

# NERA Study of Structured Finance Ratings – Market Implications

6 November 2003

## I. Introduction

The new NERA study on structured finance ratings<sup>1</sup> is disappointingly inconclusive. Proponents of "notching" might view the study favorably because NERA could not reject the hypothesis that ratings from different rating agencies perform differently (pp. 5, 34).<sup>2</sup> However, NERA could not reject the converse either.

We expect the NERA study to have minimal short-run impact on the securitization market. We do not expect any rating agency to change its practices – with respect to notching or otherwise – because of the study's findings. Accordingly, structured finance instruments rated by both Standard & Poor's and Moody's should continue to command tighter spreads than otherwise similar instruments that lack ratings from either of the two.

However, the study has potentially important implications in the longer term. The study's inability to conclude that the ratings from different rating agencies perform similarly calls into question the increasing regulatory use of ratings. The regulatory use of ratings *presumes* that corresponding ratings from different rating agencies are equivalent. If that presumption cannot be analytically supported, entire regulatory regimes might be based more on wishful thinking than on fact. In particular, the use of ratings in bank capital regulations relies on the very strong presumption that corresponding ratings from each of the rating agencies are equivalent *for every single rating grade*. If those presumptions cannot be defended, the public and Congress may question and challenge the soundness of the regulatory framework.

## II. Background on "Notching"

The so-called "notching" issue gained prominence during the second quarter. Notching occurs when a rating agency *estimates what rating it would have assigned to a security based on the ratings actually assigned by other rating agencies*.

The rating agencies employ notching as part of their process for rating CDOs. In the context of rating a CDO, notching is one of several ways for a rating agency to handle underlying securities<sup>3</sup> that *it* did not rate. Naturally, the most obvious approach for handling such securities would be to rate them. However, rating agencies have to charge significant fees for doing so and must have access to the relevant information. Notching is an alternative that the rating agencies make available to their CDO issuers.

<sup>1</sup> Carron, A.S., Dhrymes, P.J., and Beloreshki, T.N., *Credit Ratings for Structured Products – A Review of Analytical Methodologies, Credit Assessment Accuracy, and Issuer Selectivity among Credit Rating Agencies*, National Economic Research Associates (6 Nov. 2003).

<sup>2</sup> Parenthetical page references are to page numbers in the study.

<sup>3</sup> In this context we are using the term "securities" loosely. Here it should be read as including loans backing a CLO as well as bonds backing a CBO.

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**Contacts:**

Mark Adelson  
(212) 667-2337  
madelson@us.nomura.com

Nomura Securities International, Inc.  
Two World Financial Center  
Building B  
New York, NY 10281-1198  
Fax: (212) 667-1046

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The following example illustrates a hypothetical notching situation: Suppose the manager of a CDO proposes to include the bonds described in the following table in its CDO:

	S&P	Moody's	Fitch
<b>Bond X</b>	BBB-	NR	NR
<b>Bond Y</b>	NR	Ba3	NR

Note: NR = not rated

When Moody's analyzes the CDO, it might treat Bond X as *if* it carried a rating of Ba2 from Moody's. Moody's would be said to have "notched" the security by two notches (*i.e.*, BBB-/Baa3... BB+/Ba1... BB/Ba2). Similarly, when S&P analyzes the CDO, it might treat Bond Y as *if* it carried a rating of B; likewise a two-notch difference (*i.e.*, Ba3/BB... B1/B+... B2/B).

Although the notching controversy has simmered for years, the current phase of heightened focus on the issue dates from mid-2001, when various market participants debated the practice at the annual meeting of the Commercial Mortgage Securities Association (CMSA).<sup>4</sup> Various market participants contended that Moody's notching practices were unjustifiably harsh. Over the following months, discussion turned to accusation and acrimony. In particular, Fitch accused Moody's of using notching to boost its structured finance market share at Fitch's expense, by forcing issuers to get Moody's ratings.<sup>5</sup> Moody's responded by commissioning the NERA study. Fitch countered by demanding that Moody's and S&P suspend their notching practices and by trying to enlist the support of the Bond Market Association (BMA) to oppose notching.<sup>6</sup> The BMA decided not to take up sides on the issue, stating that "it has no appropriate role in recommending that rating agencies adopt or observe any particular ratings methodology or practice, whether with respect to notching or any other ratings policy."<sup>7</sup>

Around the start of 2002, the BMA formed a task force to consider the notching issue. The BMA offered suggestions to NERA about how to conduct its study and scheduled an industry-wide roundtable on the notching issue for April. In the meantime, in March, Moody's published the first in a series of reports apparently designed to defend its notching practices.<sup>8</sup> Fitch continued its attack, commissioning a survey of securitization professionals on the subject of notching. The survey found that 52% of the individuals surveyed disapproved of notching.<sup>9</sup>

At the start of the second quarter, the BMA decided to cancel its previously scheduled roundtable. Both the BMA and the rating agencies realized that the roundtable would fail to generate new insights and might become a circus. Moody's continued releasing reports defending its practices.<sup>10</sup> The reports were among the first by a rating agency to specifically examine the performance of

<sup>4</sup> Tempkin, A., *The Notching Game: Market Speaks Out Against Moody's CDO Policies for CMBS*, Asset Securitization Report (18 June 2001).

<sup>5</sup> *Grapevine*, Asset-Backed Alert (10 Dec. 2001); *Fitch Fuming Over Moody's Notching Study*, Asset-Backed Alert (17 Dec. 2001).

<sup>6</sup> *Fitch Fuming Over Moody's Notching Study*, Asset-Backed Alert (17 Dec. 2001).

<sup>7</sup> *The Bond Market Association Issues Statement on CDO "Notching"; Announces Plans to Conduct Roundtable on Issue in Early 2002*, Bond Market Association News Release (19 Dec. 2001).

<sup>8</sup> Fu, Y., *Moody's Studies Ratings of Non-Moody's-Rated CDOs and Confirms Rating Estimate Approach*, Moody's Special Report (22 March 2002).

<sup>9</sup> Greenberg, Q., Rosner Research Inc., *Most Structured Finance Senior Executives Oppose Notching*, (27 March 2002); *Fitch-Sponsored Survey Bashes Rivals for 'Notching' Practices*, Asset-Backed Alert (29 March 2002); *Fitch Survey on Notching Released in Preparation for April 17 BMA Meeting*, Asset Securitization Report (1 April 2002).

<sup>10</sup> Snailer, J., *Moody's Studies Ratings of Non-Moody's Rated RMBS*, Moody's Special Report (18 April 2002); Gluck, J., *How Moody's Deals with Non-Moody's-Rated Collateral Instruments within Moody's-Rated CDOs*, Moody's Special Report (23 April 2002); Harris, G., *A Review of Non-Moody's Rated Collateral in Resecuritizations: Dimensioning the Market* (13 May 2002).

instruments that it had not rated. Notably, the titles of all four Moody's reports included the phrase "Non-Moody's Rated."

Fitch responded again. The rating agency released its own report asserting that "a high degree of similarity exists between the initial ratings of Fitch, [S&P], and [Moody's]."<sup>11</sup> In addition, Fitch concluded that "the structured finance ratings issued by each agency migrate in a similar manner over time."<sup>12</sup> A short while later Fitch followed-up with a sarcastically-titled – but hard-hitting – report titled *Should Moody's Notch Its Own Ratings?*<sup>13</sup> The report observed that, based on the high proportion of downgrades of Moody's-rated CDOs, Moody's ought to notch its own ratings when CDOs compose part of the collateral for a resecuritization.<sup>14</sup> Later, Fitch reportedly tried to de-rail the Moody's-commissioned NERA study.<sup>15</sup> Interestingly (and somewhat disappointingly) S&P chose not to contribute to the dialogue with its own analysis and reports.

Shortly before NERA released its study, *Asset Securitization Report* piqued the market's interest by reporting that a final or nearly final draft of the study had been circulated to the rating agencies.<sup>16</sup>

All of which brings us to . . .

### III. Specific Findings of the NERA Study

Although the NERA study is generally inconclusive, it offers several specific findings that appear to support the case for notching. For example, the summary of the study's findings reports that NERA could not rule out the possibility of substantial performance differences among the agencies:

Comparisons of reported ratings changes indicate some differences between each agency's single-rated issues and issues rated by other agencies. Performance differences equate to less than one-half notch overall, but exceed one notch for speculative grade ratings in some sectors. [Exhibit VII.1]

Although observed differences in performance are generally small between single- and multi-rated securities, there may not be a high degree of confidence associated with this conclusion for many speculative grade and low investment grade categories. It is not possible to rule out, with a high degree of confidence, that performance differences equivalent to several notches do exist. [Exhibit VII.2] (p. 5)

Likewise, the summary of the study's findings reports that rating agencies agree with each other somewhat less often than might have been expected. The study found greatest agreement between Fitch and S&P, and least agreement between Fitch and Moody's. Agreement appears to diminish with the passage of time:

On jointly rated transactions, Fitch and Moody's agreed on 60.5 percent of the ratings, Fitch was higher on 31.3 percent (attributable largely to the RMBS sector), and Moody's was higher on 8.2 percent. Fitch and Standard & Poor's agreed on 82.2 percent of the ratings, Fitch was higher on 4.3 percent, and Standard & Poor's was higher on 13.5 percent. Moody's and Standard & Poor's agreed on 67.2 percent of the ratings, Moody's was higher on 19.3 percent, and Standard & Poor's was higher on 13.5 percent. Where there was disagreement between Fitch and Moody's, the difference averaged 2.3 notches when Fitch was higher, 1.9 notches when Moody's was higher. (On 5.2 percent of their joint ratings, most of which were RMBS ratings, Fitch rated investment grade and Moody's rated speculative grade versus 0.4 percent for the converse, the only such variance observed.) When there was disagreement between Standard & Poor's and Fitch, the difference was 1.7 notches when Standard & Poor's rated higher, 1.8 notches when Fitch rated higher. When there was disagreement between Moody's and Standard & Poor's, the difference was 2.0 notches when Moody's rated higher, 1.8 notches when Standard & Poor's rated higher. On average, Fitch rated 0.6 notches higher than Moody's, Standard & Poor's rated 0.1 notch higher than Fitch, and Moody's rated 0.1 notch higher

<sup>11</sup> Kendra, K., *Structured Finance Ratings: Similar at Issuance and Over Time*, Fitch Special Report (7 June 2002).

<sup>12</sup> *Id.*

<sup>13</sup> Grossman, R., *Should Moody's Notch Its Own Ratings?*, Fitch Special Report (13 June 2002).

<sup>14</sup> Specifically, Fitch attacked Moody's report of 22 March 2002; see note 8 *supra*.

<sup>15</sup> *Fitch Moves to Block Notching Study*, Asset-Backed Alert (14 June 2002).

<sup>16</sup> McGeer, B., *NERA Issues Final Notching Study Draft*, Asset Securitization Report (27 October 2003).

than Standard & Poor's. Differences are greater for speculative grade than for investment grade securities. The credit rating differentials between Fitch and the other two agencies have become smaller in recent years. At year-end 2001, on average Moody's rated lower than Fitch by 0.3 notches, Standard & Poor's rated lower than Fitch by 0.1 notch, and Moody's rated lower than Standard & Poor's by 0.1 notch. [Exhibit V.3 through V.5]

Ratings differences increase as time elapses from new issuance. Fitch's ratings go from 0.3 notches higher than Moody's at issuance to about 1 notch higher than Moody's overall after five years (largely the result of RMBS ratings), with a standard deviation of about 1.5 notches; for speculative grade issues after five years, Fitch's ratings were nearly 3 notches higher, with a standard deviation of almost 2 notches. There was no difference on average between Fitch and Standard & Poor's at issuance or after five years, although the standard deviation grew to more than 2 notches for speculative grade issues. Moody's ratings matched Standard & Poor's overall (with a standard deviation of about 1 notch after five years), and for speculative grade Moody's ratings go from no difference at issue to about 1 notch lower than Standard & Poor's (standard deviation of about 2 notches) after five years. The comparisons of longer-term securities necessarily include only those issued in earlier years, and thus do not reflect the performance of more recent cohorts. [Exhibit V.6] (pp. 2-3; emphasis added)

The detailed findings of the study add depth to the summary content. For example, the detailed findings report the degree of agreement separately for investment grade and speculative grade securities:

There was more agreement on investment grade securities than on speculative grade securities. Fitch and Moody's agreed on 63.9 percent of the investment grade ratings but only 34.3 percent of the speculative grade ratings. On 5.2 percent of their joint ratings, Fitch rated investment grade and Moody's rated speculative grade versus 0.4 percent for the converse, the only variance of this magnitude observed. Fitch and Standard & Poor's agreed on 83.7 percent of the investment grade ratings but only 57.8 percent of the speculative grade ratings. Moody's and Standard & Poor's agreed on 68.5 percent of the investment grade ratings but only 38.8 percent of the speculative grade ratings.

When there was disagreement between Fitch and Moody's, the difference averaged 2.3 notches when Fitch was higher, 1.9 notches when Moody's was higher. When there was disagreement between Standard & Poor's and Fitch, the difference was 1.7 notches when Standard & Poor's rated higher, 1.8 notches when Fitch rated higher. When there was disagreement between Moody's and Standard & Poor's, the difference was 2.0 notches when Moody's rated higher, 1.8 notches when Standard & Poor's rated higher. On average, Fitch rated 0.6 notches higher than Moody's, Standard & Poor's rated 0.1 notch higher than Fitch, and Moody's rated 0.1 notch higher than Standard & Poor's. Differences are greater for speculative grade than for investment grade securities. The credit rating differentials between Fitch and the other two agencies have become smaller in recent years. At year-end 2001, on average Moody's rated lower than Fitch by 0.3 notches, Standard & Poor's rated lower than Fitch by 0.1 notches, and Moody's rated lower than Standard & Poor's by 0.1 notches. (p. 28, emphasis added)

Likewise, the detailed findings add commentary helpful in interpreting the results:

There appears to be a trend in credit rating differences for multi-rated securities. The magnitude of ratings differences increases with the time elapsed since issue...

\* \* \*

Fitch's ratings go from 0.3 notches higher than Moody's at issuance to about 1 notch higher than Moody's overall after five years (largely the result of RMBS ratings), with a standard deviation of about 1.5 notches; for speculative grade issues after five years, Fitch's ratings were nearly 3 notches higher, with a standard deviation of almost 2 notches. There was no difference on average between Fitch and Standard & Poor's at issuance or after five years, although the standard deviation grew to more than 2 notches for speculative grade issues. Moody's ratings matched Standard & Poor's overall (with a standard deviation of about 1 notch after five years), and for speculative grade Moody's ratings go from no difference at issue to about 1 notch lower than Standard & Poor's (standard deviation of about 2 notches) after five years. The large standard deviations indicate a substantial difference of opinion on individual transactions apart from any directional bias. (p. 31, emphasis added)

Misplaced Emphasis on Transition Matrices: In performing its analyses, NERA placed too much emphasis on rating transitions<sup>17</sup> as measures of rating agency performance:

Therefore, we will say that the credit ratings assigned by two rating agencies are equivalent if the probabilities of the ratings changes (as represented by their respective credit transition matrices) of an arbitrary portfolio of securities are the same. (p. 23).

None of the ratings agencies defines its ratings primarily by reference to transition rates. Indeed, such a practice would be suspect because ratings are merely one-dimensional indicators of credit quality. Each rating agency defines its ratings as it sees fit, and each has done so by reference to factors *other than* transition rates. Moody's defines its ratings primarily by reference to **expected loss**. Standard & Poor's and Fitch define their ratings primarily by reference to **likelihood of default**. NERA unfortunately chose to ignore those definitions and to ascribe its own meaning to the ratings.

According to NERA's unusual perspective, the way to compare the performance of double-A ratings from the three rating agencies is to compare on their propensity to being upgraded and downgraded to other rating categories. In contrast, Moody's might assess the performance of its double-A ratings by measuring the long-term *loss rate* of double-A-rated securities compared with securities rated higher or lower. Standard & Poor's or Fitch might measure the performance of its double-A ratings by considering the long-term *default rate* of double-A-rated securities compared with the default rates of securities rated higher or lower.

Instead of focusing primarily on transition rates, NERA should have taken either a "loss" or "default" approach to assessing the performance of ratings from all agencies. Because of NERA's emphasis on transitions, we take the conclusions expressed in Parts VI and VII.C of the NERA study with an extra grain of salt. Some of those results include the following:

The overall result of comparing historical transition rates was inconclusive. NERA reported that:

The foregoing analyses fail to support the hypothesis that the transition probabilities implied by one agency's rating scale are systematically higher or lower than the probabilities implied by another agency's rating scale. At the same time, the wide range of performance means that one cannot rule out the possibility that such differences do exist. (p. 42)

Rating agency methodologies appear to evolve over time:

The results of these statistical tests indicate that the transitions of credit ratings assigned by all three major credit rating agencies are non-stationary over time. It does not appear that this result is attributable to the effects of macroeconomic forces and business cycles. Our findings of non-stationarity in credit rating agencies' transition matrices is consistent with prior evidence. (p. 39)

<sup>17</sup> Rating transition rates describe the proportion of ratings at each rating level which remain the same or which change over a give time horizon. For example, the following table shows one-year rating transitions for Moody's-rated corporate bond issuers from 1985 to 2002:

Moody's One-Year Weighted-Average Rating Transition Rates for Corporate Bonds, 1985-2002										
		Rating to:								
		Aaa	Aa	A	Baa	Ba	B	Caa-C	Default	WR
Rating from:	Aaa	87.80	7.90	0.30	0.00	0.00	0.00	0.00	0.00	4.10
	Aa	0.80	86.10	8.60	0.30	0.10	0.00	0.00	0.00	4.10
	A	0.00	2.30	87.00	5.60	0.70	0.20	0.00	0.00	4.30
	Baa	0.10	0.30	5.20	82.90	4.80	1.10	0.10	0.20	5.30
	Ba	0.00	0.00	0.50	5.10	75.10	8.30	0.60	1.40	8.80
	B	0.00	0.10	0.20	0.60	5.10	74.10	4.20	6.80	8.80
	Caa-C	0.00	0.00	0.00	1.00	1.60	6.00	59.70	21.50	10.20

The shaded boxes along the diagonal of the table show the proportion of ratings that remained stable over a one-year horizon.

Rating differences between the rating agencies tend to be very small over the short-term but can be substantial over the longer-term:

In the aggregate, the rating performance of each agency's single-rated issues essentially matches the aggregate performance of the other two agencies' deals carrying the same rating. Differentials are nearly always less than one-quarter notch, approaching one-half notch only for longer time periods.

Over longer time periods, differentials were larger. While no differentials exceeded one notch for a one-year horizon, for two- and three-year horizons, differentials exceeding one notch were seen in Fitch-rated and Moody's-rated speculative grade ABS relative to Standard & Poor's (and vice versa), and Moody's-rated speculative grade CDOs relative to Fitch and Standard & Poor's. At four years and five years, differentials exceeded one notch for various combinations of agencies in all four sectors. (p. 49)

#### IV. Conclusion

Debate will continue over whether one rating agency's structured finance ratings perform differently from its competitors' ratings. Moreover, the fact that the agencies take different approaches to defining their ratings arguably makes such a debate an exercise in futility. Ratings based on expected loss (Moody's) and ratings based on likelihood of default (Standard & Poor's and Fitch) are fundamentally different. If a security receives two ratings of triple-A – one under each paradigm - the two ratings do not represent two opinions about the same thing, but rather two opinions about two different things.

The NERA study failed to "prove" that ratings from the different rating agencies perform differently. That is, the NERA study failed to prove one rating agency's ratings are more useful and reliable as measures of credit risk than those of its competitors. Our own research (some of which was cited in the NERA study) finds compelling evidence that such performance differences do exist. Stated in legal terms, we feel that the evidence is "clear and convincing," though probably not sufficient to prove the point "beyond a reasonable doubt" or to achieve "statistical significance."

On the other hand, the NERA study failed to prove that corresponding ratings from the different rating agencies are equivalent. On balance, the study does nothing to advance the argument of rating equivalence among the agencies. Regulators and policymakers should view this result with concern. It erodes the conceptual basis for using ratings in regulations. Unless studies such as NERA's affirmatively conclude that ratings are equivalent, policies and regulations that *presume* equivalence may be ill conceived and detrimental.

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## NEW YORK

Nomura Securities International  
2 World Financial Center, Building B  
New York, NY 10281  
(212) 667-9300

## TOKYO

Nomura Securities Company  
2-2-2, Otemachi, Chiyoda-Ku  
Tokyo, Japan 100-8130  
81 3 3211 1811

## LONDON

Nomura International PLC  
Nomura House  
1 St Martin's-le-grand  
London EC1A 4NP  
44 207 521 2000

## Nomura Fixed Income Research

### New York

David P. Jacob	(212) 667 2255	International Head of Research
David Resler	(212) 667 2415	Head of U.S. Economic Research
Mark Adelson	(212) 667 2337	Securitization/ABS Research
Arthur Q. Frank	(212) 667 1477	MBS Research
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Joshua Phillips	(212) 667 2042	CMBS Research
Parul Jain	(212) 667 2418	Deputy Chief Economist
James Manzi	(212) 667 2231	Analyst
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Elizabeth Hoyt	(212) 667 2339	Analyst
Kumiko Kimura	(212) 667 9088	Translator
Michiko Whetten	(212) 667 2338	Translator

### Tokyo

Nobuyuki Tsutsumi	81 3 3211 1811	ABS Research
-------------------	----------------	--------------

### London

John Higgins	44 207 521 2534	Head of Research - Europe
--------------	-----------------	---------------------------

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