

Credit Enhancement for ABS (backed by large number of claims)

R&I closely examines the required cash reserve in addition to default measures

More than eight years have passed since so-called ABS (asset-backed securities), the securitized products backed by claims such as lease payments, installment payments, commercial bills and consumer loans that served as the vanguard for development of the securitization market in Japan, were first introduced. Reviewing the actual ratings assigned by R&I on an issuance amount basis shows the ABS market in Japan has expanded to approximately 1.6 trillion yen, growing 16% in 2004 alone compared with 2003

Credit enhancement is provided through a senior/subordinate structure divided between a senior portion that gives priority to principal redemption and interest payments, and a subordinated portion to absorb risk. ABS obligors are numerous and diversified, however, and when calculating the subordinated portion, the law of large numbers can be applied. Specifically, R&I utilizes a large pool approach, in which the number of backing asset obligors in the pool exceeds 300 companies, and the concentration level of the loan claim amounts is roughly 1% or less.

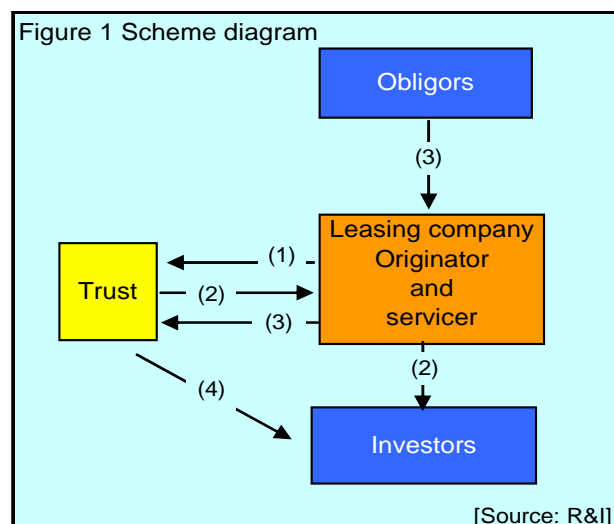
The subordinated portion must be calculated by taking into consideration risks other than the default risk, such as commingling loss or prepayments. Moreover, the subordination level considered necessary also varies as collection of the claims backing the rated security progresses. For the subordinated portion of an ABS, R&I pays particular attention not only to the initial subordination level, but also to understanding the changes that can take place during the facility term, to ensure the senior portion can be redeemed reliably under any scenario.

General ABS scheme

Let's begin by first taking a general look at a typical

securitization scheme and the flow of the backing assets and funds. In contrast to a small pool with one hundred or fewer obligors, where the negative affect when a major obligor defaults on its obligation is substantial and the creditworthiness of each obligor must be considered, a sound statistical analysis for an ABS can be performed without having to consider the creditworthiness of each individual obligor, because the pool is a so-called large pool that can be approached as a large number of backing assets. This can be described using a "trust scheme" as an example (see Figure 1).

- (1) The originator (original creditor), a leasing company, selects lease receivables that fulfill the qualification criteria from among leases it has originated, and transfers the lease receivables to a trust.
- (2) The trust divides the lease receivables received (entrusted claims) into a senior beneficial interest and subordinated beneficial interest. Investors purchase in the senior beneficial interest and the originator, the leasing company, retains the subordinated beneficial interest.



(3) The leasing company, also acting as the general servicer, collects the claims from the obligors and remits the collected funds (cash inflow) to the trust.

(4) The trust allocates the collected funds to payment of the senior beneficial interest principal and interest.

For securitization, ensuring the cash inflow that will become the source of funds for principal and interest payments on the trust beneficial interests is crucial. As the servicer, the leasing company seeks to maximize the cash inflow collected from the obligors and remits the collected cash inflow to the trust. After expenses are deducted, the cash inflow remitted to the trust is used to make principal and interest payments to investors or payments to other parties.

Understanding of the default ratio by focusing on current dynamic data

Three data categories form the basis for calculation when computing the percentage of the subordinated portion for credit enhancement: (1) the default ratio, (2) the prepayment rate and (3) the delinquency rate. R&I confirms the past collection status, and calculates the resulting percentages for (1), (2) and (3) (referred to collectively as performance data). Simply put, the subordinated percentage level will be determined by the strength or weakness of the performance data. These data, which are indispensable for any securitization, are obtained from the originator, who constructs a system to continuously accumulate the

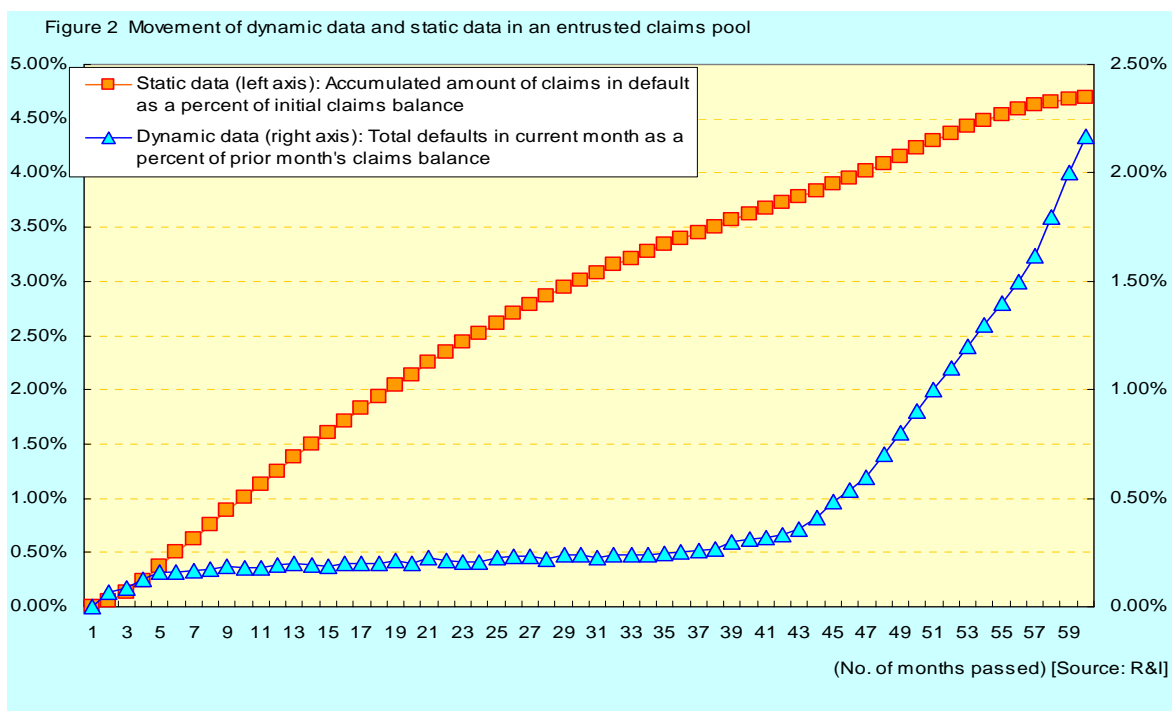
data. R&I requires past data (referred to as historical data) for at least three years, and data accumulation for at least five years is preferable whenever possible.

In some instances, the data for calculating the default ratio might include (a) an amount for claims from public authorities and (b) an amount for claims from the leasing company’s parent company (Note 1). For general securitizations when (a) and (b) are included in the data but will be excluded from the entrusted claims, R&I must calculate the default ratio that matches the attributes of the entrusted claims after taking the amount of such claims into consideration (Note 2). The methods for obtaining the default ratio are divided broadly into two approaches.

One approach is to calculate the ratio as (monthly default ratio) = (default amount in current month) / (loan balance at end of previous month), using data generally referred to as dynamic data that reflects the replacement of claims.

An alternative method is to calculate the ratio from static data, which measures how many defaults have occurred since claims were newly originated in a specific month.

In general, the ratio of newly contracted claims that default soon after origination is low, while the number of claims for which credit conditions change over time and end in default will be larger (see Figure 2). Given this pattern, when the entrusted claims consist only of



claims originated in a certain month or claims originated during a specified period of several months, analyzing the claims using static data is the preferred approach. The number of originators that have sufficiently accumulated static data is quite small, however, and under current circumstances, an analysis based on dynamic data is the most commonly utilized method.

Credit enhancement based on a senior/subordinate structure

What concerns receive special consideration by investors planning to purchase securitized products? The first question investors are likely to address is whether the principal and interest of the securitized product purchased will be repaid with certainty. The primary credit enhancement methodology for creating a reliable structure for the payment of senior beneficial interest principal and interest is a senior/subordinate structure. This is a mechanism for absorbing risk and ensuring a source of funds for the senior beneficial interest principal and interest payments, even if cash inflow declines as a result of defaults or other events, by establishing a subordinated portion (which the originator retains in many cases).

Commingling loss is the risk the collected funds from obligors will not be remitted to the trust for some reason, such as servicer bankruptcy, resulting in a loss. As with defaults, normally this is absorbed by the subordinated portion.

Moreover, following a servicer failure, the backup servicer will need time to complete preparations to begin collecting payments from the obligors, such as notifying the obligors and requesting account transfers. A period of several months will be required before collected funds actually begin flowing to the trust. Even when the collected funds are delayed, however, various minimum required costs including trust fees will be incurred, and the senior trust beneficial interest must be paid. An amount treated separately as a cash reserve is therefore required to maintain the

securitization scheme.

As described below in general terms, the subordinated portion will be composed from (1) an amount to absorb defaults, (2) an amount to offset commingling loss in the event of servicer bankruptcy and (3) a cash reserve.

Let’s turn now to the calculation methodology for the subordinated portion, which under a senior/subordinate structure accomplishes the risk absorption function.

1. Calculation of the portion to absorb defaults

The portion to absorb defaults is set based on an evaluation of the risk the recovery of the obligation will become difficult because of problems arising from obligor creditworthiness. For the calculation of this portion, R&I uses a numerical value, referred to as the default ratio after application of a stress multiple, which is obtained by multiplying the default ratio by the stress multiple (see Figure 3) required for the rating the issuer wants assigned (the target rating). When calculating the credit enhancement amount using a loan loss percentage based on dynamic data, this amount is the cumulative total of the amounts calculated by multiplying the loan balances, reduced by the contractual collections, defaults or other events (prior month ending balance), by the default ratio after application of a stress multiple.

For the calculation of the portion to absorb defaults, the definition of default must receive careful consideration. R&I reviews the definition of default each originator has established in accordance with its respective company rules, through due diligence meetings (visits and interviews) and other opportunities, and confirms the definition is consistent with the definition of claims in default as stipulated in the trust agreement. In many cases, lease receivables six months or more in arrears and personal installment credits three months or more in arrears are defined in the trust agreement as being in default.

After analyzing the entrusted claim pool attributes,

Figure 3 Stress multiple corresponding to target rating

	Main obligors	Individuals	Corporations
Default stress multiple	AAA	3.0 -	5.0 -
	AA	2.5 -	4.0 -
	A	2.0 -	3.0 -
	AAA	1.75 -	2.5 -

[Source: R&I]

R&I will establish the stress multiple in accordance with various conditions, such as when the concentration of the obligors by region or industry classification is high, for example, or when less than three years of historical data has been accumulated and is deemed insufficient.

2. Calculation of the portion to absorb commingling loss

The portion to absorb commingling loss is set based on an evaluation of the risk the collected funds from the obligors will be mixed (commingled) with the servicer's assets and lost if the servicer fails before remitting the collected funds to the trust. R&I calculates the largest commingling loss amount, based on the schedules for collection from the obligors and remittance to the trust.

For example, assume the servicer is to remit to the trust on the 20th of the current month the collected funds for a one-month period from the first to the end of the prior month, and the servicer fails on the 20th of the current month when the amount of collected funds the servicer holds is at its maximum (see Figure 4). In this instance, an amount equivalent to the monthly lease payment principal collected during the prior month and up to the 20th of the current month (about two months), plus an amount equivalent to terminations before maturity that occurred during the prior month and up to the 20th of the current month (about 1.7 months), will have accumulated at the servicer. This becomes the portion corresponding to commingling loss.

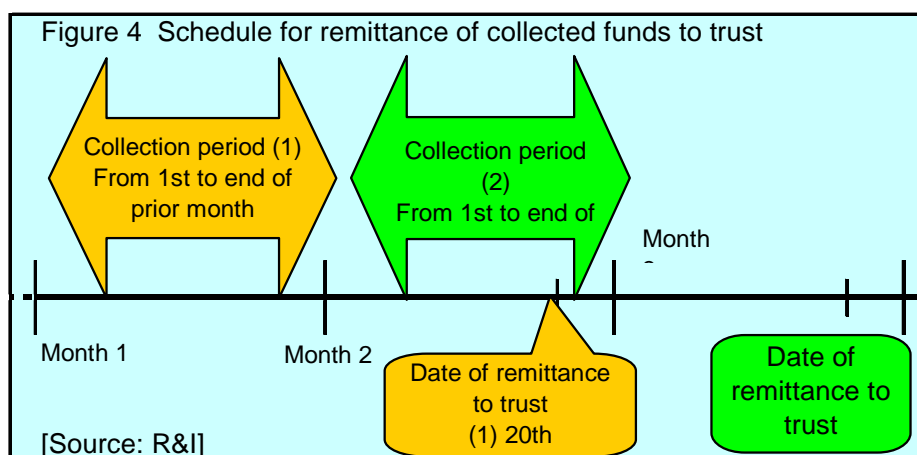
The delinquency rate shows the percentage of

claims for which the full amount of the obligation has not been paid even though the obligation maturity date has passed. When considering the delinquency rate for simulations, the amount the servicer has collected will decrease only by the portion in arrears, and as a result the portion corresponding to commingling loss will decrease. When the prepayment rate is set high, on the other hand, the portion corresponding to commingling loss will increase but the total amount for defaults will decrease, because the collection period for the obligations will be shorter. In every case, both considerations must be noted carefully.

3. Calculation of the cash reserve

The cash reserve is an account to ensure funds in advance for (1) the cost of notification to the original obligors, (2) interest to investors for 3-6 months, (3) trust fees for 3-6 months and (4) the various costs that will be incurred for replacement by the backup servicer, which R&I assumes will be incurred as a result of servicer (and originator) failure. These various costs must be covered during the period after the servicer fails until the backup servicer begins operation, when no collected funds can be anticipated. The specific details of each item are discussed below.

(1) When the servicer (and originator) has failed, written documentation verifying registration as stipulated by the Law Regarding Special Exceptions to the Civil Code with Respect to Perfection Requirements for Assignment of Movables and Claims is sent to the obligors, notifying them of the change in creditor, and the claims are perfected as against the obligors (Note 3). In addition, funds must be ensured for the cost to obtain registration certificates for the remaining obligors (number of claims) (Note 4),



and mailing costs for items such as the letter informing the obligors of servicer replacement and account transfer forms.

(2) Funds to provide a cash amount for interest to investors for 3-6 months are prepared by multiplying the senior beneficial interest principal balance by the monthly planned interest rate.

(3) Funds to provide a cash amount for trust fees for 3-6 months, which varies according to the trust agreement, are prepared by multiplying the entrusted claims balance or the senior beneficial principal balance by the trust fee rate.

(4) Funds to pay costs when a call center will be established to respond to inquiries from the obligors concerning replacement by the backup servicer.

4. Addressing prepayment risk

Under a finance lease agreement, the remaining lease payments are paid in a lump sum when a lease agreement is terminated before maturity. At first glance one might be inclined to think this is not a problem, because it means a claim whose future collection was uncertain is recoverable in a single payment. In many cases, however, a scheme will require that of the collected funds recovered through a single payment, all of the remaining amount that had been allocated to senior beneficial interest principal redemption and interest must be paid as principal and dividend on the subordinated beneficial interest. Allocating such funds without restriction to redemption of the subordinated beneficial interest in this manner may create an obstacle to future redemption of the senior beneficial interest. To eliminate this risk, a specified subordinated beneficial interest redemption limit is established, and any funds in excess of this amount are held in the trust and not used for principal repayment.

With installment claims, on the other hand, obligors in many cases are not required to pay the future interest when repaying their obligation in full before maturity. One point that should be noted in particular is that, for example, when an installment credit with an interest of 5% is discounted by 2% when the claim is transferred to a trust, the discount received is generally combined into the trust principal amount. Therefore, if such a claim is repaid before maturity, not only will the future interest on the original claim be lost, but the entrusted

claim principal will also be diluted by the loss of the discount received. This makes it necessary to increase the subordinated principal on a trust principal basis.

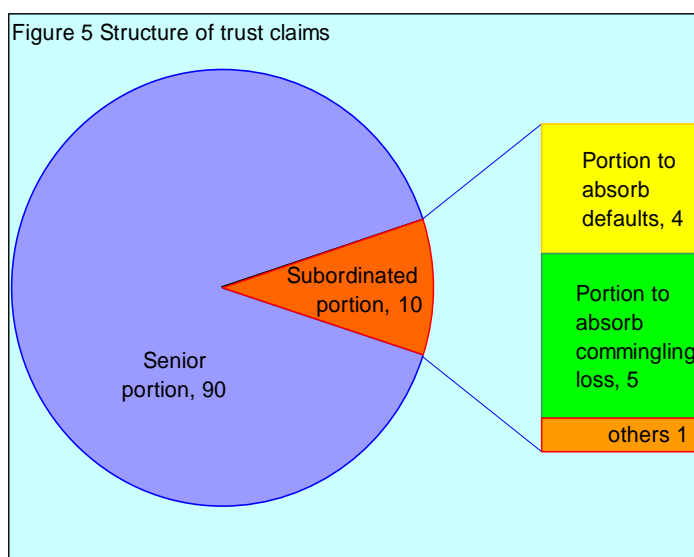
5. Other considerations

When the amount after subtracting trust fees, other costs and an amount for interest on the senior beneficial interest from the amount equivalent to the interest income on the entrusted claims is negative, R&I must confirm beforehand through the trust agreement whether the scheme will enable use of funds from the cash reserve, or the principal collected, to cover the shortfall. Because cash collected from the claims principal ultimately must be allocated for the cost shortfall, this requires providing the subordinated portion that will be needed

Responding to changes in circumstances during the collection process

After assuming various scenarios such as servicer failure, R&I performs simulations designed to match the timing by which collected funds will be remitted to the trust. The subordinated ratio is the value calculated from dividing the credit enhancement amount determined through the simulations by the entrusted claims principal balance (see Figure 5). The subordinated ratio is the minimum ratio that should be ensured initially for the entrusted claims principal balance. During the term, however, to maintain such subordination ratio will not be adequate.

Assuming the number of remaining payments for many of the obligors is 48-60 payments, if the



payments are equal monthly payments the monthly collected funds amount during the facility term will not vary significantly, but the entrusted claims balance will decline as collection progresses. The movement of the portions to absorb defaults and commingling loss during the trust period as a percentage of the subordinated portion will vary in accordance with this collection and balance movement.

The amount of the portion to absorb defaults will decline, because it is determined by multiplying the claims balance by the default ratio after application of a stress multiple. On the other hand, if we again take lease receivables as an example, because the portion to absorb commingling loss is determined from the lease fees collected monthly, the lease fees collected monthly will increase as a percentage of the entrusted claims balance as the entrusted claims balance declines. When all of these are considered comprehensively, the subordinated ratio required for the remaining claims principal will increase above the initial percentage, particular

ly in the final periods of the facility (see Figure 6).

The proportion of individual claims as a share of the entrusted claims also will vary. Although an upper limit of 1% of the outstanding claims balance is set as the level of obligor concentration, sometimes an obligor whose claim is near the upper limit initially will exceed the upper limit as the concentration level increases during the facility term, because of the effect

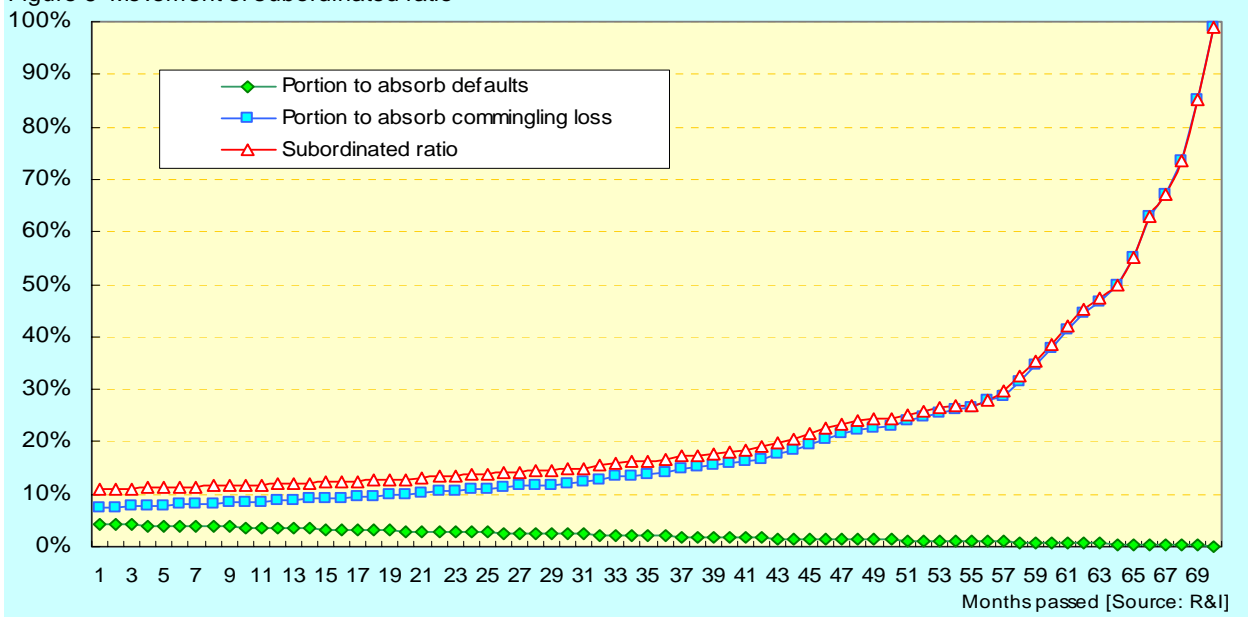
of differences from the length of the remaining terms for individual claims on the lease receivables included in the entrusted claims. Consequently, for lease receivables it is necessary to examine closely the change in concentration level of the obligors and maintain a subordination level sufficient to support the facility to the extent possible, even if a major obligor defaults.

In a revolving scheme, the trust asset balance is maintained for a specified term by purchasing additional claims with the funds collected from the entrusted claims, and then enters a redemption period (amortization period). With such a scheme it is sufficient to analyze the credit enhancement level for the amortization period, but other measures are needed to ensure the quality of the claims does not vary during the revolving period. This includes establishing a performance trigger, such as defaults, or adding binding eligibility criteria so the entrusted claim attributes are not altered compared with the initial pool.

Recently, structures to redeem the subordinated portion during the facility term provided certain criteria have been met have become more common. In some

cases, redemption is made in the order of controlled amortization senior beneficial interest, specified amount of subordinated beneficial interest, and then the pass through senior beneficial interest. Accordingly, the structure cannot be evaluated based solely on the initial subordination level, and establishing criteria or trigger values based on how the structure will vary

Figure 6 Movement of subordinated ratio



during the term and the measures that are required as a result becomes a critical factor when structuring the facility. R&I performs simulations to evaluate whether the senior beneficial interest principal and interest will be paid without difficulty regardless of the timing, and confirms the senior beneficial interest can be redeemed under various scenarios until the facility is concluded.

(Note 1) Although there are various types of leasing companies, including firms that develop their business on a nationwide scale and firms that specialize in leases to a specific industry, some firms provide leases mainly to a specific region. In some instances, the capital relationship between leasing companies centered on a specific region and a regional bank is comparatively strong, similar to the relationship between a parent company and subsidiary.

(Note 2) This is because defaults among claims from

(a) an amount for claims from public authorities and
(b) an amount for claims from the leasing company's parent company occur only rarely, and there is a risk the loan loss percentage value, which will become a precondition for measuring the future performance of the entrusted claims, will be set too low.

(Note 3) Perfected as against third parties under Article 2 of the Law Regarding Special Exceptions to the Civil Code with Respect to Perfection Requirements for Assignment of Movable and Claims (Law No. 104 of 1998).

(Note 4) Set at 500 yen by Article 1 of the Government Ordinance to Partially Amend the Recording Fees Order and The Ministry of Justice Organization Order (Government Ordinance No. 297 of 1998)

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