

## Structured Finance Debt Rating Criteria

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### OVERVIEW AND SCOPE OF THE CRITERIA

This article describes the general framework and criteria TRIS Rating uses to determine the ratings assigned to structured finance debt issues. However, due to the variety of underlying assets used to back the debt issues, the detailed analytical techniques applied to each asset type may differ. Ratings assigned to structured finance debt issues reflect not only the quality of underlying assets but also the transaction structure. Typical underlying assets are residential mortgage loans, auto loans, consumer loans, trade receivables, and bonds. The criteria supersede TRIS Rating's "Guidelines on Securitization Rating Methodology", published on 31 May 2010.

### SUMMARY

A structured finance debt rating also addresses the timely payment of interest and full repayment of principal by the final legal maturity date. The assigned rating involves credit analysis of the underlying assets, the analysis of cash flow and transaction structure, and the analysis of legal and tax issues. The assigned rating also takes into consideration counterparty risk and operational risk, which in some cases have a significant impact on the final issue rating.

For asset analysis, we focus on both qualitative and quantitative aspects. The objective of asset analysis is to determine the base-case loss due to the asset quality without taking into consideration the structure of the transaction. Factors that have an impact on asset quality could vary by asset type. For example, if the asset is a pool of loan receivables, we will focus on the market position of the originator/seller, its underwriting and write-off policies, and its collecting and servicing capacity. On the quantitative side, the analysis takes into consideration past performance relating to the likelihood and timing of defaults, delinquencies, and/or recoveries (if any). For repackaged securities (repacks), the issue rating normally reflects the lowest rating between the rating on the underlying security and the rating on the derivative counterparty. However, if the interruption of cash flows due to default risk of the derivative counterparty is mitigated, the rating will reflect the rating on the underlying security.

For the transaction structure and cash flow analysis, we assess the assumptions behind the projected cash inflows and outflows, the priority of payment and sufficiency of liquidity, and the level of credit enhancement required to attain a targeted issue rating. In a case where the underlying assets are retail loan assets, the key assumptions include the expected amount and timing of defaults, delinquencies, and/or recoveries. We may also apply cash flow stresses to account for other risks that have not yet been mitigated by any means, like legal and tax issues, operational risk, and counterparty risk.

For the legal and regulatory issues, we focus on the bankruptcy remoteness of the issuer, which normally is a special purpose vehicle (SPV), and the isolation of assets used to back the transactions. Generally, the SPV is set up to comply with the relevant regulations in order to qualify for a corporate tax waiver. However, there may be other taxes involved in the transaction, including value added tax (VAT), property tax, and withholding tax. Therefore, the parties responsible for changes in tax rates or required reserve funds should be considered in advance.

In assessing operational risk, we focus on the ability of key transaction parties to perform their roles during the life of the transactions and the risk mitigants should there be any disruptions in their operations. For counterparty risk assessment, we evaluate the ability and willingness of the key related parties such as swap counterparties, guarantors, and liquidity providers in fulfilling their contractual obligations in relation to the issuing entity.

## DEFINITION OF STRUCTURED FINANCE DEBT ISSUES

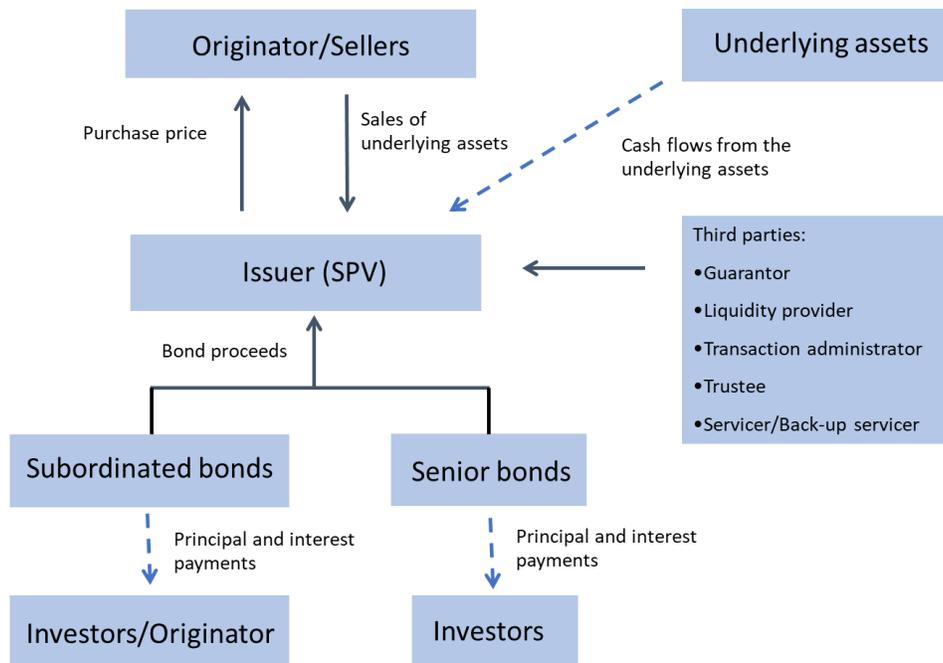
Structured finance debt issues can be defined as debt issues whose default risk reflects not only the credit quality of the underlying assets but also the transaction structure. The transaction structure covers the priority of payments and the type and/or level of credit enhancement used in the transaction. The transaction structure could help mitigate risk and/or enhance the rating on structured finance debt issues.

## TRANSACTION STRUCTURE OF STRUCTURED FINANCE DEBT ISSUES

### Typical Transaction Structure of Asset-backed Securities

At the beginning of the transaction, the originator sells the underlying assets to the SPV. The underlying assets could be a portfolio of loans or the rights to receive payments or cash flows from the underlying assets. The SPV pays for the assets by using the proceeds from bond issuance. Generally, the senior bonds will be sold to investors while the subordinated bonds will be held by the originator or another group of investors and will serve as credit enhancement for the senior tranche. During the transaction, the SPV will pay down the structured finance debt issues using the cash received from the underlying assets. The investors are expected to receive all interest and principal repayments by the legal final maturity date.

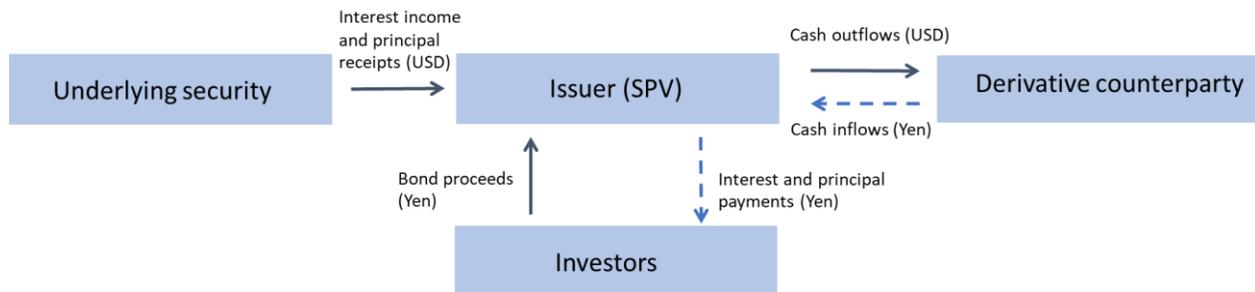
Figure 1: Typical Transaction Structure of Asset-backed Securities



### Transaction Structure of Repacks

Repacks are debt issues that are backed by an underlying security or financial instruments such as a derivative contract. A repack is structured to modify the terms of an underlying security. The rating on the repacks will be linked to the rating on the underlying security or the derivative counterparty, whichever is lower. If the default risk from the counterparty is mitigated, the rating on the repacks will reflect the rating on the underlying security. For example, the SPV uses USD-denominated bonds as underlying assets to issue yen-denominated repacks to sell to Japanese investors. During the transaction, the SPV receives interest and/or principal payments in USD. At the same time, the SPV enters into a currency swap with the swap counterparty to convert the interest/principal receipts into yen. The cash inflows from the counterparty will then be used to repay its investors.

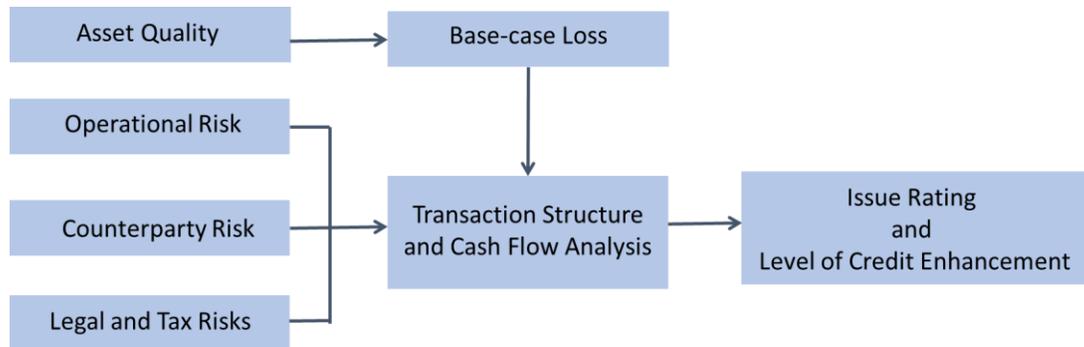
**Figure 2: Transaction Structure of Repacks**



## RATING FRAMEWORK

The rating framework for structured finance transactions comprises analysis and risk assessment of the five key aspects of a structured finance transaction: (1) underlying assets; (2) cash flow and transaction structure; (3) legal and tax risks; (4) operational risk; and (5) counterparty risk. The importance of each of the five key aspects may vary depending on the type of underlying asset and the structure of the transaction.

**Figure 3: Structured Finance Rating Framework**



### 1. Underlying Assets

An analysis of underlying assets, in most cases, involves determining the expected loss of the assets in a base-case scenario, without taking into account any structural and/or other risk-mitigating factors. The base-case loss is used as a reference for levels at which credit enhancement is required for the debt issue to achieve the target credit rating. For traditional assets like residential mortgage loans, auto loans, and credit card receivables, payments to the bondholders are made from interest and principal payments received from the underlying assets, which are a pool of loans. Therefore, the credit quality of the underlying obligors is the key determinant of the base-case expected loss. However, for the repacks, the issue rating normally reflects the rating on the underlying security and/or the derivative counterparty, whichever is lower.

To determine the base-case expected loss, we consider both qualitative and quantitative aspects. On the qualitative side, for traditional assets, we assess the industry risk, the operating performance of the originator compared with peers, management experience and business strategies, and the financial performance of the originator. A fundamental analysis of the originator's profile helps provide perspectives on the quality of underlying assets. We also examine the originator's underwriting policy, write-off policy, and its business strategy to pursue growth and control the asset quality. In the case that the originator is also a servicer, we will evaluate its servicing capacity including its information technology (IT) system.

On the quantitative side, for granular loans, the analysis focuses on the determination of base-case default probabilities, timing of defaults, and recoveries (if any). Normally, the base-case expected loss can be determined using

the historical performance of the originator and/or industry-wide data. The historical data should be long enough to be statistically meaningful. For short-term loans, such as auto loans or consumer loans, at least three to five years or one full cycle of historical data of the originator is required. For long-term loans, such as residential mortgage loans, a longer period of historical data and industry-wide data is required. Types of data that are normally used to calculate the base-case expected loss include the portfolio data and the static pool data. Generally, portfolio data is less accurate in determining the expected loss than static pool data. Static pool data is, thus, a preferred measurement of pool performance of the underlying assets.

- **Portfolio Data.** A portfolio data indicates the performance of a loan portfolio at a specific time without considering its movement over time. In the case that the underwriting policy and the size of the originator's loan portfolio does not change much over time, the portfolio data can be used to estimate the expected loss without making any significant adjustments. However, for a fast-growing loan portfolio, the loss rate calculated from portfolio data could be lower than it should be, due to the larger denominator. Adjustments can be made by comparing loss at time "t" to the portfolio size at time "t-1" to reduce bias from a growing portfolio.
- **Static Pool Data.** A static pool data collects loan data on a batch basis. Each batch of loans represents loans originated during the same period and the performance of a specific batch of loans is tracked continuously over time. A static pool data gives us a more accurate measurement of historical performance as a basis to calculate future expected loss than the portfolio data. For short-term loans, we require the originator to provide complete pool performance, with the data from the origination date until the last loan's repayment date. Besides being used to determine total expected loss over loan life, the static pool data helps estimate expected loss at any given period over the life of the loan.

Since the static pool data tracks loan performances from the time of origination to a certain point in time or maturity, the default pattern of a particular type of asset will demonstrate a loss curve, which can be used as a benchmark in the future. Such data can be used to predict the percentage of defaults in each period over the loan life and the time to reach the peak level of defaults. These data will be used to quantify the required level of credit enhancement to attain a target credit rating. However, the static pool data also has certain limitations as a predictive tool, especially in cases where the originator changes its underwriting policy, causing the future loss curve to deviate from the past. In addition, if the borrower characteristics of the securitized pool differ from the historical static pool data, the estimation of total expected loss for the securitized pool will be less accurate.

## 2. Transaction Structure and Cash Flow Analysis

For transaction structure and cash flow analysis, we take into account the asset quality, the payment structure, the credit enhancement, and third-party exposure (if any) of the issuer. The objective is to quantify the level of credit enhancement needed such that the issuing entity has sufficient cash inflows to meet payment obligations under various stress assumptions, commensurate with the target rating. For each transaction, the level of credit enhancement could vary based on the type of credit enhancement and the target rating on each debt issue. Setting up an appropriate credit enhancement level depends on several factors including the reliability of the historical performance data of the underlying assets that are used to determine the base-case expected loss, the transaction structure, and the assumptions behind each stress factor.

On the asset side, the key stress factors used to assess expected cash flows from underlying assets vary by asset type. For general asset-backed securities (ABS), the key stress factors include, but are not limited to, asset yields, the prepayment rate, the default rate and timing of defaults, and recoveries. For commercial mortgage-backed securities (CMBS) and residential mortgage-backed securities (RMBS), the analysis will focus not only on the cash flows from loan repayments but also the expected recovery value of assets post default. Thus, the loan-to-value (LTV) thresholds are used as key stress factors for each rating level. For repacks, the debt repayments will depend on the cash flows from the underlying security and/or the cash flows from the derivative counterparty.

On the liability side, we take into consideration all senior expenses and the priority of debt repayment. The debt repayment structure could be sequential or pro rata, bullet or amortization. For transactions that require the proceeds from liquidating assets to repay the debt obligations, such as CMBS and RMBS, we will require the transaction to have a legal final maturity date longer than the expected maturity date.

The credit enhancement could be internal or external. Internal credit enhancement could be overcollateralization, subordination, and excess spread. Overcollateralization and subordination are usually fixed at the beginning of the

transaction while excess spread could be varied by prepayment rate and default/delinquency rates. Excess spread is calculated by deducting the returns on the underlying assets by the interest payments to investors and default losses during the period, then, adding back loss recovery from prior periods. External credit enhancement could be fixed deposits that are held in a reserve account or credit enhancement provided through a third party, such as a guarantor, insurer, or advances from the servicer. For guaranteed deals, the guarantor should have an investment-grade credit rating, and the rating must be equal to the target issue rating.

## Other Considerations

Since the characteristics of underlying assets may be significantly different from the assets used to calculate historical data, we may have to make some adjustments to the variables used in the cash flow analysis to determine the appropriate level of credit enhancement. The issues we take into consideration include, but are not limited to, the following:

- **Pool Selection Criteria**

A consideration of the pool selection criteria is one of the most important steps in the risk assessment process, since several characteristics of assets to be included in the pool might be different from the assets from which the static pool data is derived. The characteristics of the pool of assets to be securitized must be thoroughly scrutinized, noting the similarities and differences with the seller's historical data. Factors that may impact the expected loss rate of the pool, such as underwriting policies, servicing capacity, and write-off policies must be taken into consideration when calculating the credit enhancement level of the securitized pool.

For short-term loans such as credit card receivables, the transaction usually incorporates a revolving period during which monthly debt collections are used to purchase new receivables to replace expiring ones. The selection criteria for the new receivables to be transferred to the SPV must be clearly spelled out, to ensure that the new receivables will not have different characteristics from the original pool. Generally, a securitized pool that aims for a high rating grade is not allowed to include overdue receivables.

In practice, the originator needs to provide detailed characteristics of the underlying assets to be securitized and the selection criteria for assets included in the pool. For auto hire purchase receivables-backed securitization, the detailed characteristics should include seasoning of the loans at the beginning, weighted average of the remaining terms of the loans, average return, highest/lowest returns, concentration of borrowers, and average credit score of borrowers. Criteria used to select assets for residential mortgage-backed securitization comprise characteristics of the underlying obligor, type of properties, and loan characteristics. There should also be indications of averages and ranges to ensure that the characteristics of the underlying obligors, type of properties, and loans are in line with the estimated loss calculated from the historical data.

- **Aging of Loans (Seasoning)**

For some types of securitized assets, such as auto loans and residential mortgages, historical data demonstrates a correlation between default rate and aging of loans. Generally, default probability is usually low at the beginning stage as most borrowers have passed the screening test and possess sound financial profiles. After a few years, some borrowers may face financial difficulties and be unable to repay their debts. Given that the principal amounts paid are not substantial, borrowers are more prone to default in this stage. As loan servicing progresses well into later stages of loan life, by which time borrowers have paid substantial amounts of principal and are less willing to give up their assets, the default probability will naturally decline. In addition, as the loans approach the maturity date, potential loss to the debtholders will be minimized in an event of payment default.

As such, seasoning of the loan pool must be taken into consideration. If the pool contains all new borrowers, it is likely that the peak loss period will not yet have passed; therefore, the credit enhancement level and liquidity reserves must cover the loss expected to occur during the peak period. On the other hand, a seasoned pool that has already passed the peak loss period can have a lower credit enhancement level than a batch of newly originated loans.

- **Returns from Reinvestment**

In a bullet payment structure, the SPV will have a cash reserve account that will be used to repay the principal on the maturity date. The cash in this reserve account can be invested to generate returns. However, the investment

should be subject to minimal credit risk, which is particularly important for the “AAA” rated debt issues. The SPV is allowed to invest only in treasury bills or in deposit accounts at commercial banks or financial institutions rated no less than “T1+” or “AA-” for an investing period of less than 365 days, or no less than “AAA” for a longer fixed investment period. Similarly, for investments in corporate debt instruments, the credit rating on such debt instruments must be “T1+” or “AA-” and “AAA” for investment periods of less than one year and more than one year, respectively. Investing in these high-quality assets usually generates lower income than the SPV’s interest payments. Therefore, a negative carry risk is almost inevitable.

- **Concentration Risk**

The credit risk of an asset pool tends to be higher if the lending portfolio is concentrated in a certain group of borrowers or geography. For instance, credit card loans for low-income earners may have a higher probability of default than loans for high-income earners. Expected loss calculations must be taken into a consideration of the proportion of borrowers in the pool, whenever there is a concentration in any high-risk groups, which will require a higher credit enhancement level accordingly.

- **Liquidity Risk**

Since interest and principal payments must be paid on time, liquidity of the SPV is a major concern. In credit rating, any delayed payment regardless of the amount, is an event of payment default although the liquidity shortfall may be temporary. Thus, the transaction structure usually has a reserve account to retain enough cash to meet all expenses for at least one payment period. In some cases, the liquidity provider or trustee may be assigned to make an advance payment during periods of liquidity shortfalls.

- **Prepayment Risk**

Prepayment risk or refinancing risk happens regularly in residential mortgage loans when interest payments are higher than the prevailing market rates. Rising prepayments will impact the cash inflow of the issuing entity, as both yield and the pool’s average life will be less than expected. Loan originators typically set conditions in the loan agreement to manage prepayment risk. For example, prepayments are not permitted during the first 3-5 years, or a hefty penalty fee is applied for prepayment. The penalty fee is typically calculated based on a fixed percentage on the outstanding principal amount.

- **Set-off Risk**

In cases where the originator is a financial institution, whose clients are both depositors and borrowers, the relevant law may allow the financial institution’s clients to offset the balance between their deposits and outstanding loans in the event that the financial institution goes bankrupt. Hypothetically, that could cause a shortfall of cash flow to the SPV if the financial institution’s loan assets are securitized and the underlying borrowing agreements do not contain provisions that prohibit the underlying obligors from setting-off obligations. In such cases, the transaction structure must have a reserve or some sort of credit enhancement to cover this risk. Even if the underlying borrowing agreements prohibit setting-off obligations, we still require a legal opinion regarding the enforceability of such provisions.

- **Interest Rate Risk**

Residential mortgage loans in Thailand are typically floating interest rate loans after the first one to three years. In a mortgage loan securitization transaction, the SPV as the issuing entity will likely pay fixed-rate coupons on its debt issues. To address the basis risk arising from the floating interest rates of underlying assets against the SPV’s fixed rate obligations to the debtholders, we expect the transaction structure to incorporate an interest rate swap agreement or some sort of hedging contracts with a third party. We will evaluate the effectiveness of the hedging contracts, the counterparty risk, and the risk of future disruptions that could lead to termination of contracts.

- **Triggers of Acceleration**

Structured finance transactions usually contain triggers to protect debtholders, particularly senior class debtholders, against losses due to deterioration in the quality of assets in the pool. Upon occurrence of a trigger event, debtholders may decide to accelerate principal repayments. General types of triggers are the debt service coverage ratio (DSCR), three-month moving average of delinquency, three-month moving average of net loss, as

well as cumulative net loss rates. An effective trigger must not be too rigid nor too loose. Setting a too-rigid trigger could result in early amortization while the asset quality is still at an acceptable level. On the other hand, if the trigger is too loose, the pool quality might deteriorate to a level where cash flow is insufficient to meet scheduled debt repayments.

### 3. Legal and Tax Risks

Generally, credit ratings assigned to structured finance debt issues are based principally on the certainty of cash flow generated from the underlying assets, rather than the credibility of the originator/seller. Thus, we have to ensure the underlying assets are totally ringfenced from other assets of the originator/seller. The originator/seller may have no credit ratings or may have a far lower rating than the rating on the structured finance debt issues. The legality of ringfencing the SPV as the issuing entity and the underlying assets from the originator/seller need to be clear, which will require legal opinions to confirm the intended legal effect. The transfer of assets from the seller to the SPV must be a true-sale transaction. In addition, if there are taxes involved in the transfer of assets or potential tax liabilities on the SPV, these will need to be confirmed by tax opinions and addressed in the transaction structure to ensure the cash flow analysis takes into account liable tax payments.

#### Legal Analysis

We require legal opinions on several aspects, including, but not limited to the followings:

##### a. Bankruptcy Remoteness of the SPV

The very first legal aspect that needs to be confirmed is that the SPV as the debt-issuing entity is a bankruptcy-remote entity. Bankruptcy remoteness means that the SPV will not be adversely impacted by the bankruptcy of the originator and the SPV itself is a bankruptcy-remote entity, which means that the SPV will not be involved in any activities or obligations other than the specific purpose of its set-up. In general, the SPV should have the following characteristics:

- **Limitations on Objects and Powers**

An important characteristic of making the SPV a bankruptcy-remote entity is that its objects and powers are limited only to what is specified in the transaction agreements. The SPV will not be permitted to engage in any activities not specified in the agreements. This is to reduce the risk of SPV from bankruptcies caused by businesses unrelated to the securitization process.

- **Borrowing Restrictions**

An SPV cannot incur more debt than specified in the agreements; notwithstanding that there are various tranches of the issued instruments that may have the same or different ratings. In some cases, the SPV may issue additional subordinated non-recourse debt as long as there is no impact on its ability to service its debt to the existing bondholders.

- **No Merger or Reorganization**

As long as the rated debt is outstanding, the status of the SPV as a bankruptcy-remote entity must not change due to merger or consolidation with other entities, reorganization, dissolution, or filing for bankruptcy. The SPV is required to submit a written notice to the credit rating agency before amending any of its related constituting documents.

- **Independent from Originator**

The SPV must be independent from the originator. The originator's creditors must not have the right to claim the SPV's assets in the event of the originator's bankruptcy. The SPV must clearly specify that it is separated from the originator. For example, the SPV must have its own accounting book, must not share an office and equipment with the originator, must have its own employees, and must not be responsible for the originator's debt.

- **Limited Recourse**

The SPV's formation documents and/or transaction documents should contain a limited recourse and non-petition provisions, which mean that transaction creditors may make claims only on the assets of the SPV and waive their rights to sue the SPV for additional claims other than the assets owned by the SPV.

- b. **True Sale**

In general, a true sale involves the true transfer of assets from the originator/seller to the SPV. A legal counsel must provide an opinion that such a transfer is, legally, a true sale. Generally, a true sale means: (1) a transfer that is subject to payments at market or fair price; (2) the SPV must assume risks and returns of the underlying assets; and (3) the SPV must hold the rights over returns of the underlying assets. A true sale ensures that the assets transferred to the SPV cannot be claimed by the originator or its creditors should the originator become insolvent.

- c. **Security Interest over Underlying Assets**

A legal counsel must express opinions on the transfer of assets from the originator to the SPV and/or debtholders, and the legality and enforceability of such transfer and transferees' rights over the assets. In a case where the transfer of underlying property is needed, when the rating on the originator declines, or a deterioration of asset quality of the securitized pool occurs, the legal counsel must give an opinion that such transfer is valid and not a fraudulent transfer.

- d. **Others**

Other legal opinions include the documents on enforceability of the transaction, general corporate and enforceability opinions indicating that the duties and obligations imposed upon, and the agreements executed by the issuer and other relevant parties that are valid and binding, and enforceable against the issuer in accordance with their terms.

## **Tax Issues**

Generally, a tax opinion on the transaction obtained from a recognized expert is required, as it can directly impact cash flow used to repay debt. Any taxes that the SPV is liable to pay, but which had not been accounted for in the cash flow models, may potentially cause the cash flows to be insufficient for debt service. Examples of related taxes are income tax, value added tax, specific business tax, transferring fees in the cases of the transfer of land or cars, etc. Therefore, mitigants like cash reserve funds or parties responsible for changes in tax expenses should be specified in advance.

## **4. Operational Risk**

This part focuses mainly on the risk associated with the parties involved in the operational and administrative work of the transaction. There are several parties involved in a structured finance transaction, ranging from originator, servicer, asset manager, trustee, and paying agents. Generally, parties like the servicer and asset manager are considered important since a disruption in their activities would impact the transaction's cash flows and the likelihood of finding substitutes in a short time period could be difficult. Therefore, we have to assess the possibility that a key transaction party may not be able to perform its duties until the end of the transaction, as well as the potential to find a replacement for that party, and the adequacy of fees to attract a replacement for that party. A rating cap on the structured finance debt issue may be applied if the loss of that key transaction party could affect the cash flows of the transaction. Generally, transaction parties involved in administrative work like the trustee, paying agents, or calculation agents do not constrain the issue rating, thus, an assessment of the likelihood of a disruption of their services may not be necessary.

## **5. Counterparty Risk**

Counterparties involved in structured finance transactions could be parties that hold assets or provide liquidity or financial support for the rated securities. Generally, counterparty risk analysis will focus on the credit quality of the counterparty and the related legal documents. The minimum eligible counterparty rating is usually required. In some transactions, the rating on the structured finance debt issue depends largely on the ability of a counterparty to fulfill its financial obligations like the guarantors, liquidity providers, or derivative counterparties.

The rating on a structured finance debt issue will not be constrained by the rating on the counterparty if the counterparty risk could be mitigated and the insolvency of that counterparty in a stress scenario will not cause a loss or disrupt payments on that transaction beyond the level expected for the rated debt issue. Generally, the counterparty risk could be mitigated by structural and legal factors, unless the counterparty is the major source of repayment for the rated debt issue and/or finding a replacement is not commercially reasonable. The counterparty risk could be mitigated by the commitment of the counterparty to replace itself with a higher-rated counterparty if it was downgraded below the minimum eligible counterparty rating, the posting of collateral (for derivative counterparty), or the counterparty may fully fund its obligation in advance. In addition, the legal analysis that the issuer would not be exposed to commingling of risk upon the insolvency of a counterparty is also important.

## RATING SURVEILLANCE

TRIS Rating will monitor the monthly or quarterly performance of the transaction to ensure that the quality and performance of the underlying assets and/or related entities are in line with our expectations, and that the transaction's cash flow is sufficient to service the obligations within the specified timeframe. In addition, we will monitor the performance of and credit quality on the third parties involved in the transaction, such as servicers, liquidity providers, insurers, derivative counterparties, etc. Any changes that impact the credit quality of the transaction will be evaluated to determine the need for credit rating adjustments.

### TRIS Rating Co., Ltd.

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