Commonly Asked CDO Questions: Moody’s Responds

OVERVIEW
Moody’s has significant interaction with a variety of CDO market participants. Our contact with investors, collateral managers and investment bankers is continuous and goes well beyond the discussions that occur during the normal course of our analysis of specific deals. Other forums for interacting with market participants include industry conferences, investor briefings, face-to-face meetings and telephone conversations. During the course of our conversations, several comments and questions have consistently emerged. This report attempts to provide brief responses to some of the many queries we hear.

There appears to be a misconception in the market that Moody’s has many “rules” that all CDOs must follow before we will provide a rating opinion. This view is not accurate. Moody’s has few absolute “rules.” We rate deals based on the relevant terms of the binding enforceable documents, primarily the Indenture. To the extent that the binding terms are generic and broad, we will try to incorporate that level of uncertainty in our ratings analysis. In general, greater uncertainty translates into greater collateral and/or structural risk which, all else being equal, will typically result in higher required credit enhancement for a given rating. On the other hand, deals that are specific and focused will typically “benefit” because of their more predictable strategies.

Below we attempt to answer some of the more common questions that are asked of us by market participants. We will periodically issue similar Special Reports as a means to communicate to the market the most frequent queries that we hear.

In this report we address questions relevant to three broad topics — (1) Trading Rules, (2) Defaulted Securities, and (3) Monitoring and Rating Actions. Readers are encouraged to send us questions on any CDO topic for future reports. In the Appendix we provide a list of some of the questions we intend to address in our next report.
QUESTION INDEX

• Questions Related to Trading Rules
  Q1: Why does Moody’s “force” CDOs to sell Defaulted Securities within one year?
  Q2: Why does Moody’s “impose” minimum issue size requirements on deals?
  Q3: The Diversity Score “forces” Collateral Managers to invest in industries that they otherwise would not consider.
  Q4: What are the “limits” for investing in non-U.S. securities for CDOs collateralized primarily by U.S. bonds and loans and why do such “limits” exist?
  Q5: Why are there “limits” to the value of the attached equity option for convertible bonds and other bonds with attached warrants?
  Q6: Why does Moody’s negotiate to turn off the discretionary trading basket once a CDO’s Notes have been downgraded beyond a certain level? What are those triggers and under what conditions does trading typically turn back on?
  Q7: For purposes of calculating a CDO portfolio’s Weighted Average Rating Factor, why does Moody’s seek to treat Review-for-Downgrade securities as if they have already been Downgraded?
  Q8: Does Moody’s insist on an absolute rating trigger below which the CDO’s hedge counterparty must collateralize or replace itself at its own cost?

• Questions Related to Defaulted Securities
  Q9: Why is a bond considered “defaulted” while it is still in its grace period for a missed interest payment?
  Q10: What’s a Defaulted Security according to Moody’s definition?

• Questions Related to Monitoring and Rating Actions
  Q11: Moody’s is predicting high default rates for the upcoming 12-month period. Does this mean that CDO Notes will experience downgrade pressure?
  Q12: How do you monitor your CDO Note ratings?
  Q13: The extent of ratings volatility of CDO Notes, especially downgrade activity, appears to be significant. Is this true?
  Q14: What has been the most common cause for rating downgrades of CDO Notes?
  Q15: Does Moody’s downgrade deals as soon as the quantitative measures dictate that a downgrade is justified?
  Q16: In theory, wouldn’t Moody’s automatically downgrade any deal once it experiences its first security default? Since deals are sized to maximize leverage, wouldn’t any deterioration in the collateral pool (e.g., loss of par) warrant an immediate downgrade of the rated Notes?
Q1: Why does Moody’s “force” CDOs to sell Defaulted Securities within one year?

Moody’s does not force the sale of defaulted securities within any specified timeframe. Moody’s will model a deal based on the provisions of the Indenture. We will typically assume immediate recovery in cases where the manager is required to sell defaulted securities within one year. For some deals where there is no predetermined timeframe to dispose of defaulted securities, we may delay the sale of the defaulted securities in our models for a period beyond one year. We typically gross up the recovery rates, albeit at levels which may not fully compensate the deal for the negative carry of a non-performing security, to reflect the fact that, on average, recovery rates generally increase as managers hold on to the defaulted securities.

However, while the average recovery rates for defaulted securities may increase with the longer holding periods, the volatility of the recovery rates also increases. Thus, our approach of providing a greater stress on a higher level of recovery rates for longer holding periods is not unreasonable. Most of the recent vintage CDOs have carve-outs allowing for longer holding periods for a bucket of the portfolio — typically in the ballpark of 5%-10% of the portfolio. Whatever level is established, we would model this bucket by lagging recoveries and grossing up the recovery rate. In general, the ratings implications are immaterial for such small baskets.

Yet another approach has been applied to avoid “forced” sales of defaulted securities while not impairing the proposed sizing of the CDO’s liabilities. In this case, the haircut to the overcollateralization test for defaulted securities becomes more onerous for longer holding periods. Because of this more onerous treatment, more money is redirected to the rated Notes thereby offsetting the “penalty” associated with the negative carry.

Q2: Why does Moody’s “impose” minimum issue size requirements on deals?

Moody’s does not impose any minimum issue size requirements on any deal. As previously noted, we will model the deal based on the Indenture provisions. Moody’s believes, consistent with general market knowledge, that larger issuances offer greater liquidity for the CDO manager and hence a greater likelihood that the collateral manager will be able to dispose of a defaulted or credit impaired security at a fair value within a reasonable timeframe. Larger issue sizes in general provide a broader investor base and more Street coverage. Both of these features should enhance market liquidity.

On the other hand, to the extent that a deal is buying smaller issues, the manager may be forced to go through a workout or to sell a defaulted or credit risk security at very distressed levels because of limited market coverage.

Thus, for larger issuances we assume immediate recoveries while for smaller issuances we will look at both stressed immediate recoveries and a lag in the recoveries. One caveat: We acknowledge that some of the smaller private placement issues have reaped relatively large recovery rates for some sophisticated investors. In these cases we will still lag recovery rates but we will typically gross them up to levels consistent with the manager’s experience, which often offsets the drag imposed by the negative carry.

Q3: The Diversity Score “forces” Collateral Managers to invest in industries that they otherwise would not consider.

This statement is not correct. A collateral manager could obtain a very high diversity score by avoiding many industries and diversifying among issuers. For example, a manager investing evenly in 4 issuers per industry in only 20 industries (80 issuers, each representing 1.25% of the portfolio) would obtain a relatively high Diversity Score of 46. That’s only 20 industries - 13 less than the total number of Moody’s industry classifications. Even a manager who concentrates the top 10 issuers in this portfolio at 2.5% each can obtain a diversity score of 44. See the tables below to gauge Diversity Score numbers for various portfolios.

---

1 See “Debt Recoveries for Corporate Bankruptcies,” Moody’s Special Comment, June 1999.
Table 1 illustrates the benefits of issuer and/or industry diversification. For example, the portfolio with 20 industries and 80 issuers has a larger diversity score than the 33 industry/33 issuer portfolio and the 25 industry/50 issuer portfolio. It’s important to realize this effect. A common misconception is that the diversity score can increase only through greater industry diversification. This is not the case. There are two ways to increase diversity — either through more industry diversification or more issuer diversification (of course, a combination of the two would be extremely effective in increasing Diversity).

We show the effects of “lumpiness” in Table 2. Let’s assume that for each of the portfolios above, we have 10 issuers that represent twice the average exposure and 20 issuers that represent half the average exposure. Note the decline in Diversity Score from Table 1. However, note too that the Diversity Score for some of the relatively concentrated portfolios in Table 2 continues to be higher than the score for the portfolios with more industries as shown in Table 1. For example, the lumpy 80-issuer portfolio in 20 industries below has a higher Diversity Score (44) than that of the 25-industry diversified portfolio (38) from Table 1.

<table>
<thead>
<tr>
<th># of Issuers Per Industry</th>
<th># of Industries</th>
<th>Avg. Issuer Concentration</th>
<th>Diversity Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>25</td>
<td>125</td>
<td>0.80%</td>
</tr>
<tr>
<td>3</td>
<td>33</td>
<td>99</td>
<td>1.01%</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>80</td>
<td>1.25%</td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>50</td>
<td>2.00%</td>
</tr>
<tr>
<td>1</td>
<td>33</td>
<td>33</td>
<td>3.03%</td>
</tr>
</tbody>
</table>

Table 2 Effects of Lumpy Portfolios

<table>
<thead>
<tr>
<th># of Issuers Per Industry</th>
<th># of Industries</th>
<th>Avg. Issuer Concentration</th>
<th>Top 10 Exposures</th>
<th>Bottom 20 Exposures</th>
<th>Diversity Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>25</td>
<td>125</td>
<td>16.00%</td>
<td>8.00%</td>
<td>64</td>
</tr>
<tr>
<td>3</td>
<td>33</td>
<td>99</td>
<td>20.20%</td>
<td>10.10%</td>
<td>61</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>80</td>
<td>25.00%</td>
<td>12.50%</td>
<td>44</td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>50</td>
<td>40.00%</td>
<td>20.00%</td>
<td>33</td>
</tr>
<tr>
<td>1</td>
<td>33</td>
<td>33</td>
<td>60.60%</td>
<td>30.30%</td>
<td>23</td>
</tr>
</tbody>
</table>

Q4: What are the “limits” for investing in non-U.S. securities for CDOs collateralized primarily by U.S. bonds and loans and why do such “limits” exist?

Moody’s does not limit non-U.S. investing but such investments need to be modeled. Most market participants acknowledge that average recovery rates for bonds and loans outside the U.S. will typically be more volatile and lower than the U.S. market — at least in the short to intermediate term. The high-yield markets and the bankruptcy laws in many of these countries are still developing and have yet to be tested. In less developed countries, sovereign risk adds yet another element of uncertainty. Therefore, forecasting future recovery rate levels is very difficult in these evolving markets, making conservative recovery rate assumptions appropriate.
With regard to Western European credit markets, where sovereign risk is typically not an issue, the speculative-grade market is still relatively new. We have been able to garner limited data on defaulted bond and loan recoveries and have found that the levels are generally lower and more volatile than the U.S. recovery rate levels. These results are not surprising given the infancy of the market and lack of data. Of course, as more data is collected we will continue to refine our recovery rate assumptions.

It’s important to note that Moody’s has developed recovery rate models that we use when rating deals that have significant non-U.S., primarily European, exposure.

Q5: Why are there “limits” to the value of the attached equity option for convertible bonds and other bonds with attached warrants?

Again, there is no Moody’s “rule” that a CDO cannot buy a convertible bond or a bond that has attached warrants. Our position is that our traditional ratings analysis would need to be modified in cases where a CDO has purchased extensive exposure to equity risk. In convertible bonds and bonds with attached warrants, the equity risk is manifested in the value of the option to convert into or buy the stock of the issuer. For a CDO portfolio with a significant option value the portfolio will typically exhibit greater market price volatility than one that is exposed solely to credit risk. The greater volatility is due to the value of the embedded option, which will typically be highly correlated to the stock price of the issuing company.

Thus, these equity-linked securities have more downside risk, which can translate into a greater chance of Credit Risk sales from the portfolio — which in turn translate to more lost par. (Of course, such securities also offer more upside potential; however, the upside benefit is uncertain and is typically not considered when rating the Notes).

Because of this risk, Moody’s believes that at the time of purchase of these securities the value of the option should be negligible. We have discussed several alternatives in cases where a manager wants to purchase securities with a material equity component.

- Use Excess Interest to buy the option.
- Principal Proceeds could possibly be used if the O/C level exceeds the initial O/C level by a considerable amount. For purposes of the O/C test, however, amortize the value of the option (initially, use the straight bond value only — exclude the option value — in the O/C test calculation but in future periods step up the basis of the straight bond value until maturity at which point the basis for the O/C test would be par).
- Model the impact of such securities (can be done by incorporating potential par deterioration resulting from the loss of the option value).

Another ratings consideration, specifically related to convertible securities, is the fact that most of these securities are subordinated or junior subordinated. In such cases we often run a “sanity check” as part of our analysis by adjusting recovery rates lower (for junior subordinated debt, the historical average recovery rate is 20% of par compared to almost 50% for senior unsecured debt) and reducing the rating score.

Because Moody’s rates based on expected loss, our standard CDO methodology of using the issue rating for the rating score (i.e., the probability of default) and a flat 30% recovery rate will provide an accurate measure of credit risk for the portfolio. In cases where we know that most of the securities in the portfolio will be of the same seniority (e.g., CLOs where most of the securities are senior secured loans), we will often try to adjust the rating score to reflect the true estimated probability of default and the recovery rate to reflect the true (and stressed) expected recovery rate. (Remember: subordinated debt ratings are typically notched down from senior unsecured ratings to account for lower recovery rates).

Thus, in cases where we know that 100% of the collateral debt securities will be junior subordinated debt, we may reduce the rating score by 1 to 2 notches (e.g., from 2720 to roughly 2000) while concurrently reducing the recovery rate to about 10%-15% (from our standard 30% assumption).²

² A more complete discussion as to the effects of notching the rating up for subordinated bonds while reducing the recovery rates will be included in our next report — see Q4 in the Appendix.
Q6: Why does Moody's negotiate to turn off the discretionary trading basket once a CDO's Notes have been downgraded beyond a certain level? What are those triggers and under what condition does trading typically turn back on?

In Q14 we discuss the most common reasons for the downgrade of CDO Notes. In many cases the downgrade is the result of a misguided portfolio management strategy, meaning that the manager is actively adding risk to the transaction. In such cases, it is not unreasonable to propose Indenture provisions that constrain a collateral manager's further trading. Thus, Moody's will typically seek to limit a portfolio manager's discretionary trading ability once the CDO Notes have been downgraded and remain below a predetermined rating level.

For more recent vintage deals, the typical downgrade threshold is 2 notches for mezzanine Notes and 1 notch for the most senior Notes — often with no downgrade hurdle for speculative-grade Notes. At such point, the collateral manager will typically be able to trade based only on objective criteria — for example, securities that have been upgraded or downgraded. In order for the manager to regain the ability for discretionary trading, either (a) the Notes would need to be upgraded above the threshold rating or (b) the Noteholders could vote to turn the subjective trading criteria back on.

Q7: For purposes of calculating a CDO portfolio’s Weighted Average Rating Factor, why does Moody’s seek to treat Review-for-Downgrade securities as if they have already been Downgraded?

For purposes of calculating a portfolio’s Weighted Average Rating Factor, Moody’s has begun to reflect issues that are on Review-for-Downgrade as if they have been downgraded one rating sub-category. There is good reason for this refinement of the calculation.

We have extensive data showing that securities that are on Review-for-Downgrade have higher default rates and expected losses than similarly rated securities that are not on Review-for-Downgrade.3 Tables 3 and 4 clearly illustrate this point.

<table>
<thead>
<tr>
<th>Rating To:</th>
<th>Aaa</th>
<th>Aa</th>
<th>A</th>
<th>Baa</th>
<th>Ba</th>
<th>B</th>
<th>Caa-C</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aaa</td>
<td>92.30%</td>
<td>7.20%</td>
<td>0.50%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>A</td>
<td>0.66%</td>
<td>92.53%</td>
<td>6.50%</td>
<td>0.31%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Rating A</td>
<td>0.07%</td>
<td>2.11%</td>
<td>93.54%</td>
<td>3.64%</td>
<td>0.62%</td>
<td>0.02%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>From: Baa</td>
<td>0.04%</td>
<td>0.09%</td>
<td>6.34%</td>
<td>89.95%</td>
<td>2.96%</td>
<td>0.39%</td>
<td>0.19%</td>
<td>0.04%</td>
</tr>
<tr>
<td>Ba</td>
<td>0.00%</td>
<td>0.05%</td>
<td>0.93%</td>
<td>6.30%</td>
<td>86.05%</td>
<td>5.72%</td>
<td>0.51%</td>
<td>0.43%</td>
</tr>
<tr>
<td>B</td>
<td>0.04%</td>
<td>0.08%</td>
<td>0.24%</td>
<td>0.57%</td>
<td>7.98%</td>
<td>84.89%</td>
<td>2.81%</td>
<td>3.40%</td>
</tr>
<tr>
<td>Caa-C</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>1.94%</td>
<td>8.41%</td>
<td>78.20%</td>
<td>11.44%</td>
</tr>
</tbody>
</table>

3 See “An Historical Analysis of Moody’s Watchlist,” Moody’s Special Comment, October 1998.
The differences in the default rates and downgrade transitions between Review-for-Downgrade issuers and all issuers are significant. For example, all Ba-rated issuers had an average one-year default rate of 0.43% and a probability of downgrade of a bit over 6%. Contrast these statistics with the characteristics of Ba-rated issuers that are on Review-for-Downgrade. The probability of default and downgrade is 2.89% and about 35%, respectively, for such issuers. These numbers translate into a six-fold increase in the probability of default and downgrade probability from the all-issuers population. Such wide disparities are also observed when we analyze differences for the other rating categories.

We have found similar results — expectedly in the opposite direction — for securities that are on Review-for-Upgrade. For example, the one-year default rate for all securities that were on Review-for-Upgrade during the period 1993-1998, except for Caa securities, was 0%. For Caa securities that were on Review-for-Upgrade, the one year default rate was a bit over 4%, which is significantly less than the one year default rate for all Caa securities (11.44%). As a result, Moody’s does not take exception to proposals to treat securities on Review-for-Upgrade as if they were upgraded one rating sub-category for purposes of the Weighted Average Rating Factor calculation.

Q8: Does Moody's insist on an absolute rating trigger below which the CDO's hedge counterparty must collateralize or replace itself at its own cost?

No. Moody’s views the hedge counterparty as nothing more or less than an additional source of credit risk, whose severity is the replacement value of the hedge at the time of the counterparty’s default. In practice, most issuers have opted to incorporate tight downgrade triggers in order to (1) avoid elaborate modeling issues (during an already elaborate process) and (2) effectively de-link the hedge counterparty rating from that of the deal. But to the extent that an issuer is interested in exploring other routes, Moody’s is willing and able to incorporate the counterparty risk into our modeling.
DEFAULTED SECURITIES (Q9-Q10)

Q9: Why is a bond considered “defaulted” while it is still in its grace period for a missed interest payment?

The fundamental assumptions we use to rate CDO Notes are based primarily on the Moody’s historical corporate bond default study. Thus, the study serves as our guide to estimate default rates and recovery rates. The Moody’s default study treats a bond as a default at the time that a promised payment is missed (or at the time an announcement of a missed payment is made by the issuer), regardless of the allowable grace period. For example, if issuer ABC misses an interest payment on the due date but makes the payment during the grace period, Moody’s treats ABC as a defaulted issuer at the time of the missed payment.

If an Indenture permits investment activity or interpretations that significantly deviate from the basic assumptions that Moody’s makes in our default study, we need to consider the ratings implications to the CDO’s notes. For example, if an issuer wants a carve-out to avoid treating a bond as defaulted until after the grace period, we can model the deal accordingly. (Generally this can be done by delaying the “hit” to the O/C test by one period for all missed interest payments and allowing Excess Interest to flush out of the deal for a rolling extra period).

However, experience indicates that the vast majority of issuers that miss an interest payment do not make it up during the grace period (well in excess of 90%, according to Moody’s default database). Therefore, the model results will show that not treating a security as defaulted until after the grace period could negatively impact the sizing of CDO Notes.

Q10: What's a Defaulted Security according to Moody's definition?

When Moody’s rates CDOs several assumptions are made. One of the most important assumptions is that the determination of a Defaulted Security is consistent with our Corporate Default Study since we base our default rate and recovery rate estimates from that study. Some of the conditions that Moody’s considers before determining whether an issuer is in default include the following:

- Missed interest or principal payment: The default occurs on the date of the missed payment or the announcement date, if earlier. Moody’s does not wait until the end of the applicable grace period to determine an issuer’s default status;
- Bankruptcy or receivership;
- Date that a distressed exchange becomes binding; and
- A waiver of an event of default would be assessed within the context of the situation. In the case where an issuer is experiencing significant credit deterioration the waiver would typically be ignored for purposes of determining whether a security is Defaulted.

To the extent that the definition of a Defaulted Security diverges from the Moody’s definition, we can model the deal to assess potential ratings implications. For example, for managers that prefer to wait until the end of the grace period before designating a security as Defaulted, we can model the impact of a “delay” in designating such securities as defaults.

---

5 See Q10 for a more in-depth discussion on Moody’s definition of a defaulted security.
6 The following discussion focuses on corporate defaults. In our next report we will address the definition of a default within the context of resecuritizations.
7 See “Default and Recovery Rates of Corporate Bond Issuers: 2000,” Moody’s Special Comment, February 2001, for more insight on this topic.
9 See Q9 for a detailed discussion of a grace period default.
Q11: Moody’s is predicting high default rates for the upcoming 12-month period. Does this mean that CDO Notes will experience downgrade pressure?

A common misconception is that because Moody’s is projecting higher corporate default rates in the succeeding 12 months than we have seen in the recent past, CDO portfolios must also experience high default rates in their underlying portfolios. This is not necessarily true.

The Moody’s prediction of higher default rates is based in large part on the ratings distribution of the total rated high-yield bond market. To the extent that a CDO’s portfolio is more “conservative” than the ratings distribution of the total market, that CDO should experience lower default rates. Many CDOs do indeed appear to have more conservative credit characteristics than the total rated market. For example, as of year-end 2000 one in seven rated issuers in the high-yield market is rated Caa1 and below. Most CDOs own fewer Caa credits than this level.

Q12: How do you monitor your CDO Note ratings?

Moody’s reviews rated deals on an ongoing basis. Typically, the two senior analysts that rated the deal would be primarily responsible for monitoring the status of the deal. Our support analytical staff aids the monitoring process by taking a first look at the monthly surveillance reports. If potential problems are identified, the support analysts will notify the senior analysts. Furthermore, periodic reviews of all deals are performed by the senior analysts.

As is clear from the discussion above, the starting point in assessing the current status of a deal is typically our review of the monthly surveillance report. We will review and often spot check the reports for ratings accuracy and proper identification of Defaulted Securities. Other sources of valuable monitoring information are the investors who often call to inquire about deals or the collateral managers and their bankers who may call to give us a preview of potential problems. If we are looking for more in-depth knowledge of the deal we may call the collateral manager directly or the banker to inquire about model runs.

We have also made significant progress in developing an automated monitoring system. The system performs various detailed analyses of the portfolio characteristics and liabilities of many deals. Our analysts use the system to review deals in an efficient and timely manner. In addition to checking the credit ratings of portfolio securities, our system analyzes other features of CDO portfolios. For example, for portfolio securities we assess seniority, seasoning, market pricing, and quantitative measures of default probabilities as calculated by our Moody’s Risk Management Services (the DPSes).

Q13: The extent of ratings volatility of CDO Notes, especially downgrade activity, appears to be significant. Is this true?

We are completing a transition study specific to CDO Notes. Preliminary results indicate that the extent of CDO Note downgrades is not more severe than comparably-rated corporate bond downgrades. In theory, however, there is no reason to expect similar ratings transition results between corporate bonds and CDO Notes since our ratings of CDO Notes are based on the expected loss of the Notes, not the expected ratings transition. While there have been several downgrades of CDO Notes, the marketplace should also consider the number of rated deals that exist in the market.

For example, at the start of 2000, Moody’s had about 200 Baa outstanding ratings (pari passu tranches treated as one tranche). If we use the average corporate transition matrix for the period 1980-2000, as disclosed in our latest Default Study, we would expect about 13 downgrades in 2000. If we use the 2000 corporate transition matrix, also disclosed in our latest Default Study, we would expect 8 CDO Note downgrades. During 2000 there were 8 downgrades of Baa-rated CDO notes (pari passu tranches treated as one downgrade).

10 See “Predicting Default Rates: A Forecasting Model for Moody’s Issuer-Based Default Rate,” Moody’s Special Comment, August 1999.
11 See Q15 for a detailed discussion of the process of taking formal ratings action.
The CDO transition study will show, however, that the probability of upgrade of CDO tranches is indeed lower than comparably rated corporate bonds. There are several theories as to why this would be the case. The two most obvious are:

- During the reinvestment period, the amount of leverage in CDOs generally does not change unless O/C triggers are violated. After the reinvestment period, as deals wind down there is a greater chance of upgrade since there is less leverage in deals. Since most deals are still in their reinvestment period, this effect has yet to be experienced; and
- There is no real incentive for a collateral manager to manage a deal for a rating upgrade. In the corporate bond arena, a corporation’s management typically has an incentive for a rating upgrade because it could reduce the company’s cost of funding through a refinancing. A CDO, on the other hand, will rarely refinance its debt. Thus, the benefits of a rating upgrade are not as obvious. Also, CDOs are typically managed and structured to maximize equity returns within the confines of the restrictions and limitations of the Indenture. To the extent that a deal has built up a cushion, the collateral manager will often utilize some of the cushion to support equity returns and thus distribute excess money out of the deal rather than lock the gain into the deal and seek a rating upgrade.

Q14: What has been the most common cause for rating downgrades of CDO Notes?

There have been several common themes among the deals that have been downgraded. The following are among the most prevalent:

- **Poor credit decisions:** The most obvious reason that a deal would be downgraded is excessive defaults and credit impaired securities in a portfolio. A collateral manager’s ability to make sound credit decisions is a basic ingredient to the success of a CDO.
- **Excessive discount buying:**[^13] The pricing of a security can be a strong indicator as to potential credit risk. CDO managers that dabble in deep discounted securities are playing in a very dangerous sector of the high-yield market. Credit skills are of the utmost importance as is the ability to be nimble to get in and out of these very sensitive credits. Many managers who have been active in this sector of the market have failed to succeed. They eventually dug a deeper hole for their deal. In addition to buying relatively riskier credits as a result of discount buying, the manager may be distributing Excess Interest to the equity holders. Discount buying is a very “efficient” means of increasing the overcollateralization ratios of a deal, however, the quality of the overcollateralization is questionable. This one-two punch of increasing credit risk and allowing Excess Interest to exit a deteriorating deal typically translates into ratings impairment for a CDO’s Notes.
- **Allowing the structure to dictate investment decisions (or lacking a deep understanding of the structure):** Successful CDO collateral managers are those that typically do not deviate from their proven investment styles and strategies. Collateral managers that alter their investment philosophy to meet the unique demands of a CDO often fail. The change in philosophy is often driven by the pressure to continue to meet equity payments, to correct a violating test in a rapid manner or simply to manage a deal in a style inconsistent with the manager’s proven investment philosophy. We have found that collateral managers that shift their philosophy are typically unsuccessful as they are “forced” into securities and strategies they otherwise would not consider. The successful managers will work hard to sculpt the CDO Indenture to be consistent with their proven style and philosophy.
- **Fighting the structural protections and the spirit of the Indenture:** We have noted some managers that are lax in righting a deteriorating portfolio while concurrently distributing Excess Interest out of the structure. These collateral managers do not actively utilize the O/C test as a possible corrective lever that can efficiently be used to remedy a deteriorating deal. Some common examples include cases where a collateral manager is tardy in treating a security as a Defaulted Security (vis a vis Moody’s determination[^14]), buying deep discounted securities, or holding on to severely impaired securities.

[^13]: It’s important to note that the determination of a “deep discounted” security in this context should be made by reference to a security’s yield and not its market price. Securities that have low market coupon rates will inherently trade at discounts and should not be viewed as “deep discounted” for purposes of this discussion unless their yields (YTM or YTW) are significantly above market levels.

[^14]: See Moody’s monthly Bankruptcy Bond Index to identify issuers that Moody’s considers defaulted.
This type of activity in a deteriorating deal that is barely meeting an O/C test is a strong indicator of deteriorating Notes. In most cases, we find that these managers further deteriorate the credit quality of their deals. Eventually, the CDO’s Notes begin to trade at huge discounts — thereby presenting the Noteholders with realized and unrealized losses — the Notes are downgraded, the collateral manager’s trading flexibility is severely impaired and Equity payments cease indefinitely. During 2000, the CDO market was not receptive to further issuance from many of these managers.

On the other hand, collateral managers that actively manage their deals consistent with the spirit of the Indenture are able to avoid a downgrade, their Notes do not trade at wide market levels, the manager’s investment flexibility is maintained and they are able to reinstate Equity payments in future periods. During 2000, many of these managers found the CDO market to be amenable to add-on deals.

- **Issuer and industry concentration:** We have heard complaints from market participants that our methodology “forces” managers into sectors and issues that they otherwise would not consider. We noted in Q3 that a high Diversity Score could be obtained even with some level of industry concentration. However, the fact remains that many deals have experienced significant portfolio deterioration as a result of a few misguided, yet large, investment positions.

Industry concentration has been the source of problems for several deals that concentrated in Healthcare and Energy in 1999 and Cinemas in 2000. Many deals have run into problems concentrating in a few issuers, especially lower-rated issuers. Several managers that have had downgrade pressure on their CDO Notes had exposure in the 2.5%-4% range in several individual issuers. To add yet more pressure, these issuer exposures often involved lower-rated entities (< = B3 ratings). On the other hand, the more successful managers have diversified among issuers by typically limiting any one issuer exposure to no more than 1.25%-1.75% of the deal, with a focus on relatively higher-rated issuers for the larger exposures.

- **Systemic deterioration of the market:** Even the best manager can find it difficult to avoid downgrades in cases where there is market-wide credit deterioration. For example, the emerging markets meltdown of 1998 resulted in the downgrade of many CDO Notes backed by emerging market debt.

**Q15: Does Moody’s downgrade deals as soon as the quantitative measures dictate that a downgrade is justified?**

No. There is a substantial amount of quantitative and qualitative work done before any rating action is taken. During the normal course of our ongoing monitoring efforts, we will often call collateral managers and bankers for deals that are failing or pushing up against some of the more important tests (e.g., Rating Score Test, Caa basket violation, loss of par) or in cases where some qualitative questions may arise (e.g., buying deep discounted securities, questionable and aggressive treatment of what is a Defaulted Security). If after our inquiries we believe that some of the CDO Notes may be impaired, we may place the Notes on Review-for-Downgrade. From then on, our discussions with the collateral manager become even more involved and frequent, including having periodic face-to-face meetings in some cases. We may also ask the bankers to run model runs to assess the quantitative aspects of the deal. We can adjust model runs to account for the collateral manager’s investment style bias.

For example, we may ask for more severe runs for collateral managers that: (a) have proven to be very aggressive in their interpretation of what a Defaulted Security is or (b) consistently buy deep discounted securities that subsequently default or get downgraded or (c) consistently delay selling severely impaired securities when they have a large bucket of such securities and are violating some key tests — except the Overcollateralization Test. These qualitative assessments are extremely important in our ultimate rating action. We will act on the Notes as soon as there is a clear indication as to the proper rating.16

---

15 Note that there is no requirement that a rating downgrade or upgrade be preceded by a Review action. In cases where a change of rating is unquestionably warranted, we would change a Note’s rating without resorting to a Review action.

16 See Q12 for a more thorough discussion on Moody’s CDO surveillance procedures.
Q16: In theory, wouldn’t Moody’s automatically downgrade any deal once it experiences its first security default? Since deals are sized to maximize leverage, wouldn’t any deterioration in the collateral pool (e.g., loss of par) warrant an immediate downgrade of the rated Notes?

No. Several factors offset the impact of deteriorating credit quality of the underlying collateral pool.

The first factor is that almost all deals start out of the gate with a cushion in just about every test. For example, some of the recent CDOs have gone effective with a cushion of over 200 points in the Rating Score. These deals could absorb a one-notch downgrade for over one third of their portfolio and still comply with their rating score test. Many CLOs also have a significant cushion in their weighted average spread test. The managers in these deals could trade down their average spread for better credits or more par.

The second moving part that is helping to offset the impact of a deteriorating CDO portfolio is the built-in “safety brakes” of the O/C Tests. We’ve noted above the success achieved by some managers who have wisely utilized the O/C test to delever (or reinvest Excess Interest) their deal before their deal has significantly deteriorated. A less leveraged portfolio could support a riskier collateral pool while preserving the ratings of the Notes.

The third feature of CDOs, primarily CDOs collateralized by speculative-grade securities, which would prevent an automatic downgrade is that CDO Notes benefit as they age. For example, all else equal a 6-year average life speculative-grade CDO pool could support higher Note ratings than an 8-year pool. Thus, as the CDO ages and the weighted average life of the assets declines, the Notes get stronger (from an expected credit loss standpoint). This aging effect helps counteract the impact of deteriorating credit quality of the CDO’s underlying high-yield portfolio.

Lastly, some positive events occur in high yield portfolios — for example, securities get upgraded and called (many at premiums). These gains could buffer deterioration in other parts of the pool.
APPENDIX

Possible Questions for Next Report
Q1: How does Moody’s incorporate its assessment of a collateral manager in its ratings opinions?
Q2: How does Moody’s assess the Trustee’s role?
Q3: Why does Moody’s multiply default probabilities by “stress factors”? If Moody’s rating is based on the expected loss (EL), shouldn’t you use the expected, or average, default rate?
Q4: Why is Moody’s assuming a 30% recovery rate for all bonds when the historical data clearly shows that the actual recovery rate is a function of the seniority of the bonds? For example, senior unsecured bonds have recovered about 47% of par while subordinated bonds have recovered about 33% of par.
Q5: In the area of resecuritizations (e.g., CDO of ABS), how does Moody’s address cases where structured finance securities can significantly deteriorate well before a legal default? The “default” may not occur until the maturity of the ABS security in which case there may be too little excess interest and excess par left in the CDO to protect the Noteholders.
Q6: In the area of resecuritizations we often hear that no ABS security has ever defaulted. Thus CDOs of ABS must offer much less credit risk than traditional CDOs backed by corporate debt. Is this true?
Q7: How has Moody’s reacted to the huge Caa baskets that some CDOs have amassed and to some of the discount buying done by some managers?
Q8: How do you incorporate the Senior Implied rating when rating CLOs?
Q9: Under what scenarios would you apply the double binomial in your rating analysis?
Q10: What do the risks associated with Synthetic Securities?
Q11: How do you assess credit risk for non-Moody’s rated securities?
Q12: Will Moody’s change its default and recovery assumptions as a result of the “recent spike” in default rates and declining recovery rates?
Q13: What are the unique rating issues related to CDOs of distressed securities?
Q14: In some CDOs, the collateral managers could classify realized “trading gains” as Interest Proceeds. How does Moody’s view such provisions?