Developing the corporate bond market: the Korean experience

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I. Introduction

Because the Korean government had not run a deficit for many years, the local bond market for government and government-guaranteed bonds was not well developed when the currency crisis hit in 1997. However, a market for corporate bonds had sprung up in the early 1970s, with most issues carrying guarantees from banks, securities houses or guarantee funds. Because of the small scale of government bond issuance, the yield on the three-year corporate bond was used as the benchmark bond yield.

Since the currency crisis, however, there has been remarkable growth in the size of the local bond market, together with structural changes. Its growth reflects a number of factors. First, since the government urgently needed to raise a huge volume of public funds for financial restructuring as well as fiscal pump-priming to boost the economy, it had to immediately set about developing government bond and government-guaranteed bond markets. Second, the Bank of Korea had to issue Monetary Stabilisation Bonds (MSBs) on a massive scale to absorb the expansionary effects of the rapid increase in its foreign reserves. Third, companies had to raise more funds from the bond market because financial institutions in the throes of their own restructuring were very reluctant to extend loans to the corporate sector. Finally, very large quantities of asset-backed securities (ABSs) needed to be issued during the twin processes of financial and corporate sector restructuring.

Table 1

Outstanding volume of bonds in Korea

(Year-end, in trillions of KRW)

	1997	1998	1999	2000	2001	2002	2003	2004
Government	28.5	41.6	61.2	71.2	82.4	98.3	135.8	177.6
(KTB[1])	6.3	18.8	34.2	42.6	50.9	55.6	81.5	123.1
MSBs[2]	23.5	45.7	51.5	66.4	79.1	84.3	105.5	142.8
Financial inst.	67.3	75.0	59.3	73.0	81.0	122.8	129.2	174.6
Corporate[3]	**90.1**	**122.7**	**119.6**	**133.6**	**154.4**	**180.0**	**187.4**	**153.3**
Agency	9.7	56.1	81.1	86.0	113.2	107.2	87.0	73.5
Local gov't	3.1	3.0	3.0	3.1	3.1	3.1	2.9	3.1
Total bonds (A)	222.3	344.1	375.6	433.2	513.1	595.6	647.7	724.9
Nominal GDP (B)	491.1	484.1	529.5	578.7	622.1	684.3	724.7	778.5
A/B (%)	46.1	73.5	70.7	76.5	84.0	83.4	85.3	93.1

Notes: [1] Korea Treasury Bonds. [2] Including maturities of less than one year. [3] Public issuances and redemptions of general companies, excluding financial institutions and public enterprises, ABS, workout and debt rescheduling corporations.

Sources: BoK, Financial Supervisory Service.

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Consequently, the total outstanding volume of bonds issued tripled to 725 trillion won at the end of 2004 from 222 trillion won at the end of 1997. During the same period, the volume of corporate bonds (including ABS) increased from 90 trillion won to 153 trillion won, despite a temporary decline following the collapse of Daewoo Group in July 1999.

The structure of the local bond market - both primary and secondary - has also changed substantially since the crisis. The infrastructure of the government bond market, in particular, has developed significantly, reflecting government efforts on that front, including the active issuance of treasury bonds (KTBs) from September 1998. ABS (also introduced in late 1998) proved to be very successful, and issuance increased dramatically from 1999 onwards during the process of financial and corporate restructuring, until the emergence of credit card company insolvencies in March 2003. The composition of corporate bond issuance has also changed. Specifically, because of financial institutions' reluctance to provide credit guarantees for corporate bond issuance in the wake of the currency crisis, the majority of corporate bonds have been issued in non-guaranteed form since 1998.

Against this backdrop, this paper explains developments in local bond markets since the currency crisis, with a primary focus on the corporate bond market, and attempts to draw policy lessons based on the Korean experience. Recent developments in the corporate bond market and policy responses are outlined in Section II. The main features of the corporate bond market since the currency crisis are spelled out in Section III. Finally, some policy lessons are drawn in Section IV.

II. Recent developments in the corporate bond market and policy responses

1. ITCs' deposit bubble and corporate bond issuance boom

Faced with the currency crisis, the Korean government, acting in consultation with the IMF, decided its first step would be to restructure Korea's distressed commercial banks and merchant banking corporations. For non-bank financial institutions, such as securities houses, insurance and leasing companies and investment trust companies (ITCs), those facing insolvency would be restructured while the rest would be encouraged to raise additional capital from calls on major shareholders, and seek a management turnaround through their own efforts.

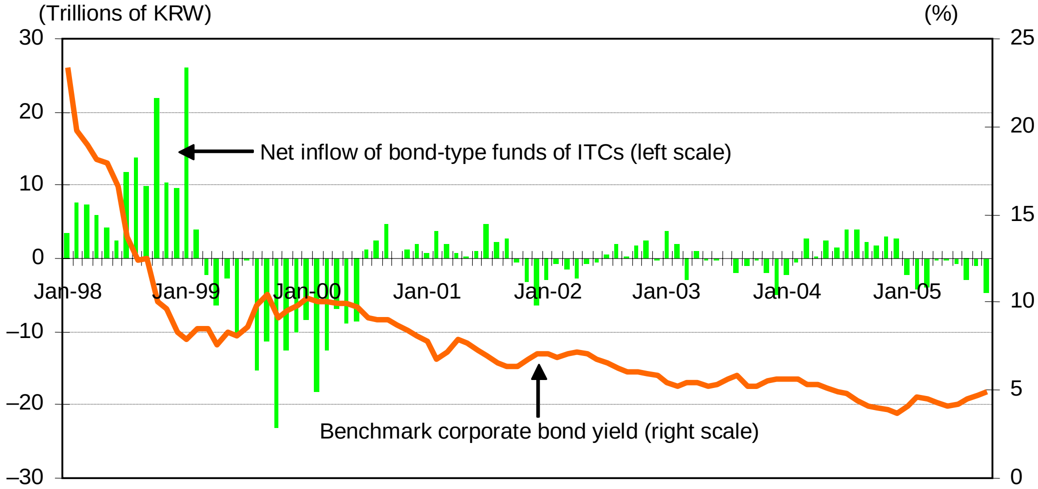
Right after the crisis, the corporate sector badly needed to raise more funds from the corporate bond market, since commercial banks adopted a very cautious approach to corporate lending as they struggled to meet the Basel capital adequacy ratio. At the same time, the majority of corporate bonds had to be issued in the form of non-guaranteed paper because of financial institutions' reluctance to provide credit guarantees for corporate bonds. In response, the government raised the ceiling on an individual firm's corporate bond issuance from double to four times its equity capital, and eliminated all remaining restrictions on investment in domestic bonds by foreigners in December 1997.

While the initial impact of these measures was not significant, they did pave the way for growth in the ensuing years. The corporate sector raised funds on a vast scale by issuing non-guaranteed bonds, as interest rates declined sharply after their peak in mid-February 1998. With this abrupt downturn in interest rates, 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. In fact, funds placed in such certificates increased sharply, from 65 trillion won at the end of 1997 to 181 trillion won at end-June 1999, with a peak of 203 trillion won at end-February 1999. Thanks to this surge in funds under management in their bond-type beneficiary certificates, the ITCs had more money to purchase corporate bonds. The ample liquidity of ITCs, in turn, made it possible for many firms to issue large quantities of non-guaranteed bonds, resulting in a swift shift of the structure of the corporate bond market to one dominated by non-guaranteed bonds.

Nevertheless, it is far from clear why investors - in the face of ongoing financial sector restructuring - invested such a huge amount of money in ITCs, especially since such deposits are not protected by deposit insurance. Although there are many different explanations for this, it appears to reflect, to a large extent, a combination of sharply declining interest rates from the second quarter of 1998 and the maintenance of the principle of historical cost valuation in accounting for assets in the bond-type beneficiary certificates. Under this accounting principle, such certificates were expected to provide more attractive yields due mainly to possible capital gains associated with declining interest rates. It also seems attributable to a widely held view among market participants at that time that restructuring of the ITCs would be implemented as the final stage of financial sector reform. In addition, the fact that some chaebol appeared to rely on ITCs affiliated with their groups to buy their bonds regardless of risk may also have acted as a contributing factor.

Graph 1

Trends of interest rate and net inflow of bond-type funds of ITCs



Sources: Korea Securities Dealers Association; Financial Supervisory Service.

Consequently, thanks to the huge net issuance of corporate bonds, the proportion of funds raised from the corporate bond market in relation to the total borrowings of private enterprises increased to 22% in 1998 and 21% in 1999, from 16.7% in 1997.

Table 2

Trends of financing by private enterprises

(Year-end outstanding, in trillions of KRW)

	1997	**1998**	**1999**	**2000**	**2001**
Total loans	311.4	290.8	289.4	307.2	335.6
	(42.9)	(41.1)	(41.1)	(41.7)	(40.6)
Of which: loans from banks	*150.2*	*147.6*	*162.4*	*177.1*	*191.9*
	(20.7)	*(20.8)*	*(23.0)*	*(24.1)*	*(23.2)*
Corporate bonds	**121.3**	**157.7**	**148.2**	**123.7**	**179.9**
	(16.7)	**(22.3)**	**(21.0)**	**(16.8)**	**(21.7)**
Commercial papers	68.8	55.6	40.3	33.9	44.1
	(9.5)	(7.9)	(5.7)	(4.6)	(5.3)
Others	224.5	204.0	226.7	271.4	268.0
	(30.9)	(28.8)	(32.2)	(36.9)	(32.4)
Total	726.0	708.1	704.6	736.2	827.6

( ) shows percentage of the total.

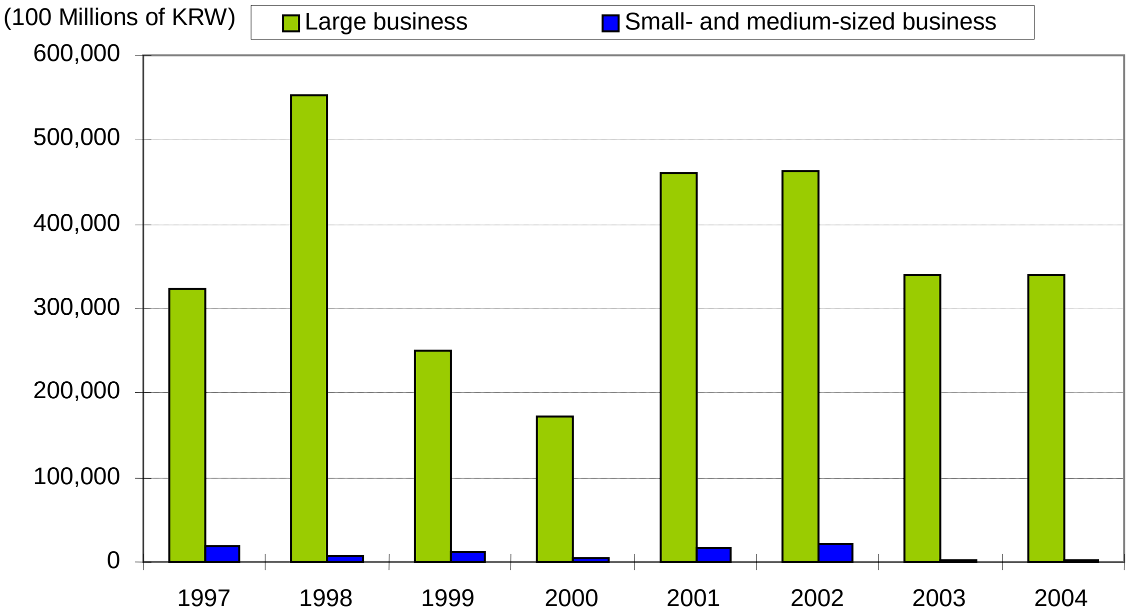
Source: BoK, *Flow of Funds Statistics*.

Although the development of a corporate bond market helped to ease the financial pressure on the corporate sector, this huge surge in bond-type funds generated some adverse effects. More specifically, some chaebol, the Daewoo Group in particular, aggressively expanded the scope and scale of their businesses by using the vast funds raised from the corporate bond market, even after the crisis.

In response to this potentially adverse effect, the government imposed a temporary ceiling, from October 1998 to May 2000, on the purchases by banks, ITCs and insurance companies of corporate bonds issued by member companies of several conglomerates. Following these measures, the bond issuance by big corporations rapidly declined. As can be seen from Graph 2 below, the straight bond issuance by big companies dropped from 55 trillion won in 1998 to 17 trillion won in 2000.

Graph 2

Public offerings of corporate bonds by company size



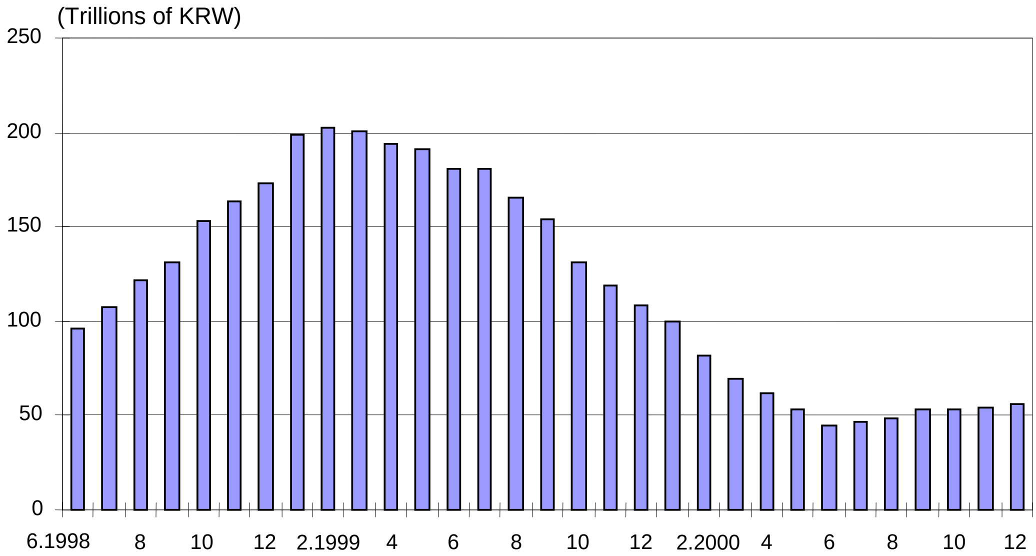
Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

2. Daewoo's collapse, leading to a bust in the corporate bond market

In mid-July 1999, the favourable conditions in the corporate bond market, which had persisted since mid-1998, suffered a complete reversal upon the collapse of Daewoo Group, the third largest chaebol, and the resulting liquidity problems for ITCs. ITCs experienced large losses associated with their vast holdings of dishonoured bonds issued by Daewoo, which raised investors' concerns over the soundness of their assets held in ITCs' bond-type funds. This, in turn, triggered a huge withdrawal of funds from ITCs, leaving them with severe liquidity problems. The funds represented by the ITCs' bond-type beneficiary certificates decreased sharply, from 181 trillion won at end-June 1999 to 45 trillion won at end-June 2000.

Graph 3

Outstanding bond-type beneficiary certificates of ITCs



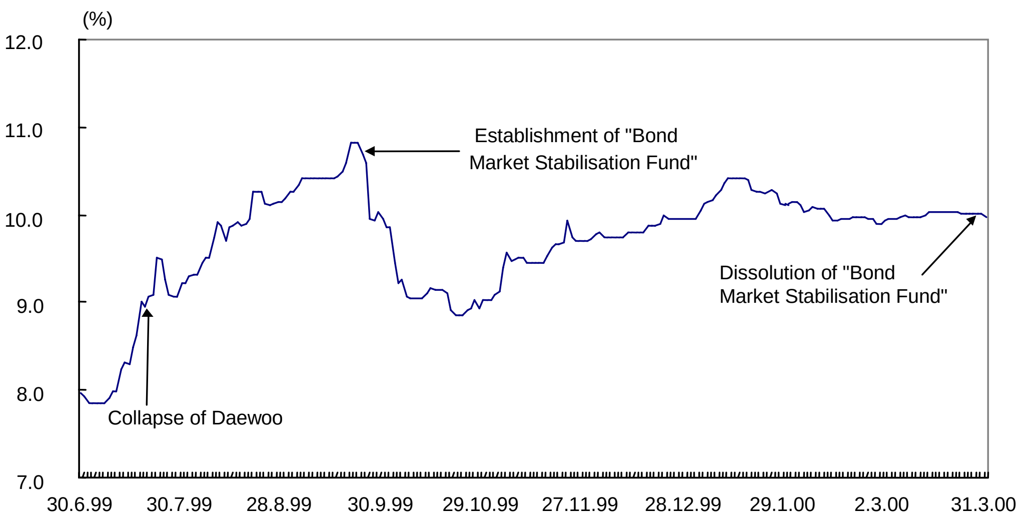
Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

Indeed, Daewoo Group's collapse had ramifications for the entire bond market. Specifically, there was a vicious circle: massive withdrawals of ITCs' funds led to heavy selling of bonds, which caused rising bond yields and further loss of funds, which triggered another massive withdrawal.

Therefore, the authorities needed to take a number of measures to break the vicious circle. First, in an attempt to stabilise bond yields in the secondary market, the authorities introduced a "Bond Market Stabilisation Fund" in September 1999 that was financed mainly by contributions from banks and insurance companies. The amount of funds to be raised had been set at 2 trillion won initially, but this figure had to be raised to 3 trillion won by mid-November 1999. The Bond Market Stabilisation Fund was very effective in achieving its goals, bringing down the benchmark three-year corporate bond yield from 11% to 9.5%, and yielding profits to its subscribers when it was dissolved in March 2000.

Graph 4

Benchmark corporate bond yields from July 1999 to March 2000



Source: Korea Securities Dealers Association.

Second, a two-pronged approach was adopted to prevent a massive outflow of funds from ITCs. Large-scale redemptions of bond-type certificate funds were discouraged by the persuasion of government and financial supervisory agency to stabilise financial markets, while redeemed funds were attracted back into ITCs by new instruments that were substitutes for bond-type beneficiary certificates.

Finally, to restore investors' confidence in ITCs, several measures for strengthening balance sheets and increasing the transparency of asset management were introduced, including cleaning-up of non-performing assets held by ITCs and the mandatory adoption of the mark-to-market accounting principle. To clean up non-performing assets held by ITCs, 18.5 trillion won worth of non-guaranteed Daewoo paper held by ITCs were sold in January 2000 to Korea Asset Management Corporation (KAMCO) at 34.7% of their face value. In addition, from February 2000, non-performing assets held by ITCs were securitised as collateralised bond obligations (CBOs). To improve ITCs' asset management practices and heighten their transparency, the authorities mandated mark-to-market accounting for the assets held by ITCs' bond-type certificate funds, utilising a step-by-step approach that was completed in July 2000. In addition, to provide more accurate valuation of bonds held by ITCs, the establishment of three private bond-pricing agents was permitted in June 2000.

3. Crisis at maturity

As mentioned earlier, there had been massive corporate bond issuance in the second half of 1998 and early 1999, primarily in the form of three-year bonds, as well as some at shorter maturities. Corporate bonds issued in the second half of 1997, along with a significant portion of bonds issued in the second half of 1998, began to mature from the beginning of the second half of 2000, resulting in the need to roll over a large volume of corporate bonds.

At the same time, financial conditions in the corporate bond market had deteriorated sharply because of the collapse of Daewoo Group and the accompanying ITC liquidity problems. In addition, the liquidity conditions of some chaebol-linked companies, including certain Hyundai subsidiaries, worsened from mid-2000. Firms with lower credit ratings, in particular, began to face extreme difficulties in rolling over their maturing bonds. The situation was even more dire for smaller firms. To solve these difficulties, primary CBOs and a 10 trillion won "Bond Fund"[2], with subscriptions from 15 banks and other financial institutions, were introduced in the second half of 2000.

[2] Subscribers to a "Bond Fund" deposited money with ITCs, which then established dedicated funds. According to the investment guidelines set by subscribers, ITCs' purchases of primary CBOs could represent up to 50% of the subscribed funds.

Table 3

Issuance and redemption of corporate bonds by credit rating[1]

(Annual flows, in billions of KRW)

	1999	**2000**	**2001**	**2002**
(A or higher grades)				
Issuance	8,285	10,222	20,807	10,897
Redemption	7,982	12,238	15,443	10,401
Net increase	303	–2,016	5,363	496
(BBB)				
Issuance	9,784	4,583	8,982	7,127
Redemption	6,129	12,133	9,606	7,115
Net increase	3,655	–7,550	–624	12
(BB or lower)				
Issuance	6,810	1,277	2,602	936
Redemption	10,483	8,232	6,409	2,963
Net increase	–3,672	–6,955	–3,807	–2,028
(Total)[2]				
Issuance	26,312	17,619	32,390	18,960
Redemption	30,407	33,427	31,458	20,479
Net increase	–4,095	–15,808	932	–1,519

Note: [1] Public issuance and redemption only (excluding ABS, workout and debt rescheduling corporations). [2] Total amounts (including secured bonds).

Source: Financial Supervisory Service.

Table 4

Issuance of primary CBOs

(Annual, in billions of KRW)

	Amounts		**Underlying assets by grade**				**Credit guarantee ratio**[1] **(%)**
		Senior tranche	**A**	**BBB+ or BBB**	**BBB–**	**BB and lower**	
2000	73,073	70,108	2,850	20,368	28,341	21,490	34.1
			(3.9)[2]	(27.9)[2]	(38.8)[2]	(29.4)[2]	
2001	55,734	53,710	2,290	18,476	13,605	21,351	53.2
			(4.1)[2]	(33.2)[2]	(24.4)[2]	(38.3)[2]	
Total	128,807	123,818	5,140	38,844	41,946	42,841	42.4

Notes: [1] The ratio of the amount of the credit guarantee to that of the senior tranche. [2] ( ) shows shares of underlying assets by grade in percent.

Source: Financial Supervisory Service.

Despite these measures, financing conditions in the corporate bond market, especially those for relatively larger firms with lower credit ratings (including four subsidiaries of Hyundai Group) continued to deteriorate. “The Korea Development Bank (KDB) Prompt Underwriting Scheme”[3] was introduced at the end of 2000, started operating in January 2001 and lasted for one year. The total amount of corporate bonds issued through this scheme[4] was 2.6 trillion won.

Table 5

Corporate bonds issued via the KDB scheme in 2001

(in billions of KRW)

2001	**1Q**	**2Q**	**3Q**	**4Q**
2,626	1,612	308	438	268

Source: Financial Supervisory Service.

Thanks to the implementation of these measures, together with a sharp decline in interest rates from the beginning of 2001, financing conditions in the corporate bond market improved substantially. To a certain extent, this also reflected market participants’ optimistic view that the Korean economy would move into a recovery phase in the second half of 2001 and that cash flow conditions in the corporate sector generally would improve accordingly. During 2001, firms with credit ratings of A or above made a net issuance of 5.3 trillion won, while firms of sub-investment grade made a net redemption of 3.8 trillion won.

4. Another mild bust after the accounting scandal and credit card company insolvencies

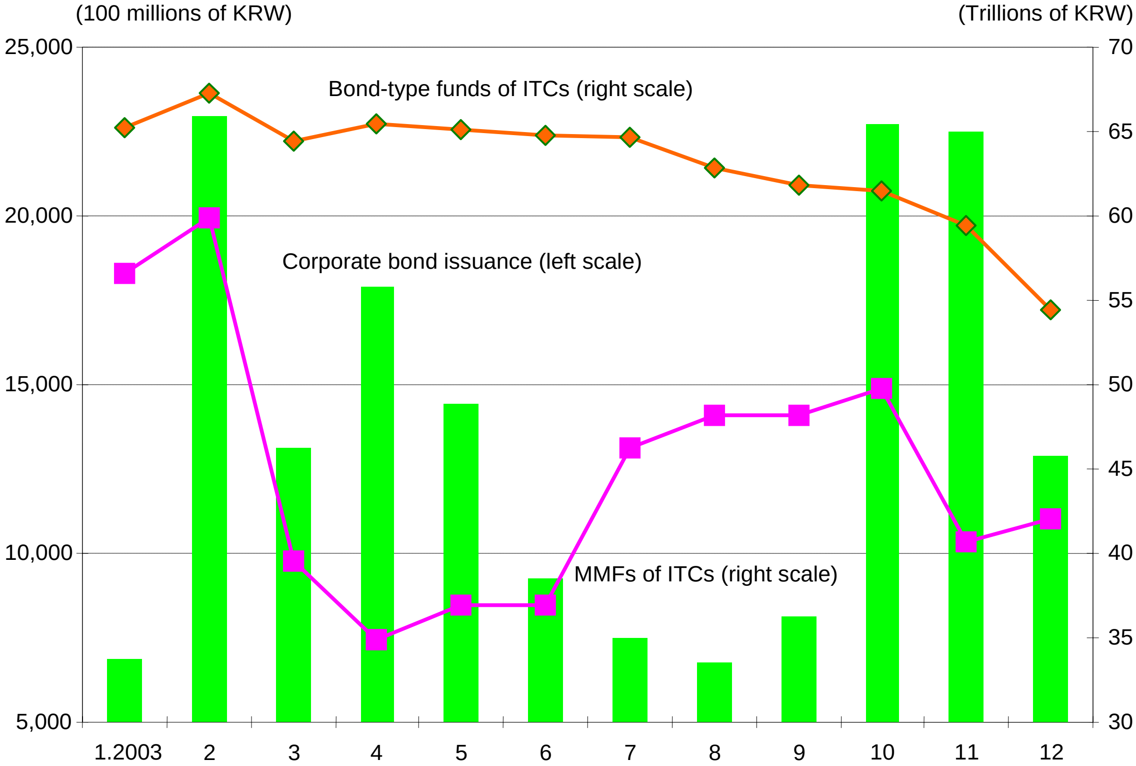
Following revelations of an accounting scandal involving SK Group, another large chaebol, and the emergence of credit card company insolvencies, the issuance of corporate bonds declined again in March 2003. Together, the scandal and the insolvencies led to the massive redemption of ITCs’ money market funds (MMFs), and fund-raising conditions in the corporate bond market worsened again. In contrast to previous panics that had seen heavy runs, however, the bond-type funds of ITCs suffered only mild outflows. Nevertheless, corporate bond issuance by general non-financial companies decreased sharply, reflecting the greatly heightened risk sensitivity of market participants. Many credit card companies, in particular, faced extreme difficulties in rolling over their maturing debt.

3 The scheme 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 the Korea Credit Guarantee Fund (KCGF), they would be allowed to participate if they repaid 20% of their maturing bonds and presented credible rehabilitation plans. The KDB would then act as underwriter for the rollover of the remaining 80% of maturing bonds at the average prevailing secondary market yield on similarly rated bonds plus 40 basis points. As the underwriter of 80% of the maturing bonds, the KDB would repackage and sell 70% of them in the form of primary CBOs or CLOs (collateralised loan obligations), have the main creditor banks absorb 20% of them, and take the remaining 10% onto its own books.

4 The corporate bonds underwritten by the KDB were sold through private placement rather than public offering.

Graph 5

MMFs and bond-type funds of ITCs, and corporate bond issuance



Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

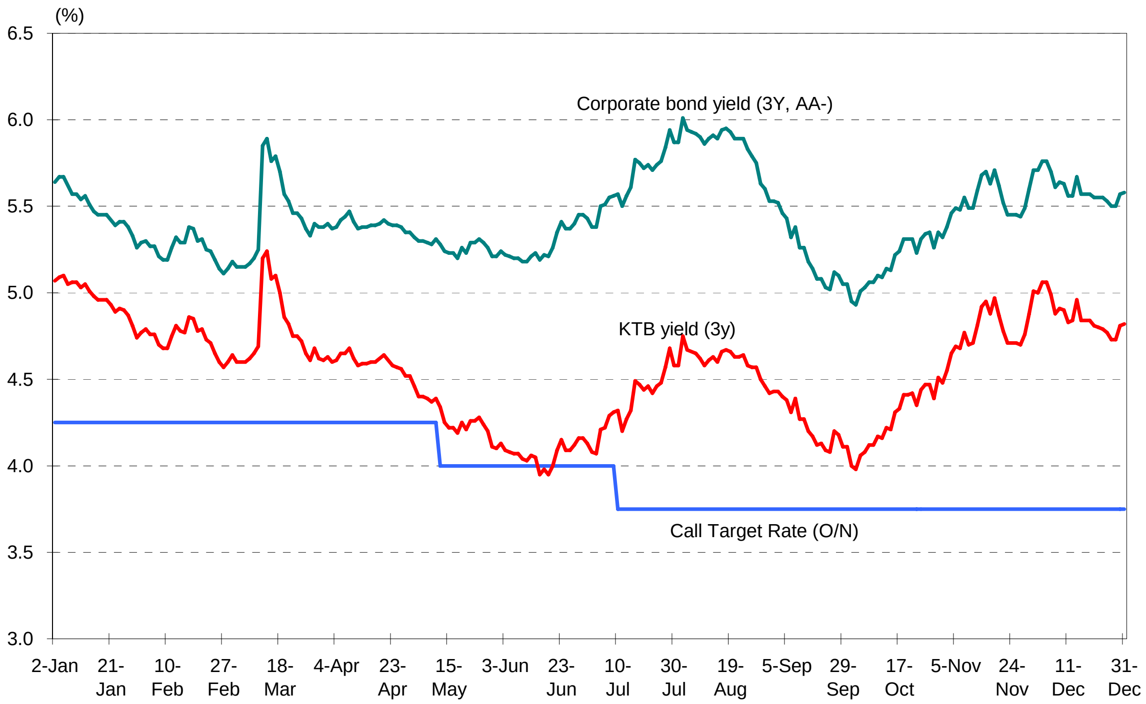
Long-term market interest rates also spiked in March 2003, due to the financial market turmoil triggered by SK Global's accounting scandal and worries over potential credit card company insolvencies. In addition, a rapid slowdown of economic growth raised investors' awareness of the increasing credit risk in the corporate sector generally, and market participants' risk aversion deepened, resulting in a widespread "flight-to-quality" in the local bond market. As a result, the yield spread between the benchmark government bond and corporate bonds (BBB-rated) widened rapidly after March 2003.

In an attempt to soothe market anxieties, the BoK announced measures to stabilise financial markets and injected liquidity through open market operations. The BoK quickly pumped in short-term liquidity amounting to 2 trillion won through a repurchase agreement purchase on 13 March 2003 and supplied an additional 2 trillion won of liquidity through the outright purchase of government bonds and redemption of MSBs prior to their maturity on 17 March 2003. That same day, the government also announced a comprehensive package of measures[5] designed to address the liquidity problems of both card issuers and ITCs.

[5] These included a capital increase or subordinated bonds issuance by credit card companies, the establishment of credit line with banks, the purchase of non-performing assets/loans of credit card companies by KAMCO.

Graph 6

Benchmark corporate bonds (3-yr) and KTB (3-yr) yields in 2003

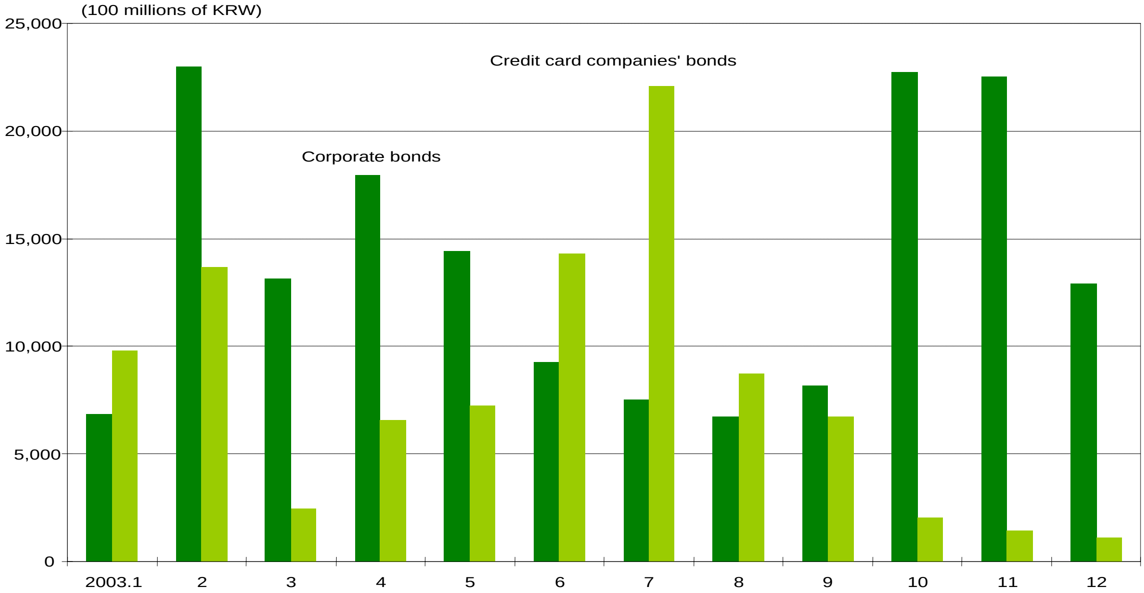


Sources: Korea Securities Dealers Association; BoK.

While financing conditions in the corporate bond market generally did seem to improve as a result of these efforts, it was still virtually impossible for many credit card companies to issue corporate bonds. This reflected a number of factors: 1) that credit card industry restructuring was still underway; 2) that ailing credit card companies were still facing a severe liquidity crunch; and 3) that delinquency rates on credit card billings were continuing to rise, due mainly to Korea's protracted economic downturn.

Graph 7

Issuance of corporate bonds and credit card companies' bonds in 2003

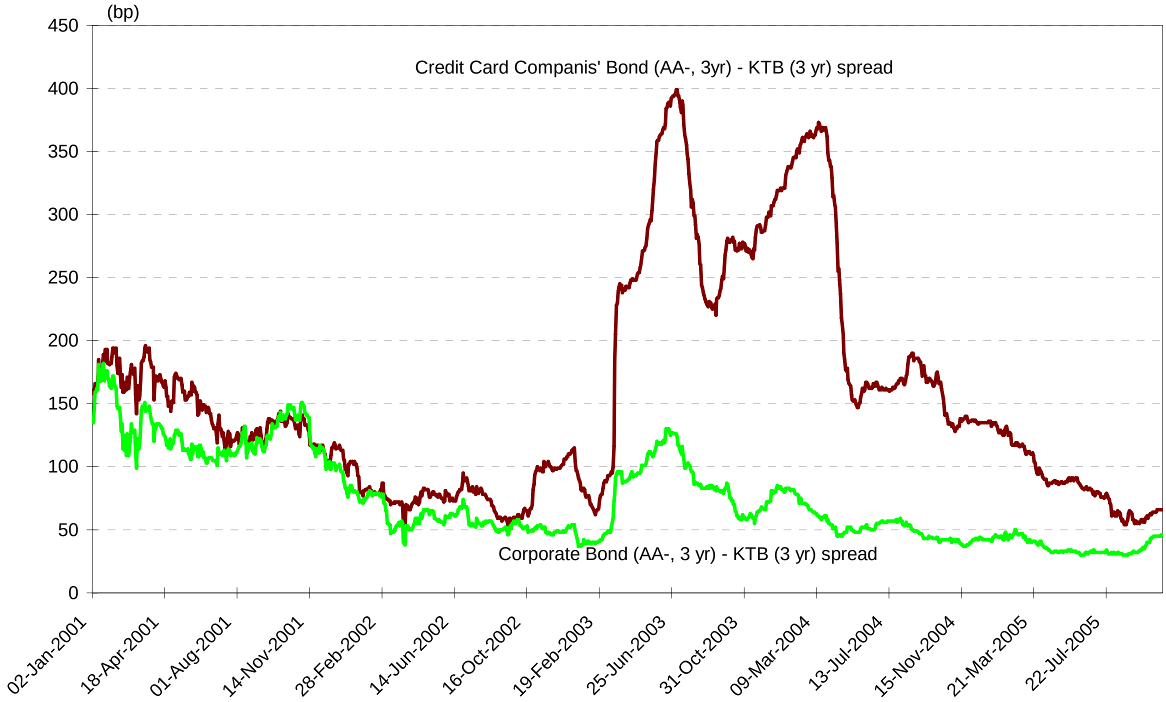


Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

Graph 8 below shows the deteriorating financing conditions at credit card companies during the period. Note that the yield spread between the typical credit card company's bonds and KTBs increased substantially, becoming much wider than the spread between benchmark corporate bonds and KTBs after mid-March 2003.

Graph 8

Comparison of corporate and credit card company bond spreads



Source: Korea Bond Pricing Corporation.

The ABS market was also adversely affected by the woes of credit card issuers. ABS proved very popular upon their launch in late 1998, and issuance increased dramatically from 1999 during the corporate and financial restructuring process. Before the credit card companies' liquidity worries emerged in mid-March 2003, the ABS market was generally very calm, operating without any serious problems. However, after mid-March 2003, the spate of credit company insolvencies led to a very sharp deterioration in ABS market conditions. After LG Credit Card moved more deeply into insolvency in October 2003, the ABS market worsened significantly, as most financial institutions were reluctant to buy ABS bonds. As a result, this market recorded a net redemption of 1.9 trillion won in 2003, a dramatic reversal from net issuance of 19.3 trillion won in 2001.

Table 6

Issuance and redemption of ABS

(Annual flows, in billions of KRW)

	1999	2000	2001	2002	2003	2004
Issuance	4,445	33,983	34,248	28,258	23,529	2,929
Redemption	–	1,768	14,976	21,590	25,464	2,980
Net issuance	4,445	32,215	19,272	6,668	–1,936	–51

Source: Financial Supervisory Service.

III. Features of the corporate bond market since the currency crisis

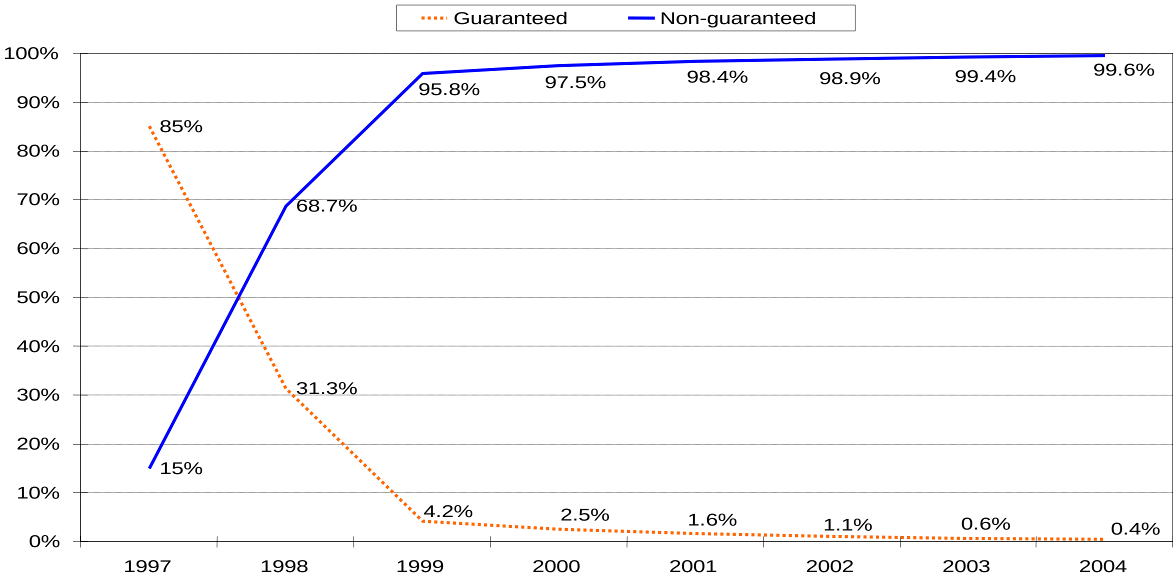
1. Primary market

Since the crisis of 1997, there have been substantial structural changes in Korea's corporate bond market. First, the market is now dominated by non-guaranteed bonds, rather than bonds carrying bank credit guarantees (Graph 9). In 1997, the share of guaranteed corporate bonds was 85%, while that of non-guaranteed bonds was only 15%. However, the share of non-guaranteed bonds increased to 96% in 1999, and then to 99.6% in 2004.

Second, the issuance of corporate straight bonds has declined somewhat in the past few years, as can be seen in Graph 2. This reflects, to a large extent, weak demand for funds by companies, as well as government efforts to improve the capital structure of the corporate sector. Specifically, after the currency crisis, the Financial Supervisory Agency urged companies to reduce their debt-to-equity ratios to below 200%. As a result, the debt-to-equity ratio of the manufacturing industry dropped to 104% in 2004, from 303% in 1998 (Graph 10).

Graph 9

Public offerings of guaranteed and non-guaranteed corporate bonds

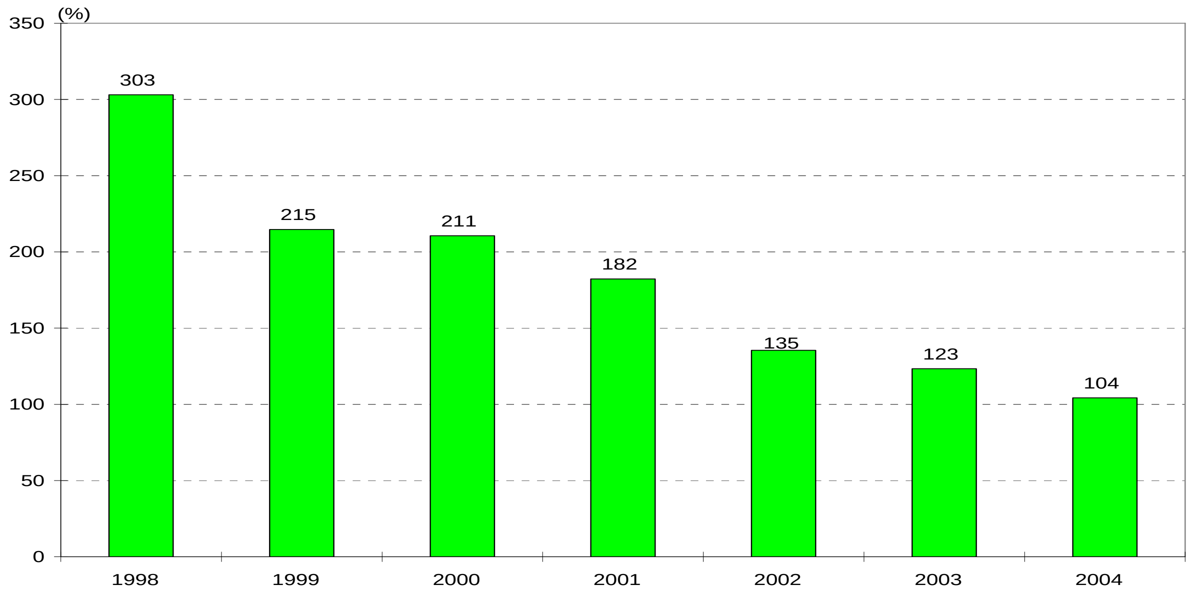


Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

Graph 10

Debt-to-equity ratio from 1998 to 2004

(manufacturing industry)

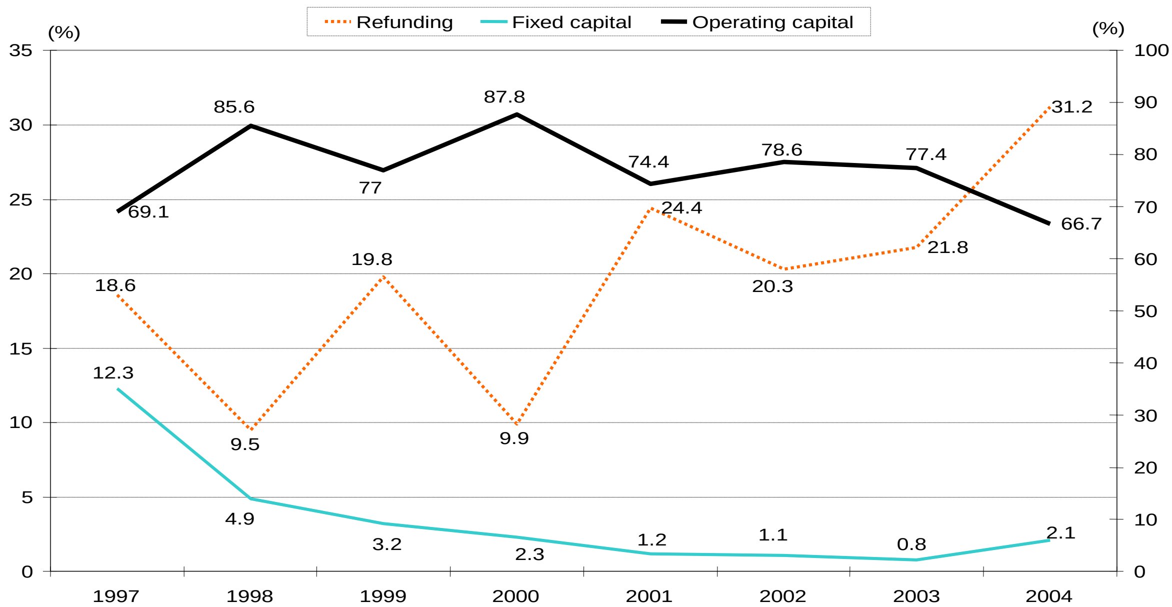


Source: BoK, *Financial Statement Analysis*.

Finally, it is worth mentioning that many companies have used funds raised from new issuance of corporate bonds to restructure their debt. In fact, many large firms with good credit ratings have switched their short-term debt to long-term debt by using funds raised from corporate bond issuance to repay their short-term paper[6]. The proportion of bond proceeds earmarked for refunding was 31.2% in 2004, up three-fold from 9.5% in 1998, while the proportion earmarked for fixed capital decreased from 12.3% in 1997 to 2.1% in 2004, reflecting recent weak demand for facilities investment.

Graph 11

Offerings of corporate bonds by use of proceeds



Source: Financial Supervisory Service, *Monthly Financial Statistics Bulletin*.

2. Secondary market

First, the liquidity of corporate bonds in the secondary market is very poor compared with that of government bonds. The trading volume of corporate bonds dropped following the collapse of Daewoo Group and the liquidity problems of the ITCs in July 1999, and has remained in the doldrums ever since. This is in stark contrast to the remarkable growth of the trading volume of government bonds. The annual turnover ratio of corporate bonds, defined as the ratio of annual trading to outstanding volume, decreased sharply, dropping from 3.7 in 1998 to 0.9 in 2004, while that of government bonds increased from 1.6 to 8.4 over the same period. This implies that trade in the secondary bond markets has been increasingly in sovereign bonds.

Second, although the trading volume of corporate bonds has been declining since 2000, the trading volume of BBB-rated corporate bonds has increased markedly, with average monthly trading volume increasing to 50 trillion won in 2004 from 41 trillion won in 2001 (Table 8). Some investors dedicated to the pursuit of higher yields in a period of low interest rates (including mutual savings banks, credit unions and certain individual investors) are gradually increasing their purchase of BBB-grade bonds, which promise high returns but show relatively low default ratios. However, the trading volume of corporate bonds with credit ratings of BB and below decreased to 1.7 trillion won in 2004 from 6.2 trillion won in 2001.

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6 The purpose here, conditional upon specific timing and market conditions, was to lock in favourable rates.

Table 7

Trends of transactions in the secondary markets

(billions of KRW and %)

	1997	1998	1999	2000
[Daily volume]				
Corp bonds (A)	444	1,272	1,456	929
Gov't bonds (B)	44	223	2,310	2,031
Total bonds	798	2,288	4,678	6,317
A/B (%)	1,009.1%	570.4%	63.0%	45.7%
[Turnover ratio]				
Corp bonds (A)	1.48	3.7	3.6	2.1
Govt bonds (B)	0.6	1.6	11.3	8.6
A/B (%)	246.7%	231.3%	31.8%	24.4%
	2001	**2002**	**2003**	**2004**
[Daily volume]				
Corp bonds (A)	883	803	652	547
Govt bonds (B)	3,221	2,648	3,984	5,978
Total bonds	9,249	7,832	9,919	11,313
A/B (%)	27.4%	30.3%	16.4%	9.2%
[Turnover ratio]				
Corp bonds (A)	1.6	1.4	1.0	0.9
Govt bonds (B)	11.7	7.4	7.3	8.4
A/B (%)	13.7%	18.9%	13.7%	10.7%

Source: Korea Bond Pricing Corporation.

Table 8

Monthly trading volume of corporate bonds by credit rating

(outstanding, in 100 millions of KRW)

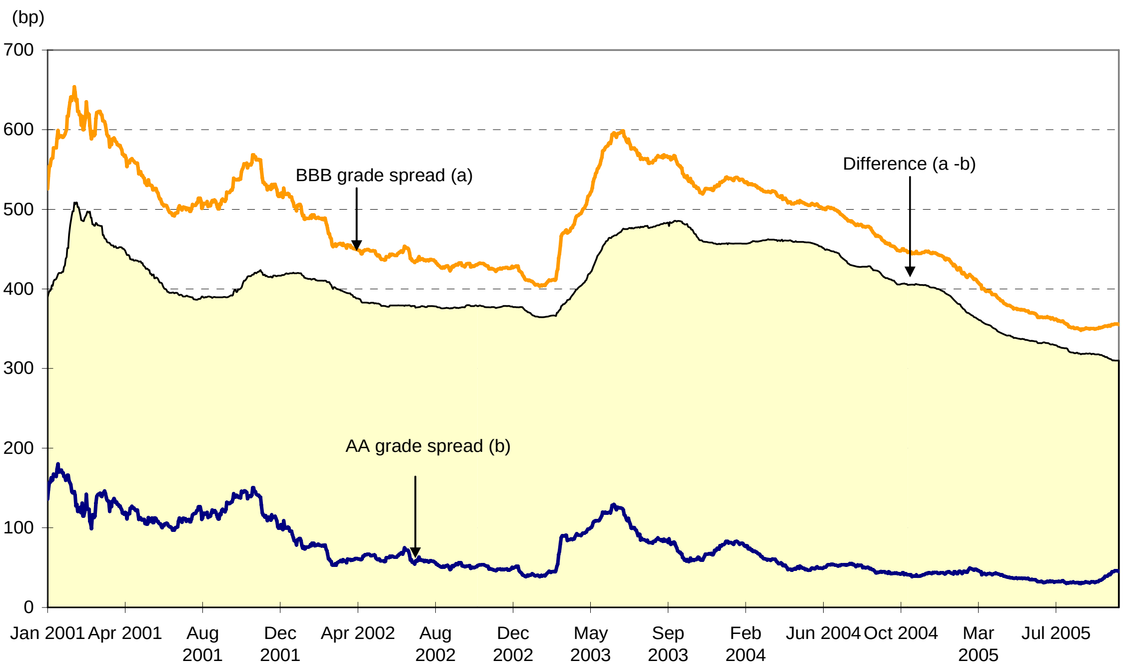
	2001	2002	2003	2004	Jan-Oct 2005	Total
AA and higher	556,910	731,465	690,285	749,679	520,830	3,249,169
A	445,448	492,173	389,243	264,533	331,785	1,923,182
BBB	**413,268**	**490,978**	**264,374**	**498,530**	**366,015**	**2,033,165**
BB and lower	62,235	55,489	42,177	16,821	5,110	181,833
	1,477,860	1,770,106	1,386,079	1,529,563	1,223,740	7,387,349
%						
AA and higher	37.7	41.3	49.8	49.0	42.6	44.0
A	30.1	27.8	28.1	17.3	27.1	26.0
BBB	**28.0**	**27.7**	**19.1**	**32.6**	**29.9**	**27.5**
BB and lower	**4.2**	**3.1**	**3.0**	**1.1**	**0.4**	**2.5**
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Korea Bond Pricing Corporation.

Reflecting the increasing appetite for BBB grade corporate bonds, there has been a rapid narrowing between AA grade and BBB grade spreads.

Graph 12

Spreads of corporate bonds yields



Notes: [1] BBB grade spread = corporate bond BBB grade yields - KTB benchmark yields. [2] AA grade spread = corporate bond AA grade yields - KTB benchmark yields. They are averages of three bond pricing agents. Source: BoK.

Finally, when the investor base for corporate bonds is considered, ITCs, which accounted for 62.4% of the total outstanding volume of corporate bonds in 1998, accounted for only 15.3% in 2004. On the other hand, the share of contractual savings institutions, such as insurance companies and pension funds, increased substantially, rising from 2.1% in 1998 to 17.8% in 2004. The share of small mutual savings banks, credit unions and individual investors also increased significantly, rising from 11.2% in 1998 to 28.0% in 2004 - reflecting the appetite of this class of investor for BBB grade bonds, which promise high returns with relatively low default risk.

Table 9

Investor base for corporate bonds

	1998	1999	2000	2001	2002	2003	2004	Sept. 2005
Banks	5.3	4.9	8.1	12.8	12.8	14.3	12.2	11.5
Bank trusts	10.3	10.4	7.4	6.4	8.1	6.3	5.5	4.4
Investment trust companies	**62.4**	**60.2**	**29.5**	**20.8**	**18.7**	**11.9**	**15.3**	**13.9**
Security companies	8.7	12.3	15.0	13.8	15.5	20.0	21.0	23.0
Insurance companies	2.1	1.5	5.5	7.2	8.9	11.8	11.8	11.8
Pension funds	0.0	5.6	9.2	10.7	10.4	9.1	6.0	5.3
Mutual savings banks, credit unions, individuals, etc	11.2	5.0	25.3	28.4	25.6	26.5	28.0	30.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Korea Securities Depository.

IV. Policy lessons

During the 1997 crisis, the corporate bond market became vulnerable to changes in the prevailing market climate, including both macroeconomic fundamentals and the market demand and supply interplays. This fragility has underlain the boom and bust cycles of the Korean corporate bond market since then. For instance, the huge increase in corporate bond issuance from the second half of 1998 to early 1999 resulted from the surge in fund inflows into ITCs' bond-type beneficiary certificates and was followed by a collapse in the corporate bond market and the bursting of the ITC deposit bubble in mid-1999. At the same time, market participants had to pay far more attention to the credit risk of non-guaranteed corporate bonds, as a large proportion of non-guaranteed bonds issued during the earlier boom needed to be rolled over. Between March 2003 and end-2003, another mild market meltdown occurred, prompting a series of measures by the authorities to stabilise the market.

Financing conditions in the Korean corporate bond market are likely to remain volatile for the foreseeable future. However, we have learned a number of lessons about the underlying causes of the problems in the corporate bond market, and have recognised that there are several important issues that must be tackled to create a normal, well functioning market. We discuss these below.

The first lesson is that a sudden and large increase in the outstanding volume of corporate bonds above a certain sustainable level is likely to impose a substantial burden on an economy, particularly on its financial stability going forward. The recent experience of Korea is a case in point.

The second lesson is that the prevailing credit quality of corporate bonds has an important bearing on the financial stability of an economy. Since the credit quality of corporate bonds is intrinsically volatile during the process of corporate sector restructuring, financing conditions in the corporate bond market in general are more likely to deteriorate sharply during such a period. However, a unique feature of the Korean experience is that there was a huge surge in the issuance of non-guaranteed corporate bonds 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 several large firms, including some non-viable companies, to raise funds through non-guaranteed corporate bonds. This, in turn, brought about improvements in liquidity positions, particularly those companies which could not have otherwise survived. This increase in liquidity helped bring about a quick economic recovery in the aftermath of the currency crisis. However, as investors became more concerned after the ITC deposit bubble burst and a big portion of the corporate bonds matured, financing conditions deteriorated sharply, threatening the financial stability of the economy. In particular, a large proportion of the maturing corporate bonds to be rolled over were issued by firms with lower credit ratings, which exacerbated the situation even further. From this, it is obvious that the elimination of these non-viable concerns is a necessary, although not sufficient, condition for the normalisation of the bond market. To achieve this normalisation, the authorities have to speed up the pace of corporate sector restructuring.

The third lesson is that weaknesses in institutional arrangements - including poor accounting practices, insufficient investor protection and inefficient liquidation procedures - contribute to turmoil in the corporate bond market and may amplify the magnitude of the disturbances. We know, for example, that the maintenance of the principle of historical cost valuation accounting for ITCs was partly responsible for the massive inflow of funds into ITCs' bond-type beneficiary certificates, as well as the subsequent big outflow. In stark contrast to this, the recent sharp run-ups in bond yields in January-February and June-October 2005 have not caused a run on the beneficiary certificates of ITCs, mainly because historical cost accounting has been scrapped in favour of mark-to-market accounting.

The fourth lesson is that when investors in the corporate bond market become highly risk averse while the credit risk of outstanding issues is increasing, securitisation of corporate bonds can be effective in tranching the credit spectrum to suit different needs. The Korean experience has been that the introduction of primary CBOs is key to avoiding the worst case scenario by easing the burden of rolling over the huge amount of maturing papers issued by firms with low credit ratings.

The fifth lesson is that development of the secondary market is important for reducing the impact of external shocks on the bond market. The currency crisis was a major blow to the Korean bond market because market-making intermediation in the secondary market was relatively underdeveloped at the time. Therefore, more effort should be devoted to developing market-making and enhancing transparency in the secondary market. To these ends, a number of measures should be considered. 1) The activities of inter-dealer brokers and regular dealers should be designed to give them distinct market-making roles. 2) To the extent that an efficient price discovery function is a prerequisite for a more transparent market with high liquidity, more effort should be made to encourage inter-dealer brokers and regular dealers to make two-way quotations on a real-time basis. 3) Various hedging instruments, short-term financing instruments and inventory stock adjustment tools should be introduced to aid market-making. In addition, the authorities' surveillance of secondary market activities needs to be strengthened to facilitate transparency and fair trading.

The final lesson is that the financial market instability caused by turmoil in the corporate bond market may pose a challenge to the central bank in its efforts to balance price stability and financial market stability. This in turn may severely constrain the scope for monetary policy of the central bank.