

**Implementing the External Credit Assessment
Institution of the Basel II Accord in Korea**

Kyung-Mook Lim

Korea Development Institute

I . Introduction

As the new BASEL accord (henceforth BASEL II) is expected in Korea, there would be a fundamental change to measure and supervise credit risk of bank. The BASEL II proposes to measure credit risk of banks either by standardized approach or by internal rating-based approach. If they choose standardized approach, the credit risk would be measured through the evaluation of the external credit assessment institutions (henceforth ECAI).

The BASEL II proposes that each national supervisor should determine whether an ECAI meets the guideline of the BASEL II. But this guideline is somewhat vague and national supervisors are required to establish more detailed criteria for the recognition of the ECAI in each country. Moreover, given that the credit rating agencies¹ will take a role of risk-measuring of banks, the quality of information provided by credit rating agencies is much more critical for the soundness of financial market. Although the quality of information from credit rating industry has been improving since the financial crisis, evaluations on the quality of information from credit rating agencies are still not satisfactory. Specifically, the credit rating agencies have not been successful in providing proper and timely information on the loan repayment ability of debtors. Considering this relatively low confidence in the credit rating agencies the implementation of the standardized methodology and the ECAI system in Korea should be cautiously examined. Actually there are debates on the quality of information from the credit rating agencies even in the United States after the financial scandals such as Enron and WorldCom.

In this regard, this paper studies the detailed criteria for designation of the ECAI in Korea. This paper attempts to incorporate the tentative guidelines of supervisors in developed countries and develop policy implications to improve the role

¹ In this paper, credit rating agency, CRA, and credit assessment institution will be used interchangeably.

of credit rating agencies based on the recent discussion by academics, the SEC, and the Senate in the United States. In addition, we consider unique environment around credit rating agency in Korea. The history of credit rating industry in Korea is very short comparing to developed country. Moreover the reputational capital, which would prevent inappropriate credit rating, has not been accumulated sufficiently in Korean credit rating agencies.² To cope with low market confidence and reputational capital, it is more desirable to impose more explicit regulation and apply more strict criteria for the recognition.

This paper is organized as follows. Chapter II discusses the role of ECAI in the BASEL II and criteria for recognition of an ECAI. In chapter III we provide a short overview about Korean credit rating industry. Chapter IV is about issues on the recognition of the ECAI in Korea including the mapping process. Lastly, Chapter V is devoted for conclusion of this paper.

² Since the successful accomplishment of credit rating agencies depends on the reputation of credit rating agencies, it has been taken for granted that credit rating agencies would not risk their reputation by providing inappropriate credit ratings. Thus, the advocates of this view claims that it is unnecessary to impose any regulation or supervision on credit rating agencies. This view is well known as “reputational capital view.” (Gilson and Kraakman, 1984 and Choi, 1998) But the series of unexpected bankruptcies in the 1990s raised skepticism of this view and some researchers claim that it is desirable to impose more direct regulations on the credit rating agencies. (Partnoy 1999, White 2002)

II. BASEL II and the Role of the External Credit Rating Institutions

The BASEL II permit banks with a choice between two broad methodologies for calculating their capital requirement for credit risk. One alternative, which is subject to the explicit approval of the bank's supervisor, would allow banks to use their internal rating systems for credit risk. On the other hand, it is to measure credit in a standardized manner, supported by external credit assessments. An ECAI, which is recognized by financial supervisors, is responsible for evaluation of credit risk of claims held by banks.

As of today, the credit rating agencies evaluate creditworthiness of security and share this information with investors mostly in the capital market. With the implementation of BASEL II, the role of credit rating agencies will be extended to the measurement of credit risk of bank. This section explains the role of the ECAI in the BASEL II and the proposed criteria for the recognition of the ECAI by the BIS.

1) The Role and Recognition Process of an ECAI

If a bank chooses standardized methodology, the risk exposure of the bank will be measured by evaluation of the ECAI. The Claims are categorized into sovereigns, non-central government public sector entities (PSEs), multilateral development banks, banks, securities firms, corporate etc. The ECAI plays a major role in evaluation on claims on corporate. The table below shows the risk weighting of rated corporate claims, including claims on insurance companies. The standard risk weight for unrated claim on corporate will be 100%.

Table 1. Risk weight of Claims on Corporate by Credit Rating

Credit Rating	AAA~AA-	A+~A-	BBB+~BB-	Under BB-	Unrated
Risk Weight	20%	50%	100%	150%	100%

2) Criteria for Recognition in the BASEL II

The proposed criteria are somewhat vague and allow many rooms to individual financial supervisor for considering specific issues in each country.

An ECAI must satisfy each of the following six criteria.³

Objectivity: The methodology for assigning credit assessment must be rigorous, systematic, and subject to some form of validation based on historical experience. Moreover, assessments must be subject to ongoing review and responsive to changes in financial condition. Before being recognized by supervisors, and assessment methodology for each market segment, including rigorous back testing, must have been established for at least one year and preferably three year.

Independence: An ECAI should be independent and not be subject to political or economic pressures that may influence the rating. The assessment process should be as free as possible from any constraints that could arise in situations where the composition of the board of directors or the shareholder structure of the assessment institution may be seen as creating a conflict of interest.

International access/Transparency: The individual assessments should be available to both domestic and foreign institutions with legitimate interests and at equivalent terms. In addition, the general methodology used by the ECAI should be publicly available.

³ This part basically cites BIS (2004) for the readers.

Disclosure: An ECAI should disclose the following information: its assessment methodologies, including the definition of default, the time horizon, and the meaning of each rating; the actual default rates experienced in each assessment category; and the transitions of the assessments, e.g. the likelihood of AA ratings becoming A over time.

Resources: An ECAI should have sufficient resources to carry out high quality credit assessments. These resources should allow for substantial ongoing contact with senior and operational levels within the entities assessed in order to add value to the credit assessments which be based on methodologies combining qualitative and quantitative approaches.

Credibility: To some extent, credibility is derived from the criteria above. In addition, the reliance on an ECAI's external credit assessments by independent parties (investors, insurers, trading partners) is an evidence of the credibility of the assessment of and ECAI. The credibility of an ECAI is also underpinned by the existence of internal procedures to prevent the misuse of confidential information. In order to be eligible for recognition, an ECAI does not have to assess firms in more than one country.

III. Credit Rating Agencies in Korea

1. Overview

The history of Korean credit rating industry dates back to the mid 1980s, with the establishment of three credit rating agencies such as KIS (Korea Investor Service), NICE (National Information and Credit Evaluation), and KR (Korea Ratings). The Korean government, in recognizing the need to introduce private companies with credit rating functions into the capital market, provided the initiative for the establishment of credit rating market. The three Korean credit rating agencies started their operations around late 1980s. However at the beginning of the operation, bank loan reviews, (rather than credit rating) took a major portion of the operation, since most corporate bonds were issued under credit guarantee by certain financial institutions. In fact, corporate bonds issued before the financial crisis were disguised bank loans.

After the financial crisis in Korea, the financial institutions that had provided guarantees for the issuing bonds experienced great loss from bankruptcies and avoided providing additional guarantees. As a result, non-guarantee corporate bond issuance has increased significantly and the demand for credit rating has also increased dramatically.

2. Regulations and Characteristics

Credit rating agencies are under explicit government regulations, which is somewhat unique comparing to other developed countries where there are very few explicit regulations.⁴ Any entity that wants to provide credit rating services should get permission from the FSC (Financial Supervisory Committee) and there are explicit prerequisite for the permission. To get permission each entity should meet several conditions such as number of analysts, size of capital, electronic DB system etc.

⁴ Some might argue that the NRSRO system in the United State is strictly managed but there is no explicit regulation on credit rating industry in the United States.

There are four players that got permission from the Committee in the credit rating industry in Korea. Three of them operate in all credit rating services such as straight bond, commercial paper, and ABS. The relatively new market participant provides rating services only in commercial paper and ABS and their market share is relatively small.

Table 2. Overview of Korean Credit Rating Agencies

		SCI	KR	NICE	KIS
Foundation Date		1992.4.23.	1983.12.29.	1986.9.11.	1985.2.26. (1998.8.)
Date of Operating (Operation Date)		2000.1.	1987.11.	1987.6.	1985.9.
Main Business		Credit rating Consulting	Credit rating Consulting Venture IPO	Credit rating Consulting Credit Bureau Debt collection	Credit rating Consulting
Type of Credit assessment		CP ABS	Corporate Bond CP ABS	Corporate Bond CP ABS	Corporate Bond CP ABS
Largest Shareholder		SB Partners (19.19%)	Hanil Cement (36.57%)	Kim Kwangsoo (19.05%)	Moody's (50.0001%)
Key Financial Variables	Operating Profit	-3,585	4,213.2	6,414.1	4,106.5
	Ordinary Income	-3,484	6,742.8	10,428.6	4,664.4
	Net Income	-3,484	4,653.3	7,361.4	3,260.6
	Operation Income/ Sales	(17.74%)	16.40%	7.76%	26.28%
Number of Analysts		30	65	61	65

Every Korean credit agency has a relationship with major credit agencies. Moody's holds 50%+1 shares of KIS and Fitch holds 7.44% shares of KR. NICE has a business tie-up with JCR in Japan.

Whenever a corporate wants to issue a corporate bond, it is required to get two credit ratings. Since there are only three players in corporate bond rating service, the market structure became an oligopoly and the market shares of each credit rating agencies are very similar. This market structure creates very favorable environment for the credit rating agencies and three major agencies except the late entrant have not recorded net loss and enjoyed sound profitability.

IV. Issues on the Recognition of the ECAI in Korea

This section is composed of two subsections. In the first subsection we discuss two prerequisites regarding credit rating that should be treated before we examine issues on the recognition of the ECAI in Korea. In the second subsection, issues implementation of ECAI related issues and few policy suggestions will be explored. Through these analyses, we try to cope with unique problems in Korean credit rating agencies. These unique problems include ownership and governance structure, conflict of interest due to ancillary fee-based business, government regulation on credit rating agencies etc. Although some of these problems are in existence in other countries, these complications are more severe in Korea due to economic and cultural differences.

1. Two Prerequisites

1) Scope of Business of Credit Rating Agencies Permitted by Financial Supervisor

In most developed countries there are no explicit regulations on the scope of business of credit rating agencies. Thus, the scope of business of major credit rating agencies is very wide. As for the credit rating, they evaluate straight bond, commercial paper, preferred stock, pension fund, mutual fund, and bank loan etc. Therefore, there is no legal problem to play the role described in the BASEL II.

However, the Korea credit rating business is defined in law. Moreover this permission is only valid with security related operation. Moreover, the scope of business of credit rating agencies is permitted within the evaluation of straight bond, commercial paper and ABS. This problem occurs since legal system in Korea is based on positive system. A financial institution that gets permission by the financial supervisors can only operate within the scope described in the law. Thus, without revision of the regulation related to the credit rating industry, it is uncertain whether it is legal for a credit rating agency evaluates bank loans or issuer etc.

Given this legal uncertainty, it is desirable to revise regulations related to credit rating industry. When the regulations are revised, we would recommend either to expand the scope of business by credit rating industry including issuer rating and loan rating or to adopt a negative system which could allow domestic credit rating agencies to participate in other area of rating services like major credit rating agencies.

Table 3. Comparison of rating coverage by Korean CRAs and Major CRAs

	Type	Domestic CRA	Major CRA
Specific Issue	Corporate bond	O	O
	CP	O	O
	ABS	O	O
	Municipal bond	×	O
	Preferred Stocks	×	O
	Bank Loan	×	O
	Pension fund	×	O
Issuer	Mutual fund	×	O
	Issuer	(O)	O
	Sovereign	×	O
	Guarantee institution	O	O
	Solvency of Banks	×	O
	Financial Soundness of Banks	×	O
	Solvency of Insurance Companies	(O)	O

Note: () is recently introduced

2) Definition of Default

To evaluate performance of credit rating agencies, it is necessary to measure probability of default give a level of credit rating. The tricky part is that probability of default could vary by the definition of default. Specifically, if a definition of default used by a certain credit rating agency is too narrowly defined the probability of default

measured with this definition might undervalue the true probability of default. As a result this might create wrong evaluation on the quality of that credit rating agency. Therefore, if we want to use various benchmark level of probability of default given in the BASEL II, it is essential to use a compatible definition of default in Korea.

There is almost no *official* definition of default given by financial supervisors in developed countries. Each credit rating agencies make a definition of default by themselves and utilize it for measuring probability of default. For example the definition of default by Moody's is as follow.⁵

“ Moody's definition of default includes three types of credit events: 1) A missed or delayed disbursement of interest and/or principal, including delayed payment made within a grace period; 2) Bankruptcy, administration, legal receivership, or other legal blocks (perhaps by regulators) to the timely payment of interest and/or principal; or 3) A distressed exchange occurs where: (i) the issuer offers bondholders a new security or package of securities that amount to a diminished financial obligation (such as preferred stock or common stock, or debt with a low coupon or par amount, lower seniority, or longer maturity); or (ii) the exchange had the apparent purpose of helping the borrower avoid default. The definition of default is intended to capture events that change relationship between the bondholder and bond issuer from the relationship which was originally contracted, and which subjects the bondholder to an economic loss. Technical defaults (covenant violation, etc.) are not included in Moody's definition of default.”

Meanwhile, the definition of default utilized by all credit rating agencies in Korea is defined in the regulation on credit rating industry. In specific, this definition covers most of credit events defined in Moody's. Nonetheless, there are a few exceptions in this definition of default. For instance, after the financial crisis, the Korean government introduced several programs such as corporate workout and a new law to enhance restructuring of corporate sectors. Suppose there is a company experiencing a credit event which would be considered as default in general. This

⁵ The definition of default by the Standard and Poor's is very similar to that by Moody's.

company would not be categorized as default if it were under corporate work out or in the regulation which was enacted for expediting corporate restructuring. Due to this government policy, which allowed exception for the definition of default the official default, rate of bonds in Korea is somewhat lower than the *actual default rate*.

Considering this discrepancy between definitions of default, it is crucial to take this into account when comparing default rates of Korean credit rating agencies with those of major credit rating agencies such as Moody's and Standard and Poor's. The definitions of default of each credit rating agencies should be considered in detail when the financial supervisor implements the mapping procedure. In addition, the financial supervisors should monitor whether the default ratio of each credit rating agencies are properly measured based on their definitions of default.

2. Issues and Analyses

1) Back testing on the Probability of Default and Transition Matrix

This issue is related to objectiveness criterion which is suggested by the BIS. Moreover, the criteria for recognition recommend that assessment methodology for each market segment, including rigorous back testing, must have been established for at least one year and preferably three year.

Hence, it could be controversial how to back test the assessment methodology of a newly established credit rating agency. A newly established credit rating agency would not have sufficient rating data accumulated through past operation, as it could be a challenge to the financial supervisors to evaluate adequacy and/or rigor of the assessment methodology. In addition, if a major credit rating agency such as Moody's or Standard and Poor's attempts to be recognized as an ECAI in Korea it is not clear whether the financial supervisor should recognize them based on their performance from experience outside of Korea. Although there are several ratings on Korean corporate bonds evaluated by major credit rating agencies, the ratings are concentrated on large and financially sound companies. Thus, the existence of ratings on some Korean corporate bonds is not enough to prove the objectiveness of major credit rating agencies.

The financial supervisors should separate the permission of credit rating service and the recognition of an ECAI. It is desirable to make a credit rating agency eligible for the application for an ECAI after a credit rating agency that gets permission by the financial supervisor accumulates sufficient amount of credit ratings.

There is one Korea specific issue which is worthwhile to mention. The credit bureau, which has been spun out from Korea Credit Guarantee Fund, tries to apply for an ECAI recently. However, it is improper to allow this institution to recognize it as an ECAI. Its main role is not to evaluate loan payment abilities of corporations but to collect information on corporations in Korea. Moreover, the institution does not have any experience in credit rating services. To warrant the quality of ECAI the financial supervisors should take a very conservative measure on the recognition of ECAs in Korea.

2) Ownership and Corporate Governance Structure of Credit Rating Agencies

This issue is related to independence criterion suggested by the BIS. The proposed BIS criterion requires that an ECAI should be independent and not be subject to political or economic pressures that may influence the rating. In addition, the assessment process should be as free as possible from any constraints that could arise in situations where the composition of the board of directors or the shareholder structure of the assessment institution may be seen as creating a conflict of interest. Moreover, other criteria that are proposed by the FSA in the United Kingdom and by the CEBS also emphasize the ownership and governance structure. However, there is no explicit limit or regulation on the ownership and governance structure in developed countries. Rather most proposals recommend that credit rating agencies should design internal procedures, staff management practices, corporate governance rule and internal code of conduct that manage potential conflict of interest and ensure their credit assessment methodologies are free from political and economic influences.

Even today, the Korean regulation takes a more explicit approach on this issue. The regulation related to credit rating industry impose 10% shareholding ceiling to large conglomerates and financial institution to guarantee impartial credit ratings. However,

one major bank still holds substantial share for one credit rating agency and there is a very tight business relationship between this bank and the credit rating agency. This tight business relationship is partly due to the fact that the credit rating agency was a subsidiary of the bank before the introduction of shareholding limit. After the adoption of shareholding limit, the bank exposed of large amount of their holdings but it still holds more than 9% of shares. Moreover, former employer of the bank holds several key position of the credit rating agency. If this bank is just a commercial bank and chooses internal rating based approach for the BASEL II, the problem from this situation might be mitigated. But this bank is not a common commercial bank. It did get special privilege from the government so it could underwrite corporate bond issuance. Although there are around 40 securities firms in Korea, the market share of this bank in the underwriting market has been increasing and recorded 17.1% in 2004.

Table 4. Share of KDB in Korean Bond Underwriting Market

(unit: trillion won, %)

	Total amount of issue (A)	Underwritten by KDB (B)	Share of KDB (B/ A)
1999	37.73	1.05	2.8
2000	68.82	6.46	9.4
2001	89.46	15.79	17.6
2002	59.77	5.21	8.7
2003	56.85	6.58	11.6
2004	38.97	6.68	17.1
Total	351.61	41.78	11.9

Source: KOSCOM

Despite this dominant position of KDB, the credit rating agency publicly argues that there is no special treatment or business relationship with KDB. Nevertheless, there is clear evidence on this issue. The next table shows the market share of each credit rating agencies when KDB is the main underwriter. The market share of CRA (A) whose shares are held by KDB is much higher than other credit rating agencies. In 1999 and 2002, the market share is over 90%.

Table 5. Market Shares of Credit Rating Agencies when KDB is an Underwriter

(unit: trillion won, \$)

	CRA (A)	CRA (B)	CRA (C)	Total
1999	0.50 (90.8)	0.36 (66.1)	0.02 (3.7)	0.55 (100)
2000	4.05 (68.4)	2.30 (38.8)	3.62 (61.2)	5.93 (100)
2001	8.50 (63.6)	6.59 (49.3)	6.80 (50.9)	13.35 (100)
2002	4.43 (91.7)	2.93 (60.5)	2.36 (48.9)	4.83 (100)
2003	5.10 (79.8)	4.41 (69.0)	3.49 (54.6)	6.39 (100)
2004	5.70 (86.7)	4.43 (67.4)	3.70 (56.3)	6.57 (100)
Sum	28.28 (75.2)	21.02 (55.9)	20.00 (53.2)	37.62 (100)

The next table shows the market shares of credit rating agencies when other securities firms were underwriters for the issuances. The market share of CRA (A) declines while the market shares of other credit rating agencies increases. Hence, this proves at least indirectly that CRA (A) gets special treatments from KDB.

Table 6. Market Shares of Credit Rating Agencies when KDB is not an Underwriter

(unit: trillion won, %)

	CRA (A)	CRA (B)	CRA (C)	Total
1999	21.61 (72.4)	15.49 (51.9)	16.32 (54.7)	29.85 (100)
2000	36.62 (71.8)	22.37 (43.8)	28.38 (55.6)	51.03 (100)
2001	35.05 (56.9)	37.38 (60.7)	32.99 (53.6)	61.56 (100)
2002	36.73 (74.6)	30.38 (61.7)	28.99 (58.9)	49.26 (100)
2003	33.05 (79.4)	25.54 (61.4)	27.03 (65.0)	41.62 (100)
2004	14.58 (60.4)	16.99 (70.4)	17.43 (72.2)	24.15 (100)
Total	177.64 (69.0)	148.16 (57.5)	151.15 (58.7)	257.46 (100)

This could not only hamper the fair competition of credit rating service market but also may harm the quality of credit rating. In the long run the shareholding of credit rating agencies by financial institution should be prohibited. Meanwhile, the financial supervisors monitor whether the shareholding of credit rating agencies by financial institution creates any bias in credit ratings. In addition we recommend that credit rating agencies should establish internal procedure which prevents shareholders and management from interrupting in the process of credit rating decisions.

3) Ancillary Fee-based Business by Credit Rating Agencies

This issue is also related to independence criterion. Most criteria suggested by various financial supervisors for recognition of an ECAI recommend that there should be some organization structure and/or internal procedure for separating rating and non-rating part of their business. This is due to concerns that there would be a conflict of interest. Some proposal recommends credit rating agencies to disclose the proportion such non-rating services such as compensation for consulting services.

Korean credit rating agencies perform several non-rating services which might create a conflict of interests. Some credit rating agency provides with business consulting services, which is evidently subject to a conflict of interest. Other rating agencies are involved in debt collection services either by itself or by its cross-shareholding company. It may not be clear to someone why debt collection services create a conflict of interest. There are several companies that issue corporate bonds and ask for debt collection services. Notably credit card companies may be provided with these services from a single company; a credit rating agency. In this case an assessment of a credit rating agency that offers two services simultaneously might be influenced from offering this non-rating service. In fact, the revenue from debt collection services account for more than 50% of total revenue for one credit rating agency in Korea. Thus, there may be some influence on the assessment of credit rating agencies under this condition.

To see whether this concern has been materialized in Korea, it was pertinent to explore plausible differences on two credit ratings of a same company; one rating by a credit rating agency that provided both credit rating service and non-rating service, other rating by a credit rating agency that provided only credit rating service. However, it is not easy to find robust evidence but one credit agency tends to give more generous rating when it provides other fee-based non-rating services.

Considering any possibility of a conflict of interest could harm confidence on the quality of credit ratings, it would be best if it were prohibited for credit rating agencies to provide other fee-based services. If not possible, it is desirable to disclose detailed description of revenue from other fee-based services when a credit rating agency issues a credit rating.

4) Independence from Key Customers

One of ECAI criteria for recognition emphasizes that it should show not only that they are financially viable but also their financial viability does not depend upon certain key clients, who may unduly influence rating assessments. Even though there is

no upper ceiling for revenue share per client, FSA in the United Kingdom propose to disclose the number of situations in which revenue earned from major clients accounts for a significant share ($\geq 5\%$) of the ECAI's total revenue.

This issue could be more severe in Korea given the unique conglomerate structure. It is very well known there are so called *Chaebols* which are composed of many subsidiaries and related companies that are tied with controlling minority shareholder family. Given this structure a credit rating agency may not be able to lower credit rating of a certain subsidiary of a conglomerate from the fear that it might lose all affiliates of that conglomerate as clients. IN particular, there is fear for credit rating agencies twchich may be from a *strict* credit rating on a subsidiary. Although it is not easy to show whether it really happens in Korea or not, we can look for indirect evidences. The next table shows that the preference of each *Chaebols* for three credit rating agencies. In most cases, *Chaebols* tends to distribute their credit rating needs evenly to all three credit rating agencies. But *Chaebol* E shows distinctive preference, which try to avoid one credit rating agency. The fact is that the credit rating agency gave a *strict* rating on one of subsidiary of *Chaebol* E. Afterwards all affiliates of this Chaebol stopped purchasing rating services.

Table 7. Chaebol's Preference for Credit Rating Agencies in Korea

	CRA (A)	CRA (B)	CRA (C)	Total
A <i>Chaebol</i>	186	80	170	436
B <i>Chaebol</i>	123	123	142	388
C <i>Chaebol</i>	39	57	28	124
D <i>Chaebol</i>	119	99	84	302
E <i>Chaebol</i>	71	2	66	139
F <i>Chaebol</i>	87	94	92	273
G <i>Chaebol</i>	34	38	20	92
H <i>Chaebol</i>	36	29	24	89
I <i>Chaebol</i>	193	109	148	450
J <i>Chaebol</i>	27	29	17	73

K <i>Chaebol</i>	41	12	31	84
------------------	----	----	----	----

Data: Jan. 1998- April 2004

Source: KOSCOM

Thus, it is apparent that the existence of *Chaebol* could threaten the quality of credit ratings. In further, this problem could be aggravated if the share of revenue from one conglomerate is significant. We check whether there are cases when share of revenue from one conglomerate exceeds 5%. We can find there are several cases during 2000-2004.

Table 8. Cases when Share of Revenue from One Conglomerate Exceeds 5%

	CRA (A)	CRA (B)	CRA (C)
2000	1 case		2 cases
2001	1 case	2 cases	1 case
2002		2 cases	3 case
2003	1 case		3 case
2004	1 case		2 cases

Source: internal data from each company

We recommend that all credit rating agencies should disclose their revenue structure if the share of revenue of one conglomerate exceeds a critical level (e.g. 5%). As this information is distributed to the users of credit rating, we can expect two positive effects. First, the users of the credit rating would evaluate credit ratings after controlling for the disclosure of share of revenue. Second, the credit rating agency would be more willing to discipline itself not to lose market confidence.

3. Mapping Process

In the mapping process, an eligible ECAI's credit risk assessments will be assigned to the risk weight. Specifically, the mapping process should be differentiated to the mapping ratings assigned by domestic agencies to the ratings scales of international agencies. Therefore, the criteria for the mapping process depend on the actual

performance of each eligible ECAI's credit risk assessments rather than differences in rating symbols or rating scales.

The essence of the mapping process is to determine the appropriate standard with which an eligible ECAI's credit risk assessments can be evaluated. The BIS recommends the cumulative default rate (CDR) associated with all issues assigned the same credit risk rating, which will be discussed in detail below. Based on the historical CDRs derived from the combined experience of major international rating agencies, mappings between an eligible ECAI's credit risk assessments and risk weights are suggested, and for the guidance of the CDRs, long-run reference three year CDR and benchmark CDR are recommended.

1) Mapping Process Recommended by the BIS

Since supervisors will be responsible for assigning an eligible ECAI's credit risk assessments to the risk weights available under the standardized approach (SA), they will need to consider a variety of qualitative and quantitative factors to differentiate between the relative degrees of risk expressed by each assessment. Such qualitative factors could include the pool of issuers that each agency covers, the range of ratings that an agency assigns, each rating's meaning, and each agency's definition of default, among others.

To help ensure that a particular risk weight is appropriate for a particular credit risk assessment, the Basel Committee recommends that supervisors evaluate the CDR associated with all issues assigned the same credit risk rating. Supervisors would evaluate two separate measures of CDRs associated with each risk rating contained in the standardized approach, using in both cases the CDR measured over a three-year period. First, to ensure that supervisors have a sense of the long-run default experience over time, supervisors should evaluate the ten-year average of the three-year CDR when this depth of data is available. For new rating agencies or for those that have compiled less than ten years of default data, supervisors may wish to ask rating agencies what they believe the 10-year average of the three-year CDR would be for each risk rating and hold them accountable for such an evaluation thereafter for the purpose of risk weighting the claims

they rate. Second, the other measure that supervisors should consider is the most recent three-year CDR associated with each credit risk assessment of an ECAI.

Both measurements would be compared to aggregate; historical default rates of credit risk assessments that were compiled by the Basel Committee and that are believed to represent an equivalent level of credit risk. As three-year CDR data is expected to be available from ECAIs, supervisors should be able to compare the default experience of particular ECAI's assessments with those issued by other rating agencies, in particular major agencies rating a similar population.

To help supervisors determine the appropriate risk weights to which an ECAI's risk ratings should be mapped, each of the CDR measures mentioned above could be compared to the following reference and benchmark values of CDRs. First, for each step in an ECAI's rating scale, a ten-year average of the three-year CDR would be compared to a long run "reference" three-year CDR that would represent a sense of the long-run international default experience of risk assessments. Second, likewise for each step in the ECAI's rating scale, the two most recent three-year CDR would be compared to "benchmarks" for CDRs. This comparison would be intended to determine whether the ECAI's most recent record of assessing credit risk remains within the CDR supervisory benchmarks. Table below illustrates the overall framework for such comparisons.

Table 9. Comparison of CDR measures

International Experience (derived from the combined experience of major rating agencies)	Compare to	ECAI
Set by the Committee as guidance		Calculated by national supervisors based on the ECAI's own default data
Long-run "reference" CDR	↔	Ten-year average of the 3y CDR
CDR benchmarks	↔	Two most recent 3y CDR

For each credit risk category used in the SA of this framework, the corresponding long-run reference CDR would provide information to supervisors on what its default experience has been internationally. The ten-year average of an eligible ECAI's particular assessment would not be expected to match exactly the long-run reference CDR. Specifically, the long run CDRs are meant as guidance for supervisors and not as "targets" that ECAIs would have to meet. Based on the Basel Committee's observations of the default experience reported by major rating agencies internationally, the recommended long-run "reference" three-year CDRs for each of the Basel Committee's credit risk categories are presented in Table below.

Table 10. Proposed long-run "reference" three-year CDRs

S&P rating (Moody's)	AAA-AA (Aaa-Aa)	A (A)	BBB (Baa)	BB (Ba)	B (B)
twenty-year average of the 3y CDR	0.10%	0.25%	1.00%	7.50%	20.00%

Since an ECAI's own CDRs are not intended to match the reference CDRs exactly, it is important to provide a better sense of what upper bounds of CDRs are acceptable for each assessment, and hence each risk weight contained in the SA. It is the Basel Committee's general sense that the upper bounds for CDRs should serve as the guidance for supervisors and not necessarily as mandatory requirements. Exceeding the upper bound for a CDR would therefore not necessarily require the supervisor to increase

the risk weight associated with a particular assessment in all cases if the supervisor is convinced that the higher CDR results from some temporary cause other than weaker credit risk assessment standards.

To assist supervisors in interpreting whether a CDR falls within an acceptable range for a risk rating to qualify for a particular risk weight, two benchmarks would be set for each assessment, namely a “monitoring” level benchmark and a “trigger” level benchmark. First, exceeding the “monitoring” level CDR benchmark implies that a rating agency’s current default experience for a particular credit risk-assessment grade is markedly higher than international default experience. Although such assessments would generally still be considered eligible for the associated risk weights, supervisors would be expected to consult with the relevant ECAI to understand why the default experience appears to be significantly worse. If supervisors determine that the higher default experience is attributable to weaker standards in assessing credit risk, they would be expected to assign a higher risk category to the ECAI’s credit risk assessment. Second, exceeding the “trigger” level benchmark implies that a rating agency’s default experience is considerably above the international historical default experience for a particular assessment grade. Thus, there is a presumption that the ECAI’s standards for assessing credit risk are either too weak or are not applied appropriately. If the observed three-year CDR exceeds the trigger level in two consecutive years, supervisors would be expected to move the risk assessment into a lesser favorable risk category. However, if supervisors determine that the higher observed CDR is not attributable to weaker assessment standards, they may exercise judgment and retain the original risk weight.⁶

After reviewing a variety of methodologies, the Basel Committee decided to use Monte Carlo simulations to calibrate both the monitoring and trigger levels for each credit risk assessment category. In specific, the simulations relied on publicly available

⁶ For example, if supervisors determine that the higher default experience is a temporary phenomenon, perhaps because it reflects a temporary or exogenous shock such as a natural disaster, then the risk weighting proposed in the SA could still apply. Likewise, a breach of the trigger level by several ECAIs simultaneously may indicate a temporary market change or exogenous shock as opposed to a loosening of credit standards. In either scenario, supervisors would be expected to monitor the ECAI’s assessments to ensure that the higher default experience is not the result of a loosening of credit risk assessment standards.

historical default data from major international rating agencies. The levels derived for each risk assessment category are presented in table below, rounded to the first decimal.

Table 11. Proposed three-year CDRs benchmarks

S&P rating (Moody's)	AAA-AA (Aaa-Aa)	A (A)	BBB (Baa)	BB (Ba)	B (B)
Monitoring level	0.8%	1.0%	2.4%	11.0%	28.6%
Trigger level	1.2%	1.3%	3.0%	12.4%	35.0%

2) Mapping Process recommended by the CEBS⁷

As “mapping process” of external credit assessments recommended by the CEBS follows the Basel Committee's guidance, we will focus on the points that have not been discussed in the earlier section.

The mapping guidance of CEBS also recommends using the three-year CDR for the standard of evaluation, and eligible ECAIs will be required to annually communicate their default rates to the supervisors to allow them to assess whether the mapping of credit assessments to credit quality steps need to be updated or changed.

Supervisors will review this assessment on the basis of the availability of data and the methodology used by the ECAI in question, comparing it with those used to calculate the benchmark. Based on the consideration of such qualitative factors, supervisors may then adjust the mapping of the ECAI accordingly. Where uncertainty remains, supervisors should incorporate appropriate conservatism into the final mapping.

In their assessment, supervisors will take into account the qualitative variables indicated in the CRD. In particular, the number of rated issues shall be sufficiently large to ensure the statistical significance of ECAIs’ default rates or CDRs. Particular

⁷ See Consultation Paper on the recognition of External Credit Assessment Institutions, 29 June 2005, Committee of European Banking Supervisors.

attention will be paid to situations where the ECAI is focused in some sectors or geographically specialized, or where the ECAI rates portfolios for which default data are very scarce.

3) Implications for Mapping Process in Korea

Though it would be natural response for Korean financial supervisors to establish the standard of mapping process following the recommendations of the Basel Committee, there are some points to be considered. First, considering that rating agencies in Korea have applied more narrowly defined default rate than that of international standard, supervisors should incorporate appropriate conservatism in interpreting the credit risk assessments of domestic rating agencies using such current official default rates and be careful of that, with the wider definition of default, the evaluation would be different to the one with current official default rate. In addition, since the default rates for each credit assessment category were higher before the financial crisis of 1997, the result will be affected more if long-run CRDs are used. Second, as domestic agencies tend to use shorter horizon to assess default rates than that of international rating agencies, supervisors should keep in mind that it may be impossible to use long-run CRDs to evaluate the domestic agencies. Alternatively, supervisors may be able to request domestic agencies to estimate twenty-year long-run CDRs and use those data as references.

Followings are two major factors to be determined for the mapping process in Korea. First, one is the risk weights according to the default rates for each credit assessment category of domestic rating agencies. Second, the scope of risk weight adjustment should be also determined for the case that the CDRs for each credit assessment category of domestic rating agencies exceed the “monitoring” level benchmark or the “trigger” level benchmark.

4) A Simple Statistical Analysis

According to the domestic rating agencies official default rate data, their default rates for each credit assessment category are not significantly different to the historical default rates of international credit rating agencies. Therefore, we think it is not irrational nor impossible for Korean supervisors to follow the risk weight assignments which the Basel Committee recommends. For all three domestic credit rating agencies, default rates for AAA~A category are 0% in the period after the crisis which are lower than the historical default rates of international rating agencies. In fact there is no case where the CDR is higher than the historical default rates of international rating agencies.

Table 12. 3 year-Cumulative Default Rate by Credit Rating Agencies (%)

CDR	CRA (A)		CRA (B)		CRA (C)	
	2001	2002	2001	2002	2001	2002
AAA	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%
A	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
BBB	2.34%	0.00%	0.00%	0.00%	1.94%	0.00%
BB	3.23%	7.92%	8.22%	7.61%	9.41%	6.25%
B	45.45%	17.65%	0.00%	16.67%	66.67%	25.00%

To check whether the CDRs of each credit rating agencies within the benchmarks of the BASEL II, we perform a simple statistical analysis.

$$Z_j = \frac{\hat{P} - R}{\sqrt{\frac{\hat{P}_j(1 - \hat{P}_j)}{n_j}}}$$

In the above statistic $\hat{P}$ is the default rate, R is the benchmark rate, n_j is the number of credit assessments. Moreover in performing one-sided tested, we were able to evaluate whether the default rates of domestic are higher comparing to the benchmarks. In focus, there is no case where the default rates of domestic credit rating agencies are

higher than the triggering level proposed by the BASEL II. The default rate for B grade of CRA (C) and the default rate for B grade of CRA (A) are statistically higher than the monitoring level and the proposed long-term reference respectively. Although it is desirable to check the causes of high default rates, there seems to be no big problem for the mapping process in general since the BASESL applies same risk weight (150%) for grades lower than BB-.

Yet, it is critical to consider the discrepancy on the definitions of default rates between international credit rating agencies and domestic credit rating agencies. The revised default rates of domestic credit rating agencies based on the definition of international credit rating agencies will be higher than the data used in our analysis. Thus, the result of our analysis should be taken very cautiously.

Table 13. Test of 3-year Cumulative Default Rate

		3y-CDR of 2001			3y-CDR of 2002		
		Proposed long-term reference 3y-CDRs	Monitoring level	Trigger level	Proposed long-term reference 3y-CDRs	Monitoring level	Trigger level
CRA (A)	AAA-AA	-	-	-	-	-	-
	A	-	-	-	-	-	-
	BBB	1.00	-0.04	-0.49	-	-	-
	BB	-2.33	-4.24	-5.01	0.16	-1.15	-1.67
	B	1.70**	1.12	0.70	-0.25	-1.18	-1.88
CRA (B)	AAA-AA	-	-	-	-	-	-
	A	-	-	-	-	-	-
	BBB	-	-	-	-	-	-
	BB	0.22	-0.87	-1.30	0.04	-1.23	-1.73
	B	-	-	-	-0.38	-1.36	-2.09

CRA (C)	AAA -AA	-	-	-	-	-	-
	A	-	-	-	-	-	-
	BBB	0.69	-0.34	-0.78	-	-	-
	BB	0.60	-0.50	-0.94	-0.46	-1.76	-2.27
	B	2.42***	1.98**	1.65	0.33	-0.24	-0.65

Note: 1) values in the table is Z values

$$Z_j = \frac{\hat{P} - R}{\sqrt{\frac{\hat{P}_j(1 - \hat{P}_j)}{n_j}}}, \quad \hat{P} \text{ is the default rate, } R \text{ is the benchmark rate, } n_j \text{ is the number of credit assessments}$$

2) ***: reject the H0 under 1% significance level, **: reject the H0 under 5% significance level.

V. Concluding Remarks

As the new BASEL accord is introduced in Korea, there would be a fundamental change to measure and supervise credit risk of bank. Through this change the role of credit rating agencies will be extended to the measurement of credit risk of bank. Therefore, the quality of information provided by credit rating agencies is much more critical for the soundness of financial market. Although the quality of information from credit rating industry has been improving since the financial crisis, evaluations on the quality of information from credit rating agencies are still not satisfactory in Korea. Considering this relatively low confidence in the credit rating agencies the implementation of the standardized methodology and the ECAI system in Korea should be cautiously examined through the implementation process.

This paper studies the detailed criteria for designation of the ECAI in Korea. First, we discuss two prerequisites such as the definition of defaults and the scope of business of credit rating agencies. Second, we examine four critical issues regarding recognition of ECAIs in Korea. Third, we look over the mapping process by performing a simple statistical analysis. But there are other important issues which can not be covered by this short paper such as organizational structure, enforcement on illegal activity, proper disclosure, treatment of confidential information etc. In the recognition process these issues should be considered.

The credit rating agencies, which have enjoyed monopolistic profitability and government protection, should keep trying to improve quality of credit ratings to guarantee the soundness of financial system. Also, the financial supervisors should keep monitoring proper operation of credit rating agencies even after the recognition process.

References

- BIS, "Credit Ratings and Complementary Sources of Credit Quality Information," August 2000.
- BIS, "International Convergence of Capital Measurement and Capital Standards: A Revised Framework," June 2004.
- CEBS, "Consultation Paper on the Recognition of External Credit Assessment Institutions," 2005.
- CESR, "CESR's Technical Advice to the European Commission on Possible Measures Concerning Credit Rating Agencies," March 2005.
- Choi, Stephen, "Market Lessons for Gatekeepers," *Northwestern University Law Review*, Vol. 92, 1998.
- European Central Bank, Opinion of the European Central Bank, Official Journal of the European Union, 2005.
- FSA (UK), "CP05/3: Capital Standards", January 2005.
- FSA (UK), "FS05/01: Strengthening Capital Standards" September 2005.
- FSA (Japan), "The Outline of Draft Rules for the New Capital Adequacy Framework," March 2005.
- Gilson, Ronald and Reinier H. Kraakman, "The Mechanisms of Market Efficiency," *Virginia Law Review*, Vol. 549, 1984.
- Partnoy, Frank, "The Siskel and Ebert of Financial Markets?: Two Thumbs Down for the Credit Rating Agencies," *Washington University Law Review*, Vol. 77, No. 3, 1999.
- SEC, "Report on the Role and Function of Credit Rating Agencies in the Operation of the Securities Markets," January 2003.
- SEC, "Definition of Nationally Recognized Statistical Rating Organization", Proposed Rule, April 2005.
- White, Lawrence J., "Don't Like the "Power" of the Bond Rating Firms?: BASEL 2 will only make it Worse," in *Bumps on the Road to BASEL: An Anthology of Views on BASEL 2*, CSFI, 2002.