

## **Foreign Capital and Local Firms: The Effect of Foreign Ownership and Management on Corporate Performance**

### **Abstract:**

Despite the political sensitivity of foreign capital, existing work on the effect of foreign capital at the firm level is slim. This paper examines the effect of foreign equity ownership and management on firm performance using a panel of Korean firms for the period of 1993-2007 when foreign capital inflows increased dramatically. Empirical results show that foreign equity ownership positively affects firm performance, countering or complementing the negative or insignificant influence of local institutions such as family, institutional investors or business groups. Direct foreign management participation, especially foreign executives or management teams, has additional positive impact on local firms. Temporally market liberalization accelerated the positive impact of foreign equity investors. These results suggest that foreign ownership and management can complement weak indigenous institutional infrastructure, similar to the role afforded to business groups by Khanna and Palepu (2000).

Keywords: foreign capital, foreign equity ownership, foreign investments, Asian corporate ownership, market liberalization

JEL codes: G3, F2, L2

# Foreign Capital and Local Firms: The Effect of Foreign Ownership and Management on Corporate Performance\*

## 1. Introduction

Foreign capital is a subject of popular debate touching on many sensitive nerves. On a macro level, foreign capital inflow is generally viewed positively because it can help improve productivity and competition as well as bring in additional capital and new employment opportunities. However, foreign capital also creates considerable anxiety because it allegedly expropriates local shareholder wealth, endangers economic sovereignty, and/or introduces instability in the local markets.<sup>1</sup> An implicit assumption in this debate is that foreign ownership of local firms is different from local ownership because foreigners are “outsiders.” In fact, independence from outside influences is a virtue in most societies because it promotes a sense of belonging and self-determination among insiders. However, outsiders can also bring in a measure of independence and objectivity unencumbered by parochial concerns.

The potential conflict between insiders and outsiders is well recognized in corporate finance literature. Shleifer and Vishny (1997) argue that controlling insider owners and management have incentives to pursue their own benefits at the expense of atomistic outside shareholders, resulting in sub-optimal firm valuation. In this setting, outside institutional investors can be effective in monitoring inside shareholders and managers. Several studies of

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<sup>1</sup> There are numerous articles in public media summarizing local sentiments against foreign investments: “Stakeholder speaks out to Koreans: New foreign investor chastens SK Corp.,” *New York Times*, April 29, 2003; “Foreign investors induce anxiety in South Korea,” *Wall Street Journal*, May 11, 2005; “The bad guy? Private equity: As the economy reels, German politicians blame foreign investors,” *Business Week*, May 16, 2005; “China: A revolt against foreign investors,” *Business Week*, July 10, 2006; “Private equity faces tough road in Asia,” *Wall Street Journal*, January 25, 2010.

emerging markets such as Claessen, Djankov and Lang (2000) and Lemmon and Lins (2003) document the exploitation of minority shareholders by controlling insiders. Lins (2003) shows that non-management external blockholdings are positively related to firm value in countries with low shareholder protection. Dahlquist and Robertsson (2001) focus on the role of foreign investors in Sweden and argue that the behavior of foreign investors essentially resembles that of institutional investors. Thus it is plausible that the active monitoring of corporate insiders by foreign investors can complement oversight by indigenous institutions that may be underdeveloped or otherwise limited in conducting a full oversight function because of institutional or regulatory constraints.

In addition to shareholder monitoring, foreign capital can also help generate positive corporate performance in other ways. First, foreign ownership can improve corporate performance by securing representation in the board. Oxelheim and Randøy (2003) document positive impacts of foreign directors for Swedish firms. Second, foreign equity ownership can also have a positive informational effect on the firm. Similar to dual-listed local firms which converge to international valuation after listing (Doidge, Karolyi and Stulz, 2004), local firms owned partially by foreigners may improve performance due to the convergence of governance and business practices to those of advanced countries. Third, direct management participation by foreigners may have independent positive impact on local firms because it may lead to improved productivity or effective positioning of local firms in competitive global markets.<sup>2</sup>

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<sup>2</sup> An increase in foreign managers hired by local firms has been frequently reflected in public media: “Toyota to halve its board, add foreign managers,” *Wall Street Journal Eastern Edition*, March 31, 2003; “Go east, my son,” *Economist*, August 12, 2006.

In contrast to the voluminous work regarding trading activities of foreign investors, specific work on the corporate impact of foreign ownership is relatively slim. In their study of business groups in Indian firms using the 1993 data, Khana and Palepu (1999) report a positive effect of foreign ownership in India. The study of share prices during the 1997 Korean financial crisis by Baek, Kang and Park (2004) includes a finding that firms with high ownership concentration by foreign investors experienced a smaller reduction in share values during the crisis. The general literature on corporate ownership finds no statistically significant relation between ownership structure and firm performance in the U.S. where sophisticated external governance mechanisms exist (e.g., McConnell and Servaes, 1990; Demsetz and Villalonga, 2001).

In this paper, we investigate the relationship between foreign equity ownership and corporate performance in Korea using the panel data for the period of 1993-2007. We are not aware of any study of its kind that focuses on the effect of foreign ownership on performance at the firm level. Korea is uniquely suitable for a study on foreign ownership because foreign investments increased dramatically in step with the relaxation of government restrictions on foreign equity ownership. The share of foreign equity ownership in terms of market capitalization of listed firms increased from under 10% in 1994 to about 40% to 2004 – a phenomenal increase in foreign ownership in relatively short period of time – and declined back to about 30% in 2009. It is also a matter of considerable interest how the role of foreign investors changed as the country underwent and recovered from the Asian financial crisis. The Asian

financial crisis devastated the Korean economy in 1997, which resulted in a series of regulatory changes including the liberalization of foreign investment restrictions.<sup>3</sup>

The main empirical hypothesis is that foreign equity ownership positively influences corporate performance. To determine the additional channels of foreign influence on local firms, we also examine the effects of foreign CEOs, foreign managers, foreign management team, and foreign directors. We attempt to sort out the effect of market liberalization from foreign ownership, and examine non-linear relation between foreign equity ownership and firm performance. Given the likelihood that foreign ownership is endogenous, a system of foreign ownership and firm performance is simultaneously estimated in addition to single-equation estimations.

Empirical results show that foreign equity ownership positively affects firm performance measured by industry-adjusted Tobin's q, complementing the monitoring function of domestic institutional ownership and countering the negative impact of family ownership. Management participation by foreigners has an independent significant and positive effect, particularly when both foreign CEO and foreign managers are present. These results are robust, showing the strong effect of foreign equity ownership on firm performance throughout and across all model specifications regardless of whether foreign ownership is exogenous or endogenous. Temporally

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<sup>3</sup> Other Asian countries also took significant market liberalization measures that induced capital inflows. For instance, Indonesia had significant market liberalization in 1989 (when the maximum foreign equity ownership of limit increased to 49% except for financial firms) and again in 1998. Thailand had foreign equity restriction of 49% in 1996 prior to the Asian financial crisis (compared with 20% in Korea in the same year) but did not liberalize further after the crisis. Even in 2010, the 49% holding limit is still kept for most industries in Thailand with few exceptions such as light manufacturing, pharmaceutical and food products. For a study of the effect of pre-crisis market liberalization in Thailand, see Bailey and Jagtiani (1994).

the impacts of foreign ownership are larger after full market liberalization in the aftermath of the Asian financial crisis. These results, along with insignificant effect of business group affiliation, suggest that foreign ownership and management in local firms can complement weak indigenous institutional infrastructure, similar to the role afforded to business groups by Khanna and Palepu (2000).

The rest of this study is organized as follows. Section 2 describes the profile and market characteristics of foreign equity investments in Korea, and provides descriptive statistics for data used. Section 3 presents empirical results. Section 4 closes with a summary and conclusion.

## **2. Description of Market and Data**

### **2.1 Profile and Market Characteristics**

The Korean stock market was opened for foreign investors in January 1992 with an aggregate foreign equity holding limit set at 10% for each firm listed on the Korea Stock Exchange (the equity limit was later raised to 20% in October 1996). Prior to 1992, only indirect investment by foreigners through mutual funds and country funds as well as convertible bonds was permitted. The Korea Fund – a closed-end country fund – was listed in the U.S. in August 1984, and several convertible eurobonds of Korean firms were floated after 1985. Conversion of convertible bonds and resulting equity transactions in offshore markets were permitted in January 1990. To attract more foreign capital as a partial solution for the liquidity crunch caused by the Asian financial crisis, the government raised the foreign ownership limit to 55% in December 1997, and then completely eliminated it in May 1998 except for certain regulated

sectors such as telecommunication, air transportation, and broadcasting and online mass media.<sup>4</sup> This resulted in a dramatic hike in capital inflow. Foreign portfolio investment inflows to Korea increased dramatically from about US\$3 billion in 1992 to US\$344 billion in 2007 and US\$230 billion in 2009 (Table 1). The market value of the outstanding shares of listed firms held by foreign investors relative to the total market quadrupled from 10.2% in 1994 to 40.1% in 2004, after which it leveled off at 30.4% in 2009 due to the global financial crisis. The percentage of the number of shares owned by foreigners on the Korea Exchange (KRX) also increased from 4.1% in 1992 to 16.9% in 2005 and dropped to 10.5% in 2009.<sup>5</sup> As of the end of 2009, the market value of foreign equity ownership amounts to 27.8% of the gross domestic product (GDP) of South Korea.

[Insert Table 1 around here.]

As foreign investments increased, active monitoring of corporate insider owners and management by domestic and foreign institutional investors became more common. A series of regulatory changes were also instituted to support corporate governance and transparency such as the requirement in 1999 that listed firms must maintain at least a quarter of the board as outside directors, and the 5% disclosure rule in 2005 that an investor acquiring 5% equity ownership or more of a KRX-listed firm must file a report with the Korean Financial Supervisory Service. Foreign exchange rates that were under the management of the central bank became more

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<sup>4</sup> For example, Korea Electric Power and Pohang Steel (POSCO) were capped at 40% for total foreign equity ownership as of May 1998. The cap on POSCO was subsequently lifted in 2002 while that on Korea Electric Power remains.

<sup>5</sup> The Korea Exchange was created through the integration of Korea Stock Exchange, Korea Futures Exchange, and KOSDAQ in 2005, and its current name was coined in 2009.

market-determined, and foreign exchange control was also all but eliminated for foreign investors. Given these regulatory reforms as well as a dramatic increase in foreign capital inflows, it is plausible that the impact of foreign ownership on the firm should be more pronounced in the post-Asian financial crisis period than before.

Banks are one of the most significant indigenous institutional investor groups in Korea. Insurance and securities companies often are not independent outsiders because most of these companies are under the control of chaebols so that their monitoring roles may be substantially compromised.<sup>6</sup> Banks are independent of chaebol influences – chaebols are not permitted to own commercial banks. Given independent institutional monitoring, we expect firm performance to increase with domestic institutional ownership that includes all non-bank institutional ownership other than insurance and securities companies. A large number of firms in Korea are controlled by chaebols, which involve family control as well as a keiretsu-like group behavior. There is no consensus in existing work regarding the performance of business group and family firms.<sup>7</sup>

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<sup>6</sup> Given the chaebol connection, securities companies are generally prohibited from owning shares of the parent holding company, and insurance companies are constrained from exercising voting rights on affiliated companies in the same chaebol group. In addition, Cho and Park (2002) report that these institutional investors voted for management in 305 out of 323 cases (94.4%) between March 2001 and February 2002. This indicates a passive role of these non-bank financial institutions.

<sup>7</sup> Firms affiliated with business groups can capitalize on internal markets for resources and risk diversification among member firms (Shin and Park, 1999; Khanna and Palepu, 2000). However, such value-enhancing role of chaebol affiliation may be offset by value-destroying tunneling activities such as shifting funds to inefficient firms within the group (Bae, Kang and Kim, 2002; Joh, 2003; Lins, 2003; Baek, Kang and Park, 2004). In the wake of the Asian financial crisis, public debt markets gradually appear to substitute for internal capital markets (Lee, Park and Shin, 2009). The net effects of chaebol membership are therefore unclear. Similarly, family firms may have a comparative advantage because of a decrease in managerial agency costs (Demsetz and Lehn, 1985), which is empirically supported by Anderson and Reeb (2003) for U.S. firms. On the other hand, family ownership could cause suboptimal investment decisions, excessive

## 2.2. Data Description

All ownership and firm-specific accounting data were obtained from the Listed Company Database of the Korean Listed Companies Association. The daily stock price and market index data were obtained from the Korea Exchange, and the list of chaebols from the Korea Fair Trade Commission. The sample is composed of 6,973 firm-year observations for the period from 1993 to 2007. The sample includes all KRX-listed non-financial firms for which necessary ownership and firm-specific variables are available. Financial firms are excluded because they are subject to different regulatory requirements and have undergone severe restructuring since the Asian financial crisis. The Korean stock market was opened to foreign investors for direct equity investment of individual firms in 1992, but the data for that year was incomplete and therefore omitted. Actual estimation is based on slightly unbalanced sample for each year due to uneven availability of certain variables.

A primary measure of firm performance is industry-adjusted Tobin's  $q$  by subtracting the industry median (at the two-digit level) from an individual firm value. Following Khanna and Palepu (2000), Demsetz and Villalonga (2001) and others, Tobin's  $q$  is defined as the sum of the market value of common stock and book value of preferred stock and total debt divided by the

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compensation or continued employment of incompetent owner-managers (e.g., Fama and Jensen, 1985; Shleifer and Vishny, 1997). Studies of the Asian financial crisis (e.g., Claessens, Djankov, and Lang, 2000) suggest the likelihood of expropriation of atomistic shareholders by controlling shareholders who belong to founding families.

book value of total assets.<sup>8</sup> Table 2 provides the list and definitions of all variables used in performance estimations in panel A.

[Insert Table 2 around here.]

Ownership data are disaggregated by shareholder types: foreign investors, domestic institutions, and family owners. Foreign equity ownership is the proportion of stocks held by registered foreign investors. Almost half of the observations in the sample (44.6% for the full sample period and 47.8% after the full market opening) have no foreign equity ownership (zero or less than one percent). Institutional ownership is the proportion of equities held by commercial banks and financial institutions other than insurance and securities firms subject to influence by business groups. Family ownership is measured by the proportion of equity held by the largest shareholder family and affiliated shareholders who are under the control of the largest shareholder family.

As an indigenous industrial organization variable, the chaebol affiliation dummy is included, which indicates whether a firm belongs to one of the top 30 chaebols based on classification by the Korea Fair Trade Commission (KFTC). The top 30 chaebols comprise a list used for regulatory purposes by the KFTC and is commonly used in academic studies on Korean corporate governance. The total assets of all member firms that belong to the top 30 chaebol groups accounted for approximately 23.2% of the GDP of South Korea in 2000. The ranking of chaebols, however, is subject to change each year so that the chaebol affiliation dummy of a

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<sup>8</sup> A more theoretically correct formula for Tobin's  $q$  is market value of a firm divided by the replacement costs of its assets (Lindenberg and Ross, 1981). The replacement cost of corporate assets, however, is difficult to obtain. Chung and Pruitt (1994) report that a simple formula for Tobin's  $q$  such as the one used here explains 96.6% of the variability of more theoretically correct Lindenberg and Ross' formula for U.S. firms.

particular firm may change each year.

Other control variables in the firm performance equation are standard. The R&D intensity (the ratio of the research and development expenditures to total sales) is used as a proxy for intangible assets, which measures the firm's internalized oligopolistic advantages (e.g., Dunning, 1988). Firm size is measured by the natural log of total assets.<sup>9</sup> A leverage ratio (the ratio of total debt to total assets) is used to measure a firm's financial risk, but it may also indicate the degree of monitoring performed by debt-holders. In addition, beta (estimated from the market model by using daily stock returns over one year) is included to measure the firm's systematic risk. We also include year dummy variables to control for time effect.

We computed the Pearson correlation coefficients among explanatory variables, reported in panel B. The result shows that foreign equity ownership is positively correlated with firm size, chaebol affiliation and beta, and negatively with family ownership and debt ratio. Among the ownership variables, foreign ownership has a statistically insignificant correlation with institutional ownership while its correlation with family ownership is low negative (-0.08), albeit statistically significant. The correlation between family ownership and institutional ownership is also low negative. On the whole, the condition index numbers calculated as per Belsley, Kuh, and Welsch (1980) indicate no multicollinearity problems.

### **3. Empirical Results**

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<sup>9</sup> We also used total sales as an alternative firm size variable. The results are qualitatively identical.

The main empirical hypothesis in the paper is that foreign equity ownership positively influences corporate performance. We also examine whether the presence of foreign CEOs, foreign managers or foreign directors in local firms has independent influence on firm performance. In addition, we attempt to sort out the effect of market liberalization from that of foreign ownership, and we probe the nonlinear relationship between foreign ownership and corporate performance. In principle, ownership is endogenous because the determination of a firm's ownership structure depends on decisions of the firm and investors. Foreign ownership may be even more so because capital flows and international investment decisions depend on various target and country selection variables. Therefore, we estimate a simultaneous system of foreign ownership and firm performance after a single-equation estimation of the firm performance equation.

The single-equation estimation is done by the ordinary least squares (OLS) and also by the Fama-MacBeth method, with robust standard error further clustered by firm.<sup>10</sup> The Fama-MacBeth estimates are separately computed by averaging the coefficient estimates of individual yearly regressions. For simultaneous estimations, we use the three stage least squares method (3SLS) to estimate a 2x2 system of equations where both foreign ownership and firm performance are explicitly stated to be endogenous to the system. The 3SLS method is

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<sup>10</sup> Zhou (2001) criticizes the use of fixed firm effect variables because it effectively eliminates cross-sectional variations, leading to insignificant estimation results. Thus we use fixed time effects only with industry-adjusted firm performance. Clustering by firm standard errors allows for intra-group correlation so that observations are independent across groups (clusters) but not necessarily within groups. However, we also estimated the model with random firm effect, and the results are the same as those from the fixed firm effect model reported in the text.

asymptotically consistent and more efficient than a two stage least squares, and is as efficient as the maximum likelihood estimator which uses the same information (Greene, 2000).

### **3.1 Single-Equation Estimation**

Table 3 provides full-sample results for the single equation analysis. In both OLS and Fama-MacBeth estimations, Tobin's q regressions show positive and statistically significant coefficients for foreign ownership. The coefficient of foreign ownership is also bigger in magnitude than that of domestic institutional ownership or family ownership. This confirms our main hypothesis that firm performance is positively associated with foreign equity ownership.

[Insert Table 3 around here.]

In contrast to highly positive and significant effect of foreign ownership, the evidence on domestic ownerships is weak. The coefficients of institutional ownership are positive in both regressions (but significant in OLS but not in Fama-MacBeth), which weakly supports extant literature regarding the positive role of institutional investors (e.g., Gillan and Starks, 2000). Similarly, family ownership is negative in both regressions (statistically significant in OLS only), weakly supporting a view (Shleifer and Vishny, 1997) that the cost of exploitation by controlling insiders may outweigh the benefit of a family firm in terms of agency cost reduction and the like in Korea. This contrasts with the positive impact of family firms in the U.S. reported by Anderson and Reeb (2003).

The findings that family ownership is negative while institutional ownership is only weakly positive are interesting – because they suggest weak domestic institutional infrastructure. Khanna and Palepu (2000) argue that business groups can play a positive role in emerging markets because business groups substitute for weak indigenous institutional infrastructure.

However, such is not confirmed because the coefficient of chabeol affiliation in Table 3 is small and statistically insignificant. Instead we interpret the present results supporting a view that when the local institutional infrastructure is weak, foreign ownership can play an infrastructure-completing role, similar to the role afforded to business groups by Khanna and Palepu. That is, while institutional investors can counter the negative impact of family ownership to some extent, it is incomplete, and business groups on balance are not helpful. In such situations, foreigners can play a positive role of complementing weak local institutional infrastructure.

Still these results are based on single-equation estimations and are subject to endogeneity bias. We now turn to a simultaneous system analysis that endogenizes foreign ownership along with firm performance.

### **3.2 Simultaneous Estimation with Endogenous Foreign Ownership**

We estimate a system of simultaneous equations by the 3SLS with firm performance and foreign ownership as endogenous variables. Explanatory variables in the foreign ownership equation are selected based on existing work such as Kang and Stulz (1997), Dahlquist and Robertsson (2001) and others regarding foreign investments in other economies. We use the full sample of 15 years from 1993 to 2007.

We first note in Table 4 that the relationship is indeed simultaneous – both firm performance and foreign ownership significantly affect each other contemporaneously. Individually, in the first column, foreign equity ownership is shown to be associated positively not only with industry-adjusted Tobin's  $q$ , but also with firm size and current ratio, and negatively with the debt ratio and beta. These results are consistent with Dahlquist and Robertsson (2001) that foreign investors prefer a larger firm with sound capital structure. Foreign

investments also appear to be attracted to familiar names due to export or firms that are more transparent due to overseas listing, as indicated by the positive and significant coefficient of the depository receipts dummy, which confirms the work by Aggarwal, Klapper and Wysocki (2005). Also consistent with a typical selection criterion of target firms by institutional investors, foreign ownership is negatively related to turnover rate. The negative and significant coefficients of the R&D intensity suggest that foreign investors may not necessarily favor R&D-intensive target firms.

[Insert Table 4 around here.]

Our primary interest is in the firm performance equation. The second column in Table 4 shows that foreign equity ownership has a positive and significant effect on industry-adjusted Tobin's  $q$  at the one percent level. This confirms our main result from the single-equation analysis that foreign ownership provides positive performance enhancement. On the other hand, domestic ownership variables have negative or statistically insignificant coefficients. Institutional ownership has a negative effect on industry-adjusted Tobin's  $q$  at the five percent level. The effect of family ownership is negative and significant at the one percent level as in the single equation analysis, while the effect of chaebol dummy remains insignificant as before. In sum, the previous conclusions from the single equation in Table 3 carry over in Table 4 in which foreign ownership and firm performance are simultaneously estimated.

The coefficients of control variables are also informative. The debt ratio is positive and significant in industry-adjusted Tobin's  $q$  equation, which indicates that debtholders as a group may exert positive monitoring influence on the firm. Considering the firm performance and foreign ownership equations together, the results show that while foreign investors may not necessarily favor R&D intensive firms, the presence of R&D assets itself can be positive on firm

performance. Similarly, while foreign investors may favor larger firms due to reputation and informational value, the effect of firm size as such may not necessarily be positive on firm performance due to the costs of agency and complexity that rises with firm size.

### **3.3 The Effect of Market Liberalization**

Bekaert and Harvey (2000), Henry (2000) and others show that stock market liberalization, which induces foreign investment inflows, can lead to a reduction in a firm's cost of capital and an increase in valuation. Table 5 attempts to sort out the effect of market liberalization from that of foreign ownership by estimating industry-adjusted Tobin's q equation in two alternative ways. First, we include a dummy variable indicating full market opening. The entire sample period is divided into two sub-periods depending on the level of capital market liberalization: the period of partial liberalization (1993-1997) and full liberalization (1998-2007). Since January 1992, Korea had a cap of 10% for foreign equity ownership until October 1996 when the cap was increased to 20%. In the midst of the Asian financial crisis, the limit on foreign equity ownership was raised to 55% in December 1997, and was completely lifted in May 1998, except for a small number of certain regulated firms. The full liberalization dummy variable is one with the period of full liberalization and zero with the rest. The estimation is done by both single-equation and simultaneous estimations. Second, we run the same estimations for the full liberalization period (1998-2007) only.

The results in Table 5 for firm performance show an increased importance of foreign ownership in the full market liberalization period. In the entire sample estimation, the full liberalization dummy is positive and statistically significant in both OLS and 3SLS estimations, although its statistical and economic significance is larger in the latter simultaneous estimation

cases. Thus the results in the previous sections on firm performance remain intact. If anything, the coefficient of foreign ownership is larger in magnitude in sub-sample estimations compared to the entire sample period – in both single equation and simultaneous estimation cases. A separate estimation for partial liberalization period (not reported here) versus full liberalization period also confirms this increased economic significance with liberalization.

[Insert Table 5 around here.]

Our results on the impacts of market liberalization are at odds with Baek, Kang and Park (2004), who report that foreign ownership concentration is associated with share price reduction. However, their work focuses on market reactions during the time of the Asian financial crisis using daily stock return data from November 1997 to December 1998, while we perform a panel estimation regarding the longer-term impact of foreign ownership on Tobin's q using yearly data from 1993 to 2007. Their sample period corresponds to the time period from the last year of the partial-opening period to the first year of the full-opening period in terms of our sub-period estimations. However, the present results are consistent with Bae, Bailey and Mao (2006), who show, using international data, improved informational environments associated with the degree of market opening.

It is noteworthy that while the effect of foreign ownership remains significant and positive throughout, the importance of indigenous institutional variables has decreased with full market liberalization. The coefficient of institutional ownership is statistically significant in OLS but not in 3SLS in the full liberalization period. Similarly, while the coefficient of family ownership remains negative and statistically significant, the negative impact of family ownership became more pronounced with market liberalization. It is possible that the weakening of the monitoring effectiveness by local institutions might have been temporized by restructuring in the

Korean financial industry after the Asian financial crisis (Banker, Chang and Lee, 2010; Sohn, 2010).<sup>11</sup> This again supports a notion that the role of foreign capital may be even greater in the full market liberalization period than before, thus complementing insufficient local institutional infrastructure weakened by the Asian financial crisis.

### **3.4 Foreign CEOs, managers and directors**

Beyond foreign equity ownership, we now examine whether there exist additional channels of foreign influence on firm performance through foreign presence in management or the board. We include dummy variables for foreign CEO, foreign manager, foreign management team, or foreign director. Foreign CEO dummy is one if the firm's CEO is a foreign citizen. Foreign manager dummy is one if the firm has at least one foreign executive at the level of registered non-board managing director or higher other than the CEO. Foreign management team dummy is one when the firm has both foreign CEO and at least one foreign "manager." Similarly, foreign director dummy is one if the firm has at least one foreign director on the board.

We collected foreign director data for 681 firms from 1999 to 2007 (board data are only available after 1999 when the government issued a regulation on outside directors) while foreign CEO and manager data are available for the period of 1998 – 2007. There are 4,736 and 5,135 firm-year observations, respectively, and details are summarized in Table 6. As a proportion of

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<sup>11</sup> We also examined the effect of a disclosure requirement implemented in 2005 (an investor with 5% equity ownership or more for a listed firm must file with the KFSS) by including an indicator variable whose value is one from 2005 to 2007 and zero otherwise. The result of the disclosure dummy is positive but other results remain the same regardless of whether the disclosure dummy is included.

each foreign presence dummy relative to observations with foreign ownership of 1% or higher, the observations with foreign director is 13.2%; the observations with foreign CEOs is 3.91%; the observations with foreign managers is 3.84%; and the observations with foreign management team is 1.58%.

[Insert Table 6 around here.]

Table 7 presents the results of 3SLS. This estimates the same system of simultaneous equations as Table 4, with the indicator variables of foreign CEO, foreign manager, foreign management team, and foreign director additionally included. The results show that the coefficient of foreign CEO is positive but statistically insignificant. The coefficient of foreign managers is positive and statistically significant at the ten percent level; it is also larger in magnitude than that of foreign CEO. In the corporate literature for U.S. firms, there is a tendency to emphasize the CEO rather than management team (e.g., Lehn and Zhao (2006) regarding the role of CEO on mergers and acquisitions). The present result indicates that there is a limit to what one foreign person (even a CEO) can do in a local firm. That may be because of a difficulty of operating in an unfamiliar environment because of culture and connection. The fact that foreign executives below the CEO can actually be more effective than the CEO is understandable because managers can interact more easily with local counterparts and develop informal local connections; the CEO in contrast has no local counterpart as such and may thus be more formal. This conjecture is further supported by the result that shows an even greater performance impact, economically and statistically, when there is a foreign management team in which the foreign CEO is supported by foreign managers.

The result on foreign director is somewhat puzzling. In contrast to the positive signaling effect of foreign board members reported for Swedish firms by Oxelheim and Randøy (2003),

the coefficient of foreign director dummy is negative and statistically significant. Perhaps this may also be a case of a difficulty of an individual (foreign director) operating in different cultural environment; cultural difference for Western directors is greater for Korean firms than Swedish firms. The study of outside directors in Korea by Choi, Park and Yoo (2007) includes small numbers of foreign directors, however, the effects are mixed and sensitive to model specifications. We leave this for future study because we need to examine the backgrounds of directors and the nature of business relationships with local firms that give to rise to foreign board appointment. Still it is heartening to see that the effect of foreign ownership remains positive and statistically and economically significant across all model specifications.

In sum, we conclude that foreign presence in the form of foreign management participation can have independent positive influence on local firms, aside from that of foreign ownership. However, the effects are stronger in the case of foreign executives who can interact with local counterparts, and when there is a foreign management team in place consisting of both foreign CEO and at least one foreign executive. The effects are insignificant to negative in the case of a sole CEO or board director. Aitken and Harrison (1999) show that foreign equity participation is associated with an increase in productivity of local firms. Our result that foreign management participation has a positive impact on firm performance is consistent with such possibility.

[Insert Table 7 around here.]

### **3.5 Additional Issues**

Another issue related to foreign ownership is whether there is an optimal level of foreign equity investment. To examine this, we include second-order square terms of foreign ownership

using the 3SLS simultaneous estimation method. The result in Table 8 shows that the square terms of foreign ownership, as well as the first-order foreign ownership variable itself, are negative and statistically significant on firm performance at the one percent level, both in the entire sample or in full liberalization sample. This suggests a presence of optimality in foreign ownership – the effect is positive up to a point and declines afterward. Determining exactly what that level requires a consideration of the impacts of global shocks that created reversals in global investment flows as well as global economic recessions during the recent financial crisis, and is outside the scope of this paper.

[Insert Table 8 around here.]

Another issue has to do with investor activism. With market liberalization shareholder activism as well as corporate takers has increased, some by foreign investors. A good example is Sovereign Global – a Monaco-based international capital management firm that acquired an equity ownership of about 15% of SK Group. Sovereign led a group of foreign investors to voice shareholder concerns in press interviews and shareholders meetings, and even tried to unseat family-friendly board members and replace them by a slate nominated by foreign investors. Although the attempt to replace the SK's board was unsuccessful, SK agreed to reduce family control and enhance transparency. Similarly, a group of foreign investors led by Carl Icahn, a U.S. corporate raider, successfully pressured the Korea Tobacco and Ginseng Company to make dividend payments and to retire treasury stock. Thus shareholder activism may also be a channel through which foreign investors can influence local firms in addition to the monitoring or managerial control or participation. However, due to the limited number of anecdotal cases, it is not feasible to examine the effect of shareholder activism on firm performance in a structural panel analysis.

Finally, one can suggest accounting variables as alternative measures of firm performance. However, there has been a series of regulatory changes on accounting, auditing and disclosure requirements during the sample period in Korea, which makes accounting data temporally inconsistent and makes a longitudinal study difficult.

#### **4. Summary and Conclusion**

Foreign ownership of local firms is a politically sensitive issue in many countries. Yet, there is scant study of the impact of foreign capital at the firm level. In addition, existing work in corporate finance generally reports little or no significant relationship between the ownership structure and firm performance.

In this paper, we examined the case of Korea that has experienced a dramatic increase in foreign investment inflows in response to liberalization of equity market to foreign investors. Empirical results show that foreign equity ownership has a highly significant and positive impact on firm performance, complementing the monitoring function of domestic institutional investors and countering indigenous institutions such as family ownership and business groups. The results are robust regardless of whether the model is estimated in a single equation or a simultaneous equation framework. The positive effect of foreign ownership has increased with market liberalization while that of indigenous institutions has decreased. Beyond foreign equity ownership, there is evidence that foreign management participation further improves local firm performance – and the impact is greatest in the case when there is a foreign management team consisting of both foreign CEO and executives rather than the CEO only or directors.

In this paper, we tried to consider management and board channels of foreign capital on local firms beyond the monitoring of foreign equity investors. A take-away is that in emerging

markets foreign ownership and management can play a significant and positive role in local firms, complementing weak local institutional infrastructure, similar to the role of business groups suggested by Khana and Palepu (2000). The effect of business groups as such is shown to be positive but statistically insignificant in Korea, balancing out the benefit and cost of group affiliation. A qualification is that the present paper does not address alternative channels of foreign capital through the real side such as productivity, employment, innovation or international strategy. The real impact of foreign capital is a subject of future study.

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**Table 1**  
**Foreign ownership: yearly flows and year-end holdings**

This table shows yearly foreign portfolio flows and year-end foreign equity ownership in Korea from 1992 to 2009. Foreign portfolio flows are measured in U.S. dollars using the average of monthly won/U.S. dollar exchange rates for a given year (sources: the *Korea Exchange*, and the *Korea National Statistical Office*). Foreign ownership is presented in terms of volume (the number of shares held by foreign investors and its proportion to the total market shares outstanding) and market value (the market value of shares held by foreign investors both in Korean won and U.S. dollars, and its proportion to the total market capitalization and to the gross domestic products in won). The foreign ownership limit for each listed stock as of the year-end is obtained from the *Korean Financial Supervisory Service*.

	Foreign portfolio flows			Shareholdings by foreign investors					Foreign ownership limit	
	In	Out	Net	Volume		Market value				
	Billions of US dollar			Billion shares	% market	Trillion won	Billion US dollar	% market	% GDP	% firm
1992	2.99	1.12	1.87	0.22	4.1	NA	NA	NA	NA	10
1993	7.98	2.62	5.36	0.50	8.7	NA	NA	NA	NA	10
1994	7.93	6.76	1.17	0.63	9.1	15.4	21.7	10.2	4.5	12
1995	9.42	7.81	1.61	0.76	10.1	16.7	18.8	12.0	4.2	15
1996	10.5	7.27	3.22	0.99	11.6	15.2	10.0	13.0	3.4	20
1997	8.11	7.74	0.37	0.82	9.1	9.6	17.8	13.7	2.0	55
1998	14.56	9.68	4.88	1.18	10.4	24.4	66.9	18.0	5.1	100
1999	39.99	38.59	1.41	2.32	12.4	79.5	49.4	21.7	14.3	100
2000	49.96	40.95	9.01	3.01	11.4	58.3	46.1	27.0	9.7	100
2001	42.03	36.36	5.67	3.30	11.8	99.3	75.4	32.2	15.2	100
2002	70.66	73.10	-2.44	3.51	9.5	97.3	81.9	32.8	13.5	100
2003	76.84	65.29	11.55	5.01	14.0	147.9	124.0	37.7	19.3	100
2004	126.30	116.29	10.01	5.98	16.8	178.0	171.9	40.1	21.5	100
2005	158.61	162.79	-4.17	6.29	16.9	269.8	266.7	37.2	31.2	100
2006	230.96	243.35	-12.39	6.45	15.5	273.1	293.7	35.2	30.1	100
2007	344.31	373.35	-29.04	6.37	13.3	325.5	347.7	30.9	33.4	100
2008	247.50	274.96	-27.46	5.28	10.4	169.4	134.5	27.3	16.5	100
2009	229.90	203.81	26.08	5.71	10.5	296.0	254.2	30.4	27.8	100

The foreign ownership limit was removed completely in May 25, 1998 except for so-called "public interest" firms such as Korea Electric Power Corporation (KEPCO) and Pohang Steel (POSCO). Foreign ownership on KEPCO and POSCO was capped at 40% in 1998 – the cap on POSCO was subsequently lifted in 2002 while the restriction on KEPCO remains. In addition, separate holding limits are imposed on 33 companies in regulated sectors such as telecommunication, air transportation, and broadcasting and online mass media.



**Table 3**  
**The effect of foreign equity ownership on firm performance: Single equation estimation**

The effect of foreign equity ownership on firm performance is estimated by using the ordinary least squares (OLS). The dependent variable is industry-adjusted Tobin's q. See Table 2 for the definition of variables. Equation (A2) shows the results of Fama-Macbeth regression where each coefficient is the average value of yearly regression coefficients. An unbalanced sample consists of 6,973 observations from 1993 to 2007. Robust standard errors cluster-adjusted by firm are used. The p-values for the t-test for the null of zero coefficient value are shown in parentheses.

Dependent variable: Industry-adjusted Tobin's q	OLS (A1)	FAMA-MACBETH (A2)
Foreign ownership	0.733 (0.00)	0.600 (0.06)
Institutional ownership	0.155 (0.00)	0.195 (0.25)
Family ownership	-0.145 (0.00)	-0.139 (0.21)
Chaebol affiliation	0.008 (0.70)	0.011 (0.86)
Total asset	-0.043 (0.00)	-0.045 (0.00)
Debt ratio	0.594 (0.00)	0.557 (0.02)
R&D intensity	2.752 (0.00)	3.058 (0.29)
Beta	0.071 (0.00)	0.046 (0.75)
Constant	0.609 (0.00)	0.844 (0.02)
Year dummies	YES	NO
Adjusted r-squared	0.268	
Observations	6,796	

**Table 4**  
**Simultaneous estimation of firm performance and foreign equity ownership**

This table presents the estimation results of a simultaneous system of firm performance and foreign equity ownership by the three stage least squares. Firm performance is measured by industry-adjusted Tobin's q. The sample consists of 6,973 observations from 1993 to 2007. *Depository receipts* is a dummy variable to indicate whether a firm has issued American Depository Receipts or Global Depository Receipts. *Export rate* is the ratio of exports to sales. *Current ratio* is the ratio of current assets to current liabilities. *Turnover rate* is the money value of trading volume for the preceding year divided by the market capitalization as of the end of the year. *Dividend yield* is the dividends paid over the preceding year divided by the year-end common stock price. See Table 2 for the definitions of other variables. The p-values for the t-test for the null of zero coefficient value are shown in parentheses.

Dependent variable:	Foreign ownership (A1)	Industry-adjusted Tobin's q (A2)
Industry-adjusted Tobin's q	0.335 (0.00)	
Foreign ownership		1.011 (0.00)
Institutional ownership		-0.060 (0.04)
Family ownership		-0.147 (0.00)
Chaebol affiliation	0.002 (0.80)	-0.009 (0.45)
Total asset	0.032 (0.00)	-0.042 (0.00)
Debt ratio	-0.238 (0.00)	0.552 (0.00)
R&D intensity	-0.915 (0.00)	2.552 (0.00)
Beta	-0.027 (0.00)	0.089 (0.00)
Depository receipts	0.063 (0.00)	
Export rate	0.011 (0.01)	
Current ratio	0.007 (0.00)	
Turnover rate	-0.001 (0.00)	
Dividend yield	-0.176 (0.17)	
Constant	-0.583 (0.00)	0.609 (0.00)
Year dummies	YES	YES
Adjusted r-squared	0.125	0.210
Observations	5527	5527

**Table 5**  
**The effect of market liberalization on firm performance**

The Korean stock market was fully opened to foreign investors in May 1998 at the height of the Asian financial crisis that started in late 1997. To evaluate the effect of market liberalization, we first include, in the entire sample, the full market liberalization dummy variable, which takes a value of one for 1998-2007 and zero otherwise. As a robustness check, we also estimate the models for full liberalization sample that covers ten years from 1998 to 2007. Firm performance is measured by industry-adjusted Tobin's q, and the model is estimated by both OLS and 3SLS. The results of the Tobin's q equation are only reported here. Robust standard errors cluster-adjusted by firm are used. The p-values for the t-test for the null of zero coefficient value are shown in parentheses.

Dependent variable: Industry-adjusted Tobin's q	Entire sample (1993-2007)		Full liberalization (1998-2007)	
	OLS	3SLS	OLS	3SLS
	(A1)	(A2)	(A3)	(A4)
Full market opening dummy	0.026 (0.09)	0.091 (0.00)		
Foreign ownership	0.733 (0.00)	1.011 (0.00)	0.758 (0.00)	1.145 (0.00)
Institutional ownership	0.155 (0.00)	-0.060 (0.04)	0.189 (0.00)	-0.060 (0.15)
Family ownership	-0.145 (0.00)	-0.147 (0.00)	-0.161 (0.00)	-0.168 (0.00)
Chaebol affiliation	0.008 (0.70)	-0.009 (0.45)	0.028 (0.28)	-0.004 (0.81)
Total asset	-0.043 (0.00)	-0.042 (0.00)	-0.042 (0.00)	-0.044 (0.00)
Debt ratio	0.594 (0.00)	0.552 (0.00)	0.628 (0.00)	0.631 (0.00)
R&D intensity	2.752 (0.00)	2.552 (0.00)	3.258 (0.00)	3.097 (0.00)
Beta	0.071 (0.00)	0.089 (0.00)	0.097 (0.00)	0.126 (0.00)
Constant	0.609 (0.00)	0.609 (0.00)	0.564 (0.00)	0.588 (0.00)
Year dummies	YES	YES	YES	YES
Adjusted r-squared	0.268	0.210	0.300	0.236
Observations	6796	5527	4972	3802

**Table 6**  
**The proportions of foreign directors, CEOs, managers, and management teams**

This table shows the percentage proportions of indicator variables of foreign directors, foreign CEOs, foreign managers and foreign management teams, relative to the total observations of the sample. *Foreign directors* is a dummy variable that is one if there is at least one foreign board director in the firm, and zero otherwise. *Foreign CEOs* is a dummy variable that is one if there is a foreign CEO, and zero otherwise. *Foreign managers* is a dummy variable that is one if there is at least one foreign manager other than the CEO, and zero otherwise. *Foreign team* indicates firms with both foreign CEOs and foreign managers. The ratios of observations with indicator dummy=0 to the total observations are shown in parenthesis. Foreign directors is available for the sample period from 1999 to 2007 with 4,736 observations. Foreign CEOs and foreign directors are available from 1998 to 2007 with 5,135 observations.

	Foreign directors	Foreign CEOs	Foreign managers	Foreign team
Percentage to the total observations				
Observations with dummy = 1	7.54 (357/4736)	2.16 (111/5135)	2.03 (104/5135)	0.82 (42/5135)
Percentage to the observations with foreign ownership $\geq 1\%$				
Observations with dummy = 1	13.2 (329/2484)	3.91 (104/2657)	3.84 (102/2657)	1.58 (42/2657)

**Table 7**  
**The effects of foreign CEOs, managers, management teams or directors**

The effects of foreign CEOs, managers and board directors on firm performance are estimated by three stage least squares (3SLS). The models are the same as in Table 4, and the result of foreign ownership is not reported. Firm performance is measured by industry-adjusted Tobin's q. *Foreign CEOs* is a dummy variable that is one if there is a foreign CEO in the firm, and zero otherwise. *Foreign managers* is a dummy variable that is one if there is at least one foreign manager other than the CEO, and zero otherwise. *Foreign management teams* indicates firms with both foreign CEOs and foreign manager(s). *Foreign directors* is a dummy variable that is one if there is at least one foreign board director and zero otherwise. The sample consists of 5,135 observations from 1998 to 2007. The p-values for the t-test for the null of zero coefficient value are shown in parentheses.

Dependent variable: Industry-adjusted Tobin's q					
	(A1)	(A2)	(A3)	(A4)	(A5)
Foreign ownership	1.011 (0.00)	1.362 (0.00)	1.256 (0.00)	1.188 (0.00)	2.999 (0.00)
Foreign CEOs		0.030 (0.55)			
Foreign managers			0.075 (0.08)		
Foreign management teams				0.164 (0.01)	
Foreign directors					-0.435 (0.00)
Other variables as per (A2) of Table 4 – not reported.					
Adjusted r-squared	0.210	0.206	0.219	0.226	0.203
Observations	3802	3802	3802	3802	3376

**Table 8**  
**Nonlinear relation of foreign ownership with firm performance**

This table estimates a nonlinear relation of foreign ownership with firm performance. The dependent variable is industry-adjusted Tobin's q. The same 3SLS model specification used in Table 4 is employed, and the results of the foreign ownership equation are not reported. See Table 2 for the definition of variables. The full sample consists of 6,973 observations from 1993 to 2007 whereas the full market opening sample is composed of 5,135 observations from 1998 to 2007. The p-values for the t-test for the null of zero coefficient value are shown in parentheses.

Dependent variable: Industry-adjusted Tobin's q	Full sample (1993-2007) (A1)	Full liberalization (1998-2007) (A2)
Foreign ownership	2.274 (0.00)	3.709 (0.00)
Foreign ownership squared	-2.262 (0.02)	-4.389 (0.00)
Institutional ownership	-0.016 (0.37)	0.050 (0.16)
Family ownership	0.043 (0.07)	0.083 (0.02)
Chaebol affiliation	0.014 (0.27)	0.010 (0.59)
Total asset	-0.055 (0.00)	-0.075 (0.00)
Debt ratio	0.605 (0.00)	0.716 (0.00)
R&D intensity	2.586 (0.00)	2.956 (0.00)
Beta	0.104 (0.00)	0.139 (0.00)
Constant	0.798 (0.00)	1.162 (0.00)
Year dummies	YES	YES
Adjusted r-squared	0.154	0.054
Observations	5527	3802