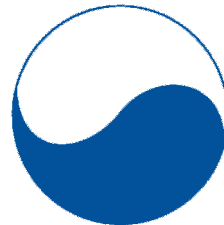

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BOOM AND BUST CYCLES OF THE KOREAN CORPORATE BOND MARKET: CAUSES AND POLICY IMPLICATIONS

by Kim Sungmin

Introduction

After the commencement of Korea's currency crisis in 1997, substantial structural changes took place in the country's corporate bond market. The corporate bond market has changed from one characterized by a predominance of corporate bonds carrying bank credit guarantees to a market in which nonguaranteed bonds predominate. Also, the issuance of asset-backed securities (ABSs) has become popular and has contributed to the provision of a greater range of products and their heightened sophistication. In addition, investors have come to pay greater attention to the credit risk of the issuers, and issuers have become keen to enhance their credibility by providing more transparent financial statements to potential investors.

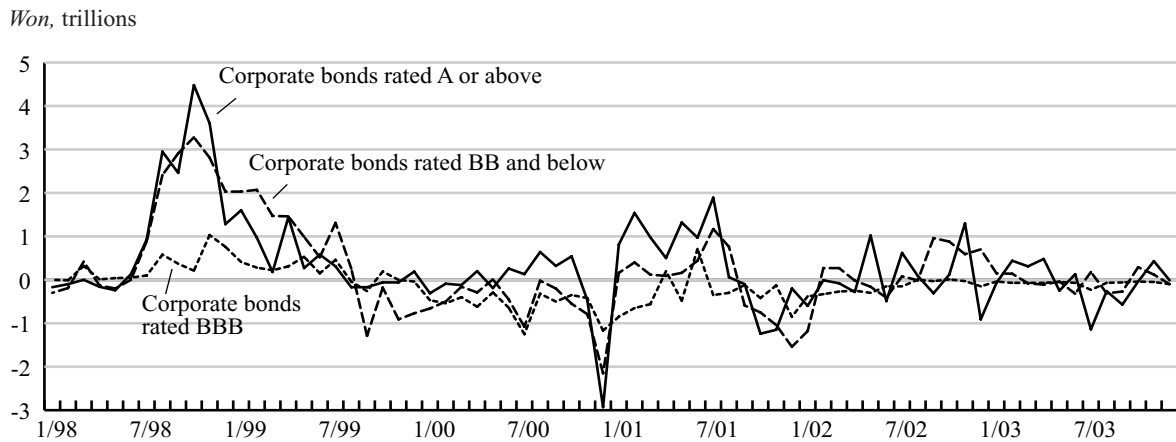
Despite these positive aspects of the structural changes in the corporate bond market, financial conditions in the corporate bond market have become increasingly vulnerable to changes in prevailing market conditions, including macroeconomic fundamentals and the demand and supply interplay of the corporate bond market. This fragility underlay the boom and bust cycles of the corporate bond market in the past. For example, the huge surge in fund inflows into bond-type beneficiary certificates of investment trust companies (ITCs) resulted in a boom in the corporate bond market from the second half of 1998 until early 1999. The boom was followed by a bust and the substantial deterioration of financing conditions after the bursting of the ITC deposit bubble beginning in mid-1999. More recently, a mild boom in the corporate bond market between March 2002 and February 2003 was followed by a severe bust of the market after March 2003 as the liquidity of credit card companies deteriorated seriously because of a sharp increase of delinquencies as well as the continuing downturn of the economy. These dramatic shifts in financing conditions of the market have prompted various measures by Korean government authorities.

Recent History of Boom and Bust Cycles and Policy Responses

The exact timing of the boom and bust cycles of the corporate bond market is by no means straightforward. There might be some alternative ways of identifying the exact timing of these cycles, but for this paper the concentration is on several factors, including events that have significant impacts on the creditworthiness of the issuers, net issuance of corporate bonds, and sudden and large movements of yield spreads of certain categories of corporate bonds vis-à-vis other corporate bonds with higher credit ratings or Treasury bonds. For example, if net issuance of corporate bonds surges substantially and yield spreads become narrower, the corporate bond market can be said to be in a boom. On the other hand, if net issuance of corporate bonds begins to drop sharply and the yield spread widens abruptly following certain events that could possibly undermine the creditworthiness of issuers in a significant manner, the corporate bond market can be said to be in a bust.

Figure 1 shows that net issuance of publicly offered corporate bonds surged sharply beginning in the second half of 1998. However, net issuance of corporate bonds rapidly began to shift to net redemption beginning in August 1999, right after the collapse of Daewoo Group, a large *chaebol*. During the first half of 2001 and the period from early 2002 to early 2003, thanks to various policy measures, net issuance of corporate bonds was again in the positive column. In particular, during the period from early 2002 to early 2003, net issuance of corporate bonds with the credit rating of BBB shifted into positive figures after a long period of net redemption. More recently, however, after the March 2003 revelation of an accounting scandal within SK Group, another large *chaebol*, net issuance of corporate bonds turned negative again. The liquidity problems of several credit card companies have further exacerbated financing conditions in the market.

Figure 1: Monthly Net Issuance of Publicly Offered Corporate Bonds in Korea, 1998–2003



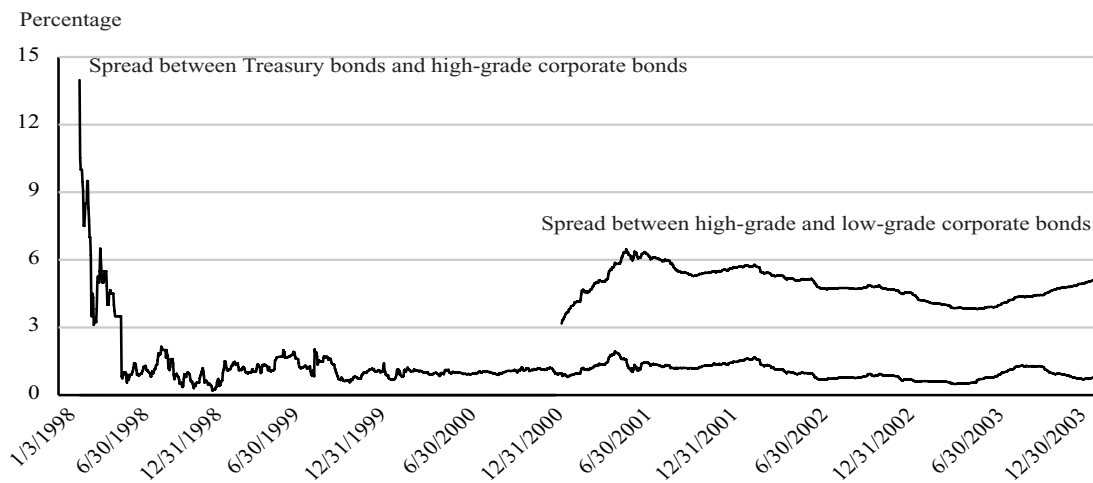
Source: Bank of Korea, internal data.

Also, the trends of issuance and redemption of corporate bonds classified by credit rating are interesting. Movements in the net issuance of corporate bonds with credit ratings of A and higher are less susceptible to boom and bust cycles, while movements in net issuance of corporate bonds with credit ratings of BB and lower are extremely volatile.

Figure 2 shows that the yield spread between three-year Treasury bonds and high-grade three-year corporate bonds narrowed from the beginning of the second half of 1998 until mid-1999. But the yield spread remained very wide during the period from August

1999 until February 2002. In 2003, the yield spread once again became very wide from March until September and then began to narrow. Also seen in **Figure 2** is that the yield spread between higher-grade (AA–) and lower-grade (BBB–) corporate bonds has moved in a pattern very similar to the one between higher-grade bonds and Treasury bonds, but the widening trends are long-lasting, and the trend toward the widening of the yield spread is stubborn and difficult to reverse. The yield spread continued to remain wide until September 2002, unlike the yield spread between higher-graded corporate bonds and Treasury bonds, which narrowed substantially beginning in March

Figure 2: Trend in Yield Spreads in Korea, 1998–2003



Source: Korea Securities Dealers Association (KSDA), www.ksda.or.kr/english.

Note: KSDA did not release daily data on benchmark yields for low-grade corporate bonds until October 2000; therefore the data in this figure for high-grade and low grade corporate bonds begin in late 2000.

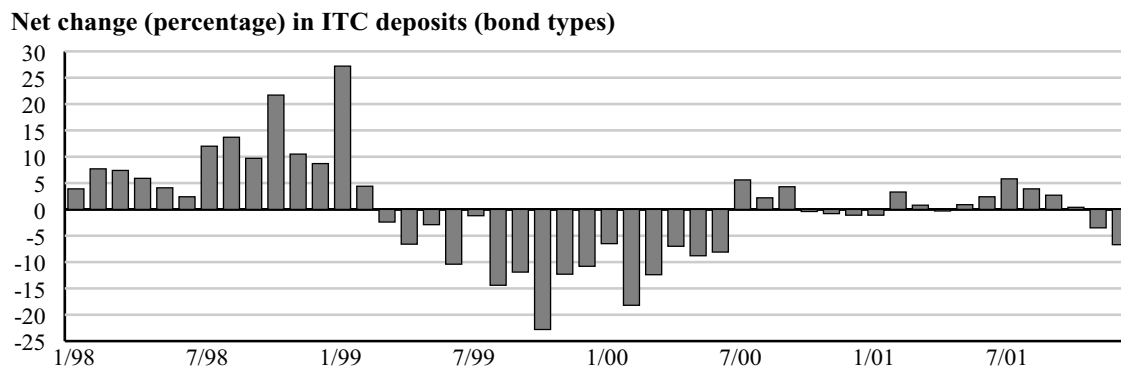
2002. More recently, from March 2003 to the end of the year, the yield spread continued to widen. In particular, the continued widening trend of higher-graded corporate bonds and lower-graded ones in 2003 presumably reflects a further deterioration of the liquidity condition of several credit card companies.

Although this analysis is somewhat simplistic, one can argue that a boom in the corporate bond market can be identified during the period from the second half of 1998 until mid-1999. Also, a bust of the market can be identified during the period from July 1999 to February 2002. There appeared to be a mild boom of the market during the period from March 2002 until February 2003. From March 2003 until end of 2003, another bust took place in this market.

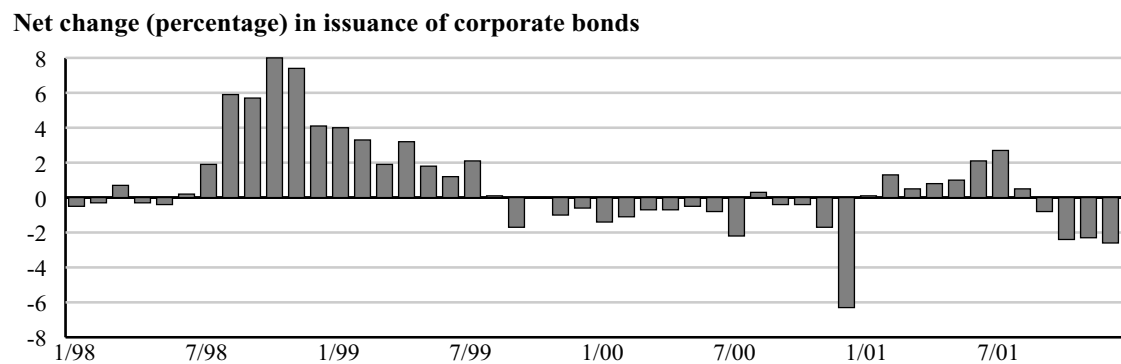
If we more closely examine the situation of the corporate bond market right after the crisis in 1997 (*Figure 3*), we can see that the corporate sector badly

needed to raise more funds from the corporate bond market, as financial institutions in the throes of financial-sector restructuring became extremely reluctant to extend loans to the corporate sector. At the same time, because of financial institutions' reluctance to provide credit guarantees for corporate bond issuance, the majority of corporate bonds had to be issued in the form of nonguaranteed bonds. Fortunately—thanks to a huge surge of fund inflows to ITCs, particularly in bond-type beneficiary certificates—the corporate sector was able to issue a massive amount of corporate bonds. With the abrupt downturn in interest rates after a peak in February 1998, there was a huge surge of fund inflows to ITCs, particularly into their bond-type beneficiary certificates, which were expected to provide more attractive yields. Funds placed in such certificates increased from 62 trillion *won* at the end of 1997 to 179 trillion *won* at the end of June 1999, with a peak of 190 trillion at end of May 1999. Because the ITCs had

Figure 3: Korea's Corporate Bond Market after 1997



Source: Korea Investment Trust Companies Association, www.kitca.or.kr/english/EDefault.htm.



Source: Bank of Korea, internal data.

more money to purchase corporate bonds owing to this surge, the ample liquidity of ITCs made it possible for many firms to issue large quantities of nonguaranteed bonds, resulting in a swift shift of the structure of the corporate bond market to one dominated by nonguaranteed bonds.

The favorable conditions of the corporate bond market that had persisted since mid-1998 underwent a complete turnabout after the collapse of Daewoo Group, the third largest *chaebol*, and the associated liquidity problems of ITCs in mid-July 1999. Specifically, because the ITCs experienced large losses associated with their vast holdings of dishonored bonds that had been issued by Daewoo Group, which raised investors' concerns over the soundness of their assets held in ITCs' bond-type beneficiary certificates, the collapse of Daewoo Group triggered a huge withdrawal of funds from ITCs, leaving them with severe liquidity problems. The funds placed in the certificates decreased sharply, from 179 trillion *won* at the end of June 1999 to 53 trillion *won* at the end of June 2000. ITCs' liquidity problems resulted in substantial rises in bond yields, including yields on government bonds, which raised new concerns among investors that the certificates might incur larger losses.

These problems in the bond market prompted numerous actions by Korean government authorities.¹ The main aims were threefold: to stabilize bond yields in the secondary market, to prevent a massive outflow of funds from ITCs, and to implement structural reforms for ITCs in order to restore investors' confidence in them. More specifically, in an attempt to stabilize bond yields in the secondary market, the Korean authorities introduced a "Bond Stabilization Fund" in September 1999, with contributions from commercial banks and insurance companies. Also, to prevent a massive outflow of funds from ITCs, the authorities implemented a number of measures, including measures to discourage any large-scale redemption of funds from ITCs' bond-type beneficiary certificates as well as other measures—introducing new instruments, for example—to attract redeemed funds

back into ITCs. Finally, in the area of the implementation of structural reforms for ailing ITCs, measures included those for recapitalization, cleaning up nonperforming assets, and strengthening the transparency of asset management, including the mandatory adoption of the mark-to-market accounting principle.

At the same time, instability in the bond market caused by the collapse of Daewoo Group and the liquidity problems of ITCs placed a substantial burden on the Bank of Korea in its implementation of monetary policy. In particular, the Bank of Korea purchased 1 trillion *won* worth of government bonds in its open-market operations on 9 November 1999 in an effort to stabilize bond yields when they were rising, reflecting the growing uncertainty over the scale of the funds outflow from the ITCs upon the relaxation of the restrictions that had been imposed.

Following the implementation of this package of measures, market sentiment improved gradually. Redemption calls for bond-type beneficiary certificates remained at manageable levels as investors' confidence in ITCs was partially restored following the implementation of structural reforms. The benchmark corporate bond yield stabilized at below 10 percent. Therefore, it is fair to say that the measures were quite effective in resolving the initial problems posed by the collapse of Daewoo Group and the ITCs' subsequent liquidity problems in mid-1999.

Despite the relatively successful resolution of these initial problems by the implementation of these measures, the collapse of Daewoo Group and the ITCs' liquidity problems have inflicted long-lasting and profound damage on financing conditions in Korea's corporate bond market. Beginning in August 1999, there were early symptoms of severe deterioration of financing conditions in the primary market for corporate bonds as a result of the ITC crisis. The net issuance of corporate bonds began to shift to a net redemption beginning in August 1999. However, at the time this problem did not cause any serious disrupt-

1. Kim, Sungmin, and Park Jae Hwan, "Structural Change in the Corporate Bond Market in Korea after the Currency Crisis," in *Development of Bond Markets in Emerging Economies*, BIS Papers, no. 11 (Basel: Bank for International Settlements, June 2002), www.bis.org/publ/bppdf/bispap11.pdf, provides a more detailed explanation of measures taken by authorities.

tions in the corporate bond market because the volume of maturing corporate bonds was not large enough to pose any serious problems until the second half of 2000.

Many firms, however, began to face severe difficulties in rolling over their maturing bonds beginning in the second half of 2000. Because of the aforementioned massive corporate bond issuance in the second half of 1998 and early 1999, primarily in the form of bonds with three-year maturities but also some with shorter maturities, the amount of corporate bonds that were maturing began to increase at the beginning of the second half of 2000, resulting in the need to roll over a large volume of corporate bonds.

By this time, financing conditions in the corporate bond market had already deteriorated sharply since the collapse of Daewoo Group and the ITC problems of mid-1999 (*Table 1*). Because the ITCs, which had been major investors in corporate bonds, had been hit by heavy losses and large outflows of funds from their bond-type beneficiary certificates, new issues of corporate bonds had been very weak, seeing a lim-

ited appetite on the part of other investors beginning in the second half of 1999. In addition, the deterioration of the liquidity conditions of some *chaebol*-linked companies, including since mid-2000 certain Hyundai subsidiaries, together with a rapid slowdown of economic growth raised investors' awareness of the increasing credit risk of the corporate sector. This new awareness deepened investors' risk aversion, resulting in a widespread flight to quality in the local bond market.

Consequently, financing conditions in the corporate bond market deteriorated further beginning in the second half of 2000. In particular, firms with lower credit ratings began to face extreme difficulties in rolling over their maturing bonds. The fact that some firms commonly regarded by market participants as nonviable continued to hang on often made the situation even worse; these firms made it more difficult for investors to distinguish between bonds of investment quality and those of dubious quality. Net redemption of publicly offered corporate bonds during 2000 amounted to 16 trillion *won*, with a heavy concentration in the second half of the year. Table 1 shows that

Table 1: Issuance and Redemption of Corporate Bonds by Credit Rating, 1999–2003,* billions of *won*

	1999	2000	2001			2002			2003		
			Total	1st half	2nd half	Total	1st half	2nd half	Total	1st half	2nd half
(A or higher grades)											
Issuance	8,285	10,222	20,807	8,879	11,928	10,897	5,337	5,560	9,826	5,111	4,715
Redemption	7,982	12,238	15,444	2,769	12,675	10,401	5,762	4,639	10,436	4,080	6,356
Net increase	303	-2,016	5,363	6,110	-747	496	-425	921	-610	1,031	-1,641
(BBB)											
Issuance	9,784	4,583	8,982	4,439	4,543	7,128	3,576	3,552	4,215	2,100	2,115
Redemption	6,129	12,133	9,606	3,074	6,532	7,115	5,414	1,701	4,508	2,361	2,147
Net increase	3,655	-7,550	-624	1,365	-1,989	13	-1,838	1,851	-293	-261	-32
(BB or lower)											
Issuance	6,810	1,277	1,936	1,725	211	935	648	287	270	107	163
Redemption	10,483	8,232	5,945	3,304	2,642	2,964	2,330	634	1,201	485	716
Net increase	-3,672	-6,955	-4,009	-1,579	-2,431	-2,029	-1,682	-347	-931	-378	-553
(Total)**											
Issuance	26,312	17,619	32,440	15,278	17,162	18,960	9,561	9,399	14,311	7,318	6,993
Redemption	30,407	33,427	31,458	9,442	22,017	20,480	13,506	6,974	16,145	6,926	9,219
Net increase	-4,095	-15,808	982	5,836	-4,855	-1,520	-3,945	2,425	-1,834	392	-2,226

Source: Bank of Korea, internal data.

* Public issuance and redemption only (excluding ABSs, workout, and debt rescheduling corporations).

** Total amounts (including secured bonds).

the difficult situation was even worse in the case of corporate bonds issued by lower-rated and relatively smaller firms.

The difficulty of rolling over maturing debts experienced by the relatively smaller firms with lower credit ratings prompted a set of measures early in the second half of 2000. These measures included the introduction of a new financial instrument, primary collateralized bond obligations (P-CBOs), for the securitization of lower-rated corporate bonds and the establishment of a 20 trillion *won* “Bond Fund” with subscriptions from 15 banks and other financial institutions² for the purchase of lower-rated corporate bonds from the primary market or P-CBOs. In addition, two state-owned guarantee funds—the more important was the Korea Credit Guarantee Fund (KCGF)—undertook partial guarantees on senior tranches of P-CBOs as a means of enhancing their creditworthiness. By these expedients, the authorities attempted to increase the amount of bond financing going to relatively smaller firms with lower credit ratings. They were reasonably successful in improving the financing conditions of small firms.

However, financing conditions in the corporate bond market, especially those for relatively larger firms with lower credit ratings, further worsened in late 2000. A further scheme announced at the end of December 2000 was designed to provide funding to allow the rollover of maturing bonds issued by larger firms that had temporary liquidity problems but good prospects of survival. This program is often called the “Korea Development Bank (KDB) prompt underwriting scheme,” and it was designed to remain in place for one year, starting in January 2001.³

Thanks to the implementation of these measures, together with a sharp decline of interest rates beginning

in early 2001, financing conditions in the corporate bond market began to improve gradually between the second half of 2001 and February 2002. From March 2002 until February 2003, there was a mild boom in the corporate bond market. In particular, there was a boom in corporate bond issuance by credit card companies during this period; during the first 10 months of 2002, the outstanding volume of corporate bonds issued by credit card companies increased by 9 trillion *won*, to 28 trillion *won*. To a certain extent, this boom reflected market participants’ optimistic view that the economy would move into a recovery phase in the near future and that cash flow in both the household and the corporate sectors in general would improve accordingly.

This mild boom abruptly went into complete reverse—a severe bust—following the revelation of the accounting scandal in SK Group in March 2003. Although there had been some concerns over the liquidity conditions of a couple of credit card companies during the second half of 2002, the industrywide sharp increase in the delinquency rate on credit card debt and negative earnings reports on most credit card companies raised widespread concerns of market participants over the liquidity conditions of the whole credit card industry beginning in February 2003. Subsequently, as the SK Group’s accounting scandal triggered a huge withdrawal of funds placed in ITCs’ bond-type beneficiary certificates, most credit card companies after March 2003 faced extreme difficulties in rolling over their maturing debts. At the same time, redemptions of corporate bonds began to exceed new issuances again, and the yield spread between higher-graded corporate bonds and Treasury bonds began to widen substantially, followed by a widening of the spread between higher-graded corporate bonds and lower-graded corporate bonds.

2. In addition to an initial contribution of 10 trillion *won*, a second 10 trillion *won* “Bond Fund” was established in late 2000 comprising contributions from a smaller number of financial institutions.

3. The program was operated in the following way: if firms under consideration were judged to be viable by a committee consisting of the KDB, their creditor banks, and KCGF, they would be allowed to participate in the program if they repaid 20 percent of their maturing bonds and presented credible rehabilitation plans. The KDB would then act as underwriter for the rollover of the remaining 80 percent of maturing bonds at the average prevailing secondary market yield on similarly rated bonds plus 40 basis points. As the underwriter of 80 percent of the maturing bonds, the KDB would repackage and sell 70 percent of them in the form of P-CBOs or collateralized loan obligations (CLOs), have the main creditor banks absorb 20 percent of them, and take the remaining 10 percent onto its own books.

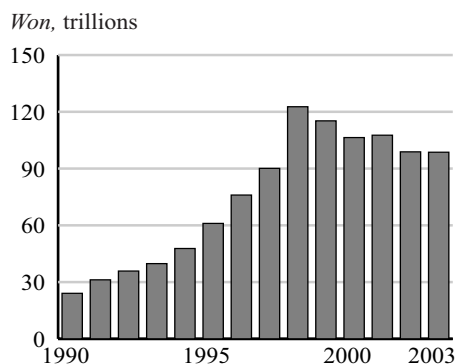
To a large extent, this reflects not only market participants' loss of confidence in corporate bonds owing mainly to the SK Group accounting scandal but also greater uncertainty over the scale and duration of Korea's economic downturn. Although the yield spread between higher-graded corporate bonds and Treasury bonds began to narrow beginning in October 2003, the development of the yield spread between higher-graded corporate bonds and lower-graded ones implies that financing conditions in the corporate bond market have continued to deteriorate. To a certain extent, this deterioration reflects investors' concern over the soundness of their assets held in bond-type beneficiary certificates of ITCs, which hold a large amount of bonds issued by ailing credit card companies.

Underlying Problems of the Corporate Bond Market

The Primary Market

The size of the corporate bond market in Korea grew at a rapid pace until 1998. The growth of the market has decelerated remarkably, however, and began to shift into negative territory beginning in 1999. As seen from **Figure 4**, the size of the market has shrunk substantially from its peak at the end of 1998. The stark contrast between the two periods reflects the fact that the structure of the market changed dramatically after the crisis of 1997.

Figure 4: Trend of Total Outstanding Corporate Bonds in Korea, 1990–2003



Source: Financial Supervisory Service, Direct Corporate Financing.

Note: Excludes ABSs.

Before the currency crisis, the market grew as long as financial institutions could afford to provide credit guarantees for corporate bond issues. The majority of corporate bonds issued carried such guarantees. Since financial institutions were not particularly cautious about providing credit guarantees for corporate bond issuance during that period, the corporate bond market was able to expand at a rapid pace.

However, with the subsequent predominance of nonguaranteed corporate bonds, financing conditions of the primary market for corporate bonds have become increasingly vulnerable to changes in prevailing macroeconomic fundamentals that may affect the credit quality of the issuers as well as current conditions of demand and supply in the market, including liquidity conditions of major investors and the size of the overhang of corporate bonds that will need to be rolled over at a certain point in time.

Whereas the abnormal surges of funds into ITCs' bond-type beneficiary certificates made possible the absorption of the vast amount of nonguaranteed corporate bonds issued during the period from the second half of 1998 until early 1999, demand conditions in the corporate bond market and especially in the lower-grade segment of the market have not been favorable since mid-1999. In addition, investors have become increasingly sensitive to credit risk, as the credit quality of the issuers in general has deteriorated sharply with the continuous and rapid slowdown of economic growth in recent years. Consequently, the range of firms that are unable to raise funds through public offerings in the corporate bond market is widening.

The difficulties faced by lower-rated issuers in rolling over their maturing bonds by public offering reflect several factors. Most fundamental is the lack of progress in corporate sector restructuring. Right after the crisis, when the ITCs had ample funds available for the purchase of corporate bonds owing to a surge of fund inflows to their bond-type beneficiary certificates, it was possible for a number of nonviable large firms to raise funds from the corporate bond markets. These funds allowed them to survive on the basis of a sudden apparent improvement in their liquidity. However, the surge of fund inflows to ITCs subsided, and an overhang of corporate bonds nearing maturity developed. At that point it became al-

most impossible for these firms to tap the corporate bond market. Also, more recently, the lack of progress in structural reform of a few ailing credit card companies has made it extremely difficult for the whole industry to raise funds from corporate bond markets. In addition, the fact that some firms commonly regarded by market participants as nonviable continued to survive often made the situation even worse.

The second factor is that investor protection vis-à-vis nonguaranteed corporate bonds remains very poor. Currently there is no practice of inserting protective bond covenants to safeguard the interests of corporate bondholders against a deterioration of the issuer's ability to pay interest and repay principal; in contrast, the provision of such covenants for bank loans is a common practice. The main reason behind this practice is that the history of active issuance of nonguaranteed corporate bonds is relatively short, and neither investors nor issuers are alert to the importance of writing specific bond covenants in the case of nonguaranteed corporate bonds.

The third factor is that the recovery rate of corporate bonds in default is relatively low. Although official figures are not currently available, anecdotal evidence—from bonds issued by Daewoo, for example—suggests that the rate is well below 30 percent of face value, which is lower than the 40 percent norm in the United States.⁴ This reflects the frequent decline of the liquidation value of insolvent firms after the long and complicated legal arrangements and processes of bankruptcy proceedings and winding-up of insolvent firms. Specifically, when a company is in default and moves to shut down and liquidate, in Ko-

Table 2: Historical Default Rate for Korean Corporations, by Credit Rating, 1993 to 2003

AAA	AA	A	BBB	BB	B
0.00%	0.41%	1.40%	1.36%	4.75%	8.62%

Source: Korea Investors Service Co., Ltd., www.kisrating.com/english/english_index.asp.

rea the matter is governed by three laws,⁵ each with a different philosophy and a different specification of the process. Thus, it takes much time and effort to collect debt holders' claims from troubled firms under the Korean system.

The final factor is that credit ratings provided by local credit-rating agencies are not very reliable. Historical default rates for A-rated firms and BBB-rated firms are 1.4 percent and 1.36 percent, respectively (see *Table 2*, which provides default rates over a decade in order to smooth out the effects of extraordinary events), an unexpected finding. To a large extent, this reflects a long tradition of window dressing in the financial statements of firms, dubious audit practices, inadequate accumulation of historical data for the credit analysis of individual firms, and frequent government intervention in support of ailing firms. To a certain extent, it also reflects a generous attitude toward credit rating on the part of local credit-rating agencies. In particular, given the fact that local credit-rating agencies are competing fiercely with each other to raise their market share in the credit-rating business, it appears likely that the agencies have a strong incentive to attract customers by providing generous credit ratings.

The Secondary Market

In the secondary market, the liquidity of corporate bonds remains extremely poor compared with government bonds (*Table 3*), although the liquidity of corporate bonds is in general relatively lower than that of sovereign bonds even in well-developed fixed-income markets, including the market in the United States. The trading volume of corporate bonds also shrank sharply after the collapse of Daewoo Group and the liquidity problems of ITCs in July 1999. This is in stark contrast with the remarkable growth of the trading volume of government bonds. The annual turnover ratio of corporate bonds, defined as the ratio of annual trading in these corporate bonds to their outstanding volume, decreased from 3.7 in 1998 to 1.1

4. According to estimates in Moody's *2004 Default Study*, the average recovery ratio of corporate bonds in default in the United States was 39.6 percent of par value in 2003; this was up from 31.6 percent in 2002.

5. The three laws governing the process are the Bankruptcy Law, the Consolidation Law, and the Corporate Liquidation Law.

in 2003, while the turnover ratio of government bonds increased remarkably from 1.6 to 7.3 during the same period.

The decline of the trading volume of lower-rated corporate bonds is quite notable (*Table 4*). The monthly average trading volume of corporate bonds with credit ratings BBB and below decreased to 2.4 trillion *won* in 2003 from 6.3 trillion *won* in 2000, while the average trading volume for corporate bonds with credit ratings of A and above increased to 10.3 trillion *won* from 8.9 trillion *won* during the same period. This implies that bond transactions in the secondary bond markets have increasingly concentrated on sovereign bonds and corporate bonds with higher credit ratings.

A comparison (*Figure 5*) of the investor base of corporate bonds as of the end of December 2002 with the investor base as of the end of December 1998 shows a striking shift: the share of ITCs, which had absorbed 63 percent of the total outstanding volume of corporate bonds in 1998, shrank dramatically to 19 percent during the four years from 1998 to 2002. On the other hand, the share absorbed by commercial banks increased: the respective shares absorbed by bank trust accounts and mutual savings banks increased from 16 percent and 1 percent in 1998 to 21 percent and 5 percent in 2002. The shares of contractual savings institutions such as life insurance

companies and pension funds also increased remarkably during the period. It is fair to say that much progress has been made in diversifying the investor base in the Korean corporate bond market in recent years.

Notwithstanding the progress made in the diversification of investors in Korea's corporate bond market, the investor base is made up predominantly of inactive investors. ITCs have become more active in transactions in the secondary market since the implementation of mark-to-market valuation of their assets, but their share decreased dramatically in recent years. However, commercial banks, mutual savings banks, insurance companies, and pension funds are not, in general, active traders in the secondary market because they usually buy and hold bonds until maturity. The predominance of inactive investors in the corporate bond market is responsible for the low liquidity of the secondary market.

Although the increasing credit risk of the issuers combined with greater attention to credit risk by the investors is fundamentally responsible for the low liquidity of corporate bonds, the lack of liquidity also reflects the fact that market-making intermediation in the secondary market remains at a nascent stage of development.⁶ There is virtually no distinction between the market-making role of dealers and that of bro-

Table 3: Trends of Transactions in Secondary Markets in Korea, in billions of *won*

	1997	1998	1999	2000	2001	2002	2003
Daily volume							
Corporate bonds (A)	444	1,272	1,456	929	882	803	649
Government bonds (B)	44	223	2,310	2,031	3,266	2,648	3,968
Total bonds	798	2,288	4,678	6,317	9,366	7,832	9,880
A/B (%)	1,009.1	570.4	63.0	45.7	27.3	30.3	16.4
Turnover ratio							
Corporate bonds (A)	1.5	3.7	3.6	2.1	1.7	1.2	1.1
Government bonds (B)	0.6	1.6	11.3	8.6	11.7	7.4	7.3
A/B (%)	2,466.7	231.3	31.8	24.4	14.5	16.2	15.1

Source: CHECK information System, Korea Securities Computer Operator.

6. For more detailed information on problems in microstructure of the secondary market for government bonds, please refer to Kim, Sungmin, "Strategies for Developing Government Bond Markets in Korea: Recent Development and Remaining Challenges" (paper presented at workshop on developing the government bond market, cosponsored by the World Bank and the Bank of Korea, May 2002, in Seoul).

Table 4: Monthly Trading Volume of Corporate Bonds, Including ABSs, by Credit Rating, 2000–2003, in trillions of won

Bonds	2000	2001	2002	2003
Nonguaranteed corporate bonds	15.2	16.0	19.0	12.8
	9.7 ^a	6.9 ^a	10.6 ^a	6.2 ^a
AA and higher grade	5.2	8.5	12.8	8.2
A grade	3.7	3.2	2.6	2.1
BBB grade	4.9	3.0	2.5	1.4
BB and lower grade	1.4	1.3	1.0	1.0
Total bonds	156.3	232.6	179.5	205.0

Source: Bank of Korea, internal data.

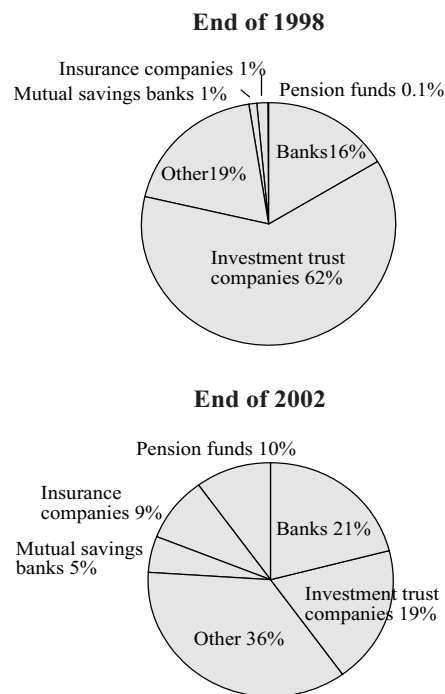
a. Shares of corporate bonds in the total bond trading volume (%)

kers. In particular, securities houses—the major dealers in the bond market—do not take any bond positions onto their books; instead they simply match their clients’ orders in a labor-intensive and opaque brokerage process. Also, no dealers, including primary dealers in the government bond market, provide two-way quotations on bonds.

The absence of bid and ask price quotations makes the price discovery function of the secondary market inefficient. Also, the fact that the business of brokers and dealers is based on personal networks maintained through telephone contacts results in a less-than-transparent market. Therefore, it seems clear that the prevailing market-making business cannot ensure transparency of the market, leading to the implication that the market has a serious potential for abuse and market manipulation. Moreover, the liquidity of the bond market in general could be highly vulnerable to a change in market conditions. This is particularly the case for the corporate bond market, the liquidity of which is much more vulnerable to a change in market conditions than the liquidity of the government bond market.

Also, in the absence of more active market-making intermediation, the liquidity of the bond market in general could be highly vulnerable to a change in market conditions. This is particularly the case for the corporate bond market because its liquidity is much more vulnerable to such a change than the government bond market’s. Because of this, most institutional inves-

Figure 5: Investor Base of Korea’s Corporate Bonds, end of 1998 compared with end of 2002



Source: Korea Securities Depository, www.ksd.or.kr/Eng/index.jsp.

tors prefer government bonds to corporate bonds, further decreasing liquidity in the corporate bond market.

Policy Implications

Although boom and bust cycles in the Korean corporate bond market are likely to persist in the foreseeable future, recent developments in the corporate bond market and their underlying causes have seven important policy implications. Many important tasks remain in order to bring about a normal, well-functioning corporate bond market.

The prevailing state of credit quality of corporate bonds is important for maintaining the financial stability of the economy. Since the credit quality of corporate bonds is intrinsically volatile during a process of corporate-sector restructuring, financing conditions in the corporate bond market in general are more likely to deteriorate sharply during such a period. A unique feature of the Korean experience, how-

ever, is that the issuance of nonguaranteed corporate bonds surged during the process of corporate-sector restructuring.

In retrospect, these huge surges in fund inflows into ITCs' bond-type beneficiary certificates made it possible for various large firms, including some nonviable "zombies," to raise funds through the issuance of nonguaranteed corporate bonds. This in turn allowed them—particularly the zombies, which could not have survived otherwise—to post sudden improvements in their liquidity conditions. The quick recovery of the Korean economy in the aftermath of the currency crisis was aided by this process. However, since the bursting of the ITC deposit bubble and the maturing of a large proportion of the corporate bonds then issued, investors have become more concerned about the credit risk of issuers, and financing conditions in the market have deteriorated sharply, threatening the financial stability of the economy.

The fact that additional nonviable zombies are operating and gaining access to the financial market poses two problems: one from the financial side and the other from the operational side. On the financial side, the fact that additional nonviable firms access financial resources implies that even more financial resources are needed to support them. As a result, more financial resources, which might otherwise be allocated to viable sectors, are diverted to potentially nonviable sectors, resulting in serious distortions in the efficient allocation of financial resources within the economy. In addition, the fact that some firms commonly regarded by market participants as nonviable continue to tap the financial markets makes the situation even worse and raises concern over the financial stability of the economy. Market participants find little clarity in their effort to distinguish viable from nonviable firms, which creates more uncertainty in the financial markets.

On the operational side, the existence of nonviable zombie firms in the economy generates another channel of contagion to the economy and financial markets. If firms face liquidity problems, they tend to improve their short-term liquidity as a means of survival at the expense of their long-term profitability. For example, they often sell their products at bigger discounts to increase their market share and improve their liquidity conditions. Because of these unfair trad-

ing practices by nonviable firms, their otherwise viable major competitors may suffer from deteriorating profitability caused by their narrowing profit margins. This, in turn, increases credit risk in the corporate sector as a whole.

An obvious conclusion is that a necessary condition for the early normalization of the corporate bond market is the elimination of nonviable zombies from the economy. Although this is not the only needed reform, for early stabilization of the corporate bond market in Korea it is necessary to speed up the pace of corporate-sector restructuring.

Weaknesses in the institutional settings—including poor accounting practices of financial institutions, a weak system of investor protection, and an inefficient liquidation process—have contributed substantially to turmoil in the corporate bond market and to amplifying the magnitude of the disturbances. Because maintenance of the principle of historical cost valuation accounting for ITCs as well as sharply declining interest rates are thought to be responsible for the massive inflow of funds into ITCs' bond-type beneficiary certificates, which made possible the vast issuance of nonguaranteed corporate bonds in the earlier stage, it could be argued that these poor accounting practices also contributed to the turmoil in the corporate bond market and amplified its magnitude at later stages. Also, the weakness of investor protection mechanisms—caused by the absence of protective bond covenants to protect bond holders as well as the possibility of sharp declines in the liquidation values of failed firms after long and complicated bankruptcy proceedings—triggered greater avoidance of investment in nonguaranteed bonds, especially lower-grade bonds.

In view of this, greater efforts need to be exerted to establish a more appropriate institutional setting to support the development of the nonguaranteed corporate bond market. Because the implementation of the mark-to-market accounting principle was completed by the beginning of July 2000, the remaining tasks include strengthening investor protection mechanisms for nonguaranteed corporate bonds. It is important to encourage the practice of including protective bond covenants in the issuance of corporate bonds, particularly in the case of bonds with lower credit ratings. It is also important to further stream-

line insolvency proceedings by consolidating the three different laws governing corporate bankruptcy.

Roles of credit-rating agencies become very important in containing the turbulence of the corporate bond market after the structure of the corporate bond market shifts into a predominance of nonguaranteed bonds. For example, if the credit-rating system is reliable and credible, any adverse effects caused by external shocks can be confined to a certain segment of the corporate bond market. In the case of Korea, unreliable credit ratings made the corporate bond market more turbulent than would have been the case otherwise.

Although measures—including a requirement for credit-rating agencies to disclose the information underlying their assessments and the establishment of firewalls between credit-rating and consulting services⁷—announced by Korean financial supervisory authorities in August 2003 to enhance investor confidence in credit ratings move in the correct direction, additional measures need to be implemented in order to improve the accuracy of credit ratings. In an effort to discourage incentives of local credit-rating agencies to attract their customers by providing too-generous credit ratings, penalties imposed on agencies with poor performance in this area should be tightened substantially, to possibly include banning credit-rating agencies with poor performance from providing credit-rating service to a certain amount of corporate bond issuance and suspending business licenses of the agencies with poor performance. Also, to introduce more sophisticated tools in credit rating, it might be worth considering permitting foreign credit-rating agencies to enter Korea's credit-rating business without requiring they be part of a joint venture.

The financial weakness of financial institutions, which are major investors in corporate bonds, could make the corporate bond market more vulnerable to external shocks than would be the case otherwise. If the financial conditions of these institutions are very strong, the institutions can afford to

absorb, at least partially, external shocks by themselves, resulting in less turbulence in the market. The recent Korean case clearly demonstrated that financial weaknesses of ITCs, which are major investors in corporate bonds, have exacerbated the situation even further. Consequently, to reduce the frequency and magnitude of boom and bust cycles in the corporate bond market, greater efforts need to be exerted in speeding up the restructuring of nonbank financial institutions, including ITCs and credit card companies.

The development of the secondary market is very important for reducing the magnitude of the impact of external shocks on the bond market. The Korean experience was that the nascency of market-making intermediation in the secondary market made the situation in the corporate bond market even worse. Therefore, more efforts should be devoted to developing more efficient market-making intermediation and enhancing transparency in the secondary market.

To develop more efficient market-making intermediation and enhance transparency in the secondary market, the roles of interdealer brokers and regular dealers should be aligned so as to provide them clearly distinct roles. Also, to the extent that an efficient price discovery function is a prerequisite for a more transparent market with high liquidity, additional efforts should be made to encourage interdealer brokers and regular dealers to provide two-way quotations on a real-time basis. In addition, the authorities' surveillance of secondary-market activities needs to be strengthened in order to enhance the market's transparency and ensure fair-trading.

When investors in the corporate bond market become highly risk averse while the credit risk of bonds supplied is increasing, the securitization of corporate bonds by pooling risky bonds proves to be effective at bridging the wide gap in preferences between investors and issuers. In the Korean experience, the introduction of P-CBOs was effective in avoiding the worst-case scenario of the corporate bond market; P-CBOs lessened the burden

7. Additional measures announced on 26 August 2003 include a requirement for credit-rating agencies to disclose their credit-rating information on the Korea Security Dealers Association Web site, mandatory establishment of an independent analysis committee to conduct an annual evaluation of the appropriateness of their own credit ratings, and encouragement of business tie-ups with international leading credit-rating agencies. These measures went into effect at the beginning of October 2003.

of rolling over a huge amount of maturing corporate bonds issued by firms with low credit ratings.

Notwithstanding these positive aspects of the securitization of a pool of lower-rated corporate bonds issued by private placement, the methods of issuing P-CBOs also present negative aspects: the almost complete reliance on purchase of P-CBOs by the Bond Funds; the possible occurrence of substantial government contingent liabilities in consequence of the P-CBOs' exclusive use of the credit enhancement scheme whose credit guarantees are provided by government credit guarantee agencies; and the potential moral hazard problems of originators, including the weakening of their incentives to implement self-rescue plans including restructuring. In addition, firms with inferior credit ratings increasingly tend to rely on P-CBOs as a means of issuing their corporate bonds; in what is a typical adverse selection problem, these types of companies now rarely issue through public offerings.

Financial market instability caused by turmoil in the corporate bond market may pose a challenge for Korea's central bank as the Bank simultaneously attempts to balance its goal of maintaining price stability with its goal of ensuring stability in financial markets; this may severely constrain the scope for monetary policy implementation in pursuit of the Bank's ultimate goal: achieving price stability. In recent experience in Korea, turmoil in the corporate bond market placed a substantial burden on the Bank of Korea's implementation of monetary policy, raising questions about the Bank's ability to juggle its goals of maintaining price stability and financial market stability in the face of turmoil in the financial markets. At present, this appears to be a matter of judgment.

Dr. Kim is with the Bank of Korea. The views expressed here are those of the author and do not necessarily reflect those of the Bank of Korea.



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