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CMBS Surveillance Rating Opinions: Procedures and Methodologies

This methodology describes Morningstar’s surveillance approach to rating commercial mortgage-backed securities (CMBS). Morningstar conducts its monitoring and surveillance activities via both an investor-paid subscription platform and an issuer-paid platform that provides letter-grade ratings and ratings outlooks on all CMBS transactions for which we are engaged by the issuer to provide ratings, and an additional subset of CMBS for which Morningstar initiates ratings without an issuer’s mandate to the extent consistent with Morningstar’s policies and procedures. In addition, Morningstar also provides publicly available surveillance with respect to transactions for which Morningstar was hired to rate at issuance.

Any monitoring or surveillance activities described herein are conditioned on Morningstar’s receipt of certain information to enable Morningstar to perform such monitoring and surveillance. The type of information received and therefore, the degree of surveillance performed, may depend largely on the transaction’s date of closing, and whether or not Morningstar was selected by the issuer or arranger to rate the transaction at issuance. The degree and scope of review and information considered is generally enumerated in the Morningstar DealView® Surveillance Analysis (“DealView”) for the respective transaction.

Morningstar Definitions and Descriptions of (i) Letter-Grade Credit Ratings, (ii) Rating Outlooks and (iii) Surveillance

The definitions of Morningstar’s letter-grade ratings, rating outlooks, a surveillance general description, application of changes to Morningstar methodology, access to rating opinions and conflicts are set forth in “Morningstar Definitions and Descriptions of (i) Letter-Grade Credit Ratings, (ii) Rating Outlooks and (iii) Surveillance” at https://ratingagency.morningstar.com, which is incorporated herein by reference and integral to evaluating any letter-grade ratings described herein.

Additionally, the criteria for Morningstar’s CMBS ratings outlooks are defined in further detail on page four.
Outlook | Definition of Outlook:
---|---
Perform | The security has performed as expected in terms of credit-risk characteristics. Considerations to determine if performance is “as expected” may include: (i) a review of forecasted credit support movement to determine whether such support has increased less than 10% or decreased less than 10-20%; and/or (ii) a review of forecasted subordinate dollar loss (SDL) to determine whether a security has an SDL between 25-50%.
Outperform | The security has performed better than expected in terms of credit-risk characteristics when compared to both issuance and the last review. The respective class exhibits characteristics that signify decreased credit risk and may be a candidate for an updated. Such characteristics may include actual or forecasted credit-support level increases and/or the overall strong performance of the underlying collateral. Considerations to determine if performance is “better than expected” may include: (1) a review of forecasted credit support movement to determine whether such support has increased by 10% or more; and/or (ii) a review of SDL to determine whether the security has an SDL of less than 25%.
Underperform | The security has performed worse than expected in terms of credit-risk characteristics when compared to both issuance and last review. The respective class exhibits characteristics that result in increased credit risk and may be a candidate for a downgrade or has the risk of potential loss. Such characteristics may include actual or forecasted credit-support level declines and/or overall weak performance if the underlying collateral. Considerations to determine if performance is “worse than expected” may include: (i) a review of forecasted credit support movement to determine whether such support has declined by (a) 10% or more due to forecaster loss on specially-serviced loans, or (b) 20% or more when including expected value deficiencies from loans identified by Morningstar as High Risk Loans in accordance with Morningstar’s policies and procedures; (II whether a security will suffer interest shortfalls of 25% or more of interest due on such security for three or more months; and/or (III) a review of SDL to determine whether the security has an SDL of at least 25-50% or more.

Tranches marked “collapsed” have been paid-off, written down or retired by losses and are no longer rated by Morningstar.

A Morningstar rating outlook by definition is not an NRSRO rating. A rating outlook is only an opinion regarding the future trends for the rated security over the next six to twelve months and is subject to the various qualifications, caveats and considerations enumerated in the respective DealView report. A rating outlook is an opinion regarding the comparison of original credit support to Morningstar’s forecasted credit support for a given tranche, based upon the percentage triggers highlighted herein.

**Morningstar Rating Outlooks Methodology**

Morningstar’s monthly analysis is best described as a bottom-up approach. At its core, it is driven by the performance of the underlying commercial real estate loan collateral. Analysts first evaluate, using qualitative and quantitative analysis, the credit risk characteristics of the collateral pool backing any given securitization trust.
Quantitative and Qualitative Analysis

Morningstar relies on a combination of quantitative and qualitative factors in evaluating securities for issuing rating outlooks.

Quantitative factors may include: loan-level material adverse performance changes; risk scoring of individual loan characteristics; level of subordination or credit support; size and structure of the tranching of the securities; interest rates; value of the underlying assets; value of any possible reserve funds; degree and level of amortization of the underlying debt assets and payment priority; economic analyses; and historical performance of the relevant asset class.

Qualitative factors may include: geographical location of the underlying assets; property type of the underlying assets; tenant mix at properties securing underlying assets; diversity of property securing underlying assets, by geography, type and tenant; sponsor; credit quality characteristics of underlying assets outside of specific monthly data changes; and credit factors relevant for the industry sector.

These factors are applied by Morningstar to determine the credit risk of a particular loan and the corresponding effect of such credit risk on a CMBS transaction.

Morningstar Watchlist

The "Morningstar Watchlist" is a quantitative and qualitative assessment of loan and property-level credit risk across a given CMBS transaction. The assessment includes a comparison of the most recently reported or updated collateral performance results to specific performance thresholds (material adverse changes) established by Morningstar’s high risk loan score (HRL score), which ranks the level of credit risk for a particular loan (low, medium, or high). The HRL score is based on six key loan metrics: debt-service coverage ratio (DSCR), loan-to-value (LTV), occupancy, term to maturity, MSA, and tenant rollover percent within the next twelve (12) months. Using Morningstar’s historical CMBS database dating back to 1999, Morningstar created statistical models which assign a probability of default and a risk score to all loans in its database.

Highlighted are loans with:

1. A higher-than average risk of default;
2. Near-term sustainable cash flow that is either insufficient to service debt (DSCR below 1.00) or will soon be insufficient to service debt;
3. Cash flow that may be insufficient to service debt due to loss of tenant(s), severe market deterioration, severe market disruption (i.e., natural catastrophe), or borrower malfeasance or bankruptcy; and/or
4. An inability to secure take-out financing at maturity.
In summary, a Morningstar Watchlist is completed that generally includes the following items, to the extent sufficient information has been received by Morningstar to determine these items:

1. Payment default (recent or historical)
2. Quantitative high risk loan model forecast or qualitative loan / property assessment
3. Special servicer transfer and workout status
4. DSCR performance (operating cash flow)
5. Occupancy level
6. Lease rollover risk (tenant base)
7. Loan maturity (balloon risk)
8. Estimated loss potential and loan-to-value
9. Inspection rating, property condition and deferred maintenance
10. Borrower issues (i.e., bankruptcy)
11. Tenant issues (i.e., bankruptcy, store closures, etc.)

The primary goal is to properly identify what has changed since the previous month’s collateral / transaction review that would suggest additional credit risk or improved collateral performance.

Morningstar separately identifies all loans that have had exhibited a material adverse change over the month regardless of performance status. We complete an in-depth review of the overall credit risk associated with any newly defaulted or specially serviced collateral property by reviewing special servicer (asset manager) or master servicer commentary regarding payment delinquency or distressed status of a loan, to determine the likelihood of problems going forward and offer our relative perspective and opinion on such. Morningstar subsequently estimates value on performing and non-performing loans to project the potential for loss on any defaulted or specially-serviced collateral, and projects the estimated timing of these losses.

In addition, total debt levels for each loan are also considered versus the collateral-appraised or analyst-derived value in order to calculate updated loan-to-value ratios. A comprehensive analysis focusing on any single or large tenant risk (compared to loan balance, collateral location, and lease terms) is completed. Debt repayment requirements (such as interest-only versus amortizing debt) are also reviewed, including a stressed cash flow analysis assuming loan amortization for potential balloon payment default risk.

Morningstar may take into account property and market information from third party sources to forecast rents and vacancy rates by property types and metro area, comparable property valuations (distressed and performing), and changes in the underlying real estate credit performance since issuance.

A corresponding analysis of the transaction structure is then completed to review the adequacy of in-place credit-support levels. This analysis is derived from the monthly quantitative and qualitative analysis of the underlying loans and properties in the transaction that produce an estimated property value and estimate of potential loss - on a loan by loan
basis. The aggregation of our loss projections is applied to the transaction class structure to determine the impact on the underlying payment waterfall for each class of the CMBS transaction.

The results derived from the above credit analysis are then included as inputs to Morningstar’s CMBS surveillance subordination model as described below.

**Additional Considerations**
A host of attributes are then used to compare forecasted levels of credit support and the corresponding Morningstar CMBS letter-grade ratings associated with such levels. These attributes typically include:

1. Morningstar’s estimate of potential losses related to the defaulted or specially-serviced high risk loan collateral, and how those aspects affect the payment waterfall and corresponding credit-support structure of each transaction.
2. Morningstar’s estimate of value deficiency and the potential for future losses related to non-specially serviced (master serviced) or delinquent high-risk loan collateral in a given transaction that have experienced a decline in performance, and how those aspects affect the payment waterfall and corresponding credit support structure of each transaction.
3. Morningstar’s analysis of defeased loan collateral (i.e., the removal of underlying commercial real estate risk) and its impact on the payment waterfall and corresponding credit support structure (i.e., guaranteed timely cash flows and ultimate repayment of principal as balloon maturity approaches for the most senior class).
4. Morningstar CMBS surveillance subordination model-derived projected losses on the entire transaction under review.

**Morningstar Letter-Grade Rating Methodology: Monthly Analytical Monitoring Process and Application of the CMBS Surveillance Subordination Model**
The actual amortization and pay down of a transaction, the impact of realized and expected losses on forecasted credit support for a class, the dollar balance of securities subordinate to a given class, and forecasted prepayments will assist Morningstar in determining a letter-grade rating for each tranche.

Upon taking into account the factors enumerated herein (including all analytical data inputs and conclusions), Morningstar produces forecasted credit support levels and a rating outlook for each class of a given CMBS transaction under review for publishing in our monthly DealView reports. Following such, as required by certain changes in analyst projections and/or performance thresholds, the Morningstar CMBS surveillance subordination model will ultimately incorporate all aspects of the monthly monitoring process (i.e., estimated losses and high risk loan identification) described herein to accompany additional net cash flow stresses and term and balloon loss projections that produce credit support attachment points and suggested letter-grade ratings for each class of a given CMBS transaction. The modeling results are also used to analyze whether upgrades or downgrades are warranted for any particular class of securities on an ongoing basis.
Our quantitative and qualitative analysis of various deal types from all vintages may lead to differences between the final letter-grade rating(s) issued by Morningstar and the corresponding letter-grade rating, or subordination level attachment point, implied by the CMBS surveillance subordination model. Such differences, which may at times be material, are due to the multiple credit characteristics that are considered by an analyst outside of the model driven results along with the availability of actual asset performance data since original issuance.

Morningstar’s CMBS surveillance subordination model and CMBS new issuance subordination model are intended to apply similar approaches to transaction analysis subject to the distinctions in review and information access described at https://ratingagency.morningstar.com in “Morningstar Definitions and Descriptions of (i) Letter-Grade Credit Ratings, (ii) Rating Outlooks and (iii) Surveillance”. Outside of what is represented and documented at new issuance, Morningstar’s CMBS surveillance subordination model incorporates all updated servicer data, remittance data and loss projections derived from the monthly monitoring process as enumerated in the respective DealView report. Morningstar’s CMBS surveillance subordination model utilizes this information as part of the overall approach to letter-grade rating analysis post-closing.

When applied, Morningstar’s CMBS surveillance subordination model produces final letter-grade rating suggestions for analyst review and subsequent committee approval, based upon the underlying forward looking credit analysis. The model also produces various queries of the respective DealView report conclusions along with subordination levels and ratings for comparable rated transactions for qualitative review and evaluation. Final ratings are then determined by the committee members upon review of all data points in aggregate.

**Morningstar Ongoing Surveillance of Rating Opinions**

Morningstar’s DealView on every transaction rated by Morningstar is updated in a timely manner upon receipt of each month’s CREFC investor reporting package and monthly remittance data updates. After available transaction-specific and collateral-specific information has been gathered and evaluated by Morningstar analysts, the respective analysts may run the transaction through the Morningstar CMBS surveillance subordination model. This process is performed only if from this analysis the analyst determines that a letter-grade ratings review and committee is needed. If any letter-grade rating or outlook changes are warranted, the Morningstar analyst formulates his or her recommendation for the consideration of the CMBS surveillance ratings committee.

**Morningstar Information Sources**

When providing monitoring and surveillance solely on an investor-paid basis, Morningstar’s access to information, various parties and collateral may be reduced and the scope of review is limited. In addition, provisions for rating agency review of certain post-issuance amendments or changes to transaction documents may be absent or limited. For example, Morningstar may receive (i) the current Commercial Real Estate Finance Council standardized investor reporting package (CREFC IRP), (ii) trustee reports and (iii) to the extent necessary to Morningstar’s analysis and available, information from third party data suppliers of market data, rents, cap rates and other similar items.
In contrast, when selected to rate the transaction at issuance by the issuer or arranger, Morningstar may not only receive the information enumerated in the preceding sentence, but also, financial statements, rent rolls, other information required to be delivered pursuant to the related servicing agreement, requested information, post-issuance transaction amendments and no downgrade letter requests and information related to such request. Therefore, the degree of monitoring and surveillance varies depending on Morningstar’s role in a transaction. In addition, even if certain additional information may be available to Morningstar for transactions it was not selected to rate at issuance under current regulations, Morningstar may not access or review such information due to various factors, including the terms of use to access such information.

Morningstar’s scope of review of a particular transaction and/or other factors considered by Morningstar in accordance with Morningstar’s policies and procedures impact the final analysis results. Therefore any time Morningstar was not selected by the issuer or arranger to rate the transaction at issuance solely reflect an analysis of available information and the reflection of such information in Morningstar’s analysis. Unless Morningstar expressly describes reviewing additional information in the DealView for a specific transaction, Morningstar is solely continuing to review and rely on the information described herein and the DealView for the particular transaction. Investors should consider this distinction in the scope of the review and analysis.

In general, the Morningstar DealView for a particular transaction will enumerate the scope of review and information received and reviewed by Morningstar for such transaction and such scope of review and limits on information should be considered by investors in evaluating letter-grade ratings for such transaction.

In addition, Morningstar does not perform an audit or verification of commercial real estate or other underlying assets, or any publicly available information or any non-public information provided by arrangers, servicers, data vendors and other third-party sources of information.

**Morningstar DealViews, Monitoring and Surveillance of Letter-Grade Ratings**

In general, a DealView is a monthly report containing Morningstar’s material considerations and analysis related to a transaction and updates, if any, to Morningstar letter-grade ratings and outlooks on the transaction. A general description of items contained in a typical DealView may be found at [https://ratingagency.morningstar.com](https://ratingagency.morningstar.com).

DealViews are available through Morningstar’s investor-paid subscription service. For transactions Morningstar was selected by the issuer or arranger to rate at issuance, the DealViews are posted to public on the “Ratings Report” section of Morningstar’s website, at [https://ratingagency.morningstar.com](https://ratingagency.morningstar.com).

The letter-grade ratings and rating outlooks in the DealView are as of its publication date. Morningstar may update these letter-grade ratings and rating outlooks prior to publishing the next DealView. Subscribers to Morningstar’s investor-paid subscription service can find the most current letter-grade ratings and rating outlooks on the “Bond Detail” page of Morningstar’s subscription website and may select to receive email notifications of letter-
grade ratings and rating outlook changes to their portfolio. For transactions Morningstar was selected to rate by the issuer or arranger at issuance, the most recently available letter-grade ratings and rating outlooks will be posted publicly to the “Ratings Report” section of Morningstar’s website on the “Current Ratings Information” link for the applicable transaction.

Investors may access Morningstar’s most recently available letter-grade ratings on rated CMBS surveillance transactions through the “Ratings” section of Morningstar’s public website.

**Letter-Grade Ratings and Rating Actions of Other Rating Agencies**

Morningstar does not rely on the CMBS letter-grade ratings or methodologies of other credit rating agencies with respect to Morningstar letter-grade ratings, surveillance or rating actions. Morningstar may consider the opinions of other credit ratings agencies with respect to the United States’ credit rating when reviewing defeased loans collateralized with U.S. Treasury securities.