It was hardly expected that the initial impact of the Asian financial crisis on the Korean economy would be so severe as to throw the booming economy into a tailspin in such a short period of time. Korea’s GDP growth plummeted from the pre-crisis average level of 7 percent in the last twenty years to a negative 6.7 percent in 1998. The recovery process has been no less drastic than the initial free-fall: GDP growth in 1999 and 2000 reached remarkable levels of 10.7 and 8 percent, respectively.

After the short-lived recovery, however, the Korean economy once again headed toward recession and growth in 2001 is expected to be less than 4 percent. Many factors have contributed to such a roller-coaster adjustment process in Korea. This paper focuses on the role of corporate bond markets to illustrate that the flow of funds between the banking sector and the capital market was one of the key factors that determined the post-crisis adjustment process in Korea. There are two government policies that have contributed to the shift of the flow of funds. One is the bank-focused financial restructuring policy and the other is the fluctuation of interest rates that rose to a historical high level and then started falling to single digits from mid-1998.

From the onset of the crisis until mid-1999 when the Daewoo group—the then third largest chaebol—went bankrupt, funds moved from the banking sector to the capital market, especially corporate bond markets. This movement was triggered by the financial restructuring policy, mainly involving banks and merchant banking companies (MBCs). Funds left banks, partly because of increased uncertainty about which banks would survive, and partly

The authors are grateful to Robert Barro, David Coe, Won-Dong Cho, Se-Jik Kim, Simon Johnson, and other participants for valuable comments. Jongmin Kim provided excellent research assistance.
because banks could not compete with the interest rates offered by investment trust companies (ITCs).

The sharp reduction of market interest rates starting in mid-1998 strengthened the shift of funds. The downward trend of interest rates provided large capital gains to the ITCs, allowing them to offer interest rates higher than the market rates. More investors relocated their money from the banks to the ITCs. This process became a self-fulfilling virtuous cycle in the financial markets: money kept flowing from the banking sector to the ITCs; the ITCs could offer higher rates as the interest stabilized; the interest rates could be stabilized because companies could avoid liquidity problem by issuing corporate bonds. In this way, the corporate bond markets contributed to the prompt recovery of the Korean economy after the crisis.

Unfortunately, the mechanism that produced the virtuous cycle had a critical inherent weakness in that it significantly reduced the chaebol’s incentive to restructure. Some chaebol, especially Daewoo, kept on pursuing expansionary strategies financed by bond issues. When the Daewoo group collapsed in July 1999, the mechanism that produced the virtuous cycle broke down completely, posing new challenges to the Korean economy. As a large proportion of corporate bonds issued in 1998 became insolvent, the ITCs failed to deliver the guaranteed rates of return to investors and thus lost their confidence. The direction of financial flows since the collapse of the Daewoo group turned exactly the opposite of what had happened before the Daewoo crisis. The flow of funds shifted from the ITCs to the banking sector, and even to the postal savings institutions.

Banks, thinly capitalized and limited by the BIS capital adequacy standard, still could not extend loans to corporations. Instead of lending to corporations, banks invested in government securities without worrying about their BIS capital ratio. Other investors began to recognize the credit risks associated with corporate bonds and put their money into high-quality bonds. This led to a flight-to-quality with interest rates on risk-free or good-quality bonds dropping significantly. Because of the recent flight-to-quality, companies that avoided the credit crunch three years ago by issuing corporate bonds found it difficult to roll over maturing bonds.

In response to these difficulties, the government intervened in the corporate bond markets in late 2000 with two policies. The first policy was securitization. Securitization reallocates credit risks by slicing cash flows into senior and junior tranches. As long as the government can help place the junior tranches with high credit risks, new credit crunch can be avoided because senior tranches are easily placed to investors despite the flight-to-quality. The second policy was “An Emergency Measure for Swift Underwrit-
The Role of Corporate Bond Markets in the Korean Financial Restructuring Process

The purpose of this paper is to quantify the downside of the bank-focused financial restructuring policy by estimating the amount of defaulted corporate bonds that were issued between 1998 and 1999. Our analysis of the corporate bond markets and their default history during the crisis period finds that 22 percent of the total value of corporate bonds issued from December 1997 to December 1999 defaulted during the same period. Of these defaulted bonds, 78 percent were from companies affiliated with the Daewoo group. This demonstrates that the problems of corporate restructuring do not go away just because corporations solve short-run liquidity problems by issuing bonds.

This paper is organized as follows. The next section documents the changes in the flow of funds and developments in corporate bond markets after crisis. We then estimate the amount of defaulted corporate bonds issued between 1998 and 1999. The following section reviews how the government intervened in the corporate bond markets after the Daewoo crisis. We conclude with the policy lessons from our analysis.

The Patterns in the Flow of Funds and the Development of Corporate Bond Markets after Crisis

From the onset of the crisis until the collapse of Daewoo in July 1999, the flow of funds shifted from the banking sector to non-banking institutions, particularly to investment trust companies (ITCs). This pattern was reversed after the Daewoo group collapsed, with the flow of funds shifting back to the banks from the ITCs.
The changing direction in the flow of funds is clearly presented in Figure 1. The bars in Figure 1 represent the proportion of the changes in deposits of each institution to the total change in deposits. Since the majority of the deposits in other financial institutions are held by both the ITCs and banks' trust accounts, changes in deposits between deposit money banks and other financial institutions in Figure 1 can be interpreted as a transfer between the banking sector and the ITCs. The share of deposits going to the banking sector, which was about 40 percent in the second half of 1997, dropped to 20 percent in 1998. On the other hand, the share going to the ITCs leaped from 50 percent to 80 percent during the same period. Even though the flow of funds shifted
The Role of Corporate Bond Markets in the Korean Financial Restructuring Process

Figure 2. Corporate Bonds Issued by Credit Ratings
(Billions of Korean won)

Source: Korea Fixed Income Research Institute database.

from the banking sector to the ITCs, there were no net withdrawals from the banking sector since the ITCs deposited funds back into the banks, and hence the share of deposits going to the banks remained positive prior to the Daewoo crisis. By contrast, share going to the ITCs became negative as the funds shifted from the ITCs to the banking sector in the second half of 1999.

The rise and fall of the corporate bond market is presented in Figure 2. The monthly average amount of corporate bonds issued was less than 3 trillion won prior to the crisis. But it increased to 7 trillion won in the second half of 1998. Only after the government placed a limit on the amount of bonds that chaebol could issue on October 28, 1998, did the amount of corporate bonds issued start to decline. Figure 2 also shows clearly how hard the corporate bond market was hit by the collapse of the Daewoo group in July 1999. After the Daewoo crisis, the amount of corporate bonds issued was almost negligible, as investors became very sensitive to corporate credit risk.

Figure 3 shows the concentration of the maturity structure of corporate bonds. Since the majority of corporate bonds in Korea have a maturity of three years, most corporate bonds issued in 1998 fell due in 2001. More than 65 trillion won worth of corporate bonds, which is about 16 percent of corporate bonds outstanding, will mature in 2001, of which 25 trillion have a credit rating of BBB or lower.

Figure 4 demonstrates how the Daewoo group, which was on the verge of collapse, extended its life by issuing corporate bonds through the ITCs. The Daewoo group issued a minimum of 1 trillion won worth of corporate bonds
during each month of 1998. As a result of this bond binge, the Daewoo group would have had to refinance an average of over 1.5 trillion won each month during 2001, were it still alive. It is also worth noting that the net issuance of
bonds became nil as early as in the beginning of 1999. In other words, the Daewoo group already had difficulties in redeeming its matured bonds in the market eight months prior to its bankruptcy. Though not reported, the maturity concentration problem was not limited to the Daewoo group.

Empirical Analysis of Defaulted Corporate Bonds

The bank-focused restructuring policy unintentionally helped nonviable firms to extend their life and increased the ultimate cost of financial restructuring. In this section, we quantify the downside of the bank-focused financial restructuring policy by estimating the amount of defaulted corporate bonds that were issued after the crisis began.

We collected the necessary information for companies that issued corporate bonds from December 1997 to October 2000 and analyzed the characteristics of the corporate bonds that were defaulted during the same period. Our data come primarily from the Korea Fixed Income Research Institute (KFIRI) and contain information on issuer identity, issuance date, maturity, amount issued, yield to maturity, credit ratings, and the existence of guarantee.

Information on default was gathered from various sources, including the Bank of Korea, the Banking Supervisory Authority, the Financial Supervisory Service, and the Korea Securities Computer Corporation. We classified default into seven categories following the definition of the Financial Supervisory Service: bankruptcy, bankruptcy mediation, court receivership, court mediation, workout, private mediation, and estimated loss.

Table 1 presents information on the types and timing of default. Default 2 companies differ from Default 1 companies in that the former still possesses the possibility of resuscitation. During the three-year period from December 1997 to October 2000, a total of 855 companies issued corporate bonds. Of these, 115 companies became insolvent by October 2000, with 40 percent classified as Default 1 and the bulk of the rest as workout cases. If we compare the ratio of each category by the number of bonds or the amount of bonds issued instead of the number of issuing companies, the proportion of workouts increases significantly, whereas the proportion of Default 1 cases decreases. This implies that the workout companies tended to be large. Default was concentrated in 1998. Six companies issued bonds in December 1997 and defaulted in the same month.

Table 2 shows the number of companies that issued corporate bonds and the amount of bonds issued as well as the number of companies that defaulted and the amount of bonds defaulted. From December 1997 to October 2000,
855 companies issued 3,622 corporate bonds that were worth 127 trillion won. The rapid decline in bond issuance after 1999 shows the drastic effect of the Daewoo crisis on corporate bond markets. During the three years after December 1997, 115 companies out of the companies that issued corporate bonds became insolvent. On average, 22 percent of the total value of the corporate bonds issued from December 1997 to December 1999 defaulted during the same period. Such a high rate of default demonstrates that the ITCs took credit risk with little discipline.

1Since defaulting companies could issue new corporate bonds, the sum of the number of companies that issued corporate bonds in Table 2 is greater than 855 in the text. Table 2 also excludes asset-backed securities.
Table 2. Proportion of Defaulted Corporate Bonds

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Bond</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Defaulted Issuers Companies</td>
<td>571</td>
<td>517</td>
<td>295</td>
</tr>
<tr>
<td>Ratio</td>
<td>16.29%</td>
<td>10.25%</td>
<td>11.19%</td>
</tr>
<tr>
<td>Amount Issued</td>
<td>706,444</td>
<td>325,410</td>
<td>237,125</td>
</tr>
<tr>
<td>Defaulted Amount</td>
<td>192,912</td>
<td>50,510</td>
<td>7,453</td>
</tr>
<tr>
<td>Ratio</td>
<td>27.31%</td>
<td>15.52%</td>
<td>3.14%</td>
</tr>
<tr>
<td>Financial Bond</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Defaulted Issuers Companies</td>
<td>121</td>
<td>49</td>
<td>32</td>
</tr>
<tr>
<td>Ratio</td>
<td>28.93%</td>
<td>22.45%</td>
<td>12.50%</td>
</tr>
<tr>
<td>Amount Issued</td>
<td>411,790</td>
<td>414,431</td>
<td>415,961</td>
</tr>
<tr>
<td>Defaulted Amount</td>
<td>28,443</td>
<td>19,700</td>
<td>1,653</td>
</tr>
<tr>
<td>Ratio</td>
<td>6.91%</td>
<td>4.75%</td>
<td>0.40%</td>
</tr>
</tbody>
</table>

Source: Korea Fixed Income Research Institute Data Base.
Note: Excluding ABS. Amounts issued and defaulted are in 100 million won.

Table 3. Defaults by Credit Ratings

<table>
<thead>
<tr>
<th>Amount Issued (In 100 million won)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Rate</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>1997</td>
</tr>
<tr>
<td>1998</td>
</tr>
<tr>
<td>1999</td>
</tr>
<tr>
<td>2000</td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>Sum</td>
</tr>
<tr>
<td>Ratio</td>
</tr>
</tbody>
</table>

Number of Companies

<table>
<thead>
<tr>
<th>Credit Rate</th>
<th>Over A-</th>
<th>BBB+ to BBB-</th>
<th>BB+ to BB-</th>
<th>CCC+ to C-</th>
<th>D</th>
<th>N/A</th>
<th>Sum</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>6.45%</td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td>15</td>
<td>9</td>
<td>23</td>
<td>48</td>
<td>51.61%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>7</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>27</td>
<td>29.03%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td>6</td>
<td>3</td>
<td></td>
<td>7</td>
<td>7.53%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>5.38%</td>
<td></td>
</tr>
<tr>
<td>Sum</td>
<td>84,803</td>
<td>36,365</td>
<td>33,097</td>
<td>6,881</td>
<td>1,846</td>
<td>5,697</td>
<td>168,689</td>
<td>100.00%</td>
</tr>
<tr>
<td>Ratio</td>
<td>7.53%</td>
<td>8.60%</td>
<td>37.63%</td>
<td>12.90%</td>
<td>3.23%</td>
<td>30.11%</td>
<td>100.00%</td>
<td></td>
</tr>
</tbody>
</table>
Table 3 examines the defaults by credit ratings at the date of issuance. In terms of the amount of bonds issued, about 72 percent of the defaulted bonds were qualified as investment grade bonds with credit ratings over BBB- on the date of issuance. However, this does not necessarily mean that companies with higher credit ratings had a greater likelihood of default during the sample period. The lower half of Table 3 shows the proportion of default in terms of the number of issuing companies rather than the amount of bonds issued. It shows that the proportion of defaulted bonds with credit ratings over BBB- is only 16 percent. The comparison indicates that companies with higher credit ratings tend to issue corporate bonds on a larger scale. Of the 15 companies with credit ratings over BBB- that became insolvent, 14, amazingly enough, were affiliated with the Daewoo group. After the financial crisis erupted, the Daewoo group was responsible for an overwhelming portion of the corporate bonds issued in terms of number and scale. This happened because both credit rating agencies and investors blindly awarded chaebol-affiliated companies with top credit ratings based on Korea’s faith in the “Too big to fail” hypothesis.

The influence of the Daewoo crisis on the corporate bond market can be clearly seen in Figure 5. In Korea, small- and medium-sized enterprises are usually unable to issue corporate bonds in the market. They rely on commercial bills as an important financing channel. Therefore, by comparing the number of companies that defaulted with the default rates of commercial bills, we can distinguish the different default histories of large corporations and small enterprises during the sample period. Such a comparison indicates that small- and medium-sized enterprises were hit very hard twice: immediately after the financial crisis in December 1997 and again after the Daewoo crisis in July 1999.

But the number of companies who defaulted was relatively evenly dispersed in the second half of 1998 and the period shortly after the Daewoo crisis. However, if we draw the figure again in the lower part of Figure 5 in terms of the amount of bonds instead of the number of companies, we can see that most of the defaulted bonds are concentrated at the time of the Daewoo crisis.

Table 4 shows the reason for this. Of the 25 companies that issued the most defaulted corporate bonds from December 1997 to October 2000, eight companies in terms of the number of defaults and nine companies in terms of the amount belonged to the Daewoo group. The scale of default by the Daewoo group was incomparably larger than that of the other companies listed: not only did the Daewoo group account for 34 percent of the total number of corporate bonds defaulted, they were also responsible for 19.6 trillion won, or 78 percent, of the total value of defaulted bonds. Since the Daewoo group

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*Table 3 does not include guaranteed bonds; including them produces similar results.*
dominated the default list, it is not surprising to see a huge spike in Figure 5 during August 1999.

Blame for the Daewoo group being able to issue such a large amount of corporate bonds should be placed on individual investors and credit rating agencies, as well as on the government. All of them seemed to have believed

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5Oh and Rhee (2001) discuss credit rating migration in Korea after the financial crisis.
<table>
<thead>
<tr>
<th>Ranking</th>
<th>Firm</th>
<th>Number of defaults</th>
<th>Ranking</th>
<th>Firm</th>
<th>Value (billion won)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Daewoo</td>
<td>55</td>
<td>1</td>
<td>Daewoo</td>
<td>9,507.3</td>
</tr>
<tr>
<td>2</td>
<td>Shin Ho Paper Mfg</td>
<td>40</td>
<td>2</td>
<td>Daewoo Motors</td>
<td>2,965.0</td>
</tr>
<tr>
<td>3</td>
<td>Daewoo Motors</td>
<td>33</td>
<td>3</td>
<td>Daewoo Heavy Industries &amp; Machinery</td>
<td>2,340.0</td>
</tr>
<tr>
<td>4</td>
<td>Daewoo Heavy Industries &amp; Machinery</td>
<td>29</td>
<td>4</td>
<td>Daewoo Electronics</td>
<td>1,930.0</td>
</tr>
<tr>
<td>5</td>
<td>Jindo</td>
<td>25</td>
<td>5</td>
<td>Renault Samsung Motors</td>
<td>1,300.0</td>
</tr>
<tr>
<td>6</td>
<td>Daewoo Electronics</td>
<td>22</td>
<td>6</td>
<td>Daewoo Securities</td>
<td>943.8</td>
</tr>
<tr>
<td>7</td>
<td>Shinwon</td>
<td>21</td>
<td>7</td>
<td>Daewoo Telecom</td>
<td>910.2</td>
</tr>
<tr>
<td>8</td>
<td>Kohap Corp</td>
<td>20</td>
<td>8</td>
<td>Orion</td>
<td>555.0</td>
</tr>
<tr>
<td>9</td>
<td>Daewoo Securities</td>
<td>19</td>
<td>9</td>
<td>Kohap Corp</td>
<td>417.8</td>
</tr>
<tr>
<td>10</td>
<td>Daewoo Telecom</td>
<td>18</td>
<td>10</td>
<td>Jindo</td>
<td>354.9</td>
</tr>
<tr>
<td>11</td>
<td>Byucksan Construction</td>
<td>12</td>
<td>11</td>
<td>Seahan Group</td>
<td>295.0</td>
</tr>
<tr>
<td>12</td>
<td>Orion</td>
<td>11</td>
<td>12</td>
<td>Shinwon</td>
<td>294.1</td>
</tr>
<tr>
<td>13</td>
<td>Dong-Ah Construction Industrial</td>
<td>10</td>
<td>13</td>
<td>Shin Ho Paper Mfg</td>
<td>285.4</td>
</tr>
<tr>
<td>14</td>
<td>Renault Samsung Motors</td>
<td>10</td>
<td>14</td>
<td>Daewoo Motors Sales Corp</td>
<td>254.0</td>
</tr>
<tr>
<td>15</td>
<td>Seahan Group</td>
<td>10</td>
<td>15</td>
<td>Kabool Textiles</td>
<td>175.6</td>
</tr>
<tr>
<td>16</td>
<td>Kangwon</td>
<td>8</td>
<td>16</td>
<td>Sachan Media</td>
<td>160.0</td>
</tr>
<tr>
<td>17</td>
<td>Shinhan22</td>
<td>8</td>
<td>17</td>
<td>Segye Corporation</td>
<td>160.0</td>
</tr>
<tr>
<td>18</td>
<td>ChoongNam Sponning</td>
<td>8</td>
<td>18</td>
<td>Ssangyong Engineering &amp; Construction</td>
<td>122.7</td>
</tr>
<tr>
<td>19</td>
<td>Kabool Textiles</td>
<td>7</td>
<td>19</td>
<td>Kangwon</td>
<td>121.6</td>
</tr>
<tr>
<td>20</td>
<td>Daewoo Kumsok</td>
<td>7</td>
<td>20</td>
<td>Kabool</td>
<td>120.5</td>
</tr>
<tr>
<td>21</td>
<td>Samil Paper Corporation</td>
<td>7</td>
<td>21</td>
<td>Dong-Ah Construction Industrial</td>
<td>112.5</td>
</tr>
<tr>
<td>22</td>
<td>Seahan Media</td>
<td>7</td>
<td>22</td>
<td>Daehan Joongsuk</td>
<td>100.0</td>
</tr>
<tr>
<td>23</td>
<td>Shinho</td>
<td>7</td>
<td>23</td>
<td>Keangnam Enterprises</td>
<td>98.5</td>
</tr>
<tr>
<td>24</td>
<td>Keangnam Enterprises</td>
<td>6</td>
<td>24</td>
<td>Shinhan</td>
<td>98.0</td>
</tr>
<tr>
<td>25</td>
<td>Tongkook Corporation</td>
<td>6</td>
<td>25</td>
<td>Tongkook Corporation</td>
<td>86.5</td>
</tr>
<tr>
<td>Total Sum</td>
<td>590</td>
<td>Total Sum</td>
<td>25,087.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The firms belonging to the Daewoo group are shaded above.

that the chaebol would never go bankrupt. They discounted any possibility of a default by Daewoo. Investors' ignorance of the corporate credit risk is evident in Figure 6, which compares the yield to maturity of bonds issued by the Daewoo group with the market interest rate. For the market interest rate, we
The Role of Corporate Bond Markets in the Korean Financial Restructuring Process

Figure 6. The Yield to Maturity of Defaulted Bonds Issued by the Daewoo Group
(In percent)

Notes: Dots in the figures indicate the yield to maturity of defaulted bonds at the time of issuance. The line indicates the yield to maturity of three-year corporate bonds with A+ credit ratings.

used the representative yield to maturity of three-year corporate bonds that possessed A+ credit ratings. The dots in Figure 6 represent the yield to maturity of defaulted bonds on the date of issuance. As can be seen from Figure 6, there was not much difference between the interest rate paid by the Daewoo group and the market interest rate during the sample period. The Daewoo group did not have to offer a higher interest rate than the market rate in order to issue large amounts of corporate bonds.

This finding alone does not mean that the adverse selection problem was due to the high interest rate policy. The high interest rate policy implemented by the IMF immediately after the crisis was harshly criticized. One of the arguments against it was the possible adverse selection problem: a high interest rate policy crowds out healthy companies in the capital market since only the companies with a high risk of default would be willing to pay higher interest rates to raise urgently needed capital. Figure 6 indicates that defaulting companies did not pay higher interest rates than healthy companies. In Korea, this may have occurred due to the lack of reliable credit rating agencies and investors' ignorance of credit risk.

Figure 7 shows that the chaebol also got special treatment in terms of the speed with which their credit ratings were downgraded. The horizontal axis indicates the date when the corporations went bankrupt, while the vertical axis refers to the amount of time it took for a company to declare bankruptcy after its credit rating was downgraded to BB or below. Take, for example, the Tongil Heavy Industry, which is shown in the middle of the figure. Tongil Heavy
Industry became insolvent in January 1999, one year after the company’s credit rating was downgraded to BB. Except for the Daewoo affiliated companies, most of other companies took at least six months to be declared bankrupt after their credit ratings were downgraded. The Daewoo companies, however, went bankrupt within less than three months after their credit ratings were downgraded. In other words, the credit rating agencies delayed downgrading big companies such as Daewoo until the situation became hopeless. This suggests that not only was the amount of bonds issued a problem, but the speed with which downgrading was declared also made it difficult for investors to respond to Daewoo’s default.

**Issues in Corporate Bond Markets after the Daewoo Crisis**

After the Daewoo crisis, there was a flight-to-quality in the Korean corporate bond market. Once the flight-to-quality began, it became serious due to various institutional constraints. First of all, even though the flow of funds shifted from the ITCs to the banking sector, banks were unable to extend loans to corporations because they were so thinly capitalized. Under the BIS capital requirement, banks preferred to invest in safe government securities.
Secondly, although the mark-to-market accounting practice has been required, the ITCs could not persuade either institutional or individual investors that they could manage credit risks better than the investors could. Furthermore, the ITCs could not clean their non-performing bonds completely, which hindered restoration of investors’ confidence in the ITCs. It became quite common for the ITCs, when they launched new bond funds, to promise to invest only in corporate bonds whose ratings were above BBB. As a result, the ITCs, which used to be major purchasers of corporate bonds, merely played a tangential role in corporate bond markets.

Thirdly, other institutional investors, such as public pension funds and insurance companies, typically have investment guidelines that prohibit them from investing in corporate bonds whose credit ratings are below A-. This guideline made sense before the crisis when most corporations had credit ratings above A-. However, after the crisis, credit rating agencies tightened their rating standards and only a few companies maintained a credit rating above BBB. Despite the change in the distribution of credit ratings, the investment guidelines of pension funds and insurance companies remained intact. Hence institutional investors could not funnel their money into corporate bonds whose current ratings were below A- even though they were the same bonds they actively invested in prior to the crisis.

These institutional constraints created a mismatch in the corporate bond market. Most individual and institutional investors wanted to invest in good quality bonds with ratings above BBB. But the number of companies with credit ratings above BBB was very small, and even those companies did not want to issue bonds because they needed to keep their debt-equity ratio below 2-to-1 to meet the government guideline for identifying financially distressed finns. Other companies with credit ratings of BBB or below wanted to issue bonds to roll over their maturing debts. However, few investors wanted to buy them. Even relatively healthy companies whose credit ratings were BBB or below faced difficulty in issuing bonds.

The mismatch in the corporate bond market explains why the asset-backed securities (ABS) markets took off so rapidly in Korea after the crisis (most ABS in Korea are treated as corporate bonds because corporations are usually used as a special-purpose vehicle in the structure). The Korean government laid the legal foundations in October 1998 with the "Asset Securitization Act." The original purpose of the law was to help Korea Asset Management Corpor-
ration (KAMCO), the Korean equivalent of the Resolution Trust Corporation in the United States, liquidate non-performing loans that were acquired from troubled banks. But, after the Daewoo crisis, it was the ITCs that heavily securitized non-performing bonds to meet their redemption requirement. As a result, collateralized bond obligations (CBO), whose underlying pools were mainly composed of low-quality bonds that the ITCs held, were issued in large volumes.

As shown in Figure 8, the proportion of ABS in the corporate bond market increased rapidly, and accounted for over 60 percent of total corporate bond issuance in 2000. The ABS market developed quickly in Korea because good-quality bonds were in short supply. Adopting the ABS structure, companies and financial institutions were able to issue senior bonds with good credit ratings (usually above A grade). The junior bonds that are difficult to place are usually held by the originators. Thus, after the Daewoo crisis, the traditional corporate bond market shrank rapidly, while ABS senior bonds started filling investors' demand for good-quality bonds.

In addition to being used as a liquidating tool for non-performing bonds, since the middle of 2000, the ABS scheme has been adopted to facilitate the funding needs of companies that have problems issuing bonds because of poor credit ratings. In the "Primary CBO" scheme, securities companies underwrite bonds and then securitize them immediately. In the "Primary CLO (collateralized loan obligations)" scheme, banks make loans and then securitize them immediately. In either, it is not difficult to find investors who want to buy senior bonds even when the flight-to-quality phenomenon plagues the bond market.

Figure 8. The Growth of the ABS Market
(In trillion won)

Source: Korea Fixed Income Research Institute database.
markets. As long as junior bonds can be placed, securitization can be used as a powerful tool to overcome institutional constraints that cause the flight-to-quality. After a few securitization deals were tried on a private basis (without the aid of government), however, it became apparent that deals could not continue because it was difficult to find investors for junior bonds.

**Government Intervention in the ABS Markets**

The government would not have intervened in the corporate bond market if there were enough speculators investing in junior bonds. Unfortunately, under the current institutional settings in Korea, speculators are rare. Unlike the United States, hedge funds are not allowed. Managers of mutual funds or investment trusts have little incentive to take on risk because their fees are not directly tied to their performance. Hence, the government felt obliged to intervene in the corporate bond market in the face of a severe new credit crunch. The ABS schemes turned out to be effective, because the markets were able to place the senior bonds once the government took care of the placement of junior bonds.

One way the government handled junior bonds was to buy them through a government agency. Figure 9 presents an example of a CBO deal done by the

**Figure 9. The Structure of CBO**

![Diagram of CBO structure]

- Non-guaranteed Corporate Bond (72 billion won)
- 23 Small and Medium Companies
- Small and Medium Industry Promotion Corporation
- Special Purpose Vehicle
- Housing and Commercial Bank Credit Enhancement (10 billion won)
- ABS Issue
- Senior Bonds (2-year 8.5 billion won, 3-year 36 billion won)
- Sold at the Market
- Repurchased by SMIPC
- Junior Bonds (27.5 billion won)
Small and Medium Industry Promotion Corporation (SMIPC). The SMIPC undertook 72 billion won worth of corporate bonds (without guarantee) issued by 23 small- and medium-sized enterprises. The Housing and Commercial Bank provided credit support in the form of liquidity facilities. Using a special-purpose company, the SMIPC created two tranches of asset-backed securities: 44.5 billion won of senior bonds and 27.5 billion won of junior bonds. The junior bonds are not entitled to receive principal payments until the entire principal of the senior bonds has been paid off. The SMIPC was able to sell the low-risk senior bonds to private investors but had to hold the high-risk junior bonds. Through securitization, the SMIPC could provide a total of 72 billion won to the small- and medium-sized enterprises by spending only 27.5 billion won. This demonstrates the effectiveness of the CBO scheme in mitigating the credit crunch.

A second way the government intervened was by providing credit enhancement via the Korea Credit Guarantee Fund and the Korea Technology Credit Guarantee Fund (both of which are public funds in Korea). Considering the low quality of underlying assets, the proportion of junior bonds to the total asset pool should be quite large by U.S. standards. Therefore, in order to reduce the proportion of junior bonds and enhance the funding efficiency of the ABS scheme, the government provided large credit support through Guarantees. As a result, junior bonds were reduced to less than five percent of the total pool asset. Under this scheme, senior bonds (95 percent of the pool asset) were sold to investors, whereas junior bonds were given back to companies that issued the bonds in the pool.

The third way the government intervened was by creating CBO funds through raising money from investors. A CBO fund in Korea has to meet an investment guideline of investing more than fifty percent of its raised money in junior bonds. To compensate for the credit risks involved, the government provided the fund with tax relief on interest income or privilege to get allocation of oversubscribed IPO (initial public offering) stocks listed on the KOSDAQ market. The creation of such funds increased the demand for junior bonds.

These government interventions were aimed at mitigating credit crunch problems and helping relatively healthy companies with credit rating of BBB or below issue bonds. However, they incurred unexpected social costs. From the middle of 2000, when stock prices started to decline sharply, the rates of return of CBO funds that invested heavily in KOSDAQ IPO stocks also fell dramatically. Due to the wrong sweeteners, investors' trust in CBO funds was dampened. Thus, in the first half of 2001 when most corporate bonds issued in 1998 were maturing, the CBO funds could not perform their vital role at all.
Another problem created by these interventions is that credit risks of corporations are now assumed by the government. If the selection of securities in CBO pools is not done carefully, the credit enhancement to CBO that was offered by the government funds becomes a taxpayer burden later on. Therefore, efforts should be made to minimize official credit support to CBO and to end the vicious circle of injecting taxpayers' money to temporarily mitigate pains from the credit crunch.

**CLOs and Regulation Arbitrage**

The issuance of collateralized loan obligations (CLO) is another example of an effective ABS scheme. CLO differs from CBO in that the underlying assets are bank loans rather than corporate bonds. Figure 10 shows a typical structure of a collateralized loan obligation. In Figure 10, a bank possesses 98.2 billion won of loans. In order to satisfy the BIS capital adequacy ratio, the bank must reserve 7.8 billion won, 8 percent of its total loans. But if the bank securitizes its loans by issuing a collateralized loan obligation, it can increase the amount of loanable funds greatly. For example, after transferring the loans to its trust account, the bank can issue two tranches of asset-backed bonds: 70 billion

Figure 10. The Structure of CLO
won of senior bonds and 28.2 billion won of junior bonds. The low-risk senior bonds are sold to private investors, while the high-risk junior bonds are taken back by the bank. After the securitization, the bank’s holdings of risky assets drop from the initial 98.2 billion won to the 28.2 billion won of junior bonds. Therefore, instead of reserving 7.8 billion won, the bank now needs to reserve only 2.2 billion won.

Of course, the extra 5.6 billion won of loanable funds is the result of a kind of regulation arbitrage. If we consider the risk of junior bonds, the BIS capital adequacy ratio for junior bonds should be increased commensurately. However, according to the current BIS regulation, all corporate bonds, regardless of seniority, are assigned the same 8 percent rule—the source of the extra 5.6 billion won of loanable funds. If the current BIS regulation is a roadblock to overcoming current credit crunch, it may help relax the regulation indirectly by allowing the above regulation arbitrage for the time being. On the other hand, the insufficient capital reserve for covering the credit risks of junior bond increases the possibility that bank insolvencies could reemerge. For the sake of long-run stability, new regulatory policies that can properly respond to CLO scheme should be developed.

**Issues on “An Emergency Measure for Swift Underwriting of Corporate Bonds”**

As discussed above, big conglomerates in Korea avoided liquidity problems right after the crisis in 1998 by issuing corporate bonds with three-year maturities. As they had to roll over the maturing bonds by issuing new ones, the corporate bond markets faced great uncertainty in 2001. Had the government not intervened in the corporate bond markets, the corporate yield might have skyrocketed in the beginning of 2001. The high yield would have created big losses to the bondholders who held other corporate bonds.

To stabilize the financial markets, the Korean government announced “An Emergency Measure for Swift Underwriting of Corporate Bonds” in December 2000. According to this measure, the Korea Development Bank (KDB) would buy two-year corporate bonds issued by troubled companies that have problems rolling over their debt during 2001. The candidate companies, which would be selected arbitrarily by the KDB, will issue two-year bonds with a face value of eighty percent of maturing debt, with the other twenty percent

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1 Another alternative (which has been implemented recently) is for the government to provide a guarantee to the CLO structure in the way similar to the CBO structure. Because of the guarantee, banks can extend new loanable funds without relying on regulation arbitrage. This helps especially when the flow of funds shifts back to banks that are thinly capitalized.
of maturing debt retired using the company's own money. The KDB would later pool the bonds and securitize the cash flows to the pool with credit support provided by a guarantee from the Credit Guarantee Fund. The securitization involves two tranches. A senior tranche that amounts to seventy percent of the pool would be sold to investors. A junior tranche that amounts to the remaining thirty percent would be assumed by both creditor banks of the candidate companies (twenty percent) and the KDB (ten percent).

Although the measure does not specify the candidate companies explicitly, it has actually been used as a tool to implement private workouts for troubled conglomerates orchestrated by the KDB. When troubled companies default on their corporate bonds, it is more difficult to restructure their debts than when they default on their bank loans because ownership structure of bonds is usually more diversely distributed than that of bank loans. Hence, the Emergency Measure tries to mitigate free-rider problems among creditors that may arise in the restructuring process of the troubled companies by replacing the existing corporate bonds with the new bonds assumed by one owner, the KDB. The KDB can initiate a private workout process for the troubled companies before the newly issued bonds mature in two years: either the KDB can arrange a debt-for-equity swap or it can force the troubled companies to restructure according to the pre-specified bond covenants.

Whether the Emergency Measure was the most effective way of stabilizing the financial markets around the end of 2000 is quite controversial. Certainly the government avoided another round of financial market breakdown similar to that caused by the Daewoo crisis. Since the problems of troubled companies were contained by the KDB, other companies were able to refinance their debt by issuing new corporate bonds, thus avoiding the negative externality that might have occurred if troubled big conglomerates had failed. In addition, the ITCs, or investors who put their money in the trusts run by the ITCs, who held a big chunk of troubled corporate bonds, were saved by the Emergency Measure.

The Emergency Measure, however, has several drawbacks. First of all, it is not clear which companies should be selected as candidate companies. When selection is made based on considerations other than economic feasibility of the private workout, social costs (the difference between liquidating value of a firm and the value of a firm as a going concern) associated with the Emergency Measure could be huge. Secondly, the Measure fosters moral hazard problems to investors. Because of the Measure, investors who purchased corporate bonds three years ago from troubled companies for high returns will not be penalized at all when the risks involved materialize. By contrast, investors in the Daewoo bonds redeemed 95 percent of the face value when the
Daewoo crisis occurred. It would be regretful if financial stability were bought in exchange for giving investors a wrong signal that the government will always rescue corporate bondholders. Thirdly, the KDB involvement in the process raises questions regarding whether such a measure violates WTO regulations on government subsidies.

Conclusion

The recurrent credit crunch problems in 2001 show that the problems of corporate restructuring do not go away just because corporations can solve liquidity problems through issuing corporate bonds. The crisis will be overcome only when the firms, properly restructured, become more efficient. In this respect, the bank-focused financial restructuring policy that was implemented in the beginning of the Korean financial crisis cannot get a high grade.

The bank-focused financial restructuring provided the wrong incentives to corporate restructuring. It indirectly allowed some chaebol to expand their businesses instead of restructuring by issuing large amounts of corporate bonds. As a result, the credit crunch problems recurred in the corporate bond markets. In retrospect, the Korean economy might have been better off if the government had restructured banks and the ITCs all at once. By benignly neglecting the ITCs, the government did mitigate the first credit crunch problem in the short run. But the long-run costs of putting the problems aside rather than promptly solving them were too big to justify the bank-focused restructuring policy. Our analysis of defaulted bonds demonstrates that, the negative side effects can overwhelm the good ones.

Another lesson for financial restructuring is that more emphasis should be placed on debt-for-equity swaps rather than debt-to-debt swaps in order to end the vicious circle of credit crunch problems. In the beginning of the financial crisis, when banks refused to extend loans, corporations had to pay back the loans by issuing bonds with higher interest rates. As the maturities of the bonds issued fall due, they have to issue new corporate bonds to roll over the previous ones. As a result of this debt-to-debt swap, the total amount of corporate debt remained virtually unchanged in Korea even though the debt-capital ratios have decreased during the past three years.8

The large amount of corporate debt is the main reason for high financial costs and low interest coverage ratios in the Korean corporate sector. No

8Jang (2000) discusses the changes in the amount of debt and the debt-capital ratios after the financial crisis.
matter how much taxpayers' money is injected in financial restructuring, the chance of another financial crisis is high if the total amount of corporate debt is not reduced. Hence, future financial restructuring policy should focus on inducing corporations to engage in debt-for-equity swaps instead of rolling over existing debts.9

The Korean experience also indicates the best way to develop corporate bond markets in a crisis-hit economy. One of the important sources of the Asian financial crisis was the heavy dependence on the banking system in financing corporate investment. As such, the need to develop capital markets as alternative financing sources has been increasingly emphasized in Asia.10 The Korean experience shows that the ABS scheme can be an effective tool to develop corporate bond markets when a flight-to-quality creates mismatches in the demand and supply of corporate bonds.

The Korean experience also emphasizes the importance of regulatory infrastructures in developing corporate bond markets. Shortly after the crisis, the Korean corporate bond market took off with weak institutional foundations. For example, their rapid expansion owed much to the ITCs that were under loose regulatory supervision. But the boom was short lived. Once the side effects of the weak foundations started to materialize, corporate bond markets created bigger problems to policymakers.

For corporate bond markets to function properly in the long run, investors who are compensated for assuming credit risks should be responsible for the risk when the risk is materialized. Such simple principle, however, has not been observed in the Korean corporate bond markets. By redeeming the bonds defaulted by the Daewoo group, the Korean government subsidized wealthy investors (who blindly pursued high interest income) with the taxpayers' money. The Emergency Measure of putting the Korea Development Bank in action repeated the same mistake. It is important to end the vicious circle of injecting taxpayers' money to temporarily mitigate pains from credit crunch. Instead of trying to make risky bonds less risky by offering various credit supports, the government needs to develop junk bond markets where investors can pursue high-risk, high-return opportunities under their own responsibility.

9The issuance of CB (convertible bonds) and BW (bond warrants) and the conversion of bank loans to equity should be encouraged as examples of debt-for-equity swaps. It is also important to recognize that the ABS schemes can unintentionally provide wrong incentives for corporations to increase the amount of debt by effectively facilitating the securitization of their non-liquid debts.
References


The Korean economic recovery of 1998-2000 raises a major puzzle. How did a country with such a troubled banking system manage to bounce back so fast? The sharp devaluation of the Korean won was clearly helpful in increasing exports. But in an economy like Korea’s, it is hard—or perhaps impossible—for manufacturing firms to export without access to at least some credit. Firms need to buy inputs and pay labor in advance of sales. Who provided this essential funding, and on what terms, in the Korean case?

These two papers provide us with important insights into both the Korean recovery and much more general issues associated with financial intermediation during crises. Both are essential reading for anyone interested in helping firms recover or expand after a crisis.

Mako’s paper considers Korea financial restructuring in general, while Oh and Rhee focus on the particularly important issue of corporate bonds. The papers are nicely complementary and reading them together makes clear at least three important facts.

1. There was enormous pressure for both financial restructuring (i.e., reducing leverage) and operational restructuring (i.e., improving profitability) on the Korean chaebol business groups. Nevertheless, chaebol delayed their restructuring. It is certainly not the case that the Korean recovery was associated with rapid renegotiations of debts or smooth change in firm-level financial and operational arrangements.

2. Many chaebol dealt with their short-term financial difficulties by issuing corporate bonds, particularly in 1998 and the early part of 1999. Two companies—Hyundai and Daewoo—issued most of these bonds and soon ran into serious financial difficulty. More generally, issuing bonds probably allowed large firms to postpone necessary restructuring.

3. There are also signs that the bond market was effectively propped up in various ways by the government, at least until Daewoo’s default in mid-1999. Here the key point is what did the Investment Trust Companies (ITCs) know and when did they know it (and who told them what to do)? There are definite signs that these ITCs were encouraged to buy corporate bonds in general and the bonds of certain companies in particular. In addition, the regulations surrounding bond issues were generally weak.
and there was a great deal of regulatory forbearance during the early crisis period.

At least in the Korean case, however, delayed financial restructuring does not appear to have been a major problem. Korea still enjoyed one of the fastest ever economic recoveries. There are suggestions, although no conclusive evidence, that even in the depths of the crisis, firms with good investment and export prospects were able to raise capital in one way or another.

Thinking more generally, immediate liquidation of firms in the first few months of any crisis is difficult. It is very hard to close down the "right" firms when the economy is in disarray and profitability is impossible to predict. Letting some dust settle, if possible, is probably a good idea. More formally, given that bankruptcy is costly, there is clearly some option value to waiting.

At the same time, waiting may increase the costs of failure when it does eventually occur. The scale of the Daewoo collapse, as discussed at length by Oh and Rhee, would surely have been less if it had occurred six months earlier. As Mako argues, slow debt restructuring will delay growth if it prevents capital from flowing to high value projects.

In addition, both papers provide a great deal of compelling detail about the weakness of corporate governance in Korea. Weak corporate governance appears to be associated with high levels of debt both in Korea and elsewhere. We need more research on this issue, but it is quite possible that "institutional" weaknesses, such as a lack of investor protection, create country-level vulnerabilities by encouraging firms and investors to prefer debt over equity.

While the Korean banking system faced severe pressure after the 1997-98 crisis, it did not collapse. However, a careful reading of these two papers leaves one far from sanguine about Korea's ability to avoid another financial crisis in the coming years. Korea's corporate sector has bounced back remarkably well, largely on the basis of an impressive ability to export. Korea's financial sector, particularly its banks, remains weak and unimpressive. Unless further measures are taken to strengthen the banks, we should remain concerned about Korea's ability to withstand shocks.

Taken together these two papers nicely pose the main questions concerning the Korean economic recovery. To what extent was the recovery the result of directed or government-supported credit? To what extent was it due to creative market-based financing solutions that the private sector found for itself? More research is needed to fully answer these important questions of great general interest.
Won-Dong Cho

As one who had participated in Korea’s financial and corporate restructuring process at the working level, I am honored to be a discussant for these papers focusing on financial and corporate restructuring.

It is often said that Korea’s reform after the 1997 crisis has been conducted on four fronts: public, labor, financial, and corporate sectors. Among them, financial and corporate restructuring have been the core of the reforms. I say this, not to belittle the importance of public sector and labor market reforms. On the contrary, they have laid the foundation on which the real business of restructuring could start. How can one think of restructuring without being able to lay-off? How can one start the costly business of financial restructuring without the backing of fiscal soundness? Nevertheless, these two reforms are basically preconditions for financial and corporate restructuring. While the immediate cause of the crisis was the shortage of foreign exchange reserves, at the end of the day, the 1997 crisis was provoked by the enormous level of nonperforming corporate debt, which became mirrored in a flood of nonperforming loans in the financial sector.

The IMF has been criticized for its remedy of high interest rates and stringent fiscal consolidation at the very initial stage of the crisis. I would argue that such a harsh remedy was inevitable since securing foreign capital was more urgent than solving the domestic credit crunch. In 1997, the Korean authorities had to accept a free-floating exchange regime. But the decision came too late: foreign reserves were almost dried up. Therefore, the immediate problem was how to win back foreign capital that had left the country.

But what was the incentive for foreign investors? They were not sure of the country’s future. Even if they thought that reforms and restructuring would be implemented to restore the battered economy, reforms take time for their effects to be realized. Under these circumstances, it was natural for foreign investors to chase after a short-term gain. But even short-term incentives were not easy to find. Under the free-floating regime, the foreign exchange risk suddenly became too much to bear. To accept the FX risk, foreign investors expected a very high return. This situation early in the crisis justified the high interest rate option. Stringent fiscal consolidation was also justifiable because it helped to reduce the FX risk, since it was crucial that the public sector not contribute to expectations of high inflation. Only after successfully rolling over the short-term debt held by foreign financial institutions and launching foreign currency denominated bonds in early 1998, was Korea in a position to deal with problems in the domestic economy.
Having said that, I would agree that the domestic problems worsened during this process. By February 1998, as many as 20,000 firms had gone bankrupt due to the deepening credit crunch, and unemployment was soaring. This was the context in which the government embarked on the restructuring program. But restructuring means more casualties in the short term, although it ensures a brighter future. The authorities had to deal with the credit crunch while pushing ahead with restructuring. Messrs. Oh and Rhee describe the Korean authorities’ choice to cope with this apparent dilemma as bank-centered financial restructuring and fluctuating interest rates. Such a policy decision provoked a massive shift of money from the banking sector to the nonbanking sector, mostly to the ITCs. This contributed to a rapid economic recovery, but it was reversed shortly after the collapse of Daewoo, with the economy again slowing.

There are three aspects of the Korean financial markets that are important to help understand the situation at the time. The first concerns the adverse effect of the full deposit guarantee system. With an imminent risk of a bank-run, the previous government hurriedly announced a complete guarantee for principal and interest on bank deposits. Although this prevented a bank-run, the blanket guarantee aggravated the credit crunch by attracting more money into the banking sector.

The full guarantee made it virtually impossible for the government to close large banks since, as guarantor it would have had to pay depositors immediately. Although some public money could be recuperated by selling the assets of the bank, there was a risk that the value of secured assets might erode rapidly. The full deposit guarantee caused moral hazard since banks knew that they would not be liquidated as long as their deposits were large. Indeed, their chance of surviving might increase if they were able to attract more deposits by offering high deposit rates. Some banks actually offered interest rates of more than 25 percent for deposits with maturities of more than one year. It is no wonder that money flooded into the banking sector.

What did the banks do with the money? Even without strengthening prudential regulations, banks did not want to continue corporate lending at previous levels given the high level of nonperforming loans to chaebol. In fact, they did not have to worry about the use of deposits in the first place, because the Bank of Korea repurchased money at a higher rate than their deposit rate, although this higher repurchase rate guaranteed them only short-term profitability. The result was obvious: the money flooding into the banking sector circulated only within the banking sector.

So, the task the new government faced was to redirect money amassed in the banking system to the corporate sector. What the government did to solve this problem was threefold. First, it initiated a full-scale bank restructuring
program with 64 trillion won of public money. The process of screening ailing banks at that time was far from perfect. But once the selection was done, the surviving banks could be relieved from the imminent agony of the life-and-death problem, which initiated the credit crunch.

Bank restructuring by itself, however, could not solve the immediate problem since the benefits of reform only materialize with time. Therefore, the second approach the government took was to reduce the incentive to keep money circulating in the banking sector by lowering the Bank of Korea's repurchase rate. With rapidly declining repurchase rates, banks had to either cut their deposit rates or find other uses for their deposits. In the event, the outcome was driven more by cutting deposit rates rather than by increasing corporate lending, which led to a massive shift of funds from banks to the bond market, as noted by Oh and Rhee.

The burgeoning corporate bond market may have been good news for large firms, but it did not help small and medium-sized firms that did not have access to the bond market. To them, the exodus of money from the banks meant it was more difficult to get loans. The government's third approach was to provide loan guarantees through credit guarantee funds, which resulted in sizable losses to the funds.

Let me now turn to the second aspect, which is the nature of Korea's bond market. Not only was its volume small, but also the amount of bonds without guarantee was almost negligible. Most firms were able to issue corporate bonds only after getting a guarantee, mainly from one of the two guarantee insurance companies. In short, Korea's bond market was not credit driven in the normal sense. Although the corporate bond market had been growing rapidly since mid-1998, it remained a guarantee-driven market. In fact, when new bond issuance virtually stopped at the end of 1997, the previous government retreated from its earlier intention to exclude the two government-sponsored guarantee insurance companies from the coverage of the deposit guarantee system.

This meant that government action toward the bond market was bound to be limited. In order to deal fully with the ITCs, which are major market-makers in the bond market, government would have had to first make public money available. The total amount of bonds guarantee by the two guarantee insurance companies was more than 140 trillion won in early 1998. Paying off that amount was not a politically feasible option. In addition, restructuring the ITCs could have had an even more devastating effect on the market than restructuring the banks.

The government had no choice but to adopt a step-by-step approach. Although I do not want to go into detail, I do want to respond to Oh and Rhee's
point on securitization. As they note, the government introduced the primary collaterized bond obligation (P-CBO) and the collaterized loan obligation (CLO) schemes to save the bond market while it carried out a gradual restructuring of the ITCs. The two schemes were successful in securitizing corporate bonds and bank loans with the partial guarantee, as explained clearly by Oh and Rhee. But by the end of 2000, it became increasingly evident that the two schemes by themselves could not save the bond market, which is why the government came up with the KDB bond scheme. This scheme was basically a variation of the previous P-CBO scheme, in the sense that 70 percent of KDB-purchased bonds are securitized through P-CBOs in due course. The KDB’s exposure is only 10 percent, since another 20 percent is repurchased by creditor banks; KDB’s role in the scheme is more like an underwriter. Furthermore, firms are eligible for the KDB scheme only they were able to pay 20 percent of their existing bonds coming to maturity, so the scheme contributed to lowering the level of corporate debt. While questions were raised about the companies that were eligible, this was a problem in the implementation rather than in the design of the scheme.

The third aspect is related to the observation by some that corporate restructuring has been abandoned in the ups and downs of the bond market. I would argue that this has not been the case. The authorities have made efforts to advance corporate restructuring, even though at times they have had to resort to less market-friendly methods. One example was the Financial Structure Improvement Covenant System. Under this system, each chaebol had to make a covenant with its main bank to cut its debt-equity ratio within a given time. In particular, the top five chaebol were asked to reduce their debt-equity ratio to 200 percent by the end of 1999. It was up to them to decide how to meet the target, but their performance was subject to close scrutiny by their banks on a quarterly basis, with equity improvements due to asset revaluation excluded. Bonds were issued at the company’s discretion, although, as another form of debt, this did not reduce their debt-equity ratio. Firms could opt for equity issuance rather than reducing debt to meet the target of the debt-equity ratio. But I would argue that this contributed to corporate restructuring by diluting ownership. In fact, the governing shareholders’ equity of the top five chaebol was reduced from 7 percent in 1996 to 5 percent in 1999. It may sound paradoxical but the pace of Hyundai’s break-up has been much faster because of the dilution of ownership.

Hindsight always makes people wiser. But one should not forget the actual situation prevailing at the time policy decisions are made. While it is true that some policy options taken by the authorities have not been market-friendly, they have moved the economy in a market-oriented direction. The KDB bond
scheme was not completely market-friendly, but it was better than the 100 percent loan guarantees of early 1998 in the sense that it provided only a partial guarantee. The authorities' reliance upon the Financial Structure Improvement Covenant System was reduced as banking supervision was strengthened with, for example, the introduction of foreword-looking criteria in 2000.

Every policy decision has pros and cons which should be weighed carefully. But I would argue that, as long as the pros outweigh the cons, we are moving in the right direction. I believe policy requires more serious deliberation than a simple choice between all or nothing. A swift decision is better than indecision caused by deadlock in the pursuit of an ideal solution.
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