

## ABS Research

# Implied CLO Rankings Exhibit Strong Performance

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### Morningstar Perspective

Morningstar Credit Ratings, LLC (Morningstar) believes that certain U.S. collateralized loan obligation tranches may be considered stronger than current ratings indicate, based on Morningstar's implied rankings<sup>1</sup> of a sample of recent CLOs. In our analysis, we found that Morningstar's implied CLO rankings generally performed well, exhibiting few downgrades over one- and two-year periods.

The recent strength in CLO issuance has also coincided with weakening loan underwriting standards and fewer covenants, raising concerns about the sector's ability to withstand an economic downturn. Earlier this year, Morningstar published a research article, [\*Push for Higher Equity Returns Leads to Weaker Structural Features in CLOs\*](#). We discussed how mezzanine noteholders are exposed to additional risks following a refinancing because the ability of a manager to weaken a portfolio's credit quality to build par and recharacterize excess par into interest proceeds could leak to the equity holder.

However, CLOs issued from 2014 and thereafter have more stable underlying assets than those preceding the global financial crisis, due to the absence of high-yield bonds. In addition, CLOs also have improved structural protections, including higher subordination and shorter reinvestment periods. While there was an uptick in CLO defaults during the global financial crisis, particularly across non-investment-grade tranches, the average annual default rate remains relatively small compared with those of other asset-backed securities. Indeed, to the best of our knowledge, there has never been a AAA or AA rated CLO note default recorded.

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<sup>1</sup> Rankings represent output from a purely quantitative approach, absent any rating committee meetings, qualitative and legal analysis.

## Implied Rankings Approach

We pooled historical data for CLO deals involving CLO managers whom we conduct operational risk evaluations on and examined these transactions taking place from January 2013 through July 2018. The sample included 96 deals and 769 tranches, representing approximately \$67.84 billion. We used Intex CDU files to obtain historical values for weighted average spread, the diversity score, and the weighted average rating factor, or WARF, of the relevant collateral pool from issuance until full payoff or July, whichever was later. Next, we applied our CLO methodology to this data set and arrived at implied rankings. Given that we could not review the relevant transaction documents for this exercise, the implied rankings calculated through quantitative analysis alone may not be an accurate representation, in all cases, of the potential actual ratings that Morningstar would provide when it conducts a full rating analysis. Because the weighted average spread, diversity score, and WARF have a direct impact on our rankings, any discrepancies between historical data available in Intex and trustee reports could also affect our implied rankings.

To account for potential qualitative committee considerations, such as concentration limits outside market standards and the potential interest-rate environment, we lowered our recovery assumptions--typically based on the assumed pool, which consists of at least 90% first-lien loans--by 4 percentage points and added 10 basis points to our target conditional default rate, or CDR, for the initial ranking. For example:

**Adjusted Target Break-Even CDR** = Base-Case Target CDR \* WARF Adjustment \* Diversity Adjustment \* Manager Adjustment + 0.1%

Morningstar uses different interest-rate stress scenarios as one of the inputs to its ranking analysis. Generally, we use high-, mid-, and low-interest-rate paths to analyze a ranking's sensitivity to the volatility in interest rates. We ran our first ranking analysis for each deal as of six months from the deal's closing date to ensure the availability of historical information. This time frame coincides with the first payment date. We used the collateral WARF, weighted average spread, and diversity score, as reported by Intex on that date. Typically, when rating a CLO transaction at closing, we consider the manager's expected target weighted average spread, WARF, and diversity score as of the effective date. The difference between a portfolio's target characteristics as of the effective date and a portfolio's actual characteristics as of the first payment date could lead to a different ranking.

## Key Factors Potentially Affecting the Implied Rankings

The following factors may lead to the actual ratings being higher than the implied rankings:

- Application of an additional 10 basis points to the CDR to account for unknown portfolio or structural characteristics, assuming worse-than-average portfolio characteristics.

- Inclusion of a manager adjustment for a CLO manager which may improve over time with an increase in such manager's experience.
- Exclusion of 4 percentage points lower recovery assumptions for older transactions where, arguably, underlying collateral would have been better than for newer deals.

Similarly, the actual ratings may be lower than the implied rankings for the following reasons:

- Potential application of a higher adjustment to target CDR levels than 10 basis points, which we applied for this exercise, if the collateral characteristics are substantially weaker than an average CLO. For example, if the CCC bucket or current-pay obligation limits are significantly higher than normally seen in a transaction.
- Inclusion of a manager adjustment for a CLO manager which may deteriorate over time because of worse-than-expected performance.

### **Morningstar's Implied Rankings Compared with Peer Ratings**

After analyzing the sample of deals through Intex using the above-mentioned framework, Morningstar found that most of its implied rankings were either in the same rating category or about one rating category higher than the ratings assigned by other rating agencies that rated such deals. The differential is generally magnified towards the lower end of the rating scale. The pie charts below also show that in a very small number of cases, Morningstar's implied rankings were lower than the ratings assigned by the other rating agencies.

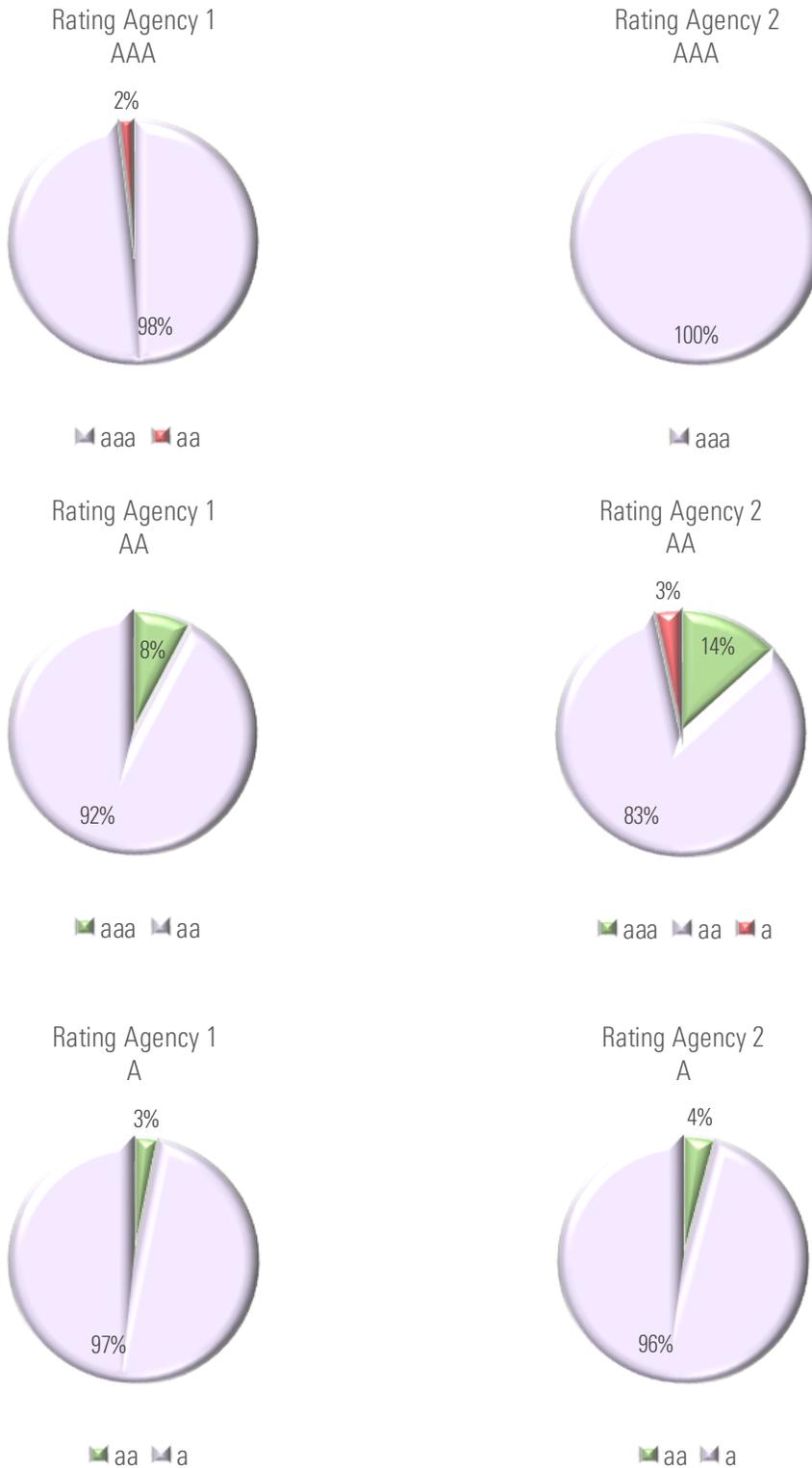
Table 1 below, used for the purposes of this analysis, illustrates that the default experience during a benign credit environment of approximately 2% is used for B rating stress. For A rating stress, we used a 10% CDR. This compares with an average annual default rate being generally below 2% for U.S. leveraged loans in a benign credit environment, according to LCD data. Using our B rating stress of 2% CDR, the implied rankings still indicate that certain CLOs in our observed sample would have higher rankings than the ratings issued by other rating agencies. It is important to note, however, that this analysis is a point-in-time illustration and does not make any assertions regarding the past, current, or future methodologies of Morningstar Credit Ratings or other credit rating agencies. The implied rankings could very well be different if a more detailed analysis were undertaken, including a thorough review of qualitative and legal factors.

**Table 1 – CDRs Used for the Analysis**

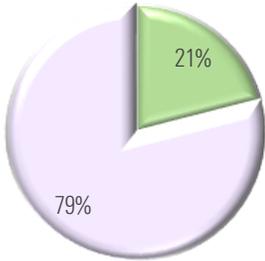
Target Ranking Scenario	Base-Case Target CDR (%)
aaa	16
aa	14
a	10
bbb	6
bb	4
b	2

In the following pie charts, the purple shaded areas represent instances where the implied Morningstar rankings were the same as the corresponding ratings of other rating agencies; the green shaded areas represent cases where the implied Morningstar rankings were one rating category higher than those of other rating agencies (implying that those CLOs appear to be stronger than current metrics indicate), and red shaded areas indicate cases where the implied Morningstar rankings were one rating category lower than the ratings of other rating agencies. For example, 8% of notes with Rating Agency 1 AA ratings have implied Morningstar rankings of one rating category higher (aaa), with the remaining 92% being the same. The differential is larger at the non-investment-grade level, with over 50% of notes with BB ratings by other rating agencies having Morningstar implied rankings that are one rating category higher (bbb), while over 80% of notes with B ratings by other rating agencies have Morningstar implied rankings that are one rating category higher (bb).

### Rating Differentials Between Implied Morningstar CLO Rankings and Ratings from Other Rating Agencies

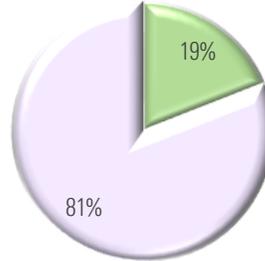


Rating Agency 1  
BBB



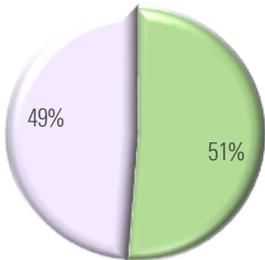
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Rating Agency 2  
BBB



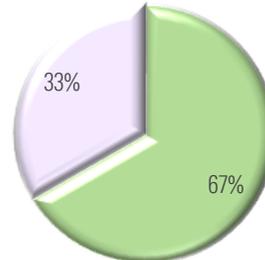
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Rating Agency 1  
BB



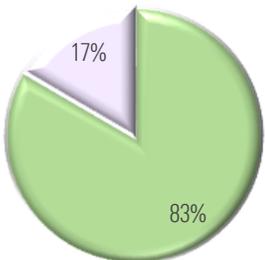
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Rating Agency 2  
BB



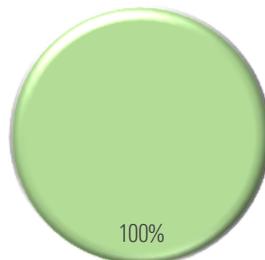
■ bbb ■ bb

Rating Agency 1  
B



■ bb ■ b

Rating Agency 2  
B



■ bb

Sources: Morningstar, Intex

## Implied CLO Rankings Have Few Downgrades

To determine the volatility of our implied rankings, we analyzed the historical values of the sample CLO transactions over both a one-year and two-year horizon. The implied investment-grade ranking categories exhibited a high level of ranking stability between 2013 and 2018, with the implied aaa bucket seeing 98.0% of rankings remaining the same one year later, as shown in Table 2. Meanwhile, our implied non-investment-grade CLO rankings also enjoyed robust stability, with very few downgrades occurring after one year. Note that the bb sample is small (with only 96 tranches falling into this category since the beginning of 2013), somewhat skewing the results and that; on average, 13.5% of the rankings rose to bbb one year later. Likewise, there were only four tranches in the b bucket, which saw 25% of rankings move up one rating category after a year.

**Table 2 - Implied CLO Average One-Year Ranking Transition Matrix: 2013-18\***

%	aaa	aa	a	bbb	bb	b
aaa	98.0	2.0	0.0	0.0	0.0	0.0
aa	8.6	88.5	2.9	0.0	0.0	0.0
a	0.0	9.0	84.1	6.9	0.0	0.0
bbb	0.0	0.0	9.0	78.6	12.4	0.0
bb	0.0	0.0	0.0	13.5	82.3	4.2
b	0.0	0.0	0.0	0.0	25.0	75.0

\*As of July 2018.

**Table 3 - Implied CLO Average Two-Year Ranking Transition Matrix: 2013-18\***

%	aaa	aa	a	bbb	bb	b
aaa	100.0	0.0	0.0	0.0	0.0	0.0
aa	21.6	78.4	0.0	0.0	0.0	0.0
a	0.0	13.9	79.7	6.3	0.0	0.0
bbb	0.0	0.0	16.7	72.2	11.1	0.0
bb	0.0	0.0	0.0	22.9	68.8	8.3
b	0.0	0.0	0.0	0.0	100.0	0.0

\*As of July 2018. Percentages may not add to 100% due to rounding.

The upgrade trend is not surprising given that the lower-than-expected losses on the underlying pool of loans should improve the break-even CDR for the rest of the life of a tranche. This trend only gets stronger over time. In Table 3, the average two-year transition matrix illustrates more upgrades and mostly fewer downgrades than those in the one-year transition matrix in Table 2.

We derived the implied ranking matrices using a purely quantitative approach, absent any committee discussions. Therefore, it is not surprising that a tranche may experience increased downward rankings volatility over a one-year period compared with a two-year period, as there may have been other mitigating qualitative factors that would have resulted in some rankings remaining the same. As a result, a downgrade may be subsequently followed by an upgrade the next year or vice versa. Examples of qualitative factors include manager adjustment, concentration limits outside the standard, the manager's ability to recharacterize principal proceeds as interest, the potential interest-rate environment in the short term, the amount of cushion or shortfall between the ranking-specific target CDR versus the actual CDR, the portfolio quality assumptions versus actual performance, and so on. Note that the sample size for bb and b rankings is even smaller over the two-year transition period, at 48 and two, respectively.

### **The Evolution of the CLO Market and Strong Rating Performance**

The CLO market has evolved over the years, with each successive vintage demonstrating improvements over its predecessor. The initial iteration of CLOs (CLO 1.0) gained traction in the mid-to-late 1990s as CLO managers pooled non-investment-grade assets, including subordinated debt and high-yield bonds, and divided them into tranches. The structure proved to be resilient. According to Moody's Investor Service, there were only two dozen U.S. CLO defaults or near defaults recorded in 2009 at the height of the crisis<sup>2</sup>.

After the financial crisis, it became more difficult for non-investment-grade companies to obtain financing from banks because of harsher regulatory constraints. Consequently, nonbank lenders increasingly filled the void by including CLO vehicles in their portfolios. This CLO 2.0 vintage was viewed as more conservative than its predecessor, as credit support measures improved, and allowable reinvestment periods shortened. The next iteration, CLO 3.0, came about in 2014 in response to the Dodd-Frank Act, with the result of underlying CLO assets being composed solely of senior secured bank loans and high-yield bonds dropping from the mix.

Morningstar started rating CLOs in 2016, during this 3.0 stage. The market's growth has accelerated throughout this evolution, with \$487.83 billion in new issuance CLOs from 2014 to July of this year, according to Thomson Reuters LPC, compared with \$157.08 billion from 2010 through 2013. The average annual default/near-default rate for U.S. CLOs continues to be negligible, at

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<sup>2</sup> Kanthan, Kumar et al., "Impairment and Loss Rates of U.S. and European CLOs: 1993-2016", p 17-18 July 7, 2017

approximately 0.1%, over the 1993-2017 period, per Moody's Investors Service. U.S. CLOs have also displayed relatively fewer downgrades and lower default rates compared with the downward ratings volatility across more traditional structured finance asset classes and corporate issuers, a phenomenon especially evident during the global financial crisis as well as over the longer-term history. This is not surprising given the improving underlying collateral and strengthening structural protections as CLOs moved from the 1.0 vintage to 3.0.

Following the resurgence in CLO issuance, Morningstar has seen weakening underlying loan characteristics and transaction structures in some respects, but our implied ranking analysis indicates that the sample CLOs have continued to exhibit strong performance over the past five years. Indeed, in some cases, the implied rankings appear to be higher than the ratings by other credit rating agencies. The differential generally gets larger when moving down the rating scale, with Morningstar implied rankings mostly coming out one ranking category higher at the BB and B levels.

*Yunjie Xu and Chaz Schmidt also contributed to this article.*

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