

# Structural Fundamentals of Korean Corporations: This Time Was Different

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## 1. Introduction

The financial crisis in 2008 has affected the world economy by the most far-reaching level since the great depression. In the beginning of the crisis, Korea was hit severely partly due to the high exposure to the outside demand and the Won depreciated deeply reflecting pessimistic views on the Korean economy. In fact, some commentators such as popular media criticized that Korea have not learned lessons from the financial crisis in 1997.

But the Korean economy has recovered relatively well. There were many factors which enabled this robust recovery. Government policies such as expansionary fiscal and monetary policy were promptly taken and turned out to be very effective. Early recovery of developing countries including China created ample external demand.

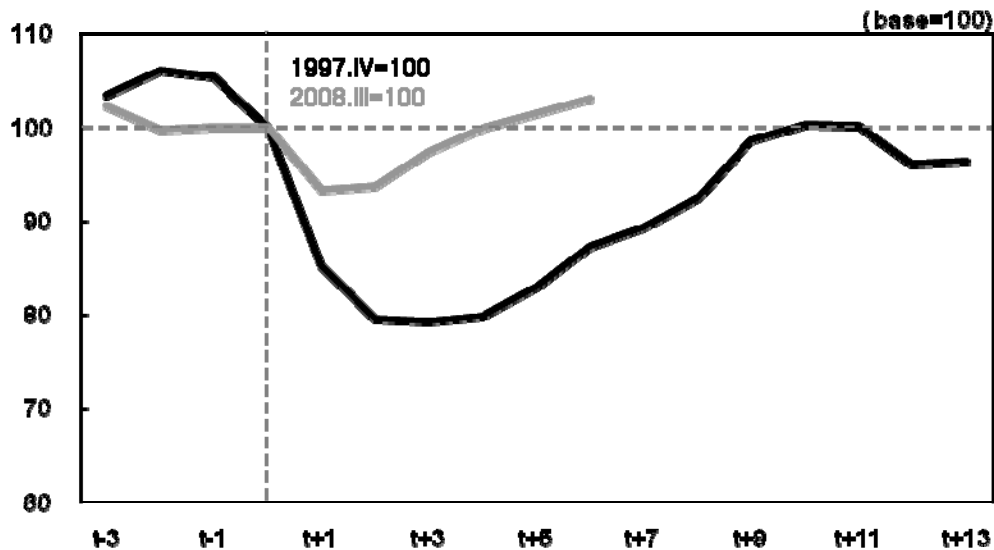
Moreover, the fundamentals such as financial soundness of financial institutions and corporations notably improved after the financial crisis in 1997. Especially, chaebols that routinely pushed growth and market share at the expense of profitability and shareholder's value<sup>1</sup> have experienced a full scale restructuring (financial and non-financial) and improved their corporate governance. These fundamental changes were mainly due to the law and regulation reform driven by the outbreak of the crisis and the market monitoring mechanism outgrown by these policy reforms. The notorious high debt-equity ratio declined significantly and liquidity of the corporation (cash holding ratio) increased.

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<sup>1</sup> Such kind of mismanagement was sustainable only because there was no checking mechanism available to restrain reckless business diversification, excessive borrowing, and dogmatic decision making by the controlling shareholders.

With these improved fundamentals the Korean corporations were able to absorb this huge external shock effectively. Thus, domestic demand such as private consumption and investment did not collapse as much as during the financial crisis in 1997.<sup>2</sup> Figure 1 shows fixed investment in Korea during and after the two crises. In 1997, fixed investment plummeted more than 20% after the outbreak of the crisis and it took more than 2 years to recover the pre-crisis level of investment. In contrast, the decline in fixed investment after the financial crisis in 2008 was much more modest and recovered quickly in less than a year. After the financial crisis in 1997, there were massive lay-offs in the labor market due to bankruptcies and restructuring pressure. The employment level did not fully recover even after 2 years. The employment adjustment process was relatively benign in 2009.<sup>3</sup>

**Figure 1. Comparison between 1997 and 2008 crisis: fixed investment**



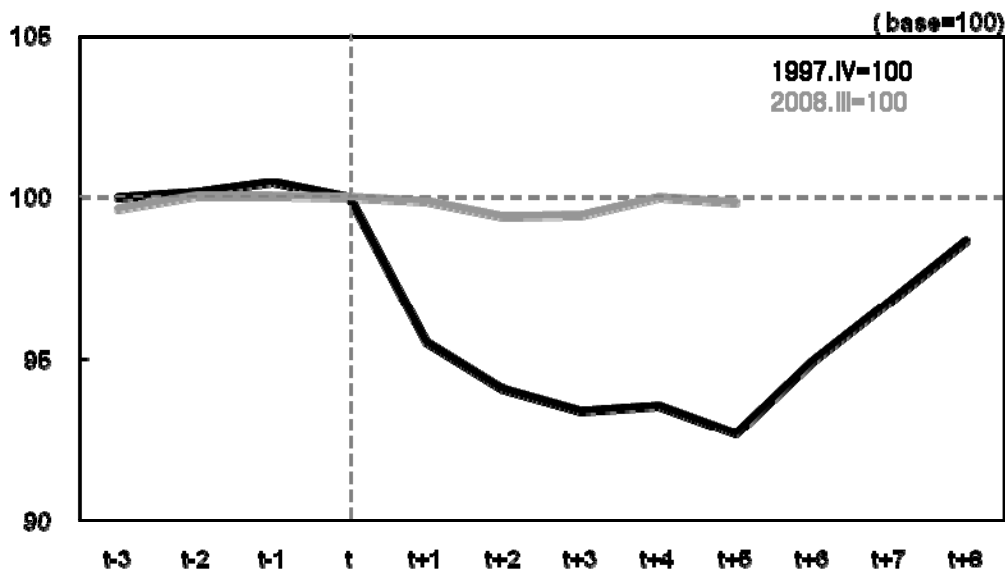
Source: Bank of Korea

Note: seasonally adjusted quarterly data

<sup>2</sup> Cho (2009) provides a detailed explanation on the impact of the 2008 crisis on the Korean economy.

<sup>3</sup> This benign decline in employment is partly due to the major public job creation by the government. Even if we control for the effect of this program, the adjustment process of labor market was still very mid.

Figure 2. Comparison between 1997 and 2008 crisis: employment



Source: National Statistical Office

Note: seasonally adjusted quarterly data

In this paper, we will look over the financial restructuring process of Korean corporations after the financial crisis, which seems to have prevented propagation of the external shock to domestic sectors. While we will cover the overall changes in the financial structure such as cash-holding, profitability, and investment behavior, the detailed analyses will be concentrated on the debt-equity ratio changes. Before this global crisis, there were hot debates in Korea regarding the pros and cons of this financial structure and corporate behavior changes. Some have argued that this sound and relatively conservative financial management is not only natural given the memory of the financial crisis but also desirable given the increasing competition and uncertainty, while some have claimed that the new financial management scheme is too conservative to make enough investment for the future. This argument got momentum since the investment in the post-crisis period, especially equipment investment, grew very sluggish comparing to that in the pre-crisis period. The supporters of the latter view have continuously criticized the adoption of many reforms and urged a reversal or relaxation of reforms introduction of defensive schemes for hostile take-over, elimination on cross equity investment

within group affiliates, relaxing regulations on bank share holding by non-financial companies etc.<sup>4</sup>

Given the controversies regarding the effects of corporate reform in Korea, it might be the right time to go over the policy changes after the financial crisis and the process of balance sheet restructuring. Also, this financial crisis gives an opportunity for us to examine whether this time was different for Korean corporations or not.

The paper is organized as follows. Chapter 2 will introduce related studies. In Chapter 3, we will discuss the impact of the financial crisis in 1997 on the regulation and the corporate behaviors. In addition, we will look over the trends of key financial variables such as cash holding ratio, debt-equity ratio and explore determinants of debt-equity ratio in Korea. Chapter 4 summarizes and proposes some policy implications.

## 2. Related Literature

After the financial crisis in 1997 many studies have analyzed the origin of the crisis. Most of them point out the deteriorated corporate financial status as one of the major sources of the financial crisis or at least the key propagation channel of the crisis to the Korean economy. Especially, chaebol which is a conglomerate of many companies in diversified industries was at the center of lax financial management. Chaebols armed with “too-big-to-fail” pursued size-oriented strategies through heavily borrowing from financial institutions.

Many studies have examined the inefficient investment behavior of Korean chaebols in the pre-crisis periods. Most of them showed that chaebol-affiliated companies have invested either too aggressively or inefficiently comparing to stand-alone companies through huge external financing.<sup>5</sup>

Some studies have examined the effects of the financial crisis on the Korean corporations' behavior. Borensztein and Lee (2002) shows that chaebol-affiliated companies have lost the preferential access to credit that they have enjoyed in the pre-crisis period, and credit appears to have been reallocated in favor of more efficient companies. Hong et al. (2005) showed that the difference in investment behavior between chaebol and non-chaebol firms

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<sup>4</sup> Some even argued that this conservative behavior was due to anti-chaebol sentiments in Korea.

<sup>5</sup> See Shin and Park (1999), Hahn (1999), Kim (2002)

disappeared after the financial crisis and the sharp reduction in investment by chaebols in the post-crisis period can be attributed mainly to the need to reduce their debt burden.

Lee et al. (2009) showed that internal capital markets operated prior to the crisis, but lost their significance after the crisis, while Kim (2009) argues that the role of internal capital markets has faded out after the crisis but not fully yet.

As for the financial structure change of Korean companies, Lim and Choi (2007) explored cash holding pattern changes after the crisis. They showed that most of the increase in cash holding ratio is due to the accumulation of large corporations from a very low level in the pre-crisis period. Also, they showed that cash holding increase itself could not explain the investment slowdown.

Fattouh et al. (2005) is closely related to this study. They showed that efforts to reduce debt-equity ratio were concentrated on the larger corporations using 1992-2001 data and argued that the government policy which focused on chaebols was successful and can be justified. The analysis period is concentrated on the period when the restructuring process was mainly driven by the government policy. Also, it did not explore how debt-equity ratio changed overtime. Our study will cover a much longer period (1999-2009) and analyze the detailed process of debt-equity ratio and effects of debt-equity ratio changes on investment and employment, while going over other key variable changes.

### **3. Structural Changes of Korean Corporations**

#### *3.1 Impacts of the 1997 Financial Crisis*

The financial crisis in 1997 was a cornerstone for the restructuring of many Korean corporations including *Chaebols*. Not only the financial soundness but also the corporate governance have dramatically improved. At first, these changes were mainly driven by the government policies. After the crisis the government proposed a comprehensive policy reform package regarding corporate governance<sup>6</sup>, accounting and disclosure practice, financial structure, and M&A related regulations etc. Most notable changes regarding corporate debt management

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<sup>6</sup> For more detailed discussions regarding reforms on corporate governance, see Kim and Kim (2008) and Cho and Youn (2008)

are elimination of cross-guarantees among group-affiliated companies and consolidation of chaebol's accounts.

**Table 1. Chaebols Undergone Corporate Rehabilitation Procedures : Top 30 Chaebols**

Name of the Chaebol	As of the end of 1997		Type of corporate rehabilitation procedures
	Number of affiliates	Total Borrowings (billion won)	
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	Wokout (Anan 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	

Some of the measures listed above were implemented through enactments of new laws and regulations, while other corporate restructurings were implemented through the pressure of the government officials.<sup>7</sup> Among the top 30 chaebols, 17 of them were forced to undertake some form of corporate restructuring and most of the founders lost their control over the companies.<sup>8</sup> In addition, the government imposed a target debt-equity ratio (200%), which seemed to be a mission-impossible to the major chaebols until the end of 1999. This decisive but hasty restructuring pressure created a credit crunch to most companies, especially chaebols.

In addition to the government policies, other factors also affected the financial structure of the Korean corporations. First, the corporations themselves realized needs for more conservative balance sheet management. The following interview shows that how desperate the top managers were during this credit crunch period.

“During the foreign exchange crisis, I have walked out of a bank crying on more than a few occasions as it refused to provide the company with any loan. [... ..] Reflecting on these experiences, Samsung Electronics lowered its debt-equity ratio to below 100% and started the non-borrowing management system since it yielded profits over a trillion Won. As it can manage a situation comparable to the foreign exchange crisis with about 12 trillion wons, Samsung Electronics currently possesses 8 to 10 trillion Won in cash.”<sup>9</sup>

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<sup>7</sup> In 1998, the government and the top five chaebol CEOs announced an “agreement” on mergers and business swap – referred to as “Big Deal.” The Big Deal were intended to help the economy by resolving two main problems in the corporate sector such as excess capacity by over investment and high leverage. The Big Deal turned out to be a big failure with which most participants were not satisfied.

<sup>8</sup> While formal insolvency procedures were also applied to a few troubled chaebols, it was the informal workout program that played a far more important role in corporate restructuring.

<sup>9</sup> Citation from a media interview with the CFO of Samsung Electronics, Choi Do-seok, 2005.

Second, the market pressure was more actively in play especially by foreign investors. The outbreak of the crisis expedited the capital market liberalization process since there were urgent needs to induce foreign capital. The ceiling on share owned by foreign investor was gradually lifted and the foreign ownership of listed companies amounted to 37% in 2006, up from only 13% in 1996. The increased share of foreign investor and relaxed regulation regarding M&A<sup>10</sup> created sound check and balance between incumbent managers (or major shareholders) and institutional investors. Foreign institutional investors actively presented their view on corporate policies and closely monitored decisions of companies. The most striking event for the major shareholders (or founding families) was the hostile take-over attempt by Sovereign fund to SK group, one of the top 5 chaebol in Korea. In 2004, Sovereign fund purchased a significant amount of shares in SK corporation, *de facto* holding company of SK group, by utilizing the price drop due to the accusation of the CEO for accounting manipulation to hide an affiliated company's financial trouble. This attempt gained momentum since the fund claimed that they could improve the corporate governance and shareholder's value. The founding family barely defended this hostile take-over attempt with some help from domestic institutional investors.<sup>11</sup> Even though this ambitious attempt failed, this episode left strong impressions to Korean corporations.

### 3.2 Data and Descriptive Statistics

#### 3.2.1 Data

The database used in this study is obtained from the WiseFn, which cleans up the data set originally constructed by the Korea Listed Companies Association. As for the identification of

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<sup>10</sup> Before the financial crisis, most of the M&A related regulations intended to protect the founding owners of corporations. In those times, hostile M&A was generally considered to be an improper appropriation of another's property, so there were very few hostile M&A attempts. After the financial crisis, most of the regulations that worked against hostile M&A were abolished.

<sup>11</sup> After this take-over attempt, there were more cases of hostile take-over to major Korean corporations. This created a debate whether to introduce some defensive schemes such as poison pills, golden parachute, golden share etc.

Chaebols, the announcements of the KFTC (Korea Fair Trading Commission) were utilized.<sup>12</sup> Throughout our analysis we exclude service sectors since the financial sector has a very different balance sheet structure and many industries such as gas, telecom, and electricity are highly regulated. Firms with negative capital ratio are also excluded from the sample.

### **3.2.2 Trends of key financial variables**

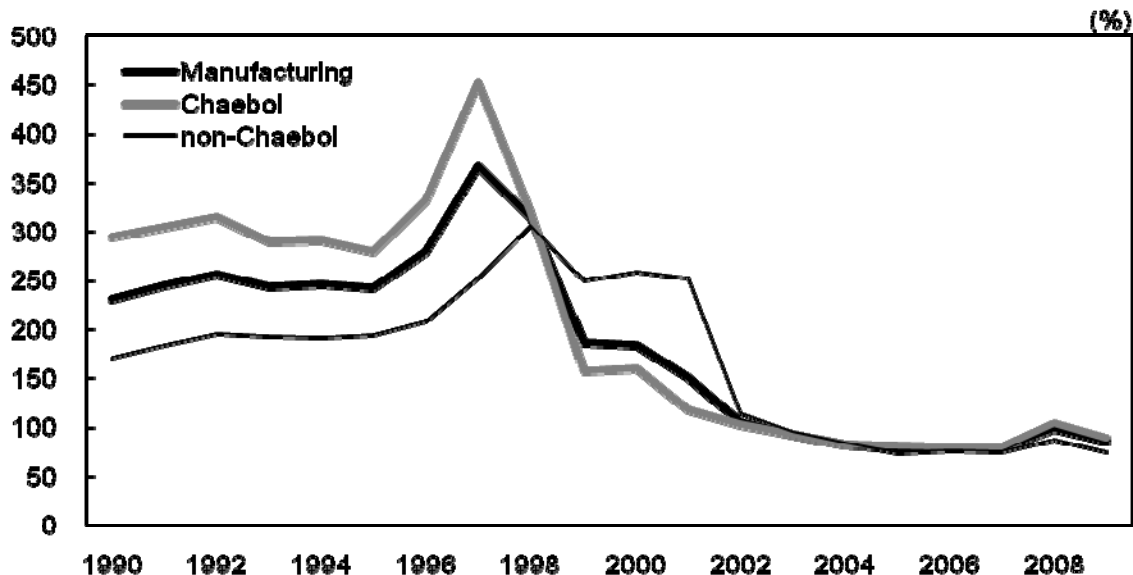
#### **Debt-equity Ratio**

The financial crisis created credit crunch to the most Korean corporations. There were both government and market pressure to improve the debt-equity ratio. The government pushed the major corporations to reduce their debt-equity ratio to below 200% until the end of 1999. Considering the high debt-equity ratio, which was around 400%, it was a daunting task for most companies. While reducing the debt level gradually, most companies tackled this task in two ways. First, they issued seasoned equity aggressively after the financial crisis. Since the stock market condition was improving as the economy recovered and the capital market was opened to the foreign investor, most companies were able to issue seasoned equity successfully. Through these new issues in equity the paid-in capital and the capital surplus increased by 66% and 115% respectively between 1997 and 1999.

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<sup>12</sup> Every year the FTC announces a list of business groups, which will be regulated by certain laws and regulations. This is mainly determined by the total asset size of the business group.

Figure 3. Debt-equity ratio of the listed companies in Korea



Source: WiseFn

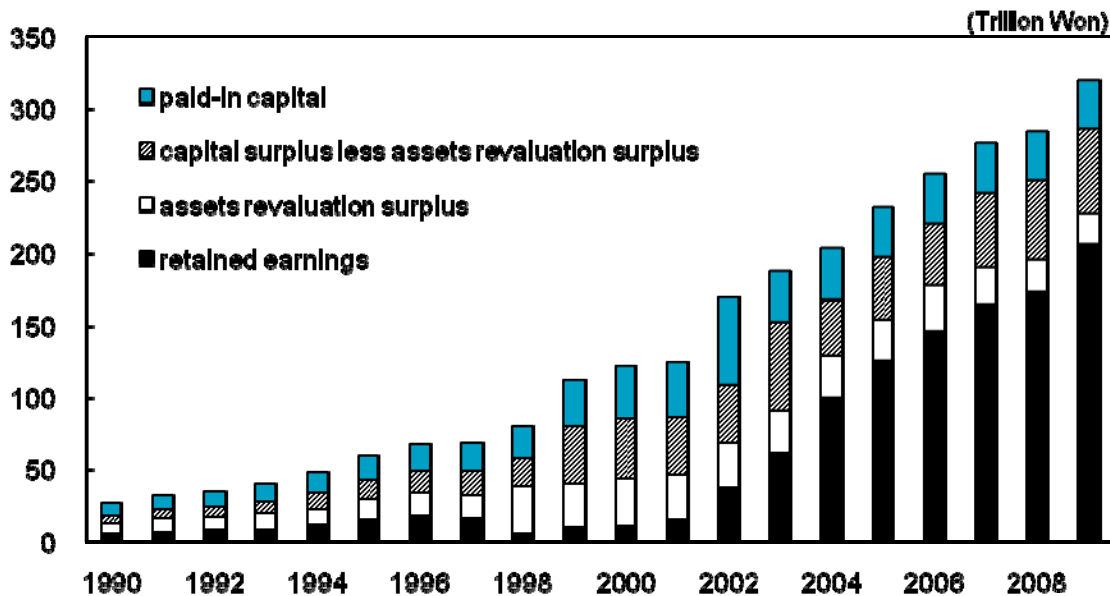
Note: asset weighted average value

Before the financial crisis in 1997 Korea followed accounting practices consistent with those of Germany and Japan. Under this accounting scheme, the corporations rely on historic cost accounting rather than fair-market value as in North American Generally Accepted Accounting Principles (GAAP).<sup>13</sup> Since most tangible assets, especially land and properties, had been appreciated significantly after the initial purchase, the reappraisals of these assets have boosted the size of equity. The asset-revaluation surplus has increased by 94% between 1997 and 1999. (see Figure 4.) These reappraisals helped the corporations achieve the “policy goal” of 200% debt-equity ratio. The debt-equity ratio successfully declined from 367% to 186% even though the total debt decreased only by 10%.<sup>14</sup>

<sup>13</sup> Booth et al. (2001) points out this accounting practice difference.

<sup>14</sup> Haggard et al. (2003) criticized that the reduction in the debt-equity ratio does not represent a genuine improvement in capital structure because it was achieved mainly through increasing equity rather than reducing debt.

Figure 4. Capital Structure of the listed companies in Korea

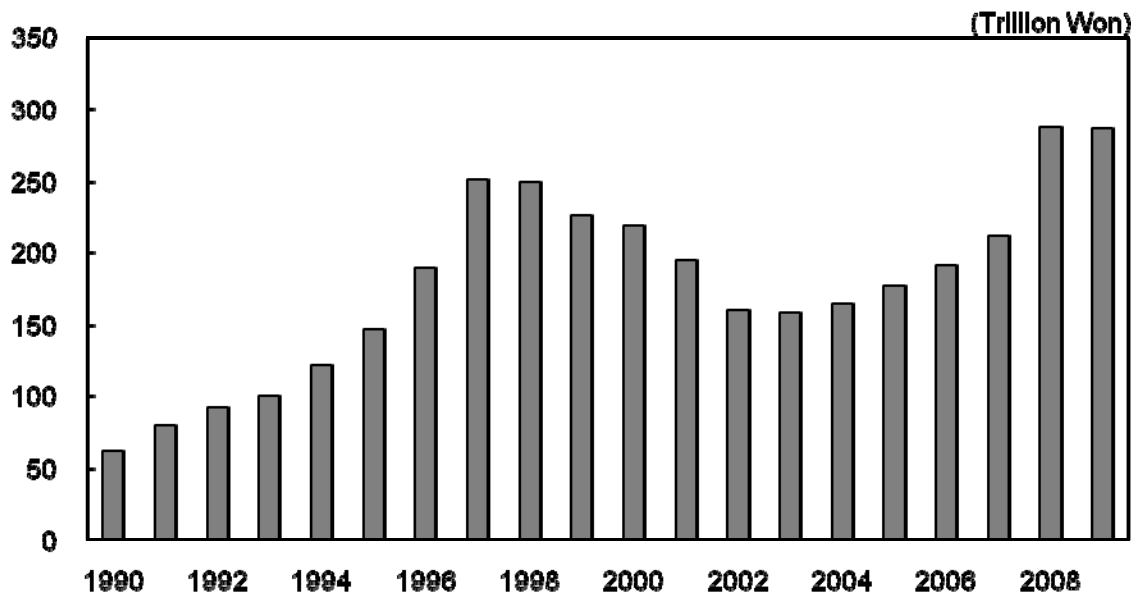


Source: WiseFn

Even after achieving the guideline given by the government, the Korean companies continuously lowered their debt-equity ratios by reducing debt and increasing equity. In fact, the reduction of debt level continued very aggressively until 2003. (see Figure 5.) Although the total debt level of the listed companies started increasing after 2004, the debt-equity ratio did not change much. This was mainly due to the improved profitability of the listed companies.<sup>15</sup> Throughout the financial and non-financial restructuring the net profit margin jumped. (see Figure 6.) Since 2000 the major factor which kept lowered debt-equity ratio stable was retained earnings reflecting improved profitability. That is, the speed of accumulation of retained earnings was fast enough to hold debt-equity ratio to the new low level, while the level of debt continuously increased.

<sup>15</sup> In general, improved quality from more intensive R&D, lower interest payment due to both lower interest rate and debt level, profit from oversea subsidiaries were considered as main sources of profitability improvements in Korea.

Figure 5. Total debt of the listed companies in Korea

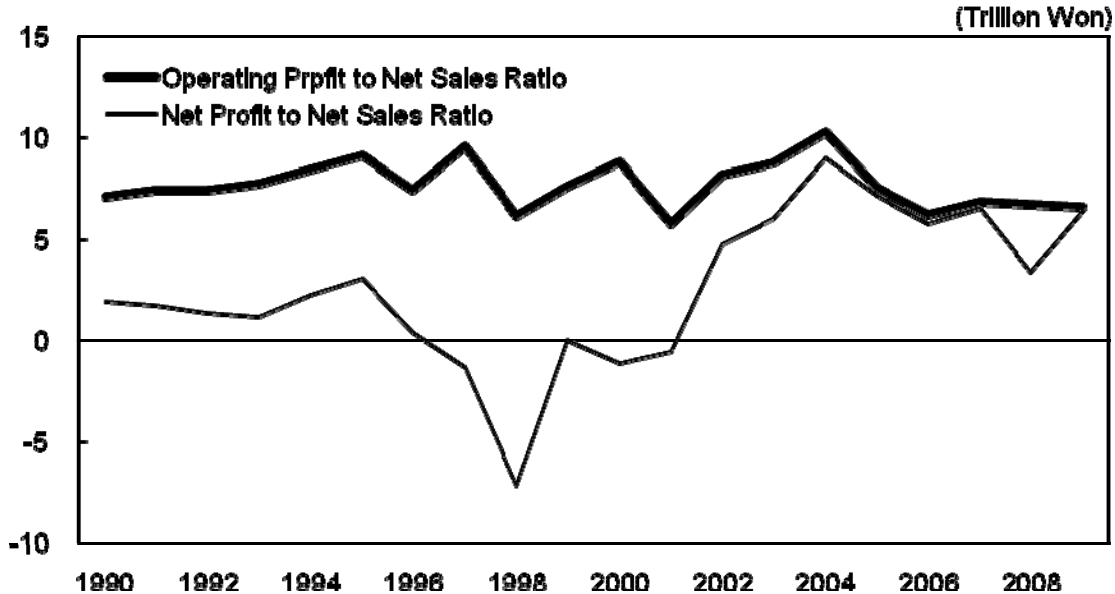


Source: WiseFn

When we divide our sample into chaebol-affiliated companies and other companies, there are some interesting points. (see Figure 3) First, the debt-equity ratio of chaebol-affiliated companies is higher than that of other companies.<sup>16</sup> Second, chaebol-affiliated companies started the debt-equity ratio reduction process earlier than other companies. This is probably due to the fact that the government pushed the 200% rule for the top 30 chaebol first. Lastly, and more interestingly, chaebol and non-chaebol companies' debt-equity ratios converged to a very similar level after 2002. This implies that the "too big to fail" legacy is no longer valid in Korea and the size-oriented strategy has lost its ground. Figure A-1 reports debt-to equity ratio by quartile asset size., The result is very similar to the case of the chaebol and non-chaebol analysis. That is, the largest quartile shows a very similar pattern of debt-equity ratio to the case of chaebols.

<sup>16</sup> Since our definition of chaebol is restricted to the top 30 chaebols, there are some chaebol companies in our non-chaebol sample that are affiliates of chaebol ranked below 30<sup>th</sup>.

Figure 6. Operating and Net Profit of the listed companies in Korea



Source: WiseFn

Note: asset weighted average value

### Cash holding ratio

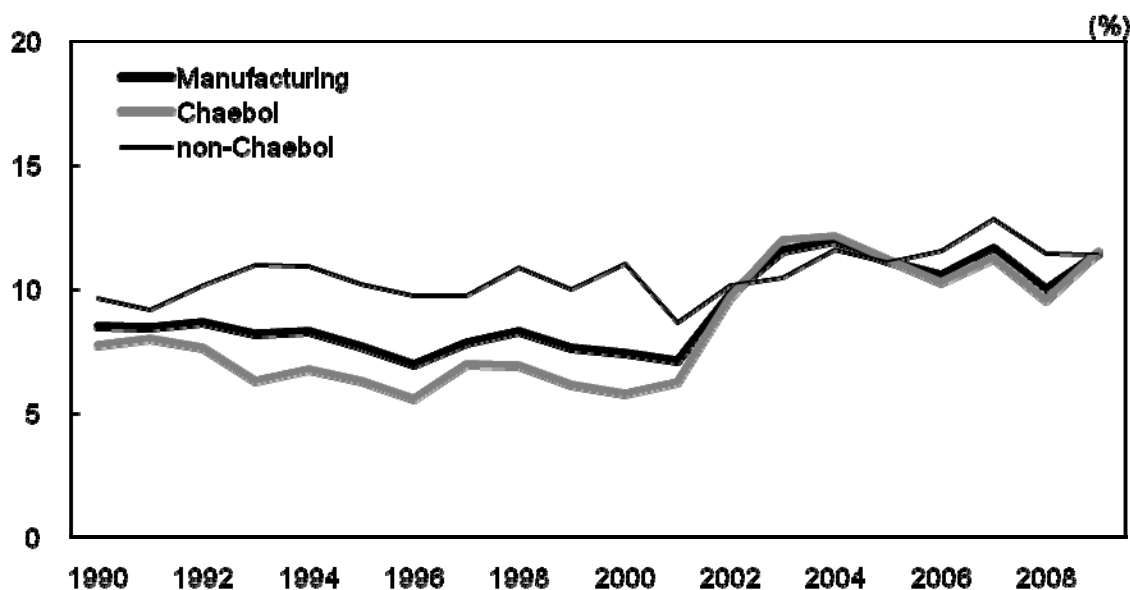
Before the financial crisis, most companies, especially *chaebol* affiliates did not have enough incentive to reserve cash or cash equivalent assets<sup>17</sup> since they not only had an easy access to the financial market but also could rely on the financial resources of other affiliates. As soon as the crisis occurred, the corporations realized the true value of holding liquid assets, since it was almost impossible to find easy money given the comprehensive restructuring process in both financial including banks and nonfinancial sectors.<sup>18</sup> Cash management was a more serious issue for *chaebol*-affiliated companies. Before the crisis, an affiliate that is in need of urgent

<sup>17</sup> Cash in this study is defined as sum of cash and cash-equivalents such as short-term financial asset and short-term security as in other studies.

<sup>18</sup> Increased cash holding was not a unique phenomenon in Korea, but recently observed in most countries. See IMF (2006).

credit could get help from other affiliates either by equity injection or by loan-guarantee.<sup>19</sup> These two channels of internal capital market were no more available after the series of reforms in the post-crisis era. Under this new environment, chaebol affiliates had to accumulate a new optimal level of cash. Figure 7 reveals that the overall cash holding ratio increase is mainly driven by increase of chaebol-affiliated companies' cash holding ratio.<sup>20, 21</sup>

**Figure 7. Cash holding ratio of the listed companies in Korea**



Source: WiseFn

Note: asset weighted average value, cash/total asset

<sup>19</sup> In some cases, they were even able to access credit from affiliated financial companies.

<sup>20</sup> For a more detailed analysis on the cash holding pattern changes of the Korean corporations, see Lim and Choi (2007).

<sup>21</sup> Figure A-2 shows cash holding ratios by asset quartile size. Similar to the case of debt-equity ratio, the largest 25% group was the main driver of the overall change.

### *3.3 Determinants of financial structure of Korean Corporations*

In this subsection, we will perform a simple empirical test on whether there was a significant change in financial structure in Korean corporations after the outbreak of the 1997 crisis. Since there are many existing studies on the changes in investment and cash holding, the analysis will be on the changes in debt-equity ratio. While focusing on the changes of debt-equity ratio after the financial crisis, we will control our analysis with commonly used variables in capital structure literature. There are well-established factors which affect the financial structure (debt and equity) of corporations.<sup>22</sup> In this study we considered the following variables as determinants of debt-equity ratio.

Empirical evidence on the standard model from many countries such as Booth et al. (2001) showed that size, asset tangibility, growth opportunity, profitability, and nondebt tax shields are the main determinants of a firm's capital structure.

Larger firms (in terms of asset or sales) could have better access to capital markets and borrow at lower rates, because they are relatively well-known, more diversified in their investments, and therefore information asymmetry and default risk are more favorable to these firms than smaller ones. As for size, we tried both logarithms of total asset and sales. Since there was no significant difference, we only report the case of total asset.

Most capital structure theories argue that the type of assets owned by a firm could affect its capital structure choice. Especially, firms with large proportions of tangible assets are likely to finance their fund at a lower cost because of the collateral value of tangible assets. For tangibility, we use the ratio between tangible assets to total assets.

In contrast, growth opportunities represent non-collateralizable assets (intangible assets, R&D). Firms with a high proportion of noncollateralizable assets find it more difficult to obtain credit because of information asymmetry and agency problem. As for growth opportunities we use the ratio between R&D expenses and sales.

To identify the impact of the crisis and the policy reforms, we create two dummy variables and one interaction term. First, "crisis" is a periodic dummy which takes value of 1 if year is greater than 1997 and otherwise 0. Second, "groupdum" represents whether a company is an

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<sup>22</sup> For general empirical analyses on the capital structure see Titman and Wessels (1988), Rajan and Zingales (1995), Booth et al. (2001).

affiliate of the top 30 chaebol or not. Third, “cgroupdum” is an interaction term between “crisis” and “groupdum”.

**Table 2. Definitions of Variables**

variables	name	definition
dratio2	debt to equity ratio	total liabilities / (total assets – total liabilities)
crisis	crisis	after 1997: 1, 1997 and before: 0
groupdum	group dummy	top 30 chaebols: 1, the rest: 0
cgroupdum	interaction term between crisis and groupdum	crisis × groupdum
size2	size	log of total assets
tratio	tangible assets to total assets ratio	tangible assets / total assets
roa	return on assets	operating profit / total assets
rndratio	R&D to sales ratio	R&D expenses / sales
dpratio	depreciation to assets ratio	depreciation / total assets

**Table 3. Basic Statistics**

variables	observation	average	standard deviation	minimum	maximum
dratio2	8807	1.951	2.456	0.117	27.557
crisis	8807	0.591	0.492	0.000	1.000
groupdum	8807	0.178	0.383	0.000	1.000
cgroupdum	8807	0.091	0.288	0.000	1.000
size2	8807	18.937	1.398	15.206	25.178
tratio	8807	0.361	0.160	0.004	0.918
roa	8807	0.050	0.075	-1.163	0.550
rndratio	8807	0.005	0.013	0.000	0.270
dpratio	8746	0.004	0.005	0.000	0.091

Source: WiseFn

Table 2 summarizes the definitions of the variables used in the regression and Table 4 reports basic statistics of these variables.

Regression results are reported in Table 4.<sup>23</sup> Case (1) shows that overall debt-equity ratio has declined about 80%p. Case (2) shows that top 30 chaebols had about 45%p higher debt-equity ratio over the whole period. Case (3) shows that the difference of debt-equity ratio between chaebol and non-chaebol companies was about 100%p in the pre-crisis period. But this difference almost disappeared after the financial crisis, along with an overall debt-equity ratio reduction in both groups. Case (4) shows that the results of case (3) are robust to inclusion of the usual control variables. Meanwhile, the estimated coefficients of control variables show expected signs except “ratio”.

This simple empirical analysis confirms that there was a significant change in debt-equity ratio of the listed companies. That is, overall debt-equity ratio declined significantly and “too big to fail” legacy is no longer valid in Korea. Although it is almost impossible to pinpoint factors, it seems that both chaebol-specific and more-broadly targeted regulations changes have considerably affected the capital structure of listed companies in Korea.

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<sup>23</sup> The reported results are based on random-effects panel estimation. Fixed-effects estimation did not change the results qualitatively.

**Table 4. Regression Results: 1990-2009 panel data**

VARIABLES	(1) dratio2	(2) dratio2	(3) dratio2	(4) dratio2
crisis	-0.837*** (0.0474)	-0.817*** (0.0476)	-0.640*** (0.0527)	-0.925*** (0.0609)
groupdum		0.458*** (0.122)	1.029*** (0.142)	0.945*** (0.143)
cgroupdum			-0.998*** (0.129)	-0.991*** (0.130)
size2				0.342*** (0.0500)
tratio				-0.543** (0.221)
roa				-4.507*** (0.364)
rndratio				-7.448*** (2.501)
dpratio				39.29*** (7.348)
Constant	2.445*** (0.0350)	2.351*** (0.0429)	2.236*** (0.0453)	-3.760*** (0.945)
Observations	8,807	8,807	8,807	8,746
R-squared	0.037	0.039	0.046	0.072

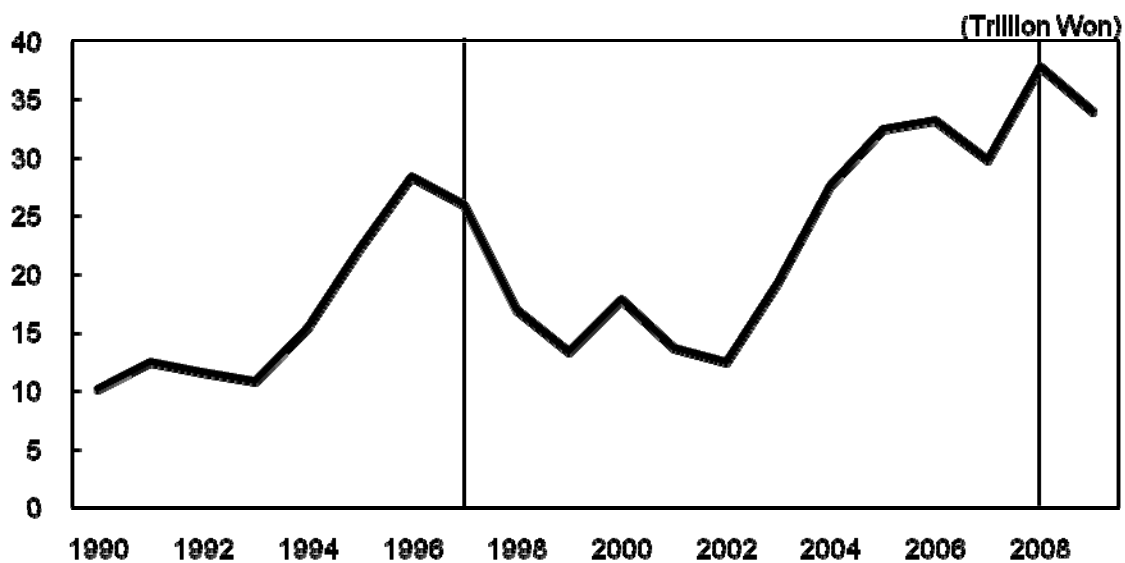
Note: Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### 3.4 Reactions to the two different crises

In this subsection, we will examine how two key spending components of companies such as capital expenditure and employments have reacted after the outbreaks of the two different crises. As we can see from Figure 3 and Figure 5, neither debt-equity ratio nor debt level changed significantly in 2009, despite the global crisis. This implies that there were no urgent needs to reduce debt burden in this period.

**Figure 8. Capital expenditure of listed companies in Korea**



Source: WiseFn

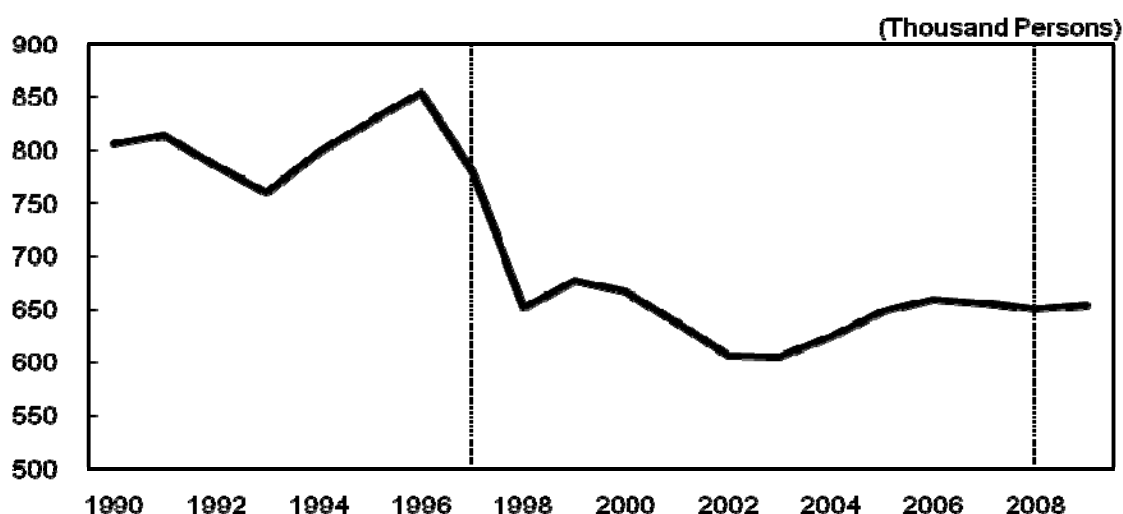
Figure 8 shows the trends of capital expenditure of listed companies. Capital expenditure collapsed after the financial crisis in 1997. It was declined by around 35% in 1998 and did not recover the pre-crisis level until mid 2000s. This period coincides with the period of sharp debt-equity ratio adjustment as we have seen earlier. This investment decline due to debt-adjustment was pointed out by several studies.<sup>24</sup> After debt-equity ratio is “fully” adjusted the capital expenditure of listed companies has increased continuously. The growth rate of capital expenditure of the listed companies was much bigger than that of non-listed companies, which are mostly small and medium sized companies.

<sup>24</sup> See Lim (2005), Hong (2006).

In contrast, capital expenditure decline in 2009 was much more modest. In fact, the recently updated quarterly financial statement in 2010 shows that capital expenditure has already picked up as the economy recovers.

Employment change is much more dramatic after the crisis. (see Figure 9.) The level of employees which peaked in 1996 plummeted by more than 30% in two years and could not reach the pre-crisis level, while capital expenditure has exceeded the pre-crisis level. In contrast, employment level in 2009 did not decline at all.

**Figure 9. Employments of listed companies in Korea**



Source: WiseFn

Probably these well-controlled reactions of corporate sector were the main sources which prevented the huge external shocks from being propagated to other domestic sectors. It seems that the improved financial soundness has helped prove that this time was different for major Korean corporations.

#### **4. Summary and Remaining Issues**

The fundamentals in corporate sectors have improved significantly after the financial crisis in 1997. Especially, chaebols that routinely pushed growth and market share at the expense of profitability and shareholder's value have experienced a full scale restructuring and improved their corporate governance. The notoriously high debt-equity ratio declined

significantly and liquidity of the corporation (cash holding ratio) increased. These fundamental changes were mainly due to the law and regulation reform driven by the outbreak of the crisis and the market monitoring mechanism outgrown by these policy reforms. It seems that the improved financial soundness has helped prove that this time was different for major Korean corporations. In sum, the corporate restructuring in Korea is a great success story in terms of absorbing the external shock successfully.

However, there are still controversies regarding the lowered debt-equity ratio (more generally conservative financial management) in Korea. Some are concerned about this new capital structure since the dynamic growth is no longer possible under this conservative financial management regime.<sup>25</sup> Moreover, some argues that debt-equity ratio of Korean companies relatively too low comparing to other companies. Even Lee and Rhee (2007) that acknowledged the positive aspects of the comprehensive reforms showed concerns regarding the lowered investment to GDP ratio.<sup>26</sup> Even though they admit that this lowered investment ratio could be a natural response given the over-investment in the pre-crisis period, they claim that the current investment rates are lower than the optimal level.

While it is not easy to nullify these concerns by direct evidence, some plausible counter arguments can be made. First, the investment ratio of Korea (around 30%) is still very high comparing to major economies. (see Figure 10) It is very unclear whether further increase in investment ratio in Korea is either possible or desirable. Second, international comparisons of debt-equity ratio should be carefully treated given different accounting practices across countries. Most notably the basic financial statement is not a consolidated one but an individual based statements, which could not reflect the status of subsidiary companies.<sup>27</sup> If we re-calculate debt-equity ratio with consolidated financial statements, the ratio increases from around 100% to

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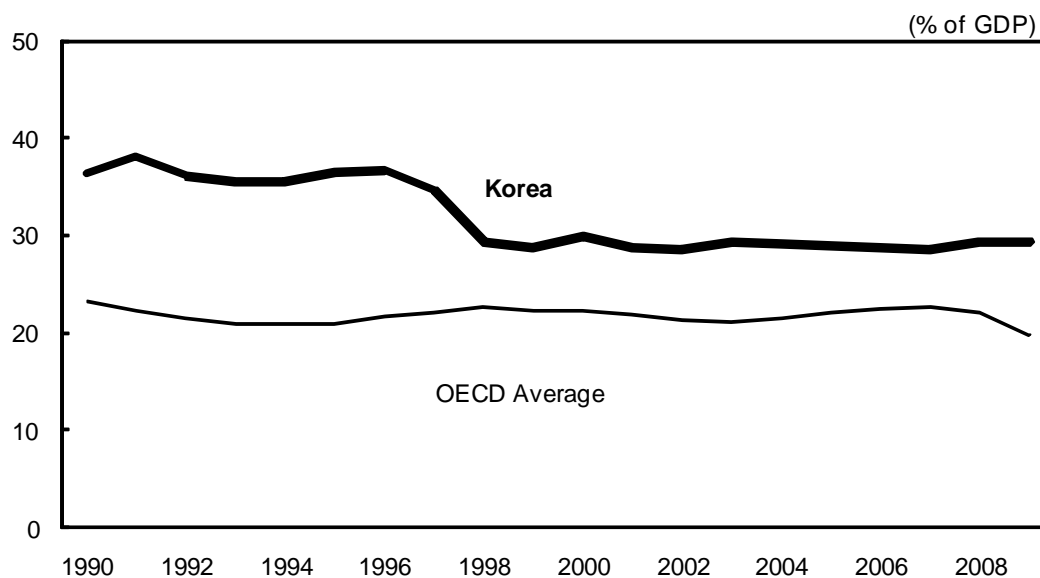
<sup>25</sup> For example, Shin and Chang (2003) argues that the reforms were ill-designed and caused too much “transitional” cost on the Korean economy.

<sup>26</sup> The investment ratio was lowered to around 30% after the crisis in 1997, which is far lower than 36% in the pre-crisis period

<sup>27</sup> Since the listed companies are required to prepare a consolidated financial statement in 1996, we had to use individual based financial statements for comparisons.

160% as of 2009, which is not low comparing to other countries.<sup>28</sup> (see Figure 11) Third, the investment growth rate of listed companies after 2003 has been much higher than that of non-listed companies, which implies that the sluggish investment growth rate is mainly due to non-listed companies.

**Figure 10. Investment ratios of Korea and OECD countries**



Source: OECD

Note: OECD averages of 30 member countries. Missing observations are dropped.

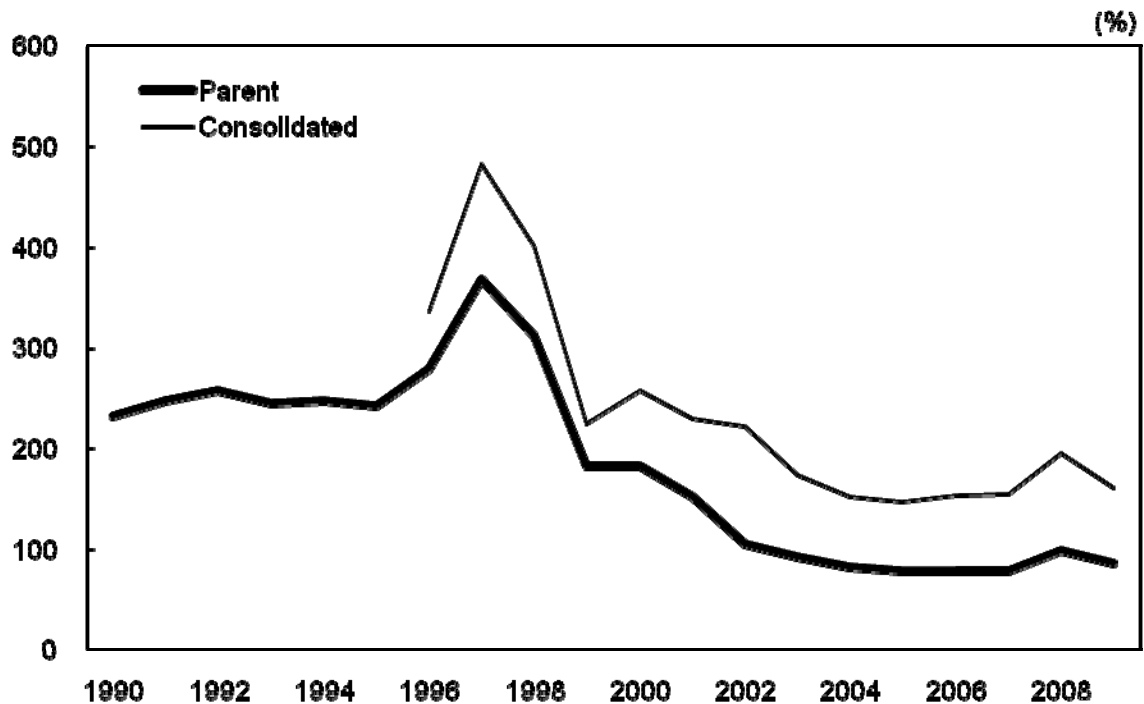
(Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, United, Kingdom, United States)

In fact, the companies used in our analysis are relatively large and sound companies comparing to non-listed companies, which are mostly small and medium sized companies. While the fundamentals of listed companies have improved as we have seen, the restructuring process in the SME sector has not been actively pursued. Since the most of labor force is employed by the SMEs, the restructuring of the SMEs has been politically burdensome for the government. Under this political pressure, the subsidies towards SMEs have increased

<sup>28</sup> As of 2008, the debt to equity ratios of the U.S. and Japan were 147% and 139% respectively.

dramatically after 1997 and increased further in 2009.<sup>29</sup> In addition, the bank lending to SMEs have increased considerably until 2008. Under these circumstances, an appropriate entry and exit process in SME sector, which is one of the key factors for enhancement in productivity, has been hampered. Fostering proper restructuring process of SMEs will be one of the major remaining tasks for the Korean government regarding corporation related matters.

**Figure 11. Debt to equity ratio by individual and consolidated financial statements**



Source: WiseFn

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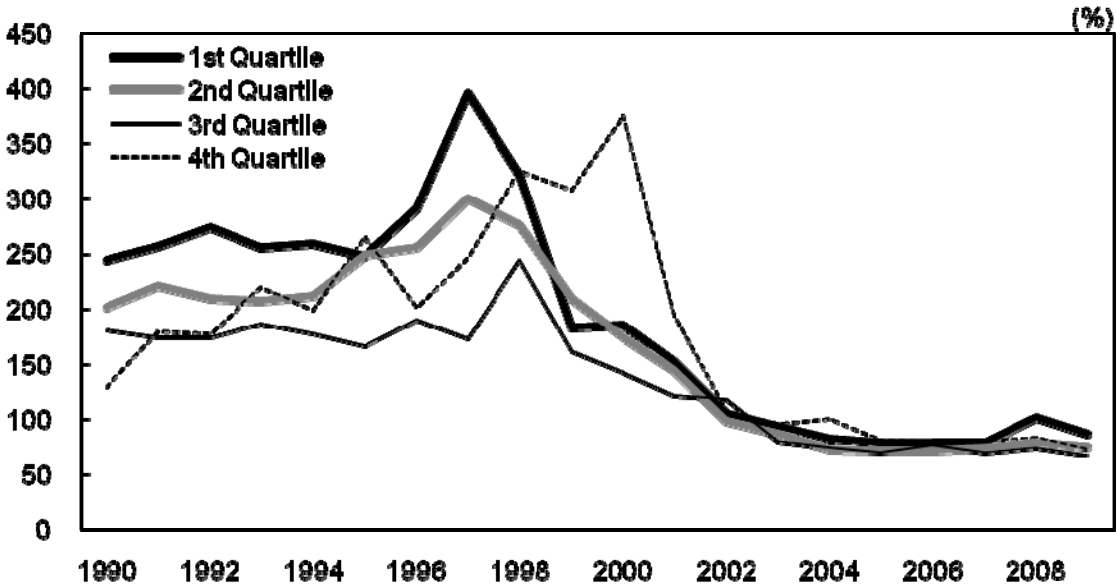
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<sup>29</sup> Most of subsidies have been given in the form of credit guarantees.

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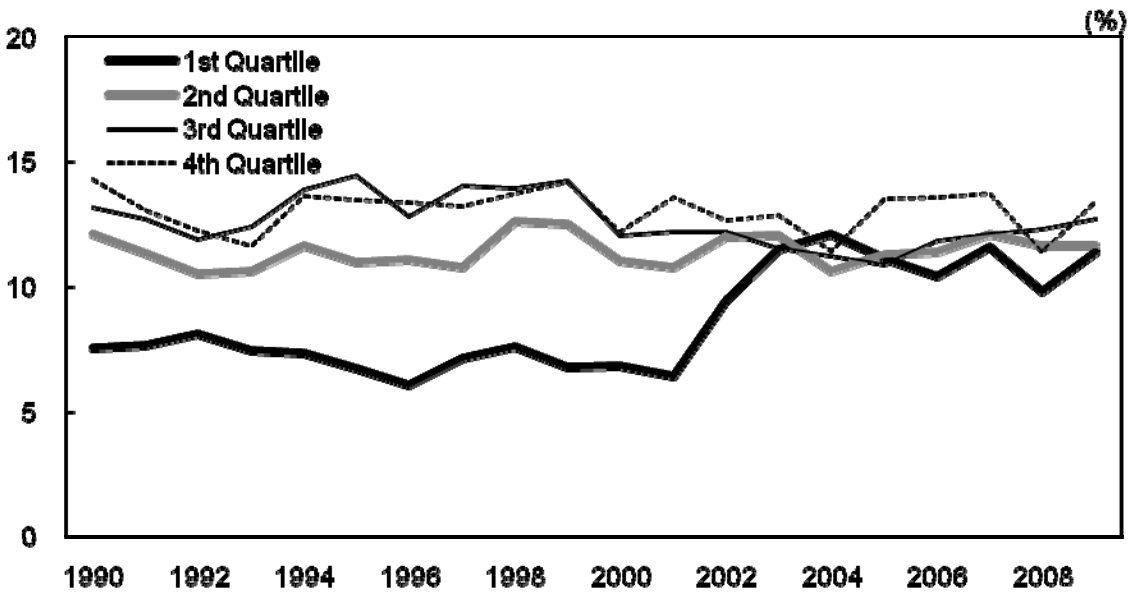
Appendix

Figure A-1. Debt-equity ratio by the asset size quartile



Source: WiseFn

Figure A-1. Cash-holding by the asset size quartile



Source: WiseFn