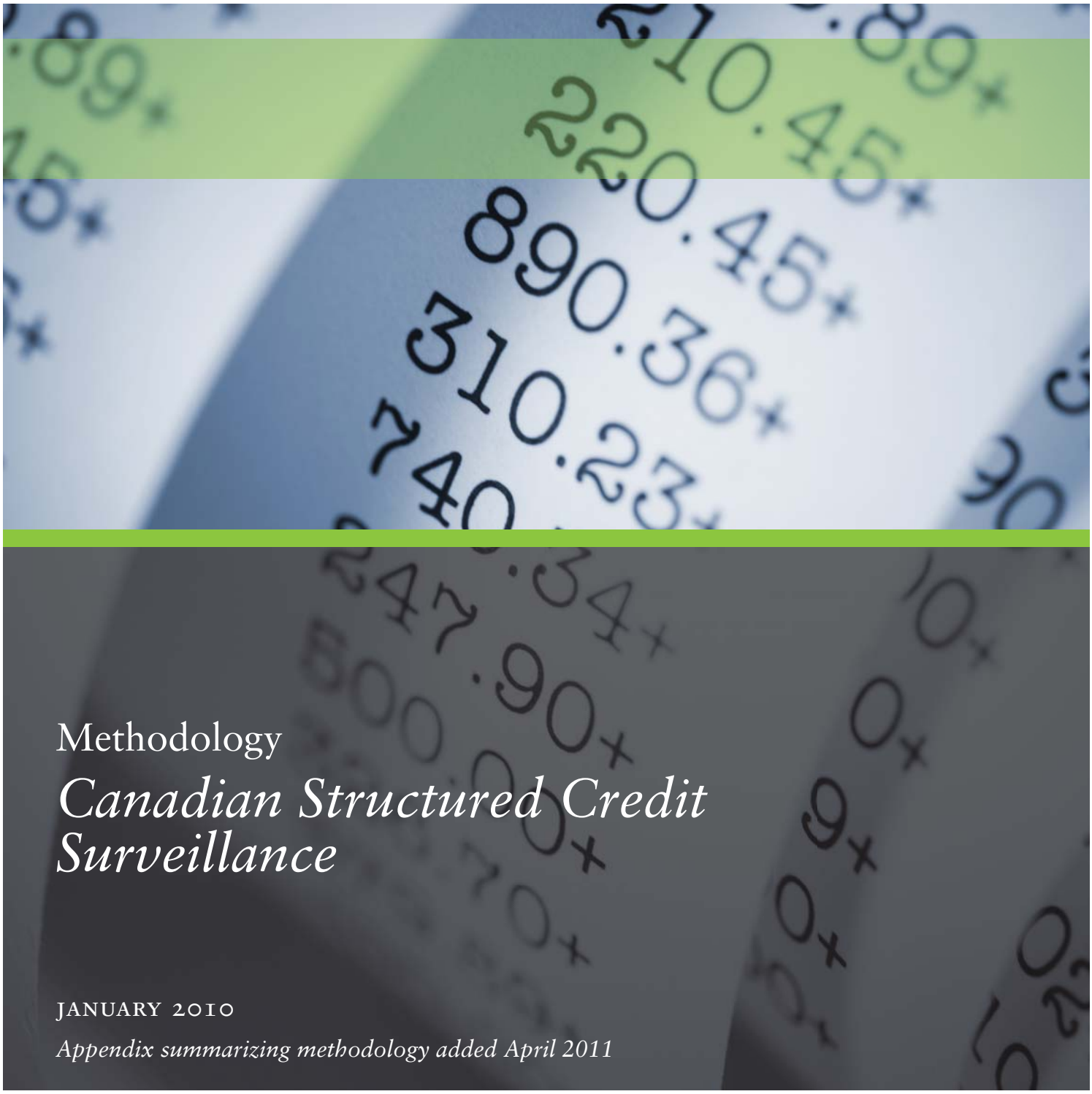

Methodology

Canadian Structured Credit Surveillance

JANUARY 2010

Appendix summarizing methodology added April 2011

DBRS

Insight beyond the rating.

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All DBRS ratings and research are available in hard-copy format and electronically on Bloomberg and at DBRS.com, our lead delivery tool for organized, Web-based, up-to-the-minute information. We remain committed to continuously refining our expertise in the analysis of credit quality and are dedicated to maintaining objective and credible opinions within the global financial marketplace.

Canadian Structured Credit Surveillance

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Introduction

Rating collateralized debt obligation (CDO) transactions involves a significant amount of financial modelling and a clear understanding of the risks involved in a CDO structure. The purpose of this document is to give a comprehensive description of DBRS's Canadian CDO surveillance process.

Broadly speaking, CDOs can be subject to two main types of risk: credit risk and market risk. Over the past two years, CDOs have been subject to significant ratings volatility; negative rating actions have been caused by both credit risk factors and market risk factors. Various approaches are employed to evaluate credit and market risks during the life of a transaction. DBRS monitors trends in global credit markets on an ongoing basis and will promptly publish any changes in its surveillance rating 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.

The majority of CDO transactions rated by DBRS are synthetic structures1 that reference senior unsecured corporate obligations, and such transactions will be the focus of this methodology.

Surveillance Review Process

RATING COMMITTEE

As a normal part of the rating process, DBRS monitors each of the securities it rates. A surveillance analyst may conclude that a rating action is appropriate based on results from the process described later in this document. Each rating recommendation made by analysts in the CDO Surveillance Group is reviewed by a rating committee that consists of senior rating analysts (Structured Finance Rating Committee (SFRC)). 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. DBRS published an updated CDO methodology, *Rating Canadian Structured Credit Transactions*, on November 21, 2008.

RATING ACTIONS

Rating actions taken on a CDO 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, the rating may be placed Under Review with Positive, Developing or Negative Implications. DBRS strives to resolve the Under Review status as quickly as possible. For CDO transactions, a typical situation where a rating could be placed Under Review with Negative Implications occurs when a company referenced by a CDO transaction files for bankruptcy. The bankruptcy filing triggers a credit event under the documentation of the transaction. However, losses to the CDO portfolio are not known until the recovery rate for the corporate obligation has been determined. As a result, DBRS may place the CDO transaction Under Review with Negative Implications if the severity of a potential downgrade depends on the final recovery value from the credit event.

1. Synthetic CDOs were developed to avoid some of the legal, market and liquidity risks associated with cash flow CDOs. Instead of holding corporate debt obligations directly, in a synthetic CDO the special purpose vehicle – and, ultimately, the CDO noteholders – is exposed to a portfolio of credits by way of a derivatives contract.

DISCLOSURE

DBRS publishes all rating decisions made by a rating committee for each publicly rated CDO transaction as quickly as possible subsequent to the conclusion of each rating committee. The disclosures are made in the form of a press release, which is posted to the DBRS website and sent concurrently to major newswires.

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 required subordination for the assigned rating, and the number of defaults and cumulative losses affecting the CDO portfolio.

Surveillance Methodology

CREDIT RISK ANALYSIS PROCESS

Most Canadian CDO transactions rated by DBRS reference a portfolio of senior unsecured corporate debt obligations[2]. 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.

A typical CDO transaction utilizes a credit default swap (CDS) to reference a static pool of corporate obligations. Credit enhancement is provided solely from subordination (the attachment point), which is the level of loss that must be experienced by the underlying portfolio of reference entities before losses on the portfolio begin to flow through to CDO investors. The level of subordination can only decrease from losses realized from credit events (such as bankruptcy) affecting the underlying reference entities.

DBRS's surveillance methodology for analyzing the credit risk of a typical CDO transaction involves the following steps:

- Retrieving monthly ratings data from a data service provider for the portfolio's underlying reference entities.
- Using the DBRS CDO Toolbox, determining the level of portfolio loss (or required subordination) commensurate with the rating of the CDO transaction.
  - The loss level is based on the portfolio ratings and the remaining term of the transaction, along with standard assumptions for default probability, correlation and recovery for the underlying reference entities.
- Comparing the attachment point to the required level of subordination for the rating of the CDO transaction.

Retrieve Monthly Ratings Data

In CDO modelling, a main input is the current rating for each of the underlying reference entities. If a DBRS rating is available, it is used as the sole credit assessment. For entities not rated by DBRS, the average of two specified Nationally Recognized Statistical Rating Organizations (NRSROs) ratings is used. DBRS uses a data service provider to retrieve the ratings of corporate debt obligations referenced by at least one CDO transaction rated by DBRS. If there is no rating available for a particular reference entity, a conservative probability of default assumption will generally be used (rating of CCC or lower). In some cases, DBRS may assign a rating by completing an internal assessment of the unrated entity.

2. For certain CDO transactions, subordinated debt is referenced for a small percentage of the reference entities. Notched ratings and lower recovery assumptions are used for subordinated debt.

Determine the Required Level of Subordination

To determine the required level of subordination for each CDO transaction, DBRS uses its CDO Toolbox,[3] which is a Monte Carlo model that makes use of the market standard Gaussian copula method to determine a level of portfolio loss that can be equated with a certain credit rating.

After ratings information has been updated, a CDO Toolbox model file is run for each of the CDO transactions rated by DBRS. Each reference entity is assigned a probability of default based on its ratings and the remaining term of the transaction. Appendix 1 contains the DBRS corporate default assumptions used by the CDO Toolbox. In its surveillance of existing transactions, DBRS uses unnotched ratings but tracks rating Under Review and trend information for stress test purposes.

For CDO transactions with corporate reference entities, DBRS uses a standard set of assumptions for default correlation and recovery rates. The level of correlation varies depending on whether two companies are in the same industry or region. To determine recovery rates for defaulted entities, a global assumption is used which varies based on the initial rating of the CDO tranche. Appendix 2 shows the correlation and recovery assumptions used in the surveillance of CDO transactions.

Once default probability, correlation and recoveries have been estimated, these elements can then be used within DBRS's algorithm to determine a loss distribution for a variety of portfolios. The simulation essentially involves three steps:

(1) Over a sufficiently large number of simulations, generating a default time for each reference entity in the portfolio and apply a recovery assumption to determine the associated loss.

(2) Aggregating the above losses to determine the probability distribution of cumulative portfolio loss at a given maturity.

(3) Determining the level of portfolio loss (the required subordination) for which the probability of exceeding this level is less than or equal to the probability of default of an equivalently-rated corporate bond of matching term.

Appendix 3 gives an example of model output from the CDO Toolbox.

Compare the Attachment Point to the Required Level of Subordination

The difference between the actual enhancement available in the CDO transaction and the DBRS-required enhancement to achieve a particular rating is referred to as the CDO stability cushion. After running the CDO Toolbox model files, the stability cushion for each CDO transaction is calculated.

If the stability cushion for a CDO transaction is more than 50 basis points (bps), then no further action is required. If the stability cushion of any particular transaction has deteriorated to the point where the required enhancement for a given rating approaches the actual enhancement available in the transaction (i.e., within 50 bps), surveillance analysts will inform SFRC of the issue and will recommend an action. Generally, no immediate rating action will be taken, but the CDO transaction will be closely monitored for further deterioration. A stability cushion of 50 bps was selected as an appropriate threshold because once the portfolio deteriorates to that level, a few substantial downgrades affecting the underlying reference entities could result in the stability cushion dropping below zero. If the required enhancement for a given rating exceeds the actual enhancement available (i.e., negative stability cushion), then an SFRC meeting will be scheduled and a downgrade may be recommended.

3. For further details on DBRS's CDO credit modelling approach and assumptions, refer to the DBRS publication released on April 25, 2007, *The CDO Toolbox*.

In light of deteriorating credit quality, CDO Administrators may present various options for structural or exposure revisions to DBRS. Under such a scenario, SFRC would then determine what rating would be assigned under each of the proposed options, as well as what the rating would be in the absence of any revisions.

MANAGED PORTFOLIOS

As mentioned earlier, a typical CDO transaction rated by DBRS references a static pool of corporate reference entities. Some transactions reference a non-static portfolio that is actively managed by a portfolio manager. There are a few differences in the surveillance process for these transactions.

1) Monthly Updates of Portfolio Information and Enhancement

At each month-end, DBRS will be provided with an updated report for each of the managed CDO transactions. These reports will include any portfolio substitutions that occurred during the month, and DBRS will update its models with any changes prior to retrieving the rating information for the portfolio. Also, portfolio substitutions result in trading gains or losses that normally directly affect the subordination available to the CDO transaction. DBRS updates its current enhancement levels for comparison with the model output for the revised CDO portfolio.

2) Comparing Actual Subordination to the Required Level of Subordination

For managed CDO transactions, DBRS gives some credit to the portfolio manager's ability to improve the credit quality of the portfolio to avoid a downgrade. A transaction may experience credit deterioration to the point where the required enhancement exceeds the actual enhancement available. In such cases, a CDO transaction may be placed Under Review with Negative Implications. After a review period of approximately three months, the required enhancement will be compared with the actual enhancement, and the appropriate rating action (confirmation or downgrade) will be taken at that time.

A managed CDO transaction will be downgraded without being placed Under Review if it is determined that the required enhancement exceeds the actual enhancement by an amount that the portfolio manager could not reasonably be expected to rectify during the review period. As a general guideline, if three months of time decay (assuming zero upgrades or downgrades of underlying reference entities) would not decrease the required enhancement below the actual enhancement, then the CDO transaction would likely be downgraded immediately.

CDOs OF ASSET-BACKED SECURITIES (ABS)

Although most of the CDO transactions rated by DBRS reference corporate debt obligations, a number of transactions are CDOs of asset-backed securities (ABS) that primarily consist of U.S. residential mortgage-backed securities (RMBS). Also, DBRS has rated a number of CDO transactions that reference highly rated commercial mortgage-backed securities (CMBS). For synthetic CDOs of CMBS, DBRS uses the credit risk surveillance process, running the CDO Toolbox on a monthly basis using updated portfolio ratings. For CDOs that primarily reference RMBS, the surveillance process has changed over the past two years, as explained below.

All CDOs of ABS rated by DBRS have been fully-funded, so the main rating consideration is the credit risk of the underlying obligations. The monthly surveillance process for CDOs of ABS is very similar to the process for corporate CDO transactions. DBRS uses a separate set of correlation, recovery and default assumptions for structured finance securities. If a DBRS rating is available, then it is used as the sole credit assessment. For entities not rated by DBRS, the average of two specified NRSROs is used.

In February 2008, DBRS revised its practice of using other NRSRO ratings in its surveillance of CDOs of ABS. The change was prompted by an unprecedented number of downgrades in the U.S. RMBS sector. As a result, DBRS subsequently used a severe notching schedule for U.S. RMBS securities that were placed Under Review with Negative Implications by other NRSROs, due to the observed severity of downgrades that had occurred to that point in time.

Since February 2008, DBRS has further revised its surveillance of CDOs with exposure to U.S. RMBS. DBRS has strengthened its surveillance of CDOs of ABS by utilizing the enhanced surveillance capabilities of the DBRS U.S. RMBS group. The U.S. RMBS group reviews all of the underlying RMBS and provides a credit assessment based on each security's pipeline of existing defaults, likely defaults and various delinquency statistics, as well as on cash flow modelling using different assumptions for prepayments and interest rates.

After DBRS credit assessments are determined for each of the underlying securities, they are used as the sole rating input into the CDO Toolbox. Due to the deterioration of the U.S. RMBS sector over the past two years, further changes to standard CDO assumptions are made at the discretion of the surveillance group, such as increasing the correlation among reference entities and reducing the recovery assumptions based on the initial rating of the security.

Some of the CDOs of ABS rated by DBRS hold a number of other CDOs of ABS, primarily consisting of U.S. RMBS. Due to the poor performance of the U.S. RMBS held by these CDOs, the ratings have suffered substantial negative rating migrations over the past two years. None of these underlying CDOs are rated by DBRS. DBRS also uses a revised surveillance approach in analyzing these underlying CDOs. Factors such as subordination, vintage concentration and underlying ratings are considered to determine appropriate rating revisions to these CDOs for modelling purposes. In many cases, these underlying CDOs are assumed to default with zero recovery, based on insufficient subordination and small tranche thickness levels.

For other ABS sectors (such as autos and credit cards), DBRS currently relies on other NRSRO ratings if a DBRS rating is not available, due to greater stability in the performance of those sectors.

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. In cases where DBRS does not have access to updated TruPS ratings information, a punitive notching schedule on original ratings is used. In many cases, obligations without an available rating are assigned a rating significantly lower than investment-grade for modelling purposes. DBRS periodically runs cash flow analysis for CDOs of TruPS as part of its surveillance process.

A CDO of TruPS may be exposed to an auction call redemption whereby, on a specified date, the collateral manager will conduct an auction of the underlying TruPS held by the special purpose vehicle (SPV). Provided that certain conditions are satisfied, including the receipt of sufficient proceeds to redeem all outstanding notes, the TruPS will be sold. If such conditions are not satisfied, the collateral manager will conduct auctions on a regular basis until all notes are redeemed, exposing noteholders to the possibility of having a much longer term before ultimate principal repayment compared to typical CDOs.

MARKET RISK ANALYSIS

All CDO transactions are exposed to the risk of the underlying holdings or reference entities suffering losses (credit risk). Certain CDO transactions rated by DBRS are also exposed to market risk (or funding 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 SPV to the counterparty under the swap. 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.

For each leveraged transaction, one or more collateralization triggers will 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 being breached and equating the likelihood with a certain credit rating. In the surveillance of leveraged CDO transactions, the final rating assigned by DBRS is 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 can be 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 DBRS CDO Toolbox, the level of loss commensurate with the assigned rating is calculated using the same process that was described earlier. 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 would be necessary. 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 (market risk) and accumulated default losses (credit risk) 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. Appendix 4 shows sample output from the DBRS spread-loss model.[4]

4. For details of the spread-loss modelling assumptions, refer to DBRS's methodology published on November 21, 2008, Rating Canadian Structured Credit Transactions.

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. Also, due to the sensitivity of the spread-loss model to certain inputs such as initial spread levels, DBRS does not utilize the rating subcategories "high" and "low". Using only the mid-points of each rating category limits the potential for frequent minor rating changes from modelling volatility. Furthermore, a weekly average spread is used to limit day-to-day spread volatility in the surveillance process.

Rating actions are taken based on the following guidelines:

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

The above guidelines 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 be placed Under Review with Negative Implications and DBRS will downgrade the rating at its discretion.

c) Mark-to-Market Based Triggers

To assign an initial rating, DBRS utilizes a scenario-based approach to evaluate MTM exposure for a given CDO transaction. As CDO tranche MTM is a function of model inputs, DBRS stresses spread default losses and correlation under certain rating-based scenarios to generate MTM trigger levels commensurate with the rating.

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. These spread levels are used to form a spread-loss trigger matrix, which is then used to quantify the probability of the trigger being breached in the same way as explained above.

Appendix 1: DBRS Cumulative Corporate Default Probabilities

Corporate Default Rates

Rating / Years to Maturity	1	2	3	4	5	6	7	8	9	10	11
AAA	0.02%	0.04%	0.08%	0.12%	0.18%	0.24%	0.31%	0.40%	0.49%	0.60%	0.71%
AA (high)	0.04%	0.08%	0.14%	0.20%	0.27%	0.35%	0.44%	0.55%	0.66%	0.79%	0.92%
AA	0.05%	0.11%	0.19%	0.28%	0.37%	0.48%	0.60%	0.73%	0.87%	1.02%	1.19%
AA (low)	0.06%	0.13%	0.22%	0.32%	0.44%	0.57%	0.71%	0.87%	1.05%	1.24%	1.45%
A (high)	0.06%	0.15%	0.25%	0.37%	0.50%	0.66%	0.83%	1.01%	1.21%	1.43%	1.67%
A	0.07%	0.17%	0.29%	0.44%	0.61%	0.80%	1.01%	1.24%	1.49%	1.76%	2.05%
A (low)	0.08%	0.21%	0.37%	0.57%	0.81%	1.08%	1.37%	1.69%	2.04%	2.41%	2.79%
BBB (high)	0.19%	0.41%	0.69%	1.00%	1.34%	1.72%	2.13%	2.55%	3.00%	3.46%	3.93%
BBB	0.30%	0.70%	1.15%	1.64%	2.15%	2.69%	3.25%	3.81%	4.37%	4.94%	5.51%
BBB (low)	0.78%	1.52%	2.24%	2.94%	3.63%	4.31%	4.98%	5.64%	6.29%	6.92%	7.55%
BB (high)	1.50%	3.02%	4.49%	5.91%	7.25%	8.51%	9.70%	10.81%	11.85%	12.83%	13.76%
BB	2.21%	4.39%	6.44%	8.34%	10.10%	11.71%	13.20%	14.57%	15.83%	16.99%	18.07%
BB (low)	3.42%	6.39%	9.02%	11.36%	13.46%	15.34%	17.05%	18.60%	20.00%	21.29%	22.47%
B (high)	4.28%	8.29%	11.87%	15.01%	17.77%	20.19%	22.33%	24.22%	25.90%	27.41%	28.76%
B	5.30%	10.55%	15.19%	19.16%	22.54%	25.44%	27.93%	30.08%	31.96%	33.61%	35.06%
B (low)	8.63%	16.21%	22.34%	27.25%	31.22%	34.47%	37.17%	39.44%	41.38%	43.04%	44.49%
CCC (high)	25.04%	36.37%	42.63%	46.75%	49.77%	52.15%	54.10%	55.72%	57.09%	58.27%	59.29%
CCC	46.79%	60.80%	66.09%	68.79%	70.54%	71.86%	72.92%	73.81%	74.56%	75.21%	75.77%
CCC (low)	68.91%	84.63%	88.66%	90.00%	90.66%	91.11%	91.46%	91.74%	91.99%	92.20%	92.38%

Appendix 2: Corporate CDO Correlation and Recovery Assumptions

Corporate Correlation Assumptions

	Intra Industry	Inter Industry
Same Region	15.00%	6.00%
Different Region	11.00%	2.00%

Corporate Recovery Assumptions Senior Unsecured Obligations

Initial CDO Tranche Rating	Recovery Assumption
AAA	33.00%
AA	35.00%
A	38.00%
BBB	40.00%

Appendix 3: CDO Toolbox Output Example

CDO EXAMPLE

Portfolio Information

Maturity	5.25
Weighted Average Default Rate (WAD)	2.2890%

Simulation Information

Simulation time	18/01/2010 11:33
Trials	250000
Seed	Automatic

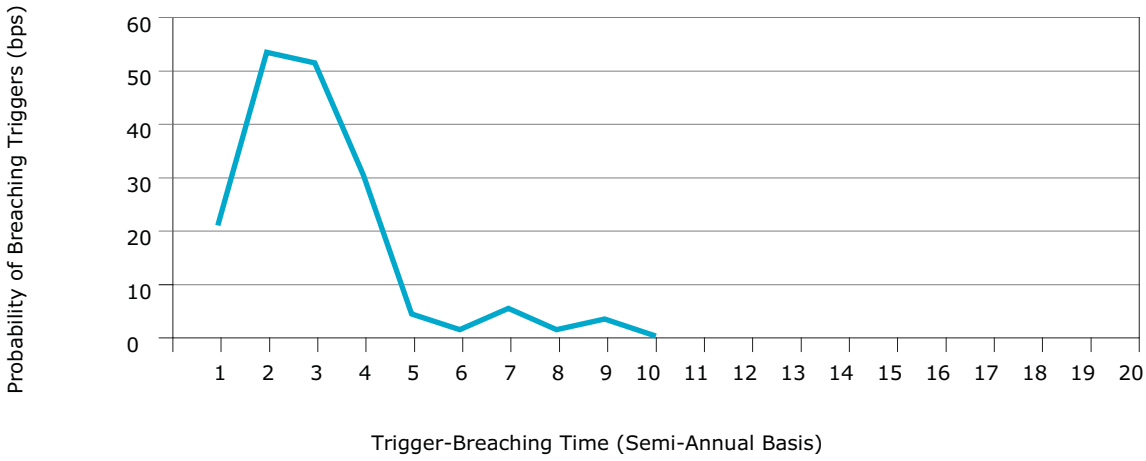
Master Portfolio

Rating	Minimum Attachment Points (in Percentage)
AAA	8.59
AA (high)	8.04
AA	7.69
AA (low)	7.47
A (high)	7.29
A	7.08
A (low)	6.69
BBB (high)	6.09
BBB	5.55
BBB (low)	4.94
BB (high)	4.06
BB	3.69
BB (low)	3.31
B (high)	2.98
B	2.64
B (low)	2.22

The CDO Toolbox results above give the required amount of subordination for each rating category. If the attachment point of this particular transaction is assumed to be 12%, then a rating of AAA is warranted. The stability cushion at the AAA level would be 12.00% - 8.59% = 3.41%.

Appendix 4: Spread-Loss Model Output Example

Probability of Default



The probability of default in the model run shown above is approximately 1.67%. If the remaining term of this particular transaction was five years, the probability of default would equate to a rating of BBB.

The graph shows that the probability of breaching the spread-loss trigger is much greater in the first few years of the transaction.

Appendix 5: Canadian Structured Credit Surveillance Methodology 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 SURVEILLANCE RATING METHODOLOGY

Summary of Credit Risk Analysis Process for Canadian Structured Credit Surveillance

Input	Detail	Key Variables / Analysis
Portfolio Information	Any changes in a transaction's portfolio and enhancement must be accounted for prior to running the transaction through the CDO Toolbox.	• For static portfolios, no adjustments are necessary (with the exception of lowering credit enhancement for credit events affecting the portfolio) because the portfolio composition will not change after the closing of the transaction. • For managed portfolios, DBRS receives a report with any portfolio substitutions or changes in credit enhancement resulting from trading gains or losses. The portfolio is adjusted prior to running the CDO Toolbox.
Ratings Data	Retrieve monthly rating data from Bloomberg for each transaction's underlying reference entities.	• 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 (NRSROs).
Required Level of Subordination	Using the updated portfolios and ratings, run each transaction through the CDO Toolbox to determine the required level of subordination.	• Probability of default assumptions. • Correlation assumptions. • Recovery assumptions. • Static portfolio inputs (type of asset, industry, region, seniority, etc.).
Output	**Detail**	**Application**
Stability Cushion	The stability cushion is the difference between the actual enhancement available in the CDO transaction and the enhancement required to maintain the rating of the transaction.	• If the stability cushion for a transaction is more than 50 basis points (bps), then no further action is required. • If the stability cushion is greater than zero but less than 50 bps, surveillance analysts will inform Structured Finance Rating Committee (SFRC) of the issue and may recommend an action (and the transaction may be more frequently monitored). • If the required enhancement for a given rating exceeds the actual enhancement available (i.e., negative stability cushion), then a downgrade may result.

Summary of Revised Credit Risk Analysis Process for CDOs of Asset-Backed Securities

Asset Type	Detail	Key Variables / Analysis
CDOs of Asset-Backed Securities (ABS)	DBRS changed its surveillance approach for CDOs of ABS because of the unprecedented deterioration of U.S. residential mortgage-backed securities (RMBS) over the past few years.	• DBRS reviews all of the underlying RMBS and provides a credit assessment based on each security's pipeline of existing defaults, likely defaults and various delinquency statistics, as well as on cash flow modelling using different assumptions for prepayments and interest rates. • After DBRS credit assessments are determined for each of the underlying securities, they are used as the sole rating input into the CDO Toolbox. • Further changes to standard CDO assumptions may be made at the discretion of the surveillance group, such as increasing the correlation among reference entities and reducing the recovery assumptions based on the initial rating of the security.

Summary of Market Risk Analysis Process for Canadian Structured Credit Surveillance

Input	Details	Key Variables / Analysis
Loss-Based Risk Analysis	A margin call will be required once portfolio losses reach a predetermined level.	• 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 • Calculate the stability cushion over the breaching loss level on a monthly basis using the Credit Risk Analysis Process described above.
Spread-Loss Based Risk Analysis	A margin call will be required for a given level of loss if spreads reach a predetermined level.	• Weekly surveillance modelling is performed because of the potential for higher rating volatility. • Due to the sensitivity of the spread-loss model to certain inputs such as initial spread levels, DBRS does not apply the rating subcategories “high” and “low.” • The weekly average spread is used to limit day-to-day spread volatility. **Rating Action Guidelines** • If a downgrade is warranted for two consecutive weeks, then the transaction will generally be placed Under Review with Negative Implications. • After a rating has been placed Under Review with Negative Implications, it maintains its status until one of the following scenarios occurs: (1) If a downgrade is warranted for two consecutive weeks subsequent to the rating being placed Under Review with Negative Implications, then the transaction will be downgraded. Generally, the revised rating will be the most recent rating implied from the spread-loss model. (2) If the then-current rating is sufficient for two consecutive weeks subsequent to being placed Under Review with Negative Implications, then 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, then the transaction may be upgraded. Generally, the revised rating will be the most recent rating implied from the spread-loss model.
Mark-to-Market Based Risk Analysis	A margin call will be required if the mark-to-market of the CDO tranches drops below a predetermined level.	• 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. • The estimated spread levels are used to form a spread-loss trigger matrix, which is then used to quantify the probability of the trigger being breached in the same way as explained in the Spread-Loss Based Risk Analysis above.
Output		Appropriate market risk rating level based on the margin call trigger regime.

Insight beyond the rating.

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