



NEWS RELEASE

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R&I Rating Methods: Evaluation on CDOs of SMEs

Rating and Investment Information, Inc. (R&I) has revised its methodology for evaluating collateralized debt obligations (CDO) whose underlying assets are borrowings and privately-subscribed bonds of small and medium-sized enterprises. The revised small and medium-sized enterprise CDO evaluation methodology and main points of emphasis are discussed below.

1. Methodology for Determining the Credit Enhancement Level

In small and medium-sized enterprise CDO, there are broad differences in the number of obligors or degree of diversification in the claims pools that are the underlying assets. For every pool of underlying assets with a large number of obligors (300 or more companies) and comparatively effective diversification of the claims, there is a pool having the opposite characteristics, and the degree of diversification varies according to the issue.

R&I determines the credit enhancement level by taking into consideration the number of obligors and degree of diversification of claim amounts and broadly utilizing three methodologies referred to as the large pool approach, small pool approach and medium-size pool approach. When determining the final credit enhancement level, R&I also takes into account factors such as the individual obligors and the characteristics of the issue.

1.1. Large pool approach

When analyzing an issue for which the underlying assets pool has a large number of obligors (300 or more companies) and comparatively effective diversification of the claim amounts, R&I uses the large pool approach because the "law of large numbers" can be expected to be operative. Under this approach, R&I calculates the credit enhancement level by establishing a standard scenario for each issue and taking into consideration the level of the target rating, a stress multiple corresponding to the various risks and the term of the issue.

R&I decides the final credit enhancement level after examining additional factors such as the level of creditworthiness of the entire pool, the degree of diversification of the claim amounts, the risk of simultaneous failure among the obligors of the claims that are the underlying assets and the individual conditions of each issue.

1.1.1. Establishment of a standard scenario

When using a Probability of Default (PD) estimated from banks' internal ratings or data from leading research entities and an external credit risk evaluation model such as the Credit Risk Database or the Risk Data Bank of Japan, R&I will establish the standard scenario by adjusting the PD to make it more appropriate. This step is taken because in some cases, there are differences in the definition of default between the data or external credit risk evaluation model used in the analysis and the issue, or because the PD in the external credit risk evaluation model normally used in the analysis is the PD calculated based on financial statements before the liability being rated is considered. For some issues, R&I will use historical data when establishing the standard scenario if such data exists. R&I will also refer to performance data for issues rated in the past when setting the standard scenario.

When analyzing a pool, in many cases, R&I will obtain key financial information in order to confirm the financial condition of the firms that are the obligors of the claims that are the underlying assets. R&I examines whether the standard scenario established based on these data is appropriate.

Rating and Investment Information, Inc. Nihonbashi 1-chome Bldg., 1-4-1, Nihonbashi, Chuo-ku, Tokyo 103-0027, Japan
Structured Finance Rating Division TEL. 03-3276-3406-3428 FAX. 03-3276-3429 EMAIL sfdept@r-i.co.jp Homepage <http://www.r-i.co.jp>

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1.1.2. Setting of the stress multiple

To determine the final stress multiple, R&I adds stress multiples corresponding to various risks to the base stress multiple initially established for each target rating. These various risks include regional concentration risk, industry concentration risk, main financing bank risk when a bank's ability to provide capital has declined, and refinance risk (Figure 1).

(Figure 1: Stress multiple)

Stress multiple established for each target rating	AAA	5x
	AA	4x
	A	3x
	BBB	2.5x

Additional stress corresponding to various risks (main risks)	Regional concentration risk
	Industry concentration risk
	Main financing bank risk
	Refinance risk
	Number of obligors and degree of diversification (Note 1)

(Note 1) In some cases R&I will lower the stress multiple when appropriate diversification has been achieved.

1.2. Small pool approach

When the number of obligors of the claims that are the underlying assets is less than 100 companies and diversification of the loan claims amount in the pool is not effective, R&I will determine the credit enhancement level by using the small pool approach.

R&I first determines the PD of the individual obligors, by adjusting the PD estimated from bank internal ratings or data from leading research agencies and historical data from various models according to the characteristics of the data or models used. After determining the PD of the individual obligors, R&I basically calculates the credit enhancement level required to assign the target rating by using the SME edition of R&I Tranche Pad (Note 2), an application used to determine the credit enhancement level for small pools, that has been revised for SME-CDO issues, and taking into account factors such as the correlation between industries.

R&I then decides the final credit enhancement level by incorporating the numerical value output by R&I Tranche Pad, plus factors such as the characteristics of the individual obligors, the risk of simultaneous default by the obligors of the claims that are the underlying assets and the individual circumstances of the issue, into its decision on the level of credit enhancement.

(Note 2) This is a new application for calculating credit enhancement amounts, which R&I announced on January 31, 2007. For details, please refer to the press release *R&I Methodology: R&I Revises CDO Model* on the same date.

1.3. Medium-size pool approach

When the number of obligors of the claims that are the underlying assets is more than 100 but less than 300 companies, the number is insufficient for application of the large pool approach but also is not small enough for use of the small pool approach. The degree of diversification of the loan claims amount also is mid-way between the two approaches. In this situation, R&I basically determines the credit enhancement amount by using both approaches and adopting the most conservative credit enhancement amount.

1.4. Other considerations

When calculating the credit enhancement level, R&I also looks at factors such as the characteristics of the issue (requirements for participation, financial institutions' management of sales and marketing and credit screening organization, etc.) and the excess spread, in addition to the business conditions of the individual obligors, and uses this information as a reference when deciding the final credit enhancement level.

1.4.1. Requirements for participation

R&I believes the requirements for participation may influence the portfolio performance. R&I therefore refers to the requirements for participation when deciding the credit enhancement level.

1.4.2. Management of sales and marketing and credit screening systems

With many small and medium-sized enterprise CDO issues, the assets to be securitized are new loan claims and privately-subscribed bonds. Because it is possible in such cases for originators to intentionally create pools that concentrate low-quality obligors, R&I believes an originator's management of sales and marketing and credit screening systems can have a significant influence on the performance of the underlying assets.

R&I's fundamental policy is to hold due diligence meetings with originators and examine their management of sales and marketing and credit screening systems closely, in order to confirm the management and credit screening systems the originators have prepared for structuring issues and to verify how those organizations are functioning.

Because many issues utilize a mechanism by which the originators retain the subordinated portion and bear the first losses and originators typically are motivated to properly perform credit screening and claims monitoring, cases in which originators have intentionally created a pool with low-creditworthiness obligors are believed to be rare.

1.4.3. Excess spread

Excess spread is the difference between the interest or other income obtained from the underlying assets and the interest payments on the securitized product. The level of the credit enhancement can be lowered by incorporating this excess spread into the cash flow simulation for the issue.

2. Evaluation Methodology for Guaranteed Issues

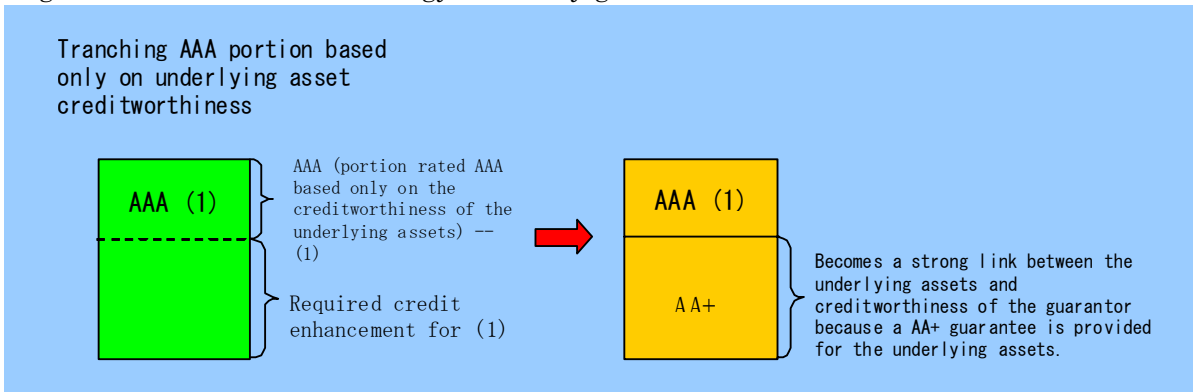
R&I's general evaluation methodology and points for small and medium-sized enterprise CDO issues were clarified in "1. Methodology for Determining the Credit Enhancement Level." The following section explains the evaluation methodologies for fully-guaranteed issues and issues with a partial guarantee.

2.1. CDO with a full guarantee

When securitizing claims protected by a full guarantee, the principal redemption and interest payments on the securitized product basically can be ensured because the guarantor will perform the guarantee even if the underlying assets are in default and cannot be recovered normally.

In other words, the principal and interest redemption of a securitized product backed by assets having a full guarantee will depend first on funds collected from the underlying assets, and secondly on performance of the guarantee by the guarantor. Securitizing claims that are fully guaranteed by a guarantor whose creditworthiness is rated AA+ and carving out the portion with creditworthiness rated AAA, for example, will result in the tranching shown in Figure 2.

(Figure 2: Evaluation methodology for a fully-guaranteed CDO)



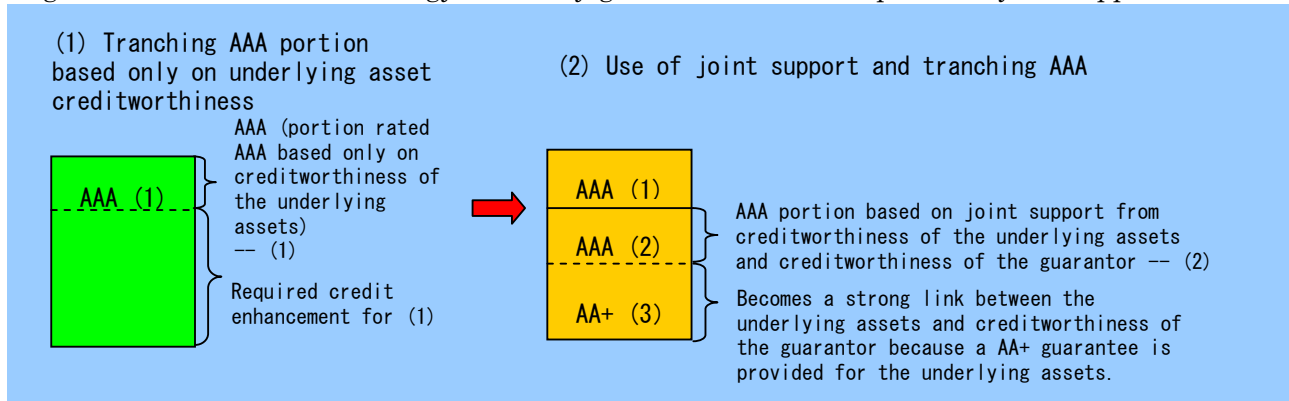
In addition to the evaluation methodology described above, it is possible to separate (tranching) underlying assets with a joint support (joint credit enhancement) (Note 3) method if the correlation of the creditworthiness between the underlying assets and the guarantor is low and R&I judges the respective creditworthiness of both parties supports the principal and interest redemption of the securitized product.

When the issue guarantor is a credit guarantee association, for example, it is difficult to envision a scenario in which the creditworthiness of the credit guarantee association will deteriorate simultaneously with deterioration of the creditworthiness of the underlying assets, because of the guarantor's public nature. Consequently, there is a strong probability the source funds for redemption of the securitized product principal and interest will be ensured. Furthermore, even if a credit guarantee association's ability to perform its guarantee declines, in many cases, the financial condition of the obligors of the underlying assets is better than entities the credit guarantee association normally guarantees, so R&I believes there is a high probability the securitized product principal and interest will be redeemed on a timely basis.

R&I observes the following guidelines when separating underlying assets with a joint support (tranching). When claims that are fully guaranteed by a guarantor whose creditworthiness is rated AA+ are securitized and a tranche rated AAA is carved out in the same manner as the example described above, the flow shown in Figure 3 results. R&I first determines the ratio of the portion that can be assigned an AAA rating based solely on the creditworthiness of the underlying assets (Figure 3(1)). R&I then calculates the ratio of the remaining portion to which it can assign a AAA rating tempered for the joint support from the creditworthiness of the underlying assets and the creditworthiness of the guarantors (Figure 3(2)(2)). The remaining portion (Figure 3(2)(3)) becomes the strong link portion between the creditworthiness of the underlying assets and creditworthiness of the guarantors.

(Note 3) For details, please refer to the press release *R&I Revises Rating Methodology to Jointly Supported Obligations* dated September 2, 2005.

(Figure 3: Evaluation methodology for a fully-guaranteed CDO tempered for joint support)



2.2. Evaluation methodology for partially-guaranteed CDO

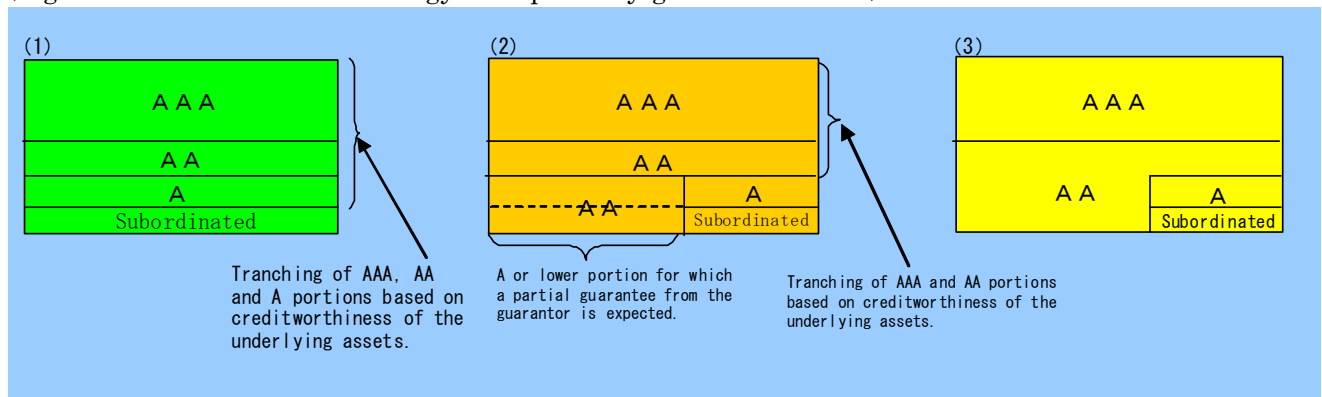
2.2.1. Tranching methodology

Issues for which an external guarantee of the creditworthiness of the rating target is anticipated include cases for which the principal balance and other amounts of a claim in default are fully guaranteed, as in the example described above, and cases in which principal balance and other amounts are partially guaranteed.

Let's explain the methodology when tranching the beneficial interest for an issue with a partial guarantee (Figure 4). In this example R&I will establish the ratings for the AAA, AA, A and subordinated beneficial interests. Furthermore, assume the guarantor providing the partial guarantee is rated AA. To simplify the example, joint support will not be applied.

R&I first analyzes the pool by applying stress corresponding to the ratings to the standard scenario, and determines the ratio of the AAA, AA, A and subordinated beneficial interest. The AAA and AA portions shown in Figure 4(1) are evaluated as AAA and AA respectively based on the creditworthiness of the pool. Next, for the remaining portion after subtracting the AAA and AA portions from the entire pool (A, subordinated), R&I believes a partial guarantee can be expected from the guarantor (AA). R&I multiplies this remaining portion by the partial guarantee ratio (Figure 4(2)) and calculates the proportion having an AA rating identical to the creditworthiness of the guarantor. Finally, R&I determines the ratio of the beneficial interest having an A rating and the subordinated beneficial interest from the remainder of the pool after excluding the portions determined to be AAA and AA.

(Figure 4: Evaluation methodology for a partially-guaranteed CDO)



2.2.2. Points to note in tranching

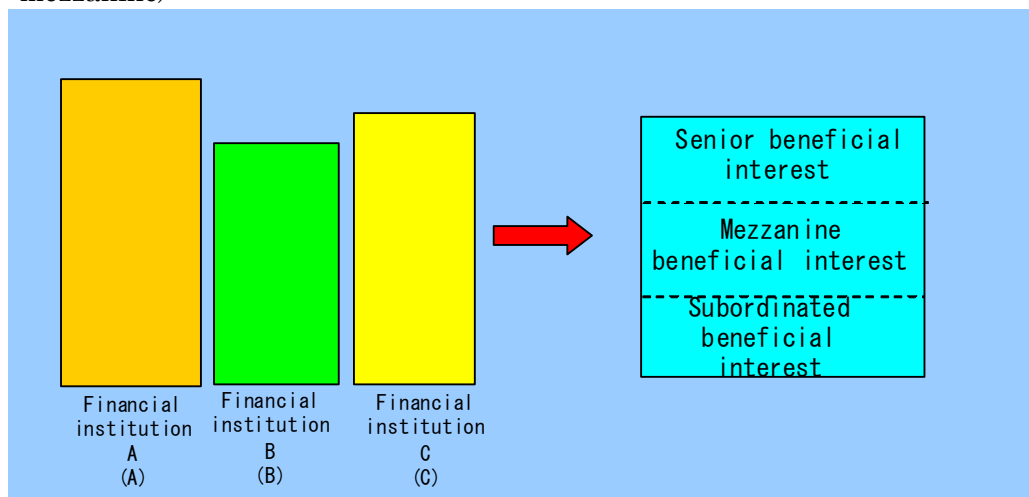
In cases where multiple beneficial interests with different ratings have been set and few defaults have occurred, there is a possibility that beneficial interests having a lower rating redeem earlier than the beneficial interests having a higher rating. A CDO for which redemption method of the beneficial interests rated AAA and AA in Figure 4 is designed as controlled amortization, and redemption of the beneficial interest rated A assumes a certain percentage of the remaining amount after deduction of the redemption amount for amortized portion, for example, would correspond to this situation.

R&I decides the tranching after studying multiple stress scenarios, to ensure there are no concerns regarding redemption of the higher-rated beneficial interests even if a beneficial interest in a lower-rated beneficial interests is redeemed first.

3. Evaluation Methodology for Pools with no Mutual Supplementation in the Most Subordinated Portion of the Pool

When several financial institutions jointly create a CDO, a pool diversification effect can be achieved by securitizing the claim pools (individual pools) solicited by each financial institution as a combined pool. On pattern seen frequently in the past are illustrated in Figure 5. This scheme provides a mechanism for achieving a diversification effect because each tranche is combined. Rather than deciding the credit enhancement level for each individual pool, the credit enhancement level is decided by combining the individual pools and regarding them as a single pool. When the number of obligors reaches 300 companies or more and the largest obligor accounts for 1% or less by assuming a combined pool, R&I uses the large pool approach which is advantageous for such a pool with many obligors.

(Figure 5: Example of a pool created by several financial institutions divided into senior, mezzanine)



There also are issues, however, that do not utilize tranching as shown in Figure 5 but divide pools into beneficial interests whose characteristics (a portion for which the diversification effect is achieved by creating a combined pool and a portion that depends only on the creditworthiness of the individual pools) differ according to the tranche (Figure 6).

The risk characteristics of the beneficial interests differ for the senior and mezzanine portions and the subordinate portion. The former portions are the "portion for which the diversification effect is achieved by creating a combined pool" and the beneficial interests are affected by the defaults that occur in any of the individual pools. The latter, on the other hand, is the "portion that depends only on the creditworthiness of the individual pools," and for this beneficial interest, only the investors in the subordinated beneficial interest of the individual pool containing a claim in default bear the default risk. In other words, the latter beneficial interest investors do not bear the default risk inherent in an individual pool other than their own. Furthermore, when defaults occur and are concentrated in only a single pool, the loss to the beneficial interest is incurred as shown in Figure 7. This credit enhancement structure has the same result as dividing each individual pool into a senior portion and subordinated portion, then combining all of the senior portions and dividing the resulting pool again into a senior and subordinated portion (Figure 8).

As described previously, the subordinated beneficial interests are the subordinated portions of each individual pool, and the other beneficial interests are beneficial interests in a share of all pools. R&I considers the risk characteristics of such beneficial interests, and performs an analysis of the credit enhancement level of the individual pools and the entire pool and decides the final tranching using the results of both analyses.

The specific tranching methodology is described below.

- (1) Calculate the subordinated portion (subordinated beneficial interest) - Focus on the creditworthiness of the individual pools

The subordinated portion depends only on the creditworthiness of the individual pools. R&I calculates the creditworthiness of each pool using the evaluation methodology that corresponds to the number of obligors in the individual pools and degree of diversification of the loan claims amounts (often using the small pool approach for the analysis because the pools are small in size). R&I determines the final credit enhancement level by also considering the characteristics of the individual obligors.

- (2) Calculate the senior portions (senior and mezzanine beneficial interests) - Consider factors such as the pattern of default occurrences

The senior portion depends on the creditworthiness of the entire pool. The credit enhancement of the senior beneficial interest is provided by the mezzanine beneficial interest and subordinated beneficial interest, while the subordinated beneficial interest serves as the credit enhancement for the mezzanine beneficial interest.

If the subordinated beneficial interest is a common beneficial interest of the entire pool, the total credit enhancement amount for the senior beneficial interest and mezzanine beneficial interest becomes equal to the credit enhancement amount calculated using an evaluation methodology corresponding to the number of obligors and degree of diversification of the loan claims amount for the entire pool (mainly the result calculated using the large pool approach). The subordinated beneficial interest is set for each individual pool under this scheme, however, and when defaults occur intensively from a specific, individual pool or occur from various individual pools, the risk spreads to the mezzanine beneficial interest investors more quickly in the former case, even if the default totals are identical on a monetary amount basis. Based on this consideration, R&I decides the most conservative credit enhancement level by taking the pattern of default occurrences into account.

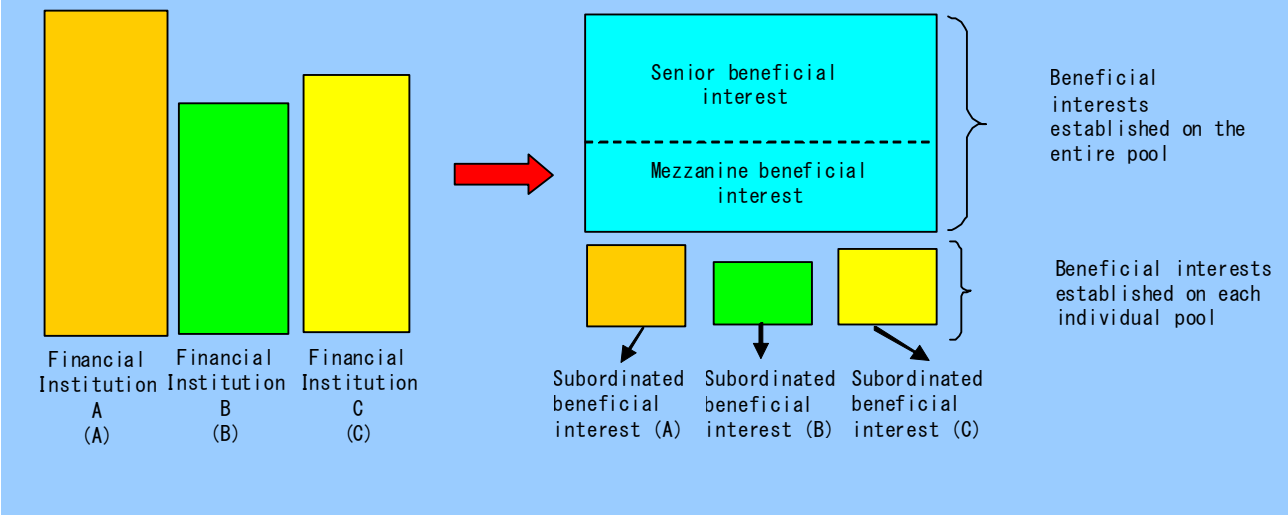
The credit enhancement level determined in this manner will be lower than the total of the credit enhancement levels determined for each individual pool and higher than the credit enhancement level determined by considering all of the pools as one pool.

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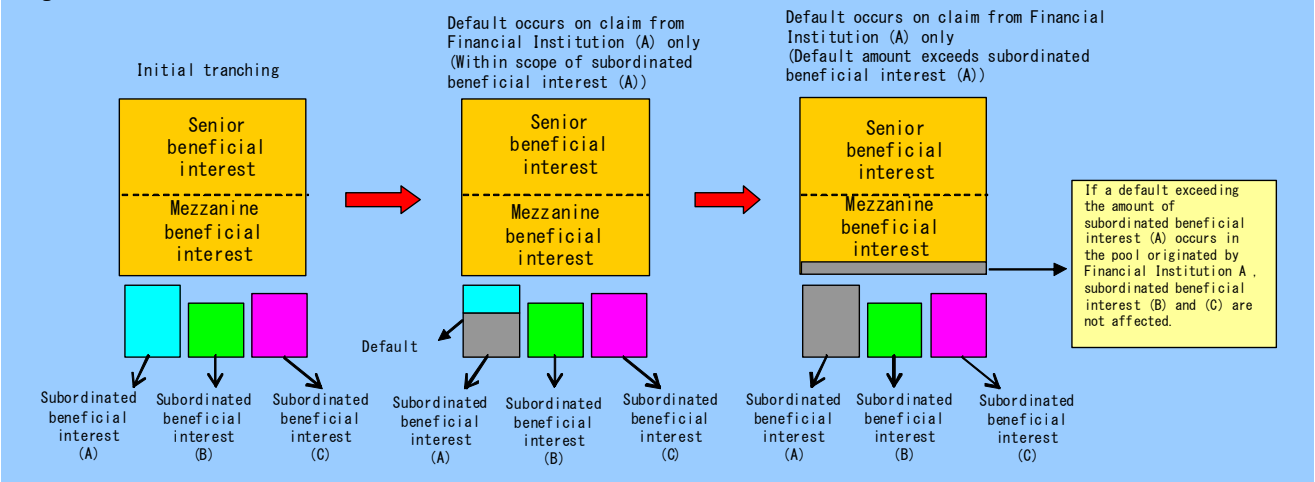
(3) Decide the final tranching

As the final step, R&I decides the final tranching by investigating whether the credit enhancement level for each tranche is consistent with its rating level from a qualitative viewpoint, including the individual circumstances of the issue.

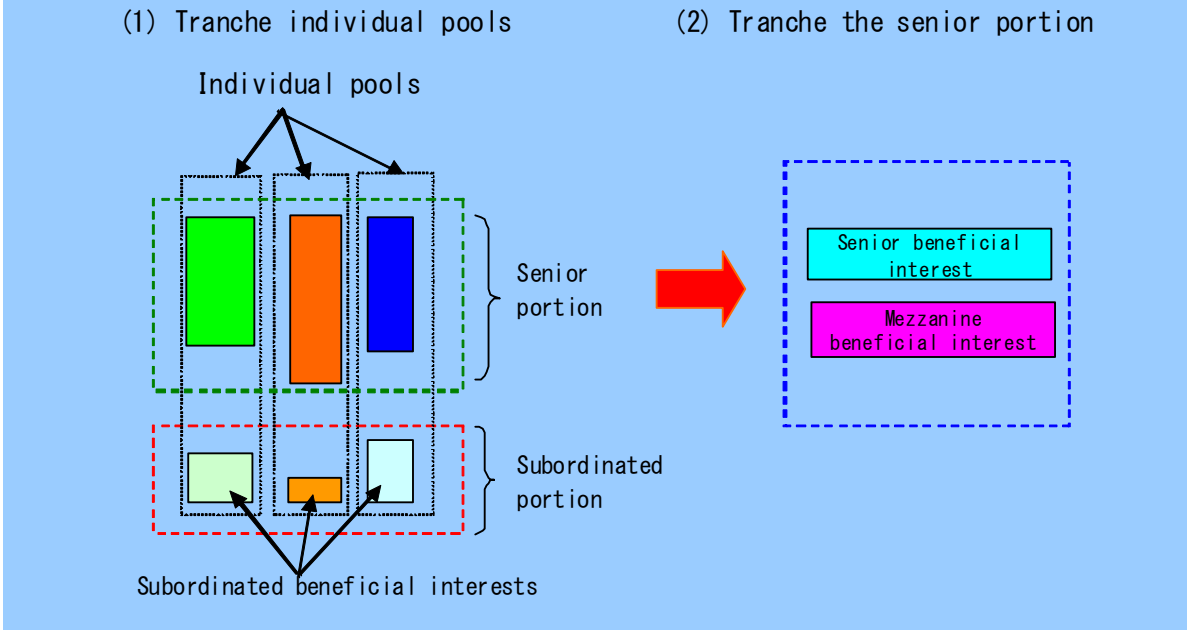
■ Figure 6 When the entire pool of loan claims originated by Financial Institutions A, B and C is divided into a senior beneficial interest and mezzanine beneficial interest established on the entire pool and subordinated beneficial interests (A) through (C) are established on each individual pool.



■ Figure 7



■Figure 8 Tranching Method



■Figure 9: Specific tranching procedure steps

(1) Calculate subordinated portion	⇒	1) Analyze individual pools (basically use small pool approach)
(2) Calculate senior portion	⇒	2) Analyze entire pool (basically use large pool approach)
		3) Run simulation incorporating default patterns
(3) Decide final tranching	⇒	4) Check from qualitative viewpoint

4. Structural Issues

The main points of emphasis common to most small and medium-sized enterprise CDO are discussed below.

4.1. Dilution (decrease of claim) risk

Because most CDO are "offering-type CDO" for which claims are offered for securitization from the start, prepayment and offset normally are prohibited beforehand by the obligor agreement. That is, R&I utilizes a mechanism to prevent negative carry that would create a shortfall in the source of funds for payments to the CDO investors because of a drop in interest or other income as a result of prepayments or offsets. Even if prepayments are admitted, normally a mechanism is adopted to enable the CDO to prevent negative carry by receiving the interest until the maturity of the CDO.

4.2. Interest rate risk

Interest rate risk is also related to the fact offering-type CDO are the norm, and in many cases the interest rate conditions on the underlying assets and the CDO are made to match beforehand. There are CDO for which the interest rate conditions on the CDO and the underlying assets are mismatched, however, and in such cases a swap agreement is concluded and the interest rate risk is hedged or the cash flow is projected conservatively, to enable the CDO to avoid the interest rate risk.

4.3. Commingling risk

The risk of funds collected from the obligor being mixed with the capital of the servicer and not being remitted normally is called commingling risk. To avoid this risk, a rating trigger is set for the financial institution that will function as the servicer, and actions such as prepayment of the collected funds are executed as a measure against commingling risk if the servicer's creditworthiness falls below a certain level.

When a financial institution that is a participant in the deposit insurance system is the servicer, however, collected funds that have accumulated in a remittance account are fundamentally recognized as a specific settlement liability under on the provisions of Article 69-2 of the Deposit Insurance Law even if the institution has failed for some reason, and there is a high probability the remittance account will be eligible for a deposit insurance claims payment under Article 54-2 (Deposit Insurance Claims Payment Method, Note 4) and eligible as a capital loan under Article 69-3 (Financial Assistance, Note 5) of the Law. Therefore R&I judges commingling risk to be limited even though funds collected from the obligors must be processed by means such as a special deposit or suspense receipts.

For this reason, R&I does not consider it necessary to establish a rating trigger and other measures on the premise that the holding period for funds collected by the servicer is limited, and liquidity for payments of interest on securitized products or payment of various costs as protection against a temporary delay in the payment of the deposit insurance is ensured (Note 6).

(Notes 4 and 5) A procedure by which the Deposit Insurance Corporation will pay deposit insurance directly to depositors (insurance claims payment system) and a system to provide financial assistance such as transferring insured deposits to other financial institutions (financial assistance system) have been established as deposit protection mechanisms in the event of a financial institution failure.

(Note 6) For details, please refer to the press release *R&I View on Commingling Risk of a Servicer that is a Financial Institution covered by the Deposit Insurance System (DIS)* dated March 3, 2005.

4.4. Payment in subrogation negation risk

For a securitization issue involving guaranteed claims, such as a CLO guaranteed by a credit guarantee association, basically the guarantor will perform the guarantee and enable the principal and part of the interest to be collected when a default occurs on a claim. Securitized products can be safely redeemed by the payments in subrogation.

In some cases, however, guarantors (mainly credit guarantee associations) may refuse payment in subrogation when an originator has violated the arranged use of funds by allocating guaranteed loan receivables to the recovery of the originator's own claims, for example, or when there have been irregularities in credit management such as a violation of reporting obligations. This is called negation of payment in subrogation.

Under the mechanism by which the originator in principle will buy back claims when negation of payment in subrogation occurs, it is difficult to envision the source of funds for redemption of a securitized product being inadequate at the same time the guarantor performs the guarantee. If negation of a payment in subrogation occurs and the originator does not have the capability to buy back the claim, however, there is a payment in subrogation negation risk in that the source of funds for redemption of the securitized product will be insufficient.

To address this risk, R&I requires measures such as advance provision of a required amount that corresponds to the payment in subrogation negation risk reasonably estimated from actual payment in subrogation negation results on nearly all past issues rated by R&I. The incidence of payment in subrogation negation differs depending on factors such as the financial circumstances of each credit guarantee association, ranging from credit guarantee associations with very few instances to credit guarantee association with a certain level of occurrences. There also are cases in which the arranger instructs each originator to follow an approach laid out in an administrative



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manual when structuring the CLO in order to prevent payment in subrogation negotiation from occurring.