The Finance in the Capital Market and Credit Rating in Korea

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1 Financial / Capital Market in Korea

(1) Overview

In 1949, the Korean government began to issue government bonds. In 1953, Korea Securities Dealers Association (KSDA) was organized, and in 1956, Korea Stock Exchange (KSE) was established. Then, a capital market was started in South Korea. Since then, the Korean capital market has grown steadily in parallel with economic development. Its growth can be divided into 6 stages: Early stages of modernization (1953－1967), Capital market development (1968－1978), Market Liberalization (1979－1985), Expansion of the capital market (1986－1995), Asian financial crisis and reform measures (1996－2003), Enhanced competiveness of the capital market (2004－2009)[2]. Recently, the Financial Investments Service and Capital Market Act (FSCMA) was enacted in South Korea, in order to promote the further growth of the Korean capital market. The Korean government implements political measures so that the financial field will facilitate the advance of the Korean economy.

Table 1: Ratio of Financial Assets and the Capital Market to GDP

(Unit: billion won, number of times)

	1990	1995	2000	2002	2004	2006	2008
GDP	186,691	398,838	603,236	720,539	826,893	908,744	1,023,938
Financial assets	770,441	1,851,793	3,592,478	4,812,864	5,538,532	6,947,403	8,665,785
Market capitalization (MC)	130,563	274,487	641,740	859,263	1,103,046	1,554,628	1,488,400
Financial asset to GDP	4.1	4.6	6.0	6.7	6.7	7.6	8.5
Market capitalization to GDP	0.7	0.7	1.1	1.2	1.3	1.7	1.5

Source: Korea Securities Dealers Association (2009)

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[2] For further details on the development of the Korean capital market, refer to Korea Securities Dealers Association (2009), Chapter 2.

Table 1 shows the ratio of financial assets and the capital market to GDP. GDP increased by 5.4 times between 1990 and 2008, while financial assets and market capitalization increased by 11.2 times and 11.4 times, respectively. The ratio of financial asset to GDP augmented from 4.1% in 1990 to 8.5%, while the ratio of capitalization to GDP augmented from 0.7% to 1.5%. This indicates that the Korean capital market has grown more rapidly than GDP.

Table 2: Size of the Domestic Capital Market

(Unit: billion won, %)

	1990	1995	2000	2002	2004	2006	2008
Bonds	51,117	125,998	424,683	563,179	659,308	777,903	865,388
	(39.2)	(45.9)	(66.2)	(65.5)	(59.8)	(50.0)	(58.1)
Stocks	79,446	148,489	217,056	296,083	443,737	776,724	623,011
	(60.8)	(54.1)	(33.8)	(34.5)	(40.2)	(50.0)	(41.9)
Total	130,563	274,487	641,740	859,263	1,103,046	1,554,628	1,488,400

Source: Korea Securities Dealers Association (2009)

Table 2 shows the size of the domestic capital market. In the entire capital market, trading volume increased by 11.4 times from KRW130.563 trillion in 1990 to KRW1488.4 trillion in 2008. Likewise, the trading volume in the bond market[3] skyrocketed by 17 times from KRW51.117 trillion to KRW865.388 trillion. Its share in the capital market increased from 39.2% to 58.1%. The trading volume in the stock market[4] augmented by 7.9 times from KRW79.446 trillion to KRW623.011 trillion, but its share in the capital market decreased from 60.8% to 41.9%. In the Korean capital market, the bond market has expanded more rapidly than the stock market.

Table 3 shows the financial assets held by individual Investors. From 1990 to 2008, individual investors have held currency and deposit as primary assets. The ratio of bonds decreased from 14.1% in 1990 to 10.9%, while the ratio of stock and investment increased from 14.6% to 16.3%. Recently, the ratio of insurance and pension is increasing.

[3] The details of Korean bond market are described in Oh (2005), Korea Securities Dealers Association (2008), Chapter 7, Korea Securities Dealers Association (2009), Chapter 5 and Chapter 6, and Korea Exchange (2009), Chapter 4.

[4] The details of Korean stock market are described in Korea Securities Dealers Association (2008), Chapter 4, Korea Securities Dealers Association (2009), Chapter 3 and Chapter 4, Korea Exchange (2009), Chapter 1 and Chapter 2, and Korea Exchange (2010).

Table 4 shows the trends in share of stocks and investment held by foreign investors. Foreign investors invest in mainly bonds, stocks and equity investments. From 1997 to 1998, bond investments by foreign investors were fully liberalized. Capital gains are exempt from taxation, because tax treaties have been concluded with most countries. Therefore, the ratio of foreign investors is increasing year by year. In 2008, the ratio of bonds held by foreign investors was 9.6%, and the ratio of stocks and equity investments held by foreign investors was 13.7%. The behavior of foreign investors now influences stock prices significantly. However, in recent years, the ratio of bonds increased due to the global financial crisis, and the ratio of stocks and equity investments decreased.

Table 3: Financial Assets Held by Individual Investors

(Unit: billion won, %)

	1990	1995	2000	2002	2004	2006	2008
Currency and deposit	94,141 (48.1)	266,433 (57.1)	488,204 (61.1)	589,324 (54.3)	625,001 (50.1)	718,251 (46.9)	790,154 (46.9)
Insurance and pensions	34,646 (17.7)	81,629 (17.5)	144,139 (18.1)	231,746 (21.4)	281,604 (22.6)	345,772 (22.6)	422,469 (25.1)
Bonds	27,491 (14.1)	60,914 (13.0)	74,446 (9.3)	90,767 (8.4)	119,328 (9.6)	164,300 (10.7)	183,493 (10.9)
Loans	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Stocks and investments	28,501 (14.6)	45,507 (9.7)	68,456 (8.6)	155,568 (14.3)	207,055 (16.6)	290,638 (19.0)	274,446 (16.3)
Others	10,806 (5.5)	12,408 (2.7)	23,271 (2.9)	17,699 (1.6)	13,860 (1.1)	12,967 (0.8)	15,753 (0.9)
Total	195,584 (100.0%)	466,891 (100.0%)	798,516 (100.0%)	1,085,103 (100.0%)	1,246,849 (100.0%)	1,531,928 (100.0%)	1,686,314 (100.0%)

Source: Monthly Bulletin by the Bank of Korea

Table 4: Trends in Share of and investment Held by Foreign Investors

	1990	1995	2000	2002	2004	2006	2008
Bonds	4.2	8.4	8.6	5.0	5.1	5.1	9.6
Stocks and equity investments	0.0	7.8	22.1	16.2	20.4	21.2	13.7

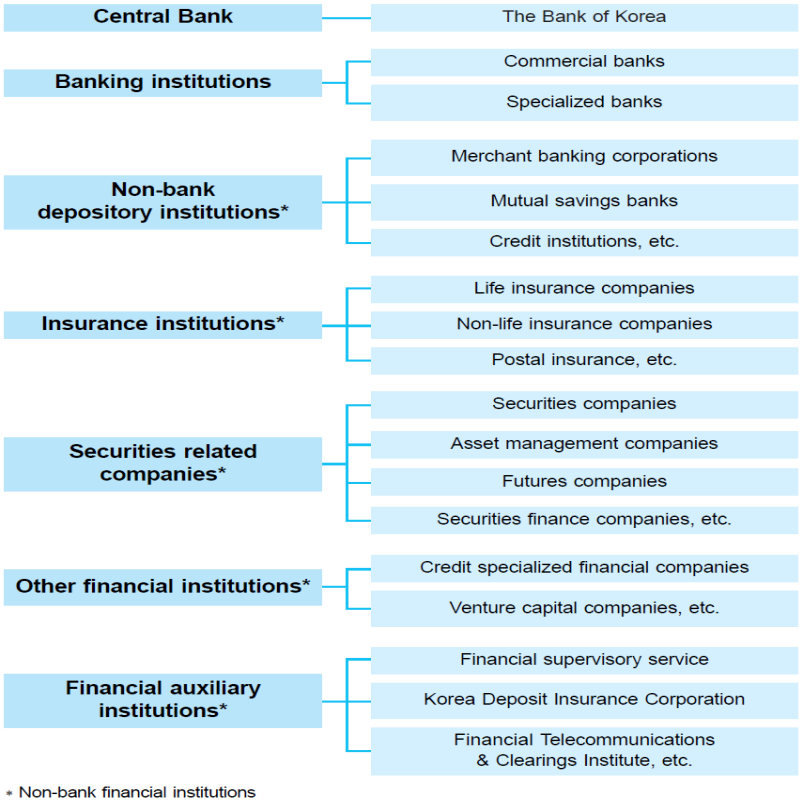
Source: Monthly Bulletin by the Bank of Korea

(2) Financial System

Since the 1960s, the Korean government has made strategic efforts to promote economic growth. In order to secure necessary funds for economic growth, the Korean

government broadly distributed funds via banks to the industries that needed to be protected and developed with political measures. Accordingly, indirect finance centered on banks under the control of the government was dominant in Korean financial systems[5]. Since the 1980s, direct finance has grown as corporate fund-raising was diversified. However, the accumulation of bad loans due to the rapid economic growth as well as the steep increase in fund collection from foreign financial institutions triggered the financial crisis in 1997. Facing the financial crisis, the Korean government called for support from International Monetary Fund (IMF), etc. and was placed under the control of IMF, under the condition that it would restore fiscal austerity and the financial sector and deregulate the financial market. In the wake of the financial crisis, the Korean financial sector shifted from the "bank-based financial system" to the "market-based financial system." The market-based financial system needs to be improved further so as to fulfill the function to check business administration.

Figure 1: Financial Institutions in Korea



Source: Bank of Korea (2008)

[5] The details of Korean financial systems are described in Bank of Korea (2008), Bank of Korea, Part Ⅱ (2010), Korea Securities Dealers Association (2009), Chapter 1, and Financial Supervisory Service (2010).

The financial institutions in Korea can be divided into seven categories: (a) The Bank of Korea[6] (central bank), (b) banking institutions including commercial and specialized banks[7], (c) non-bank depository institutions including merchant banking corporations, mutual savings banks, credit institutions etc.[8], (d) securities related companies, (e) other financial institutions, (f) financial auxiliary institutions. Fig. 1 shows the financial institutions in Korea.

Table 5: Total Assets of Financial Institutions

(Unit: billion won, %)

	Banks	Non-bank deposit-taking institutions	Etc.	Insurance companies	Securities houses	Futures companies	Asset management companies	Total
1996	472,601	105,431	-	95,417	27,848	-	-	701,297
1996	(67.4)	(15.0)	-	(13.6)	(4.0)	-	-	(100.0)
1998	565,080	111,552	64,245	114,513	34,734	-	-	890,124
1998	(63.5)	(12.5)	(7.2)	(12.9)	(3.9)	-	-	(100.0)
2000	829,338	63,093	62,351	149,540	52,171	526	1,273	1,158,291
2000	(71.6)	(5.4)	(5.4)	(12.9)	(4.5)	(0.02)	(0.1)	(100)
2002	1,043,124	48,225	101,704	198,549	50,476	526	1,530	1,444,133
2002	(72.2)	(3.3)	(7.0)	(13.7)	(3.5)	(0.02)	(0.1)	(100)
2004	1,141,652	58,911	53,913	252,658	52,361	915	1,636	1,562,045
2004	(73.1)	(3.8)	(3.5)	(16.2)	(3.4)	(0.1)	(0.1)	(100)
2006	1,394,166	78,294	67,827	321,580	92,852	1,327	2,062	1,958,107
2006	(71.2)	(4.0)	(3.5)	(16.4)	(4.7)	(0.1)	(0.1)	(100)
2008	1,870,633	102,569	102,121	391,935	140,657	2,799	2,977	2,613,690
2008	(71.6)	(3.9)	(3.9)	(15.0)	(5.4)	(0.1)	(0.1)	(100)

Source: Monthly Bulletin by Financial Supervisory Service

Table 5 shows the total assets of financial institutions. The gross asset value of Korean financial institutions increased by 3.7 times from KRW701.297 trillion in 1996

[6] The Bank of Korea was founded in1950 under the Bank of Korea Act. The primary purpose of the Bank of Korea is pursuit of price stability. For further details on the Bank of Korea, refer to Bank of Korea (2008), Part Ⅱ.

[7] Commercial banks consisted of seven nationwide commercial banks, six local banks and 39 foreign bank branches in 2008. For further details on the banking institutions, refer to Bank of Korea (2008), Part Ⅲ.

[8] Non－bank depository institutions consist of merchant banking corporations, mutual savings banks, credit institution and the postal savings system. For further details on the non－bank institutions, refer to Bank of Korea (2008), Part Ⅳ.

to KRW2613.690 trillion in 2008. Likewise, the value of the bank sector rose by 3.9 times from KRW472.601 trillion to KRW1870.633 trillion. Recently, the bank sector accounts for over 70%. This indicates that Korean financial systems are backed up by banks. On the other hand, the ratio of non-bank deposit-taking institutions decreased from 15% in 1996 to 3.9% in 2008. The ratios of insurance companies and securities houses did not change significantly.

(3) Bond Market in Korea

① Primary Bond Market

The Korean bond market began with the issuance of nation-building government bonds in 1949, and grew through the issuance of government and special public bonds. Recently, a variety of bonds, such as financial and corporate bonds, have been issued. At present, the total amount of outstanding bonds in the Korean bond market is the third largest after Japan and China, in Asia[9].

Table 6: Types of Bonds Issued

(Unit: trillion won)

Year	Govt.	Muni	Special	MSB	Financial	Corp	ABS	Total(A)	Current price GDP(B)	% (A/B)
2000	68.4	10.9	102.1	66.8	71.7	101.8	44.0	465.7	603.2	77.2
2001	77.8	10.3	133.7	79.1	83.7	96.1	67.4	548.1	651.4	84.1
2002	95.1	9.5	132.7	83.9	121.6	90.3	67.6	600.7	720.5	83.4
2003	132.0	10.1	117.5	105.5	125.3	86.6	63.9	640.9	767.1	83.5
2004	185.3	10.5	111.9	142.7	137.0	75.7	48.3	711.4	826.9	86.0
2005	225.4	11.2	112.2	155.2	148.3	76.8	39.6	768.7	865.2	88.8
2006	253.5	12.0	108.4	158.4	190.8	76.8	34.8	834.7	908.7	91.9
2007	278.7	12.7	119.7	150.2	237.4	81.0	27.4	907.1	975.0	93.0
2008	311.5	13.5	143.4	126.9	270.9	98.8	20.8	985.8	1,023.9	96.3
Percentage (2000)	14.7	2.3	21.9	14.3	15.4	21.9	9.4	100.0	-	-
Percentage (2008)	31.6	1.4	14.5	12.9	27.5	10.0	2.1	100.0	-	-

Source: Korea Securities Computer Corporation, Bank of Korea

There are various types of instruments traded in Korean bond market: government bonds (Govt.), municipal bonds (Muni), special public bonds (Special), monetary stabilization bonds (MSB), financial bonds (Financial), corporate bonds (Corp), asset

[9] Refer to Asian Developing Bank (2010a) and Asian Developing Bank (2010b).

backed securities (ABS). Table 6 shows the types of bonds issued. As a whole, the value of bonds issued increased over two times from KRW465.7 trillion in 2000 to KRW985.8 trillion in 2008. In addition, the value of bonds issued in proportion to GDP increased from 77.2% in 2000 to 96.3% in 2008. As the characteristics of the Korean bond issue market, government, monetary stabilization, and financial bonds increased significantly between 2000 and 2008, and municipal and special public bonds also increased. Meanwhile, corporate bonds and asset backed securities decreased. However, corporate bonds have been increasing since 2004. In the bond issue market, in 2000, corporate bonds (21.9%) and special public bonds (21.9%) are dominant, followed by financial bonds (15.4%). In 2008, government bonds (31.6%) are dominant, followed by financial bonds (27.5%) and special public bonds (14.5%).

Here, there are three kinds of government bonds[10]: (a) Korea Treasury Bonds (KTB) issued with a maturity of three-, five-, ten-, or twenty-years, (b) National Housing Bonds (NHB) issued under the Housing Construction Promotion Act, (c) Foreign Exchange Equalization Fund Bonds (FEEFB) issued under the Foreign Exchange Trade Act. Government bonds are issued by the central government under the nation's Constitution and the Budged and Accounting Act. Among them KTBs are issued in the largest volume and trading, therefore KTB market yields serve as a benchmark yield.

Table 7: Percentage of KTBs Issued among Total Bond Issuance

(Unit: trillion won)

	2001	2002	2003	2004	2005	2006	2007	2008
KTB (Percentage)	45.7 (8.3)	51.8 (8.6)	76.7 (12.0)	129.8 (18.2)	172.1 (22.4)	202.3 (24.2)	231.7 (25.5)	266.2 (27.0)
Total	548.1	600.7	640.9	711.4	768.7	834.7	907.1	985.8

Source: Korea Securities Dealers Association (2009)

Table 7 shows percentage of KTBs issued among total bond issuance. The issue amount of KTB increased by 5.8 times in 7 years from KRW45.7 trillion in 2001 to KRW266.2 trillion in 2008. The share of KTB in the bond market increased by 3.25 times from 8.3% in 2001 to 27.0% in 2008. The recent increase in the issue amount of KTB is remarkable. In Apr. 1999, Korea Futures Exchange (KOFEX) was established, and in Jul. 1999, government bond futures were listed. In 2000, 10-year

[10] For further details on the government bonds, refer to Korea Securities Dealers Association (2008), Chapter 7, pp.123－125, and Korea Securities Dealers Association (2009), Chapter 5 pp.69－72.

government bonds were issued for the first time, and 5-year and10-year government bonds became dominant. In Jan. 2006, the issuance of 20-year bonds was commenced.

In addition, there are the following bonds in special public bonds[11]: (a) Seoul Metropolitan Rapid Transit Corporation Bonds issued under City Railroad Act with a maturity of seven years, (b) Regional Development Bonds issued under the Local Autonomy Act, (c) Monetary Stabilization Bonds (MSBs) issued by the Bank of Korea to control money supply, (d) Financial debentures issued by financial institutions, banks, based on various special bank laws such as the Industrial Bank act and the Foreign Exchange, (e) Korea Electric Power Corporation (KEPCO) Bonds issued by KEPCO based on the Korean Electric Power Corporation Act. Special public bonds are issued by municipal authorities, government-invested corporations and financial institutions.

Table 8: Corporate Bond offerings by Type

Unit: KRW billion

	Non-Guaranteed		Guaranteed		Privately Offered		Total	
Year	Value	Outstanding	Value	Outstanding	Value	Outstanding	Value	Outstanding
2001	33,688	67,106	1,008	3,075	7,066	17,680	41,762	87,861
2002	23,247	70,362	414	1,886	3,948	12,959	27,609	85,207
2003	18,306	64,890	200	1,430	2,399	6,879	20,905	73,199
2004	24,424	62,628	174	435	946	4,922	25,544	67,985
2005	21,012	65,393	231	391	1,341	5,521	22,584	71,305
2006	16,952	64,903	239	350	1,872	5,829	19,063	71,082
2007	20,592	67,788	174	208	3,212	6,952	23,983	74,948

Source: KSDA & KIS Pricing

Corporate bonds are issued by private corporations established under the Commercial Code. Corporate bonds are issued through public offering, and their upper limit is 4 times net assets of an issuing company. Until the financial crisis in 1997, most were guaranteed bonds, but after the financial crisis, financial institutions became reluctant to issue guaranteed bonds, and so the issuance of non-guaranteed bonds increased steeply. In addition, recently, due to the competition among rating agencies, their ability

[11] For further details on the special public bonds, Korea Securities Dealers Association (2008), Chapter 7, pp.125－126.

to analyze credit risks was improved. This contributed to the increase in non-guaranteed corporate bonds. Table 8 shows the types of bonds issued. The types of corporate bonds can be categorized as follows[12]: (a) Guaranteed and non-guaranteed bonds, (b) Corporate mortgage bonds, (c) Long-term and short-term maturity bonds, (d) Fixed- rate and floating-rate bonds, (e) Bonds with special rights.

In order to issue non-guaranteed public offering bonds, it is necessary to register them in Financial Supervisory Committee (FSC) and make them graded by over 2 rating firms. As for asset backed securities, it is necessary to make them graded by over 1 rating firm. As non-guaranteed corporate bonds increased, the importance of rating firms was enhanced significantly[13]. There are no regulations on maturity, but most corporate bonds are issued under the condition that they mature in less than 4 years. Since 1999, corporate bonds that mature over 5 years after issuance have been increasing. Most of Korean bonds have fixed interest rates, and for most of corporate bonds, interest payment is conducted every quarter. The issuance of won-denominated bonds by non-residents was liberalized in 1995, and then mainly international institutions, including Asia Developing Bank (ADB) and IMF, issued won-denominated bonds. Recently, it is possible to issue "Arian Bond" (won-based), which is issued by foreign companies in South Korea, and "Kimuchi Bond" (US dollar-based), which is a US dollar-denominated floating rate bond. In order to issue bonds in South Korea, it is necessary to register at Financial Supervisory Commission and Financial Supervisory Service. After registration, it becomes possible to raise funds with the same procedures as domestic firms. However, its share in the bond issue market is extremely small.

② Secondary Bond Market

The Korean bond secondary market can be divided into the over-the-counter (OTC) and Korea Exchange (KRX) markets. The OTC market is managed by KSDA. In this market, negotiation transactions for both listed and unlisted bonds are carried out between investors and securities companies or between investors and financial institutions. The settlement period is from T + 1 to T + 30, but most bonds are settled at T + 1. The difference between the OTC bond and exchange bond market are described in the table 9.

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[12] For further details on the corporate bonds, refer to Shimizu (2007), Korea Securities Dealers Association (2008), Chapter 7, pp.126－129, and Korea Securities Dealers Association (2009), Chapter 5 pp.72－75.

[13] If a financial institution that guarantees a debt becomes bankrupt, it will probably be salvaged by the government. Therefore, the necessity to rate them was low (see Shimizu 2007).

KRX trades listed bonds, and includes (a) the general bond market, (b) the inter-dealer government bond market, and (c) the repo market. The Korean government is promoting the reform of the bond secondary market, by improving repo systems and adopting the mark-to-market system, etc[14]. Most transactions in KRX are for government bonds, while monetary stabilization, special, financial, and corporate bonds, etc. are hardly traded, and their ratio is 0-3%. These bonds are traded mainly in the OTC market. Table 10 shows the proportion of OTC/Exchange transactions. In 2000, the ratio between the OTC market and the KRX market was about 97:3. As the KTB market grew, the ratio of transactions at KRX has increased since 2003. From 2004 to 2009, the ratio between the OTC market and the KRX market was about 8:2.

Table 9: Difference between the OTC and Exchange Bond Market

	OTC		Exchange market	
	Broker	**IDB**	**Ordinary bond market**	**IDM**
Trading party	No restrictions	Dealers, institutional investors, etc	Regular members KRX	PD
Trading broker	Securities companies	IDB	KRX	KRX
Main trading instrument	All bonds	All bonds	Small-amount govt. and public bonds, equity-linked corporate bonds	KTB
Trading method	Negotiated trading	Negotiated trading	Competitive auction	Competitive auction
Quotation method	Yield quotation	Yield quotation	Price quotation	Price quotation
Trading hours	No restrictions, but usually 09:00-15:30	No restrictions, but usually 09:00-15:30	09:00-15:00	09:00-15:00
Settlement date	Next day(T+1-30) However, BW, MMF-included bond transactions and retail bond transactions are same-day (T+0)	Next day (T+1-30)	Same day (T+0)	Next day T+1
Minimum trading unit	No restrictions, but usually KRW10bn	No restrictions, but usually KRW10bn	Retail/small amount bonds: KRW1,000 Others: KRW100,000	KRW1bn

Source: Korea Securities Dealers Association (2009)

[14] The development of the secondary market promotes the dispersion of risk and the reduction in fund-raising cost.

Table 10: Proportion of OTC/Exchange Transactions

(Unit: %)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
OTC	97.2	99.0	95.8	85.3	79.2	80.8	81.9	76.9	78.9	79.6
Exchange	2.8	1.0	4.2	14.7	20.8	19.2	18.1	23.1	21.1	20.4

Note: Sum of OTC and exchange trading (both sides), 2009 figures are as of July 2009

Source: Korea Securities Dealers Association (2009)

Table 11: Annual Trading Volume by Bond Type

(Unit: trillion won, %)

		2000		2001		2002		2003		2004	
		Trading volume	Percent-age	Trading volume	Percent-age	Trading volume	Percent-age	Trading volume	Percent-age	Trading volume	Percent-age
Govt. and Public bonds	Govt. bonds	620.3	32.5	999.3	35.3	817.3	36.2	1,408.7	48.7	2,268.1	62.4
	Muni	17.9	0.9	10.5	0.4	10.7	0.5	11.3	0.4	17.3	0.5
	Special	201.5	10.5	503.4	17.8	130.3	5.8	124.3	4.3	97.7	2.7
	MSB	616.8	32.3	864.1	30.5	760.4	33.7	883.7	30.5	842.4	23.2
Financial		173.1	9.1	188.8	6.7	310.6	13.8	299.9	10.4	266.8	7.3
Corporate		279.9	14.7	264.2	9.3	225.2	10.0	164.1	5.7	140.3	3.9
Total		1,910.5	100.0	2,831.2	100.0	2,255.6	100.0	2,893.4	100.0	3,633.8	100.0

		2005		2006		2007		2008		2009	
		Trading volume	Percent-age	Trading volume	Percent-age	Trading volume	Percent-age	Trading volume	Percent-age	Trading volume	Percent-age
Govt. and Public bonds	Govt. bonds	2,390.5	62.7	1,966.7	60.1	1,865.5	60.6	1,980.3	55.5	1,771.3	60.5
	Muni	13.9	0.4	14.5	0.4	15.8	0.5	20.5	0.6	14.2	0.5
	Special	79.1	2.1	62.5	1.9	61.4	2.0	125.1	3.5	133.0	4.5
	MSB	966.6	25.3	834.2	25.5	768.1	25.0	897.4	25.1	574.2	19.6
Financial		244.1	6.4	302.3	9.2	294.7	9.6	470.9	13.2	330.3	11.3
Corporate		118.5	3.1	93.6	2.9	72.1	2.3	75.1	2.1	102.9	3.5
Total		3,813.2	100.0	3,274.4	100.0	3,077.8	100.0	3,569.3	100.0	2,925.9	100.0

Note: Sum of OTC and exchange trading (both sides), 2009 figures are as of July (same below)

Source: Korea Securities Dealers Association (2009)

Table 10 shows the annual trading volume by bond type. As a whole, bond transaction amount steadily increased from KRW1920.5 trillion in 2000 to KRW2925.9

trillion in 2009. Government bonds accounted for 32.5% in 2000, but the percentage augmented to 60.5% in 2009. Government bonds have the largest share in the Korean distribution market. Among government bonds, KTBs is dominant. On the other hand, MSB accounted for 32.3% in 2000, which is nearly equal to that of government bonds, but the percentage decreased to 19.6% in 2009. The percentage of corporate bonds also decreased from 14.7% in 2000 to 3.5% in 2009.

(4) Securities Taxation

In present-day South Korea, the domestic securities investments by foreign investors and the outward securities investments by residents are fully permitted. The main taxes on securities investments are the income and inhabitant taxes on bond interests and dividends, and securities transaction taxes levied on stock sellers[15]. For the interests and dividends paid to residents, 15.2% is basically withheld (income tax: 14%; inhabitant tax: 1.4%). If interests and dividends amount to KRW40 million in a year, consolidated taxation is used, adopting graduated tax（see Table 12）. For the interests and dividends paid to non-residents, 22% is basically withheld (inhabitant tax: 2%). In the case of a country that has signed a tax treaty, the tax rate is reduced to the specified one[16].

Table 12: Aggregate Taxation and Tax Rates on Financial Income

Classification	Financial income liable for aggregate taxation		Applied tax rate
Subject amount > KRW40mn	Income liable for conditional aggregate taxation + Income liable for unconditional aggregate taxation	Amount above the KRW40mn limit	Apply the basic tax rate by summing up with other income
		KRW40mn	Apply 14% of tax rate
Subject amount ≤ KRW40mn	Income liable for unconditional aggregate taxation *Separate taxation on income liable for conditional aggregate taxation		

Note: Subject amount = Income amount liable for conditional aggregate taxation + Income amount liable for unconditional aggregate taxation

Source: Korea Securities Dealers Association (2009)

When a resident sells some listed stocks, the resident is exempted from capital gain tax. However, in the case of a major shareholder who owns over 3% of corporate stocks or a

[15] The details of Korean Securities Taxation are described in Korea Securities Dealers Association (2008), Chapter 12, and Korea Securities Dealers Association (2009), Chapter 15.

[16] For further details on the rate of taxation on interest and dividends for each country, Korea Securities Dealers Association (2008), Chapter 12, pp.213－216.

capital of over KRW 10 billion, the shareholder is subject to 10-30% taxation (see Table 13). As the capital gain tax for non-residents, the smaller amount of 11% of trading value and 22% of trading profit is withheld. However, people of most countries are exempted from this tax because of the tax treaty. Basically, every investor must pay securities transaction tax when selling stocks, no matter whether the stocks are listed or not. In the case of a transaction at KRX, the tax rate is 0.15% of agreed price, but 0.15% is added as the special tax for rural development, and so the total tax rate is 0.3%. The tax rate is 0.3% for transactions in KOSDAQ or KRX, and 0.50% for curb dealings (see Table 14).

Table 13: Capital Gains Tax

Application of Capital Gains Tax			Tax Rate
Exchange Trading	Majority shareholders	Shareholders of non-SMEs (Stocks held less than one year)	30%
		VShareholders of SMEs	10%
		Other cases	20%
	Minority shareholders		No application of capital gains tax
OTC Trading	Shareholders of non-SMEs (Stocks held less than one year)		30%
	Shareholders of SMEs		10%
	Minority shareholders of FreeBoard-listed venture firms		No application of capital gains tax
	Other cases		20%

Source: Korea Securities Dealers Association (2008)

Table 14: Securities Transaction Tax according to the Trading Type

Unit: %

Trading Type	Listed Stocks	Unlisted Stocks	Special Tax for Rural Development
Stock Market of KRX	0.15	-	0.15
KOSDAQ of KRX	0.3	-	-
All others	0.5	0.5	-

Source: Korea Securities Dealers Association (2008)

2 Credit Rating Industry in Korea

(1) Overview

In Korea the credit rating market[17] was created in the mid 1980's initially to rate commercial paper led by the Korea government. An official credit rating system was introduced in 1985. And corporate bond rating was introduced in 1986. In its early days, the credit rating market was heavily regulated and its size was very small. However the market began to expand with the surge in debentures after the financial crisis in 1997－1998. In 1994, the provision requiring the companies to obtain a credit rating for their bonds and CPs from at least two credit rating agencies was adopted. The government changed its policy from designating credit rating agencies to permitting them in 2001. By the present credit rating agency system and rating agencies are developed very much. There are four credit Rating agencies－National Information & Credit Evaluation (NICE), Korea Rating Corporation (KR), Korea Investor Service (KIS), Seoul Credit Rating & Information (SCI) －in Korea. And three rating agencies including NICE, KR and KIS were accredited as ECAIs (External Credit Assessment Institution) in 2007.

(2) Rating Requirement and Regulatory Authorities

The Act on the Use and Protection of Credit Information governs most aspects of the credit rating services, while other sub-law and rules regulate provisions on specific issues. The requirements for establishing a rating firm include the minimum requirements regarding capital and rating experts. Due to the amendment to law in Jul. 2006, it became necessary to secure a capital of 5 billion won and 20 rating experts. Regulatory authorities include the Ministry of Finance & Economy, which has the right to enact and amend regulations, the Financial Supervisory Commission, which grants permission for credit rating businesses, and the Financial Supervisory Service, which supervises practices and designates ECAIs. Other related institutions are Korea Securities Dealers Association and Asset Management Association of Korea, which have influence on the enactment and revision of detailed regulations regarding credit rating.

As for issue rating, the possible targets for credit ratings in South Korea are corporate bonds, CP, ABS, and bank loans. Neither municipal bonds nor preferred shares can be rated. As for issuer rating, guarantee agency rating and the evaluation of solvency of

[17] For further details on the credit rating agencies in Korea, refer to the website of each rating agency, and Emery (1997), and Korea Securities Dealers Association (2009), Chapter 5.

insurance companies can be rated. Meanwhile, sovereign rating, the evaluation of financial soundness of banks, and the evaluation of the deposit repayment capacity of banks cannot be rated.

(3) Credit Rating Agencies in Korea

Credit rating agencies are the information product industry in the bond market. Table 15 shows the credit rating agencies in Korea. Credit rating is an important infrastructure in the bond market, and credit rating agencies can eliminate the asymmetry in information in the bond market, by providing investors with credit risk information.

NICE was established by the banking industry with paid-in capital of 100 million won in 1986 and designated as an authorized credit rating agency by the Ministry of Finance under the Credit investigation business Act, corporate bond rating agency by the Operating Council on underwriting bonds in 1987 and commercial paper rating agency by the National Investment and Finance Association in 1988. NICE acquired license for credit evaluation business from Financial Supervisory Commission under the Use and Protection of credit in 1995. Currently, NICE offers not only credit rating services, but also asset management and advisory services for investment and management.

KR was established by the name of Korea Management Consulting Corporation by the Korea Development Bank in 1983. And KR designated as an official institution for preliminary feasibility study on government investment projects by the Economic Planning Board in 1985 and for the assessment of stocks and shareholdings of foreigner-invested corporations by the Ministry of Finance in 1986. The company changed its name to Korea Management Consulting Credit Rating Corporation in 1987 and to Korea Ratings Co., Ltd. in 2003. KR acquired a credit information business license from the Ministry of Finance and Economy in 1995. Today, KR has been involved primarily in credit ratings of bonds, ABS and CP as well as banking, financial consulting and risk management solution services.

KIS was established by 70 nonbank financial institutions as Corporate Finance Financial Information Center in 1985 as the first credit rating agency in Korea and Changed corporate name to Korean Investors Service in the same year. KIS initiated the first domestic commercial paper rating service in 1985, bond rating service 1986, and credit rating of banks, financial guarantors, government-sponsored enterprises and structured finances in 1999. KIS designated as an official credit rating agency of fixed-income securities in 1991. In recent years, after starting issuer rating business and school rating business for the first time in Korea, KIS has worked as a pioneer for

advancement of the Korean capital market.

SCI was established in 1992 and designated as a CP and ABS rating agency by Financial Supervisory Commission in 2000. Today, SCI has strengthened its position based on its objective and advanced rating methodologies and skills. Table 15 shows the credit rating agencies in Korea.

Table 15: Credit Rating Agencies in Korea

	Korea ratings	KIS	NICE	SCI
Capital	KRW34.05bn	KRW5bn	KRW5bn	KRW17.75bn
No. of employees	170	109	121	217
Web site	www.korearatings.com	www.kisrating.com	www.nicerating.com	www.sci.co.kr
M/S(%)**	34.3	33.4	31.6	0.6
Largest shareholder	Fitch (73.55%)	Moody's (50%+1 share), KIS (50%-1)	NICE (100%)	SP Partners (19.19%)
CEO	Young-Jin Lee	Yu Hyeok-geun	Yong-heui Lee, Sang-gwon Lee	Lee Jung Sang
Initiation of operations	Nov 1987	Sep 1985	Jun 1987	Established Apr 1992 Began credit assessment from Jan 2000
Bonds for evaluation	Corporate bonds, CP, ABS	Corporate bonds, CP, ABS	Corporate bonds, CP, ABS	CP, ABS
Partner companies in credit assessment	Fitch	Moody's	Japan R&I, China Dagong Rating	Japan JCR

* As of June 2009

** Market share source: Financial Supervisory Service press release (Credit Information Service Providers' Operating Results: 2008)

Source: NICE Investors Service Co., Ltd. (2008),
Korea Securities Dealers Association (2009)

Table 16 shows the number of corporations by credit rating agencies in Korea. In 2007, NICE rated the largest number of firms (a total of 800 firms), followed by KR, KIS, and SCI. All rating agencies rated asset backed securities the most frequently, followed by corporate bonds and commercial papers. In 2008, the tendency was the same as that in 2007, except the ranks of KIS and SCI.

Table 16: Number of Corporations by Credit Rating Agencies in Korea

	2007.12					2008.8				
	KR	KIS	NICE	SCI	Total	KR	KIS	NICE	SCI	Total
commercial paper	231	214	252	16	367	213	213	235	13	350
corporate bond	323	287	287	—	409	332	300	297	—	427
ABS	386	382	397	41	640	384	405	428	36	679
Total	796	752	800	57	1219	788	789	836	49	1258

Source: NICE Investors Service Co., Ltd. (2008)

(4) Rating Definitions

According to the rating definitions of KR, long-term ratings range from AAA, AA, A, BBB to BB, B, CCC, CC, C and D. Ratings from AAA to BBB are investment grade (see Table 17). Ratings from BB and below are speculative grade, which indicates that the timely payment of principal and interest on a given security is likely to be affected largely by adverse business conditions. D indicates in default. A plus (+) or minus (-) sign may be added to rating symbols ranging from AA to B to indicate their relative standing within each rating category. The same rating symbols as other rating agencies are used.

As for short-term ratings, their range from A1, A2, A3, B to C and D. Ratings from A1 to A3 is investment grade. Ratings from B and blow are speculative grade (see Table 18). D indicates in default. A plus (+) or minus (-) sign may be added to rating symbols ranging from A2 to B to denote their relative status within each category. Asset backed securities are given credit rating the same way as long-term ratings or short-term ratings, depending on the type (ABS and ABCP). The credit rating system and definitions are made the same as the system and definition of long-term ratings and short-term ratings. Also in the case of short-term ratings, the same rating symbols as other rating agencies are used.

Table 17: Rating Definitions: Korea Ratings, Rating bonds (long-term rating)

Rating	Definitions
AAA	Capacity for timely payment is extremely strong
AA	Capacity for timely payment is very strong, but somewhat less than 'AAA'
A	Capacity for timely payment is strong, but somewhat susceptible to external changes in the future
BBB	Capacity for timely payment is adequate, but more likely to be weakened by future market changes
BB	Capacity for timely payment faces no immediate problems, but speculative in its future stability
B	Capacity for timely payment is poor and speculative
CCC	Contain the possibility of default
CC	Contain more possibility of default
C	Highly likely default
D	In default at the present time

* The ratings from 'AA' to 'B' may be modified by the addition of a plus (+) or minus (-) sign to show relative standing within the major rating categories.

Source: KR's Website

Table 18: Rating Definitions, Korea Ratings, Commercial Paper (short-term rating)

Rating	Definitions
A1	Capacity for timely payment is the strongest and hardly likely to be adversely affected by foreseeable events
A2	Capacity for timely payment is strong, but not as great as A1 ratings in terms of the margin of safety
A3	Capacity for timely payment is adequate but, likely to be impaired by drastic changes in circumstances and economic conditions
B	Capacity for timely payment is doubtful and speculative as more likely to be impaired by adverse changes in circumstances and economic conditions
C	Capacity for timely payment and its safety is very vulnerable to near-term adverse changes in financial and economic conditions and very speculative
D	In default as of present time

* The ratings from 'AA' to 'B' may be modified by the addition of a plus (+) or minus (-) sign to

show relative standing within the major rating categories.

Source: KR's Website

(5) Rating Methodology

The general process of the various credit ratings of KIS is as follows[18] (see Fig.2):

[1] Receive rating application, Sign Agreement

Rating is started when it is requested by the issuer (debtor) of a target bond or a third party who has obtained the consent of the issuer. A rating agreement takes effect upon the client agreeing to the terms and conditions, and signing the agreement.

[2] Gather and review data, Interview senior management

The bond issuer is requested to submit necessary data for analysis. For example, when conducting corporate bond rating and CP rating, analysts will make requests for the following data[19]: audited financial statements and book closing statement for the last 3 years, recent statements of financial transactions, recent compound trial balance or financial statements of the half-year or quarter, audited financial statements or equivalent documents of the entities that have provided or received payment guarantee for the rated issuer, rating request form or equivalent data, and other data required for rating. Rating analyst conducts interviews about important items, including management policies and business goals. Key points to check in interviews are as follow: overall status and prospects of industry, distinctive features of issuer, i.e. doctrine and objectives, capital strategy and financial strategy, competition in industry, relations with regulatory authority, and other.

[3] Analyze data, make rating memo

Rating analysts begin the analysis for rating based on collected data and information gathered from interviews. Rating analysts may utilized rating methodologies and produce the following documents: rating memo, analysis of peer groups, estimated figures, and other material needed for rating.

[4] Rating committee

Rating analysts must submit the following data to rating committee members in advance: rating memo or rating reports, analysis material, and reference data. The rating committee rates target bonds, with reference to the results of data analyses and interview surveys.

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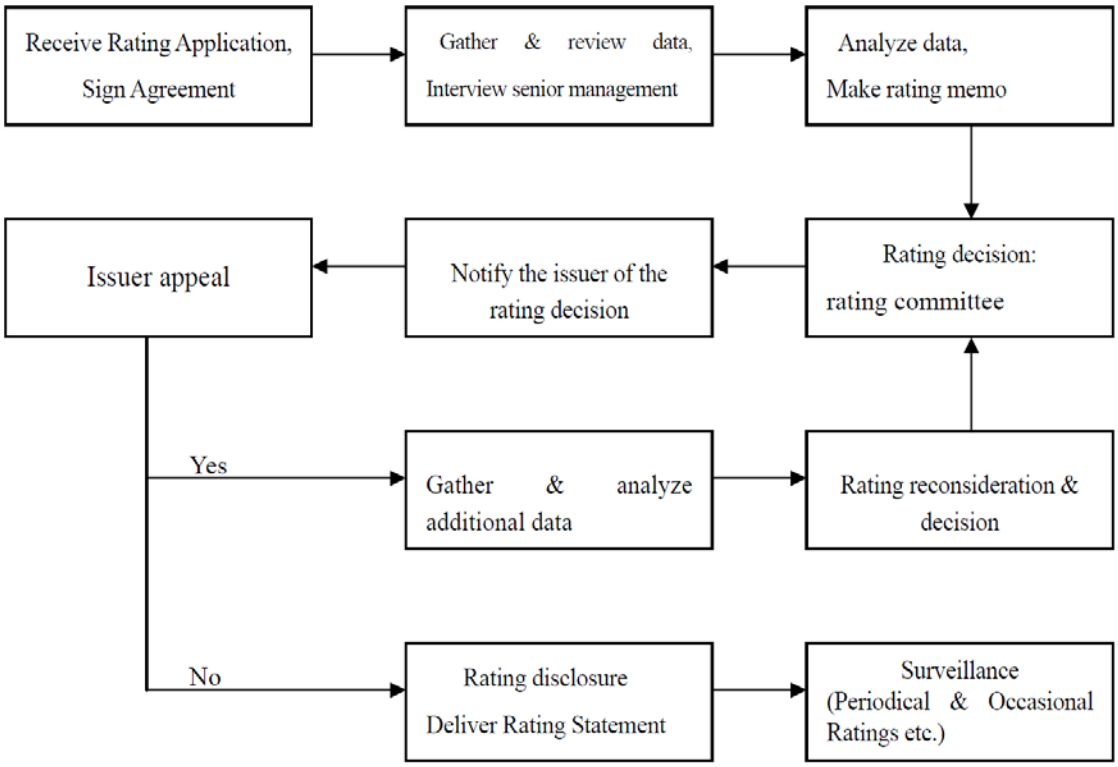
[18] For further details on the process of the credit ratings, refer to the website of KIS.

[19] In case of an ABS issue, the analysts will make requests for the following data: certificate of registration of asset－backed securities plan, schedule of underlying assets, copies of agreements related to the issuance of ABS, and other information required for rating.

Figure 2: General Rating Process



Source: KIS's Website

[5] Notify the issuer of the rating decision

Each bond issuer is informed of the final credit rating before it is released. Rating analysts explain important information and major discussions that determined ratings to bond issuers.

[6] Issuer appeal

Bond issuers are provided with the opportunity to correct misunderstandings, etc. so that credit rating is made accurately.

・Yes (When there is complaint)

[7] Gather and analyze additional data, [8] Rating reconsideration and decision

If the final rating is opposed, the contents of the opposition are checked, and if it is considered necessary, the rating analyst conducts resurveys and the rating committee makes discussions again.

・No (When there is no complaint)

[7] Rating disclosure, Deliver Rating Statement

When there is no complaint after notifying the issuer on the rating, or the confirmed rating is decided after reconsideration, ratings are released through all the

publishing channels without delay.

[8] Surveillance

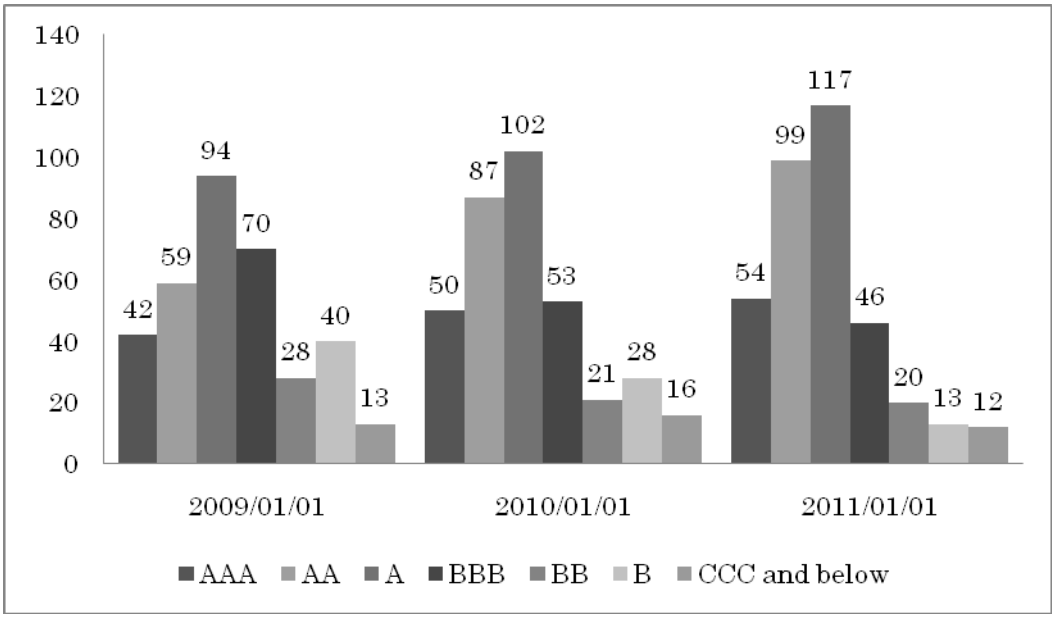
Rating analysts keep up with the performance of each bond issuer and business circumstances, and review credit ratings. Then, they revise credit ratings and announce them, if necessary. They revise credit ratings, also in the case of any events that may influence the credibility of a bond issuer, including the steep change in its performance and business circumstance.

(6) Rating Statistics

① Rating Distribution

As a case of rating distribution, the case of Korea Rating Corporation is reviewed. Fig. 3 shows bond rating distributions as of Jan. 1, 2009, 2010, and 2011. In 2009, the total number of rating targets was 346. Among them, 265 received investment grades (BBB or higher), and 81 received speculative grades (BB or lower). Here, Grade A was given to 94 companies, which were dominant, followed by 70 BBB-rated companies. In 2010, the total number of rating targets was 357. Among them, 292 received investment grades, and 65 received speculative grades. In 2011, the total number of rating targets was 361. Among them, 316 received investment grades and 45 received speculative grades. In 2010 and 2011, Grade A was dominant like the case in 2009, but followed by Grade AA. Although there are some minor differences among the years, Grades A, AA, BBB, and AAA are dominant. As time elapses, investment grade is increasing, while speculative grade is decreasing.

Figure 3: Rating Distribution of Bond (KR)

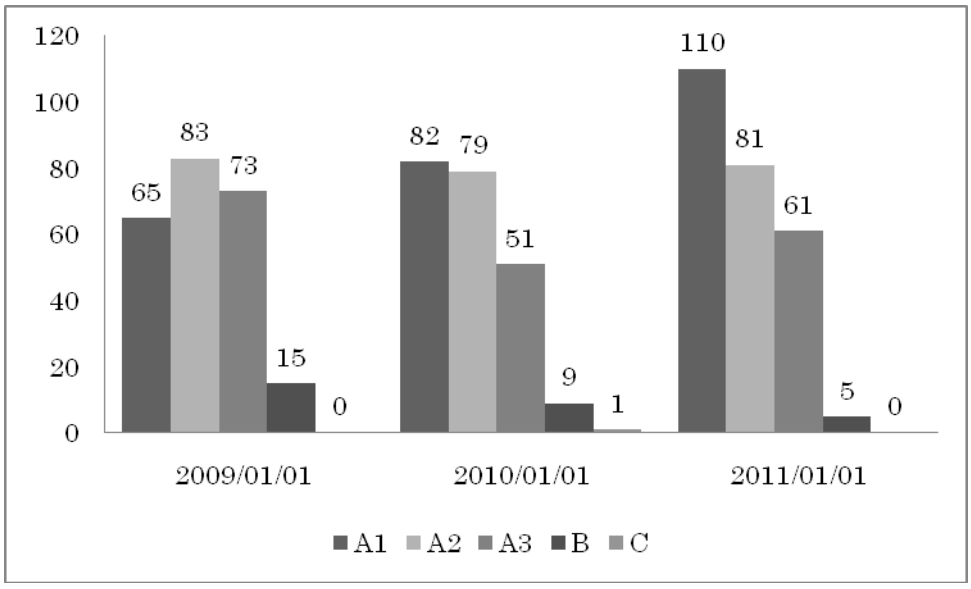


Source: Produced by the authors with reference to KR's Website.

Fig. 4 shows commercial paper rating distributions as of Jan. 1, 2009, 2010, and 2011. In 2009, the total number of rating targets was 236. Among them, 221 received investment grades (A3 or higher), and 15 received speculative grades (B or lower). Here, Grade A2 was given to 83 companies, which were dominant, followed by 73 A3-rated companies. In 2010, the total number of rating targets was 222. Among them, 212 received investment grades, and 10 received speculative grades. In 2011, the total number of rating targets was 257. Among them, 252 received investment grades and 5 received speculative grades.

In 2010 and 2011, Grade A1 was dominant, differing from the case in 2009. This is followed by Grade A2. In the case of commercial papers, most were rated A1 to A3. Like the case of bonds, investment grade is increasing and speculative grade is decreasing with time series.

Figure 4: Rating Distribution of CP (KR)



Source: Produced by the authors with reference to KR's Website.

② Transition Matrix

As a case of transition matrix, the case of Korea Rating Corporation is reviewed. Table 19 shows the transition matrix between 1998 and 2010, which was produced by Korea Rating Corporation. The vertical axis in the table represents the rating as of the beginning of the year, and the horizontal axis denotes the rating as of the end of the

term. WR represents the case in which rating was stopped because it became impossible to continue rating due to the completion of debt redemption or the insufficiency of information. 95.24% of AAA-rated firms remained AAA-rated one year later, 0.32% were rated AA one year later, and 0% was rated A or lower one year later. For 4.44%, rating was terminated. The rating was changed from AA to AAA for 3.68%, to A for 3.45%, and to BBB for 0.23%. The values on the diagonal line, which represent the firms whose grades were unchanged, indicate that as grade is lower, retention ratio is lower. For investment grades (Grade BBB or higher), retention ratio is over 70%. In addition, as grade is lower, the ratio of downgrading is higher. The ratio of downgrading from AAA to A was 0%, the ratio of downgrading from AAA to BBB was 0.27%, the ratio of downgrading from AAA to BB was 4.35%, and the ratio of downgrading from AAA to B-C was 10.4%. Default rate is 0.3% or less for investment grades (BBB or higher). Therefore, it can be concluded that the rating by Korea Rating Corporation was appropriate

Table 19: Transition Matrix (KR)

(Term : 1998 ~ 2010, Unit : %)

		Rating To							
		AAA	AA	A	BBB	BB	B~C	D	WR
Rating From	AAA	95.24	0.32	0.00	0.00	0.00	0.00	0.00	4.44
	AA	3.68	83.91	3.45	0.23	0.00	0.00	0.00	8.74
	A	0.00	7.50	77.26	3.69	0.12	0.48	0.00	10.95
	BBB	0.00	0.00	6.88	72.58	2.62	1.45	0.27	16.20
	BB	0.00	0.00	0.36	7.07	54.89	7.43	4.35	25.91
	B~C	0.00	0.00	0.00	0.53	1.33	55.73	10.40	32.00

Source: KR's Website

③ Average Cumulative Default Rate

As a case of average cumulative default rate, the case of Korea Rating Corporation is reviewed.. Table 20 shows the average cumulative default rate between 1998 and 2010, which was calculated by Korea Rating Corporation. For Grades AAA, AA, and A, default rate was 0% for 10 cumulative years, and there was no bond default. For Grade BBB, default rate was 0.27% for 1 cumulative year, and 1.72% for 10 cumulative years. For investment grades, cumulative default rate was 1% or less on average for 10 cumulative years. For Grade BB, default rate exceeded 10% in 4 cumulative years, and was 11.73% for 10 cumulative years. For Grades B to C, default rate exceeded 10% in 1 cumulative year, and was 16.98% for 10 cumulative years. For speculative grades, cumulative default rate was 13.85% on

average for 10 cumulative years. Default rate became stable from the 5th cumulative year for BBB, from the 4th cumulative year for BB, and from the 3rd cumulative year for B to C.

Fig. 5 shows cumulative default rate. For evaluating the performance of cumulative default rate, the stability of mutual relations is considered important. For Grades AAA, AA, and A, default rate was 0%. As grade is lower, default rate is higher. Between rating symbols, there is no intersection of cumulative default curves. Therefore, it can be concluded that the rating agency offers appropriate rating information and shows good performance.

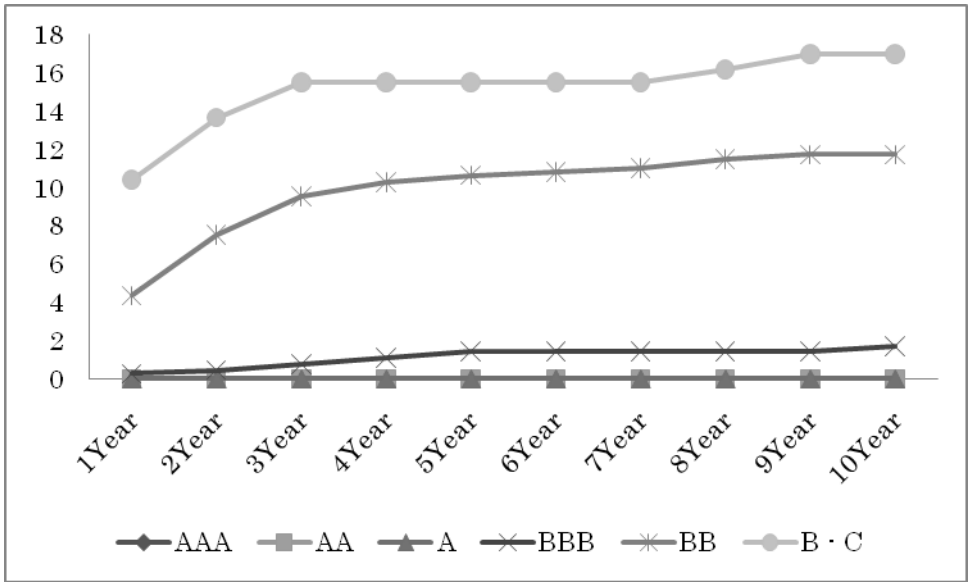
Table 20: Average Cumulative Default Rate (KR)

(Term : 1998 ~ 2010, Unit : %)

	1Year	2Year	3Year	4Year	5Year	6Year	7Year	8Year	9Year	10Year
AAA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB	0.27	0.46	0.76	1.09	1.45	1.45	1.45	1.45	1.45	1.72
BB	4.35	7.55	9.53	10.27	10.64	10.84	11.04	11.48	11.73	11.73
B~C	10.40	13.66	15.53	15.53	15.53	15.53	15.53	16.19	16.98	16.98
Investment Grade	0.11	0.19	0.33	0.49	0.67	0.67	0.67	0.67	0.67	0.83
Speculative Grade	6.80	10.02	11.95	12.44	12.70	12.84	12.99	13.47	13.85	13.85
All	1.82	2.78	3.44	3.70	3.90	3.95	4.00	4.19	4.34	4.44

Source: KR's Website

Figure 5: Average Cumulative Default Rate (KR)



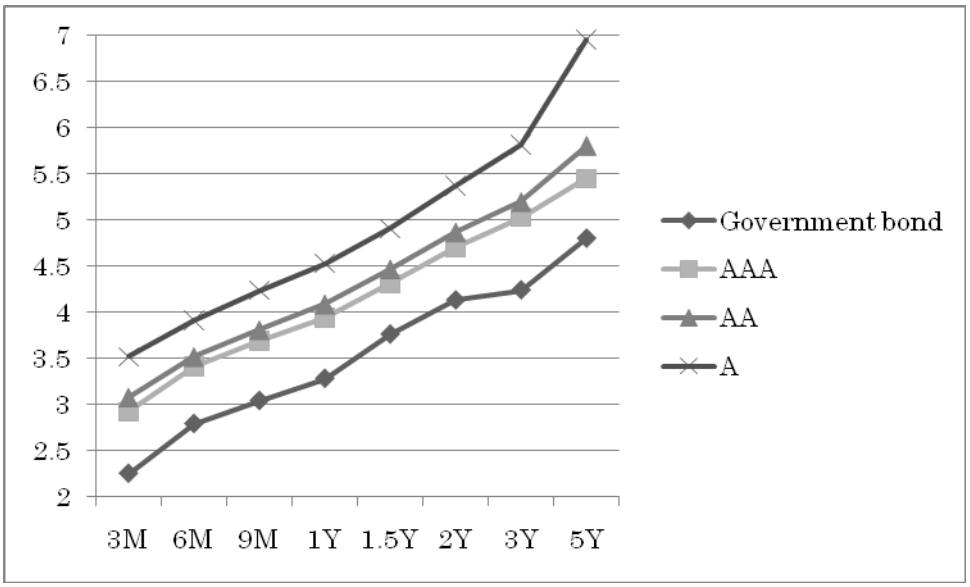
Source: Produced by the authors with reference to KR's Website.

④ Yield Spread

It is known that rating is highly correlated with bond market yield. As grade is higher, market yield becomes lower, and vice versa. Namely, risky bonds require a high risk premium. The correlation between rating and bond market yield in the Korean bond market is discussed based on the rating of KIS. Fig. 6 shows the government bond and the yield spread from AAA to A on Jan. 15, 2010. Government bond yield is the lowest: 2.25% for 3-month maturity, and 4.8% for 5-year maturity. Generally, government bond yield is equal to risk free interest rate yield, which is used for rating bonds. In the case of 3-month maturity, yield is 2.92% for AAA, 3.08% for AA, and 3.52% for A. Namely, as grade is lower, yield is higher, as expected theoretically. As shown in Fig. 6, for up to 5-year maturity, as grade is lower, market yield is higher, and yield curves do not cross each other. Therefore, it can be concluded that KIS conducts appropriate rating from the viewpoint of the relation between rating and market yield.

Figure 6: Yield Spread by Rating Category AAA~A [Jan. 15, 2010] (KIS)

Unit: %



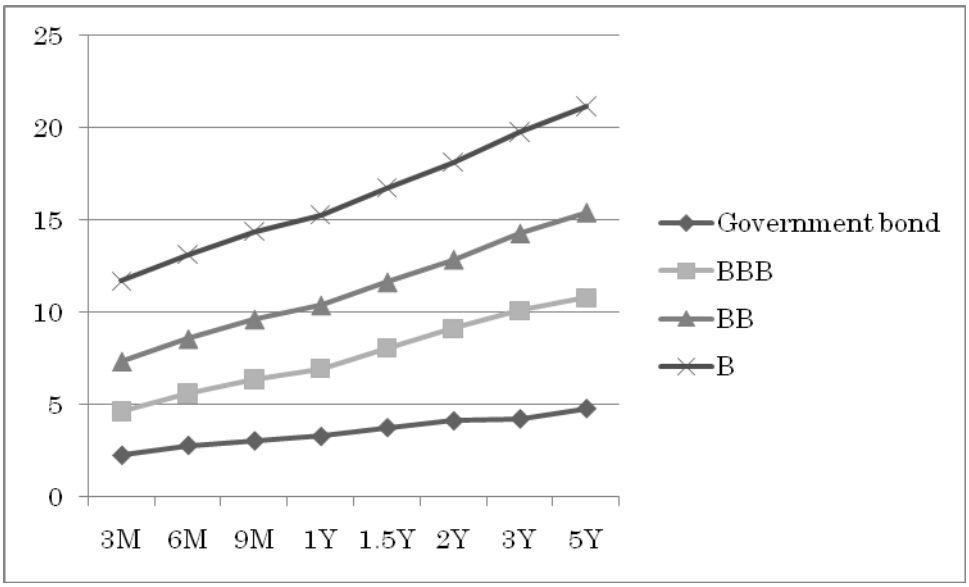
Note: Unsecured bond (Coupon bond)

Source: Produced by the authors with reference to KIS's Website.

Fig. 7 shows the government bond and the yield spread from BBB to B on Jan. 15, 2010. For 3-month maturity, yield is 4.65% for BBB, 7.34% for BB, and 11.69% for B. Like the case of AAA to A, as grade is lower, market yield is higher. In this case, too, yield curves do not cross each other.

Figure 7: Yield Spread by Rating Category BBB~B [Jan. 15, 2010] (KIS)

Unit: %



Note: Unsecured bond (Coupon bond)

Source: Produced by the authors with reference to KIS's Website.

(7) Credit Rating Agencies and Basel Ⅱ and the Market Consolidation Act

In South Korea, Basel Ⅱ was introduced in 2008, and Korean banks started using credit rating for their credits. Due to the enforcement of Basel Ⅱ, the banks that use credit rating increased. In addition, it became necessary to refer to the credit rating by external credit assessment institutions (ECAIs) when gauging risks. Especially, the banks that adopted the standard approach started gauging risks based on the ratings by ECAIs.

In addition, the enforcement of the Market Consolidation Act is expected to increase the targets of credit rating. When the emphasis of regulations in the capital market shifts from named peril to all-risks, the scope of securities will expand, and it will become necessary to conduct credit rating for all investment products with credit risks in order to protect investors. From now on, the targets of credit rating are expected to increase, including fund evaluation and credit derivatives to meet market demand.

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