

Ownership, Governance, and Bank Performance: Korean Experience

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The paper examines the effect of ownership and governance on firm performance. Tracing the post financial crisis experience, 1998–2002, of the Korean commercial bank industry, the paper investigates whether the involvement of foreign investors in the ownership structure had any significant effect on the banks' performance i.e., return and risk measures. Further, it examines the effects of the presence of outside directors, especially directors from foreign countries, in the corporate board structure impacts banks performance. Evidence indicates that the extent of the foreign ownership level, not the mere existence of foreign ownership, has a significant positive association with the bank return and a significant negative association with the bank risk. The number of outside board of directors does not have any significant affect on performance however the presence of a foreign director on that board is significantly associated with bank return and risk. These findings are relatively robust under the different specifications of performance measures.

Keywords: Bank performance, Governance, Foreign Ownership, Foreign Director

JEL codes: G21, G32, G34

I. INTRODUCTION

The South Korean economy was so devastated by the financial crisis of 1997 that by the end of that year it had no choice but to accept a \$58 billion worth of bailout assistance from the IMF. Although many explanations exist for the potential cause of the crisis, one of the most convincing explanations is the lack of efficient corporate governance structure among corporations in the crisis countries. Johnson *et al.* (2000) provided evidence that corporate governance was a superior measure relative to macroeconomic variables explaining the exchange rate depreciation and the stock market crash in Korea. Joh (2003) reported that even before the financial crisis, a poor corporate governance system among Korean firms was related to poor accounting performance. Baek *et al.* (2004) found a similar result during the financial crisis. They showed that during the financial crisis, a higher unaffiliated foreign ownership and higher disclosure practices in the company were associated with a smaller decrease in firm value.

The financial crisis of 1997 also changed the financial system of South Korea in many different ways since the financial industry took the hardest hit from the crisis. Among other things, five commercial banks were closed in June 1998 and merged into relatively solvent banks. Through the purchase and assumptions (P&As¹), the acquiring banks assumed the liabilities and purchased only the good assets. In addition to the closure of five banks, there was a big consolidation effort through mergers and acquisitions among commercial banks aimed to become a dominant player.² The financial crisis forced the South Korean government to find ways to improve the country's corporate governance structure while focusing on broader objective of reducing debt and reliance on loans. A number of important reforms took place to overhaul the norms of governance as well as the ownership structure of corporations especially banks. In 1999, the parliament passed the "Revised Bank Law" that requires a specific ratio of outside board members along with the establishment of an audit committee in which two-thirds of the members should be outside board members (Bank of Korea, 2002). Jeon and Miller (2000) implicitly reported some of positive impact of these initiatives as most Korean banks survived and recovered from early losses and instability.

The banking literature has seen a number of studies on South Korean commercial banks, [Gilbert and Wilson (1998), Hao, Hunter, and Yang (2001), Jeon and Miller (2000), and Choe and Lee (2003)], where most are focused on analyzing the bank efficiency, stability, and accounting performance of commercial banks, without focusing on the possible effects of ownership and governance structures on performance. Although countries affected during the Asian crisis, which includes South Korea, took initiatives to improve banking regulations and went through several changes in order to improve the stability and profitability of their respective banking sector, there is no study that examines the effects of such changes. This paper examines the impacts of such changes, especially the adoption of different ownership and governance structures, on the return and risk of Korean commercial banks over the period of 1998 to 2002, a post financial crisis era. Specifically, this paper investigates whether the foreign involvement in the ownership structure and the composition of board members, outside and/or foreign director, affect performance.

Evidence indicates that there was a positive and significant association between the foreign ownership variable as well as the foreign director variable with different bank performance measures. We observed that while the mere existence of foreign ownership is not important however the extent of foreign ownership level has a positive and statistically significant impact on bank returns. Overall, we have observed that the variable representing the outside directors did not have any significant impact on performance. However, we have

¹ P&A approach is the most common method for resolving failed banks. See detailed explanation on P&A in Gupta and Misra (2002).

² See Appendix 2 for all bank mergers.

found that the presence of a foreign board member in the corporate board is associated with better performance while the extent or higher number of foreign directors in the board did not affect any additional significance. Finally, banks with a combination of the experience of increased in foreign ownership levels and having a presence of a foreign director on the board were associated with a positive and significant bank performance in some of the estimates. These results were relatively robust after controlling for the size effects, effect of bank regulation changes, year fixed effects and other relevant specifications.

The rest of the paper is organized as follows: Section II examines the brief history of the South Korean banking system and summarizes the relevant regulations on ownership and governance of the South Korean commercial banks. Section III presents a brief review of the literature related to ownership structures, governance structures and firm performance. Section IV describes the data and variables used in the estimation and presents summary statistics. Section V presents the empirical results. Concluding remarks are presented in section VI.

II. THE KOREAN BANKING SYSTEM

The Korean banking system has experienced several transformations in the past century. In the pre 1945 period it was dominated by the banks of the colonial Japan. The National Assembly of the Republic of Korea passed a series of central and general banking statutes, and created a new central bank, the Bank of Korea, on June 12, 1950. However, the banking system did not work properly during the 1950s because of the Korean War. During the 1960s and 1970s, major components of the Korean financial system were nationalized after the short period of privatization in the late 1950s. The government used its control over banks to mobilize financial resources and pursue its export-oriented industrialization policy (Bank of Korea, 2002). Hao, Hunter, and Yang (2001) reported that during the late 1970s such policy loans supporting government programs accounted for nearly 80% of the domestic credits. The General Banking Act was revised in 1982 and again in 1991, 1993 and 1994. These revisions gave commercial banks more autonomy in their business activities and management decisions.

The government banks started to privatize as early as in 1972, the Sang Up Bank, and continued to do so up to the pre crisis months in 1997, the Housing and Commercial Banks. In between Hanil Bank, Korea First Bank, Seoul Bank, Cho Hung Bank, and Kook Min Bank were privatized. A number of new banks were allowed to open. Shinhan Bank opened in 1982 and Hanmi Bank began operation in 1983. Korea Exchange Bank converted to a commercial bank in 1989. Dongwha, Dongnam, and Daedong Banks started to operate in 1989. Finally, Hana Bank and Boram Bank started in 1992 followed by Pyongwha Bank in 1993.

The Korean commercial banking system was in critical condition in the mid-1980s with significant nonperforming loans—over 7%—however none of the

banks were closed. Seoul Bank and Korea First Bank became the first insolvent commercial banks during the Korean financial crisis of the late 1997. Since they were too big to fail, the government nationalized and recapitalized both banks in January 1998. In February 1998, the Monetary Board of the Bank of Korea identified 12 of the remaining 24 Korean banks to be falling below the BIS capital adequacy requirement of 8%. These banks were Cho Hung, Hanil, Korea Exchange, Sang Up, Dongwha, Dongnam, Daedong, Pyongwha, Chung Cheong, Kyong Gi, Chung Buk, and Kang Won Banks. The Financial Supervisory Commission (FSC) examined the financial conditions of those twelve banks. After the management improvement orders or recommendations of the Monetary Board, it ordered five banks to close: Daedong, Dongnam, Dongwha, Kyong Gi, and Chung Cheong. Those five banks closed through the purchase and assumptions (P&As) by five relatively solvent commercial banks on June 30, 1998: Kook Min Bank acquired Daedong Bank, Housing and Commercial Bank acquired Dongnam Bank, Shinhan acquired Dongwha Bank, Hanmi acquired Kyong Gi Bank, and Hana acquired Chung Cheong Bank. Later, Kook Min Bank acquired Korea Long-Term Credit Bank in December 1998. Sang Up Bank and Hanil Bank merged and created the new name Hanvit Bank which started operation in January 1999. Hana Bank and Boram Bank merged and became Hana Bank which started operation in January 1999. Cho Hung Bank acquired Chung Buk Bank, Kang Won Bank, and Hyundai Investment Trust Company. Newbridge Capital acquired Korea First Bank in December 1999 and Korea First Bank became the first commercial bank to be sold to a foreign capital group. Kook Min Bank and Housing and Commercial Bank merged together and became Kook Min Bank in 2000. In 2001, Hanvit Bank, Pyongwha Bank, Kwang Ju Bank, Kyong Nam Bank, and Hanaro Merchant Bank merged and became Woori Financial Holding Company, and was the first financial holding company in South Korea. Shinhan Bank became Shinhan Financial Group Company in 2001. In 2002, the Korean government approved the purchase of Seoul Bank by Hana Bank and it was completed by November 2002. On October 2002, the Korean government announced its sale of 80% ownership of Cho Hung Bank to the public and Shinhan Financial Group purchased these shares in 2003.

All the regulatory changes during the past decades are outlined in the Bank of Korea (2002) report. The General Banking Act was revised on December 1982 to give banks more discretion and to limit the amount of bank stocks which could be held by a single shareholder. This limitation is to prevent the large company, especially Chaebol, from controlling a bank for its own use. The ownership restriction in 1982 was 8% and was decreased to 4% under the revision of the General Banking Act of December 1994. The exception of this limitation was possible until 12% but it was abolished by the revision of the General Banking Act of January 1998. Under the revision of 2002, the current ownership limitation is 10%, but it is required to notify the FSC if the ownership exceeds 4%. There are also a few exceptions allowed: the ownership by the

government and the Korean Deposit Insurance Corporation (KDIC) and regional banks (15%). The ownership restriction was applied differently for the foreigners and foreign financial institutions under the revision of 1998. They can own up to 10% (15% for regional banks) and need to be approved if their ownership exceeds 10%, 25%, and 33% which is the same regulation for Koreans.

In order to strengthen the corporate governance structure of financial institutions, a number of related acts were revised. Under the revision of the General Banking Act of 2000 (passed in December 1999), banks are required to change the title of their non-executive directors to outside directors and establish an audit committee with two-thirds of whose members being outside directors. Under the revision of 2000, the bank has to have at least 3 outside board members, and the number of outside board members should be at least 50% of the total board members.

III. LITERATURE REVIEW

As mentioned earlier, a number of studies in the literature focused on the efficiency, stability, and accounting performance of commercial banks. Gilbert and Wilson (1998) examined the impact of banking deregulation on the productive efficiency of Korean private banks during the 1980 and 1994 reporting productive efficiency improvements following the 1980s deregulation. Hao, Hunter, and Yang (2001) used a stochastic cost frontier approach to construct efficiency scores for 19 Korean banks during the 1985–1995. They reported that banks with faster growth rates, operating nationwide, extensively using core deposits in funding their assets, and fewer employees per million Won in asset were the most efficient banks. Additionally they have shown that in 1996, banks with some foreign equity ownership were associated with higher bank efficiency. Jeon and Miller (2000) examined the performance of Korean national banks prior to, during, and immediately after the Asian financial crisis reporting that the higher capitalized banks performed better while banks with higher non-interest income relative to interest income did poorly. Choe and Lee (2003) examined the stock market reaction to the announcements of corporate governance reforms in the Korean banking sectors after the financial crisis and reported a significant positive increase in bank stock returns.

The literature on corporate governance is dominated by papers focused on the impact of managerial and board ownership structure—inside or/and outside—on performance. However, there are few exceptions where the research questions deal with the impact of equity ownership by different groups on firm behavior. McConnell and Servaes (1990) investigate the relationship between Tobin's Q and the structure of equity ownership reporting a significant positive association between Tobin's Q and the fraction of shares owned by institutional investors. Dahlquist and Robertsson (2001) investigate the foreign ownership among Swedish firms and find that foreign investors are typically mutual funds or

other institutional investors and report a positive association with performance. Bonin *et al.* (2004) argue that over the second half of the 1990s, foreign ownership in the banking sectors of transition countries increased dramatically and the performance of foreign owned banks were significantly higher than domestically owned banks and the extent of such foreign ownership impacted the bank efficiency significantly in eleven transition countries. Yudaeva *et al.* (2003) investigate the effects of foreign ownership on productivity of Russian firms and find that foreign firms are more productive than domestic firms. They also find positive spillovers from foreign-owned firms to domestic firms in the same industry but report negative effects on domestic firms that are vertically related to foreign-owned firms.

The research on the role of the board of directors in modern corporations is primarily focused on the board's effectiveness in monitoring management (Fama and Jensen, 1983). It is argued that by monitoring management, outside directors can limit the exercise of managerial discretion, thus lowering contracting costs between shareholders and management (Fama, 1980; Fama and Jensen, 1983). However, MacAvoy *et al.* (1983) find no evidence that board composition affects firm performance. On the other hand, Baysinger and Butler (1985) find weak evidence suggesting that board composition affects performance. Hermalin and Weisbach (1991) find that there is no relationship between board composition and performance. Hermalin and Weisbach (1988) investigated whether firm performance, CEO tenure, and changes in market structure lead to changes in board composition. They find that outside directors are more likely to join in and inside directors more likely to leave a board after poor firm performance. They also find that as a CEO nears retirement, insiders will be added to the board, possibly to be groomed as candidates to be the next CEO. Agrawal and Knoeber (1996) investigated the effect of outside board of directors on firm performance reporting a negative effect of outsiders on the board on firm performance and concluded that boards of directors seem to have too many outside members. Bhagat and Black (2000) also find that the proportion of outside directors on the board is negatively related to firm performance. The quantitative Meta analysis by Rhoades *et al.* (2000) reported that one-third of the variation across board composition studies is the result of sampling error and does not reflect the true differences in the relationship between board composition measures and financial performance.

In summary, the empirical explanation on the link between the board composition and firm performance has been mixed and inconclusive. The general conclusions of these studies are in two folds. On one hand there exists a positive relationship between the firm performance and the outside directors based on the agency theory. On the other side, there is a negative (or no relationship) between firm performance and outside directors based on the managerial hegemony theory where the outside directors' dependency on top management.

As we put forward the possibilities and perspectives on the impact of ownership and board structure on firm return and risk we should attempt to elaborate

further on the underpinnings, incentives, and rationale associated with such corporate structure in developing market like Korea. It is likely that if a foreign bank has some ownership of a local bank, there would be some transfer of knowledge and technology at least with respect to the operational styles and management strategies from the foreign bank to the local bank. It is plausible that the foreign entity would have a more efficient style of conducting business with broader and deeper expertise on business matters relative to the local banks i.e., the Korean banks. The foreign owners may influence the bank management to adapt a more transparent, competitive and efficient operating strategy and might even have an input and influence in selecting the upper management. In such scenarios it enables the local bank with more foreign ownership to outperform the other banks with limited exposure and experience.

Outside directors are also seen as a value added influence providing more independent and shareholders' interest-enhancing monitoring. Since outside directors are not part of the organization's management team, they are not subjected to the same potential conflicts of interest that are likely to affect the judgments of the insider directors. In addition, if the outside director is someone from a foreign group, it is more likely that such outside member will be more independent and will have less conflict of interests relative to even the local outside directors. Additionally, their experienced insights and understandings of markets and competition beyond the local environment may bring added perspectives to the local institutions. In fact even the simple advice and counseling to the top management from alternative, independent, and experienced sources make it plausible to assume that the foreign directors will provide performance enhancing benefits to the local banks' performance. Recently, Oxelheim and Randoy (2003) investigated the effects of a foreign-based board of director on firm's Tobin's Q reporting a significantly higher firm value for firms associated with a foreign outside director.

IV. DATA AND METHODOLOGY

The sample data was taken from the annual business filing report which all financial institutions are required to file with the Financial Supervisory Service (FSS) for the sample period of 1998 to 2002. The total number of banks varies from year to year due to the several mergers and acquisitions over the same time period. There were 21 commercial banks in 1998 and 16 banks in 1999 and 2000. The number of commercial banks decreased to 15 in 2001 and to 14 in 2002. We exclude banks that do not have the all pertinent information and eventually end up with 77 bank observations. The sample primarily consists of two types of commercial bank: Seoul based national banks with nationwide branch networks and regional banks based in different major cities with certain local focus.³

³ Appendix 1 lists all commercial banks and indicates the ownership structure as of December 2002.

In measuring performance, we considered several measures that are common and well accepted in the past literature as proxies for performance. We follow, among others, Holderness and Sheehan (1998), Morck *et al.* (1988), Kang and Shivdasani (1995), Qi *et al.* (1998), in considering return on asset (ROA) and return on equity (ROE). A firm's ROA is defined as the firm's net income plus depreciation, all divided by its book value of total assets. A firm's ROE is defined as the firm's net income plus depreciation divided by its book value of equity. We also create some change (or difference) in performances of sample banks from the pre-crisis era to respective years by calculating earning change for each institution from their 1997 earning (ROADIF97). Using stochastic frontier analysis, we have estimated profit (X-Efficiency) efficiency (PEFF) for the sample banks. This method is widely applied in the banking literature where a performance measure is developed relative to best practiced sample institution.⁴ Total profit is measured by net profit earned by the bank. Other necessary variables needed to measure the efficiency scores follows the standard procedure of such estimation [Berger, Hunter, and Timme (1993) and Berger and Mester (1997)]. For a market-based performance measure, we have used end of year stock return (SR) of respective firms.

In measuring risk, we have also considered two measures. The book value measure is the PLLTL total loan losses to total loans (Liu and Ryan, 1995), and the market measures is the standard deviation of the average daily stock return, SIG (Anderson and Fraser, 2000). In total, we used 5 return—ROA, ROE, ROADIF97, PEFF, and SR—measures and two risk—PLLTL and SIG—measures as our dependent variables. We formulate a simple ordinary least squared model to measure the effect of ownership and governance structures on bank performance.

$$\text{Performance} = f(\text{Foreign Ownership, Outside Director, Foreign Director, Bank size, Banking Deregulation}) + \varepsilon \quad (1)$$

Where,

- Performance: 1) Return on Assets = Net Income to Assets
 2) ROADIF97 = Sample year's ROA Difference from the 1997 ROA
 3) ROE = Return on Equity = Net Income to Equity
 4) Profit Efficiency = Relative Performance Measure
 5) PLLTL = Provision for Loan Losses
 6) SIG = Standard Deviation of Stock Returns
 7) SR = Stock Returns

Foreign ownership = DFOS and FOSP, alternative proxy variables for foreign ownership.

⁴ See Aigner *et al.* (1977) and Kumbhakar and Lovell (2000) for the econometric details and Berger and Mester (1997) for a thorough discussion on its applications to banking.

DFOS = a dummy variable takes a value of 1 if there is any level of foreign ownership exists in that bank and 0 otherwise.

FOSP = a continuous variable reporting the percentage of foreign ownership, a proxy for foreign ownership.

OUTBNP = a continuous variable reporting the percentage of outside director.

DFGO = Foreign Director is a dummy variable takes a value 1 if there is any foreign director on the board and 0 otherwise.

FGON = Number of Foreign Directors on the board, an alternative foreign director variable.

FGONP = Percentage of foreign directors to total directors on the board.

LTA = Size of the bank is the logarithm of total assets.

DEREG = Deregulation Dummy when there was a substantial deregulation in the existing banking regulatory structure. In Korea the bank law was revised in December 1999, therefore, we considered the years 2000–2002 as the post deregulatory period.

ε = Error term

The empirical investigation traces for possible correlations between the ownership and governance structures on different proxies for bank return and risk. Given our sample size is very small, we limit our consideration for control variables to a minimum—the log of total assets (LTA) and the post deregulation period (DEREG). Such practice of using limited control variable is not unusual in the corporate governance literature (Yermack, 1996). We however do use the time fixed effect by introducing year dummy variables (YR99, YR00, YR01, and YR02) in our estimations. In some of the estimations, we have added additional independent variables—interaction of the independent variables mentioned above—for a better understanding on the potential impact of such variables affecting bank performance. Table 1 presents means, medians, maximums, minimums and standard deviations of all the variables. The performance numbers do indicate that on average the Korean banks were still on a recovery mode during our sample years. Although the median numbers were positive for ROA and ROE, the average numbers for these variables were not positive. This indicates that some of the banks were not still in underperforming in the immediate post crisis years. The yearly data reveals that all banks started to recover rapidly after 1998. On average, the total number of outside board members were 8.4 and the constituted over 50% of the overall board. On average, banks had 2 foreign directors on board, however, this may not be a total picture as such foreign involvement is not chosen by many of the banks and that is obvious from the median score of 0. In fact the range of the number of foreign member was 0–18. The foreign ownership constituted 22% of total equity but once again with a range of 0–71%. On average, banks' provision for loan losses accounted for around 5% but it varies from 1.5 to 17.9%.

Table 1: Descriptive Statistics

This table contains the descriptive statistics for the variables that investigate the impacts of the different ownership and governance structure on the Korean commercial bank performance. The sample consists of Korean commercial banks over the period of 1998–2002, which is the period after the financial crisis of the late 1997. BMN is total number of directors on the board. DFGO is the dummy variable for the foreign board of director. DFOS is the dummy variable for the foreign ownership. FOSP is the foreign ownership percentage variable. FGON is the number of foreign directors on the board. OUTBNP is the percentage of outside directors on the board. LTA is the natural logarithm of total assets. PLLTL is the ration of possible loan losses to total loans. Profit is the profit efficiency scores. ROA is the return on assets. ROADIF97 is the ROA difference from 1997 ROA. ROE is the return on equity. SR is the annual stock returns. SIG is the standard deviation of the daily stock returns.

	Mean	Median	Maximum	Minimum	Std. Dev.	# of Obs.
BMN	16.66	16.00	39.00	6.00	6.50	77
DFGO	0.43	0.00	1.00	0.00	0.50	77
DFOS	0.81	1.00	1.00	0.00	0.40	77
FOSP	0.22	0.10	0.71	0.00	0.24	77
FGON	1.94	0.00	18.00	0.00	3.81	77
LTA	30.69	30.98	32.86	27.97	1.19	77
OUTBNP	0.500	0.500	0.886	0.269	0.015	77
PLLTL	0.05	0.04	0.18	0.01	0.03	77
PROFIT	0.45	0.44	1.00	0.10	0.19	77
ROA	−0.01	0.00	0.01	−0.10	0.03	77
ROADIF97	0.00	0.00	0.07	−0.07	0.03	77
ROE	−0.22	0.03	0.34	−5.68	0.77	77
SR	0.15	−0.13	2.14	−0.78	0.75	65
SIG	0.07	0.05	0.60	0.01	0.09	65

The average bank size was 36 trillion Korean won with a huge variation between the smallest and the largest banks, 14 trillion won—187 trillion won.

We measure the correlation between variables to see if there is a real relationship between the governance and ownership and the bank performance. Table 2 presents the correlation coefficients between variables used. Table 2 does indicate that for a considerable number of scenarios there is indeed a significant relationship between the governance and ownership variables with different return and risk variables for a number of times. We especially observe a very high and significant correlation among the measure of bank performance variables except SR. In the next section, we employ the regression analysis to estimate the effects of ownership and governance on bank performance.

Table 2: Correlation Coefficients

This table presents correlation coefficients among the sample variables. The sample consists of Korean commercial banks over the period of 1998–2002, which is the period after the financial crisis of the late 1997. BMN is total number of directors on the board. DFGO is the dummy variable for the foreign board of director. DFOS is the dummy variable for the foreign ownership. FOSP is the foreign ownership percentage variable. FGONP is the percentage of foreign directors on the board. OUTBNP is the percentage of outside directors on the board. LTA is the natural logarithm of total assets. PLLTL is the ratio of possible loan losses to total loans. Profit is the profit efficiency scores. ROA is the return on assets. ROADIF97 is the ROA difference from 1997 ROA. ROE is the return on equity. SR is the annual stock returns. SIG is the standard deviation of the daily stock returns. Profit is the profit efficiency scores.

	ROA	ROADIF97	ROE	SR	SIG	PLLTL	PROFIT	DFOS	FOSP	DFGO	FGONP	OUTBNP
ROA	1.0000											
ROADIF97	0.8732	1.0000										
ROE	0.7913	0.6764	1.0000									
SR	0.0661	0.0483	0.1598	1.0000								
SIG	-0.4855	-0.3745	-0.2640	0.2785	1.0000							
PLLTL	-0.6083	-0.5017	-0.4388	-0.0801	0.4547	1.0000						
PROFIT	-0.2193	-0.2895	-0.0651	0.1410	-0.0453	0.1316	1.0000					
DFOS	0.2337	0.0140	0.4143	0.2195	0.0721	-0.0770	0.2077	1.0000				
FOSP	0.4699	0.2790	0.3531	0.1331	-0.2592	-0.2526	0.2707	0.3691	1.0000			
DFGO	0.4769	0.3034	0.3457	0.1597	-0.2408	-0.1697	0.3061	0.3598	0.7717	1.0000		
FGONP	0.3160	0.1928	0.2255	0.0301	-0.1690	-0.1089	0.2612	0.2674	0.5597	0.7430	1.0000	
OUTBNP	-0.0633	-0.0306	0.0285	-0.0195	0.0756	0.0211	0.1704	0.0899	-0.0332	0.1036	0.3360	1.0000

V. EMPIRICAL RESULTS

EFFECTS OF OWNERSHIP STRUCTURE

Given we have attempted to estimate our models with a large number of alternative dependent as well independent variables, we limit our reporting of tables in the text to a minimum and provide a number of other alternative combinations upon request.⁵ These key regression estimates of our proposed relationship between ownership and governance structures are reported in Tables 3–9. In most estimates we have found that there was a significant relationship between bank performance and the extent of foreign ownership.

A number of interesting observations stand out in our estimations. In the ROA regressions (Table 3), there was a statistically strong positive relationship between the extent of foreign ownership i.e., the percentage of foreign ownership (FOSP) and bank performance variables. However, the simple foreign ownership dummy (not reported) was rarely statistically significant even though the sign was consistently positive. This indicates the mere presence of foreign ownership may not create enough incentive structure and environment that is conducive to knowledge transfer and efficient involvement. It seems, once the foreign ownership increases above a certain level, foreign owners might transfer or require top management adopt certain operational and management strategies in order to maximize their returns on investment. This, in turn, results in higher bank performance. We also control for the Bank Revision Law of December 1999 by the DEREG dummy variable. Even though it significantly improves the bank performance, the results for the foreign ownership remained to be strong and statistically significant. The coefficients of the DEREG variable were all significant and had a positive sign. In most regressions, the size (LTA) did not explain the variation of bank performance and were rarely significant.

We found similar results in the ROADIF97 regressions in Table 4. The percentage of foreign ownership variable had more explanatory power than the simple foreign dummy variable. The DEREG variable was also found to be positive and significant and again the size effect was rarely significant. Similar results are found in the ROE and profit efficiency regression models as well, as reported in Tables 5 and 6. However, when we took the same question in the market based performance measure, SR, we did not find the coefficients to be significant despite the fact that magnitude of these variables were in the right direction (Table 7).

We then examined the relationship between the ownership variables and bank risk proxies i.e., provision for loan losses and standard deviation of stock returns. We expect that as the bank's performance improves the potential risk declines thus there would be an inverse relationship between foreign ownership and performance. Table 8 reports results consistent with these findings. Similar

⁵ Any additional estimation on these alternative regressions discussed but were not reported in the text are also available upon request.

Table 3: Estimates from ROA Regressions

Variable	Parameter estimates											
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Intercept	-0.0201** (-5.60)	-0.0180*** (-4.94)	-0.0013 (-0.12)	-0.0167*** (-4.88)	-0.0129*** (-4.03)	-0.0174*** (-4.87)	-0.010 (-0.93)	0.1435 (1.54)	-0.0173 (-0.20)	0.0577 (0.66)	0.0588 (0.67)	0.1510 (1.59)
FOSP	0.0484*** (4.31)						0.0352** (2.44)	0.0399*** (2.74)	0.0382** (2.11)	0.0382** (2.11)	0.0308** (2.17)	0.0271** (2.03)
DFGO		0.0197*** (3.53)					0.0101 (1.43)	0.0161** (2.05)	0.0200** (2.05)	0.0200** (2.05)	0.0163** (2.14)	-0.0259 (-1.36)
OUTBNP			-0.0165 (-0.73)				-0.0231 (-1.12)	-0.0345 (-1.61)	0.0044 (0.20)	-0.0017 (-0.08)	0.0034 (0.15)	-0.0569* (-1.80)
FOSP*DFGO				0.0425*** (3.53)					0.0358** (2.57)	-0.0244 (-0.93)		
FOSP*FGONP					0.0939*** (2.36)						-0.0445 (-0.98)	
DFGO*OUTBNP						0.0346*** (3.46)						0.0863** (2.24)
LTA								-0.0049 (-1.66)	-0.0005 (-0.17)	-0.0030 (-1.08)	-0.0031* (-1.12)	-0.0051* (-1.79)
DEREG									0.0235*** (4.24)	0.0226*** (3.91)	0.0226*** (4.03)	0.0190*** (3.54)
Adj. R-Sq	0.1878	0.1312	-0.0061	0.1308	0.0566	0.1264	0.1960	0.2148	0.2963	0.3438	0.3446	0.3801
F-Statistic	18.58***	12.48***	0.5387	12.44***	5.56***	11.99***	7.18***	6.20***	9.00***	7.64***	7.66***	8.77***
N	77	77	77	77	77	77	77	77	77	77	77	77

This table contains regression results that investigate the impacts of the different ownership and governance structure on the Korean commercial bank performance. The sample consists of Korean commercial banks over the period of 1998–2002, which is the period after the financial crisis of the late 1997. The dependent variable in each regression is ROA. The independent variables in regressions include the foreign ownership percentage variable (FOSP), the dummy variable for the foreign board of director (DFGO), the percentage of outside board members (OUTBNP), the interaction variable (FOSP*DFGO) between the percentage of foreign ownership and the dummy for the foreign board of director, the interaction variable (FOSP*FGONP) between the percentage foreign ownership and the percentage for the foreign board of director, the interaction variable (DFGO*OUTBNP) between the dummy variable for the foreign board of director and the percentage of outside board members, the natural logarithm of total assets (LTA), the dummy variable for the regulation changes in year 2000, and the year dummy variables (YR98, YR99, YR00, YR01). ***1%, **5%, and *10%.

Table 4: Estimates from ROADIF97 Regressions

Variable	Parameter estimates											
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Intercept	-0.0082** (-2.11)	-0.0067* (-1.74)	-0.0014 (-0.12)	-0.0061*** (-1.72)	-0.0069** (-2.32)	-0.0064* (-1.71)	-0.0077 (-0.66)	0.2579** (2.62)	0.1068 (1.23)	0.1612* (1.76)	0.1610* (1.85)	0.2187** (2.17)
FOSP	0.0342*** (2.84)						0.0262* (1.67)	0.0344** (2.24)		0.0225 (1.20)	0.0097 (0.69)	0.0198 (1.41)
DFGO		0.0139*** (2.37)					0.0061 (0.79)	0.0164** (1.98)		0.0153 (1.51)	0.0071 (0.94)	-0.0107 (-0.53)
OUTBNP			0.0013 (0.06)				-0.0027 (-0.12)	-0.224 (-0.99)	0.0186 (0.85)	0.0135 (0.61)	-0.0052 (-0.24)	-0.0202* (-0.60)
FOSP*DFGO				0.0322** (2.56)					0.0351** (2.48)	-0.0058 (-0.21)		
FOSP*FGONP					0.1696*** (4.62)						0.1240*** (2.77)	
DFGO*OUTBNP						0.0250*** (2.39)						0.0534 (1.31)
LTA								-0.0085** (-2.72)	-0.0045 (-1.65)	-0.0063** (-2.18)	-0.0059** (-2.15)	-0.0076** (-2.52)
DEREG									0.0255*** (4.54)	0.0242*** (4.27)	0.0205*** (3.69)	0.0228*** (4.00)
Adj. R-Sq	0.0853	0.0570	-0.0133	0.0679	0.2109	0.0584	0.0683	0.1433	0.2902	0.3009	0.3695	0.3172
F-Statistic	8.09***	5.60**	0.35	6.54**	21.31***	5.72*	2.86**	4.18***	8.77***	6.45***	8.42***	6.88***
N	77	77	77	77	77	77	77	77	77	77	77	77

This table contains regression results that investigate the impacts of the different ownership and governance structure on the Korean commercial bank performance. The sample consists of Korean commercial banks over the period of 1998–2002, which is the period after the financial crisis of the late 1997. The dependent variable in each regression is ROADIF97, which is the ROA difference from the year 1997. The independent variables in regressions include the foreign ownership percentage variable (FOSP), the dummy variable for the foreign board of director (DFGO), the percentage of outside board members (OUTBNP), the interaction variable (FOSP*DFGO) between the percentage of foreign ownership and the dummy for the foreign board of director, the interaction variable (FOSP*F-GONP) between the percentage foreign ownership and the percentage for the foreign board of director, the interaction variable (DFGO*OUTBNP) between the dummy variable for the foreign board of director and the percentage of outside board members, the natural logarithm of total assets (LTA), the dummy variable for the regulation changes in year 2000, and year dummy variables (YR00, YR01, YR08, YR09, YR00, YR01). ***, **, *10%, **5%, and *10%.

Table 5: Estimates from ROE Regressions

Variable	Parameter estimates											
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Intercept	-0.4569*** (-4.05)	-0.3958*** (-3.50)	-0.2229 (-0.64)	-0.3704*** (-3.51)	-0.2898*** (-2.98)	-0.3831*** (-3.48)	-0.4338 (-1.28)	0.2.893 (0.97)	-0.5043 (-0.18)	1.15 (0.38)	1.1783 (0.39)	2.2204 (0.67)
FOSP	1.1009*** (3.14)						0.9127*** (1.99)	1.0146** (2.17)		1.07* (1.74)	0.8627* (1.78)	0.7554 (1.61)
DFGO		0.4156** (2.41)					0.1443 (0.65)	0.2736 (1.09)		0.4047 (1.21)	0.2993 (1.15)	-0.2216 (-0.33)
OUTBNP			0.0103 (0.02)				-0.0880 (-0.14)	-0.3353 (-0.48)	0.4428 (0.62)	0.3406 (0.47)	0.4895 (0.65)	-0.3105 (-0.28)
FOSP*DFGO				0.9145** (2.45)					0.7519** (1.62)			
FOSP*FGONP					1.99 (1.65)						-1.2945 (-0.84)	
DFGO*OUTBNP						0.7339** (2.38)						
LTA								-0.1069 (-1.12)	-0.0113 (-0.13)	-0.0677 (-0.72)	-0.0712 (-0.75)	0.9774 (0.72)
DEREG									0.4915** (2.66)	0.4314** (2.32)	0.4692** (2.45)	0.4054** (2.14)
Adj. R-Sq	0.1045	0.0594	-0.0133	0.0620	0.0224	0.0577	0.0852	0.0883	0.1146	0.1362	0.1373	0.1351
F-Statistic	9.87*** 77	5.80** 77	0.24 77	6.02** 77	2.74 77	5.65** 77	3.36** 77	2.84** 77	3.46** 77	3.00** 77	3.02** 77	2.98** 77

This table contains regression results that investigate the impacts of the different ownership and governance structure on the Korean commercial bank performance. The sample consists of Korean commercial banks over the period of 1998-2002, which is the period after the financial crisis of the late 1997. The dependent variable in each regression is ROE. The independent variables in regressions include the foreign ownership percentage variable (FOSP), the dummy variable for the foreign board of director (DFGO), the percentage of outside board members (OUTBNP), the interaction variable (FOSP*DFGO) between the percentage of foreign ownership and the dummy for the foreign board of director, the interaction variable (FOSP*FGONP) between the percentage foreign ownership and the percentage for the foreign board of director, the interaction variable (DFGO*OUTBNP) between the dummy variable for the foreign board of director and the percentage of outside board members, the natural logarithm of total assets (LTA), the dummy variable for the regulation changes in year 2000, and the year dummy variables (YR98, YR99, YR00, YR01). ***1%, **5%, and *10%

Table 6: Estimates from Profit Efficiency Regressions

Variable	Parameter estimates											
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Intercept	0.5929*** (17.56)	0.5970*** (18.07)	0.5438*** (5.49)	0.6115*** (19.60)	0.6349*** (18.59)	0.5976*** (18.59)	0.5095*** (5.04)	0.3867 (0.43)	0.1657 (0.19)	0.7303 (0.80)	0.7474 (0.82)	0.8287 (0.81)
FOSP	0.1899* (1.81)						0.1405 (1.03)	0.1367 (0.98)		0.3629* (1.94)	0.2497* (1.70)	0.1904 (1.32)
DFGO		0.0868* (1.72)					0.0375 (0.56)	0.0327 (0.43)		0.1389 (1.38)	0.0818 (1.04)	0.0061 (0.03)
OUTBNP			0.1807 (0.95)				0.1561 (0.81)	0.1652 (0.80)	0.0920 (0.42)	0.0566 (0.26)	0.1402 (0.61)	-0.0155 (-0.05)
FOSP*DFGO				0.1361 (1.24)								
FOSP*FGONP					-0.0199 (-0.06)							
DFGO*OUTBNP						0.1622* (1.80)					-0.7231 (-1.55)	
LTA								0.0039 (0.14)	0.0145 (0.53)	-0.0048 (-0.17)	-0.0067 (-0.24)	0.0783 (0.19)
DEREG									-0.0688 (-1.22)	-0.0892 (-1.59)	-0.0681 (-1.18)	-0.0917 (-1.58)
Adj. R-Sq	0.0292	0.0252	-0.0014	0.0069	-0.0133	0.0287	0.0189	0.0055	0.0024	0.0395	0.0447	0.0125
F-Statistic	3.28*	2.96*	0.89	1.52	0.00	3.25*	1.49	1.10	1.04	1.52	1.59	1.16
N	77	77	77	77	77	77	77	77	77	77	77	77

This table contains regression results that investigate the impacts of the different ownership and governance structure on the Korean commercial bank performance. The sample consists of Korean commercial banks over the period of 1998–2002, which is the period after the financial crisis of the late 1997. The dependent variable in each regression is the profit efficiency scores. The independent variables in regressions include the foreign ownership percentage variable (FOSP), the dummy variable for the foreign board of director (DFGO), the percentage of outside board members (OUTBNP), the interaction variable (FOSP*DFGO) between the percentage of foreign ownership and the dummy for the foreign board of director, the interaction variable (FOSP*FGONP) between the percentage foreign ownership and the percentage for the foreign board of director, the interaction variable (DFGO*OUTBNP) between the dummy variable for the foreign director and the percentage of outside board members, the natural logarithm of total assets (LTA), the dummy variable for the regulation changes in year 2000, and the year dummy variables (YR98, YR99, YR00, YR01). *** 1%, ** 5%, and * 10%.

Table 7: Estimates from PLLTL Regressions

Variable	Parameter estimates											
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Intercept	0.0580*** (11.29)	0.0503*** (9.67)	0.0456*** (2.97)	0.0534*** (11.08)	0.0514*** (11.73)	0.0510*** (10.07)	0.0565*** (3.72)	-0.1478 (-1.11)	-0.0669 (-0.54)	-0.0467 (-0.36)	-0.0465 (-0.36)	-0.1218 (-0.85)
FOSP	-0.0385** (-2.42)						-0.0602*** (-2.93)	-0.0665*** (-3.21)	-0.0463* (-1.73)	-0.0463* (-1.73)	-0.0553*** (-2.64)	-0.0511** (-2.55)
DFGO		-0.0016 (-0.21)					0.0166 (1.66)	0.0087 (0.78)		0.0141 (0.98)	0.0087 (0.77)	0.0438 (1.53)
OUTBNP			0.0080 (0.27)				-0.0018 (-0.06)	0.0134 (0.44)	-0.0137 (-0.44)	-0.0233 (-0.74)	-0.0312 (-0.96)	0.0199 (0.42)
FOSP*DFGO				-0.0225 (-1.32)					-0.0256 (-1.26)	-0.0111 (-0.29)		
FOSP*FGONP					-0.0480 (-0.89)						0.0488 (0.73)	
DFGO*OUTBNP						-0.0062 (-0.44)						-0.0704 (-1.22)
LTA												
DEREG								0.0066 (1.55)	0.0047 (1.21)	0.0042 (1.03)	0.0044 (1.07)	0.0060 (1.39)
Adj. R-Sq	0.0599	-0.0128	-0.0124	0.0097	-0.0028	-0.0108	0.0703	0.0877	-0.0276*** (-3.43)	-0.0254*** (-3.16)	-0.0269*** (-3.26)	-0.0236*** (-2.92)
F-Statistic	5.84**	0.04	0.07	1.75	0.78	0.19	2.92**	2.83**	0.1475	0.1798	0.1851	0.1959
N	77	77	77	77	77	77	77	77	77	77	77	77

This table contains regression results that investigate the impacts of the different ownership and governance structure on the Korean commercial bank performance. The sample consists of Korean commercial banks over the period of 1998-2002, which is the period after the financial crisis of the late 1997. The dependent variable in each regression is PLLTL, which is the ratio of loan losses provisions to total loans. The independent variables in regressions include the foreign ownership percentage variable (FOSP), the dummy variable for the foreign board of director (DFGO), the percentage of outside board members (OUTBNP), the interaction variable (FOSP*DFGO) between the percentage of foreign ownership and the dummy for the foreign board of director, the interaction variable (FOSP*FGONP) between the percentage foreign ownership and the percentage for the foreign board of director, the interaction variable (DFGO*OUTBNP) between the dummy variable for the foreign board of director and the percentage of outside board members, the natural logarithm of total assets (LTA), the dummy variable for the regulation changes in year 2000, and year dummy variables (YR98, YR99, YR00, YR01), ***1%, **5%, and *10%

Table 8: Estimates from SIG Regressions

Variable	Parameter estimates											
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Intercept	0.0913*** (6.04)	0.0892*** (5.95)	0.0428 (0.93)	0.0845*** (5.99)	0.0797*** (5.93)	0.0866*** (5.91)	0.0637 (1.36)	-1.3629*** (-3.76)	-0.8704** (-2.45)	-1.3496*** (-3.76)	-1.2605*** (-3.43)	-1.5852*** (-4.06)
FOSP	-0.1079** (-2.13)						-0.0657 (-0.80)	-0.1222 (-1.63)		-0.3813** (-2.51)	-0.1277 (-1.56)	-0.1170 (-1.59)
DFGO		-0.0442* (-1.97)					-0.0234 (-0.65)	-0.0762** (-2.17)		-0.1213*** (-2.96)	-0.0825** (-2.23)	0.0827 (0.99)
OUTBNP			0.0526 (0.60)				0.0581 (0.67)	0.1432* (1.76)	0.0570 (0.64)	0.0931 (1.11)	0.0766 (0.83)	0.3022** (2.32)
FOSP*DFGO				-0.0859* (-1.76)								
FOSP*FGONP					-0.3713 (-1.41)						0.2879 (0.75)	
DFGO*OUTBNP						-0.0732* (-1.81)						-0.3232** (-2.04)
LTA								0.0461*** (3.96)	0.0312*** (2.77)	0.0474*** (4.14)	0.0444*** (3.79)	0.0513*** (4.31)
DEREG									-0.0375 (-1.62)	-0.0313 (-1.46)	-0.0351 (-1.55)	-0.0251 (-1.16)
Adj. R-Sq	0.0524	0.0430	-0.0101	0.0315	0.0151	0.0346	0.0326	0.2204	0.1520	0.2752	0.2282	0.2729
F-Statistic	4.54**	3.88*	0.36	3.08*	1.98	3.29*	1.72	5.52**	3.87***	5.05***	4.15***	5.00***
N	65	65	65	65	65	65	65	65	65	65	65	65

This table contains regression results that investigate the impacts of the different ownership and governance structure on the Korean commercial bank performance. The sample consists of Korean commercial banks over the period of 1998–2002, which is the period after the financial crisis of the late 1997. The dependent variable in each regression is SIG, which is the standard deviation of returns. The independent variables in regressions include the foreign ownership percentage variable (FOSP), the dummy variable for the foreign board of director (DFGO), the percentage of outside board members (OUTBNP), the interaction variable (FOSP*DFGO) between the percentage of foreign ownership and the dummy for the foreign board of director, the interaction variable (FOSP*FGONP) between the percentage foreign ownership and the percentage for the foreign board of director, the interaction variable (DFGO*OUTBNP) between the dummy variable for the foreign board of director and the percentage of outside board members, the natural logarithm of total assets (LTA), the dummy variable for the regulation changes in year 2000, and the year dummy variables (YR98, YR99, YR00, YR01), ***1%, **5%, and *10%.

Table 9: Estimates from SR Regressions

Variable	Parameter estimates											
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Intercept	0.0541 (0.43)	0.0386 (0.31)	0.2145 (0.54)	0.0628 (0.54)	0.1195 (1.08)	0.0610 (0.50)	0.1339 (0.34)	-2.3716 (-0.70)	-2.4152 (-0.76)	-2.0194 (-0.63)	-2.1316 (-0.61)	-2.6503 (-0.69)
FOSP	0.4518 (1.07)						0.0496 (0.07)	-0.0495 (-0.07)		-0.3226 (-0.22)	0.1769 (0.23)	-0.0250 (-0.03)
DFOG		0.2392 (1.28)					0.2277 (0.75)	0.1350 (0.41)		0.0867 (0.21)	0.2083 (0.59)	0.3989 (0.48)
OUTBNP			-0.1104 (-0.15)				-0.1970 (-0.27)	-0.0477 (-0.06)	-0.1019 (-0.13)	-0.1649 (-0.20)	0.0118 (0.01)	0.1762 (0.14)
FOSP*DFOG				0.4738 (1.17)					0.2542 (0.48)	0.4045 (0.24)		
FOSP*FGONP					0.9439 (0.43)						-2.1408 (-0.59)	
DFOG*OUTBNP						0.3613 (1.08)						-0.5320 (-0.34)
LTA								0.0810 (0.74)	0.0849 (0.84)	0.0795 (0.70)	0.0725 (0.65)	0.0876 (0.75)
DEREG									-0.0815 (-0.39)	-0.0790 (-0.37)	-0.0529 (-0.25)	-0.0687 (-0.32)
Adj. R-Sq	0.0021	0.0100	-0.0155	0.5817	-0.0129	0.2611	-0.0209	-0.0285	-0.0271	-0.0603	-0.0552	-0.0593
F-Statistic	1.14	1.65	0.02	1.37	0.19	1.17	0.56	0.56	0.58	0.39	0.44	0.40
N	65	65	65	65	65	65	65	65	65	65	65	65

This table contains regression results that investigate the impacts of the different ownership and governance structure on the Korean commercial bank performance. The sample consists of Korean commercial banks over the period of 1998–2002, which is the period after the financial crisis of the late 1997. The dependent variable in each regression is SR, which is the stock return. The independent variables in regressions include the foreign ownership percentage variable (FOSP), the dummy variable for the foreign board of director (DFOG), the percentage of outside board members (OUTBNP), the interaction variable (FOSP*DFOG) between the percentage of foreign ownership and the dummy for the foreign board of director, the interaction variable (FOSP*FGONP) between the percentage foreign ownership and the percentage for the foreign board of director, the interaction variable (DFOG*OUTBNP) between the dummy variable for the foreign board of director and the percentage of outside board members, the natural logarithm of total assets (LTA), the dummy variable for the regulation changes in year 2000, and the year dummy variables (YR98, YR99, YR00, YR01). ***, **, and *10%, 5%, and 1%.

to the ROA regressions, DFOS (although not reported in tables) variable is rarely significant but the coefficients of FOSP variable were negative and highly significant in most regressions. Next, we presented the regressions on SIG, the standard deviation of stock returns, and found results consistent with the PLLTL regression where the extent of foreign ownership level were inversely associated with the standard deviation of stock returns.

THE EFFECT OF THE BOARD OF DIRECTORS

Concentrating on the relationship between the board structure variables and performance (Tables 3–9), we have also observed an overall strong association between the governance and performance. In general, we did not find any significant effect of the total number of outside board of directors in the bank while finding a significant effect of the presence of foreign board of director on bank return and risk. The lack of significance by the outside members is consistent with studies by Hermalin and Weisbach (1991) and Lawrence and Stapledon (1999). This lack of statistical significance is partly due to fact that in the post crisis era (December 1999) banks were required to increase their number of outside board members substantially and on average Korean banks, irrespective of their performance, employed over 50% of their members from outside the bank and thus lowered the variability of this variable as one expects in a normal circumstances.

We however observed that the existence of a foreign director on the board improves bank performance significantly. In the ROA and ROADIF97 regressions, the foreign director dummy was positively significant. This result implies that the presence of a foreign director on the board affect better bank performance even after controlling for the bank size effect and the bank regulation changes. DFGO is significant most of the estimations at the 1% significance level. Having a foreign director on the board brings diversity of knowledge, expertise, and objectivity that may more effective than a similar outside member from local corporate environment that is dominated by conglomerate dominated *Chaebols*.⁶

Although the regression results showed that there was a positive relationship between the number and percentage of foreign directors (FGON and FGONP) and bank performance, we did not find a similar statistical significance in regressions after control for the bank size (not reported in Table 3). Therefore, the results observed by the DFGO tells us that multiple or higher involvement of foreign directors not necessarily improves bank performance. We have found a similar result in the ROE estimation in Table 5, the foreign director dummy (DFGO) variable was significant but not the number of foreign directors or

⁶ Chaebols is a large business group in Korea and The Korean Fair Trade Commission defines as a group of companies of which is more than 30% of shares are owned by the group's controlling shareholder and its affiliated companies. More detailed information on chaebols, see Baek *et al.* (2004) and Joh (2003).

percentage of foreign directors. A strikingly similar result was found in the profit efficiency regressions in Table 6 as well. With regards to the stock return regressions, we did not find any significant effect of the foreign board of directors on bank stock performance. Even though the inclusion of the DERE variable did not change the result of the regressions, its coefficient did not show any statistical significance. Additionally size did not matter explaining stock return.

Unlike in the foreign ownership regressions, and contrary to our expectations, we did not find any significant relationship between the foreign directors on the board and our risk dependent variables especially in PLLTL. In SIG equations, we have observed some significant inverse relationship between the foreign board dummy variable and the risk variable. One positive note here however was that all signs of the foreign director coefficient had the expected negative magnitude in all estimates. Finally, we have observed a negative and significant impact of DERE on these regressions portraying a post crisis decline in risk. In these regressions, bank size was found to be associated with higher risk.

We find that the foreign director dummy variable does explain the difference in bank performance while the number of foreign board of directors (FGON) and percentage (FGONP) do not explain the difference in bank performance (FGON and FGONP are not reported in tables). Meanwhile, in the stock return regressions, we do not find any significant effect of the foreign board of directors on bank performance. The signs of the coefficients on DFGO are relatively consistent with other regression results while the signs of the number and percentage of the foreign director variable are not consistent (not reported in tables). Even though the inclusion of the DERE variable did not change the result of the regressions, the coefficients of the variable was not significant. Therefore, the overall result indicates that the existence of a foreign director on the board plays a significant role affecting bank performance. These findings are consistent with the possibility that foreign directors might help local banks in adapting more advanced foreign banking strategies to improve operating efficiency and can effectively help to reduce management entrenchments. If nothing else these directors would be more independent than local and inside directors and this independency may play an effective monitoring and decision making process with less pressures and interruptions by the outside interest groups.

INTERACTIVE EFFECTS: FOREIGN OWNERSHIP, OUTSIDE DIRECTORS, AND FOREIGN DIRECTORS

So far, we have investigated the effect of foreign ownership, outside directors, and foreign directors on bank performance individually controlling for other control variables. We follow up with additional investigation with possible interaction effects of foreign ownership, outside directors, and foreign directors

on bank performance. To do this analysis, we have defined variables to measure such interaction effects. We construct two main variables: FOSP*DFGO and DFGO*OUTBNP. FOSP*DFGO is constructed by the interaction between the percentage of foreign ownership and the foreign director dummy variable. DFGO*OUTBNP is constructed by the interaction between the foreign director dummy variable and the percentage of outside directors on the board.

The coefficients of FOSP*DFGO variable in ROA, ROADIF7, and ROE regressions were positive and significant at least at the 5% level. These results indicate that the increase in foreign ownership level while having a foreign director on the board improved bank performance significantly and the results remained significant even after controlling for the size and the changes in bank regulations. Results were consistent in the risk estimates i.e., in the PLLTL and SIG regressions with the expected sign and significant statistical significance. The profit efficiency and SR regressions provided an insignificant effect of FOSP*DFGO on bank performance, but the signs were consistent with other regressions. Overall, the investigations of the interaction effect or the combined impact of higher foreign ownership and some presence of a foreign director on bank performance strengthened our previous findings of individual effects of foreign ownership and foreign directors on bank return and risk.

The coefficient of DFGO*OUTBNP coefficient provided a significant association in the expected direction in the ROA and SIG regressions. However, in other regressions (ROADIF97, ROE, and Profit efficiency), we have observed a significant effect in some of the estimations. In addition, we did not find any significance of these interaction variables in the SR and PLLTL regressions. Therefore, we cannot claim any clear impact of this variable on bank performance. Additionally, we have constructed a FOSP*FGONP variable to measure the interaction between the foreign ownership level and percentage of foreign directors on the board. However, we rarely found that the higher extent of foreign board member representation bring any more significant relationship than the simple presence of a foreign board member transpired by the FOSP*DFGO variable. In other words, the FOSP*FGONP variable did not show a significant impact on most equations especially after controlling for size and deregulation dummy.

Our estimations reported above were relatively robust under different specifications. We have estimated the equation with a heteroskedasticity adjusted ordinary least squares (OLS) estimation technique. Even though all estimations are not reported in the text, the overall results are robust with respect to changes in the methodology and alternative control variables. We are aware of the fact that the endogeneity problem associated with ownership variable in a performance-ownership regression (Himmelberg *et al.*, 1999) may be a potential caveat to make any conclusive comments in this issue. Limitation of data -degree of freedom- did not help us to correct the problem

to the extent we have hoped for however in some cases we did take attempts to resolve some other issues such as considering time fixed effects. Also the paper may suffer from self selectivity bias and again lack of data did not give us the opportunity to provide further detailed robustness test. We merely attempt to correct this selection bias problem by using the ROADIF97 or change in performance variable and the results were very close to those of the ROA regressions. Therefore we emphasize that it is hard to say anything too conclusive with such a small sample size however we believe that the simple association of these variables both at the univariate and the multivariate estimations provided a reasonably clear understanding on the role of ownership and governance in the Korean market.

VI. CONCLUSIONS

The Asian crisis in 1997 witnessed multiple bank closures and by substantial overhaul of banking regulations among Korean banks. Banks were to make changes in order to be at the global standard and compete for stability and profitability of the banking sector. There is no study in the literature that has examined the effects of such changes on bank performance in the crisis economies. This study employs Korean commercial bank data from 1998 to 2002 to investigate the effect of such changes, mainly relatively more diverse and transparent ownership and governance on performance. Specifically, this paper investigates whether foreign ownership as well as the composition of board members—outside and/or foreign, on the return and risk of sample banks.

Evidence indicates that there is a positive and significant association between the foreign ownership variable as well as the foreign director variable with different bank performance measures. We observed that while the mere existence of foreign ownership was not important however the extent of foreign ownership level had a positive and statistically significant impact on bank returns and risk. Overall, we have observed that the variable representing the outside directors did not have any significant impact on performance. However, we have found that the presence of a foreign board member in the corporate board was associated with better return and lower risk while the extent or higher number of foreign directors in the board did not make any additional significance. Finally, banks with a combination of the experience of increased in foreign ownership levels while having a presence of a foreign director on the board were associated with a positive and significant bank performance in some of the estimates. These results were relatively robust after controlling for the size effects, effect of bank regulation changes, year fixed effects and other relevant specifications. More detailed analyses in a multi-country investigation is warranted to verify whether such case studies is true in other environments.

VII. APPENDICES**Appendix 1: Large Shareholders of Individual Banks as of Dec. 2002**

Bank Name	2002
Kookmin Bank	Korean Government (9.64%), Bank of New York (ADR, 7.59%), GS Capital (6.82%)—Foreign (71.11%)
Cho Hung Bank	Korean Government (KDIC, 80.05%)—Foreign (0.33%)
Korea First Bank	KFB Newbridge Holdings Limited (50.99%), Korean Government (KDIC, 45.92%)—Foreign (50.99%)
Hanvit Bank	Korean Government (100%)
Korea Exchange Bank	Commerzbank (23.62%), Korean Government (BOK, EIBOK- 17.78%, 18.15%)—Foreign (34.13%)
Hana Bank	Allianz AG (11.82%), IFC (6.64%), Kolong Group (5.83%)—Foreign (52.02%)
Hanmi(KORAM) Bank	KAI (17.9%), Samsung Group (14.6%)—Foreign (53.23%)
Shin Han Bank	DaeKyo (1.23%), Alpomae Corp. (0.23%)—Foreign (40.37%) as of 1quarter of 2001, after that Shinhan Financial owns 100%
Daegu Bank	Samsung (8.08%)—Foreign (3.77%)
Pusan Bank	Lotte Group (14.03%)—Foreign (10.64%)
Kwangju Bank	Korean Government (99.99%)
Kyungnam Bank	Korean Government (99.99%)
Jeonbuk Bank	Samyangsa (10.91%)—Foreign (0.05%)
Cheju Bank	Korean Government (95.74%)

Appendix 2: Major Bank Merger Events and Their Announcement Dates

Date	Banks Name	Result
7/31/1998	Sang Up, Hanil	Hanvit
9/07/1998	Hana, Boram	Hana
9/11/1998	Kookmin, Long Term Capital	Kookmin
12/17/1998	Cho Hung, Kang Won	Cho Hung
12/31/1998	Korea First sold to Newbridge Capital	Korea First
2/11/1999	Cho Hung, Chung Buk	Cho Hung
12/08/2000	Shin Han, Che Ju	Shin Han Financial
12/13/2000	Hanvit, Kwangju, Kyung Nam	Woori Financial
12/22/2000	Kookmin, Housing & Commercial	Kookmin
11/14/2001	Hanvit, Peace	Hanvit
9/13/2002	Hana, Seoul	Hana

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IX. NOTES ON CONTRIBUTORS

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