

Rating Methods for First-to-Default Securitized Products

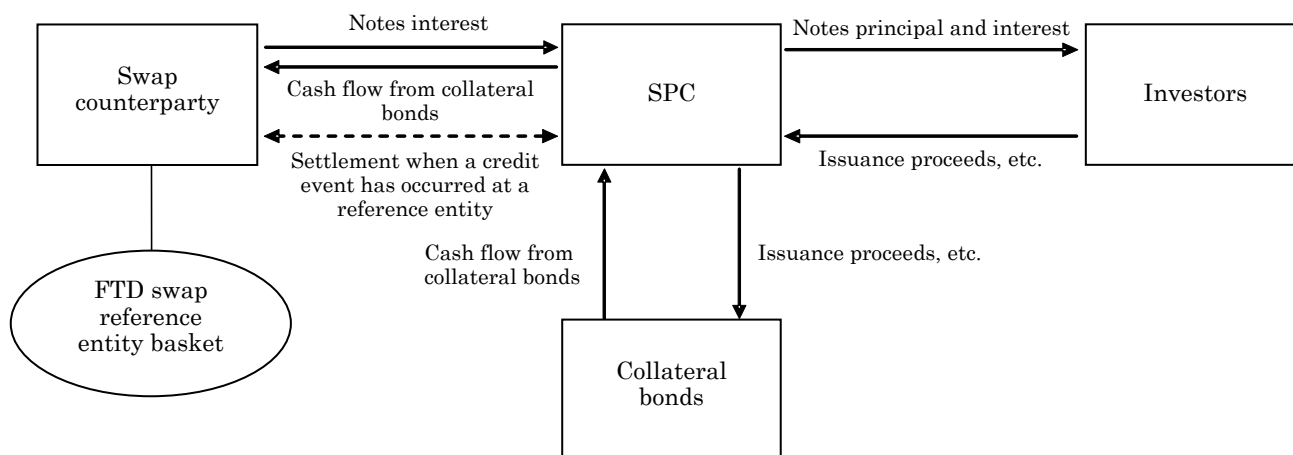
Rating and Investment Information, Inc. (R&I) has summarized its credit rating method for securitized products involving first-to-default swaps (FTD products). R&I first published this information in the press release “Rating Methods for First-to-Default Securitized Products” dated September 30, 2005. This update report supplements the details of the September 2005 press release, and summarizes R&I’s rating methodology for FTD products having conditions that were not discussed in the earlier press release.

1. What is an FTD Product?

1.1. Product summary

An “FTD product” is a product that involves a first-to-default (FTD) credit default swap (FTD swap). With an FTD swap, the protection seller will take the loss caused by the first default to occur among a portfolio (basket) of multiple reference entities. The diagram below illustrates a typical FTD credit-linked note for which a special purpose company (SPC) is the issuer. Although for this report we have assumed the issuer is an SPC, in today’s market, various structures with issuers other than an SPC are available. Under one pattern, for example, a financial institution or trust account will directly accept a loan involving FTD credit risk. Another pattern uses a MTN programme originated by a financial institution to issue notes. When assigning a rating for this type of issue, R&I closely examines the legal risk involved in the structure, including receipt of a legal opinion. To clarify R&I’s rating methodology for an FTD product, in this report we will explain R&I’s rating approach using FTD Notes issued by an SPC (Notes).

1.2. Structure



The figure above shows the mechanism for a typical FTD product. The cash flow under this mechanism is explained in steps (1) through (5) below.

- (1) The SPC concludes a swap agreement consisting of an interest rate swap component and a CDS component with the swap counterparty. Using the proceeds from issuance of the Notes and other funds, the SPC purchases collateral bonds having the same principal face value as the total amount of the Notes.
- (2) The CDS is an FTD swap with a notional principal amount identical to the face amount of the Notes.

- (3) During the term of the swap, the SPC receives premiums from the swap counterparty, based on the CDS. In addition, based on the asset swap the SPC pays interest on the collateral bonds, and receives cash corresponding to the base rate portion of the Notes interest from the swap counterparty. The SPC uses these cash receipts to pay the interest on the Notes and various expenses.
- (4) When a credit event has occurred at any of the CDS reference entities, after converting the collateral bonds into cash and unwinding the interest rate swap, the SPC pays the swap counterparty the amount of the loss on the reference entity, then uses the remaining funds to redeem the investors' principal.
- (5) On the Notes redemption date, the SPC receives the principal redemption amount of the collateral bonds and redeems the Notes.

1.3. R&I's Rating Approach

The certainty of principal and interest payments on an FTD product issued by an SPC depends on the creditworthiness of the reference entities included in the basket, the collateral bonds and the swap counterparty. Unlike a synthetic CDO that transfers mezzanine risk, with an FTD swap the reference entity default risk also is linked to the FTD product loss in the same manner as the collateral bonds and swap counterparty default risk, because no credit enhancement is provided. Therefore when evaluating the rating for an FTD product, R&I evaluates the scheme by considering the reference entities included in the basket, the collateral bonds and the swap counterparty together, as if they were a single portfolio (FTD product portfolio).

When assigning a rating to an FTD product, R&I looks at the objective portfolio of the FTD product from two perspectives. The first viewpoint is the one described in the press release dated September 30, 2005. R&I refers to this as the "weak link approach." The reason for adopting the weak link approach is described below under "2. Weak Link Approach." The second perspective employs analysis based on a quantitative model. This is described under "3. Considerations in Addition to Utilization of the Weak Link Approach."

2. Weak Link Approach

2.1. What is the "weak link approach"?

At R&I, the concept that "the risk of a default occurring in a portfolio is represented by the lowest rating in the portfolio" is referred to as the "weak link approach." When the number of entities in an FTD product objective portfolio is no more than nine and the respective credit ratings are A- or above, in principle, R&I assigns the FTD product a rating identical to the lowest credit rating of the FTD product objective portfolio.

2.2. Reason for applying the weak link approach to an FTD product

When the number of entities in a portfolio is small and the entity ratings are high, it is difficult to assume the portfolio is exposed to the danger of default by several of the entities, each as the result of a different reason, during a given period. So there is a certain rationality to assuming the lowest rating level for the FTD product objective portfolio represents the FTD product credit risk. Furthermore, because the probability of a loss occurring on the FTD product will change markedly when the lowest rating in the FTD product objective portfolio is revised, R&I believes revising an FTD product rating based on the timing of a revision to the lowest rating, rather than on formal calculation results generated using a quantitative model, is more appropriate as investment information.

2.3. Limit on the number of entities for application of the weak link approach

As the number of entities in a portfolio increases, the risk of a default occurring in the portfolio will rise gradually, diverging substantially from the risk of default on the lowest rating in the portfolio. Therefore when applying the weak link approach, R&I sets the maximum limit of entities

in a portfolio at nine. Because application of the weak link approach is based on R&I's policy of providing investment information as stated above, R&I has set the number of portfolio entities at no more than nine.

2.4. Limit on the rating level for applying the weak link approach

As the rating of a portfolio is set to lower levels, the risk of a default occurring in the portfolio will rise gradually, diverging substantially from the risk of default on the lowest rating in the portfolio. Therefore when applying the weak link approach, R&I sets the condition that the ratings of all entities must be A- or higher. R&I's definition of a BBB rating is "The credit quality is satisfactory, but there are factors that may be vulnerable to environmental changes." R&I therefore regards a BBB rating as the level that reflects the probability of exposure to the risk that multiple entities will default during a given period as the result of various different "factors" when the environment has changed significantly. The definition of an A rating, on the other hand, is "the credit quality is high. It is also accompanied by some excellent factors." In other words, R&I considers the risk of a default occurring in a portfolio to be represented by the lowest rating in the portfolio because there is almost no immediate concern regarding the creditworthiness of issues rated A.

3. Considerations in Addition to Utilization of the Weak Link Approach

When the number of entities in a portfolio is large, or when each entity has a low level rating, the risk of a default occurring in the portfolio and the risk of default on the lowest rating in the portfolio will diverge substantially. Therefore when the number of entities in a FTD product objective portfolio is large or the Issuer Rating for each entity is low, R&I also will use a quantitative model to analyze the probability of default. In its quantitative model, R&I uses a normal copula model to examine the correlation of default events among the entities. If the number of entities in the FTD product objective portfolio and the Issuer Rating for each issue do not fulfill the criteria for use of the weak link approach, R&I tempers its rating evaluation based on the weak link approach by gradually increasing the weighting of the rating evaluation based on the normal copula model, according to the degree of divergence from the application criteria.

4. Relationship to CDO-PRO and BIN-PRO

When there is a correlation between default events among the portfolio entities, the probability that a concentration of defaults will occur increases compared to the situation there is no correlation. On the other hand, the probability that no defaults will occur rises as well. Calculation of the loss amount distribution using CDO-PRO (Note 1) or BIN-PRO (Note 2) conservatively evaluates the mezzanine and senior tranches by fixing a scenario using only the condition that simultaneous defaults are actualized according to the correlation. Therefore in a rating evaluation for an FTD product for which R&I must analyze the probability that no defaults will occur, R&I believes it is not appropriate to unambiguously adopt the calculation results based on CDO-PRO or BIN-PRO.

5. Approach to recovery risk for objective portfolio entities

For an objective portfolio entity having subordination characteristics, in addition to the default risk of the entity concerned, there is a potential for recovery risk to be actualized should this type of entity default. When settlement is provided based on a security that is subordinated to the reference entity, for example, there is a possibility the loss amount will increase compared with settlement based on a security that is not subordinated. To evaluate this aspect, when the subordination of the entity with the lowest rating in the FTD product objective portfolio will affect investors' losses, R&I will assign an FTD product rating that is lowered one notch from the rating



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derived from the FTD product rating using the methodology described in 2 and 3 above as the final rating.

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(Note 1) CDO-PRO is a credit enhancement amount calculation application utilizing the approach described in the report *Securitization Criteria: R&I's CDO Rating Approach* dated July 5, 2002.

(Note 2) BIN-PRO is a model based on the same concept as the approach used for CDO-PRO. R&I uses this credit enhancement amount calculation application mainly when the amounts of the issues incorporated as backing assets is identical. For details refer to R&I Rating Information (March 2004 edition) *CDO Q&A* (Japanese only).

The above two reports can be viewed on R&I's website (<http://www.r-i.co.jp/jpn/rating/st/methodology.html>).