Methodology

Canadian Surveillance Methodology for CDOs of Large Corporate Credit

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Introduction

This publication outlines the revised DBRS methodology for surveillance of Canadian collateralized loan obligations (CLOs) and collateralized debt obligations (CDOs) backed by debt of large corporations or credit derivatives relating thereto.

The approach covered by this publication applies primarily to static synthetic securitizations rated in Canada and backed by obligations of large corporate issuers. This surveillance methodology does not cover securitizations where the underlying assets are primarily other securitizations, nor does it apply to CLOs backed by granular portfolios of loans to small and medium enterprises (SMEs). Changes to ratings are determined by a rating committee, and reflect a combination of both quantitative and qualitative considerations.

Certain proposed portfolios and structures presented to DBRS may contain risk characteristics not contemplated by this framework. This methodology is supplemented by appropriate analytical judgments, deterministic overlays and sensitivity scenarios where such exogenous risks are identified and deemed to fall outside of the scope of this methodology. Any material differences that cause such deviation are discussed in the transaction-specific commentary accompanying the rating action.

DBRS monitors trends in global credit markets on an ongoing basis and promptly publishes any changes in its surveillance assumptions, along with any rating actions that may result from those changes in assumptions. Any revisions to DBRS modelling assumptions will be explained in a press release or revised methodology.

This approach is applied in conjunction with a number of other DBRS publications, including Rating Methodology for CLOs and CDOs of Large Corporate Credit, dated January 2014, and Cash Flow Assumptions for Corporate Credit Securitizations, dated January 2014.
Chapter 1 – Surveillance Review Process

RATING COMMITTEE
As a normal part of the rating process, DBRS monitors each of the transactions it rates. Surveillance analysts review all existing ratings on at least an annual basis and make rating recommendations based on this review. Each rating recommendation made by analysts in the CDO Surveillance Group is reviewed by a Structured Finance Rating Committee (SRC) that consists of senior rating analysts. The surveillance analysts prepare a rating committee presentation that includes the analytical work and rating rationale supporting the final recommendation. All recommended actions are made in accordance with the applicable DBRS methodologies.

RATING ACTIONS
Rating actions taken on a transaction during a rating committee may include a confirmation, whereby the current rating remains in place; an upgrade; or a downgrade. In cases where DBRS does not have sufficient information to make a rating decision at the time of a rating committee review, the rating may be placed Under Review with Positive, Developing or Negative Implications. DBRS strives to resolve the Under Review status in accordance with its published policies.

DISCLOSURE
DBRS publishes all rating decisions made by an SRC for each publicly rated CDO transaction as quickly as possible subsequent to the conclusion of such committee reviews. The disclosures are made in the form of a press release, which is posted to the DBRS website and sent concurrently to major newswires. Rating actions taken on privately rated transactions are promptly disclosed to the requestor of the initial rating.

In addition, DBRS publishes a monthly structured notes report, providing detailed information on the floating-rate notes market in Canada. This report summarizes the performance of each CDO transaction, including the current enhancement level, the expected subordination for the assigned rating, and the number of defaults and cumulative losses affecting the CDO portfolio.
Chapter 2 – Asset Analysis Process

Most Canadian CDO transactions rated by DBRS reference a portfolio of senior unsecured corporate debt obligations. A primary CDO surveillance function is to analyze whether the credit enhancement (or attachment point) available to a CDO transaction is sufficient relative to the risk of losses in the portfolio of corporate reference entities.

Synthetic transactions rated by DBRS may be exposed not only to credit risk, but also to market risk. In these cases, DBRS evaluates both potential risks and generally rates to the lower of the two outcomes.

CREDIT RISK ANALYSIS

For synthetic transactions, the primary surveillance action is to analyze whether the credit enhancement available to a CDO transaction is sufficient relative to the risk of losses in the portfolio of corporate reference entities. In monitoring these transactions, DBRS reviews the periodic data provided and typically re-runs the internal DBRS Monte Carlo model (the CDO Toolbox) each month to determine stressed loss rates. This level is compared with the current attachment point for the relevant tranche. DBRS refers to the value between the expected subordination for a given rating and the attachment point as a stability cushion. DBRS applies stress testing and downward rating migration to the portfolio as necessary, given market conditions, to evaluate the sufficiency of the stability cushion in protecting the tranche from a rating downgrade.

CDOs of Trust-Preferred Securities

In the past, DBRS rated a number of cash flow CDO transactions with trust-preferred securities (TruPS) as the underlying collateral. In its surveillance of CDOs of TruPS, DBRS uses the CDO Toolbox but applies different modelling assumptions to account for differences between TruPS and traditional corporate obligations. A trust-preferred security is issued by a trust that is created by a company for the purpose of issuing debt to it. The trust issues preferred securities that have characteristics of both subordinated debt and preferred stock. Many smaller bank holding companies in the United States have issued TruPS that were included in CDOs. As a result, updated ratings are not available for all underlying obligations included in CDOs of TruPS rated by DBRS. However, upon availability, DBRS periodically examines transaction Trustee Reports to review the performance of the TruPS and CDO of TruPS. In cases where DBRS does not have access to updated TruPS ratings information, a punitive notching schedule on the original ratings is used. In many cases, obligations without an available rating are assigned a rating significantly lower than investment grade for modelling purposes.

MARKET RISK ANALYSIS

CDO transactions are generally exposed to the risk of the underlying holdings or reference entities suffering losses (i.e., credit risk). Certain CDO transactions rated by DBRS are also exposed to market risk because a certain amount of leverage is employed; that is, the collateral held by the swap counterparty is smaller than the potential maximum exposure of the special-purpose vehicle (SPV) to the counterparty under the swap (e.g., so-called “leveraged super senior transactions”). In the event that the swap counterparty’s exposure to the SPV on the portfolio of reference entities increases, as indicated by changes in the market price of credit protection, the SPV may be required to post additional collateral in respect of such exposure. The requirement to post additional collateral is referred to as a margin call or collateral call. Unlike the usual structured finance rating, where a DBRS rating is the relative probability of a payment default on a bond, the market risk analysis discussed here results in a DBRS rating that assesses the relative probability of a margin or collateral call, which may or may not bear any relation to the probability of default. Indeed, in most cases a margin call would occur long before any payment default.
For each leveraged transaction, one or more collateralization triggers will generally be in place, indicating what needs to occur before additional funding is required. Market risk is quantified by calculating the probability of a collateralization trigger's being breached and equating the likelihood with a credit rating. For leveraged CDO transactions, the final rating assigned by DBRS is usually the lower of the implied rating from credit risk and the implied rating from market risk.

There are three main types of collateralization regimes under which margin calls are generally determined: those based on loss only, those based on spread and loss, and those based on true mark to market (MTM). DBRS has developed separate surveillance approaches for each of these three regimes.

(a) Loss-Based Triggers
Under a loss-based trigger regime, the MTM, or spreads, of the reference portfolio are not directly applicable in determining whether a margin call can be triggered. Only losses from credit events affecting the reference portfolio can cause a margin call to be triggered.

Using the CDO Toolbox, the level of loss commensurate with the assigned rating is calculated according to credit risk analysis. If the amount of loss calculated at the assigned rating level is greater than the level of loss required to breach the trigger, then the rating is no longer appropriate for the CDO transaction, and a downgrade may occur. The process of evaluating the probability of breaching a loss-based trigger of X% is essentially the same as determining the likelihood of first-dollar loss to a CDO tranche with X% subordination.

(b) Spread and Loss-Based Triggers
Under a spread and loss-based (spread-loss) trigger regime, a combination of portfolio weighted-average spread – an indicator of market risk – and accumulated default losses is used to determine whether a margin call is triggered. A spread-loss trigger matrix presents the triggering spread value for each level of loss and time to maturity. In most cases, linear interpolation is used to determine the spread trigger level if the exact loss level is not shown on the matrix.

To determine the probability of breaching a trigger, the weighted-average spread of the portfolio and the cumulative losses to the portfolio are simulated for the life of the transaction. The weighted-average spread level is simulated using a mean reversion model, and the portfolio loss is simulated using the same approach used by the CDO Toolbox. A breach occurs if at any point in time the simulated spread level is greater than the corresponding trigger level adjusted for simulated losses.

DBRS typically runs its spread-loss model on a weekly basis. The frequency of regular surveillance is greater than for non-levered transactions because CDOs exposed to market risk generally display a higher potential for ratings volatility. A weekly average spread is used to limit day-to-day spread volatility in the surveillance process.
Rating actions are generally taken based on the following guidelines:

- If the model results indicate that a downgrade is warranted for two consecutive weeks, the transaction is placed Under Review with Negative Implications.
- After a rating has been placed Under Review with Negative Implications, it maintains this status until one of the following scenarios occurs:
  - If a downgrade is warranted for two consecutive weeks subsequent to the rating’s being placed Under Review with Negative Implications, the transaction is downgraded. Generally, the revised rating is the most recent rating implied from the spread-loss model.
  - If the then-current rating is sufficient for two consecutive weeks subsequent to its being placed Under Review with Negative Implications, the Under Review status is removed and the rating is confirmed.
  - If the model results indicate that an upgrade is warranted for four consecutive weeks, the transaction is upgraded. Generally, the revised rating is the most recent rating implied from the spread-loss model.

The above guidelines aim to allow for a measured approach to limit the volatility from using spread-loss model results that can change day to day and week to week, depending on volatility in credit markets. They also allow DBRS to establish trends prior to taking rating action. However, such an approach is only valid if the spread level is sufficiently lower than the trigger value so as to virtually eliminate any possibility of short-term volatility putting the rating at risk. If at any point the difference between the spread level and the trigger level decreases to less than 25% of the trigger level, the rating of the CDO transaction will generally be placed Under Review with Negative Implications and DBRS may downgrade the rating.

(c) Mark-to-Market Based Triggers

In its surveillance of transactions with MTM-based triggers, DBRS estimates the portfolio spread level required to breach the MTM trigger at different periods of time. Spread estimates are typically performed on a monthly basis, but may be examined more frequently, depending on market conditions. These spread levels are used to form a spread-loss trigger matrix, which is then used to quantify the probability of the trigger's being breached in the same way as explained above. Rating actions are generally taken using the same guidelines as those for spread-loss triggers listed above. Because DBRS is not typically the party to a transaction which determines whether a trigger breach has actually occurred (the Calculation Agent), there is the risk that the MTM calculated by DBRS differs from the MTM calculated by the Calculation Agent.
Appendix 1: Surveillance Methodology for Canadian Securitizations Backed by Debt of Large Corporations

Summary

LIMITATIONS

- Future asset performance may deviate significantly from past performance.
- Actual default frequencies and/or recovery rates may exceed DBRS’s stressed performance assumptions, and model results are highly dependent on assumed levels of these variables.
- The methodology assumes no significant changes to legal or regulatory framework.

APPLICATION OF CANADIAN SURVEILLANCE RATING METHODOLOGY

Summary of Credit Risk Analysis Process for Canadian Structured Credit Surveillance

<table>
<thead>
<tr>
<th>Input</th>
<th>Detail</th>
<th>Key Variables/Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolio Information</td>
<td>Any changes in a transaction’s portfolio and enhancement must be accounted for prior to running the transaction through the CDO Toolbox.</td>
<td>• For static portfolios, adjustments are not generally necessary (with the exception of lowering credit enhancement for credit events affecting the portfolio) because additional assets will not be added after the closing of the transaction.</td>
</tr>
<tr>
<td>Ratings Data</td>
<td>Retrieve rating data from DBRS internal sources or reputable external sources for each transaction’s underlying assets (if available).</td>
<td>• Use the DBRS rating, if available. • If the entity is not rated by DBRS, use the average rating of two specified Nationally Recognized Statistical Rating Organizations.</td>
</tr>
<tr>
<td>Expected Level of Subordination</td>
<td>Using the updated portfolios and ratings, run each transaction through the CDO Toolbox to determine the expected level of subordination.</td>
<td>• Probability of default assumptions. • Correlation assumptions. • Recovery assumptions. • Other portfolio inputs (type of asset, industry, region, seniority, etc.).</td>
</tr>
<tr>
<td>Output Stability Cushion</td>
<td>The stability cushion is the difference between the actual enhancement available in the CDO transaction and the enhancement expected to maintain the rating of the transaction.</td>
<td>Application</td>
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<tr>
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<td>• If the stability cushion for a transaction is more than 50 basis points (bps), no further action is generally required. • If the stability cushion is greater than zero but less than 50 bps, surveillance analysts inform an SRC of the issue and may recommend action (and the transaction may be more frequently monitored). • If the expected enhancement for a given rating exceeds the actual enhancement available (i.e., it has a negative stability cushion), a downgrade may result.</td>
</tr>
</tbody>
</table>
## Summary of Market Risk Analysis Process for Canadian Structured Credit Surveillance

<table>
<thead>
<tr>
<th>Input</th>
<th>Details</th>
<th>Key Variables/Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Loss-Based Risk Analysis</strong></td>
<td>A margin call is generally required once portfolio losses reach a predetermined level.</td>
<td>• Calculate the stability cushion over the breaching loss level on a monthly basis using the Credit Risk Analysis Process described above.</td>
</tr>
<tr>
<td><strong>Spread-Loss Based Risk Analysis</strong></td>
<td>A margin call will generally be required for a given level of loss if spreads reach a predetermined level.</td>
<td>• Weekly surveillance modelling is performed because of the potential for higher rating volatility.</td>
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<td></td>
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<td>• Due to the sensitivity of the spread-loss model to certain inputs such as initial spread levels, DBRS does not apply the rating subcategories &quot;high&quot; and &quot;low.&quot;</td>
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<tr>
<td></td>
<td></td>
<td>• The weekly average spread is used to limit day-to-day spread volatility.</td>
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<td><strong>Rating Action Guidelines</strong></td>
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<td>• If a downgrade is warranted for two consecutive weeks, the transaction is generally placed Under Review with Negative Implications.</td>
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<td>• After a rating has been placed Under Review with Negative Implications, it maintains this status until one of the following scenarios occurs:</td>
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<tr>
<td></td>
<td></td>
<td>(1) If a downgrade is warranted for two consecutive weeks subsequent to the rating’s being placed Under Review with Negative Implications, the transaction may be downgraded. Generally, the revised rating is the most recent rating implied from the spread-loss model.</td>
</tr>
<tr>
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<td>(2) If the then-current rating is sufficient for two consecutive weeks subsequent to its being placed Under Review with Negative Implications, the Under Review status is generally removed and the rating is confirmed.</td>
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<tr>
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<td></td>
<td>• If the model results indicate that an upgrade is warranted for four consecutive weeks, the transaction may be upgraded. Generally, the revised rating is the most recent rating implied from the spread-loss model.</td>
</tr>
<tr>
<td><strong>Mark-to-Market Based Risk Analysis</strong></td>
<td>A margin call will generally be required if the mark to market of the CDO tranches drops below a predetermined level.</td>
<td>• In its surveillance of transactions with mark-to-market based triggers, DBRS estimates the portfolio spread level required to breach the mark-to-market trigger at different periods of time.</td>
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<td>• The estimated spread levels are used to form a spread-loss trigger matrix, which is then used to quantify the probability of the trigger’s being breached in the manner explained in the Spread-Loss Based Risk Analysis above.</td>
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<tr>
<td><strong>Output</strong></td>
<td></td>
<td>Appropriate rating level based on the margin call trigger regime.</td>
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