
U.S. Single-Family Rental Securitization Ratings Methodology

Morningstar Credit Ratings

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Editor’s note: There are no substantive changes from the methodology published in January 2017. This methodology is hereby republished and takes effect immediately.

Introduction

Morningstar Credit Ratings, LLC will apply this methodology to determine ratings of securities backed by pools of single-family rental properties. The single-family houses generally are investment properties that are rented or available for rent. While the methodology is designed to be consistently applied to new issue and surveillance of single-family rental securities, as a transaction seasons, actual performance data will influence the assumptions used in determining whether to maintain or change a rating.

The definitions of Morningstar's letter-grade ratings, a surveillance general description, application of changes to Morningstar methodology, access to rating opinions and conflicts are available at www.morningstarcreditratings.com in "Morningstar Credit Ratings Definitions and Other Related Opinions and Identifiers."

Section 1 – Rating Methodology

The Morningstar single-family rental securities ratings methodology generally includes a quantitative and qualitative analysis of the properties backing the securities, the monetization feature, and the payment priority of the securities, as well as a legal review of the offering materials, trust and servicing agreement, purchase and sale agreement, and deal-level opinions related to the transaction. With respect to the monetization feature, Morningstar will conduct a legal review of the related documents, organizational documents of special-purpose vehicles, and opinions specific to the monetization feature.

Single-family rental securitizations primarily are backed by pools of houses, although the collateral also may include condominiums, townhouses, or properties of two to four units. Because the cash flows of single-family rental securities are in large part dependent on the monetization of the values of the underlying properties held by the securitization vehicle, Morningstar expects that these securitizations will include a feature designed to result in monetization during the term of the related securitization. Examples of such a monetization feature may include: structuring the securitization vehicle’s assets as one or more loans to property owners that are collateralized by the underlying properties and the associated rental streams and that contain hard maturity dates as part of the loan term; providing that the underlying properties must be sold to a counterparty purchaser at a specified price by a date certain; and establishing intermediate special-purpose vehicles to act as lenders to property owners under loans having hard maturity dates. Other potential features designed to monetize the underlying property values during the term of the securitization and at a sum certain may also be considered.

Quantitative and Qualitative Analysis

To begin the quantitative analysis of the properties that are backing a single-family rental securities issuance, Morningstar expects to receive a data tape with relevant information regarding the single-family properties. That information may include property value, rent amount, property expense amounts, property location, renter income, and any other information that is needed to assess the cash flows that are backing the single-family rental securities. The property valuation can be derived from the purchase price, a full appraisal, or a broker price opinion. Morningstar expects the valuation to be within six months old, or we may adjust our analysis. Property expenses typically include, but are not limited to, taxes, insurance, homeowners association fees, property manager fees, repair and maintenance costs, leasing/marketing and turnover costs, and capital expenditures. These expenses should include any costs that are borne by the owner and not the tenant.

Morningstar will input this data into Morningstar's proprietary Single-Family Rental Subordination Model, described in Appendix 1.

Morningstar analysts will review the data in the model, and data from third parties may be incorporated into the cash flow stresses as deemed applicable by the analysts. If data for the model is not provided or available, the analysts may make assumptions as needed or a transaction rating may not be feasible. Examples of data from third parties can include property valuations, expected rent, and regional vacancy history.

The Single-Family Rental Subordination Model will incorporate the forecast and stressed economic variables as determined by Morningstar. Examples of these economic variables include regional home prices and interest-rate indexes. The model will also incorporate the base-case and stressed variables used to value investment properties, including capitalization rates, vacancy rates, and net cash flow adjustments. The model will produce cash flows that are available to pay the securities under various rating-stress scenarios. The rating implied by the model for each tranche will be the highest rating stress that results in no interest or principal shortfalls under any interest-rate environment and may be adjusted based on factors explained here or in the related deal report.

Morningstar will review the documentation for the monetization feature, including counterparty identity, compliance with requirements applicable to special-purpose vehicles, economic terms and conditions, and the true sale and other legal opinions. As mentioned, the feature must result in the monetization of the single-family rental properties' property values during the scheduled term of the securitization and at a specified amount of proceeds.

If a transaction contains risks that are not addressed by the subordination model, or if it contains features that mitigate the risks addressed by the Single-Family Rental Subordination Model, Morningstar may make qualitative adjustments to the assumptions or results.

Transaction Participants

Morningstar expects that parties will perform their obligations in accordance with the transaction documents. The failure of these parties to perform as required in the transaction documents can have an impact on the performance of the securities. Parties to the transaction can include lender/buyer and

borrower/seller counterparties on the related monetization feature, property managers, servicer, special servicer, trustee, risk manager, and property-disposition agent. Each of these roles is explained below.

Lender/Buyer

If the monetization feature takes the form of a loan or committed purchase facility, the lender/buyer's role is typically to provide funds under the related facility to the borrower/seller and receive a pledge of, or purchase, the ownership in the single-family rental properties. If the monetization feature is structured as one or more master loans to property owners, the securitization issuer is generally the lender (or a subsidiary thereof) or has purchased the loan from the original lender.

Borrower/Seller

Morningstar expects that each large borrower/seller is generally a special-purpose vehicle that owns the single-family properties. The borrowers/sellers will pledge or sell their ownership in the properties to the lender/buyer on the related loan or committed purchase facility. In the case of default, the servicer can take ownership of the properties by foreclosing on the SPV instead of foreclosing on the individual properties.

Property Managers

The property managers lease the properties, collect the rental payments, and maintain and repair the properties. The property managers are paid fees that are typically a portion of the rent proceeds. The ability of the property managers to maintain occupancy, collect rent, and make repairs is instrumental in maximizing the cash flow from the single-family rental units.

Servicer

The servicer collects the payments on the loan or securitization and transfers the cash to the trustee. Depending on the requirements of the transaction documents, the servicer may be required to advance delinquent interest and principal to the bondholders if the payments are deemed recoverable in the future.

Special Servicer

The transaction may or may not include a special servicer. In the event of default, a special servicer is contracted to take ownership of the properties, ensure the properties are managed, and dispose of the properties in a manner that maximizes cash flow to the bondholders. In the absence of a special servicer, the servicer would perform these duties.

Trustee

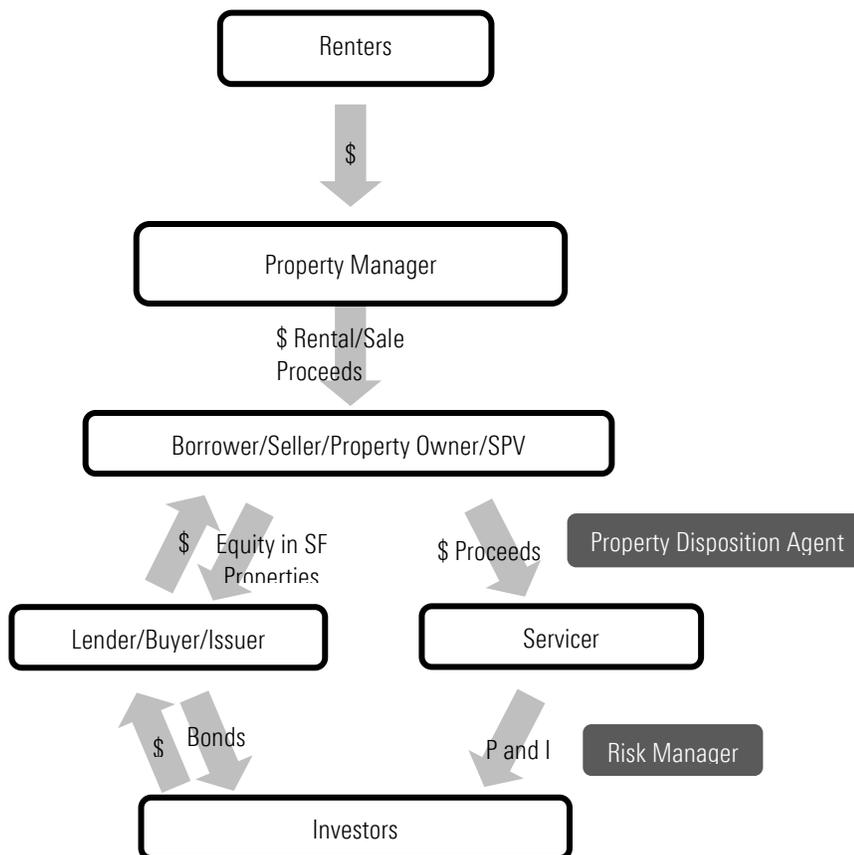
Generally, the trustee receives the cash flows from the servicer and disburses the funds to the bondholders.

Risk Manager

The transaction may or may not include a risk manager. Generally, the lender hires a risk manager to oversee the activities of the borrower. The risk manager reviews BPOs to ensure quality, makes sure the borrower maintains title to the properties, and makes sure the borrower performs the required maintenance on the properties. The risk manager can be hired to perform these duties on an ongoing basis for the benefit of the bondholders.

Property Disposition Agent

The transaction may or may not include a property disposition agent. The agent would oversee the selling of the properties pledged as collateral to the loan or securitization, with the goal being to maximize the sales price. This role can add value upon default, as there will be pressure to sell a property or properties quickly, but it may be more prudent to be deliberate to get the best price. The servicer or special servicer would handle these responsibilities in the absence of a property disposition agent.



Morningstar has certain expectations as to the operations of major property managers and major servicers of the transaction and may consider concerns related to these operations in the analysis. Morningstar may consider these parties at two levels of review. The first level consists of a review of the property manager or servicer by a Morningstar analyst. In a multiborrower transaction, Morningstar may review the originator’s underwriting guidelines in lieu of reviewing individual property managers. In addition to a consideration of the above parties, the other transaction parties may be considered depending on the nature of the transaction and the party's role in the transaction.

The second level of review is a comprehensive operational risk assessment, which is an optional review that provides the party with a ranking among its peers. Morningstar bases this assessment on an in-depth examination of several factors, including the company's management experience, audit and internal controls, disaster recovery, and historical performance. The assessment report, which is publicly available, provides Morningstar's opinion of the risk profile of the transaction participant's operations. More details on the ORA process can be found in "Operational Risk Assessments Methodology and

Process for Residential and Consumer-Finance Servicers and Vendors" at www.morningstarcreditratings.com.

The information and analysis resulting from these reviews can lead to qualitative adjustments to the model.

Legal Review

When rating a new-issue transaction, prior to closing, analysts will work with internal and external counsel to perform the legal review of the proposed offering materials, trust and servicing agreement, deal-level opinions and, with respect to the monetization feature review, the lending or committed purchase facility documents, organizational documents of the deal-required SPV entities, and legal opinions related to the transaction. Among other things, the legal review is intended to evaluate certain structural issues and concerns with respect to the underlying collateral, the monetization feature, and the securitization issuer. Morningstar expects customary and prudent document provisions, including an appropriate legal opinion covering the sale of the collateral, such as a true sale or security interest. In addition, Morningstar expects the collateral and transaction structure described in the transaction documents to accurately reflect the collateral information from the data tape and priorities of bond payment implemented in our model for assigning the ratings. Morningstar considers the results of this legal review in evaluating the transaction.

Section 2 – Ratings and Rating Actions of Other Rating Agencies

Although Morningstar monitors the actions taken by other credit-rating agencies, our credit ratings are not linked to the ratings, ratings actions, or methodologies of other credit-rating agencies.

On a case-by-case basis, Morningstar may review the publicly available ratings of other rating agencies when analyzing a single-family rental security. For example, ratings of other agencies may be one of many data points reviewed when assessing the creditworthiness of counterparties to a transaction.

Appendix 1: Guide to the Morningstar Single-Family Rental Quantitative Analysis and Subordination Model

Introduction

This guide is intended to introduce the Morningstar Single-Family Rental Subordination Model, beginning with a description of the basic concepts underlying the model and detailing its primary features. The Morningstar Single-Family Rental Subordination Model uses a number of assumptions. We base these assumptions on empirical data whenever robust data is available, but we default to industry experience and intuition when it is not. This paper explains the rationale behind these assumptions.

While this paper is intended to address the key quantitative aspects of single-family rental transactions, because of the evolving and hybrid nature of such transactions, deal-by-deal adjustments may be necessary.

Section 1.1 – Basic Concept

The single-family rental product is a hybrid of multifamily and single-family concepts. Because the cash flows of single-family rental securities are in large part dependent on the monetization of the values of the underlying rental properties held by the securitization vehicle, Morningstar anticipates that these securitizations will include a feature designed to result in such a monetization during the scheduled term of the related securitization. As such, the rental income cash flow from single-family residential homes supports periodic payments on the securities, while the sale of the underlying residential property or properties is the main source of funds to pay off the monetization feature or realize recoveries in the event of a default. Therefore, the analysis of a single-family rental pool relies on valuation techniques used both in the analysis of securities backed by mortgages on multifamily and residential properties.

The Single-Family Rental Subordination Model generates indicative credit-support levels at each rating category for a portfolio of properties that back the single-family rental securities. Credit-support levels are driven by the net cash flow generated by the monthly rental income for each property until the monetization feature maturity date. Upon maturity, the property liquidation values must be sufficient to cover the unpaid portion of the single-family rental securities, thereby paying off all rated securitized tranches.

The analysis is divided into two key processes. The first step of the modeling process is to underwrite the base-case NCF at the property-level based on various data and assumptions. The primary determining factors of the property-level NCF include the actual rent, market rent information for similar properties, concessions, vacancy rates, time to rent the property, the rent roll, operating expenses, and capital expenditures. See Section 1.2 for more details on Morningstar's underwriting approach. The property-level NCF is then aggregated to the pool-level NCF net of applicable fees, such as servicing fees or other fees for each monthly period.

Because single-family rental securities may not be fully amortized by the maturity date, the second step in the Single-Family Rental Subordination Model is to assess the payoff ratio. The ratio is Morningstar's value of the single-family rental properties divided by the unpaid balance of the securities. Morningstar determines single-family rental property value using two valuation methods. The first method is to apply Morningstar's regional single-family house price index decline to the property's value. The second

method is to determine the property's investment value using Morningstar's income capitalization-rate approach for multifamily properties. Generally, Morningstar uses the higher of these values for each property analyzed by the model to determine if the amount available is sufficient to pay off all rated securitized tranches.

After Morningstar determines the base-case NCF and payoff ratios, they are subjected to a set of stresses at each major rating category, as applicable.

Each set of stresses may include:

- (1) NCF declines during the term of the securities and at the maturity date of the monetization feature that reflect worsening economic conditions;
- (2) Cap-rate increases that reflect deteriorating demand for single-family rental investment properties;
- (3) HPI declines to reflect the regional severity of a housing downturn; and
- (4) Interest-rate stress on the interest due on the securities.

During the term of the securities, the Single-Family Rental Subordination Model evaluates whether there is sufficient NCF to make the required debt service payments associated with the securitization. In other words, the debt service coverage ratio needs to be adequate for each forecast period at each required rating scenario for the related security to "pass" that rating scenario. The payoff ratio also needs to be deemed sufficient at the maturity date of the monetization feature at each required rating scenario for the related security to "pass" that rating scenario.

Section 1.2 – Details on the Model Assumptions

In this section, we cover each of the Single-Family Rental Subordination Model's primary concepts and features.

NCF Underwriting

NCF is driven by the gross rent assessment, vacancy rates, operating expenses, and capital expenditures. Morningstar first determines the NCF at the base-case from available data and assumptions. In addition to single-family rental data, Morningstar considers empirical data on multifamily rental units. The level of granularity varies based on data availability. For example, the analysis may be conducted at the property-level, or the metropolitan statistical area level, or the submarket or ZIP code level. Single-family rental data generally dates back to 2009. Multifamily rental vacancy data dates back to 2005 and in some MSAs, dates back to the 1990s. Because single-family rental data is relatively limited, multifamily data may be used as a proxy.

For the base-case underwriting, Morningstar compares the actual rent with market rents and/or third-party data. Additionally, Morningstar evaluates the full mortgage payment plus the assumed maintenance costs and capital expenditures for each property as a comparison data point to rental information. The rationale for including the mortgage payment in the analysis is that if the rental payment is significantly higher than the full mortgage obligation plus maintenance costs and capital expenditures, then the renter may be incentivized to be a property owner instead of a renter. Using a combination of market rent data compared with the calculated mortgage obligation, Morningstar decides whether to use the actual rents or make adjustments. Morningstar considers other income on a case-by-

case basis, depending on the nature and stability of the sources of other income. Sources of other income may include fees related to pets, parking, and late payments. Morningstar also reviews available rent concession data and may reduce the rent used in our NCF analysis based on this information when appropriate.

In determining the vacancy assumptions to be used in the Single-Family Rental Subordination Model, Morningstar may evaluate both issuer-provided and publicly available information. This information may include:

- ▶ Property manager overall portfolio vacancy
- ▶ Property manager time to rent (in months)
- ▶ Property-level actual vacancy and time to rent (in months)
- ▶ Issuer underwriting vacancy assumptions
- ▶ Regional historical rental vacancy

In addition, Morningstar reviews the operating expenses associated with single-family rental properties. These expenses typically include taxes, insurance, repair and maintenance costs, property manager fees, homeowners association fees, leasing/marketing and turnover expenses, and capital expenditures. Because the reported history on single-family rental properties may be limited, Morningstar typically applies an upward adjustment of the NCF stress for expenses. Morningstar may review NCF adjustments as more single-family rental data becomes available.

NCF Reduction Stress

The purpose of NCF stresses is to provide rental cash flow stability at each required rating level. Morningstar develops the stresses based on available empirical and issuer data of single-family rental properties and Morningstar multifamily NCF stress assumptions.

After Morningstar completes the base-case NCF stress analysis, we apply additional NCF stresses at each required rating level. The NCF decline percentage is the highest at the AAA level, followed by AA, A, BBB, BB and B.

Valuation

Valuation of each single-family rental property is critical, because the liquidation value of the property is the primary source of funds available to satisfy the monetization feature or to realize recoveries in the event of a default. Morningstar values each single-family rental property using two different valuation methods, if applicable. One valuation method uses Morningstar's HPI stress. The second approach uses Morningstar's income cap rate valuation approach for multifamily properties to determine the property's investment value. One of these approaches may not be applicable for certain properties. Further, if Morningstar perceives the recent HPI increase in a region to be excessive and potentially volatile, Morningstar may apply a cap to the HPI increase.

Under the Morningstar HPI valuation approach, an HPI stress is applied to discount the provided property value. This value represents the amount that a typical homeowner is willing to pay under the stress scenario. Morningstar developed our HPI stresses based on historical regional HPI data, which typically dates back to the 1970s at the MSA level. Rather than looking at national HPI, applying the discount at

the MSA level results in a so-called bottom-up approach that reflects the regional variability of HPI volatility. For example, at an A rating stress, the worst historical regional HPI decline is applied. The worst historical regional HPI decline is measured by the steepest peak-to-trough HPI percentage decline experienced during any housing cycle in the available data set. However, Morningstar reverts to the national HPI decline when the MSA-level decline is not as severe. The HPI declines are generally the most severe at the AAA level, followed by AA, A, BBB, BB and B.

Morningstar's income-capitalization valuation is the result of Morningstar's NCF divided by the cap rate. The result reflects the intrinsic value an investor is willing to pay for the property. The cap rate is determined by a corresponding regional, MSA, or submarket multifamily rental cap rate. Multifamily data is used as a proxy, because cap-rate data may be limited for single-family rental assets. Typically, an additional cap rate adjustment may be applied at the base-case level because single-family rental assets are a newer asset type compared with multifamily rental assets. Then additional cap rate stresses are applied at each required rating category. AAA requires the highest assumed cap rate.

Generally, Morningstar uses the higher of these two values for our analysis in the Single-Family Rental Subordination Model. The rationale for using the higher value is that the value of the property as an investment is considered to be the floor for the price of a property. If the net cash flow generated from a renter is sufficient to support the price of a property, generally the property makes economic sense as a financial investment. However, in our view, if prospective homeowners bid the price higher than the value supported by rental income, investors will step aside and the homeowner bid will prevail. If the rating committee determines that this rationale does not hold for properties in the transaction, Morningstar may use the lower of the two values, or some combination of the two values in our analysis. One example for changing this assumption would be if the rating committee determined that some properties are located in an area with few investment properties, and there is concern regarding the liquidity of investment properties. A second example would be the inclusion of multifamily properties where a single-family HPI stress may not be applicable.

Section 1.3 – Other Considerations

Interest-Rate Stress

Morningstar applies the market forward interest rate in the Single-Family Rental Subordination Model. Morningstar may apply other interest-rate paths as appropriate. If an interest-rate derivative is included in the transaction, and the derivative counterparty is a market acceptable counterparty, Morningstar may assume credit to cash flow from the derivative contract, as appropriate.

Servicer Advances and Special Servicing

The servicing practices for the transaction are another consideration of the Single-Family Rental Subordination Model. Subject to a recoverability standard, the servicer is required to advance on delinquent monthly interest and principal payments due on the securities. The Morningstar Single-Family Rental Subordination Model uses the stressed NCF as the amount of funds available to cover the payment to the securities. Morningstar assesses whether the stressed NCF is sufficient to pay the securities and corresponding certificate obligation at each rating level. The servicing fee and/or other applicable fees would be modeled according to the transaction documents. In some cases, Morningstar may give credit to servicer advances for a period of time prior to liquidation.

If applicable, the special servicer for the transaction services the monetization feature upon a transfer event such as an event of default. The payoff ratio upon maturity of the monetization feature is evaluated to determine if the securities could be paid off. ■■■

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