

## Foreign investors and corporate governance in Korea

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## **Foreign Investors and Corporate Governance in Korea**

### **Abstract**

This paper has two aims. The first aim is to investigate whether poor corporate governance negatively affects equity participation by foreign portfolio investors. The second aim is to investigate whether firm-level efforts to improve on corporate governance attract more foreign portfolio investments. The evidence indicates that foreign equity ownership is negatively associated with ownership concentration and positively associated with firm's efforts to improve on corporate governance. Interestingly, however, domestic investors behave differently from foreign investors in that the latter group appears to be less sensitive to firm-level corporate governance than the former group.

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## **1. Introduction**

The weak corporate environments of emerging markets are well documented in many studies (La Porta et al., 1998 and Shleifer and Vishny, 1997). Claessens et al. (2000) and Johnson et al. (2000) indicate that large single-family conglomerates dominate many emerging markets. Claessens et al. (2000), Johnson et al. (2000), and Rajan, Servaes, and Zingales (2000) further argue that under such ownership structures, controlling shareholders may ignore minority shareholders' interests and misallocate corporate resources toward inefficient divisions. Khanna and Palepu (2000), on the other hand, argues that in countries where financial markets are underdeveloped, the diversified structure of business groups could generate values unattainable otherwise.

Recent studies indicate that the weak governance system in emerging markets may affect the inflow of foreign portfolio investments. Dahlquist et al.(2003) shows that there is a close relationship between corporate governance and the portfolios held by foreign investors. Dahlquist and Robertsson (2001) also finds that foreign portfolio investors underinvest in firms with concentrated ownership. Furthermore, Reese and Weisbach (2002) and Kim, Lyn, and Zychowicz (2004) suggest that firms may devise mechanisms to overcome deficiencies in the existing institutional environments.

This paper has two aims. The first aim is to investigate whether corporate governance affects the portfolio formation of foreign portfolio investors. The second aim is to investigate whether firm-level efforts for the improvement of corporate governance help

attract more foreign investments. Special features in the Korean stock market offer an ideal setting for examining these issues. First, the wedge between control and ownership is prevalent in Korean firms, which leads to overall weak corporate governance in Korea. The Korean family-run conglomerates of *Chaebols* are often accused of abusing the ownership structure.<sup>1</sup> Chaebol groups have built their realms under full support from the government when the Korean economy was planned and closed, and strengthened their power through excessive cross holdings and reciprocal shareholding agreements. This resulted in the severely distorted ownership structure in Korea. Second, while the Korean government enacted new laws to improve corporate governance aftermath of the Asian financial crisis, some firms voluntarily take actions for the same purpose.<sup>2</sup> For example, a growing number of firms appoint foreign resident outside directors. This provides an ideal condition for examining whether these efforts help mitigate the weak nationwide governance and thus attract more foreign investments. Acknowledging the huge impact that foreign investors may bring to the Korean stock market together with these features mentioned above, our research on the relationship between foreign investors and corporate governance in Korea is worth exploring.<sup>3</sup>

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<sup>1</sup> According to the recent announcement by the Fair Trade Commission, each chairperson of the country's 36 chaebol (as of April 1 2003) with assets in excess of 2 trillion won (\$1.91 billion) owns only an average 1.95 % of the total shares, while their relatives held 2.66 %. This is supplanted by 41.71 % control exercised by the individual owner's family through a complicated arrangement of cross-shareholdings of affiliates. Moreover, chaebol owners and their families do not even own a single share in 60 % of group firms, but still exercise controlling power of them indirectly.

<sup>2</sup> In Korea chaebol groups and their affiliates are designated every year and are subject to many restrictions on their businesses. Moreover current law forces all listed firms to assign at least one fourth of their board members as outside directors. For firms with the assets of more than 2 trillion won, half of their board members should be outsiders.

<sup>3</sup> As of June 2004, foreign investors account for 43.6% of the total market value in the Korean Stock Exchange. This figure is the 4<sup>th</sup> highest in the world, following Hungary (72.6 %), Finland (55.7 %) and

Following Dahlquist and Robetsson (2001) and Dahlquist et al. (2003), we investigate whether poor corporate governance of chaebol-affiliated firms hinders foreign investments in Korea. We also explore whether firm-level efforts for the improvement of corporate governance such as the appointment of foreign resident outside directors bring a positive signal to foreign investors. The remainder of this paper is organized as follows: Section 2 reviews the literature and develops hypotheses. Section 3 provides descriptive statistics and models. Section 4 presents the results of our empirical test. The final section presents the summary and conclusions.

## **2. Literature review & hypotheses development**

### **2A. Foreign investors and corporate governance**

Grossman and Hart (1998) claims that concentrated ownership helps solve the managerial agency problem proposed originally by Jensen and Meckling (1976), because controlling shareholders have the power and incentive to discipline management. On the other hand, Bebchuk et al. (2000) and Claessens et al. (2002) argue that concentrated ownership creates the conditions for a new agency problem because the interests of the controlling shareholders and the minority shareholders are not perfectly aligned. La Porta et al. (1999) also points out that large shareholders may expropriate minority shareholders by seeking personal benefits rather than maximizing firm value.

The severe divergence between ownership and control in Korea complicates the

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Mexico (46.4 %).

questions about who holds real controlling power. Earlier findings relate Korean chaebols to higher agency problems. Claessens et al. (2000) points out those ultimate owners of chaebol-affiliated firms may ignore minority shareholders' interest. Ferris et al. (2003) and Kim et al. (2004) also discover that chaebol firms create an incentive for managers to make non-value maximizing capital investment decisions. Therefore we consider chaebol as an appropriate proxy that reveals higher agency costs in Korea.

It is shown that there is a close relationship between corporate governance and the portfolios held by foreign investors (Dahlquist et al., 2003). To the extent that foreign investors are concerned with the corporate governance of Korean firms and its impact on the returns for their investments, we can think of different scenarios.<sup>4</sup> The first scenario is that foreign investors would avoid chaebol-affiliated firms because the agency costs of chaebol-affiliated firms are higher than non-chaebol firms. The second scenario is that foreign investors would prefer chaebol-affiliated firms because investors expect greater cash inflows from chaebol-affiliated firms, despite the agency costs mentioned above (Khanna and Palepu, 2000). Alternatively, foreign investors would prefer chaebol-affiliated firms because these firms are mostly undervalued and foreign investors expect positive returns from their active involvement in their corporate governance.

## **2B. Outside directors and their incentives to monitor**

Fama (1980), and Fama and Jensen (1983) argue that corporate boards could play an important role in limiting the power of controlling shareholders to expropriate the interests

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<sup>4</sup> According to Klapper and Love (2002), Korea exhibits 40.66 for the firm-level governance index, 2.00 for shareholder rights and 6.00 for judicial efficiency. The average values of emerging markets are 54.11, 3.57 and 6.30, respectively.

of minority shareholders. They also emphasize the special contribution that outside directors can make to the effective resolution of agency problems between managers and shareholders. Perry and Shivdasani (2001) finds that the outsider-dominated boards are more likely to initiate restructuring programs following a significance performance decline and these programs tend to be more successful than programs initiated by firms with insider-dominated boards. Moreover, Rosenstein and Wyatt (1990) reports that a positive returns to the news of outside director appointments.

In contrast, Mace (1986) and Patton and Baker (1987) express doubts about their ability to make a meaningful contribution to shareholder wealth creation. Mace (1986), Patton and Baker (1987), and Lorsch and MacIver (1989) cite that the lack of sufficient incentives, time and expertise as a major constraint on outside directors' ability to perform their monitoring duties effectively. Another claim as related to how effectively the boards can play their expected role is how independently outside directors were chosen. Shivdasani and Yermack (1999) suggests that CEOs wield major influence in selecting new board members. Moreover, Shivdasani and Yermack (1999) and Yeh and Woidtke (2004) indicate that when CEOs are involved in selecting directors they choose directors who are less likely to monitor and those directors are associated with strong, negative entrenchment effects or larger agency problems. McWilliams and Sen (1997), Cotter et al (1997), and Perry and Shivdasani (2001) also document evidence of a negative link between board monitoring and management-affiliated outside directors.

In order to investigate how effectively the boards can play their expected roles, many studies have done with the focus on the characteristics of the entire board largely in

terms of board size (Yermack, 1996 and Eisenberg et al., 1998), the presence of independent directors (Kaplan and Reishus, 1990 and Byrd and Hickman, 1992), and board membership (Brickley et al., 1997). However, little is known about the relation between the director's demographics and corporate governance.

We posit that foreign directors are more likely to express their expertise independently than domestic board members, and therefore may act as effective monitors. If so, foreign resident outside directors may be an appropriate proxy for good corporate governance and therefore foreign investors may overweigh firms with foreign resident outside directors.

### **3. Descriptive statistics and regression model**

#### **3A. Foreign ownership**

We use the KIS Value data from the Korean Information Service to obtain foreign ownership data as well as other firm-specific attributes. Our datasets include all Korean firms that have been listed on either KSE or KOSDAQ from 1992 to 2003.<sup>5</sup> Since the Korean government initially opened its stock market to foreign investors in January 1992, it has gradually increased the ceiling of ownership restrictions. On May 25 1998, the Korean government completely abolished foreign ownership restrictions. The total market capitalization of the Korean stock market has increased by 5 times from 72,147 billion won

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<sup>5</sup> KOSDAQ market was introduced in 1996 for small technology based venture firms to easily raise capital through this new exchange. Before the introduction of KOSDAQ, those firms were usually hard to meet the strict requirements of KSE for liquidation. KOSDAQ was also intended to eventually promote high growing potential firms by the government.



in 1992 to 369,295 billion won in 2003. During the same period, however, foreigners increased their holdings more than 30 times, from 4,630 billion won to 141,618 billion won.

Fig 1 shows the composition of the Korean stock market by investor category; foreign investors, institutional investors, individual investors and the government or government-related institutions. For each of these investor categories, we computed the value-weighted average of ownership, defined by the percentage value of the shares held by each investor group to the total market capitalization. In 1992, when Korea opened its stock market to foreign investors, foreign investors took only 6.42% of the total market, while institutional investors, individual investors and the government or government-related institutions composed 28.21 %, 35.47 % and 29.90 % of the total market, respectively. However foreigners have increased their participation over time and now they are the biggest players who take up 38.35% of the Korean security market as of 2003. Institutional investors, individual investors and the government or government-related institutions take up 15.95 %, 23.74 % and 21.96 % of the whole securities market, respectively at that point of time.

< Figure 1 here >

Table 1 provides the mean, the median and the max value of foreign ownership across all listed firms each year. The ownership of each firm is equally weighted regardless of its market size. The second and the third column present the number of firms and the number of firms with positive foreign ownership in our sample. The firms with a missing value either in foreign ownership or in the market capitalization at the year end is excluded

from our sample.

< Table 1 here >

Even though the value-weighted average of foreign investors in Fig 1 is 38.35 % in 2003, the equally weighted average of foreign ownership in Table 1 is just 6.45 %. Note that the average foreign ownership of 38.35 % is the value that reflects the different market capitalization of each firm while the equally weighted average of foreign ownership does not. Thus the difference between these two values implies foreign investors hold disproportionately more weight in large firms of their portfolio.

### **3B. Foreign ownership by industry**

We have classified firms into 9 industry categories using the industry category code provided by the KIS Value. Table 3 shows industry weights in 2003 by investor category. For every investor group, we present the number of firms that belong to each industry and its weight in the market capitalization of the portfolio held by each investor group. The market portfolio, which can be a benchmark in comparison, presented at the start. The difference between the weight in the market portfolio and the weight in each investor portfolio shows how each investor portfolio deviates from the market portfolio by industry.

< Table 2 here >

Industry weights written here are the value-weighted averages, defined by the percentage value of the market capitalization of each industry within each investor portfolio as compared to the total market capitalization of each investor portfolio. Table 3 shows foreign investors overweigh manufacturing, communication and financial industries

than the market portfolio does. This pattern is shown in a similar way for institutional investors. However the portfolios held by individual investors and the government or government-related institutions show a different pattern from the other two categories. For example, only the government or government-related institutions overweigh electronic and power industries while the others hold less weight than the market does. This may be explained by the fact that these industries are mostly run by the government under its national development plan. Similarly either individual or the government or government-related institutions seem to overweigh those industries that are shunned by foreigners and institutional investors. We also checked the features of the data for the period 1992 – 2002, and found the similar pattern in each year. The overall evidence shows that the industry preference by foreign investors appears similarly for institutional investors in Korea. These results are consistent with those of Dahlquist and Robertsson (2001).

Table 2 also shows how many firms each investor group invests in among all investible firms in the market. Individual investors invest almost all firms available in the exchange. Following the individual investors, the government or government-related institutions invest 94 % of firms in the market. Foreign investors and institutional investors, however, invest in only 74 % and 82 % of investible firms in the market, respectively.

### **3C. Chaebol-affiliated firms vs. non-chaebol firms**

The Fair Trade Commission announces the list of Korean conglomerates called *chaebol* and their affiliates on April 1, every year, based on the aggregated asset size from

all affiliates listed as part of the conglomerates.<sup>6</sup> Bae et al.(2002) indicate that top 30 chaebols are different from other firms; because the former are more diversified, reciprocal shareholding agreements are more extensive, and their controlling shareholders may have strong incentives to tunnel resources out of the firm to increase their wealth. We classify firms that belong to top 30 chaebols as chaebol-affiliated firms, and others as non-chaebols. The average market capitalization of chaebol firms is 1,484.5 billion won, while that of non-chaebols is 95.7 billion won in 2003.

< Table 3 here >

The third column of Table 3 shows the number of chaebol firms in our sample. Under current rule, conglomerates with assets of more than 5 trillion won are prohibited from purchasing stakes in their affiliates or other firms in excess of 25 percent of their net worth. Moreover, chaebol firms with assets of more than 2 trillion won are subject to mutual investment bans among affiliates and are barred from providing firms in the same group with debt guarantees.

### **3D Foreign resident outside directors**

On June date 1998, the Korean government imposed the legal requirement for all listed firms to designate outside directors in their board committees in the hope that it may improve the firm-level governance. Under current rule, all listed firms should appoint at least 1 outside director, and/or at least one fourth of their directors must be outside

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<sup>6</sup> The Fair Trade Commission started to designate chaebol groups and their affiliates in 1987, based on its aggregated asset size. The rule determining chaebol groups was changed over time, between the asset ranking and the asset value, and the recent change has been done in 2002 from designating top 30 conglomerates to designating firms with assets of more than 2 trillion won.

directors. For firms with the asset of more than 2 trillion won, however, should appoint at a minimum three outside directors, and /or at least half of their directors must be outside directors.

Although there is no requirement for appointing foreign directors, some firms have appointed foreign resident outside directors. The fourth and the fifth columns in Table 3 show the number of foreign resident outside directors and the number of firms with foreign resident outside directors. In order to identify foreign resident outside directors, we reviewed all public announcements record on outside director appointment and retirements since 1998.

< Table 3 here >

### **3E. Regression model**

We divided our sample period into three sub-sample periods; the pre-Asian financial crisis period of 1992 – 1996, the Asian financial crisis period of 1997-1998, and the post-Asian financial crisis period of 1999–2003. The post financial crisis period coincide with the period when the Korean government completely abolished restrictions on foreign investments in 1998. We would like to investigate whether regulatory changes designed to improve the corporate governance have affected foreign investors' investment behavior. For this purpose, we run regressions separately for the three different sample periods to observe whether the foreign portfolio composition has changed over time.

Following Dahlquist and Robersson (2001), we employ the relative ratio of the firm's weight in foreign portfolio to its weight in the market portfolio as the dependent

variable. In order to adjust the base point to zero, we subtract 1 from the relative ratio and use this as our dependent variable. The numerical representation of this is as follows.

$$y_i = w_i^f / w_i^m - 1,$$

where  $w_i^f$  and  $w_i^m$  denote the weights of firm  $i$  in the portfolio of foreign investors and the market portfolio. The ratio of foreign investors portfolio weight in firm  $i$  to the weight of firm  $i$  in the market portfolio is also equivalent to the ratio of the foreign ownership in firm  $i$  to the value-weighted average of foreign ownership.

We use the relative ratio instead of the absolute percentage of foreign ownership for following reasons. First, the foreign ownership itself does not give dollar investment because it does not reflect the firm's market capitalization. That is, 1 % of foreign ownership for a large firm does not mean that foreign investors invest the same amount of their capital to a small firm with the same level of foreign ownership. Secondly, even after we consider the market capitalization of each firm to evaluate foreign ownership, it is not enough for comparison unless it conveys any benchmark levels. For example, if certain firm characteristics are preferred by other investor groups as well as by foreign investors it is hard to say that foreign investors specially prefer the firms with these characteristics. Therefore we set up the market portfolio as a benchmark portfolio in order to explain the preference pattern by foreign investors in a relative sense.

Note that a positive  $y_i$  means foreign ownership of the firm is disproportionately higher as compared to the firm's market weight. In other words, foreigners overweigh the firm as compared to the market portfolio. Similarly a negative  $y_i$  means that foreigners hold less weight to the firm than the market portfolio does. For example, while the total

market value of Samsung Eletronics is 18.42 % of the total market value of Korean stock market in 2003, 28.85 % of the total foreign investment in the Korean stock market was invested in Samsung Eletronics. This difference means that foreigners overweigh Samsung Electronics as compared to its market weight. In this example, the dependent variable becomes 0.5659. The lowest possible value of  $y_i$  is -1 for firms with zero foreign ownership. However the highest possible value of  $y_i$  is not 1 because foreign ownership could be very high even for firms who take a very small portion in the market. For a firm  $y_i > 1$ , foreign ownership of the firm exceeds more than 2 times of the value weighted average of foreign ownership of each year. In our sample 1.84 % of firms belong to this category and the maximum value is 6.63. Our main interest is to find the relation between foreign ownership and the firm-level corporate governance. We test the following three variables that may be proxies for corporate governance of the firm; chaebol-affiliation dummy, ownership concentration, and dummy variable for firms with foreign resident outside director. We run multivariate regressions to controll for other firm-specific attributes. We estimate the following regression model:

$$y_i = f(\text{chaebol, concentration, foreign resident outside director, size, foreign listings, export ratio, share turnover, dividend yield, systematic risk, tobin's q, ROA})$$

In the following, we briefly describe the firm-specific attributes used in our empirical analysis. As mentioned before, the first three variables are our main focus variables, which will explore the relation between foreign ownership and corporate governance while the others are the controlling variables, which both Kang and Stulz (1997) and Dahlquist and Robertsson (2001) used in their studies.

(a) *Chaebol*: This is a dummy variable which identifies chaebol-affiliated firms. We take a value of 1 to all chaebol-affiliated firms listed as part of the conglomerates and zero to otherwise.

(b) *Concentration*: This measure of ownership concentration is defined as the ownership proportion of large shareholders within the firm.<sup>7</sup>

(c) *Foreign resident outside director*: This is another dummy variable that identifies whether the firm has any foreigners in its board members. We take a value of 1 to the firms that have foreign resident outside directors in their board committee and zero to otherwise.

(d) *Size*: We measure the market capitalization of the firm at the year-end. In the regressions, we take a log transformation to adjust its scale to other variables.

(f) *Foreign listings*: This dummy variable identifies firms that are listed in foreign exchanges. We take a value of 1 to firms with DR (Depository Receipt) and zero to otherwise.<sup>8</sup>

(e) *Export ratio*: We consider the export ratio as the alternative proxy for the firm recognition to foreign investors. The export ratio is measured as export sales divided by total sales during the year.

(g) *Share turnover*: This is a measure of the market liquidity of the firm's shares. We define this share turnover as the total number of shares traded over the year divided by the

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<sup>7</sup> Under current law, large shareholders are defined as either those who hold more than 1 % of stakes of the total firm value or those who hold shares with above 300 million won in face value. Also those who have special relation with controlling shareholders are considered as large shareholders.

<sup>8</sup> In Korea, big conglomerate firms such as Samsung and Hyundai started issuing depository receipts (DR) in foreign exchanges since early 1990's in order to minimize inconvenience that could be incurred from investing overseas. There are two types of DR with which Korean firms pursue to overseas exchanges. One is ADR (American Depository Receipt) for being listed in the American exchanges and the other is GDR (Global Depository Receipt) for being listed in the European exchanges.



number of shares outstanding at the year-end.

(h) *Dividend yield*: The dividend yield is the value of all dividends paid during the year divided by firm's market value at the year-end.

(j) *Systematic risk*: This is the beta coefficient in the market model. It is calculated using daily returns every year with the benchmark market portfolio of the index market portfolio.

(l) *Tobin's q*: This is a valuation measure of the firm. It is calculated as the market value of both equities and liabilities divided by total asset. Typically growth firms have high Tobin's q value.

(o) *Return on Asset (ROA)*: Return on asset is measured as net income divided by total assets as of the end of the year.

## **4. Empirical results**

### **4A. Foreign ownership and corporate governance**

Table 4 presents the regression results for the post Asian financial crisis period, where constants are not shown. The estimated coefficients of ownership concentration for model 1 is about -0.09, meaning that a unit increase of the large shareholder's ownership percentage is related to a 0.09 lower foreign ownership ratio when all else is held equal. At first, the positive relations between foreign ownership and the foreign resident outside director, size, foreign listings, Tobin's q and ROA are apparent in all regressions. As for ownership concentration and systematic risk, foreign ownership shows negative relations in most cases. Interestingly, the estimated coefficients of chaebol dummy are positive and

statistically significant in models 1, 2 and 3. However, estimated coefficients of chaebol dummy are not significant when the firm size is controlled for. The average market capitalization for chaebol-affiliated firms is 15 times larger than that of non-chaebol firms in 2003. Moreover, the percentage of firms with foreign listings among chaebol firms is 10.23 %, while that of non-chaebol firms is 0.79 % in the period of 1999-2003.

< Table 4 here >

The regression results for the pre Asian financial crisis period are reported in Table 5. In this sample period, there was no requirement for outside directors so this variable was excluded from our regressions. We also excluded share turnover and systematic risk variables because those data were not available for this period. The preference for large firms and high ROA firms is still significant in all regressions. Similar to the previous results, the chaebol effect seems to be diminished with the inclusion of the size variable. Here, the negative effect from ownership concentration and the positive effect from foreign listings and high Tobin's q have disappeared after controlling for size. As seen in the reduced coefficient values over time, firm size seems to have a bigger explanatory power in the pre Asian financial crisis period than the post Asian financial crisis period. The striking difference in the results between these two sample periods, however, is that dividend yield shows significantly positive relation with foreign ownership in the pre Asian financial crisis period while the effect has disappeared in the post Asian financial crisis period.

< Table 5 here >

We also present the results for during the Asian financial crisis period in Table 6. In

this disturbance period, the preference for large firms and high dividend firms is still the same as the previous time sample. The negative relation between ownership concentration and foreign ownership is still significant even after controlling for size while the chaebol impact has disappeared as the results in other sample periods. It is interesting to note that the significance negative relation between systematic risk and foreign ownership appears in this period, which was not shown in the pre Asian financial crisis period. This pattern lasts in the post Asian financial crisis period as well. However the impact measured by the coefficient value seems to be stronger during the Asian financial crisis period. In this period, share turnover and foreign listings show the negative and the positive relations to foreign ownership, respectively.

< Table 6 here >

To sum up, foreign resident outside director seems to be a positive signal to foreign investors while concentrated ownership is shunned. As for chaebols, we found no significant explanatory power to foreign ownership after controlling for size. In all regressions, foreign resident outside directors and firm size showed the biggest explanatory power to foreign ownership. However the impact of firm size seems to be diminished over time.

For a robustness check on our results, we conducted the estimation for each industry separately. We also considered dummy variables to pick up industry-specific fixed effects. These results support our main findings that foreign ownership is positively associated with foreign resident outside directors, firm size, and foreign listings, and negatively associated with systematic risks. This pattern is shown the most obviously in the

manufacturing industry. Interestingly, what is not revealed in the pooled regressions occasionally appears in the industry-separate regressions. The export ratio, for example, shows the positive relation with foreign ownership in the regressions of manufacturing industry.

Our results revealing the preference for large firms and firms with foreign listings are consistent with those of both Kang and Stulz (1997) and Dahlquist and Robertsson (2001). As related to this preference pattern by foreign investors, Merton (1987), Falkenstein (1996), and Huberman (1999) claim that investors prefer firms with which they are familiar. Chari and Henry (2001) cites that regulatory guidelines in the U.S. often restrict portfolio managers to holding stocks that are included in investible indices such as IFCI(International Finance Corporation's Investible Index). In order to be included in the IFCI, firms must pass the minimum size screening process. Thus these regulatory restrictions seem to have additional explanatory power to the preference for large firms by foreign investors.

#### **4B. Foreign investors versus other investor categories**

Dahlquist and Robertsson (2001) argues that the deviation pattern of foreign investors converges to that of institutional investors.<sup>9</sup> Therefore, we investigate how the deviation pattern of foreign investors differs from those of other investor groups by comparing the regression results from each investor category. We run multivariate regressions of the holdings held by other investor categories on the firm characteristics. The model

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<sup>9</sup> According to Sundin and Sundqvist (1998), the representative foreign investor is mostly a large institution.

specification is identical to that of foreign investors with the exception that the dependent variables are adjusted to investor categories. The dependent variables in the regressions of other investor categories are as follows.

$$y_i = w_i^* / w_i^m - 1$$

where,  $w_i^*$  is the weight of firm  $i$  in the portfolio held by each investor category.

The regression results are reported in Table 7. We only present the results in the post Asian financial crisis period, when foreign investors became to buy and sell securities with no restrictions as other domestic investors. We also report the results for foreign ownership at the start for easy comparison.

< Table 7 here >

As stated earlier, foreign resident outside director and firm size have the strongest explanatory powers for foreign ownership. Additionally, foreign listings, high Tobin's  $q$ , high ROA, dispersed ownership structure, low share turnover and low systematic risk play a significant role for explaining foreign ownership. As for institutional investors, firm size explains the institutional ownership the best. Here those variables which are considered significantly positive by foreign investors, for example foreign resident outside directors and foreign listings, show negative signs, meaning that institutional investors do not care about these variables as much as foreign investors do. Obviously, only foreign investors show significantly positive reactions for these two variables. The holdings held by individual investors and the government or government-related institutions can be explained mostly by chaebol, ownership concentration and size. Interestingly, only individual investors show significant negative relations with chaebol and firm size. That is

individual investors hold less weights for chaebol firms and large firms than the other investors do.

In sum, the preference for large firms by foreign investors still appears in the Korean stock market. However this pattern is also shown similarly in all investor groups except in individual investors. In detail, foreign investors hold disproportionately more shares in firms that assign foreign resident outside directors in their boards, firms that are listed in overseas exchanges and firms with high Tobin's  $q$ . Moreover, foreign investors hold less weight in firms with concentrated ownership. This pattern appears in both institutional investors and individual investors as well. In contrast, the government or government-related institutions hold more weight in firms with concentrated ownership structure. As for chaebol, individual investors seem to avoid chaebol firms while the government or government-related institutions show significant preferences. The chaebol effects are not shown significantly for foreign investors and institutional investors.

## **5. Conclusion**

This paper investigates how the firm-level corporate governance affects the portfolio formation of foreign investors in Korea. We find that foreign investors allocate a disproportionately high share of their funds to large firms and the firms that appoint foreigner as outside directors. We also find that chaebol does not show any significant deviation patterns from the market portfolio after controlling for size. Additionally, foreign ownership is determined by liquidity, systematic risk, Tobin's  $q$ , and ROA. Interestingly,

we find that foreign investors tend to assign more funds in firms with foreign resident outside directors and firms listed in overseas exchanges. However, domestic investors tend to allocate smaller percentage of funds in firms with foreign resident outside directors.

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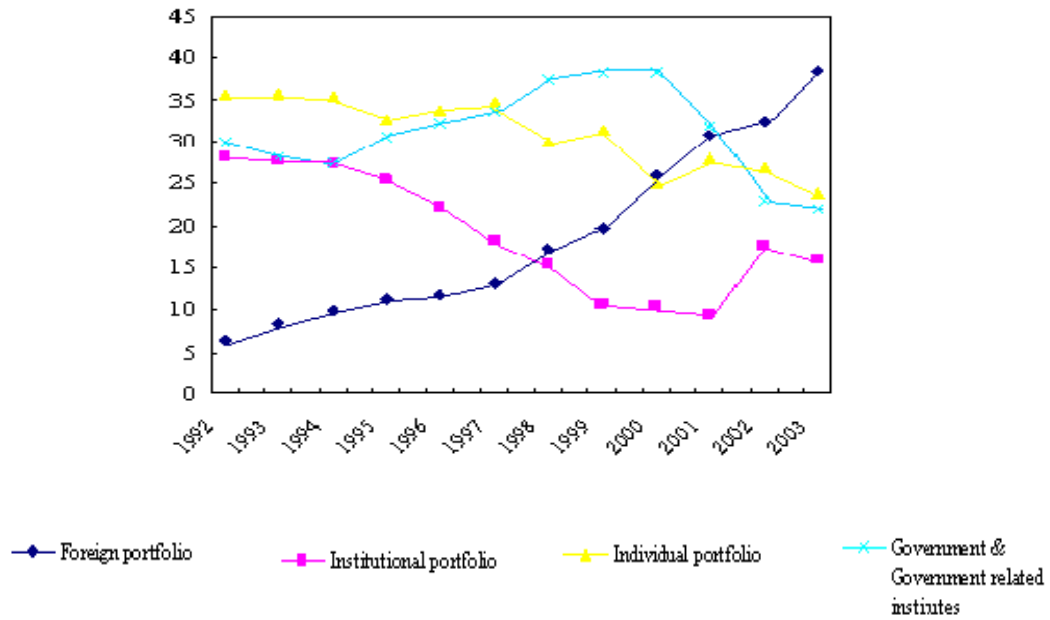
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**[Fig 1] Composition of the Korean stock market by investor category, 1992-2003**

Each point represents the percentage value of the shares held by each investor category as compared to the total market capitalization every year.



**[Table 1] Equally weighted average of foreign ownership, 1992 - 2003**

In the third column, N is the number of firms with positive foreign ownership every year. The percentage of firms with positive foreign ownership is given in parentheses.

Year	Sample	N	Mean	Standard deviation	Median	Max
1992	582	337 (57.9%)	4.29	[10.14]	0.35	88.2
1993	581	454 (78.1%)	5.62	[8.11]	2.9	67.8
1994	605	480 (79.3%)	6.34	[8.72]	4.3	79.1
1995	637	531 (83.4%)	5.79	[7.26]	3.2	50
1996	677	530 (78.3%)	6	[8.70]	2.2	81.5
1997	884	520 (58.8%)	3.56	[11.82]	0.5	100
1998	846	452 (53.4%)	5.31	[11.46]	0.1	89.1
1999	928	540 (58.2%)	5.7	[12.90]	0.2	100
2000	1087	624 (57.4%)	5.22	[12.49]	0.1	99.8
2001	1282	754 (58.8%)	5.43	[12.70]	0.1	99.9
2002	1411	1004 (71.2%)	5.02	[11.91]	0.12	98.63
2003	1464	1072 (73.2%)	6.45	[13.44]	0.28	96.74
Average of annual values		67.3%	5.36	[10.80]	1.20	87.56

**[Table 2] Industry weight by investor category, 2003**

This table reports different industry weights in the holdings held by different investor categories in 2003. For each investor category, the number of firms in industry and the industry weights in percentage are shown, respectively.

Market capitalization (billion Korean won)	Market portfolio		Foreigner		Institution		Individual		Gov and Gov- related institutions	
	N	Weight	N	Weight	N	Weight	N	Weight	N	Weight
	369,295		141,618		58,912		87,686		81,077	
Agriculture Forestry Fishery & Mining	(8)	0.1	(6)	0.00	(8)	0.02	(8)	0.21	(8)	0.02
Manufacturing	(986)	57.6	(734)	60.70	(792)	65.06	(981)	60.99	(918)	43.03
Electric & Power Gas	(11)	4.5	(10)	3.00	(11)	1.68	(11)	1.15	(11)	12.66
Construction	(58)	2.2	(52)	1.50	(53)	2.10	(58)	2.60	(56)	3.25
Wholesale & Retail	(87)	3.3	(64)	3.10	(73)	2.40	(87)	5.48	(81)	1.97
Shipping	(21)	1.4	(15)	0.90	(20)	1.65	(21)	2.07	(21)	1.58
Communication	(14)	9.8	(11)	10.60	(12)	4.20	(14)	5.93	(14)	16.45
Financial	(79)	15.9	(61)	17.50	(72)	20.82	(78)	10.40	(78)	15.29
Services	(200)	5.3	(137)	2.60	(159)	2.06	(200)	11.16	(193)	5.75
All	(1464)	100	(1090)	100	(1200)	100	(1458)	100	(1380)	100
			74.45		81.97		99.59		94.26	

**[Table 3] Chaebol-affiliated firms and firms with foreign resident outside directors**

Year	Sample	Chaebol-affiliated firms	Foreign resident outside director	
			Number of foreign resident outside directors	Number of firms with foreign resident outside directors
1992	582	90	N/A	N/A
1993	581	99	N/A	N/A
1994	605	107	N/A	N/A
1995	637	128	N/A	N/A
1996	677	135	N/A	N/A
1997	884	143	N/A	N/A
1998	846	136	6	6
1999	928	126	26	20
2000	1087	126	55	29
2001	1282	129	59	30
2002	1411	158	53	26
2003	1464	165	63	35
Average value		128.5	43.6	24.3

**[Table 4] Regressions of foreign ownership on characteristics, 1999-2003**

T-statistics are in parentheses. \*\*\*, \*\* and \* represent that the coefficients are significantly valid within the 0.01 level, 0.05 level and 0.10 level, respectively.

1999 - 2003	model 1	model 2	model 3	model 4	model 5	model 6	model 7	model 8
Chaebol	0.2378 *** (14.14)	0.0229 -1.33	0.2373 *** (-14.10)	0.2362 *** (11.48)	-0.018003 (-0.89)	-0.0183 (-0.90)	0.0173 (0.84)	0.0162 (0.79)
Ownership concentration	-0.0863 *** (-3.26)	-0.0317 (-1.28)	-0.0861 *** (-3.25)	-0.1517 *** (-3.53)	-0.1006 *** (-2.63)	-0.1037 *** (-2.70)	-0.0682 * (-1.69)	-0.0682 * (-1.69)
Foreign resident outside director	0.9123 *** (25.40)	0.6810 *** (19.66)	0.9118 ** (25.39)	0.8829 *** (22.72)	0.6525 *** (18.29)	0.6526 *** (18.29)	0.6706 *** (18.97)	0.6706 *** (18.96)
Firm size		0.2473 *** (27.28)			0.3157 *** (25.37)	0.3157 *** (25.37)	0.2820 *** (19.24)	0.2820 *** (19.23)
Foreign listings		0.2202 *** (5.40)			0.1290 *** (2.93)	0.1298 *** (2.95)	0.1223 *** (2.77)	0.1222 *** (2.77)
Export ratio			0.0214 (-1.23)		0.0045 (0.18)	0.0067 (0.27)		0.0249 (1.02)
Share turnover				-0.0000 (-0.81)	0.0000 *** (4.42)	0.0000 *** (4.44)	-0.0012 ** (-2.18)	0.0000 ** (-2.14)
Dividend yield						0.1278 (0.91)		0.1511 (0.95)
Systematic risk							-0.0450 ** (-1.96)	-0.0465 ** (-2.02)
Tobin's q							0.0927 *** (4.43)	0.0970 *** (4.56)
ROA							0.2367 *** (3.29)	0.2271 *** (3.09)
N	6169	6169	6169	2980	2980	2980	2807	2782
Adjusted R-square	12.97	24.57	12.97	18.61	36.23	36.23	37.73	37.36



**[Table 5] Regressions of foreign ownership on characteristics, 1992-1996**

T-statistics are in parentheses. \*\*\*, \*\* and \* represent that the coefficients are significantly valid within the 0.01 level, 0.05 level and 0.10 level, respectively.

1992-1996	model 1	model 2	model 3	model 4	model 5	model 6	model 7	model 8
Chaebol	0.1973 *** (4.05)	-0.0654 (-1.37)	-0.0653 (-1.37)					-0.0491 (-1.03)
Ownership concentration	-0.2226 * (-1.69)	0.006191 (0.05)	0.0038 (0.03)					-0.0326 (-0.27)
Foreign resident outside director								
Firm size		0.5649 *** (15.69)	0.5479 *** (14.52)	0.5446 *** (16.44)	0.5251 *** (15.97)	0.5273 *** (15.88)	0.5171 *** (15.71)	0.5167 *** (13.46)
Foreign listings			0.2211 (1.50)					0.2118 (1.46)
Export ratio				-0.0651 (-1.07)				-0.0642 (-1.07)
Share turnover								
Dividend yield					6.4640 *** (5.87)	6.3376 *** (5.60)	5.3695 *** (4.63)	4.9671 *** (4.10)
Systematic risk								
Tobin's q						-0.0353 (-0.49)		-0.0829 (-1.13)
ROA							1.2017 *** (2.92)	1.2671 *** (2.95)
N	1314	1314	1314	1314	1314	1314	1314	1314
Adjusted R-square	1.59	17.1	17.18	17.11	19.16	19.12	19.63	19.67

**[Table 6] Regressions of foreign ownership on characteristics, 1997-1998**

T-statistics are in parentheses. \*\*\*, \*\* and \* represent that the coefficients are significantly valid within the 0.01 level, 0.05 level and 0.10 level, respectively.

1997-1998	model 1	model 2	model 3	model 4	model 5	model 6	model 7	model 8
Chaebol	0.1625 *** (3.11)	-0.0671 (-1.25)	-0.0730 (-1.36)					-0.0136 (-0.27)
Ownership concentration	-0.3798 *** (-4.08)	-0.2892 *** (-3.22)	-0.2837 *** (-3.16)	-0.2702 *** (-3.03)	-0.2819 ** (-2.39)	-0.2778 ** (-2.36)	-0.2855 ** (-2.41)	-0.2805 ** (-2.35)
Foreign resident outside director								
Firm size		0.3612 *** (12.14)	0.3425 *** (11.12)	0.3263 *** (11.20)	0.4391 *** (12.52)	0.4287 *** (11.69)	0.4365 *** (12.20)	0.4270 *** (10.90)
Foreign listings			0.3875 ** (2.32)	0.3755 ** (2.25)	0.2597 * (1.83)	0.2719 * (1.91)	0.2616 * (1.84)	0.2753 * (1.93)
Export ratio				0.0974 (1.62)				0.0403 (0.65)
Share turnover					-0.0428 *** (-5.26)	-0.0430 *** (-5.28)	-0.0427 *** (-5.23)	-0.0432 *** (-5.28)
Dividend yield					1.4196 ** (2.53)	1.4676 *** (2.60)	1.3609 ** (2.33)	1.4253 ** (2.43)
Systematic risk					-0.3802 *** (-4.59)	-0.3654 *** (-4.33)	-0.3769 *** (-4.52)	-0.3540 *** (-4.11)
Tobin's q						0.0622 (0.97)		0.0646 (1.00)
ROA							0.0868 (0.3740)	0.0762 (0.32)
N	1728	1728	1728	1728	1070	1070	1070	1070
Adjusted R-square	1.65	9.34	9.57	9.61	20.47	20.46	20.4	20.29

**[Table 7] Regressions of ownership on characteristics, by investor category, 1999-2003**  
The t-statistics are in parentheses. \*\*\*, \*\* and \* represent that the coefficients are significantly valid within the 0.01 level, 0.05 level and 0.10 level, respectively.

	Foreign portfolio	Institutional portfolio	Individual portfolio	Gov & Gov- related institutions
Chaebol	0.016206 (0.79)	-0.046900 (-0.90)	-0.2954 *** (-7.13)	0.2821 *** (8.81)
Ownership concentration	-0.0682 * (-1.69)	-0.1953 * (-1.91)	-0.8110 *** (-9.95)	0.8802 *** (13.96)
Foreign resident outside director	0.6706 *** (18.96)	-0.2412 *** (-2.70)	-0.4038 *** (-5.66)	-0.1578 *** (-2.86)
Firm size	0.2820 *** (19.23)	0.4626 *** (12.49)	-0.7396 *** (-25.01)	0.1532 *** (6.70)
Foreign listings	0.1222 *** (2.77)	-0.4324 *** (-3.88)	0.0900 (1.01)	-0.0189 (-0.27)
Export ratio	0.0249 (1.02)	-0.0623 (-1.01)	0.0999 ** (2.03)	-0.0853 ** (-2.24)
Share turnover	-0.0011 ** (-2.14)	-0.0017 (-1.26)	0.0043 *** (4.04)	-0.001235 (-1.49)
Dividend yield	0.151062 (0.95)	0.2600 (0.65)	0.9095 *** (2.84)	-0.7185 *** (-2.90)
Systematic risk	-0.0465 ** (-2.02)	0.1468 ** (2.53)	0.1179 ** (2.55)	-0.1237 *** (-3.45)
Tobin's q	0.0970 *** (4.56)	-0.1048 * (-1.95)	0.022473 (0.52)	-0.0885 *** (-2.67)
ROA	0.2271 *** (3.09)	0.3326 * (1.79)	-0.2966 ** (-2.00)	-0.1673 (-1.46)
N	2807	2807	2807	2807
Adjusted R-square	37.73	9.05	39.24	14.08