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Abstract

The 1997 financial crisis turns out to be a major turning point in the history of Korean *chaebols*. The post-crisis corporate reform has resulted in a dramatic change in the landscape of *chaebols* as about one half of the top 30 *chaebols* changed their names after the crisis. The reform was swift and unprecedented in its comprehensiveness encompassing a wide range of structural changes in the financial structure and corporate governance of *chaebols*. Improved transparency and strengthened shareholder rights helped *chaebols* to have greater access to cheaper external finance made available by capital market opening.

Nevertheless, the corporate reform is an ongoing process in Korea with full effects yet to be seen. Our empirical findings suggest that the role of internal capital markets has faded out after the crisis but not fully yet. Investment by non-listed *chaebol* firms remains fairly insensitive to the own cash flow if the firm belongs to a *chaebol* that owns financial intermediaries. The positive effect of corporate reform appears to have been felt asymmetrically between non-listed firms whose ownership is more concentrated and listed firms that are now subject to more stringent international standards and monitoring by shareholders. These findings imply that key policy challenges in the future are to eliminate the gap between *de jure* institution and *de facto* enforcement standards.

Keyword: Corporate Finance and Governance (G3), Restructuring (G34), chaebols

1. Introduction

The 1997 crisis of Korea prompted the government to carry out restructuring in the corporate sector to restore its health and competitiveness. Its strategy consisted of promoting competition and improving corporate governance, capital structure, and profitability (Chopra *et al*. 2002, Keun Lee 2002 and 2003). To bring about greater competition in the corporate sector, the government liberalized the domestic capital market and made it easier for Korean companies to access foreign capital. To improve corporate governance, it introduced a number of measures making the corporate balance sheet more transparent, improve the accounting standards in line with international best practices, and require independent external audits, full disclosure, and the provision of consolidated statements for business conglomerates. And to improve capital structure and profitability, the government pushed corporations to reduce their debt levels, increase their equity investment, and eliminate cross-subsidization of weaker affiliates.

A number of years have passed since the crisis and since Korea undertook various policy and institutional reforms in its wake. With this passage of time we are now in a position to review and evaluate what these reforms have accomplished. In this chapter we briefly summarize the post-crisis reform measures and then examine if and how the financial aspect of the *chaebol* organizations has changed after the financial crisis. To the latter end, we focus on the performance of *chaebol* as internal capital market.[1] Specifically, we explore whether internal capital markets have operated prior to the 1997 crisis and how the post-crisis corporate governance reform has affected the operation of internal capital markets.

[1] Internal capital market in a very broad sense includes within-group transfers, within-group credit markets, and within-group equity market, among others.

The rest of this chapter is organized as follows. Section 2 summarizes specific reforms in the corporate sector. Section 3 describes an empirical framework to test the effects of corporate reform on the operation of the internal capital market within *chaebols* and discusses the data used for our analysis. Section 4 discusses the estimation results regarding the operation of internal capital markets and its structural changes after the 1997 financial crisis. Section 5 concludes.

2. Corporate Reform after the 1997 financial crisis

2.1 Restructuring of Troubled *Chaebols*

Corporate restructuring already emerged as a key policy issue several months prior to the onset of the financial crisis because of the bankruptcy of Hanbo Steel Company in early 1997. The financial crisis dramatically increased the number of firms that had to be restructured. Among the top 63 *chaebols* with corporate debt of 250 billion won or more, 30 were forced to undertake some form of corporate restructuring (Table 1).

<Table 1> *Chaebols* Underwent Corporate Rehabilitation Procedures

	Name of the *chaebol*	As of the end of 1997		Type of corporate rehabilitation procedures
		Number of affiliates	Total Borrowings (billion won)	
Top 30 *chaebols*	Daewoo	250	25,347	Workout (1999. 8.26)
	Kia	40	5,819	Corporate Reorganization (1998. 4.15)
	Ssangyong	75	9,004	Workout (Ssangyong Construction 1998. 11.1)
	Halla	36	4,501	Composition (1998. 3.20)
	Kohab	25	3,384	Workout (1998. 7.14)
	DongAh	42	3,696	Corporate Reorganization (DongAh Construction: discontinuance of corporate reorganization 2001. 3.9)
	Jinro	32	1,443	Composition (1998.2.3)
	Hanil	20	1,578	Corporate Reorganization (1999. 1.19)
	Anam	34	2,217	Workout (Anam Semiconductor: 1998. 10.30)
	Haitai	37	3,254	Corporate Reorganization (2001. 4.11)
	Shinho	33	1,569	Workout (1998. 7.16)
	Tongil	18	1,373	Corporate Reorganization (1999. 4.23)
	New Core	18	691	Corporate Reorganization (1998.11.16)
	Dongkuk	24	1,091	Workout (1998. 10.27)
	Saehan	24	1,805	Workout (2000. 5.27)
	Kabeul	23	832	Workout (1998. 7.24)
	Keopyong	20	1,960	Workout (1998. 7.23)
	17 *chaebols*	751	69,564	
31-63 *chaebols*	Byuksan	20	1,064	Workout (1998. 8.14)
	Daenong	26	1,137	Corporate Reorganization (1997. 12.30)
	Woobang	14	833	Workout (1998. 7.25)
	Soosan Heavy	18	506	Corporate Reorganization (1998. 9.22)
	Kangwon Industry	29	1,566	Workout (1998. 7.28)
	Chungkoo	20	750	Corporate Reorganization (19998. 8.17)
	Sepoong	10	531	Workout (1998. 7.24)
	Bosung	12	543	Workout (1998. 5.6)
	Jindo	24	807	Workout (1998. 7.23) Corporate Reorganization (2001. 5.16)
	Shinwon	26	870	Workout (1998. 7.24)
	Nasan	20	881	Corporate Reorganization (1998. 7.14)
	Keukdong	19	899	Corporate Reorganization (1998. 7.6)
	Daedong	9	334	Composition (2000. 3.22)
	13 *chaebols*	247	10,721	
	30 *chaebols*	998	80,284	

Source: The Board of Audit and Inspection (2001), "An Audit Report on Management and Oversight of Public Funds"

The restructuring, however, was slow to gain momentum because troubled firms and their creditors both tried to protect their own interests. The management of the troubled firms had strong incentives not to disclose accurate information on financial status as it wanted to maintain management control as well as attract financial support and avoid harsh restructuring measures. The creditors, which had been suffering from large non-performing loans (NPLs) and capital erosion, also had an incentive to apply lenient accounting standards to their client firms in order to meet the capital adequacy requirement.

Realizing a potentially serious negative impact from a massive wave of bankruptcies, the government responded by mobilizing public funds to expedite the restructuring of troubled firms. A total of 168 trillion won (25 percent of Korea's GDP in 2002) was mobilized during the period of 1998-2001, a significant portion of which was used to support the purchase of NPLs by the Korea Asset Management Corporation (KAMCO) and the bank recapitalization by the Korea Deposit Insurance Corporation (KDIC). KAMCO purchased NPLs worth of 48.8 trillion won in book values associated with the top 63 *chaebols* at 17.4 trillion won (Table 2). Aided by the government support, financial institutions restored financial health swiftly and implemented creditor-led corporate restructuring beginning in 2001.

<Table 2> *Chaebols* NPLs Purchased by KAMCO (billion won)

	Name of *Chaebol*	Book Value (A)	Actual Value (B)	B/A
Top 30 *chaebols*	Daewoo	35,806	12,740	35.6%
	Kia	3,126	1,362	43.5%
	Ssangyong	742	221	29.8%
	Halla	410	55	13.4%
	Kohab	663	115	17.3%
	DongAh	879	248	28.2%
	Jinro	1,324	433	32.7%
	Hanil	625	522	80.9%
	Anam	27	4	14.8%
	Haitai	445	49	11.0%
	Shinho	118	44	37.3%
	Tongil	239	112	46.9%
	New Core	949	307	32.3%
	Dongkuk	288	45	15.6%
	Saehan	120	50	41.7%
	Kabeul	53	24	45.2%
	Keopyong	158	92	58.2%
31-63 *chaebols*	Byuksan	87	54	62.1%
	Daenong	403	145	36.0%
	Woobang	367	71	19.3%
	Soosan Heavy	51	29	56.9%
	Kangwon Industry	42	28	66.7%
	Chungkoo	382	134	35.1%
	Sepoong	2.4	1.3	54.2%
	Bosung	465	151	32.5%
	Jindo	175	26	14.9%
	Shinwon	3.5	3.0	85.7%
	Nasan	170	91	53.5%
	Keukdong	328	190	57.9%
	Daedong	368	158	42.9%
Total		48,327	17,401	35.6%

Source: KAMCO

While formal insolvency procedures were also applied to a few troubled *chaebols*, it was, informal workout programs that played a far more important role in corporate restructuring.[2] A prime example of informal workout is the restructuring of Daewoo Group, the second largest business group at that time that was technically insolvent by June 1999. Due to a massive non-performing debt amounting to about US$72 billion, 12 affiliates of Daewoo entered into informal workout programs in August 1999. Implementing the workout programs was not, however, easy as they involved a large number of domestic and foreign creditors with conflicting interests. Eventually, public funds were used in early 2000 to purchase US$3.9 billion of loans from more than 300 foreign creditors.[3]

In July 2001, the Corporate Restructuring Promotion Act was enacted to facilitate coordination among creditor institutions in corporate debt restructuring processes. This Act was established to formalize the workout programs but only for a period of 5 years. And the Act also included additional special features to enhance the debt restructuring process including a mechanism of arbitrations in order to resolve disputes or conflict between creditors, as well as requiring NBFIs to participate in the debt restructuring process.

The financial crisis of 1997-98 prompted a number of changes in laws relating to

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[2] Korea's corporate workout programs are based on the 'Corporate Restructuring Agreement' signed by more than 200 financial institutions. If the creditors representing more than 75 percent of a firm's financial obligations approve the debt restructuring plan, it becomes binding for all creditors. If the creditors cannot reach agreement, the main bank may request arbitration by the Corporate Restructuring Committee. The modality of debt restructuring includes debt-equity swaps, term extension, deferred payment of principal or interest, interest rate cuts and provision of new credits.

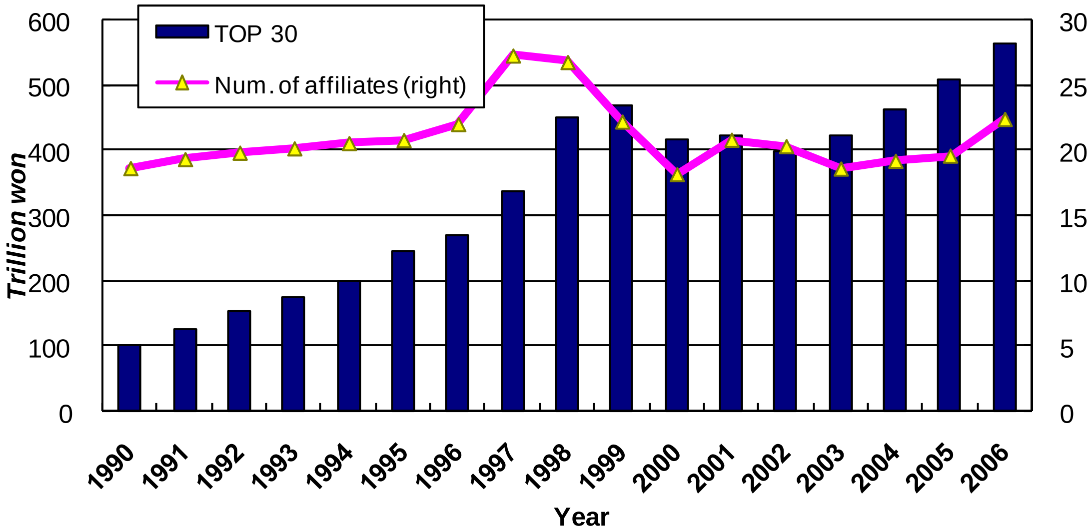
[3] As mentioned above, it was difficult to correctly assess the significance of Daewoo's financial trouble due to the lack of transparent accounting information. Indeed, financial creditors of Daewoo and accounting firms had performed due diligence process two times, but their assessments on the financial aspect of Daewoo showed great difference over time. As of the end of 1999, the final report on Daewoo's financial status revealed that the net asset of 12 Daewoo affiliates combined, which were subject to workout programs, was as low as –29.2 trillion won, while Daewoo reported +14.1 trillion won for that figure in June 1999. This difference originated from inflated reporting on assets combined with deflated debt figures by Daewoo. Specifically, total asset of those 12 affiliates turned out to be 59.7 trillion won in the final report, which is far below the figure provided by Daewoo of 91.9 trillion won. The final figure for total debt was 89.0 trillion won, while Daewoo initially reported 77.8 trillion won for that figure.

corporate restructuring. The Corporate Reorganization Act was amended in1998 and 1999 to improve insolvency laws with the following changes. First, an *economic efficiency criterion* was established, specifying the qualification for judicial insolvency procedures: the court now disqualifies a candidate firm whose going concern value is less than its liquidation value. DongAh Construction, the tenth largest *chaebol*, that underwent bankruptcy procedure in May 2001, was a case in point in that the court declared DongAh's liquidation value was greater than its going concern value by 200 billion Won. Second, to enhance the capacity of the court to deal with bankruptcy cases, a court receivership committee, similar to the U.S. Trustees in some respects, was established. It is composed of accountants and lawyers experienced in corporate reorganization. Third, to speed up proceedings, time limits were introduced for the critical steps in the proceedings such as the decision on stay, the report of debts and equities, and the approval of a reorganization plan. Fourth, the 1999 Amendment further provides that the court send reorganization cases to the liquidation procedure in case they fail to proceed in an orderly manner. In addition, the Composition Act was amended in 1998 prohibiting large firms with complicated capital structures from allowing them to enter composition and thus preventing the abuse of the composition procedure. This appears to have had a salutary effect, as shown by the fact that the firms in the 1998 cohorts that entered both corporate reorganization and composition out-performed those in their 1997 counterpart (Joon-Kyung Kim 2004).

The post-crisis corporate sector restructuring differs in a number of ways from that undertaken in the 1980s. Foremost of all, the sheer size of NPLs created a strong need for a large and rapid response by the government in mobilizing public funds. At the same time, given the large size and scale of insolvency involving *chaebols*, informal workout programs had to be used to facilitate restructuring and keep under control the disruptive effects of formal bankruptcies. Another difference is the use of economic efficiency as a criterion in determining during formal rehabilitation proceedings whether troubled firms should be rehabilitated or liquidated. Also introduced was a system of open and transparent procedures for corporate restructuring and proper due diligence, a feature that the past corporate restructuring failed to introduce. These measures appear to have had a positive effect on investment by domestic as well as foreign investors and thus enhancing the share values of the restructured firms (Lim 2002).

In the past ten years or so Korea's corporate sector has made significant progress in terms of soundness and efficiency, unprecedented by Korea's own historical standards. The extremely high debt-equity ratios of over 500 percent in the years preceding the crisis was brought down to the target level of 200 percent by the end of 2000, and intra-*chaebol* debt guarantees of the thirty largest *chaebols* have been reduced significantly. More importantly, many large-scale spin-offs have resulted in streamlining business activities among the financially weak *chaebols* with a significant reduction in the number of poorly performing affiliates. Indeed, as can be seen in the Figure 1, the average number of affiliates of the top 30 *chaebols* fell by a third between 1997 and 2000, remaining more or less the same since then. It should be noted, however, that the decline in assets and the number of affiliates in 2000 was largely due to the demise of Daewoo, the second largest group at that time. As such, the restructuring of the poorly performing businesses led to the reallocation of labor and capital from troubled to growing firms.

<Figure 1> Total Assets and the Average Number of Affiliates of Top *30 Chaebols*



2.2 Reform in Corporate Governance

In February 1998, the Kim Dae Jung administration proposed a series of corporate reforms designed to enhance transparency, stop cross debt guarantees, improve financial structure, streamline business activities, and strengthen accountability. In addition, three measures were implemented to enhance corporate governance—the separation of bank from industrial capital, restriction of intra-group investment and illegal internal transactions among group-affiliated firms, and prohibition of illegal bequest of family ownership.

Measures to strengthen accountability of owners/managers are also in the works. In order to improve the decision making process in the board of director, the role of company directors is enhanced with the responsibility of directors reinforced by introducing the fiduciary duty of directors. *De facto directors* including controlling shareholders are now subject to the same legal obligations as elected directors. In addition, beginning in 1998, listed companies are required to appoint at least one outside director. Furthermore, between 1999 and 2001, additional measures to strengthen the role of outside directors were implemented. Outside directors of listed companies are now to account for no less than one-fourth of the total number in the board of directors. Then in 2001, this requirement was raised to at least a half of total directors for listed corporations with total assets of over 2 trillion won. By the end of 2006, all 725 listed companies appointed 1,236 outside directors.

To protect the minority shareholders right, various measures have been introduced. Thresholds for various initiatives were lowered when they involve the removal of a director, and the right to file a derivative suit and to inspect account books. These measures were designed to protect minority shareholders from expropriation by dominant shareholders and mangers. In addition, a cumulative voting system was introduced in June 1999 in order to enable minority shareholders to elect a director, who would best represent their interests. In this new system, shareholders with less than 3 percent of the outstanding stocks will be able to make a claim for cumulative voting. This is not, however, mandatory and most of the listed *chaebol* member firms have amended their charters to prevent cumulative voting. The changes of minority shareholders' rights are summarized in Table 3.

As can be seen in Table 3, Korea's institutional and legal framework has been overhauled to improve corporate governance. According to a study by the Korea Development Institute, which examined corporate governance, Korea scored an overall score of 0.8 out of 1.0, just slightly below the U.S. score of 0.89 (Table 4). Korea's corporate governance scored highest in accountability of managers through shareholders rights, establishment of a market for corporate control and holding controlling shareholders legally liable. Furthermore, Korea scored relatively well in the areas of disclosure and audit. We should note, however, that the enforcement index is much less than the institutional index in all categories, suggesting that the newly established rules and regulations are yet to be effectively enforced.

< Table 3> Key Item of Minority Shareholder Rights

	Former Commercial Code	Amendments	Securities and Exchange Act
Removal of a Director	5%	3% (Art.385②)	0.5%(0.25%) (Art.191/13②)
Right to Injunction	5%	1% (Art.402)	0.5%(0.25%) (Art.191/13②)
Derivative Suit	5%	1% (Art.403)	0.01% (Art.191/13①)
Shareholder's Proposal	-	3% (Art.363②)	1%(0.5%) (Art.191/14①)
Demand for Convocation	5%	3% (Art.366①)	3%(1.5%) (Art.191/13④)
Right to Inspect Account Books	5%	3% (Art.466①)	1%(0.5%) (Art.191/13③)
Right to Inspect Affairs and Company Property	5%	3% (Art.467①)	3%(1.5%) (Art.191/13④)
Removal of Liquidation	5%	3% (Art.539②)	0.5%(0.25%) (Art.191/13②)

* Parentheses show the case of corporations with more than 100 billion won, paid-in capital in the end of the recent business year.

<Table 4> Corporate Governance and Investor Protection

	Institution Index (A)	Enforcement Index (B)	(A)-(B)
Disclosure and Audit	0.79	0.50	0.29
Disclosure	0.88	0.47	0.41
Audit	0.63	0.53	0.10
Supervision and Litigation by shareholders	0.72	0.39	0.33
Independence of supervisory bodies	0.50	0.47	0.03
Power of supervisory bodies	1.00	0.51	0.49
Litigation by shareholders	0.67	0.19	0.48
Accountability of managers	0.90	0.45	0.45
Shareholders’ rights	0.88	0.34	0.54
Market for corporate control	1.00	0.56	0.44
Director/controlling shareholders’ liability	0.83	0.45	0.38
Overall	0.80	0.45	0.35

* Index score ranges between 0 and 1, with 1 being the perfect score

** The institution index is constructed by examining the legal framework, while the enforcement index is based on a survey of experts

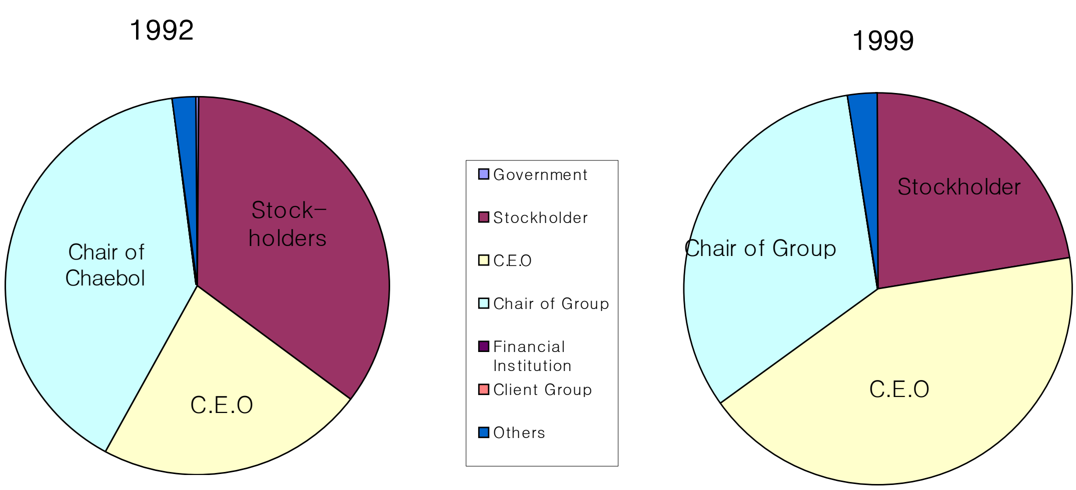
Source: Youngjae Lim et. al (KDI, 2003), Recited from OECD (2004)

The increase in outside directors on the board directors should have had a positive impact on corporate governance but in reality it has had only a limited effect. Many of the outside directors have not acted as independently as they are often close associates of the family owners or managers. In fact, as of 2003, 76 percent of the outside directors were appointed by the controlling shareholders and majority shareholders. The role of outside directors is further limited as their participation rate in board meetings is low (only 69 percent). In fact, only 3.7 percent of listed companies have recorded outside directors voting against the board, rendering support to the perception that their role in the board is nothing more than "rubber stamping." Using the data of Korean listed companies, Cho (2005) found that the role of outside directors has been limited to enhance firm performance, measured by Tobin's q. Cho (2006) also showed that outside directors have not contributed to controlling Korean listed firms' agency costs.

The reforms have somewhat improved disclosure and audit through legal enforcement by penalizing not only the companies as well as the auditors for accounting fraud. For example, the Supreme Court set judicial precedent by ruling that the companies committing false accounting could be tried for criminal activity. In Daewoo's case, the court ruled a fine of 26 trillion won against the former Daewoo management for window-dressing in 2001. However, we see that there are still many inadequacies: although the rules for disclosure and audit meet global standards, whether they are effectively implemented is another matter, as demonstrated in a recent case involving SK Group, fourth largest *chaebol,* in an accounting scandal.

Although it goes without saying that more work is needed in improving corporate governance in Korea, there are signs that the reform effort so far has resulted in some real improvements. For instance, the market seems to be rewarding companies with good governance with higher share prices. Using panel data on the governance of Korean listed companies over 1998-2003, Black, Kim, Jang and Park (2005) show that an overall corporate governance index is an important and likely causal factor in explaining these firms' market values, measured by Tobin's q. Another sign is that, according to a survey (Kim, Kim, and Kim 2000), the influence of the chair decreased from 40.3 percent in 1992 to 32.5 percent in 1999 and CEOs voice became more important in selecting board directors in 1999 than in 1992 (Figure 2). Further, the proportion of CEOs directly relate to the founders decreased significantly from 30 percent in 1992 to 5 percent in 1999 with an overwhelming share of CEOs being recruited from within the firm (77.5%). Although this is a sign that there has been a significant improvement in recruiting and promoting "professional managers," questions remain as to whether it has led to any measurable decrease in the influence of the founder's family, as the founder's family can "effectively" manage the *chaebol* with even less than 4% ownership.

<Figure 2> Selection of the Board Directors (1992, 1999)



Kim, Kim, Kim (2001)

Korea has undertaken a major restructuring of its corporate sector since the 1997 crisis. A number of *chaebols* have been dissolved, the average debt-to-equity ratios of listed companies have been significantly reduced, and transparency and corporate governance have improved with accounting and auditing standards being brought close to international best practices. Underlying the government's effort to reform the corporate sector has been the idea that the strong market discipline and not government intervention should lead the restructuring process. Thus creditors and shareholders are now empowered to monitor corporate governance; more rigorous bank accounting standards are in place; an M&A market has actively been promoted, and the Corporate Restructuring Promotion Act was enacted to facilitate coordination among creditor institutions in corporate debt restructuring processes.

Questions have been raised, however, regarding the wisdom of imposing the so-called global standards in corporate governance in Korea. Jwa (2003) doubts whether the global standards, which are in fact the Anglo-American standards, will work effectively in Korea, a country that differs from the West in history, culture, and institutions. A similar concern was raised by Keun Lee (2003), who found that soon after the crisis Korea had succeeded in bringing about changes in the areas where targets for reform could readily be quantified as in outside directors in the board and the debt ratio but had yet to see improvements in the actual workings of the board of directors and corporate governance in general. These relate to person-to-person relations where informal institutions such as culture and the "habits and mindsets" of the actors play an important role.

3. The Effects of Corporate Reform : Empirical Framework and Data

Corporate restructuring has resulted in a sea change in the landscape of Korean chaebols with more than one half of the top 30 chaebols were replaced with new members. Corporate governance reform also led to a dramatic change at least in tangible institutions and regulations. As indicated by a significant gap between institution and enforcement index reported in Table 4, however, it remains to be seen if the governance reform has indeed produced the intended effects on chaebols' behavior. What are the effects of the post-crisis corporate governance reform? What evidence do we have regarding the effects of the governance reform? In this section, we explore these questions.

Our analysis is closely related to Lee, Park and Shin (2009) and Samphantharak (2006), both of which examine the operation of internal capital markets within business groups. Lee, Park and Shin examine if the role of internal capital markets in resource allocation has changed systematically after the 1997 crisis in Korea, and find that internal capital markets operated effectively prior to the crisis but lost their significance after the crisis.[4] Samphantharak develops a structural model of investment by business groups assuming costly external finance and tests the implication of the model for the emergence of internal capital markets in business groups by using Thailand data.

Following these works, we estimate an investment equation for chaebol firms and test if the post-crisis corporate reform has a systemic effect on *chaebol's* investment decision. The baseline specification of our regression equation is characterized as follow:

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[4] Lee, Park and Shin estimate a standard investment function that relates investment to Tobin's Q, firm's own cash flow, and group cash flow by using a panel sample of listed chaebol firms. They find that group cash flow is a statistically significant determinant of investment over the pre-crisis period but loses its significance after the crisis—an evidence for a disappearing role of internal capital markets for *chaebols*.

$$I_{ijt} = \alpha Q_{ijt} + \beta LV_{ijt} + \gamma_0 OC_{ijt} + \gamma_1 (DL \times OC)_{ijt} + \gamma_2 (DF \times OC)_{ijt} + \text{Constant terms}$$

where subscripts i, j and t are used to denote business group, individual firm, and the time period, respectively. I, Q, LV and OC represent investment, Tobin's q (or industry q for non-listed firms), financial leverage, and the firm's own cash flow, respectively. DL is a dummy for listed firms while DF is a dummy for business groups that own financial intermediaries as a subsidiary. Constant terms include year, business group, and industry dummies. These dummies are expected to capture the business group specific factors and common macroeconomic effects.

While the specification is similar in many respects to those of Lee, Park and Shin or Samphantharak, it departs from them in several important ways. First, we include not only listed firms but also non-listed firms in our sample. We suspect that internal capital markets within *chaebols* may have played a particularly important role in channeling financial resources to non-listed firms where ownership is far more concentrated than listed firms. In this respect, focusing only on listed firms may fall short of identifying the full effect of post-crisis reform on *chaebols*' changing behavior. Second, we examine if the ownership of within-group financial intermediaries helps in any systematic way the operation of internal capital markets and ultimately the investment decision. If the post-crisis corporate reform has the intended effect and, as a result, the role of internal capital markets has weakened, the ownership of within-group financial intermediaries should have a significantly weaker effect on *chaebols*' investment once other determinants are adequately controlled.

We measure investment (I) by capital expenditure (calculated from the cash flow table of a firm) rather than a change in the fixed assets (as used by Samphantharak). The definition of capital expenditure used in our study is close to that of COMPUSTAT capital expenditures, and includes net expenditures for tangible assets including machines, vehicles & transport, tool & fixtures, assets in construction, and other tangible assets. We believe that use of the simple change in the fixed assets for investment is highly inadequate because it involves asset revaluations and depreciation that had been actively undertaken after the 1997 crisis (Lim, 2008). To control for size, we normalize capital expenditures by the stock of fixed asset at the beginning of the year.

For independent variables, the firm's own cash flow (OC) is defined as net profits scaled by the stock of fixed asset at the beginning of the year. Tobin's q is constructed as the ratio of total market capitalization to the book-value of capital. This variable is widely used to capture firm-specific investment opportunity. For non-listed firms for which no stock price data is available, we use the industry q as a proxy for Tobin's q where the industry q is computed as a simple average of Tobin's q of listed firms in the same industry to which the specific non-listed firm belongs. Finally, financial leverage (LV) is measured by the ratio of total debt to total assets.

The coefficients of our interest are those associated with the interaction terms denoted by γ_1 and γ_2. The two dummy variables, DL and DF, are interacted with OC to distinguish between listed and non-listed firms and between business groups with or without financial intermediaries. We expect that $\gamma_1 > 0$ and $\gamma_2 < 0$. Listed firms are typically better monitored than non-listed firms and also subject to stock exchange regulations on minority shareholder rights. As a result, listed firms would face greater difficulty in transferring financial resources across affiliated firms and thus are likely to depend less on internal capital markets but more on its own cash flow in investment financing ($\gamma_1 > 0$). Regarding the sign of γ_2, our prior reflects the view that the ownership of financial intermediaries facilitates the functioning of internal capital markets helping relax the financing constraint of other subsidiaries. Consequently, investment is likely to be less sensitive to the own cash flow if the firm is a subsidiary of a chaebol that owns financial intermediaries ($\gamma_2 < 0$).

Given these priors, our key hypothesis about the effect of the post-crisis corporate reform is summarized as follows:

- γ_0 and γ_2 should be smaller in absolute value for the post-crisis period
- γ_1 should be larger in absolute value for the post-crisis period.

The sensitivity of investment to the own cash flow is expected to have declined after the crisis in line with the increased availability of cheaper external finance following the capital account liberalization. The effect on investment of the ownership of financial intermediaries should also become smaller if the post-crisis corporate reform has effectively improved transparency and governance. As discussed earlier, the post-crisis corporate governance reform in Korea is likely to have strengthened the protection for outside shareholders from being exploited by the inside, controlling shareholders. By contrast, the difference between listed and non-listed firms should increase following the corporate governance reform that required more stringent international standards for listed firms.

We use firm-level data from the database of the Korea Information Service (KIS). KIS data contains comprehensive financial information regarding not only firms listed in the Korea Stock Exchange (KSE) but also non-listed firms that are required to be externally audited. Our study covers the period 1994-2008. The sample period excludes the years 1997 and 1998 to disregard the abnormal investment behavior during the transition period around the financial crisis. Although the KIS database includes firms listed both in the KSE and KOSDAQ stock markets, we exclude firms listed in the KOSDAQ market since their firm characteristics and behavior are quite different from those of *chaebol* firms.

Business groups are defined based on ownership and managerial control. Firms are in the same group if they are (wholly or partly) owned and managed by the same individual or the same group of individuals such as a family. To identify groups, we use the information from KIS. In constructing the sample of firms affiliated with groups, we define groups as those that have existed every year for the whole sample period during 1994-2008 with at least five externally-audited affiliates within the group. We exclude all of those who underwent corporate rehabilitation procedures as well as those who became the new *chaebols*[5] as a result of *chaebols'* spin-off (separation) after the 1997 crisis. Accordingly, a total number of business groups or *chaebols* in our sample is 29. Table 5 presents summary statistics for the 29 chaebols regarding the number of externally-audited affiliates, listed firms, and within-group financial intermediaries. About 48% of the sample firms were listed in the Stock Exchange of Korea, and each *chaebol* has on average 2.6 within-group financial intermediaries.

[5] For example, Hyundai Automobile, Hyundai Engineering and Construction, Hyundai Heavy Industries, Hyundai Development (Engineering and Construction), Hyundai Oil Bank, Hyundai Department Store, Hynix, GS, LS, Hanjin Heavy, and S-Oil have been separated from those parent *chaebols*.

<Table 5> Summary Statistics of Group Level

	Average			Minimum			Maximum		
year	No. of listed firms	No. of affiliated firms	No. of within-group intermediaries	No. of listed firms	No. of affiliated firms	No. of within-group intermediaries	No. of listed firms	No. of affiliated firms	No. of within-group intermediaries
1994	6	11	2	0	5	1	21	32	5
1995	7	12	2	0	5	1	22	35	5
1996	7	12	2	0	5	1	23	36	6
1999	7	14	3	0	6	1	25	36	8
2000	7	13	3	1	6	1	23	29	9
2001	7	13	3	1	5	1	29	45	8
2002	6	14	3	1	5	1	30	47	9
2003	7	14	3	1	5	1	30	48	8
2004	7	14	3	1	5	1	29	47	7
2005	6	14	3	1	5	1	25	44	7
2006	6	15	3	1	5	1	25	46	7
2007	6	16	3	1	5	1	23	46	8
2008	6	16	3	1	5	1	22	52	7

4. Empirical Results

Table 6 reports the OLS estimation results for the investment equation for two sub-sample periods: the pre-crisis period (Panel A) and the post-crisis period (Panel B).[6] The results are fairly strong with high adjusted R-squared. All coefficients but those of Tobin's q are statistically significant and of the expected sign.

In Panel A, investment is quite sensitive to own cash flow for non-listed firms of the chaebol with no financial intermediaries. If the same firm belongs to a *chaebol* with financial intermediaries, however, investment is almost insensitive to own cash flow. This result suggests that having within-group intermediaries helps the operation of internal capital markets and facilitates within-group resource allocation. Note that this result is consistent with the finding of Hoshi, Kashyap and Scharfstein (1991) that intermediaries affect investment-cash flow sensitivity of firms in business groups. The coefficient of the interaction term for listed firms is positive and significant, implying that listed firms depend more on their own cash flows in investment financing and less on within-group financial resource transfers.

The basic picture remains the same in the post-crisis period. All coefficients of our interest are statistically significant and of the expected sign. More important is that all coefficients support our hypothesis. Specifically, investment becomes generally less sensitive to own cash flow during the post-crisis period, reflecting the increased availability of cheaper external finance. Consistent with our hypothesis, the coefficient of the interaction term for listed firms is larger than the same coefficient reported in Panel A. Finally, the ownership of financial intermediaries has weaker effect on investment than in the pre-crisis period.

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[6] We excluded outliers for all variables that appear beyond their sample mean ± 2 sigma.

Collecting these results imply that the post-crisis corporate reform has had its intended effects but the effects are not as dramatic as argued by Lee, Park and Shin (2009). Rather, our results suggest that internal capital markets of chaebols are still at work at least for non-listed firms although much weaker than before. In this light, our results appear more consistent with the study by the Korea Development Institute that documents significant gap between institution and enforcement (Table 4).

<Table 6> Regression of capital expenditure on cash flow, Q, Regulation, within group intermediaries

	Panel A: Pre-crisis period (1994-96)	Panel B: Post-crisis period (1999-2008)
Cash flow to fixed assets	1.402 (15.56)	0.463 (25.75)
Tobin Q	0.613 (0.68)	-2.560 (-0.87)
Leverage	3.606 (1.19)	32.28 (2.66)
Dummy for listed firm x Cash flow to fixed assets	0.487 (2.35)	0.739 (17.72)
Dummy for group with intermediaries x Cash flow to fixed assets	-1.521 (-13.03)	-0.213 (-8.63)
Year Dummies	Yes	Yes
Industry Dummies	Yes	Yes
Group Dummies	Yes	Yes
Observations	329	2,154
Adj R-squred	0.443	0.429

5. Conclusion

The 1997 financial crisis turns out to be a major turning point in the history of Korean *chaebols*. The post-crisis corporate reform has resulted in a dramatic change in the landscape of *chaebols* as about one half of the top 30 *chaebols* changed their names after the crisis. The reform was swift and unprecedented in its comprehensiveness encompassing a wide range of structural changes in the financial structure and corporate governance of *chaebols*. Improved transparency and strengthened shareholder rights helped *chaebols* to have greater access to cheaper external finance made available by capital market opening.

Nevertheless, the corporate reform is an ongoing process in Korea with full effects yet to be seen. Our empirical findings suggest that the role of internal capital markets has faded out after the crisis but not fully yet. Investment by non-listed *chaebol* firms remains fairly insensitive to the own cash flow if the firm belongs to a *chaebol* that owns financial intermediaries. The positive effect of corporate reform appears to have been felt asymmetrically between non-listed firms whose ownership is more concentrated and listed firms that are now subject to more stringent international standards and monitoring by shareholders. These findings imply that key policy challenges in the future are to eliminate the gap between *de jure* institution and *de facto* enforcement standards.

References

Black, Bernard, Kim, Woochan, Jang, Hasung, and Park, Kyung-Suh, "Does Corporate Governance Predict Firms' Market Values? Time Series Evidence from Korea," KDI School Working Paper Series, Working Paper No. 05-11.

Chopra, Ajai; Kang, Kenneth; Karasulu, Meral; Liang, Hong; Ma, Henry; and Richards, Anthony, "From Crisis to Recovery in Korea: Strategy, Achievements, and Lessons" in David T. Coe and Se-Jik Kim (eds), *Korean Crisis and Recovery*, International Monetary Fund and Korea Institute for International Economic Policy, IMF, Washington, D.C., 2002

Cho, Sungbin, "Interdependence of Corporate Control Mechanisms and Firm Performance," KDI Policy Study, Korea Development Institute, 2005

Cho, Sungbin, "A Study on Korean Firms' Agency Costs," KDI Policy Study, Korea Development Institute, 2006

Hoshi, Takeo, Anil Kashyap, and David Scharfstein, "Corporate Structure, Liquidity, and Investment: Evidence from Japanese Industrial Groups," *Quarterly Journal of Economics* 106, 1991, 33-60

Jwa, Sung-Hee, "In Search of 'Global Standards': The Fallacy of Korea's Corporate Policy," *Harvard Asia Quarterly*, Spring 2003, 45-52

Kim, Eun Mee, Kim, Joon-Kyung, and Kim, Jun-Il, "Restructuring of the *Chaebols* and Financial Sector in Korea: Progress and Assessment since the Financial Crisis," ICSEAD(International Centre for the Study of East Asia Development) Working Paper 2000-23, 2000.

Kim, Joon-Kyung, "Assessment of Progress in Corporate Restructuring in Korea since the 1997-98 Crisis ," *Journal of Restructuring Finance*, Vol. 1, No. 2, 2004.

Lee, Keun, "Corporate Governance and Restructuring in Korea: Before and After the Crisis" in U. Haley and F. Richter (eds), *Asian Post-Crisis Management*, Palgrav, 2002

Lee, Keun, "Global Standards vs. Local Specificity in Corporate Reform in Korea," Seoul National University, August 30. 2003

Lee, Sangwoo, Kwangwoo Park, Hyun-Han Shin, "Disappearing internal capital markets: Evidence from diversified business groups in Korea," *Journal of Banking & Finance*, 33, 326-334, 2009

Lim, Kyung-Mook, "Impacts of Increasing Volatility of Profitability on Investment Behavior," *Korea Development Review*, Vol. 30, No. 1 2008.

Lim, Youngjae et al. "Developing and Measuring an Evaluation Index for Market Reform," Korea Development Institute, Seoul, mimeo.

Organization for Economic Cooperation and Development, *OECD Economic Surveys 2004 Korea*, OECD 2004.

Samphantharak, Krislert, “Internal Capital Markets in Business Groups,” Mimeo, October 2006.

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