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Focus

Morningstar’s analysis and considerations for rating securities (“Resecuritization Securities”) backed by CMBS securities (individually, an “Underlying Security”, collectively, “Underlying Securities”) are focused on the resecuritization of a single Underlying Security that is being resecuritized into one or more Resecuritization Securities with new and/or additional credit support level(s) (a “Re-Tranching Transaction”), and (2) the resecuritization of a portfolio of Underlying Securities that is being resecuritized into multiple classes of Resecuritization Securities with potentially multiple categories of ratings (a “Re-REMIC Transaction”). References herein to ratings by Morningstar shall mean either: (i) ratings by Morningstar at issuance as an agency selected by the issuer or arranger to rate the related transaction or (ii) initial investor-paid surveillance ratings by Morningstar on the related transaction postissuance for transactions Morningstar did not rate at issuance.

These resecuritization analysis and considerations are limited to Underlying Securities that are:

1. U.S. cash securities, and (2) entitled to cash flows from a portfolio of commercial or multifamily loans. The Underlying Securities may be rated or not rated by Morningstar at time of initial issuance.

If the Underlying Securities do not meet one or more of the parameters enumerated in the preceding sentence or above paragraph, Morningstar may, on a case by case basis, rate such transaction in accordance with its policies and procedures and pursuant to specific analysis and considerations for such specific transaction. Conversely, Morningstar may, on a case-by-case basis, decline to assign ratings to transactions that are partly or wholly backed by Underlying Securities it deems to have potentially excessive or unquantifiable future credit risk.

Methodology

Morningstar utilizes a bottom-up approach to rate the Resecuritization Securities by first determining the credit quality of each Underlying Security and then verifying that the cash flow stream from the Underlying Securities is adequate to cover principal and interest payment obligations of the Resecuritization Securities, as applicable, in full and on a timely basis. This determination is performed in conjunction with Morningstar’s surveillance activities of the Underlying Security. For a description of Morningstar’s CMBS surveillance activities, please see its “CMBS Surveillance Ratings Opinions under the “Analysis and Considerations” tab on its website, https://ratingagency.morningstar.com.

Morningstar’s rating process on the Underlying Securities allows for an assessment of the credit quality of the Underlying Securities at the time of the resecuritization issuance. In addition, monitoring and surveillance of the Underlying Securities and Resecuritization Securities generally continues in accordance with Morningstar’s policies and procedures.

The following further describes the general rating analysis for (1) Re-Tranching Transactions and (2) Re-REMIC Transactions.
Section 1 – Analysis for Single Security Resecuritization

The Underlying Security and the portfolio of loans backing the Underlying Security are subjected to the requested rating category stresses in Morningstar’s proprietary CMBS subordination model to determine the proceeds available to pay the Resecuritization Securities in the target rating category environment. For more information, please see the Morningstar “CMBS Subordination Model” white paper on the “Analysis and Considerations” tab on its website, https://ratingagency.morningstar.com. A desired rating is assigned to the Resecuritization Securities, if this level of proceeds is equal to or greater than the beginning principal balance of the Resecuritization Securities after taking into account the performance of the loans, the presence of any senior certificates, the priority of payments, the allocation of losses and any anticipated ongoing resecuritization trust fees and expenses. The interest stream from the Underlying Security and interest obligations on the Resecuritization Securities are also analyzed to ensure adequate payment of interest.

The following example illustrates the approach.

A Class A security from a seasoned CMBS issuance is being re-securitized into a resecuritization issuance (re-tranching) that will issue two securities, with credit support levels of 30% and 50% respectively. The outstanding balance of the loan portfolio supporting the seasoned issuance is $100. This portfolio is subjected to different rating level stresses in the CMBS Subordination Model to determine the appropriate rating at the 30% and 50% credit support levels. The table below shows the net proceeds from the Class A security available to pay down the re-tranching securities at the “AAA” and “AA” ratings levels along with the corresponding minimum credit support levels.

<table>
<thead>
<tr>
<th>Ratings Stress</th>
<th>Net Proceeds (%)</th>
<th>Required Credit Support (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA</td>
<td>53</td>
<td>47</td>
</tr>
<tr>
<td>AA</td>
<td>76</td>
<td>24</td>
</tr>
</tbody>
</table>

The minimum credit levels are then compared to the re-tranching trust capital structure (30% and 50% credit support levels) to determine the appropriate ratings.

<table>
<thead>
<tr>
<th>Class</th>
<th>Trust Credit Support (%)</th>
<th>Morningstar Rating</th>
<th>Morningstar Credit Support (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RR-1</td>
<td>50</td>
<td>AAA</td>
<td>47</td>
</tr>
<tr>
<td>RR-2</td>
<td>30</td>
<td>AA</td>
<td>24</td>
</tr>
</tbody>
</table>

The Class RR-1 securities with 50% credit support would receive a “AAA” rating and the Class RR-2 securities with 30% credit support would receive a “AA” rating.
Section 2 – Analysis for Re-REMIC Resecuritization

A resecuritization backed by more than one Underlying Security typically involves the issuance of multiple Resecuritization Securities with different credit support levels and ratings. Some Resecuritization Securities only issue principal-only certificates, while others issue certificates paying principal and interest. The latter necessitates an additional analysis to determine the maximum proceeds that can support timely payment of interest payment obligations. Morningstar uses a two-level approach to rate these resecuritizations. First, it determines the proceeds received by each of the underlying securities, and then aggregates these proceeds to determine the proceeds available to the Resecuritization Securities.

Determination of Principal Repayment

First, each Underlying Security and the portfolio of loans backing the Underlying Securities are separately run through the CMBS subordination model to determine the net proceeds available to pay down the corresponding Underlying Security under each rating category stress scenario. Next, for each rating stress scenario, the net proceeds for each Underlying Security are aggregated together to determine the net proceeds available to pay down the Resecuritization Securities. The ratings assigned to each New Security is determined by comparing the level of net proceeds calculated by the CMBS subordination model to the net proceeds needed to fully pay down that New Security after taking into the account the performance of the loans, the presence of any senior certificates, the priority of payments, the allocation of losses, any Underlying Security concentration risks and any anticipated on-going resecuritization trust fees and expenses.

Additional factors, such as the presence of a pari-passu loan overlapping two or more underlying securities, are also addressed in the analysis.

The following example illustrates the approach.

A resecuritization trust holds four underlying securities (CMBS 1 through 4). The portfolio of loans backing each of the underlying securities is subjected to the stresses at each of the ratings categories to determine the net proceeds available to pay back such securities.

**CMBS 1** is backed by a portfolio of loans with an aggregate outstanding balance of $90 with $40 of securities senior to the underlying security. Morningstar’s analysis concludes net proceeds available to pay down the CMBS 1 trust securities at the “AAA”, “AA” and “A” rating levels are $48, $50 and $60, respectively.

**CMBS 2** is backed by a portfolio of loans with an aggregate outstanding balance of $85 with $50 of securities senior to the underlying security. Morningstar’s analysis concludes net proceeds available to pay down the CMBS 2 trust securities at the “AAA”, “AA” and “A” rating levels are $55, $75 and $85, respectively.

**CMBS 3** is backed by a portfolio of loans with an aggregate outstanding balance of $110 with $30 of securities senior to the underlying security. Morningstar’s analysis concludes net proceeds available to pay down the CMBS 3 trust securities at the “AAA”, “AA” and “A” rating levels are $25, $50 and $65, respectively.
CMBS 4 is backed by a portfolio of loans with an aggregate outstanding balance of $125 with $50 of securities senior to the underlying security. Morningstar’s analysis concludes net proceeds available to pay down the CMBS 4 trust securities at the “AAA”, “AA” and “A” rating levels are $85, $90 and $105, respectively.

Appendix A provides a diagram of the capital structure for each of these underlying securities.

Using CMBS 1 to illustrate the calculation of net proceeds to pay the underlying security, the net proceeds at the “AAA” rating level is $48. The first $40 goes to fully pay down the senior securities leaving $8 to pay down the underlying security.

The table below shows the net proceeds available to pay each of the four underlying securities at the “AAA”, “AA” and “A” rating categories.

**Net Proceeds to Underlying CMBS Security ($)**

<table>
<thead>
<tr>
<th>Size of Underlying Security</th>
<th>“AAA” Stress</th>
<th>“AA” Stress</th>
<th>“A” Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMBS 1</td>
<td>15</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>CMBS 2</td>
<td>20</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>CMBS 3</td>
<td>30</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>CMBS 4</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Aggregate</td>
<td>100</td>
<td>48</td>
<td>85</td>
</tr>
</tbody>
</table>

The net proceeds received by each underlying security are then aggregated to determine the corresponding credit support levels for the resecuritization trust at each rating category. For example, at the “AAA” rating level, the aggregate net proceeds going to the re-securitization trust is $48. With an aggregate trust balance of $100, the “AAA” credit support level is 52%.

**Determination of Interest Repayment**

For those instances where the Resecuritization Securities involve payments of interest, an analysis of the ability of the payment stream from the Underlying Security(ies) to cover the timely payment of interest obligations on the Resecuritization Securities is also performed. Payment of interest due to the holders of the re-REMIC securities is dependent upon the stream of interest payments received on the Underlying Securities.
The interest stream from the Underlying Securities is based upon the notional balance of the portfolio of loans securing the Underlying Securities and, as such, is negatively impacted as the notional balance declines upon the occurrence of voluntary prepayments or defaults. Morningstar addresses this risk by subjecting the portfolio of loans backing the Underlying Securities to a series of default timing scenarios to determine the interest stream available.

**Legal Analysis**

In conjunction with the above review of the resecuritization transaction, a legal review of the respective offering document, transaction opinions, trust agreement, Underlying Security sale agreement and certain representations and warranties, and hedge documentation, if any, is typically performed. However, unless Morningstar rated an Underlying Security at issuance as an agency selected by the issuer or arranger, a legal review of the Underlying Security transaction documentation and related loans typically was not performed at the issuance of this Underlying Security. A legal review of the Underlying Security transaction documentation and related loans is not performed, in any event, at issuance of the Resecuritization Security or postissuance.

**Limitations to Analysis and Information**

As enumerated above and in Morningstar’s CMBS Surveillance Ratings Opinions on the “Analysis and Considerations” tab of its website, https://ratingagency.morningstar.com, for any Underlying Security transaction where Morningstar was not the selected by the issuer or arranger to rate the transaction at issuance, the scope of review and access to certain information, parties and post-issuance amendments may be limited. These limitations on the scope of review and lack of legal analysis or underlying documentation review should be considered in evaluating any ratings on the Underlying Securities and therefore, the Resecuritization Securities.

**Committee Information**

The ratings committee composition and voting process for re-tranching and re-REMIC transactions will be the same as those for other CMBS new issue ratings. For more information, please see Morningstar's CMBS New Issue Ratings Opinions on the “Analysis and Considerations” tab of its website, https://ratingagency.morningstar.com.

**Surveillance of Resecuritizations**

Morningstar may maintain ongoing ratings on the Resecuritization Securities consistent with Morningstar's surveillance policies and procedures. For more information, please see Morningstar’s CMBS Surveillance Ratings Opinions on the “Analysis and Considerations” tab of its website, https://ratingagency.morningstar.com. Surveillance of resecuritizations utilizes the ongoing surveillance of each Underlying Security and aggregates the results to determine the rating of each New Security in the same manner as described above for each transaction type. The procedure for the surveillance of Underlying Securities is outlined in Morningstar’s CMBS Surveillance Ratings Opinions on the “Analysis and Considerations” tab of its website, https://ratingagency.morningstar.com. In general, any adverse impact on the ratings of Underlying Securities may adversely impact the rating on the respective Resecuritization Securities.
Some of Morningstar’s surveillance ratings on the Underlying Securities could be investor-paid ratings for which the Morningstar’s surveillance ratings reports, the Morningstar DealViewSM, are only offered through Morningstar’s subscription platform. Generally, investors may access Morningstar’s most recently available letter-grade ratings on publicly-rated transactions it covers through the “Ratings” section of Morningstar’s public website, which allows investors to access by CUSIP the current letter-grade ratings on up to ten securities at a time.