They also showed that domestic institutional investors worsen volatility in the stock market.

Third, there are precedent studies on the relation between foreign investors and corporate governance. Kim et al. (2010) investigated that foreign ownership is negatively related to ownership concentration. They showed that foreign ownership is related to the active efforts to improve corporate governance. They also showed that foreign investors have different behavior patterns than domestic groups. This is because the latter group is less sensitive to corporate governance issues than the former group. Huang and Zhu (2015) found that when using data on China's structural reforms to support nonprofit stocks, qualified foreign institutional investors (QFII) have more influence over sovereign countries than regional mutual funds. They suggest that foreign institutional investors' involvement in corporate governance can greatly reduce expropriation by controlling shareholders in emerging markets. Thus, it is rare to analyze the relation between foreign ownership and ownership (or governance) dispersion

in Korean capital markets.

It can be seen from the precedent studies that various variables are used to analyze the firms preferred by foreign investors. Various variables include non-systematic risk, accounting performance, firm size, leverage, dividends, cash holdings, market delegation, and ownership. However, the empirical results are mixed. As far as we know, few studies have examined the relation between foreign ownership and blockholder ownership used as a substitute variable of ownership dispersion.

III. Data and Methodology

A. Data

We collect samples of Korean listed companies from 2005 to 2016. The procedure for selecting the final sample is as follows. First, we extract samples of companies that are still listed during the analysis period. Second, we analyze only manufacturing. However, financial companies are excluded. This is because manufacturing and financial companies are different from account subjects. Third, in order to match financial data, we exclude companies that are not closing date of the fiscal year is December. Fourth, we exclude companies whose financial statement data are missing from KIS Value II which is provided by Korea Credit Rating Co., Ltd. and TS-2000 which is provided by Korea Listed Companies Association. Lastly, our sample consists of 385 firms in KOSPI, 270 firms in KOSDAQ, and 655 firms [7,860 (= 655 times 12 yr) observations] in total.

Table 1 shows the business type of the sample. Table 1 follows the middle criteria set by the Korean standard industrial classification. Electricity and electron industries (141 firms, 21.5%) showed the highest frequency, followed by services (72 firms, 11.0%) and chemical (55 firms, 8.4%).

Table 1. Sample in Industry Type

| No | Sector | Frequency | % |
|-------|----------------------------|-----------|-------|
| 1 | Electricity & Electron | 141 | 21.5 |
| 2 | Chemical | 72 | 11.0 |
| 3 | Steel & Metal | 55 | 8.4 |
| 4 | Transportation & Equipment | 46 | 7.0 |
| 5 | Medicine & Medical | 45 | 6.9 |
| 6 | Machinery | 42 | 6.4 |
| 7 | Services | 39 | 6.0 |
| 8 | Distribution | 39 | 6.0 |
| 9 | Construction | 36 | 5.5 |
| 10 | Food & Beverage | 30 | 4.6 |
| 11 | Paper & Lumber | 24 | 3.7 |
| 12 | Textile & Clothes | 23 | 3.5 |
| 13 | Others | 19 | 2.9 |
| 14 | Nonmetallic | 18 | 2.7 |
| 15 | Transportation & Warehouse | 15 | 2.3 |
| 16 | Electricity & Gas | 6 | 0.9 |
| 17 | Medical Detailed | 3 | 0.5 |
| 18 | Communication | 2 | 0.3 |
| Total | | 655 | 100.0 |

Note: Table 1 follows the middle criteria set by the Korean standard industrial classification.

B. Variables

1. Foreign ownership

Foreign ownership means the share of shareholding held by foreigners among the total shares within the firm.

2. Ownership dispersion

It is mixed about the relation between ownership and agent problems. Grossman and Hart (1998) argue that a concentrated ownership helps solve the managerial agent problem. This is because the controlling shareholders have the power and incentive to govern management. On the other hand, Claessens, Djankov, and Lang (2000) argue that concentrated ownership creates the conditions for a new managerial

agency problem. This is because the interests of the controlling shareholders and the minority shareholders are not in perfect agreement. La Porta,

Lopez-de-Silanes, and Shleifer (1999) points out that large shareholder can expropriate minority shareholders by pursuing personal interests rather than maximizing corporate value.

The relation between the foreign investor and the ownership structure can be inferred based on the negative relation between the agent problem and the ownership structure. That is, if the ownership structure is concentrated, the agent problem becomes bigger, and the firm value falls. Therefore foreign investors will prefer companies with diversified ownership structures. There is a close relation between corporate governance and the portfolio held by foreign investors (Dahlquist, Pinkowitz, Stulz, & Williamson, 2003). Kim et al. (2010) investigated that foreign ownership is negatively related to ownership concentration. They showed that foreign ownership is related to the active efforts to improve corporate governance.

There are several ways to measure whether the ownership is distributed within a firm. Konijn, Kräussl, & Lucas (2011) focused on the dispersion of blockholder ownership. They used total blockholder fraction, the Herfindahl index, the Gini coefficient and the number of blockholders as substitution variables for ownership dispersion. Total blockholder fraction captures the size of combined blockholdings, whereas the Herfindahl index measures the dispersion of the combined block size over the different blockholders. The Gini coefficient captures the asymmetry between block sizes rather than the number of blockholders. However, the total blockholder fraction has a disadvantage that it cannot explain the ownership dispersion in detail. The focus of the Gini coefficient is to determine ownership asymmetry. The number of blockholders per firm discards the effect of the shareholding distribution itself. For example, a total ownership stake of 40% held by two blockholders of equal size (20%-20%) can have very different implications than a 35%- 5% distribution. The latter resembles much more a case with a single dominant blockholder than one with multiple (equally

powerful) blockholders. Therefore, we use Herfindahl index as a substitute variable of ownership dispersion used by Konijn et al. (2011).

3. Control Variables

We use several control variables besides the main independent variables (Sullivan & Constand, 1996; Larson, Madura, & Akhigbe, 2001; Kim et al., 2010; Cho. & Lee 2017). In this study, we use volatility, dividends, firm size, leverage, and profitability as control variables. The reason we choose the control variable is that the results from previous studies show a significant relationship between the control variable and foreign ownership. We use the volatility of stock returns as a substitute variable for corporate risk. Foreign investor contributes to market stabilization by analyzing the decreasing of stock volatility. In this study, dividend yield is used as a substitute variable for dividend. We also use asymmetric information. Large companies have a low information asymmetry to investors because they disclose a large amount of information to investors (Kang & Stulz, 1997). This study uses firm size to control scale effects. We also use leverage and ROE. Leverage represents long-term financial capability and ROE stands for solid profitability.

C. Model

To examine the relation between ownership dispersion and the foreign ownership, we employ to the panel model which is based on panel data. We use to both fixed effect model and random effect model because this model is either more efficient than random effects model by Lagrange multiplier test and Hausman test or not more efficient than random effects model.

Model 1 is a model for examining the effects of ownership dispersion on foreign ownership without control variables. The reason for excluding the control variables in Model 1 is to analyze only the relation between HF and FO. Model 2 is a model for analyzing

how ownership dispersion affects foreign ownership when control variables are included. We conduct two additional analyzes. One analyzes the effect of ownership dispersion (HF) on foreign ownership by dividing the sample with HF being smaller than the average and firms with larger than average. And the other is divided into analysis periods. The global financial crisis broke out in 2008. The global financial crisis had a great impact on the Korean capital market. Therefore, we analyze the period before the global financial crisis (2005-2007), the global financial crisis period (2008), and the period after the global financial crisis (2009-2016). Model 2 is used for additional analysis. Regression analysis will use for analyzing before and after 2008 because the time series is small.

$$\text{Model 1: } FO = \beta_0 + \beta_1 HF + \epsilon_i \quad (1)$$

$$\text{Model 2: } FO = \beta_0 + \beta_1 HF + \beta_2 VO + \beta_3 DY + \beta_4 \ln(SIZE) + \beta_5 LV + \beta_6 ROE + \epsilon_i \quad (2)$$

where, FO: Foreign Ownership

HF: Herfindahl Index

VO: Volatility

DY: Dividend Yield

Ln(SIZE): Ln(Total Asset)

LV: Leverage

ROE: Return on Equity

ϵ : error

i : Firm 1, ..., N

t : 2005-2016 Yr.

Foreign ownership (FO) means the share of shareholding held by foreigners among the total shares within the firm. Foreign ownership is obtained from TS-2000 which is provided by Korea Companies Information (Korea Listed Companies Association). The Herfindahl Index (HF) means a measure of the degree of ownership dispersion. We calculate the dispersion of the blockholder as follows. First, we extract blockholder with an equity stake of 5% or more in the firm. Second, we measure the Herfindahl Index using the percentage of shares held by the top five blockholders. The Herfindahl Index is measured as equation (3).

$$\text{Herfindahl Index} = \sum_{i=1}^5 W_i^2 / \left(\sum_{i=1}^5 W_i \right)^2 \quad (3)$$

where, W_i is blockholder ownership

The value of the Herfindahl Index is smaller, ownership dispersion is broader. If a company has one blockholder, the value of the Herfindahl index is 1. Blockholder ownership also obtained from TS-2000 which is provided by Korea Companies Information (Korea Listed Companies Association). TS-2000 provides ownership and names from 1st major blockholder to 5th largest shareholders.

Stock volatility (VO) is measured as the standard deviation of firm's daily stock returns for that year. Stock volatility obtained from KIS Value II which is provided by Korea Credit Rating Co., Ltd. Dividend yield (DY) is calculated by the cash dividend divided by the closing price at the end of year. Dividend yield also obtained from KIS Value II which is provided by Korea Credit Rating Co., Ltd. We measure the size of the company by Ln (total assets, million won) at the end of the year. Leverage is calculated by dividing debt by equity at the end of the year (Min, Cashel-Cordo, & Rhim, 2015; Shin, Lee, & Cin, 2016). We calculate ROE by dividing the bottom line by equity at the end of the year. Firm size, leverage, and return on equity obtained from TS-2000 which is provided by Korea Companies Information (Korea Listed Companies Association).

IV. Empirical Results

A. Descriptive Statistics

Table 2 reports descriptive statistics on key variables for Korean listed companies in 2005-2016. The table shows the observations, mean, standard deviation, 25th percentile, median, and 75th percentile of each variable observed over that time period. We selected 655 companies and 7,860 observations. The average foreign ownership is 8.2%. The average of the Herfindahl Index is 0.550. Average value of daily stock return volatility, dividend yield, firm size, leverage and ROE are 25.9%, 23.7%, 998,607 million won, 100.3% and 3.5%, respectively. Variables are removed at the top and bottom 1 percentile to mitigate the impact of outliers.

B. Correlation analysis

Table 3 shows the results of the Pearson correlation matrix for variables. The analysis shows that all variables are significant correlations excepting the correlation between HF and LV. As a result, foreign ownership shows a significant positive relation with volatility (VO), firm size [Ln (Size)], and return on equity (ROE). However, foreign ownership shows a significant negative relation with the Herfindahl Index (HF), dividend yield (DY), and leverage (LV). We analyze variance inflation coefficients (VIFs) to investigate multicollinearity among independent

Table 2. Descriptive Statistics

| Variables | Obs. | Mean | SD | 25th Pctl. | Median | 75th Pctl. |
|-----------|-------|---------|-----------|------------|---------|------------|
| FO | 7,860 | 0.082 | 0.128 | 0.003 | 0.021 | 0.103 |
| HF | 7,860 | 0.550 | 0.275 | 0.340 | 0.502 | 0.721 |
| VO | 7,860 | 0.259 | 0.250 | 0.009 | 0.267 | 0.442 |
| DY | 7,860 | 0.237 | 0.289 | 0.008 | 0.030 | 0.477 |
| SIZE | 7,860 | 998,607 | 3,251,082 | 79,323 | 159,220 | 429,329 |
| LV | 7,860 | 1.003 | 1.059 | 0.337 | 0.695 | 1.273 |
| ROE | 7,860 | 0.035 | 0.168 | 0.010 | 0.054 | 0.108 |

Note: This table reports descriptive statistics on key variables for Korea listing firms from 2005-2016. Variables are winsorized at the top and bottom 1 percentile to mitigate the impact of outliers. FO=foreign ownership, HF=Herfindahl Index; VO=stock volatility; DY=dividend yield; SIZE=total assets (million won); LV=leverage; ROE=return on equity.

Table 3. Correlation Matrix

| | FO | HF | VO | DY | Ln(SIZE) | LV | ROE | VIF |
|----------|----------|----------|----------|----------|----------|----------|-----|-------|
| FO | 1 | | | | | | | 1.422 |
| HF | -0.069** | 1 | | | | | | 1.062 |
| VO | 0.090** | -0.065** | 1 | | | | | 2.455 |
| DY | -0.237** | 0.192* | -0.744** | 1 | | | | 3.041 |
| Ln(SIZE) | 0.505** | -0.154** | 0.301** | -0.498** | 1 | | | 2.983 |
| LV | -0.084** | 0.019 | 0.184** | -0.053** | 0.177** | 1 | | 1.377 |
| ROE | 0.165** | -0.059** | -0.042** | -0.068** | 0.097** | -0.417** | 1 | 1.262 |

Note: This table shows the Pearson correlation matrix for variables. FO=foreign ownership; HF=Herfindahl Index; VO=volatility; DY=dividend yield; Ln(SIZE)=Ln(total assets, million won); LV=leverage; ROE=return on equity. VIF=variance inflation factor. ** is significant at 1% level (both sides).

variables. The maximum value of VIF is 3.041. We confirmed that multilinearity can be within statistical tolerances.

C. Regression Results

1. The determinants of foreign ownership

Table 5 reports the result of panel least square about the determinants of foreign ownership. We use to both fixed effect model (model 2) and random effect model (model 1, 3, 4) because this model is either more efficient than random effects model by Lagrange multiplier test and Hausman test or otherwise. Model (1) is an analysis of the relation between foreign ownership and ownership dispersion without using control variables. Model (2) is an analysis of the relation between foreign ownership and ownership dispersion using control variables. Our sample classified into two groups based on the average of the Herfindahl Index. One is the group that exceeds average of the Herfindahl Index (lower ownership dispersion) (Model 3). The other is the group with lower average Herfindahl Index (higher ownership dispersion) (Model 4).

In model (1), the coefficient of the Herfindahl index was negative and statistically significant at 1% level (standard error = 0.004, $P < 0.01$). In model (2, 3, 4), the coefficient of the Herfindahl index was also negative and statistically significant at 1% level (standard error = 0.004, 0.005, 0.006, $P < 0.01$). It

indicates that lower Herfindahl index (higher dispersion), higher foreign ownership. In other words, foreign investors prefer a company with a dispersed ownership structure. This result is the same as the Dahlquist et al. (2003). They examined a close relation between corporate governance and the portfolio held by foreign investors. This result is also consistent with Kim et al. (2010). They use the ownership proportion of large shareholders as a substitute for ownership concentration. This implies that foreign investors who invest the Korea stock market prefer firms with blockholder dispersion to firms with blockholder concentration. Perhaps this is because foreign investors perceive that if there are many blockholders in the firm, they will be more likely to monitor one major shareholder (agency problem decrease), and eventually the firm value will increase.

All control variables are related to foreign ownership in model (2) and model (3).

First, this study shows that the relation between foreign ownership and volatility is negative. The coefficient of the VO was negative and statistically significant at 1% level ($P < 0.01$). The results of this study on the relation between foreign ownership and volatility are the same as those of Kang & Stulz (1997), Lilzebohm & Loflund (2005), and Han et al. (2015). This means that foreign investors prefer the firms with low volatility in the Korean stock market. However, there is no evidence that the negative relation between VO and FO in Model (4).

Second, this study shows that there is a significant

Table 5. The determinants of foreign ownership

| | Model (1) Random Effect | Model (2) Fixed Effect | Model (3) (HF>Mean) Random Effect | Model (4) (HF<Mean) Random Effect |
|--------------------------|----------------------------|---------------------------|---|---|
| <i>HF</i> | -0.018*** (0.004) | -0.017*** (0.004) | -0.016*** (0.005) | -0.021*** (0.006) |
| <i>VO</i> | | -0.021*** (0.006) | -0.028*** (0.009) | -0.000 (0.007) |
| <i>DY</i> | | -0.020*** (0.006) | -0.043*** (0.008) | 0.002 (0.008) |
| <i>Ln(SIZE)</i> | | 0.003* (0.002) | 0.018*** (0.002) | 0.016*** (0.002) |
| <i>LV</i> | | -0.004*** (0.001) | -0.006*** (0.002) | -0.004** (0.001) |
| <i>ROE</i> | | 0.030*** (0.005) | 0.021*** (0.007) | 0.040*** (0.007) |
| <i>Constant</i> | 0.091*** (0.002) | 0.066*** (0.023) | -0.102*** (0.030) | -0.102*** (0.026) |
| No. of firms | 655 | 655 | 297 | 358 |
| Observations | 7,860 | 7,860 | 3,564 | 4,296 |
| R-sq: within | 0.003 | 0.019 | 0.024 | 0.012 |
| R-sq: between | 0.006 | 0.208 | 0.292 | 0.389 |
| R-sq: overall | 0.005 | 0.139 | 0.231 | 0.304 |
| Lagrange multiplier test | 29029.83*** | 22499.99*** | 10131.55*** | 12281.97*** |
| Hausman test | 1.15 | 268.65*** | -59.32 | -195.70 |
| F value (or wald chi2) | 23.26*** | 23.12*** | 162.62*** | 150.55*** |

Note: This table reports the results of Panel Least Square with the foreign ownership (FO) as dependent variable. The independent variables are defined as: HF is Herfindahl Index; VO is volatility; DY is dividend yield; Ln(SIZE) is Ln (total assets, million won); LV is leverage; ROE is return on equity. Standard error is shown in parenthesis. *p <0.10, **p <0.05, ***p <0.01.

negative relation between dividend yield and foreign ownership in model (2) and (3). This means that foreign investors prefer the firms with low dividend yield. These results are consistent with previous studies (Dahlquist & Robertsson, 2001; Lin & Shiu, 2003). This is probably because foreign investors prefer a growth company that makes a small dividend payment and keeps internal reserves.

Third, this study shows that foreign investors preferred firms with large firms in model (2, 3, 4). In previous studies, many studies use the firm size as the asymmetry of information. The positive results of the relation between foreign investors and firm size are consistent with previous studies. Large companies have a low information asymmetry to investors because they disclose a large amount of information to investors (Kang & Stulz, 1997). These

results are also consistent with many previous studies (Dahlquist & Robertsson, 2001; Lin & Shiu, 2003; Lilzebolm & Loflund, 2005).

Forth, we include leverage that represents long-term financial capability. This results shows that there is a negative significant relation between LV and FO in model (2, 3, 4). The results of this study on the negative relation between foreign ownership and leverage are the same as those of Kang & Stulz (1997). This implies that foreign investor prefer firms with low leverage.

Fifth, this studies show that there is a significant positive relation between ROE and FO. This means that foreign investor prefer a profitable company. The results of this study on the positive relation foreign ownership and ROE are also the same as those of Kang & Stulz (1997) and Lilzebolm & Loflund (2005).

In summary, this study shows that foreign investors who enter the Korean capital market tend to prefer companies with dispersed ownership, small volatility, small dividend yields, large firms, low leverage, and high profitability.

2. Additional Analysis

The analysis period of this study is from 2005 to 2016. During the analysis period, the global financial crisis (2008) occurred in Korea. The global financial crisis (GFC) has a great influence on the Korean capital market. We further analyze the behavior of foreign investors by dividing the GFC pre-period, GFC period, and GFC post-period. Therefore, this study is divided into the GFC pre-period (2005-2007), the GFC period (2008), and the GFC post-period (2009-2016). The empirical analysis is based on OLS considering the heteroskedasticity of errors. This is because time series are relatively short for panel analysis.

The results of the analysis are summarized as follows. First, there was no evidence of a statistically significant association between HF and FO during the GFC pre-period and GFC period. However, there was a statistically significant negative correlation between HF and FO in the post GFC period. This suggests that foreign investors are less likely to relate to the ownership structure in the pre-GFC period and the GFC period. However, foreign investors prefer companies with high ownership dispersion in post-GFC. This is probably because the Korean capital market environment has changed since the global financial crisis. Second, there was a statistically significant negative relation between VO and FO in all analysis periods. This implies that foreign investors do not prefer firms with high volatility regardless of whether they are before or after the GFC crisis. Third, there was a significant negative relation between DY and FO in the pre and period of the GFC. However, there was no significant relation between DY and FO in the GFC post period. In the period after GFC, it is relatively unrelated to the dividend yield from foreign investors as compared to the pre-period GFC.

Fourth, regardless of the pre and post the global financial crisis, foreign investors seem to prefer firms with large firms. Fifth, in the pre and post global financial crises, foreign investors preferred firms with low leverage. However, there was no significant relation between foreign ownership and leverage during the global financial crisis period. Sixth, in the pre and post global financial crisis, foreign investors also preferred companies with high profitability. However, there was also no significant relation between foreign ownership and profitability during the global financial crisis period.

Table 6. Analysis for GFC before, GFC period and GFC after period: OLS

| | GFC pre-period (2005-2007) | GFC period (2008) | GFC post-period (2009-2016) |
|-----------------|----------------------------------|-------------------------|-----------------------------------|
| <i>HF</i> | 0.002 (0.24) | -0.003 (-0.17) | -0.017*** (-3.23) |
| <i>VO</i> | -0.072*** (-4.57) | -0.083*** (-3.61) | -0.027*** (-3.26) |
| <i>DY</i> | -0.028** (-2.01) | -0.073*** (-3.06) | -0.006 (-0.71) |
| <i>Ln(SIZE)</i> | 0.055*** (21.97) | 0.040*** (9.66) | 0.048*** (34.53) |
| <i>LV</i> | -0.017*** (-5.18) | -0.012 (-1.64) | -0.020*** (-13.17) |
| <i>ROE</i> | 0.051*** (2.78) | 0.023 (0.77) | 0.015* (1.66) |
| <i>Constant</i> | -0.525*** (-16.02) | 0.340*** (-6.65) | -0.506*** (-27.69) |
| No. of firms | 655 | 655 | 655 |
| Observations | 1,965 | 655 | 5,240 |
| R-squared | 0.318 | 0.246 | 0.310 |
| chi2 | 120.64*** | 67.51*** | 243.83*** |
| Max. VIF | 3.44 | 3.63 | 2.96 |
| F value | 137.03*** | 33.26*** | 279.79*** |

Note: This table shows the result of analyzing the factors that foreign investors prefer by dividing the period of risk. The independent variables are defined as: HF is the Herfindahl Index, VO is volatility; DY is dividend yield, Ln (SIZE) is Ln (total assets, million won); LV is leverage; ROE is return on equity. () represent the t-value using white-corrected standard errors to control the heteroskedasticity of the error. *p <0.10, **p <0.05, ***p <0.01.

In summary, this study found that the behavior of foreign investors were different during before and after periods of crisis such as GFC. During the GFC

period, foreign investors preferred companies with low volatility, low dividend yields, and large firms.

V. Conclusion

This study analyzes the relation between blockholder dispersion and foreign ownership in Korean stock market. The analysis period is from 2005 to 2016. We use the panel least square to test the impact of ownership dispersion measured by the Herfindahl Index on foreign ownership. The results are as follows. First, we found that foreign investors who enter the Korean capital market tend to prefer companies with dispersed ownership structures. The results of this study support the opinion that foreign investors prefer companies with dispersed ownership structures. Second, foreign investors prefer companies with low volatility, small dividend yields, large, low leverage, and high accounting performance. Third, foreign investors' investment behaviors were different during before and after crisis such as GFC.

Our findings contribute to the understanding of the relation between foreign ownership and ownership dispersion in the Korean stock market. This study also confirms that foreign investors' investment tendencies are different during periods of crisis such as GFC. In the future research, it may be meaningful to analyze by classifying each investor such as individual investors, domestic institutional investors, and foreign investor. This study analyzed Korean publicly traded companies. Therefore, the scope of analysis is narrow. More extensive research needs to be done in the future compared to other countries.

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