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The Performance of Moody's Corporate Bond Ratings: *March 2004 Quarterly Update*

	1 st Quarter 2004	4 th Qtr 2003	1 st Quarter 2003	Historical Average
1-Year Accuracy Ratio	90.0%	88.7%	77.9%	83.8%
5-Year Accuracy Ratio	70.4%	69.9%	70.5%	71.6%
Average Rating Prior to Default	B3/Caa1	B3	B2/B3	B1/B2
Rating Action Rate (annualized)	15.0%	18.1%	20.4%	18.4%
Large Rating Action Rate (annualized)	1.0%	1.1%	3.7%	2.9%

Summary

This report is designed to provide debt market participants with updated measurements of the accuracy and stability of Moody's corporate and sovereign bond ratings. The key findings are.

- The one-year Accuracy Ratio (AR) continued to remain high, gaining an additional 1.7% since December 31st. The one-year AR of the March 31, 2003 rating cohort was 90.0%, 12.1 and 6.2 percentage points higher, respectively, than the ARs of the rating cohort twelve months prior and the long-term historical average.
- The five-year Accuracy Ratio (AR) increased slightly, gaining only 0.5% since December 31st. The five-year AR of the March 31, 1998 rating cohort was 70.4%, 0.1 and 1.2 percentage points lower, respectively, than the ARs of the rating cohort twelve months prior and the long-term historical average.
- There were 7 defaults in the first quarter of 2004. The average rating of these issuers over the three years prior to default was between B3 and Caa1, one notch lower than the ratings of the companies that defaulted four quarters before. The long-term average rating prior to default is between B1 and B2.
- There were no investment-grade defaults in the first quarter of 2004.
- The rating action rate and large rating action rate decreased significantly since the previous year. There were 189 rating actions during the first quarter of 2004 as compared to 258 for the same period the previous year. This corresponds to 15.0% and 20.4% of all issuers on an annualized basis, respectively. Of these, 12 moved three or more notches in the fourth quarter of 2003, as compared with 47 for the fourth quarter of the previous year.
- The majority of rating changes during the first quarter were preceded by rating reviews or outlooks in the appropriate direction. Out of 194 rating changes, 104 (54%) were preceded by rating reviews (the Watchlist) and 39 (20%) were preceded by negative or positive outlooks.



DETAILED MEASUREMENTS OF LAST QUARTER'S RATING PERFORMANCE

The performance metrics presented are discussed in greater detail in the *Special Comment "Measuring the Performance of Corporate Bond Ratings"*, published in April 2003. Results are presented for the global universe of Moody's corporate bond ratings and broken down by region and broad industry segment. Performance comparisons to bond-implied ratings are also provided.

Figure 1 provides some basic statistics about the numbers of issuers that experienced credit events during the first quarter of 2004. The results are broken out by region — North America, Europe, and Asia Pacific — and by broad industry classification — Finance, Non-Finance, and Sovereign. Results are also broken out by company size, as measured by total assets and total debt. Firms with more than \$3.5 billion in assets or \$1.0 billion in debt are labeled as 'large.' Firms above these cutoffs represent approximately 90% of the sample in terms of dollars.

Figure 1: Share of Issuers Experiencing Credit Events

			1 st Quarter 2004				Historical Average			
	Issuers	Investment Grade Issuers	Defaults	Investment Grade Defaults	Fallen Angels	Rising Stars	Defaults	Investment Grade Defaults	Fallen Angels	Rising Stars
Overall	5,045	3,412	0.14%	0.00%	0.29%	1.10%	0.43%	0.03%	0.45%	0.64%
North America	2,911	1,720	0.21%	0.00%	0.35%	0.76%	0.51%	0.04%	0.54%	0.63%
Europe	1,160	984	0.09%	0.00%	0.10%	0.00%	0.17%	0.01%	0.10%	0.37%
Asia Pacific	560	456	0.00%	0.00%	0.66%	7.69%	0.15%	0.03%	0.56%	1.42%
Large* - assets	756	582	0.00%	0.00%	0.69%	2.30%	0.11%	0.03%	0.75%	1.07%
- debt	776	552	0.26%	0.00%	0.73%	3.13%	0.19%	0.02%	0.85%	0.89%
Small* - assets	782	269	0.64%	0.00%	0.37%	0.78%	0.72%	0.00%	1.22%	0.31%
- debt	761	299	0.39%	0.00%	0.33%	0.22%	0.67%	0.01%	0.99%	0.27%
Finance	1,759	1,502	0.00%	0.00%	0.27%	2.34%	0.15%	0.02%	0.29%	0.93%
Non-Finance	2,792	1,591	0.25%	0.00%	0.38%	0.92%	0.60%	0.04%	0.61%	0.57%
Sovereign	233	184	0.00%	0.00%	0.00%	0.00%	0.11%	0.00%	0.11%	0.86%

Asset and debt levels are taken from Compustat™ and Worldscope™.

Figure 2: Summary of Performance Metrics by Sector

	1 st Quarter 2004					Historical Average				
	1-Yr Accuracy Ratio	5-Yr Accuracy Ratio	Rating Action Rate**	Large Rating Change Rate**	Average Rating Prior to Default	1-Yr Accuracy Ratio	5-Yr Accuracy Ratio	Rating Action Rate**	Large Rating Change Rate**	Average Rating Prior to Default
Overall	90.1%	70.5%	15.0%	1.0%	B1/Caa1	83.8%	71.6%	18.4%	2.9%	B1/B2
North America	87.6%	65.3%	16.2%	1.2%	Caa1	81.1%	67.9%	20.0%	3.3%	B1/B2
Europe	96.1%	86.3%	13.1%	0.7%	B1	94.6%	77.3%	13.3%	1.5%	Ba3/B1
Asia Pacific	86.7%	84.1%	20.0%	0.7%	Ba1/Ba2	87.1%	80.4%	18.6%	2.3%	B1/B2
Large* - assets	95.4%	68.4%	18.5%	0.0%	—	85.0%	58.8%	24.8%	2.5%	Ba1/Ba2
- debt	89.8%	70.8%	21.6%	0.5%	Caa2/Caa3	85.0%	62.8%	26.3%	2.8%	Ba3
Small* - assets	79.4%	54.0%	24.0%	3.1%	Caa1	75.5%	60.2%	21.0%	3.0%	B1/B2
- debt	85.5%	57.2%	21.0%	2.6%	B1/Caa1	77.5%	62.4%	20.1%	2.8%	B2
Finance	95.3%	81.1%	12.5%	0.5%	B3	90.3%	73.9%	15.4%	1.9%	Ba3/B1
Non-Finance	86.4%	61.8%	17.6%	1.3%	B3/Caa1	79.9%	67.3%	20.3%	3.5%	B1/B2
Sovereign	92.7%	68.0%	6.9%	0.0%	—	87.0%	87.4%	11.4%	1.0%	B1/B2

** Asset and debt levels are taken from Compustat™ and Worldscope™. Annualized.*

MOST RATING CHANGES PRECEDED BY OUTLOOK/WATCHLIST ACTIONS

Figure 3 shows the outlooks and watches that preceded first quarter rating actions. The majority of rating actions were preceded by watches or outlook changes in the appropriate direction. There were six companies, though, whose situation improved unexpectedly. These companies (Veritas DGC, Kyowa Hakko Kogyo Co, North Atlantic Trading Company, Avon Energy, Stanadyne, and Time Warner Telecom) had negative outlooks prior to their recent upgrades but new information (such as acquisitions or new credit lines) led to improved outlooks and ratings.

Figure 3: Number of Rating Actions preceded by Outlook or Review for Rating change

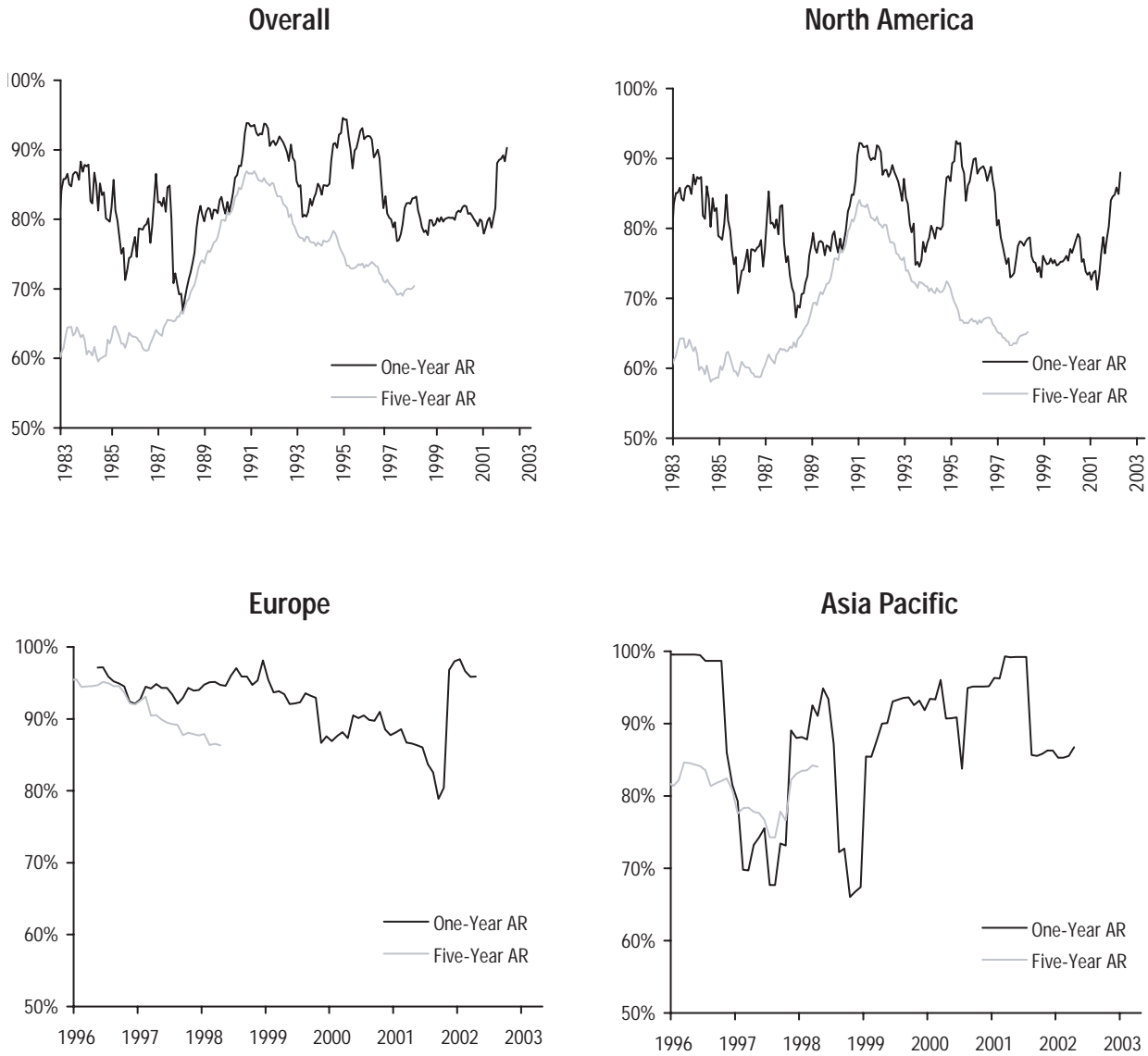
Downgrades	Overall	North America	Europe	Asia Pacific	Other
Watch Down	57	39	12	6	0
Negative	21	16	3	0	2
Stable	21	16	1	0	4
Positive	0	0	0	0	0
Watch Up	0	0	0	0	0
Developing	0	0	0	0	0
Upgrades	Overall	North America	Europe	Asia Pacific	Other
Watch Down	0	0	0	0	0
Negative	6	4	1	1	0
Stable	22	11	7	3	1
Positive	18	12	4	1	1
Watch Up	47	20	9	16	2
Developing	2	1	0	1	0

LONG TERM TRENDS IN RATING ACCURACY

Figure 4 shows the progression of the different regions' accuracy ratios over time. Ratings are measured at the end of a given month and the default experience is then measured over the subsequent 12 months and 60 months to create a rolling measure of rating accuracy. The figure also shows:

- One-year accuracy ratios remained high in North America and Europe.
- Five-year accuracy ratios for all regions except Europe increased slightly or remained stable. There was a slight decline in Europe's ratio.

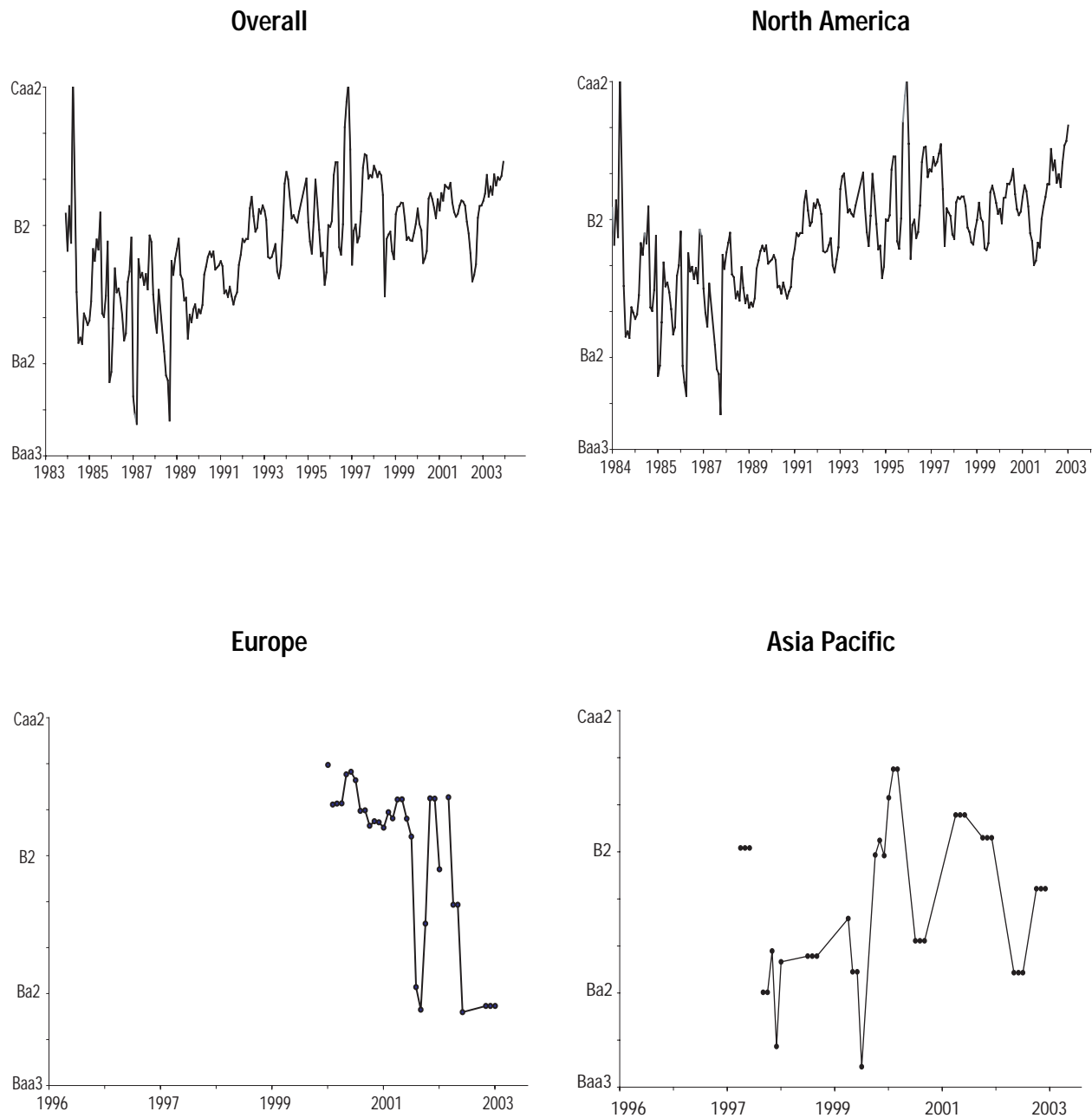
Figure 4: Accuracy Ratios*



* Dates shown are the cohort dates. Ratings are measured on cohort dates and defaults are measured over the subsequent one or five years.

The average rating prior to default is a measure of Moody's ability to assign low ratings to defaulters well in advance of their default date. Figure 5 shows that the average rating prior to default shows an improving trend for all regions. The average rating for defaults in the past two years is a full notch lower than that for defaults that occurred during the 1980s. The defaulters in North America were rated significantly lower than those companies that defaulted in the previous quarter. Europe's defaulters were rated significantly higher.

Figure 5: Average Rating Before Default (updated monthly*)



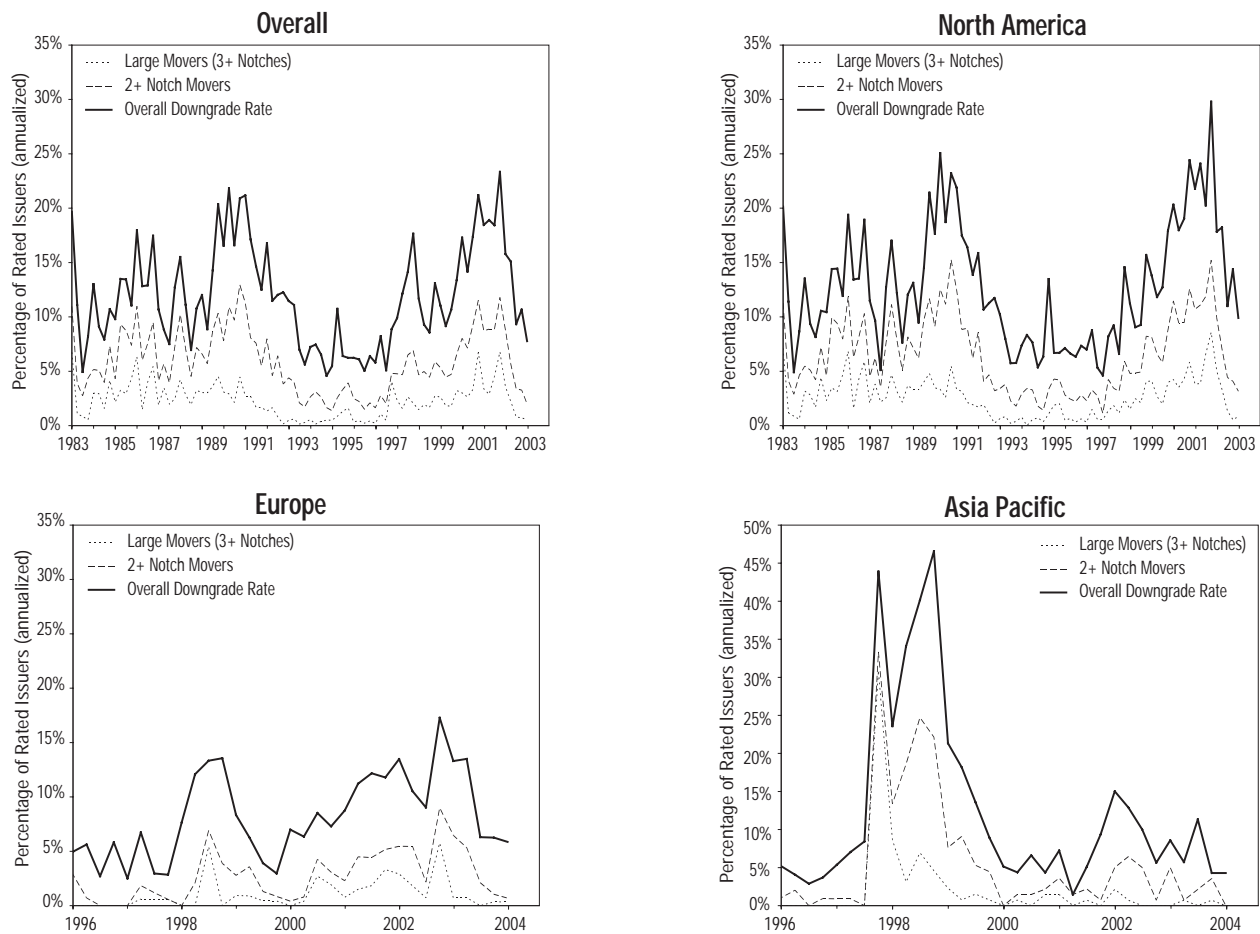
* Each monthly cohort consists of all issuers that defaulted in the three-month period subsequent to the cohort date. The rating of the defaulted issuer is measured every month for 36 months prior to default as well as immediately prior to default.

TRENDS IN RATING STABILITY

In addition to accuracy, the other main criterion for Moody's ratings is their stability over time.¹ We therefore report the number of rating actions and the number of large rating actions (3 or more notches). Further, rating actions originating from classes Caa and below are not included in these calculations. Figure 6 and Figure 7 show the one-year transition behavior for ratings in the different regions. Ratings are measured at the end of the month and compared to their ratings on the same date the following year.

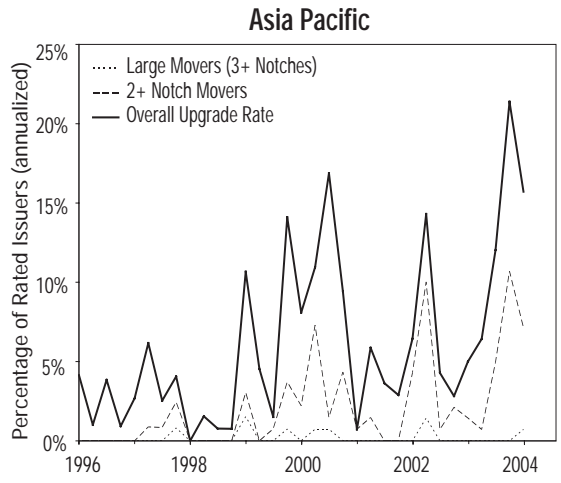
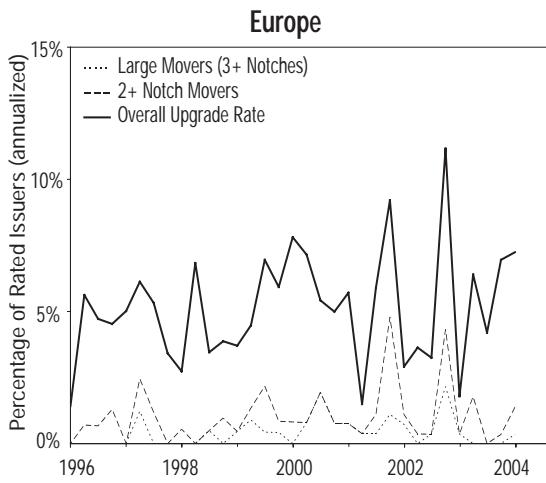
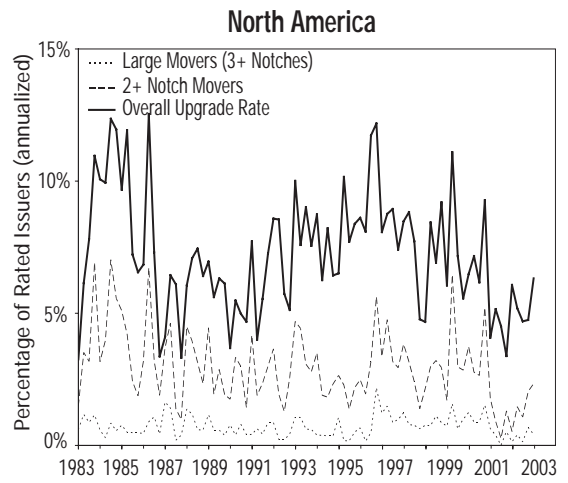
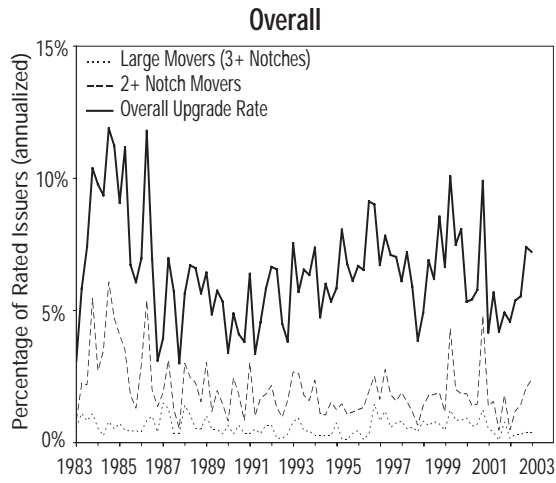
- Downgrade rates for all regions remain low and continued their downward trends.
- Upgrade rates for North America and Europe have risen recently and remained high in Asia Pacific

Figure 6: Downgrade Rates



1. The measurement of Moody's rating actions has changed slightly. In previous reports, the frequency of rating actions was modestly overstated because, when senior unsecured bond rating histories were unavailable, rating changes were measured using Moody's algorithmically derived estimated senior unsecured ratings. Since inferred rating histories can fluctuate for other reasons besides actual rating changes, with this report we have chosen to limit the sample of rating changes to only those changes that affect a company's debt issues or published issuer ratings

Figure 7: Upgrade Rates



COMPARISONS WITH BOND MARKET-IMPLIED RATINGS: 1999 TO PRESENT

Figure 8 compares the performance of Moody's ratings to ratings inferred from the market prices of bonds. The derivation of bond-implied ratings is discussed in the Moody's *Special Comment* "Measuring the Performance of Corporate Bond Ratings," which was published in April 2003.

- Bond implied ratings have higher one-year ARs than Moody's for all regions, currently and historically.
- The five-year ARs for bond-implied ratings are roughly the same as those for Moody's ratings. They are slightly lower in Europe and Asia and slightly higher in North America.
- Bond implied ratings are much more volatile than Moody's ratings. Ten to twenty times more companies experience a bond implied rating change than experience a Moody's rating change during any given three-month period.

Figure 8: Comparisons with Bond Market-Implied Ratings: 1999 to present

Overall Sample	Current Results		Historical Average	
	Moody's	Bond Implied	Moody's	Bond Implied
1 Year Accuracy Ratio	87.5%	93.6%	75.5%	83.3%
5 Year Accuracy Ratio	62.1%	62.3%	61.9%	61.9%
Average Rating Prior to Default	B3/Caa1	Caa1	B2	B3
Rating Action Rate	5.0%	51.4%	7.9%	58.3%
Large Rating Action Rate	0.2%	3.4%	1.1%	5.7%

North America	Current Results		Historical Average	
	Moody's	Bond Implied	Moody's	Bond Implied
1 Year Accuracy Ratio	87.0%	92.8%	74.7%	82.0%
5 Year Accuracy Ratio	61.7%	62.4%	74.3%	83.0%
Average Rating Prior to Default	Caa1	Caa2	B2/B3	B3/Caa1
Rating Action Rate	5.4%	49.0%	7.8%	57.9%
Large Rating Action Rate	0.2%	3.6%	1.1%	5.6%

Europe	Current Results		Historical Average	
	Moody's	Bond Implied	Moody's	Bond Implied
1 Year Accuracy Ratio	95.8%	96.9%	82.5%	89.3%
5 Year Accuracy Ratio	65.6%	61.8%	66.9%	61.1%
Average Rating Prior to Default	Ba2	Ba2/Ba3	B2	B2/B3
Rating Action Rate	4.7%	58.9%	7.7%	59.9%
Large Rating Action Rate	0.2%	3.5%	1.4%	6.8%

Asia	Current Results		Historical Average	
	Moody's	Bond Implied	Moody's	Bond Implied
1 Year Accuracy Ratio	66.5%	95.6%	83.7%	92.2%
5 Year Accuracy Ratio	71.7%	69.4%	71.1%	68.3%
Average Rating Prior to Default	—	—	B1	B3
Rating Action Rate	2.8%	58.6%	6.8%	61.9%
Large Rating Action Rate	0.6%	3.3%	1.5%	6.7%

Short Glossary of Terms

Accuracy Ratio

Accuracy ratios are fully described in the Moody's special comment, "Measuring the Performance of Corporate Bond Ratings." Accuracy ratios measure the ability of ratings to differentiate between issuers that default and those that do not default. Bad scores are close to negative one. Good scores are close to positive one.

Average Rating During 36-Month Period Prior to Default

The rating of the defaulted issuer is measured every month for 36 months prior to default as well as immediately prior to default. These 37 rating measurements are averaged together to create one representative number for each defaulted issuer. These representative number are averaged together to create the reported average rating.

Rating Action Rate:

The number of issuers that had rating changes within a given year divided by the total number of issuers.

Large Rating Change Rate

The large rating changes correspond to specific rating actions during the reporting period that cause the rating of an issuer to change by three or more notches during the year prior to the current rating change. The change may represent a one-time move of three or more notches or it may be a smaller change that, when added to changes within the previous year, add up to three or more notches. The rate is determined by dividing by the total number of issuers.

Investment-Grade Defaults

Issuers that held an investment-grade rating (Aaa through Baa) within one year prior to the default date. The rate is established by dividing the number of investment-grade defaults by the number of investment-grade issuers.

Fallen Angels

Issuers whose ratings fell from investment to speculative grade. The fallen angel rate is the number of fallen angels divided by the number of investment-grade issuers.

Rising Stars

Issuers whose ratings rose from speculative to investment grade. The rising star rate is the number of rising stars divided by the number of speculative-grade issuers.

Related Research

Special Comments:

[Moody's Rating Actions, Reviews and Outlooks - Quarterly Update January 2004 , January 2004, #80888](#)

[The Performance of Moody's Corporate Bond Ratings: Third Quarter Update, October 2003, #79803](#)

[Measuring The Performance Of Corporate Bond Ratings, April 2003, #77916](#)

[Default & Recovery Rates of Corporate Bond Issuers 1920-2003, January 2004, #80989](#)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

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