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Special Comment

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Rating Policy

Understanding Moody's Corporate Bond Ratings And Rating Process

This Special Comment is the third installment of Moody's commentary about the rating process. It was written following extensive consultation with market participants in connection with Moody's previous Special Comments: *The Bond Rating Process in a Changing Environment* and *The Bond Rating Process: A Progress Report*.¹

Introduction

Earlier this year, we suggested a number of possible changes to our rating process. We indicated that we would make no changes until after we had engaged in extensive market dialog, which we have done over the last four months.

From these discussions, we determined that market participants support greater disclosure by Moody's of how we arrive at our ratings and why we change them. They also have heightened expectations about the role of rating agencies as vehicles for greater issuer transparency and disclosure, including disclosure of short-term liquidity positions and conditional obligations, such as those with rating triggers.

However, participants strongly oppose some of the possible changes we suggested: increasing the frequency of rating changes without reviews; and streamlining rating outlooks, or even eliminating them. Market participants strongly oppose these changes because they generally desire ratings stability, and they believe such changes would increase ratings volatility. They want ratings to be a view of an issuer's relative fundamental credit risk, which they perceive to be a stable measure of intrinsic financial strength.

We accept the views that we have received and will endeavor to manage our rating process to make it most useful to market participants. We will also strive towards creating greater transparency in our ratings. We will continue to manage our rating system to produce stable long-term ratings, recognizing, however, that in periods of heightened credit stress, ratings have historically been adjusted more frequently.

1. *The Bond Rating Process in a Changing Environment*, January 2002; *The Bond Rating Process: A Progress Report*, February 2002.

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We have also learned from our dialog that there is incomplete market understanding of some aspects of how we manage the rating process, of the intended meaning of Moody's ratings, and of their empirical behavior. We believe that the primary social value, or public good, that rating agencies can produce is greater efficiency in capital markets. In order to contribute to such efficiency, we need to clearly communicate how we will behave in the markets and how our ratings will behave. This Special Comment provides important additional information that we believe will assist the markets in understanding our behavior and our ratings.

This Special Comment first summarizes our recent dialog with market participants, then it sets forth a number of important principles that govern how Moody's conducts its ratings process. Finally, it comments on the intended meaning of Moody's ratings and their empirical behavior.

Dialog with Market Participants

In January 2002, Moody's published a Special Comment (*The Bond Rating Process in a Changing Environment*) that discussed a number of initiatives intended to enhance the quality and timeliness of our ratings and research. These initiatives included:

- Providing Moody's analysts with information about the market's opinion of an issuer's creditworthiness;
- Conducting a census of rating triggers in the contractual agreements of rated issuers;
- Providing an in-depth analysis of the liquidity risk profiles of commercial paper issuers; and
- Considering measures intended to improve rating timeliness, including shortening rating reviews, quicker reaction to material events, increased incidence of rating changes without formal reviews, and streamlining, or eliminating, rating outlooks.

The Special Comment emphasized that "we will not make material changes to our rating process, nor will we move forward with any proposal without extensive market dialog."

In February 2002, Moody's published a second Special Comment (*The Bond Rating Process, A Progress Report*), that summarized preliminary market opinion and our responses to that opinion.

Over the past three months, Moody's held over 35 meetings with issuer organizations, investors, asset management firms, regulators and other market participants to discuss the role of ratings. The meetings coincided with the publication of the two Moody's Special Comments on the rating process.

Summary of Participants' Responses

Moody's summarizes market participants' responses to our request for comment as follows:

- Market participants desire ratings stability. They want ratings to be a view of an issuer's fundamental credit risk, which they perceive to be a relatively stable measure of intrinsic financial capacity compared with other, more market-sensitive measures.
- Market participants are concerned that the use of quantitative inputs to the rating process will lead to greater volatility based upon transient market sentiment.
- Market participants want to know more about how we arrive at our rating conclusions, and they want us to disclose important considerations underlying changes in ratings.
- Market participants have heightened expectations about the role of rating agencies as vehicles for greater issuer transparency and disclosure. Investors desire that rating agencies demand nonpublic information from issuers and that they dig into it in a more forensic manner.

How Moody's Interprets This Feedback

Among our interpretations of the commentary are:

- The bond rating system remains very important to investor and issuer thinking and behavior.
- Rating stability is highly valued by market participants.
- Investors follow and react to multiple aspects of the rating system—e.g., rating outlooks and the Watchlist—for indications of potential changes in credit quality.

- For some investors, ratings are important as one credit diagnostic—the long-term fundamental credit perspective—of a broader, more holistic portfolio credit-management process.
- Some investors (especially total-return investors) care about ratings less as real-time inputs to buy/sell decisions and more because of internal or third-party-imposed portfolio guidelines; as a result, they highly value rating stability to avoid unexpected portfolio revisions.
- Because rating agency behavior is believed to influence security prices, investors exert considerable effort to anticipate rating changes.

Accordingly, we have confirmed that market participants use bond ratings for both long-term fundamental credit analysis and for portfolio governance. Moody's traditional management of the rating system has facilitated these uses for multiple purposes. Yet, these multiple uses have important ramifications for the behavior and performance of ratings, and both Moody's and users of Moody's ratings must consider how these uses might affect the utility of ratings for purposes other than those intended.

Our goal is to be as transparent as possible about the intended meaning of our ratings in order to minimize any misunderstanding about what we do, so that our behavior can promote efficiency in debt capital markets.

How Moody's Conducts Its Corporate Bond-Rating Activities

There are several core principles that set forth how Moody's acts which should be well-understood by all market participants.

1. *Effect of commercial relationship*: the level of rating that Moody's assigns to an issuer is affected neither by the existence of a commercial relationship between Moody's and the issuer, nor by the nature of that commercial relationship.
2. *Judicious rating process*: because of the potential importance of the rating to the issuer and investor, Moody's carefully and deliberately considers all information relevant to the issuer's rating that the issuer and its advisors present to us. Moody's understands that its ratings can potentially become self-fulfilling forecasts. In the case of upgrades, that can mean greater capital market access and interest cost savings for issuers, and improved securities prices for investors. In the case of downgrades, it can mean higher capital costs for issuers, and portfolio turnover and losses for investors; most dramatically, however, it can terminate an issuer's access to capital, possibly even leading to default. Especially in the case of downgrades, the potentially self-fulfilling nature of ratings requires that Moody's particularly endeavor to avoid "false" negative predictions. Moody's recognizes the views of investors, issuers and intermediaries that we should be cognizant of the potentially damaging consequences of our decisions. Accordingly, while Moody's will not forbear in reaching and disclosing rating opinions, we will conduct the ratings process judiciously, and may tolerate some delays in the ratings process to make sure that relevant information is considered. Nevertheless, if an issuer proposes to bring securities to market before a rating process would normally be concluded, Moody's may accelerate provision of a rating based on the best information that Moody's has at the time.
3. *Effect of a rating action on an issuer*: Moody's will proceed with issuing or changing a rating, notwithstanding the effect of the rating action on the issuer, including the possible effect on the issuer's market access or conditional obligations. The level of rating that Moody's assigns to an issuer that might experience potential changes in market access or conditional obligations will reflect Moody's assessment of the issuer's creditworthiness, including such considerations.
4. *Rating triggers*: Rating triggers — especially if near an existing rating and requiring significant remedies, such as repayments or posting of collateral — can severely restrict a company's available outcomes and create additional volatility in a company's creditworthiness. The use of ratings in triggers can make the rating a causal element of a company's creditworthiness. In managing the rating system, Moody's will treat rating triggers as we would other elements of "conditionality" such as stock-price triggers or material adverse-change clauses. To the extent that these elements of conditionality are consequential to a company's future creditworthiness (or even viability), Moody's acts as judiciously as possible in reaching a rating conclusion. We do not, however, forbear, or allow a company's use of our ratings, to delay rating actions. The three key elements of Moody's rating system management as applied to rating triggers are:

Awareness. Moody's is working to be as comprehensively aware of rating triggers and other material elements of contingent claims as possible for all rated issuers.² Depending on their potential consequences, and if we are not aware of rating triggers, we may not be able to reach sound analytical judgments.

Analysis. Moody's will have refined, consistent views on the implications and consequences of rating triggers, especially in areas where Moody's is not involved in their creation (e.g., not involving Moody's Structured Finance department) and where utilization may be rapidly evolving.

Disclosure and Discussion. We will strive to make the results of our analysis known — first, to the issuer and banker, and, second, to the market. Market disclosure is subject, however, to respecting the confidentiality of non-public information disclosed to us by the issuer or its agents.

5. *Ratings as forecasts with uncertainty:* Moody's rating is an opinion forecast of an issuer's future relative creditworthiness. Moody's acknowledges that, as in the case of any forecast, there can be a range of actual outcomes and a range of uncertainty about the forecast. If Moody's perceives that an issuer faces a highly restricted set of outcomes that are quite different from each other (as may occur in mergers, or for issuers with very substantial conditional obligations), Moody's will normally assign a rating based on its perception of the most likely outcome; in such cases, Moody's will not normally assign a rating based simply on a probability weighting of the outcomes. Subject to respecting the confidentiality of non-public information disclosed to us by the issuer or his agents, Moody's will endeavor to explain the rationale for such ratings as clearly as possible. In cases where there may be important changes in rating levels based on contingent outcomes, Moody's will further endeavor to explain the degree of possible future rating changes and will include some indication of how likely it views each outcome to be. *This is a new policy for Moody's, and reflects comments made by investors, who would like greater transparency in this area.*
6. *Confidential Non-Public Information:* Moody's will use confidential non-public information that issuers provide to Moody's only for the purpose of assigning ratings. Moody's will not, without the permission of the issuer, disclose the information in the press release or other research reports published in connection with the rating, or in discussions between Moody's analysts and investors, or other issuers. Such information may, however, be disclosed as a result of legal processes. Moody's believes that the efficiency of capital markets is best served by permitting issuers to disclose to rating agencies material non-public information for use solely in rating decisions. If public policy favors broader disclosure of such non-public information that could reasonably be expected to have an effect on rating decisions, Moody's believes that authorities would require that issuers make public disclosure of such information, rather than utilizing rating agencies as the vehicle for such disclosure.

Moody's Corporate Bond Ratings

Moody's ratings are opinions of future relative creditworthiness, derived by fundamental credit analysis and expressed through the familiar Aaa-C symbol system. Fundamental credit analysis incorporates an evaluation of franchise value, financial statement analysis, and management quality. It seeks to predict the credit performance of bonds, other financial instruments, or firms across a range of plausible economic scenarios, some of which will include credit stress.

Credit ratings provide objective, consistent and simple measures of creditworthiness. As such, they improve the flow of information between institutional borrowers (issuers) and lenders (investors). Generally, institutional borrowers know more about their companies than do their lenders. Moody's helps to reduce this asymmetry of information. Ratings, thereby, increase the potential market for issuers' obligations. Ratings also reduce investors' costs of gathering, analyzing, and monitoring the financial positions of borrowers because rating agencies provide scale economies and specialization in performing these functions. Accordingly, credit ratings, in aggregate, lower the costs of borrowing and lending and increase overall market efficiency for both issuers and investors.

2. Moody's cannot, however, force an issuer to disclose the nature or extent of its use of rating triggers. If an issuer determines that public disclosure pursuant to securities laws is not required, and does not otherwise reply to Moody's inquiries about its use of rating triggers, neither Moody's nor investors will have a complete view of the issuer's credit profile.

Beyond this core function, ratings have also come to serve many other uses. Savers, and the institutions that intermediate savings, rely on ratings to minimize costs associated with monitoring the risks taken by investment managers and as benchmarks for determining investment manager performance. Investors and counterparties embed ratings as triggers into private contracts in order to protect themselves from potential deterioration in the creditworthiness of an obligor's financial position. Regulators and lawmakers utilize ratings to measure and limit risks taken by regulated entities, including capital requirements to protect bank depositors, insurance beneficiaries, and taxpayers from unnecessary costs. Many of these uses are predicated on ratings behaving according to certain well-established patterns.

In order to promote a clearer understanding of the signals conveyed by ratings — as well as by rating outlooks and the Watchlist, which are included in Moody's rating system — we explain in the following sections the intended meaning of Moody's corporate bond ratings and their empirical behavior. Our dialog with the market suggests that improved transparency around the formation and meaning of ratings may help users better utilize them in their investment decisions. The following sections describe Moody's view of the usefulness of ratings, sets forth a summary of the established patterns of the behavior of our ratings, and discusses some of the issues raised by investors and others in the wake of recent credit defaults by large issuers. We also comment on how market participants expect our ratings to behave in view of the multiple uses of ratings that are common in debt markets.

Fundamental Credit Analysis

Credit analysis consists of opinion forecasts (predictions) about the probability that an obligor will make promised payments. Because differences in recovery rates (as a percent of principal owed) strongly affect investment outcomes, our analysis also addresses loss severity. The analytic output can be expressed as default (or expected loss) probabilities over a range of horizons, or as simple, ordinal groupings such as bond ratings. There is an expectation that ratings will, on average, relate to subsequent default frequency, although they typically are not defined as precise default rate estimates. Moody's ratings are therefore intended to convey opinions of the relative creditworthiness of issuers and obligations. This relative ranking of issuers and their obligations is based on time-tested, fundamental principles of credit analysis.³

A rating analyst relates patterns of financial behavior (including many subjective factors, such as the quality of management) with subsequent default or loss experience. Certain financial patterns (for example, in leverage, coverage, liquidity or profitability) have been found to be associated with subsequent default and loss experience, which are then classified into our rating categories.

Moody's ratings process also involves forming views about the likelihood of plausible scenarios, or outcomes—not forecasting them, but instead placing some weight on their likely occurrence and on the potential credit consequences.⁴ Normal fluctuations in economic activity are generally included in these scenarios, and by incorporating our views about the likelihood of such scenarios, we give our ratings relative stability over economic cycles and a sense of "horizon." Otherwise, we would change ratings as a result of reasonably foreseeable changes in the macro economy, in the industry, or in financial ratios.

Understanding The Ratings System

The value of a credit rating system is maximized through wide coverage of issuers and wide dissemination of ratings. Just as important, however, is that users of bond ratings understand the non-rating signals that have become standard features of the rating system. Non-rating signals, such as rating outlooks and the Watchlist, have evolved to meet investors' needs for an indication of the likely direction of future rating actions.

Moody's has developed processes and procedures that insure that our opinions reflect relative fundamental credit risk. While financial data (and markets) can, and do, change frequently, the prevailing view is that creditworthiness, particularly for higher-rated firms, is an intrinsic feature of an issuer that generally takes time to change. Most market participants would argue (rightly or wrongly) that a rating reversal — an upgrade followed by a downgrade, or a downgrade followed by an upgrade — over, for example, a three-month period — would be evidence of a rating "mistake."

3. Moody's publishes rating methodologies for nearly all rated sectors. See *Moody's Rating Methodology Handbook*, February 2001.

4. As previously stated, when potential scenarios are for some reason reduced to a highly restricted set of outcomes—e.g. that either a company will fail or will survive with investment-grade characteristics—we choose a rating consistent with only one of the outcomes, rather than assign an average of the ratings. This is particularly true in merger/acquisition situations and when "rating triggers" might force an outcome inconsistent with the average rating.

Moreover, the potentially self-fulfilling nature of ratings creates a strong bias against "false" negative predictions (compared with other credit measurement systems) because ratings themselves can be causal, either because of market reactions to rating changes or because of the use of ratings in agreements between the issuer and investors or other parties (rating triggers).⁵ This is not because rating agencies perform their roles improperly or differently than in the past; it is in fact the opposite — that their track record and objectivity causes markets to react to rating changes to the point where additional signals (rating outlooks and the Watchlist) and careful deliberation are demanded.

A rating outlook, expressed as positive, stable, or negative, provides an opinion regarding the likely direction of any medium-term rating actions, typically based on an 18-month horizon. Nearly all rated investment-grade companies have a rating outlook assigned to them, and a change in rating outlook can be determined by a formal rating committee or by approval of the lead analyst and a Managing Director. Historically, Moody's has not systematically tracked the relationship between rating outlooks and subsequent rating changes, but we have heard significant market interest in our doing so. Moody's plans to respond to this interest and will publish such findings in the future.

If changing circumstances contradict the assumptions or data supporting the current rating, we will place the rating under review (on the Watchlist). The Watchlist highlights issuers (or debt obligations) whose rating is formally on review for possible upgrade, downgrade, or direction uncertain. At the conclusion of a review, typically within 90 days of placement on the Watchlist, we will determine whether the risks and expected loss are still consistent with the assigned rating. Although the Watchlist is not a guarantee or commitment to change ratings over a certain time horizon — or even to change them at all — historically, between 66% and 76% of all ratings have been changed in the same direction (and rarely in the opposite direction) as indicated by their Watchlist review.⁶

A formal rating committee is normally required to place an issuer on the Watchlist, and a separate rating committee is needed to take the issuer off the Watchlist, either by changing or confirming the current rating. In most cases, members of the rating committee will meet with a firm's management after it is placed on the Watchlist. The information gained at this meeting can form the basis for the confirmation of the rating or a rating change.

These practices impart a deliberate, and often serial, behavior to rating changes, and they sometimes limit the information content of individual rating changes. Our discussions with users of ratings, however, indicate that, despite criticism about rating timeliness, investors and other users prefer the system as it currently operates. The market does not look to ratings primarily as buy/sell signals, and does not want ratings to be pro-cyclical or add to market volatility. Our challenge is to increase the information content of ratings without adding unnecessarily to market volatility.

Empirical Results From Moody's Ratings and Ratings Process

Moody's bond ratings are predictions of relative creditworthiness, which can be defined as a relative expected-loss rate. Expected loss rates, in turn, are the product of expected default rates and expected loss-severity rates in the event of default. Our annual reviews of corporate bond defaults and recoveries on defaulted bonds provide an after-the-fact analysis of our ratings and summarize the empirical outcomes of our rating definitions and our rating system-management practices. These findings are supplemented with a variety of periodic research reports on rating transitions, default rate forecasts, tests for rating consistency, and loss severity in the event of default. (A bibliography of this research appears at the end of this document.)

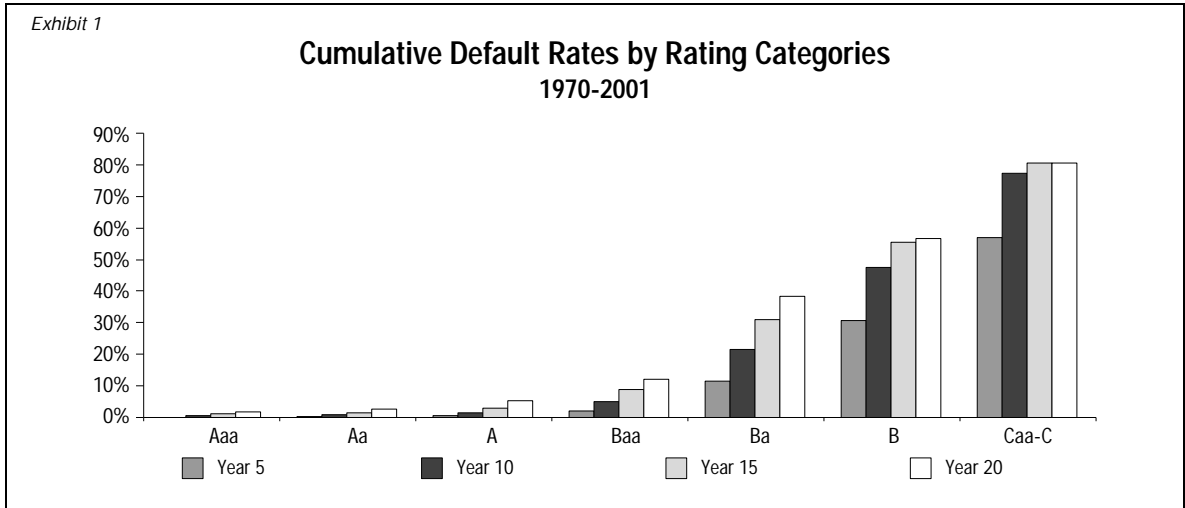
Over 3,500 of the more than 16,000 corporate issuers that Moody's has rated since 1920 defaulted at some point in time. Our default research illustrates the strong historical relationship between Moody's ratings and subsequent average default and loss experience at different investment horizons. Most of our empirical analysis of the broad ratings categories (Aaa, Aa, A, Baa, Ba, B, Caa, Ca, C) has focused on the last three decades. However, when we analyze the performance of our more refined ratings (using the 1,2,3 modifiers), we consider data only from 1983 to the present, since modifiers were first introduced in April 1982.

5. Again, we do not allow potential, causal impacts of a rating action to restrict our ratings.

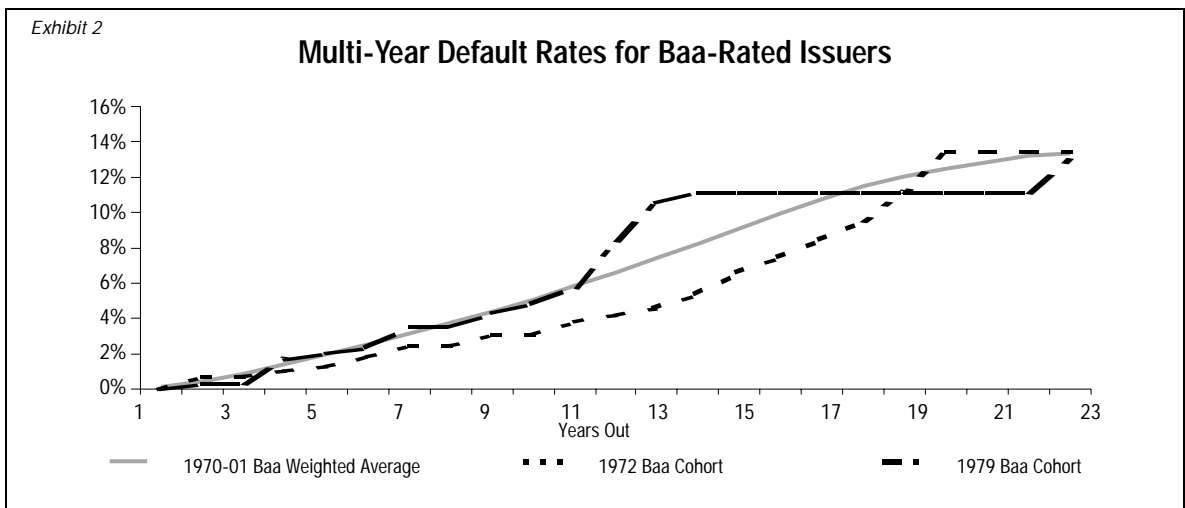
6. See Moody's Special Comment *An Historical Analysis of Moody's Watchlist*, October 1998.

Cumulative Default Rates By Rating Categories

Exhibit 1 presents the standard measure of the relationship between ratings and default risk, as expressed by differences in long-term cumulative default rates across rating categories. Over investment horizons as long as 20 years, Moody's ratings have proven a reliable guide to differences in default risks.



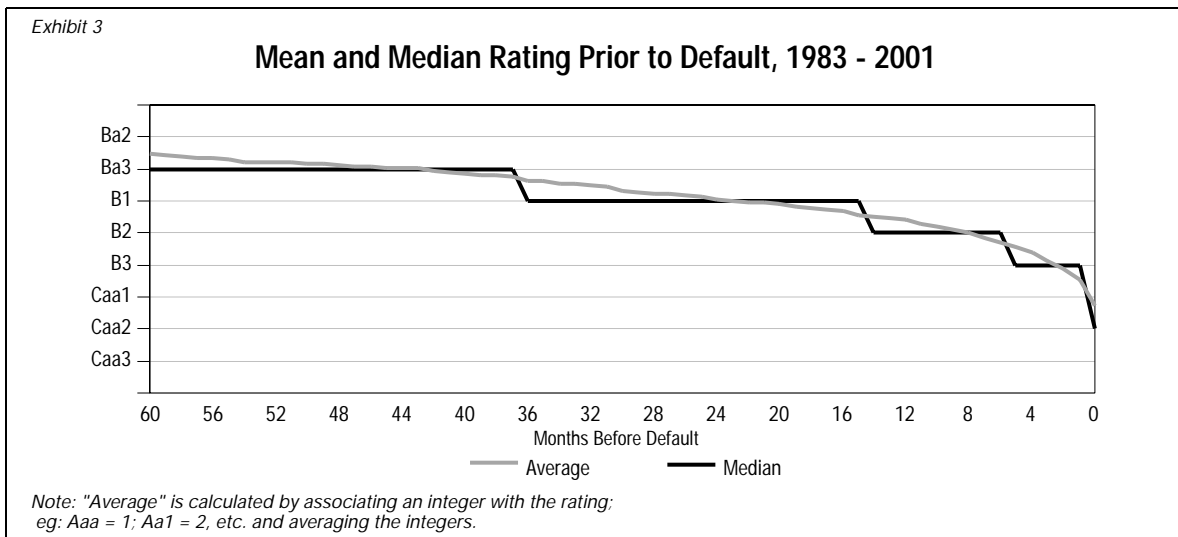
As suggested by Exhibit 1, Moody's bond ratings are not specific to any particular investment horizon. Rather, they provide signals about relative default risk over multiple investment horizons. Perhaps this can be best understood by considering the way in which we calculate average cumulative default rates. As indicated in Exhibit 2, an average cumulative default rate incorporates the default experience of many different annual cohorts (i.e., groups of issuers that began the year of the cohort's formation carrying the same rating).



Over short periods of time, the default experience of similarly rated cohorts from different formation years often diverge. For example, while the 1979 Baa-rated cohort experienced a higher cumulative default rate than did the 1972 cohort for most of its first fifteen years, their cumulative default experiences converged in later years.

Long-term cumulative default rates summarize average default experience as a function of ratings that were assigned to issuers many years before default. In practice, Moody's monitors the evolution of issuers' creditworthiness over time and lowers or raises the ratings of issuers that experience substantial deterioration or improvement, respectively, in credit standings.

Ratings Prior To Default



As indicated in Exhibit 3, firms that do eventually default typically have very low ratings long before the default event. A full five years before the event, the typical defaulting firm is already rated speculative grade at Ba3, which is four broad rating categories and twelve rating "notches" (counting the 1, 2, 3 broad rating modifiers) below the highest rating on the scale, Aaa. Within three years of default, the typical firm's rating is B1, and then its rating continues to fall until it is rated at Caa2 at default.

The distribution of ratings one year prior to default, shown in Exhibit 4, indicates a fairly tight grouping around the low speculative grade level. The median rating one year before default is B2 — one-half of all defaulting issuers had ratings equal to or below this category.

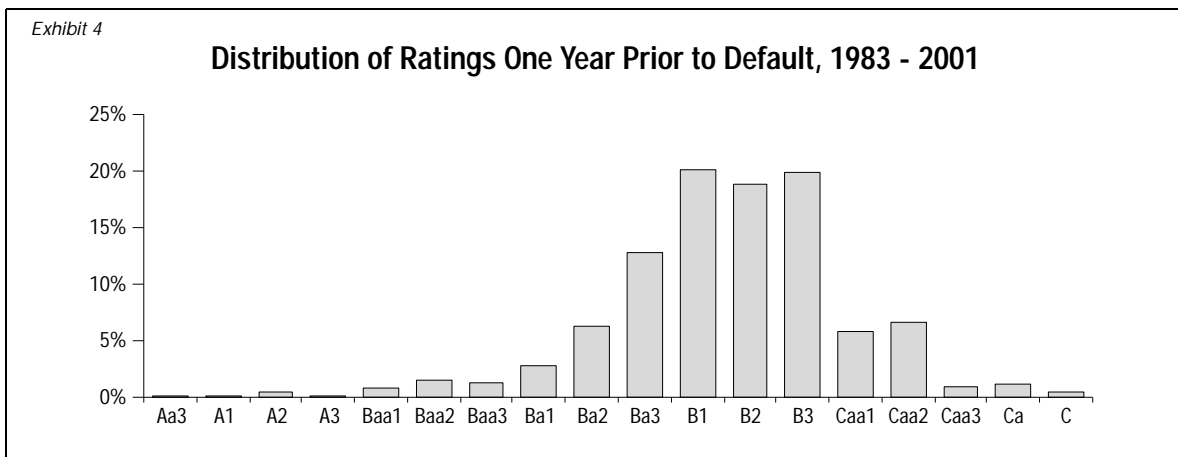
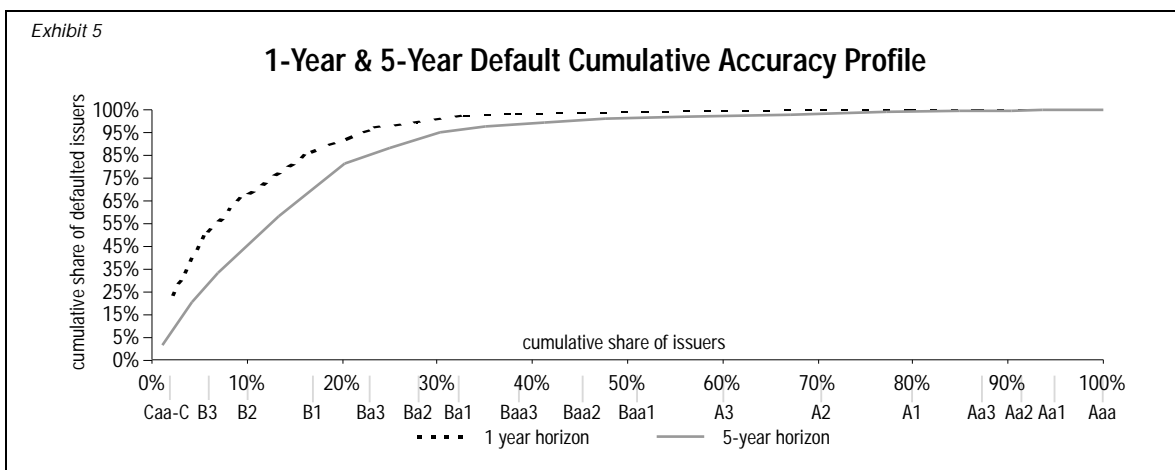


Exhibit 5 provides another perspective on the power with which ratings discriminate defaulters from non-defaulters. As indicated, over 90% of all rated companies that have defaulted since 1983 were rated Ba3 or lower at the beginning of the year in which they defaulted, and almost 80% were rated Ba3 or lower at the beginning of the fifth year before they defaulted.



Variability of Default Rates by Rating Category

Moody's ratings measure relative risk over a continuous horizon and do not target specific expected default probabilities over specific horizons. Realized default frequencies are, in fact, quite variable over short periods of time. For example, as indicated in Exhibit 6, the standard deviation of five-year cumulative default rates is almost as large — and in Aaa through A categories, larger — than the mean five-year default rate for those same rating categories.

Exhibit 6

Five-Year Cumulative Default Rates for Annual Cohorts formed 1970 through 1997

	Mean	Standard Deviation	Minimum	Maximum
Aaa	0.1%	0.6%	0.0%	2.5%
Aa	0.3%	0.5%	0.0%	1.9%
A	0.5%	0.7%	0.0%	2.6%
Baa	1.9%	1.4%	0.0%	5.4%
Ba	11.5%	7.4%	2.5%	24.0%
B	30.8%	12.2%	3.6%	44.6%
Caa-C	56.6%	25.1%	0.0%	100.0%

Exhibit 6 also shows that there is greater dispersion of default outcomes at lower rating categories. This greater dispersion is the result of two contributing factors. Economic events have a greater impact on lower-rated firms due to their greater vulnerability to shocks. Also, Moody's typically adjusts ratings modestly — not sharply — through the credit cycle because the amplitude and timing of cycles are inherently hard to predict.

The reason why there is dispersion in actual default rates for annual cohorts is that Moody's does not endeavor to maintain constant ex-post default rates in various credit cycles. Given that Moody's ratings target multiple horizons, even with perfect information about the credit cycle, it would be difficult to prescribe the "correct" amount by which ratings should adjust in response to cyclical variations while maintaining constant ex-post default rates for each horizon.

Some investors, however, are very concerned with the expected absolute default rate associated with ratings over short horizons—particularly in the high-yield sector. To meet these investors' needs, Moody's provides a model-based, monthly forecast of the one-year-ahead, speculative-grade default rate. This model, and models like it, can be used by investors to translate Moody's "through-the-cycle" relative rating system to a "point-in-time" cardinal rating system.

Default Severity And Recovery Rates

As statements about expected credit loss, Moody's ratings incorporate assessments of both the likelihood of default and the severity of loss, given default. While the likelihood of default is roughly the same for various debt obligations of the same obligor, these obligations are readily differentiated by the severity of the loss that may be expected in the event of default (as shown in Exhibit 7). For this reason, when rating debt obligations, Moody's pays close attention to the effective security and seniority of the instrument — two of the most important determinants of the post-default recovery that investors may realize. Moody's has also extensively

analyzed the cyclical variation in recovery rates in defaulted bonds, and has found that average recovery rates are lower in periods of high relative default rates, and higher in periods of low relative default rates.⁷

Exhibit 7

Average Debt Prices As a Percent of Face Value One Month After Default, 1982-2001

Seniority	Recovery
Sr. Secured Bank Loans	64%
Sr. Unsecured Bank Loans	48%
Equipment Trust Certificates	66%
Sr. Secured Bonds	53%
Sr. Unsecured Bonds	40%
Sr. Subordinated Bonds	32%
Subordinated Bonds	31%
Jr. Subordinated Bonds	22%

Rating Transitions and Serial Dependence

Exhibit 8 depicts historical average one-year rating transition rates for senior unsecured obligations of corporate bond issuers. The table shows the average one-year transition rates for annual cohorts formed between 1970 and 2001, where each annual cohort is weighted by its size (the number of issuers).

Exhibit 8

One-Year Average Rating Transition Matrix, 1970-2001

		Rating to:	Aa	A	Baa	Ba	B	Caa-C	Default	WR
Rating from:		Aaa								
	Aaa	89.09%	7.15%	0.79%	0.00%	0.02%	0.00%	0.00%	0.00%	2.94%
	Aa	1.17%	88.00%	7.44%	0.27%	0.08%	0.01%	0.00%	0.02%	3.01%
	A	0.05%	2.41%	89.01%	4.68%	0.49%	0.12%	0.01%	0.01%	3.21%
	Baa	0.05%	0.25%	5.20%	84.55%	4.51%	0.69%	0.09%	0.15%	4.51%
	Ba	0.02%	0.04%	0.47%	5.17%	79.35%	6.23%	0.42%	1.19%	7.11%
	B	0.01%	0.02%	0.13%	0.38%	6.24%	77.82%	2.40%	6.34%	6.67%
	Caa-C	0.00%	0.00%	0.00%	0.57%	1.47%	3.81%	62.90%	23.69%	7.56%

Exhibit 8 reveals some important features of the behavior of ratings and Moody's rating process over one-year horizons. Higher ratings have generally been less likely than lower ratings to be revised over a one-year period. For example, the inertial frequency for Aaa-rated issuers, was 89% — i.e., the ratings of 89% of Aaa-rated issuers did not change within one year. By contrast, an issuer that began the year within the broad B rating category ended the year with that same broad rating only 78% of the time. We also note that, for issuers holding ratings in the middle of the rating scale, the likelihood of a rating upgrade and a rating downgrade is roughly symmetrical. Of course, Aaa-rated issuers can only migrate down the rating scale (or exit the pool via default or withdrawn ratings (WR)), while Caa-rated issuers can only migrate up the rating scale (or exit the pool via default or a withdrawn rating).

Exhibit 8 presents a so-called "unconditional" rating transition matrix, treating all issuers with a specific rating the same, regardless of how they came to have that rating (either through their initial rating assignments, downgrades or upgrades).

Exhibit 9

One-Year Conditional Rating Transitions, 1984-2001				One-Year Conditional Default Rates, 1984-2001			
Rating Changes Over One Year	Following These Rating Actions During Previous Year			Initial Rating Level	Following These Rating Actions During Previous Year		
	Upgraded	Unchanged	Downgraded		Upgraded	Unchanged	Downgraded
Upgraded	16.17%	8.83%	7.46%	Ba1	0.00%	0.87%	1.09%
Unchanged	76.23%	76.73%	66.43%	Ba2	0.35%	0.60%	1.79%
Downgraded	6.86%	13.34%	20.33%	Ba3	2.31%	2.59%	3.53%
Default	0.74%	1.10%	5.78%	B1	1.86%	3.97%	3.96%
	100.00%	100.00%	100.00%	B2	0.85%	5.25%	10.47%
				B3	11.70%	8.41%	23.00%
				Caa-C	11.86%	9.92%	32.38%

7. See *Default & Recovery Rates of Corporate Bond Issuers*, February 2002, and *LossCalc: Moody's Model for Predicting Loss Given Default*, February 2002, for a full discussion.

Exhibit 9 reveals that, in fact, historical rating transition frequencies vary sharply, depending on whether a company's rating was downgraded, unchanged, or upgraded in the previous year. Companies that have recently been upgraded are roughly twice as likely to be upgraded again during the following year, as compared with companies that have recently been downgraded or have experienced no recent rating change at all. Similarly, over the following year, companies that have recently been downgraded are: (a) almost one and one-half times more likely to be downgraded and five times more likely to default than companies that experienced no prior rating change; and (b) three times more likely to be downgraded and nearly eight times more likely to default than companies that have recently been upgraded.

These differences in rating transitions for issuers that had been previously downgraded or upgraded should be considered in a broader context. Although they appear to be substantial in the short run, the differences are likely to be less pronounced over longer horizons. Moreover, the differences are likely to be considerably smaller for issuers that are assigned stable outlooks following a rating change. On the other hand, these differences are likely to be more pronounced for issuers who either (1) remain on review for downgrade or are assigned a negative outlook following a rating downgrade, or (2) remain on review for upgrade or are assigned a positive outlook following a rating upgrade.

Exhibit 9 also reveals that conditional one-year default rates by broad rating category may vary, depending on whether or not an issuer experienced a rating change during the prior year. For some rating levels, the default rate for an issuer that experienced a downgrade during the prior year is almost double that for issuers holding the same rating but whose ratings were upgraded. Small sample sizes for upgraded B2, B3 and Caa-C rated issuers contribute to the anomalous results shown for these categories.

The ratings momentum demonstrated in Exhibit 9 is a natural consequence of our rating system-management practices. These do two things in particular: (a) limit rating changes when there are substantial possibilities of near-term rating reversals; and (b) dampen potential ratings volatility by incrementally adjusting ratings in response to changes in credit fundamentals, and by using other signals in the rating system to indicate likely additional rating changes (as described earlier). We will publish follow-up studies of these effects as we gather further information.

Conclusion

In summary, credit ratings powerfully discriminate among relative long-term risks. They target multiple horizons, rather than a single, defined investment horizon. Moreover, they do not target constant, absolute expected credit-loss rates by rating category. Investors who wish to make the best use of credit ratings should understand these properties of the ratings.

Moody's believes that our ratings system-management practices, as set forth above, are desired by both issuers and investors. Issuers want stability in ratings and the opportunity to make changes in their financial condition, if possible, to avoid changes in ratings. Investors want ample notice of potential rating changes, in part because of investment requirements and restrictions that may be placed on them by owners of funds or their representatives such as endowments and pension fund sponsors, and especially with respect to rating changes resulting in changes in indices against which the investors may be measured.

Moody's has carefully considered whether our ratings system-management practices diminish the primary social value or public good that rating agencies can produce, which is greater efficiency in capital markets. We believe that ratings momentum, as we have described it, does not detract from capital market efficiency or permit transfer of wealth between sophisticated and unsophisticated investors.

In general, Moody's does not believe that the information conveyed by rating outlooks, the Watchlist, or ratings themselves benefits one class of investors over another. Moody's disseminates this information publicly and believes that market participants understand the information equally.

Moody's also believes that our ratings system management does not benefit issuers or investment and commercial banks, which may have extended credit to issuers or have opportunities for important fees, over investors with existing or potential positions. Moody's buy-side meetings have strongly confirmed that investors dislike downgrades as much as issuers, and probably more than investment bankers, who have many opportunities for additional fees, including opportunities from downgrades.

Moody's also notes that corporate bonds are generally held by financial institutions or in investment vehicles — pension fund investments or mutual funds advised by institutional investors — rather than by individuals, and believes that institutional investors are well aware of the attributes of Moody's rating system.⁸ In addition, common market wisdom is that prices of corporate bonds generally adjust, based on changes in rating

outlooks or the Watchlist, as well as on changes in the ratings themselves. Moody's has not previously maintained a database of our rating outlooks, but will do so in the future and will carefully monitor and make public an analysis of bond price changes following changes in rating outlooks, the Watchlist, and ratings. Finally, this Special Comment should better inform issuers, investors, and owners of funds or their representatives about Moody's ratings system-management practices so that they can make any adjustments they desire in their uses of Moody's rating system.

In order to promote a clearer understanding of Moody's management of the rating system and the signals conveyed by bond ratings, as well as other signals-rating outlooks and the Watchlist-of the rating system, we have detailed in this paper how Moody's conducts and will conduct its corporate bond-rating activities, the intended meaning of Moody's ratings, and their empirical attributes. Our dialog with the market suggests that improved transparency of our behavior and of the meaning and attributes of ratings may help users better utilize them in their financing, investment, and related decisions. Moody's bond ratings are not high-frequency sources of information. Instead, they are based on careful, deliberate analysis and will sometimes appear to "lag the market."

Nevertheless, we believe that a rating system expressing independent credit opinions derived from fundamental analysis provides a valuable means of overcoming the asymmetry of information between borrowers and lenders in the global capital markets and contributes to investor protection and market efficiency. Our objective is to continue to manage the rating system in a way that best meets the needs of market participants and contributes to market efficiency.

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1. *Default & Recovery Rates of Corporate Bond Issuers: A Statistical Review of Moody's Ratings Performance 1970-2001*, February 2002.
2. *Moody's Rating Migration and Credit Quality Correlation, 1920-1996*, July 1997.
3. *Predicting Default Rates: A Forecasting Model for Moody's Issuer-Based Default Rates*, August 1999.
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5. *An Historical Analysis of Moody's Watchlists*, October 1998.
6. *Testing for Rating Consistency in Annual Default Rates*, February 2001.

8. Moody's will continue to monitor direct individual participation in the corporate bond market and notes that during 2001 there was significant issuance of structured notes for retail customers based on corporate bonds.

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