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April 2, 2009

Default, Transition, and Recovery:

2008 Annual Global Corporate Default Study And Rating Transitions

Global Fixed Income Research:
Diane Vazza, Managing Director, New York (1) 212-438-2760; diane_vazza@standardandpoors.com
Devi Aurora, Senior Director, Singapore (65) 6239-6346; devi_aurora@standardandpoors.com
Nicholas Kraemer, Associate, New York (1) 212-438-1698; nick_kraemer@standardandpoors.com

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*(**Editor's Note:** This article replaces a version that was originally published on Feb. 25, 2009.)*

Following many years of benevolent growth, credit deterioration took on a dramatically fierce tone in 2008. Default occurrences picked up sharply in 2008 in each progressive quarter, in contrast with the ultra-lows seen a year earlier. The annual tally was 125; with a quarterly distribution of 18, 20, 27, and 60 in the first through fourth quarters, respectively. Expressed as a percentage of the total issuer count, the default rate rose globally to 1.69% in 2008 from 0.36% a year earlier. All regions experienced a visible increase, with the U.S. leading the charge at 2.41%. The investment-grade default rate rose to 0.41%, its highest annual rate since 2002 (see Chart 1). Among speculative-grade rated entities only, the comparable default rates at year-end 2008 and 2007 were 4.02% and 0.98%, respectively, in the U.S., 2.54% and 0.99% in Europe, and 1.96% and 0.18% in the emerging markets. At 3.43%, the year-end 2008 global speculative-grade default rate was at its highest level since April 2004.

This study includes industrials, utilities, financial institutions, and insurance companies around the world with long-term local-currency ratings. All default rates reported are calculated on an issuer-weighted basis. For a detailed explanation of the methodology used in the study, please refer to Appendix 1. Of the 5,966 corporate issuers rated globally by Standard & Poor's Ratings Services at the beginning of 2008, 15.82% were downgraded at the end of the year, the highest downgrade rate since 2002. The downgrade to upgrade ratio moved up to a five-year high of 2.05. Moreover, the average number of notches recorded among downgrades rose in 2008 to 1.63, a pace unmatched since 2002 (see Chart 11). Meanwhile, the average Gini ratio—a measure of the relative ability of ratings to differentiate risk over the 1981-2008 period—dropped to 82% as a result of the sharp deterioration in 2008 to 65%. Extraordinary turbulence in the financial sector led the average Gini in that segment to drop to 78%; if only nonfinancials are included, the one-year average Gini ratio did not experience the same extent of deterioration with an average of 80% (see Table 1). (For details on Gini methodology, refer to Appendix II.)

The rise in corporate casualties is not surprising, as it comes on the heels of many consecutive years of heady growth. Indeed, the noteworthy deterioration of the global corporate rating distribution (and the coincident drop in the median rating) in the last five years was a visible symptom of the 'boom' years, characterized by easy lending conditions, rock-bottom spreads, and a bulging rise in low-grade originations (see Chart 2). Looked at by sector, most industries remained dominated by speculative-grade issuers as of the end of 2008 in comparison with 10 years earlier (refer to Chart 17). We expect the current wave of defaults will restore a greater sense of equilibrium, resulting in a distribution that tips closer towards investment grade, as was the case in 2003. This dynamic results when the volume of defaults more than compensates for the new entrants into the speculative-grade universe, either from downgrades or from originations. For more details on the default forecast, refer to "U.S. Corporate Default Rate Forecasted To Reach All-Time High Of 13.9% In 2009," published Jan. 23, 2009, RatingsDirect.

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Chart 1

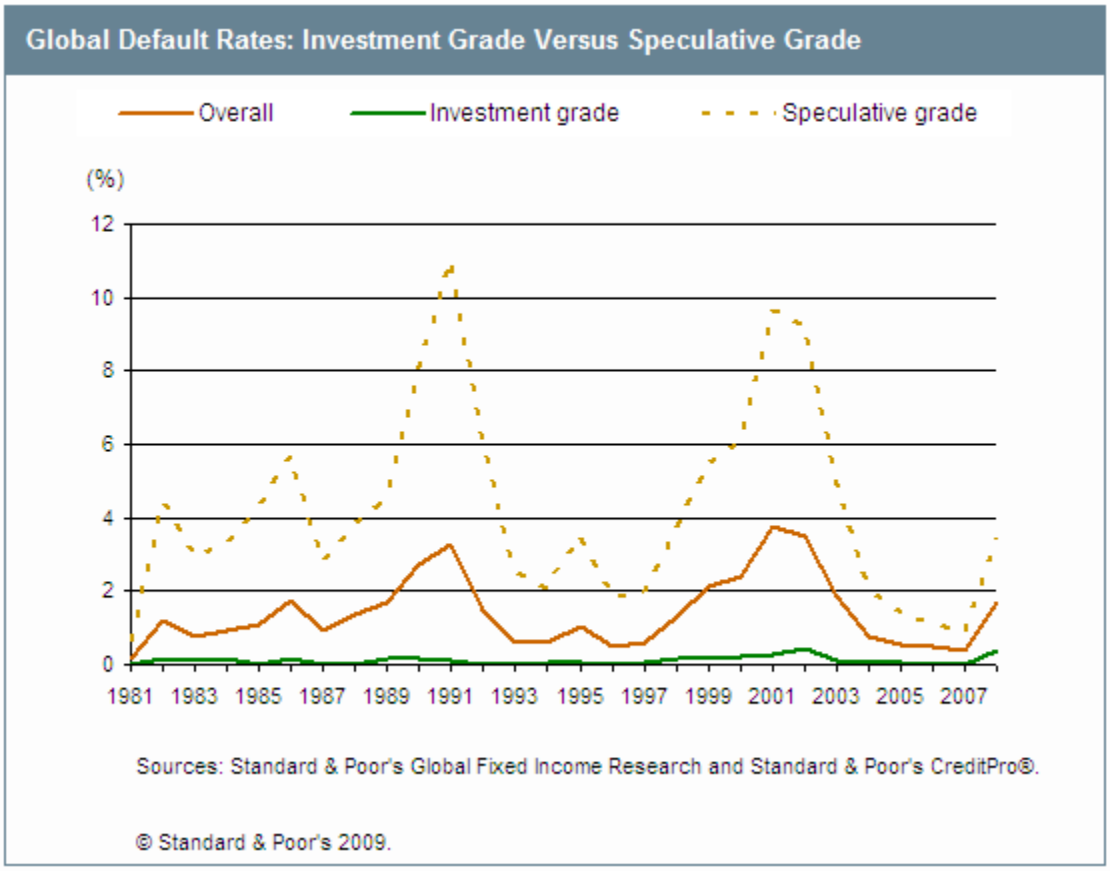

Table 1

Global Average Gini Coefficients By Broad Sector (1981-2008)

	—Time horizon (years)—			
Sector	**1**	**3**	**5**	**7**
Global				
Weighted average	81.56	75.91	73.23	71.57
Average	83.79	77.80	74.07	70.99
Standard deviation	(5.75)	(4.43)	(4.42)	(4.35)
Financial				
Weighted average	77.79	69.78	64.36	62.51
Average	78.53	72.43	66.08	61.81
Standard deviation	(23.94)	(14.09)	(13.80)	(11.00)
Nonfinancial				
Weighted average	80.15	73.95	71.52	69.92
Average	82.95	76.64	73.20	70.22
Standard deviation	(6.51)	(5.11)	(5.16)	(4.98)

Numbers in parentheses are standard deviations. Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

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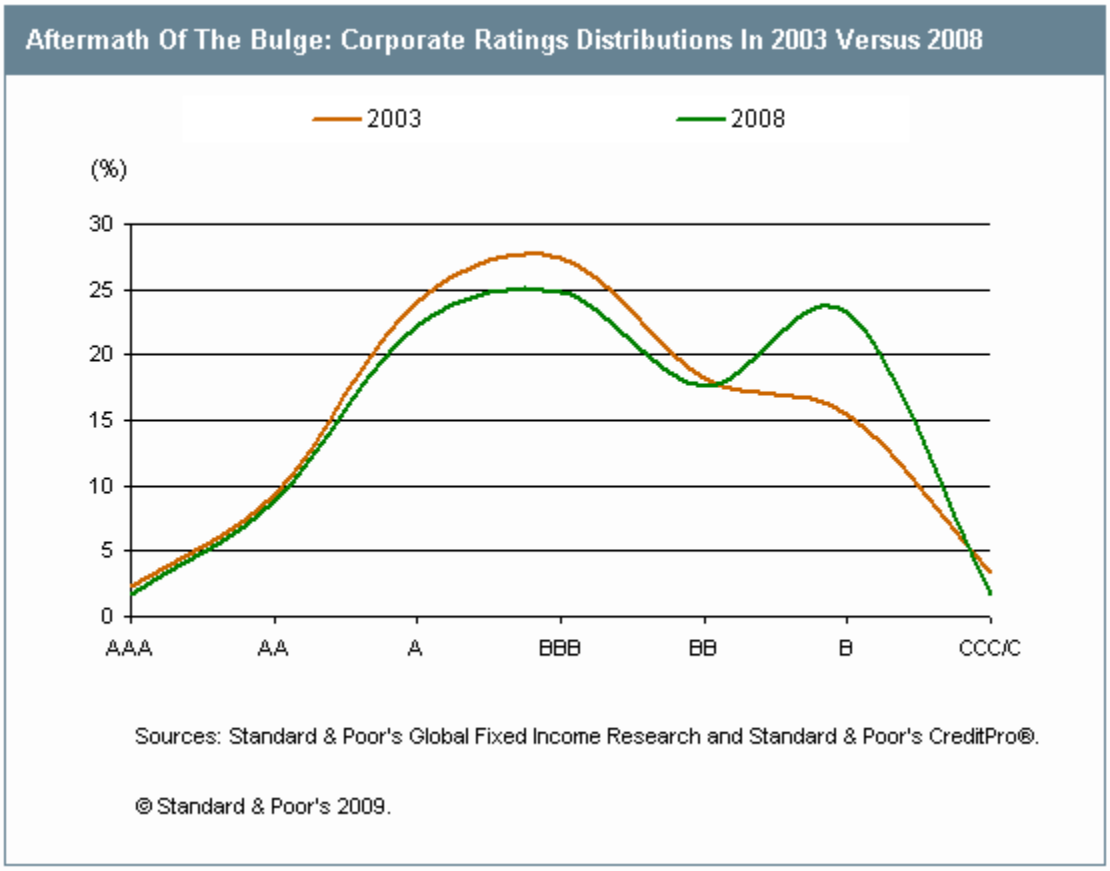
Chart 2



A closer look at the breakout by rating category presented in Table 2 reveals that extraordinary financial turbulence drove 2008 default rates to record highs in some investment-grade rating categories, notably 'AA' and 'A', where default rates rose to 0.38%. Meanwhile, default rates in the 'AAA' rating category stayed at zero, certifying that the default record for corporate ratings within this category remained unblemished and consistent with historical trends. At the same time, default rates in the speculative-grade rating categories are well below the record levels seen in prior cycles.

A comparison with the long term reveals that 2008 default rates in the 'AA', 'A', and 'BBB' rating categories exceeded their long-term weighted averages but remained lower than this threshold in the 'BBB' and 'BB' rating categories (see Table 3). For example, the 3.82% default rate recorded among entities rated 'B' (includes 'B+', 'B', and 'B-') in the most recent four quarters was below the 4.51% long-term average as well as the 8.10% recorded during the most recent peak in 2002.

Table 2

Global Corporate Default Rates By Rating Category

(%)	AAA	AA	A	BBB	BB	B	CCC/C
1981	0.00	0.00	0.00	0.00	0.00	2.27	0.00
1982	0.00	0.00	0.21	0.34	4.22	3.13	21.43
1983	0.00	0.00	0.00	0.32	1.16	4.55	6.67

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Table 2

Global Corporate Default Rates By Rating Category (cont.)

1984	0.00	0.00	0.00	0.66	1.14	3.39	25.00
1985	0.00	0.00	0.00	0.00	1.48	6.44	15.38
1986	0.00	0.00	0.18	0.33	1.31	8.33	23.08
1987	0.00	0.00	0.00	0.00	0.37	3.08	12.28
1988	0.00	0.00	0.00	0.00	1.04	3.62	20.37
1989	0.00	0.00	0.00	0.60	0.71	3.37	31.58
1990	0.00	0.00	0.00	0.58	3.55	8.54	31.25
1991	0.00	0.00	0.00	0.55	1.67	13.84	33.87
1992	0.00	0.00	0.00	0.00	0.00	6.99	30.19
1993	0.00	0.00	0.00	0.00	0.69	2.62	13.33
1994	0.00	0.00	0.14	0.00	0.27	3.08	16.67
1995	0.00	0.00	0.00	0.17	0.98	4.58	28.00
1996	0.00	0.00	0.00	0.00	0.67	2.89	4.17
1997	0.00	0.00	0.00	0.25	0.19	3.47	12.00
1998	0.00	0.00	0.00	0.41	0.96	4.59	42.86
1999	0.00	0.17	0.18	0.19	0.94	7.28	32.35
2000	0.00	0.00	0.26	0.37	1.24	7.73	34.12
2001	0.00	0.00	0.35	0.33	3.22	11.23	44.55
2002	0.00	0.00	0.00	1.00	2.78	8.10	44.12
2003	0.00	0.00	0.00	0.22	0.56	3.97	33.13
2004	0.00	0.00	0.08	0.00	0.52	1.55	15.11
2005	0.00	0.00	0.00	0.07	0.20	1.71	8.87
2006	0.00	0.00	0.00	0.00	0.29	0.80	13.08
2007	0.00	0.00	0.00	0.00	0.19	0.24	14.81
2008	0.00	0.38	0.38	0.47	0.76	3.82	26.53

Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

Table 3

Descriptive Statistics On One-Year Global Default Rates

(%)	AAA	AA	A	BBB	BB	B	CCC/C
Minimum	0.00	0.00	0.00	0.00	0.00	0.24	0.00
Maximum	0.00	0.38	0.38	1.00	4.22	13.84	44.55
Weighted long-term average	0.00	0.03	0.08	0.24	0.99	4.51	25.67
Median	0.00	0.00	0.00	0.21	0.85	3.72	22.25
Standard deviation	0.00	0.08	0.11	0.27	1.08	3.17	12.15
2002 default rates	0.00	0.00	0.00	1.00	2.78	8.10	44.12
Latest four quarters (Q1 2008Q1 - Q4 2008)	0.00	0.38	0.38	0.47	0.76	3.82	26.53
Difference between last four quarters and average	0.00	0.35	0.30	0.23	(0.23)	(0.68)	0.86
number of standard deviations	0.00	4.57	2.63	0.86	(0.21)	(0.21)	0.07

Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

Examining default rates is valuable because all of Standard & Poor's default studies have found a clear correlation between ratings and observed default frequencies: The higher the rating, the lower the observed frequency of default,

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and vice versa. Even in 2008 amid high turbulence, the ability of corporate ratings to serve as an effective measure of relative risk remains intact. Many default studies, including this one, also look at transition rates, which gauge the degree to which ratings change—either up or down—over a particular time. Transition studies have repeatedly confirmed that higher ratings tend to be more stable and that speculative-grade debt generally experiences more rating volatility.

2008 Summary

We note below some key takeaways from the defaulting class of 2008:

- A total of 125 issuers defaulted, the largest count since 2002 (see Table 4).
- The rated debt volume affected by the 2008 defaults was US$429.6 billion, an all-time high in terms of face value.
- Of the 125 defaulters, 101 initially had a speculative-grade rating; 24 were initially investment grade.
- The single biggest defaulter by volume was Lehman Brothers, which defaulted on $144 billion of rated debt, setting a new historical record (see Table 5).
- Financial defaulters nearly doubled their share in 2008, accounting for nearly 20% of total defaults in 2008 versus 10.3% in the long term. Note that the share of financial defaulters was to some extent mitigated by extraordinary government intervention in the form of bailouts and forced consolidations.
- The average initial rating of last year's defaulters was 'B+', and the median rating was 'BB-'.
- The average rating one year prior to default among the defaulting cohort was 'B'; the median rating was 'B+'.
- More than half (58%) of all 2008 defaulters had either a negative outlook or ratings on CreditWatch with negative implications a year prior to default, 31% were listed with stable outlook, 8% with a positive outlook, and 2% developing.
- The average time to default from original rating for the global defaulting class of 2008 was 7.2 years, with an associated standard deviation of 7.4 years. This timing is longer than the historical average of 5.7 years observed for all 1,668 defaulters in our database.
- In 2008, the issuer with the longest time to default since its first rating was GMAC LLC, the U.S.-automaker that has been rated since the inception of the database in 1981. GMAC LLC completed an exchange offer for certain distressed bonds on Dec. 31, 2008, a full 28 years after its first rating date. Harrah's Entertainment Inc., a U.S.-based gaming and leisure company that underwent a distressed exchange on Dec. 24, 2008, was a close second.
- The shortest time to default (excluding repeat defaulters) was four months, recorded by a Kuwait-based financial institution Global Investment House KSCC which missed an interest payment on Dec. 17, 2008.
- The industry with the highest default rate in 2008 was leisure time/media, which recorded 5.9% in 2008.
- At the end of 2008, default rates in seven of 13 sectors had already exceeded their long-term averages.
- The count of issuers experiencing large-notch downgrades (i.e. issuers whose ratings fell by seven notches or more during the course of 2008) rose sharply to 21 but still remained below the most recent peak of 51 in 2001 (see Chart 5). Financials accounted for more than half of all issuers that experienced large rating transitions.
- The representation of defaults from the 'NR' category rose in 2008 relative to the long term. The share of defaulting issuers that were not rated as of Jan. 1 in the year of default rose slightly to 22% in 2008 compared with 20% in the long term (see Chart 10).
- The incidence of short-lived defaulters is typically rare within corporate ratings and remained so in 2008. Only two defaults (including one confidentially rated issuer) were recorded by issuers with ratings that originated after

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Jan. 1, 2008. In addition, three other issuers—Residential Capital LLC, OJSC RBC Information Systems, and IT Holding SpA—recorded multiple incidences of defaults within the year owing to distressed exchanges or missed interest payments.

There were 125 corporate defaults globally in 2008, affecting rated debt worth US$429.6 billion (see Charts 3 and 4). This default count comprises both nonconfidentially and confidentially rated entities at the time of default, while the affected debt figures include these companies as well as entities not rated at time of default. One year earlier, 24 defaults were recorded on rated debt worth US$8.15 billion. Of the 2008 total, 94 defaults were in the U.S. affecting rated debt worth US$334.3 billion, eight in Europe (US$80.1 billion), seven in other developed economies (Canada, Australia, Japan) on US$9.8 billion, and 16 in the emerging markets affecting US$5.4 billion. The concentration in the U.S. is in part attributable to the larger rated population there.

Chart 3

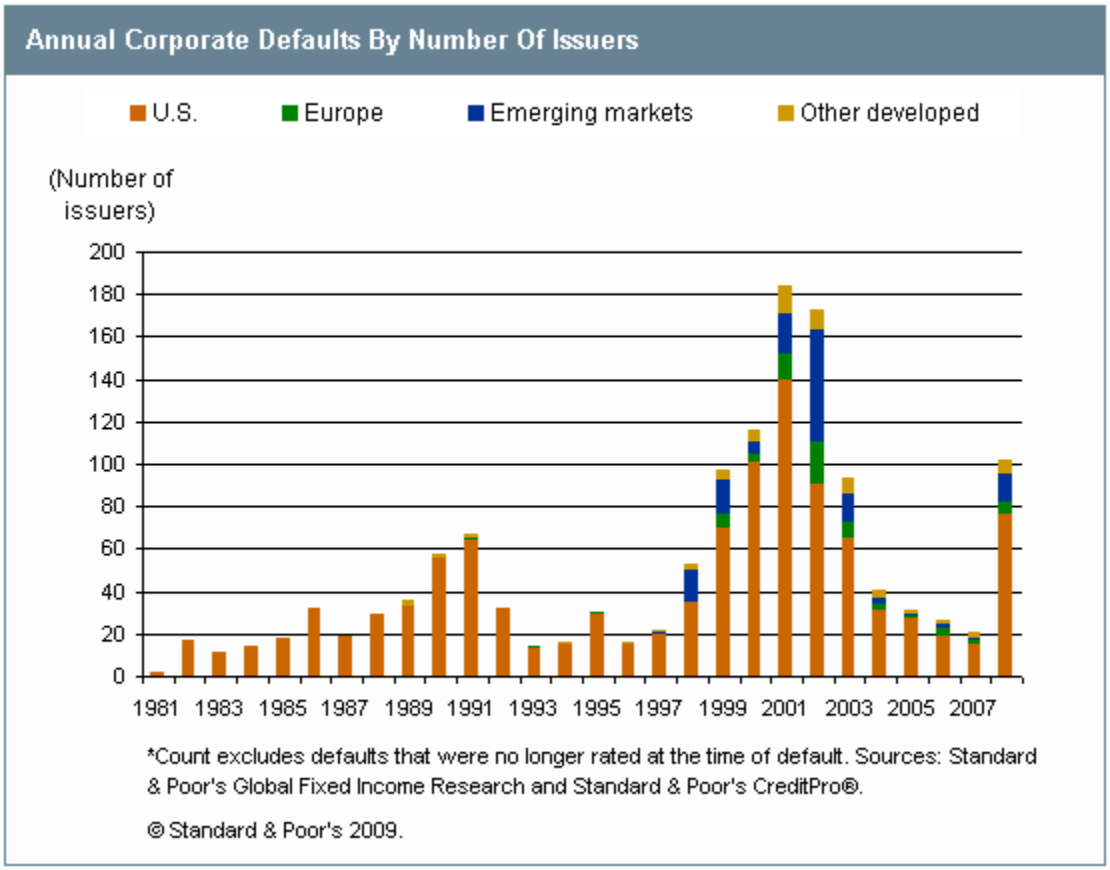

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Chart 4

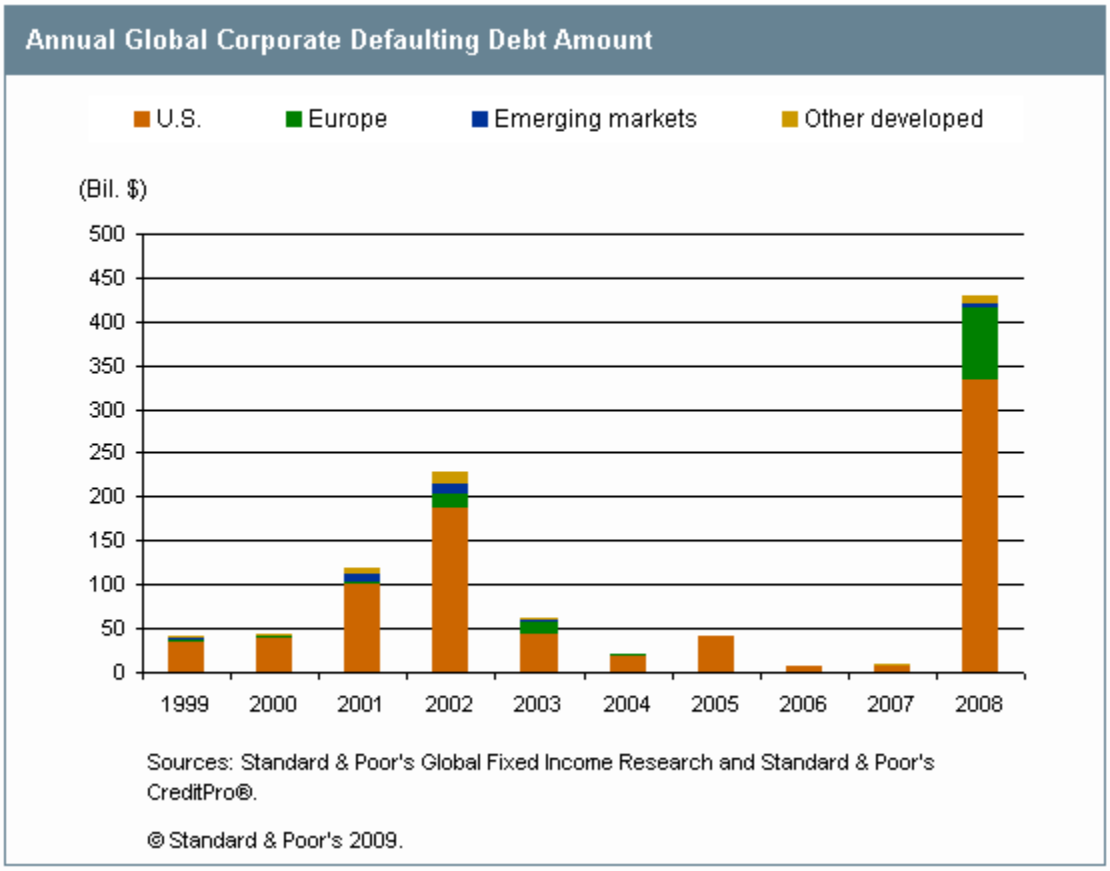

Table 4

Global Corporate Default Summary

Year	Total defaults*	Investment-grade defaults	Speculative-grade defaults	Default rate (%)	Investment-grade default rate (%)	Speculative-grade default rate (%)	Total debt defaulting (Bil. $)
1981	2	0	2	0.14	0.00	0.62	0.06
1982	18	2	15	1.19	0.18	4.41	0.90
1983	12	1	10	0.76	0.09	2.93	0.37
1984	14	2	12	0.91	0.17	3.26	0.36
1985	19	0	18	1.10	0.00	4.31	0.31
1986	34	2	30	1.72	0.15	5.66	0.46
1987	19	0	19	0.95	0.00	2.79	1.60
1988	32	0	29	1.38	0.00	3.83	3.30
1989	42	2	34	1.69	0.14	4.52	7.28
1990	69	2	56	2.74	0.14	8.08	21.15
1991	93	2	65	3.26	0.14	11.02	23.65
1992	39	0	32	1.49	0.00	6.07	5.40
1993	26	0	14	0.60	0.00	2.49	2.38
1994	20	1	15	0.62	0.05	2.10	2.30
1995	35	1	29	1.04	0.05	3.52	8.97

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Table 4

Global Corporate Default Summary (cont.)

1996	20	0	16	0.51	0.00	1.80	2.65
1997	23	2	20	0.62	0.08	1.98	4.93
1998	58	4	49	1.28	0.14	3.70	11.27
1999	108	5	91	2.10	0.17	5.46	39.38
2000	136	7	108	2.42	0.24	6.06	43.28
2001	229	8	173	3.74	0.26	9.66	118.79
2002	225	13	158	3.51	0.41	9.22	190.92
2003	121	3	89	1.88	0.10	4.91	62.89
2004	56	1	39	0.78	0.03	2.02	20.66
2005	39	1	30	0.57	0.03	1.42	42.00
2006	30	0	26	0.46	0.00	1.14	7.13
2007	24	0	21	0.36	0.00	0.87	8.15
2008	125	14	87	1.69	0.41	3.43	429.63

*Includes companies that were no longer rated at the time of default. Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's Credit Pro®.

Table 5

Largest Global Rated Defaults By Year

Largest corporate defaulters by outstanding debt amount

Year defaulted	Issuer	Amount (Mil. $)
1991	Columbia Gas System	2,292
1992	Macy (R.H.) & Co.	1,396
1993	Mesa, Inc.	600
1994	Confederation Life Insurance	2,415
1995	Grand Union Co./Grand Union Capital	2,163
1996	Tiphook Finance	700
1997	Flagstar Corp.	1,021
1998	Service Merchandise Co.	1,326
1999	Integrated Health Services Inc.	3,394
2000	Owens Corning	3,299
2001	Enron Corp.	10,779
2002	WorldCom Inc.	30,000
2003	Parmalat Finanziaria SpA	7,177
2004	RCN Corp.	1,800
2005	Calpine Corp.	9,559
2006	Pliant Corp.	1,644
2007	Movie Gallery Inc.	1,225
2008	Lehman Brothers Holdings Inc.	144,426

Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

At the end of 2008, credit trends dipped for the worse in no uncertain terms, with downgrades exceeding upgrades globally by the biggest margin since 2003 (see Table 6).

Amid the elevated turbulence, the number of entities experiencing large, multi-notch downgrades escalated to a high

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of 21 issuers in 2008, its highest level since 2001 (see Chart 5). These big movers are defined as entities that experienced rating downgrades (or upgrades) of seven notches or greater. Of note, financials accounted for more than half of the big movers, the highest share recorded since 1992.

Table 6

Summary Of Annual Corporate Rating Changes* (%)

Year	Issuers as of Jan. 1	Upgrades	Downgrades¶	Defaults	Withdrawn ratings	Changed ratings	Unchanged ratings	Downgrade/upgrade ratio
1981	1,386	9.81	13.28	0.14	2.02	25.25	74.75	1.35
1982	1,434	5.86	12.69	1.19	5.30	25.03	74.97	2.17
1983	1,456	7.07	11.81	0.76	5.22	24.86	75.14	1.67
1984	1,543	11.15	10.05	0.91	2.85	24.95	75.05	0.90
1985	1,630	7.85	13.74	1.10	4.05	26.75	73.25	1.75
1986	1,859	7.21	15.87	1.72	6.89	31.68	68.32	2.20
1987	2,007	7.17	11.86	0.95	9.27	29.25	70.75	1.65
1988	2,095	8.88	11.84	1.38	8.21	30.31	69.69	1.33
1989	2,134	9.65	11.01	1.69	8.06	30.41	69.59	1.14
1990	2,120	6.23	15.33	2.74	6.60	30.90	69.10	2.46
1991	2,057	6.08	14.29	3.26	3.55	27.18	72.82	2.35
1992	2,146	9.37	11.46	1.49	4.01	26.33	73.67	1.22
1993	2,333	8.40	9.34	0.60	8.40	26.75	73.25	1.11
1994	2,570	7.04	9.30	0.62	4.63	21.60	78.40	1.32
1995	2,892	8.75	9.37	1.04	4.50	23.65	76.35	1.07
1996	3,163	9.42	7.56	0.51	6.99	24.47	75.53	0.80
1997	3,531	8.98	7.84	0.62	7.34	24.78	75.22	0.87
1998	4,127	7.27	11.39	1.28	8.14	28.08	71.92	1.57
1999	4,570	5.60	11.51	2.10	8.71	27.92	72.08	2.05
2000	4,752	6.82	11.89	2.42	7.01	28.14	71.86	1.74
2001	4,837	5.66	15.92	3.74	7.34	32.66	67.34	2.81
2002	4,876	5.27	19.03	3.51	6.97	34.78	65.22	3.61
2003	4,898	6.49	14.45	1.88	7.29	30.11	69.89	2.23
2004	5,131	8.81	7.44	0.78	7.17	24.21	75.79	0.85
2005	5,428	12.60	9.12	0.57	8.35	30.64	69.36	0.72
2006	5,602	12.03	8.62	0.46	8.35	29.47	70.53	0.72
2007	5,825	13.37	9.10	0.36	10.11	32.94	67.06	0.68
2008	5,966	7.73	15.82	1.69	7.38	32.62	67.38	2.05
Weighted average		8.42	11.74	1.47	7.16	28.78	71.22	1.58
Median		7.79	11.66	1.14	7.09	28.00	72.00	1.46
Standard deviation		2.15	2.94	0.97	2.04	3.34	3.34	0.72
Minimum		5.27	7.44	0.14	2.02	21.60	65.22	0.68
Maximum		13.37	19.03	3.74	10.11	34.78	78.40	3.61

*This table compares the net change in ratings from the first to the last day of each year. All intermediate ratings are disregarded. ¶Excludes revisions to 'D', shown separately in the default column. Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

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As has been noted earlier, exceptional volatility in the financial markets claimed a higher volume of highly rated financial defaults than normal in 2008. At the same time, default risk was to some extent mitigated by extraordinary government intervention in the form of bailouts, capital injections, and forced consolidations, notably in the U.S. but also in other regions, such as Europe. Chart 6 plots the history of investment-grade defaults in the U.S., and superimposes a hypothetical worst-case default count for 2008, after accounting for near misses such as Bear Stearns.

Chart 5

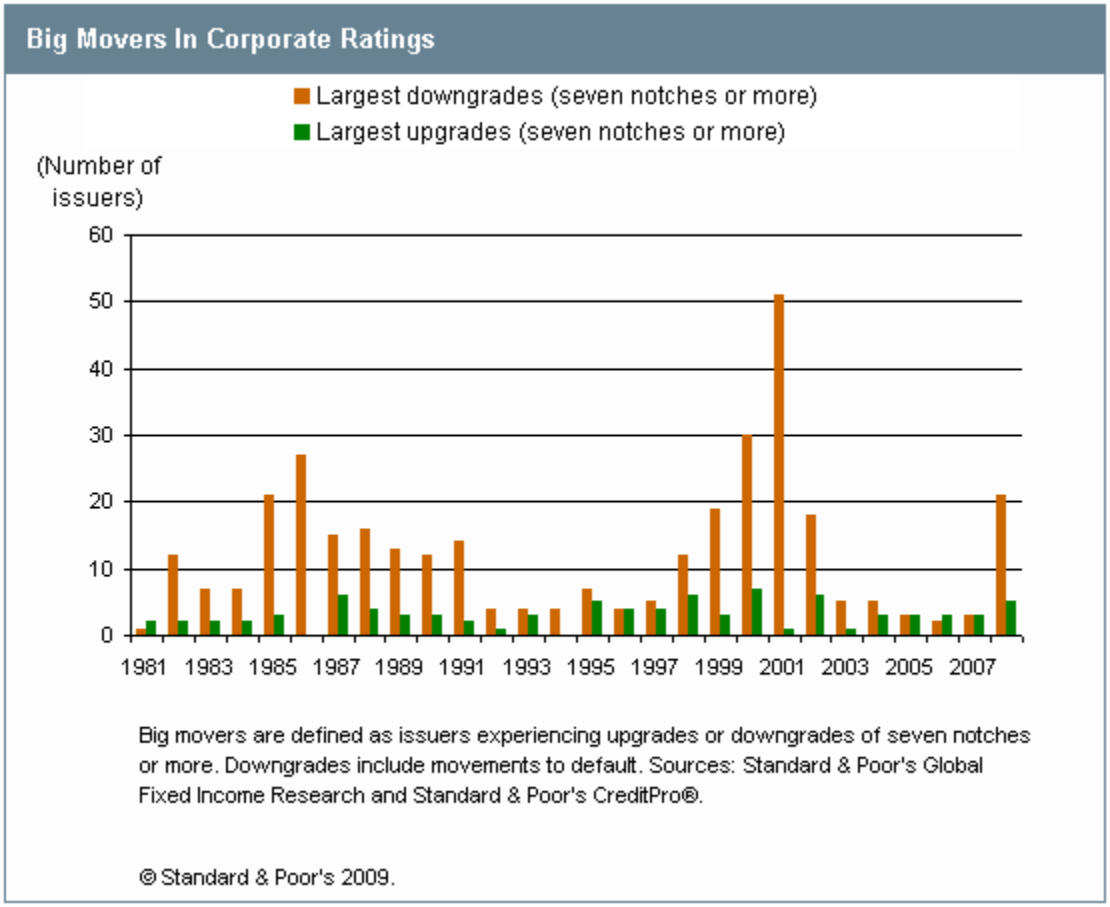

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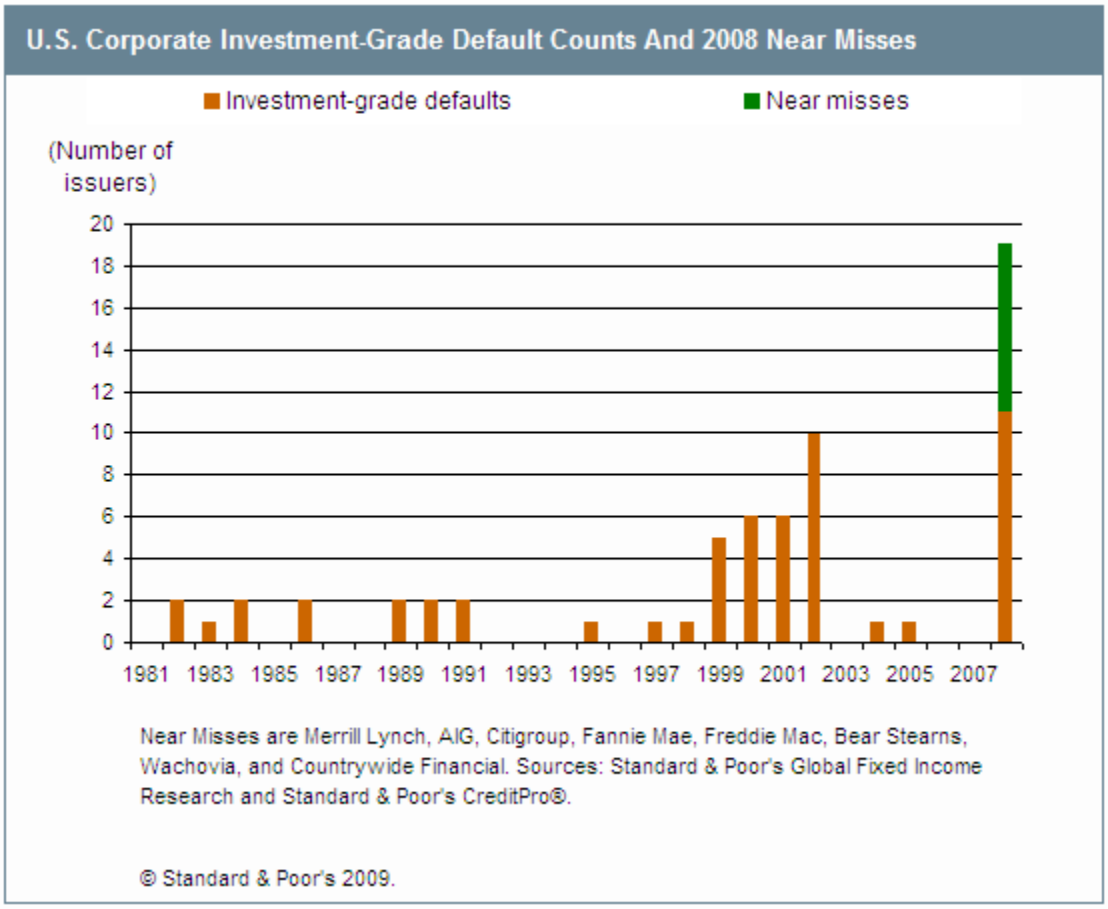
Chart 6



On an annual basis, the overall issuer-weighted default rate—including both investment-grade and speculative-grade entities—was 1.69% in 2008, the highest rate in nearly five years. Table 7 shows the historical breakout of speculative-grade default rate by region. At 3.43% in December 2008, the global speculative-grade default rate has remained below the long-term (1981-2008) average of 4.26% for 58 consecutive months. By region, the U.S. led the charge in 2008 with a speculative-grade default rate of 4.02% compared with 2.54% in Europe and 1.96% in the emerging markets.

Table 7

Annual Corporate Speculative-Grade Default Rate By Geographic Region (%)

Year	U.S. and tax havens*	Europe¶	Emerging markets	Other§
1981	0.63	0.00	N/A	0.00
1982	4.44	0.00	N/A	0.00
1983	2.98	0.00	N/A	0.00
1984	3.32	0.00	0.00	0.00
1985	4.39	0.00	N/A	0.00
1986	5.74	0.00	N/A	0.00
1987	2.82	0.00	N/A	0.00
1988	3.87	0.00	N/A	0.00

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Table 7

Annual Corporate Speculative-Grade Default Rate By Geographic Region (%) (cont.)				
1989	4.17	0.00	N/A	42.86
1990	7.89	0.00	N/A	33.33
1991	10.67	50.00	N/A	28.57
1992	6.21	0.00	N/A	0.00
1993	2.39	20.00	0.00	0.00
1994	2.19	0.00	0.00	0.00
1995	3.64	9.09	0.00	0.00
1996	1.84	0.00	0.00	2.63
1997	2.16	0.00	0.00	1.92
1998	3.24	0.00	8.33	1.35
1999	5.16	6.38	6.84	5.15
2000	7.25	2.48	1.82	6.00
2001	10.50	8.53	6.05	12.37
2002	7.10	12.41	15.36	7.41
2003	5.48	3.68	3.48	5.36
2004	2.48	1.60	0.75	2.48
2005	1.97	0.48	0.22	1.22
2006	1.34	1.83	0.39	0.69
2007	0.98	0.99	0.18	2.00
2008	4.02	2.54	1.96	3.47
Average	4.25	3.15	3.49	4.00
Median	3.75	0.00	0.39	1.29
Standard deviation	2.61	10.13	4.24	10.92
Minimum	0.63	0.00	0.00	0.00
Maximum	10.67	50.00	15.36	42.86

Averages for regions other than U.S. calculated from 1996 to 2008. *U.S., Bermuda, and Cayman Islands. ¶Austria, Belgium, Bulgaria, Channel Islands, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, and U.K. § Australia, Canada, Iceland, Isle of Man, Japan, Liechtenstein, Monaco, New Zealand, Norway, and Switzerland. N/A—Not applicable. Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

An alternative statistic that measures the change in credit quality by combining the average change in the frequency of downgrades or upgrades and magnitude of such rating transitions, weighted by the total number of issuers outstanding in each region, is displayed in Chart 7. It shows that the precipitous decline into negative territory as a result of the preponderance of downgrades.

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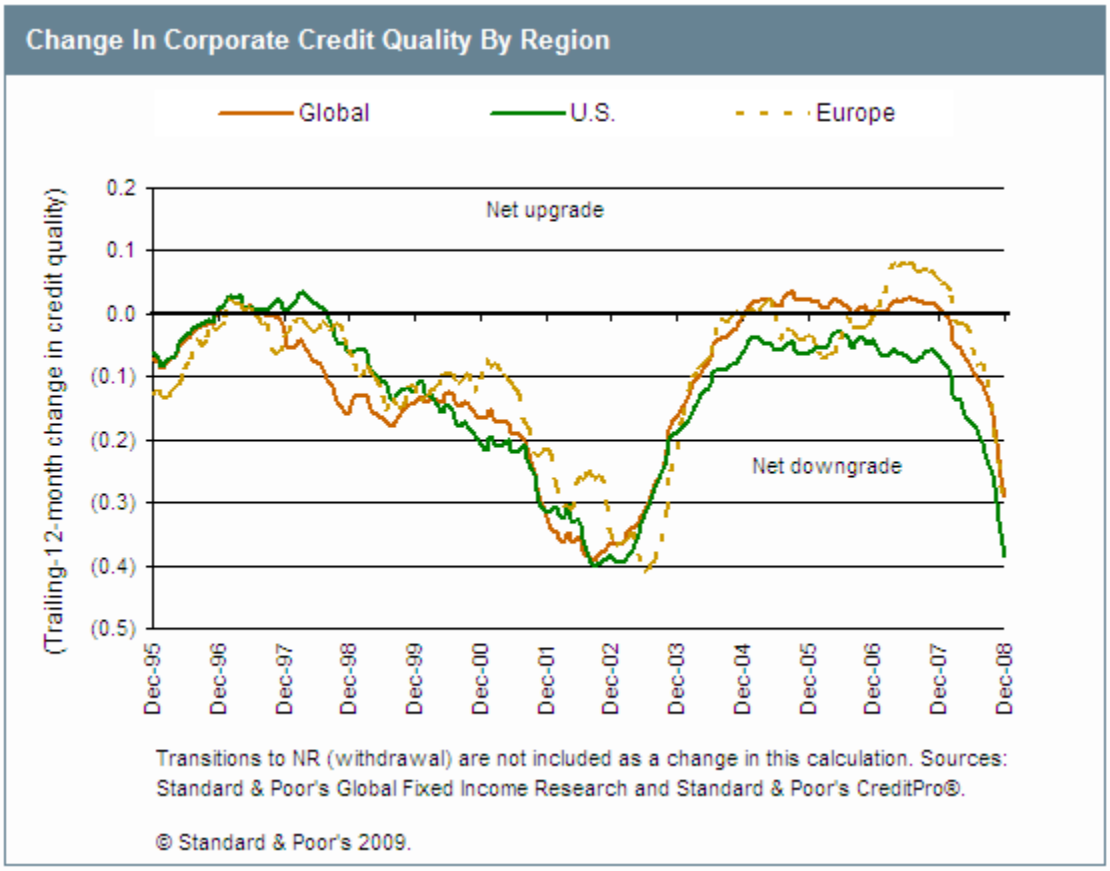
Chart 7



Evidence collected from the database of defaulted corporate issuers globally indicates that defaults among speculative-grade entities tend to be clustered in the third year after the initial rating, particularly in the 'B' rating category (see Chart 8). For example, among defaulters that were rated 'B' at origination, the default rate climbs to a high of 19.4% in the first three years and then decelerates thereafter. Defaulted issuers rated 'BB' at origination show a similar pattern but peak a little later—in the fourth year. Conversely, defaulters with an initial rating of 'CCC' show the reverse, with the highest default rate observed in the first year, which is not surprising given the low rating.

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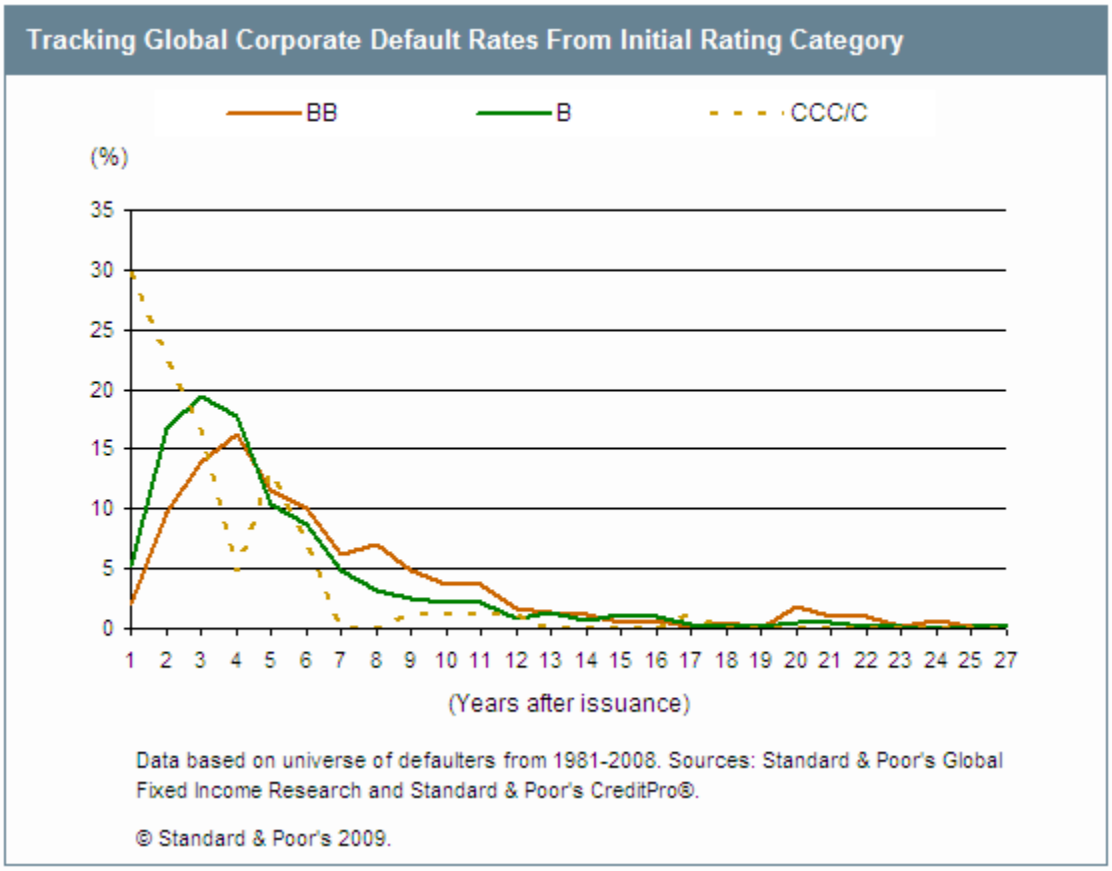
Chart 8



The average time to default for the pool of 125 defaulting issuers in 2008 was 7.2 years. For the four quarters of 2008, the average times to default were 6.8, 6.7, 7.9, and 7.3 years, respectively. The longest time to default among the 2008 entities from the first rating was 28 years (U.S.-based financial company GMAC LLC) which has been rated since the inception of the database in 1981, and the shortest (excluding repeat defaulters) was by a Kuwait-based financial institution Global Investment House KSCC, which missed an interest payment on Dec. 17, 2008, a little over four months from its initial rating.

Of the 125 defaulting entities in 2008, 101 were originally rated speculative grade ('BB+' or lower). Conversely, 24 had an initial investment-grade rating. The rating path observed for defaulters in the trailing 12 quarters is broadly representative of the long-term ratings trend, which shows that both the average rating and median rating on all defaulting entities were in the speculative-grade category in the five years preceding default (see Chart 9).

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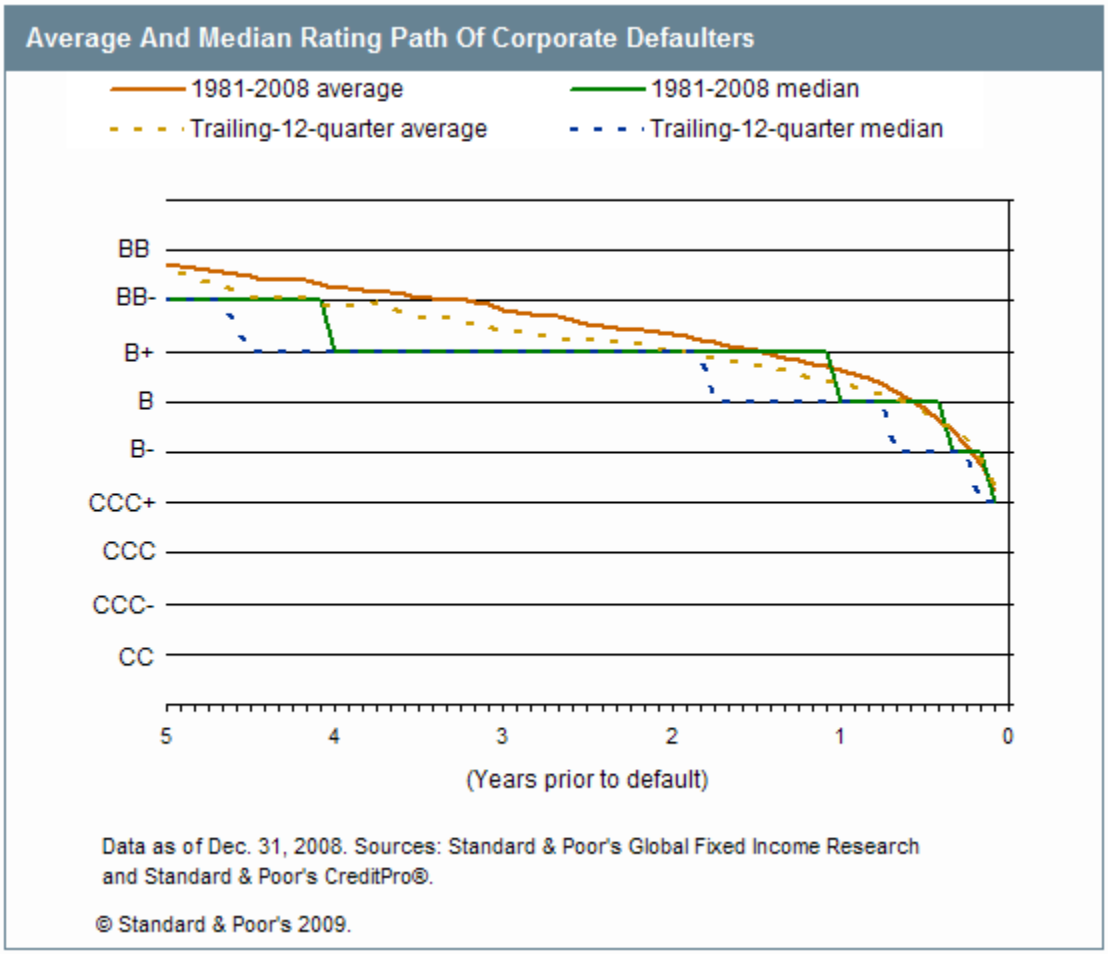
Chart 9



Some issuers may default at a time when they no longer rated by Standard & Poor's. Such defaults are captured by the database on a best-efforts basis and are included in the annual default rate calculation if the entity had a rating as of Jan. 1 in the year of default. However, if the rating was withdrawn prior to Jan. 1 of the year of default, the issuer would not be included in the default rate calculation in that year. Of the 125 defaults in 2008, 27 issuers stemmed from the 'NR' category. This is a slightly higher share of the total defaulter count (22%) in comparison with long-term averages (see Chart 10). Furthermore, although 'NR'-defaulters are not always included in the default rate calculation for the year of default, such defaults are captured in the longer-term cumulative default rate statistics, tagged back to the year in which they last had an active rating.

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Chart 10A

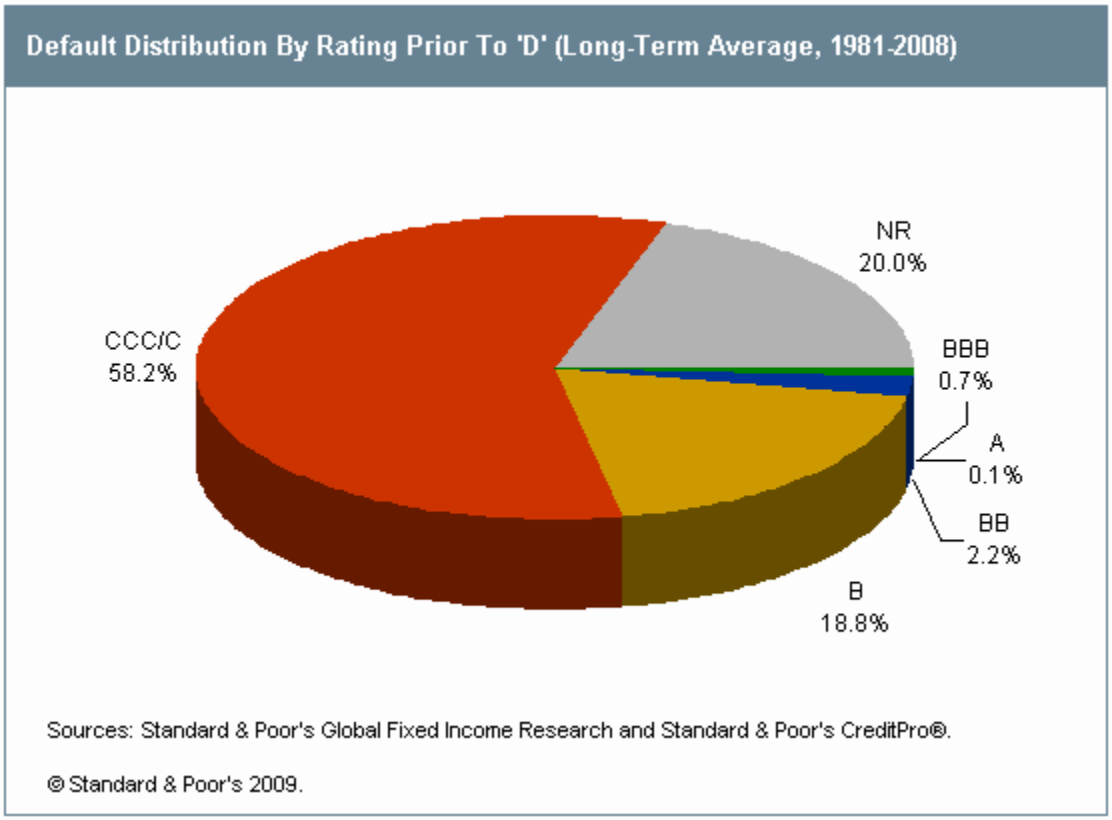

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Chart 10B

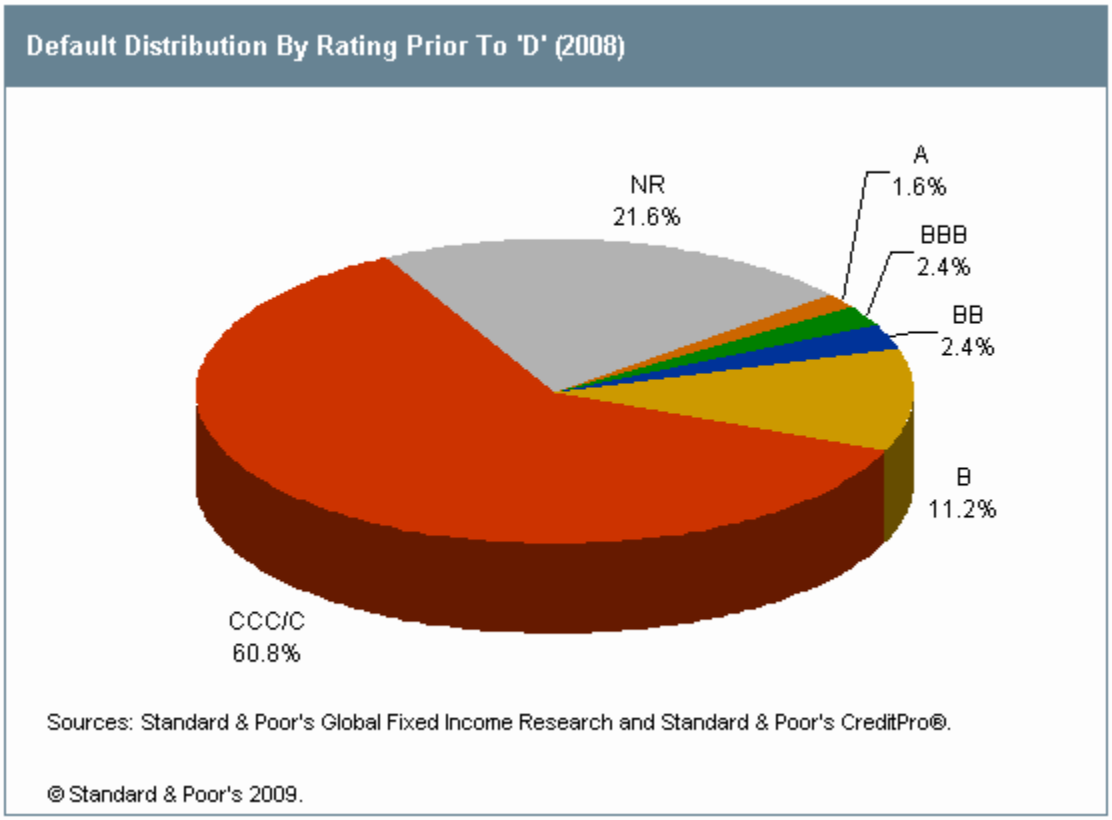

Table 8 provides an itemized list of all the nonconfidentially rated defaults recorded in 2008. For additional detail on 2008 defaulters, refer to the article titled "2008 Default Synopses", March 13, 2009, Ratings Direct.

Table 8

2008 Corporate Publicly Rated Defaults*

Company	Country	Industry	Debt amount (Mil.$)	Default date	Next to last rating	Date of next to last rating	First rating	Date of first rating
Buffets Holdings Inc.	U.S.	Customer service	934.7	1/4/2008	CCC	11/6/2007	B	5/20/2004
TOUSA Inc.	U.S.	Real estate	2,259.0	1/4/2008	CC	11/16/2007	B+	6/4/2002
Quebecor World Inc.	Canada	Leisure time / media	2,453.6	1/16/2008	CCC	12/18/2007	BBB+	1/13/1997
Propex Inc.	U.S.	Health/chem	437.3	1/22/2008	CCC	1/7/2008	B+	11/15/2004
PRC LLC	U.S.	Leisure time / media	227.0	1/23/2008	NR	11/7/2007	B+	12/6/2006
Plastech Engineered Products Inc.	U.S.	Aero/auto/CG/metal	640.0	2/4/2008	CCC+	1/31/2008	BB-	1/27/2004
SIRVA Inc.	U.S.	Transportation	660.6	2/5/2008	NR	10/6/2006	B+	10/27/2003
Holley Performance Products Inc.	U.S.	Aero/auto/CG/metal	60.0	2/11/2008	NR	2/8/2006	B+	5/12/1999
Wellman Inc.	U.S.	Health/chem	675.0	2/25/2008	CCC+	10/31/2007	BBB	9/29/1998
Atlantis Plastics Inc.	U.S.	Health/chem	216.7	2/27/2008	CCC-	9/21/2007	B+	4/21/1987
Thornburg Mortgage Inc.	U.S.	Financial institutions	305.0	3/3/2008	B-	2/29/2008	BB	4/29/2003

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Table 8

2008 Corporate Publicly Rated Defaults* (cont.)								
Leiner Health Products Inc.	U.S.	Customer service	581.6	3/10/2008	CCC	12/10/2007	B	8/2/2002
Legends Gaming LLC	U.S.	Leisure time / media	442.0	3/14/2008	CCC+	2/13/2008	B	5/11/2006
Fremont General Corp.	U.S.	Insurance	165.8	3/18/2008	CC	3/4/2008	BBB	12/31/1980
Fremont Investment & Loan	U.S.	Financial institutions	4.3	3/18/2008	CCC-	3/4/2008	BB-	9/20/2005
Ziff Davis Media Inc.	U.S.	Leisure time / media	355.0	3/26/2008	NR	6/14/2007	CCC	5/29/2003
Interep National Radio Sales Inc.	U.S.	Leisure time / media	100.0	4/1/2008	CCC	6/4/2004	B+	6/25/1998
VICORP Restaurants Inc.	U.S.	Customer service	176.5	4/4/2008	CCC	1/30/2008	B+	3/22/1984
Vertis Inc.	U.S.	Leisure time / media	1,643.5	4/8/2008	CC	7/24/2007	B+	7/22/1993
Kimball Hill Inc.	U.S.	Real estate	703.0	4/25/2008	CC	2/20/2008	BB-	12/7/2005
Home Interiors & Gifts Inc.	U.S.	Customer service	310.0	4/29/2008	NR	1/24/2006	B+	5/20/1998
French Lick Resorts & Casino LLC	U.S.	Leisure time / media	142.1	4/30/2008	CCC	7/25/2007	B-	3/17/2006
Recycled Paper Greetings Inc.	U.S.	Customer service	207.0	5/2/2008	CCC	4/20/2007	B	11/7/2005
Herbst Gaming Inc.	U.S.	Leisure time / media	1,585.4	5/19/2008	CCC	2/29/2008	B	8/6/2001
Greektown Holdings LLC	U.S.	Leisure time / media	567.2	5/30/2008	CCC+	5/15/2008	B	11/15/2005
Residential Capital, LLC	U.S.	Financial institutions	6,812.8	6/4/2008	CC	5/2/2008	BBB-	6/9/2005
Six Flags Inc.	U.S.	Leisure time / media	1,119.4	6/16/2008	CCC+	11/9/2007	B+	3/25/1998
JHT Holdings Inc.	U.S.	Transportation	130.0	6/24/2008	NR	4/11/2008	B+	11/20/2006
Gainey Corp.	U.S.	Transportation	255.3	7/1/2008	CC	5/19/2008	BB-	1/27/2006
Ginn-LA Conduit Lender Inc.	U.S.	Real estate	675.0	7/2/2008	CC	6/24/2008	B+	5/16/2006
GWLS Holdings Inc.	U.S.	Transportation	95.0	7/11/2008	B-	12/19/2006	B-	12/19/2006
Indymac Bancorp	U.S.	Financial institutions	0.0	7/14/2008	CCC	7/9/2008	BB+	10/23/2001
IndyMac Bank, FSB	U.S.	Financial institutions	2,655.2	7/14/2008	B-	7/9/2008	BBB-	9/4/1998
Pierre Foods Inc.	U.S.	Customer service	396.0	7/14/2008	CCC+	6/3/2008	B+	6/10/2004
Atrium Cos. Inc.	U.S.	Forest products	803.5	7/17/2008	CCC+	3/7/2008	BB-	11/21/1996
Belvedere S.A.	France	Customer service	903.7	7/18/2008	B-	6/19/2008	B	5/11/2006
Journal Register Co.	U.S.	Leisure time / media	715.0	7/25/2008	CCC	5/6/2008	BB+	7/31/1998
Portola Packaging Inc.	U.S.	Health/chem	240.0	7/29/2008	CCC-	7/23/2008	B+	9/13/1995
Ainsworth Lumber Co. Ltd.	Canada	Forest products	973.9	7/31/2008	CC	2/15/2008	B	6/17/1997
WCI Communities Inc.	U.S.	Forest products	1,375.0	8/4/2008	CC	5/21/2008	BB-	8/10/1999
BluePoint Re Limited	Bermuda	Insurance	0.0	8/14/2008	A	6/9/2008	AA	10/25/2004
Hines Horticulture Inc.	U.S.	Customer service	290.2	8/21/2008	NR	2/8/2008	B+	2/9/1996
Mrs. Fields Famous Brands LLC	U.S.	Customer service	195.7	8/25/2008	NR	11/27/2007	CCC+	2/19/2004
LBREP/L SunCal Master I LLC	U.S.	Real estate	395.0	9/10/2008	NR	2/20/2008	B+	12/8/2005
Motor Coach Industries International Inc.	U.S.	Aero/auto/CG/metal	296.2	9/15/2008	CCC-	4/2/2008	BB-	6/3/1999

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Table 8

2008 Corporate Publicly Rated Defaults* (cont.)								
Lehman Brothers Holdings Inc.	U.S.	Financial institutions	144,426.2	9/16/2008	A	6/2/2008	AA-	1/1/1985
UTGR Inc.	U.S.	Leisure time / media	565.0	9/19/2008	CCC-	3/21/2008	B+	7/21/2005
Lehman Brothers Inc.	U.S.	Financial institutions	229.9	9/23/2008	BB-	9/15/2008	AA	10/5/1984
HRP Myrtle Beach Holdings LLC	U.S.	Leisure time / media	113.8	9/24/2008	NR	8/29/2008	B-	3/22/2006
Washington Mutual Bank	U.S.	Financial institutions	19,913.6	9/26/2008	BBB-	9/15/2008	B+	1/24/1989
Washington Mutual, Inc.	U.S.	Financial institutions	8,984.6	9/26/2008	CCC	9/24/2008	BBB	7/17/1995
Ashton Woods USA LLC	U.S.	Real estate	454.0	10/2/2008	CCC	8/22/2008	B+	9/8/2005
Corporacion Durango, S. A. B. de C. V.	Mexico	Forest products	520.0	10/6/2008	CC	10/3/2008	B+	7/9/2007
Baseline Oil & Gas Corp.	U.S.	Energy and natural resources	240.0	10/7/2008	CCC+	9/13/2007	CCC+	9/13/2007
Controladora Comercial Mexicana, S. A. B. de C. V.	Mexico	Customer service	449.6	10/9/2008	BBB-	10/3/2000	BB+	3/31/1998
Glitnir Bank	Iceland	Financial institutions	18,737.1	10/9/2008	CCC	10/7/2008	A-	3/28/2006
Viskase Cos. Inc.	U.S.	Health/chem	108.7	10/10/2008	CC	8/8/2008	B-	6/3/2004
3D-Gold Jewellery Holdings Ltd.	Hong Kong	Customer service	170.0	10/15/2008	BB	10/2/2007	BB	10/2/2007
Majestic Star Casino LLC (The)	U.S.	Leisure time / media	580.0	10/15/2008	CCC-	10/9/2008	B	9/3/1996
Masonite International Inc.	Canada	Forest products	2,294.8	10/17/2008	CC	10/10/2008	B+	2/10/2005
Britannia Bulk PLC	U.k.	Transportation	185.0	11/3/2008	CC	10/29/2008	B-	10/25/2006
Hawaiian Telcom Communications Inc.	U.S.	Telecommunications	1,074.7	11/3/2008	CCC+	8/19/2008	B+	4/18/2005
VeraSun Energy Corp.	U.S.	Energy and natural resources	1,165.8	11/3/2008	B-	9/23/2008	B-	12/12/2005
Palmdale Hills Property LLC	U.S.	Real estate	0.0	11/6/2008	NR	2/23/2007	B	4/26/2005
Pilgrim's Pride Corp.	U.S.	Customer service	1,591.6	11/6/2008	CC	10/27/2008	B	4/27/1988
American Media Operations Inc.	U.S.	Leisure time / media	1,043.7	11/7/2008	CCC+	9/7/2006	B+	7/18/1989
IT Holding SpA	Italy	Customer service	233.2	11/17/2008	B-	7/28/2005	B+	9/30/2003
Mecachrome International Inc.	Canada	Aero/auto/CG/metal	436.7	11/18/2008	CC	11/12/2008	B+	4/28/2006
Chesapeake Corp.	U.S.	Forest products	488.8	11/20/2008	CCC-	11/4/2008	A	12/31/1980
Lenox Group Inc.	U.S.	Customer service	170.5	11/23/2008	NR	8/13/2007	B+	8/3/2005
Downey Financial Corp.	U.S.	Financial institutions	200.0	11/24/2008	CCC-	11/21/2008	BBB-	6/7/1999
Downey S&L Assn	U.S.	Financial institutions	0.0	11/24/2008	CCC	11/21/2008	A+	12/31/1980
Metaldyne Corp.	U.S.	Aero/auto/CG/metal	1,216.2	11/25/2008	CC	10/31/2008	BB+	1/27/1987
LandAmerica Financial Group Inc.	U.S.	Insurance	390.0	11/26/2008	B-	11/24/2008	BBB-	11/19/2004
Alliance Film Holdings Inc	Canada	Leisure time / media	333.5	11/27/2008	CCC	4/17/2008	B	7/26/2007

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Table 8

2008 Corporate Publicly Rated Defaults* (cont.)								
OJSC RBC Information Systems	Russia	Leisure time / media	109.4	11/28/2008	CCC	11/5/2008	B+	10/15/2007
Constar International Inc.	U.S.	Health/chem	395.0	12/1/2008	CCC+	10/3/2008	BB-	7/17/2002
Trump Entertainment Resorts Holdings L.P.	U.S.	Leisure time / media	1,249.0	12/1/2008	CCC	11/11/2008	B	4/18/2005
Waterford Wedgwood PLC	Ireland	Customer service	460.5	12/1/2008	CCC	4/11/2008	B+	11/14/2003
PT Mobile-8 Telecom Tbk	Indonesia	Telecommunications	100.1	12/2/2008	CC	10/10/2008	B	7/19/2007
Finlay Fine Jewelry Corp.	U.S.	Customer service	788.0	12/3/2008	CC	11/17/2008	B+	5/10/1993
Tronox Inc.	U.S.	Health/chem	683.2	12/3/2008	CCC-	9/17/2008	BB-	11/2/2005
Commonwealth Land Title Insurance Co.	U.S.	Insurance	0.0	12/4/2008	BB-	11/24/2008	A-	6/25/1997
Babcock & Brown International Pty Ltd.	Australia	Financial institutions	3,339.8	12/5/2008	NR	11/23/2008	BBB	11/26/2007
Hovnanian Enterprises Inc.	U.S.	Forest products	2,743.6	12/5/2008	B-	2/15/2008	BB-	12/11/1984
Transtel Intermedia, S.A.	Colombia	Telecommunications	170.0	12/9/2008	CCC-	7/9/2008	B-	11/10/2005
Tribune Co.	U.S.	Leisure time / media	11,288.3	12/9/2008	CCC	11/11/2008	AA	3/1/1983
Nutrinvestholding OJSC	Russia	Customer service	142.6	12/12/2008	B	9/18/2007	B	9/18/2007
Special Devices Inc.	U.S.	Aero/auto/CG/metal	0.0	12/15/2008	NR	8/16/2005	B+	12/4/1998
Neff Corp.	U.S.	Aero/auto/CG/metal	752.5	12/16/2008	CC	11/18/2008	BB-	5/5/1998
Global Investment House KSCC	Kuwait	Financial institutions	73.2	12/17/2008	BBB	8/6/2008	BBB	8/6/2008
MagnaChip Semiconductor LLC	Korea	High tech	850.0	12/21/2008	CCC	10/16/2008	B+	12/13/2004
IT Holding SpA	Italy	Customer service	0.0	12/22/2008	CC	11/21/2008	CC	11/21/2008
Big West Oil LLC	U.S.	Energy and natural resources	400.0	12/23/2008	B+	4/11/2007	B+	4/11/2007
Clear Channel Communications Inc.	U.S.	Leisure time / media	21,314.1	12/23/2008	CC	12/5/2008	BBB-	9/26/1997
Interpipe Ltd.	Ukraine	Energy and natural resources	1,018.0	12/23/2008	CC	12/16/2008	B+	6/20/2007
Harrah's Entertainment Inc.	U.S.	Leisure time / media	23,185.2	12/24/2008	CC	11/18/2008	A	12/31/1980
Level 3 Communications Inc.	U.S.	Telecommunications	5,513.5	12/29/2008	CC	11/18/2008	CCC	12/3/2004
LyondellBasell Industries AF S.C.A.	Netherlands	Health/chem	24,011.0	12/30/2008	B-	11/14/2008	BBB-	8/1/2001
OJSC RBC Information Systems	Russia	Leisure time / media	0.0	12/30/2008	CC	11/29/2008	CC	11/29/2008
GMAC LLC	U.S.	Financial institutions	46,181.8	12/31/2008	CC	11/20/2008	AAA	12/31/1980
Progressive Gaming International Corp.	U.S.	Leisure time / media	0.0	12/31/2008	CCC	8/28/2006	B	6/19/1998
Residential Capital LLC	U.S.	Financial institutions	0.0	12/31/2008	CC	11/20/2008	CCC+	7/15/2008
	Total		385,265					

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Table 8

2008 Corporate Publicly Rated Defaults* (cont.)

*Total does not match Table 4 because it excludes confidentially rated defaults. Health/chem = Healthcare/Chemicals. Aero/auto/CG/metal = Aerospace/automotive/capital goods/metal. High tech = High technology/computers/office equipment. Forest products = Forest and building products/homebuilders. Cons/service = Consumer/service sector. Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

Since 2003, the average notch movements among both upgrades and downgrades globally has been running well below long-term averages, and we expect some cyclical reversal in this pattern over the next couple of years, approaching convergence to the long-term mean (see Chart 11). Indeed, 2008 has borne out these expectations, with the average upgrade inching up to 1.3 notches, whereas the average downgrade increased to 1.6 notches, a pace unmatched since 2002.

Chart 11

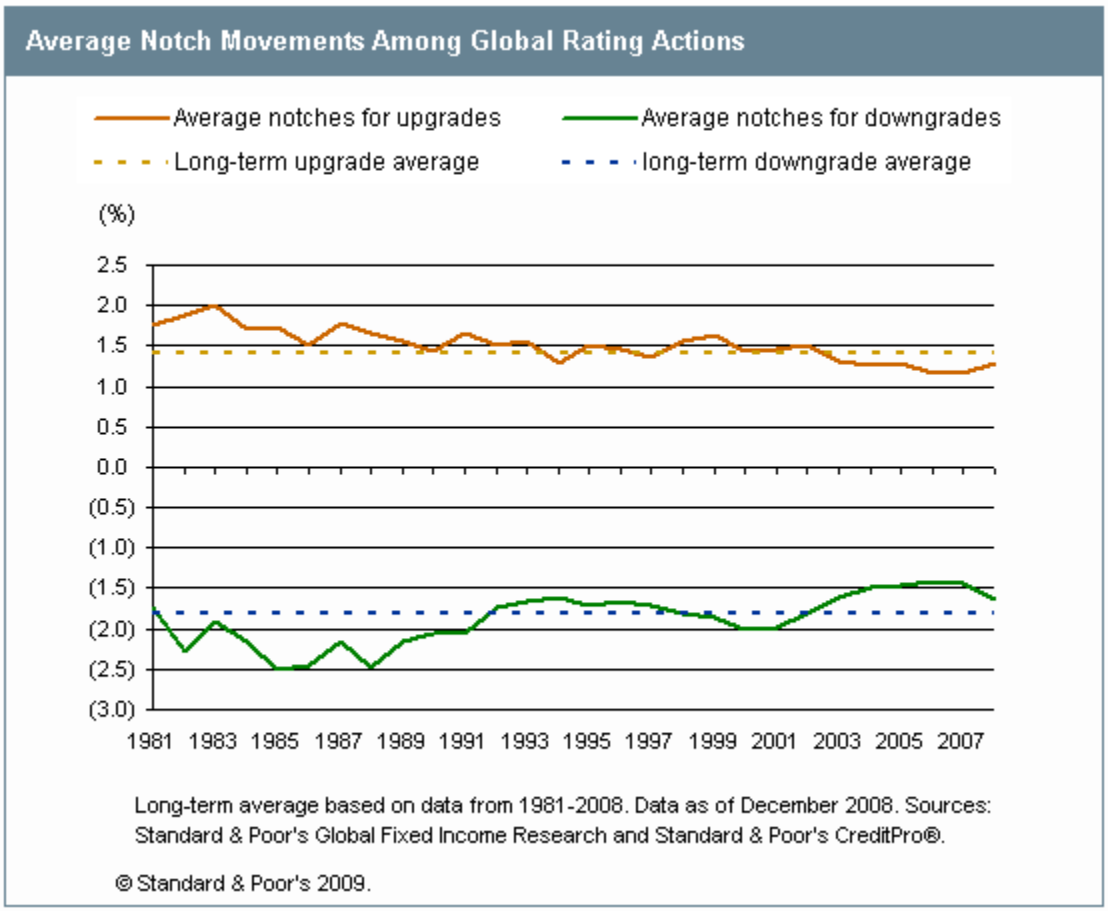

Table 9 shows a breakout of historical default rates by rating modifier.

Table 9

Global Corporate Default Rates By Rating Modifier

	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC/C
1981	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.28	0.00	0.00
1982	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.68	0.00	0.00	2.86	7.04	2.22	2.33	7.41	21.43
1983	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	2.17	0.00	1.59	1.22	9.80	4.76	6.67

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Table 9

Global Corporate Default Rates By Rating Modifier (cont.)

1984	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	0.00	0.00	1.64	1.49	2.13	3.51	7.69	25.00
1985	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64	1.49	1.33	2.59	13.11	8.00	15.38
1986	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.00	0.78	0.00	1.82	1.18	1.12	4.65	12.16	16.67	23.08
1987	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	1.31	5.95	6.82	12.28
1988	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33	1.98	4.50	9.80	20.37
1989	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.78	0.00	0.00	0.00	1.98	0.43	7.80	4.88	31.58
1990	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00	1.10	2.78	3.06	4.46	4.87	12.26	22.58	31.25
1991	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.74	0.00	3.70	1.11	1.05	8.72	16.25	32.43	33.87
1992	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	14.93	20.83	30.19
1993	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.92	0.00	1.30	5.88	4.17	13.33
1994	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.00	1.83	6.58	3.23	16.67
1995	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	1.55	1.11	2.76	8.00	7.69	28.00
1996	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.65	0.55	2.33	3.74	3.92	4.17
1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.34	0.00	0.00	0.00	0.41	0.72	5.19	14.58	12.00
1998	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.70	1.29	1.06	0.72	2.57	7.47	9.46	42.86
1999	0.00	0.00	0.00	0.36	0.00	0.24	0.27	0.00	0.28	0.30	0.54	1.33	0.90	4.20	10.55	15.45	32.35
2000	0.00	0.00	0.00	0.00	0.00	0.24	0.56	0.00	0.26	0.88	0.00	0.80	2.29	5.60	10.66	11.50	34.12
2001	0.00	0.00	0.00	0.00	0.57	0.49	0.00	0.24	0.48	0.27	0.49	1.19	6.27	5.94	15.74	23.31	44.55
2002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.65	1.31	1.50	1.74	4.62	3.69	9.63	19.53	44.12
2003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.52	0.48	0.94	0.27	1.70	5.16	9.23	33.13
2004	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.64	0.76	0.46	2.68	2.82	15.11
2005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.36	0.00	0.25	0.78	2.59	2.98	8.87
2006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.48	0.54	0.78	1.58	13.08
2007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.23	0.19	0.00	0.88	14.81
2008	0.00	0.00	0.43	0.40	0.31	0.21	0.58	0.18	0.59	0.71	1.14	0.63	0.63	2.97	3.29	7.02	26.53
Average	0.00	0.00	0.02	0.03	0.05	0.06	0.08	0.16	0.28	0.28	0.68	0.89	1.53	2.44	7.28	9.97	22.67
Median	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.18	0.83	0.86	2.06	6.27	7.69	22.25
Standard deviation	0.00	0.00	0.08	0.10	0.14	0.13	0.21	0.32	0.36	0.44	0.98	0.86	1.86	2.06	4.60	7.96	12.15
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	0.00	0.00	0.43	0.40	0.57	0.49	0.78	1.11	1.40	1.33	3.70	3.06	7.04	8.72	16.25	32.43	44.55

Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

The static-pool methodology used in the annual calculation of default rates references Jan. 1 of each year as its starting point. (For more detail on the methodology, please refer to Appendix 1.)

2008 Timeline: Reviewing The Annus Horribilis

Last year proved memorable in a multitude of ways that will continue to be described and analyzed in history books for a long time. In the U.S., for example, a number of records were set during the previous 12 months, of which a selected list is presented in Table 10. In response, weekly downgrade activity took a sharp turn for the worse (see Chart 12).

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First quarter

The year began with accelerating anxiety that recession in the U.S. economy would be deeper than anticipated, prompting sharp losses among equity markets worldwide. In response, a slew of monetary and fiscal tools were introduced to counterbalance the economic deceleration. First, the Federal Reserve (Fed) dropped rates by 75 basis points (bps)—then the largest single-day reduction in history—to 3.50% from 4.25% on Jan. 22. Second, the Bush administration proposed a $145 billion stimulus package on Jan. 24, approved easily by both Houses of Congress in early February.

As the housing crisis deepened in the U.S., it aggravated the pressure faced by the financial sector. On Jan. 12, Bank of America announced plans to purchase the country's largest mortgage lender—Countrywide Financial—to stave off possible collapse, the first in a series of high-profile shotgun marriages prompted by the housing crisis. Prominent U.S. and European banks, including Citigroup, UBS, Merrill Lynch, JPMorganChase, and Bear Stearns, unveiled huge losses from soured mortgage portfolios and CDOs. Other financial players were also claimed as casualties, with news of trouble emerging at bond insurer MBIA and at GMAC. Meanwhile, on Jan. 25, a leading French bank, Societe Generale, announced more than $7 billion in losses, allegedly prompted by a junior trader's misdemeanor. On Jan. 31, the Fed lowered rates for the second time in January, this time by 50 bps to 3.0%.

On Feb. 20, oil prices broke through the $100/barrel barrier for the first time, notwithstanding pervasive signs of economic deterioration that prompted a sharp sell-off in the U.S. dollar. On Feb. 22, Northern Rock plc was nationalized, a culmination of woes that beset one of the U.K.'s top five mortgage lenders beginning in the fall of 2007 and led to a liquidity support facility from the Bank of England. By March 11, the Fed unveiled a program allowing member banks to borrow Treasury securities at discounted rates and post mortgage-backed securities as collateral in an effort to support the flow of credit through the economy. The news temporarily supported stocks, but new fright ripped through the financial sector in mid March after news that Bear Stearns was on the verge of financial collapse. On March 17, the Federal Reserve brokered a takeover of Bear Stearns by JPMorganChase for $2/share, one-tenth of its market price. In addition, interest rates were lowered by another 75 bps on March 18 to 2.25%.

Second quarter

More news of job losses and financial write-downs continued to batter the financial sector, with business surveys indicating that pessimism was not confined to financials alone. The Fed responded by cutting interest rates for the seventh time in eight months, this time by 25 bps to 2%. Casualties began to mount at the senior echelons of management, with the CEOs of Wachovia and AIG both ousted in June.

Third quarter

More means of monetary support surfaced early in the third quarter, with the Fed announcing measures to prop up mortgage lending and kick-start stalled markets. But solace remained elusive. Instead, one of the nation's most prominent thrifts, IndyMac, was seized by federal regulators on July 12. As concern about the health of the government-backed mortgage lenders Fannie Mae and Freddie Mac mounted, new support was pledged and on July 16, the SEC introduced curbs on the short sale of stocks of these two agencies as well as 17 other financial firms. Still, news of losses continues unabated by a host of beleaguered firms, including Freddie Mac, AIG, Ford, and GM.

The third quarter saw a series of unparalleled moments, creating deep schisms in U.S. financial history. On Sept. 9, the U.S. Treasury announced a dramatic government takeover of Fannie Mae and Freddie Mac, with a plan to provide $200 billion in backstop facilities for these mortgage giants which among them either originated or

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guaranteed two out of three mortgages. Next, Lehman Brothers, a venerable Wall St. institution with a 158-year history, was reported as being on the brink of liquidation and filed for bankruptcy on Sept. 15 after failing to consummate partnership talks with U.K.-based Barclays Bank. The unforeseen collapse of Lehman Brothers dealt a body blow to several money market funds, with the Reserve Primary Fund breaking the buck as its value fell below the $1/share benchmark. September marked the month when independent stand-alone investment banks were extinguished as a category. Merrill Lynch and Bank of America announced their merger on Sept. 15. On Sept. 21, the Fed approved the conversion of the last two major investment banks, Goldman Sachs and Morgan Stanley, into traditional bank holding companies, conferring on them the authority to receive customer deposits and the benefits of deposit insurance.

On Sept. 15, the Fed, together with 10 other central banks, announced an emergency lifeline of $70 billion to be made available to banks in difficulty. At the same time, financial woes spread beyond the banking sector, with the Fed announcing an $85 billion bailout and an 80% equity stake in AIG on Sept. 16 in an effort to stem systemic risk from financial difficulties at the world's largest insurer. On Sept. 19, the Fed announced that it would insure up to $50 billion of money market funds to assuage investor panic. Nevertheless, regulators seized another bank—Washington Mutual, the largest savings bank in the U.S.—on Sept. 26 and subsequently sold most of its banking operations to JPMorganChase.

By Sept. 18, the Treasury began to present the case for a $700 billion economic bailout package called the Troubled Assets Relief Program, details of which were still in development. Nicknamed TARP, the program set out an ambitious agenda to purchase illiquid securities, including distressed mortgages, at deeply discounted values. These measures were positioned as bold approaches that would help unfreeze the flow of credit by establishing a market for assets now regarded as toxic, and hold them for resale at higher values in a more stable financial environment. The intervention program—one of the largest ever—ran into stiff questioning and opposition and failed to secure enough political support in the U.S. House of Representatives on Sept. 25. A breakthrough appeared close on Sept. 28, following another round of intense negotiations. Meanwhile, trouble spread to Europe, with Fortis Bank receiving a $16 billion lifeline from authorities in Belgium, Netherlands, and Luxembourg. On Sept. 29, the markets received a severe shock when the U.S. House of Representative voted down the TARP proposal, which sent the Dow plunging 777 bps, its largest point drop in history, and was echoed by similar moves in overseas stock markets. Eventually, the plan was resurrected and an amended version passed on Oct 1.

Fourth quarter

Early in the fourth quarter, Wachovia—which unveiled a whopping quarterly loss of $24 billion—became the object of a bidding war between Citigroup and Wells Fargo, with the latter closing the deal on Oct. 4, with approval by the regulators delivered on Oct. 11. More news of financial trouble emanated from Europe in the first week of October, with the German government announcing a guarantee for Hypo Real Estate AG, the country's second-largest commercial lender; France and Belgium announcing support for Dexia; and BNP Paribas announcing a 75% stake in Fortis Bank.

Central banks worldwide continued to be hyperactive in terms of intervention in the financial markets. On Oct. 3, the U.K. government increased limits on bank deposit guarantees, complemented by a bank rescue package days later. On Oct. 7, the Fed announced the creation of the Commercial Paper Funding Facility (CPFF) designed to assist businesses that were having trouble selling short-term debt through the normal channels. The next day (Oct. 8), news hit that Iceland's government had assumed sweeping powers over the country's three main banks. Central banks launched a coordinated rate cut, with the Fed lowering its key rate by 50 bps to 1.5%; these cuts were echoed

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in Canada, the Euro area, the U.K., Sweden, Switzerland, and Australia.

Equity markets continued to be clobbered globally. The first 10 days of October saw the Dow index in the U.S. decline for eight consecutive sessions, resulting in a cumulative erosion of 2,400 points not seen since the 1930s, though in proportional terms, the declines in 1987 and 1931 were larger than October's 22%. Markets were dejected by the U.S. Treasury's sharp policy flip on how TARP funds were to be used, only days after the program had dramatically received Congress approval. Having abandoned its earlier plan to facilitate a market for troubled assets, the Treasury announced its intention to focus instead on recapitalizing ailing banks. The authorities' perceived failure to push through aggressive change among recipients of TARP funds also continued to weigh down market sentiment. During much of the next few days, central banks worldwide from Europe to Asia announced plans to guarantee bank deposits. On Oct. 13, the Fed announced a multi-pronged strategy to offer support that included purchase of troubled mortgage-backed securities, direct purchase of equity stakes in troubled financial institutions, financial assistance for homeowners delinquent on mortgage payments; swap lines with several central banks worldwide to ease dollar shortage concerns. (This announcement prompted the largest single-day gain of 11.1% in the Dow, erasing some of the prior losses.)

During the month of October, many other countries—including India, China, New Zealand, Canada, and South Korea—also cut interest rates in a bid to stave off the liquidity crunch. Even the Bank of Japan cut interest rates to 0.3% from 0.5% for the first time in seven years. A number of emerging market countries—Belarus, Hungary, Iceland, Pakistan, and the Ukraine—sought financial assistance from the IMF. On Oct. 30, the Fed enacted a further rate cut by 50 bps to 1%, the lowest level for interest rates since 2003-2004. Rate-cut fever continued in November, with the U.K., India, and South Korea announcing further rounds. On Nov. 7, Iceland announced an IMF package (the first Western country to receive IMF assistance in more than 30 years), together with financial assistance from other Scandinavian countries. On Nov. 10, China announced its first economic stimulus package, worth $586 billion of expenditures over two years, indicating that no country was expected to remain immune to a slowdown.

Woes continued to pummel the banking industry, with Citibank the latest bank to be rescued by the U.S. government when it received a capital injection of $20 billion on Nov. 24, as well as a backstop of $306 billion to offset its portfolio losses. On Nov. 26, the U.S. government made a pledge to pump an additional $800 billion into ailing credit markets, including allocations to purchase Fannie and Freddie-backed debt, as well as to boost consumer lending. Meanwhile, several European banks based in countries such as France, Germany, Ireland, the Netherlands, and Denmark also received stabilization packages from their national governments. More changes resulted in the U.S. banking landscape before year end as several other U.S. institutions—notably American Express, CIT Group, and GMAC—applied for conversion to bank holding companies and saw those applications approved by the Federal Reserve, thereby qualifying these firms for capital support from the TARP program. Meanwhile, calls for government assistance magnified, with the auto and steel industries making a pitch for public funds, ultimately resulting in a pledge to the former in late December to receive $17.4 billion from the government to stave off bankruptcy.

The official arbiter of recessions in the U.S.—the National Bureau of Economic Research (NBER)—formally announced that a recession had been in place since December 2007. On Dec. 12, investor sentiment was further punctured by news of a multibillion dollar Ponzi scheme run by Bernard Madoff, an influential person within New York's elite financial circles. Once again, the Fed responded by lowering interest rates to a record low between zero and 25 bps on Dec. 17; its move was emulated by others the next day. The Bank of Japan lowered rates by 20 bps to 0.1% on Dec. 19 and announced direct purchases of commercial paper to offset the impact of the credit crisis. On

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Dec. 23, a global bellwether company—Toyota Motor—forecast an operating loss for the first time in 70 years.

Table 10

Key U.S. Events In 2008: A Guinness Year With No Celebration

Date	Event
Jan. 5.	Heading into 2008, the unemployment rate hits 5%, the highest level in more than two years. The tone is maintained for the rest of the year, with new records set progressively.
Feb. 8.	Monthly retail sales hit lows not seen in nearly five years.
Feb. 20.	Crude oil closes at more than $100/barrel for the first time.
4-Mar	February manufacturing activity hits a five-year low.
25-Apr	Sales of new homes decline 8.5% in March to the slowest annualized rate since October 1991.
17-May	Consumer sentiment hits a 28-year low.
9-Jun	The average price for gasoline reaches $4/gallon for the first time.
12-Jul	IndyMac, one of the country's largest thrifts, is seized by federal regulators.
25-Jul	Automaker Ford posts a record quarterly loss of $8.7 billion.
Aug. 2	Automaker GM logs a net loss of $15.5 billion, the third biggest in its history.
Sept. 29	The Dow Jones Industrials drop 777 basis points, its biggest one-day point drop.
Oct. 8	Consumer credit outstanding reported as having shrunk in August, the first contraction in more than 10 years.
Oct. 31	Third-quarter real GDP declines by 0.3%, the first decrease since 2001.
Nov. 20	Consumer prices in October drop their furthest in a one-month period since World War II.
Dec. 2	The National Bureau of Economic Research officially declares that a recession began in the U.S. last December.
Dec. 10	For the first time in history, the Treasury sells four-week notes at 0% yield.

Source: Standard & Poor's Global Fixed Income Research.

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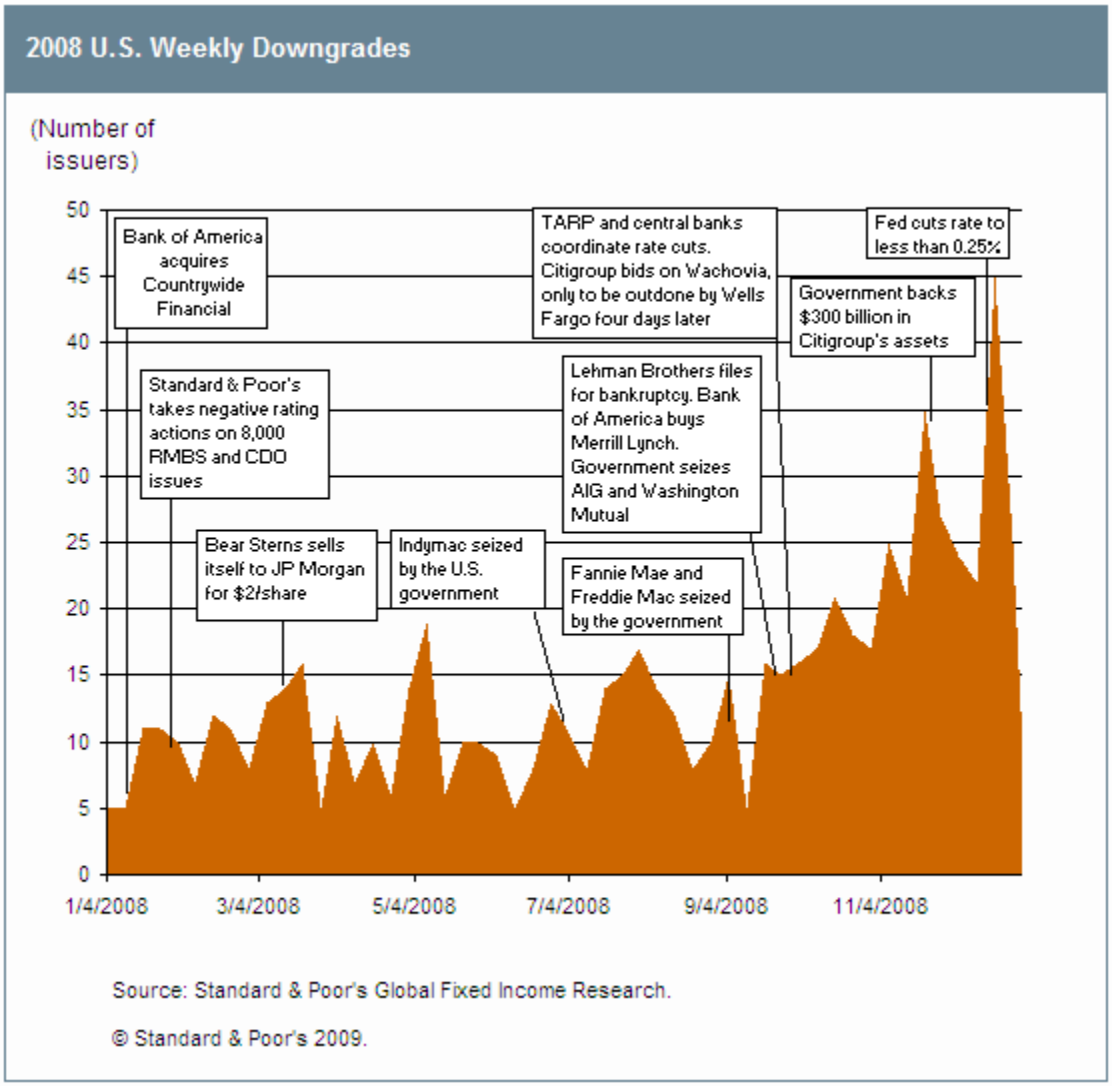
Chart 12



Quarterly Trends

Broken out by quarter, the incidence of defaults progressively worsened in 2008 (see Chart 13). The 60 defaults in the final quarter of 2008 constituted the highest number of defaults since the first quarter of 2002. Conversely, the volume of debt affected by the defaults rose to US$214 billion in the fourth quarter, which—on a quarterly level—is the highest amount on record (see Chart 14).

The trend in the quarterly default rate visibly picked up in the final half of 2008 but still remains below the peak recorded in the 2002 upturn. Note that on a trailing-three-month basis, the uptick was strongest among European speculative-grade-rated entities, which ended 2008 higher than other regions (see Chart 15).

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Chart 13

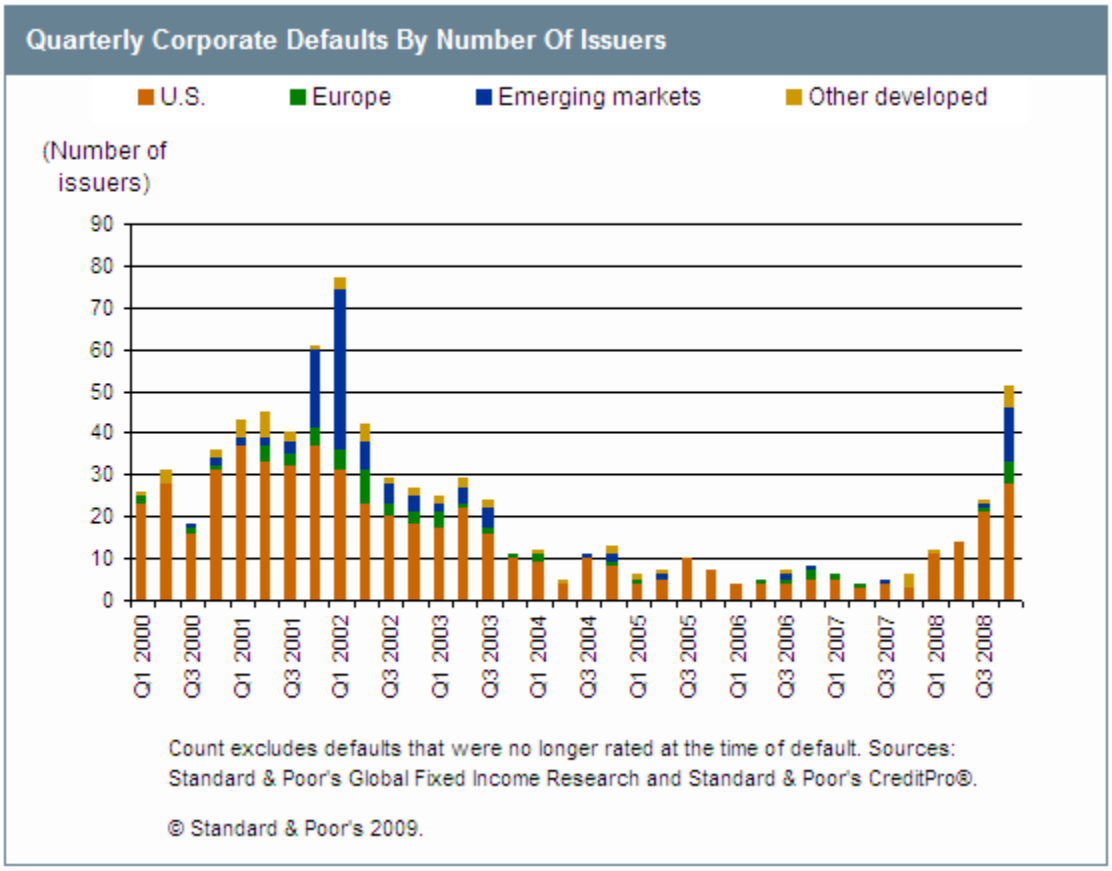

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Chart 14

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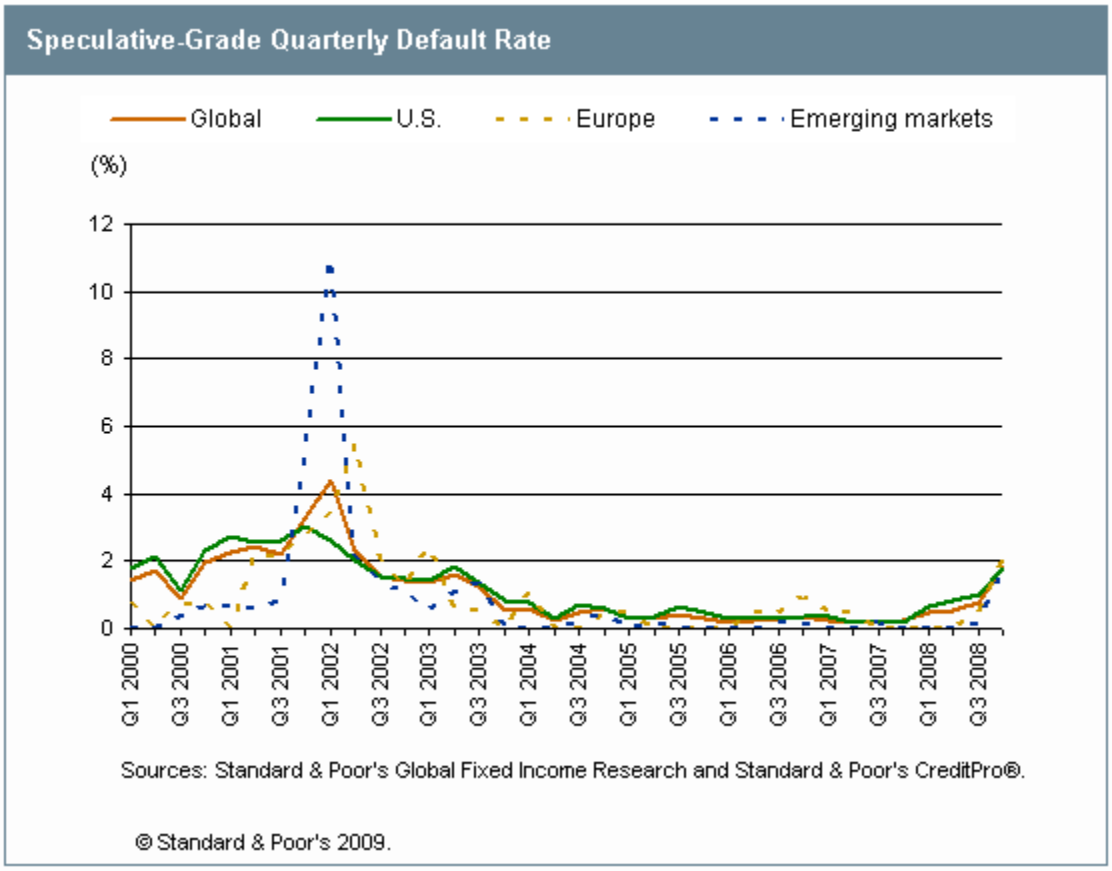
Chart 15



Lower Ratings Consistent With Higher Default Vulnerability

Within the speculative-grade category, the lower the original rating on an issuer, the shorter the time to default over the long term. For example, for the entire pool of defaulters (1981-2008), the average times to default for issuers that were originally rated in the 'BB' and 'B' categories were 6.0 years and 4.6 years, respectively, from initial rating (or from Dec. 31, 1980, the starting date of the study), whereas issuers in the 'CCC' rating category or lower had an average time to default of 2.7 years. Note that the standard deviation of the times to default shrinks progressively as one moves down the ratings ladder.

Table 11

Fastest Cumulative Defaulters Among Global Corporates From Original Rating (1981-2008)

	AAA	AA	A	BBB	BB	B	CCC/C	Total
Number of issuers defaulting within:								
Three months				1		2	6	9
Six months				2		13	13	28
12 months				3	9	46	25	83
Three years			5	26	111	370	58	570
Five years		2	12	58	231	622	73	998
Seven years	2	4	25	84	301	744	79	1,239

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Table 11

Fastest Cumulative Defaulters Among Global Corporates From Original Rating (1981-2008) (cont.)

Total	5	24	75	152	431	897	84	1,668
Percent of total defaults per time frame								
Three months	0.0	0.0	0.0	11.1	0.0	22.2	66.7	
Six months	0.0	0.0	0.0	7.1	0.0	46.4	46.4	
12 months	0.0	0.0	0.0	3.6	10.8	55.4	30.1	
Three years	0.0	0.0	0.9	4.6	19.5	64.9	10.2	
Five years	0.0	0.2	1.2	5.8	23.1	62.3	7.3	
Seven years	0.2	0.3	2.0	6.8	24.3	60.0	6.4	
Total	0.3	1.4	4.5	9.1	25.8	53.8	5.0	

*Or Dec. 31, 1980, whichever is later. Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

Lower ratings at origination are consistent with higher default vulnerability. Table 11 presents the count of defaults based on the original rating on a firm, broken out by various points in time. The first row presents the rating distribution of defaults occurring within three months of the original rating. The second row is the distribution of the cumulative count of defaults occurring within six months of the original rating. As expected, the vast majority of companies that defaulted within one year of the original rating are from the lowest rungs of the speculative-grade universe. For example, of the 83 companies that defaulted within 12 months of having been rated, 71 (86%) were originally rated in the 'B' category ('B+', 'B', and 'B-') or lower. Only when looking at longer time frames do companies with higher original ratings surface among the defaults. For example, of all the companies that defaulted during 1981-2008, no entity rated 'AAA' at inception registered a default prior to five years from origination. Throughout the 28-year time span, only five companies originally rated in the 'AAA' rating category have ever defaulted.

Table 11 attests to the prevalence of defaults emanating from the 'B' rating category ('B+', 'B', and 'B-'). Since 1981, this rating category has accounted for 897 defaulters (53.8% of the total), more than double the number of the 'BB' rating category. Tracking the movement in new rating patterns could prove useful in anticipating future default activity, based on the assumption that years characterized by high numbers of new ratings of 'B-' or lower will be followed by increased default risk. Chart 16 plots the ratio of all speculative-grade new ratings of 'B-' or lower in the U.S. to total speculative-grade ratings against the year-end U.S. speculative-grade default rate. As coincident indicators, broad movements in the two series generally mirror each other throughout most of their shared history. However, between 2001 and 2007, these two series fell out of sync with each other, displaying a correlation of negative 0.69 compared with a correlation of positive 0.81 from 1981-2000. We expect the ongoing surge in defaults to bridge the gap between these two series and restore the long-term pattern.

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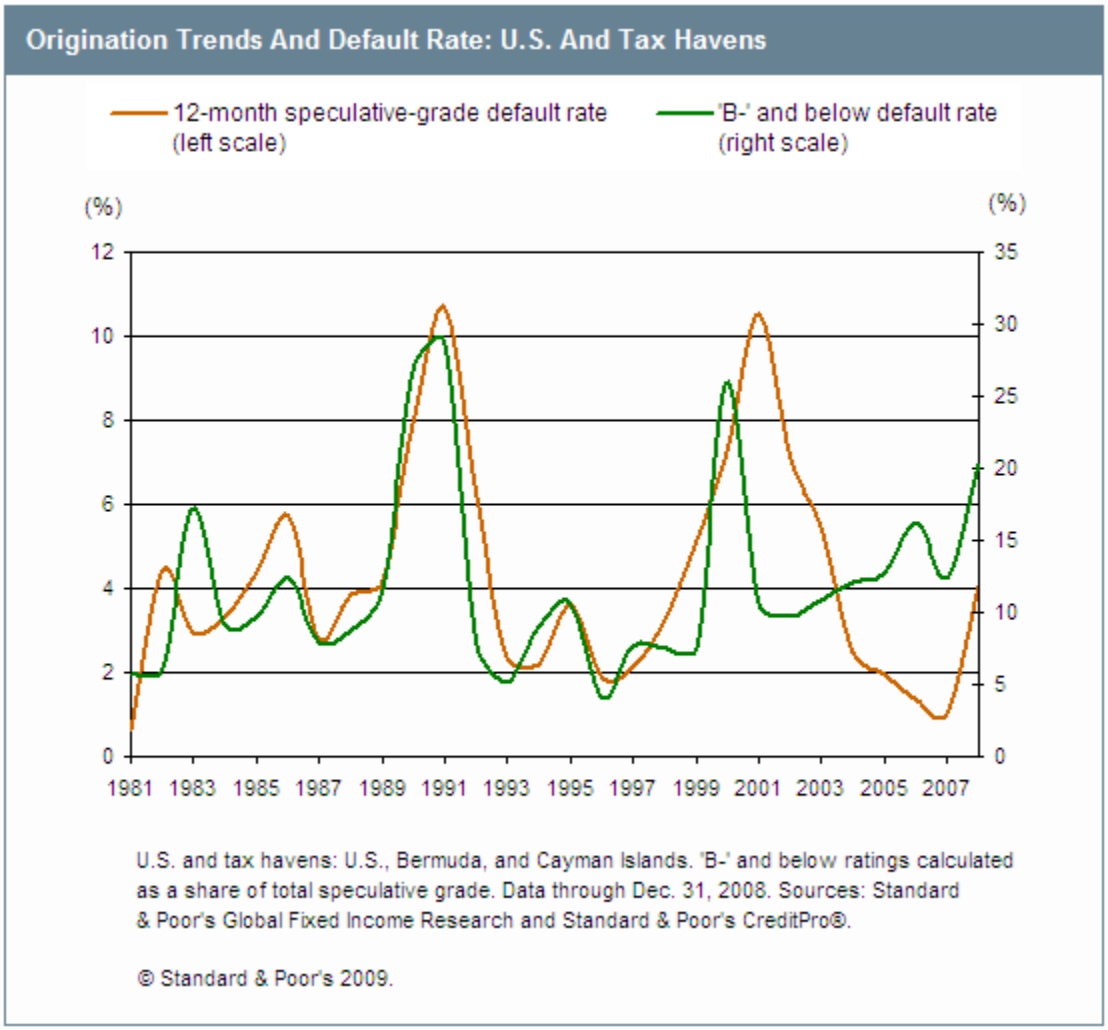
Chart 16



Industry Profile

The time to default from original rating shows some variation by sector. Of the 1,668 defaults recorded globally over the long term, six sectors display an average time to default that is lower than the overall average of 5.7 years. These sectors are energy and natural resources, financial institutions, high technology, leisure time/media, real estate, and telecommunications. If the median time to default is considered, then transportation gets added into the mix.

By industry, the highest default rates in 2008 were in the leisure time/media sector, followed by the forest products and homebuilding sector. The variation by industry stems partly from sample size differences as well as differentiation in the rating mix across sectors. For example, the leisure/media sector has a much higher representation of speculative-grade ratings than the financial institutions or insurance sectors (see Chart 17).

Nevertheless, financial entities more than doubled their share of total defaults in 2008 in comparison with the long-term average, accounting for just over 20% of total defaults compared with 10.6% in the long-term statistics (see Chart 18).

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Chart 17

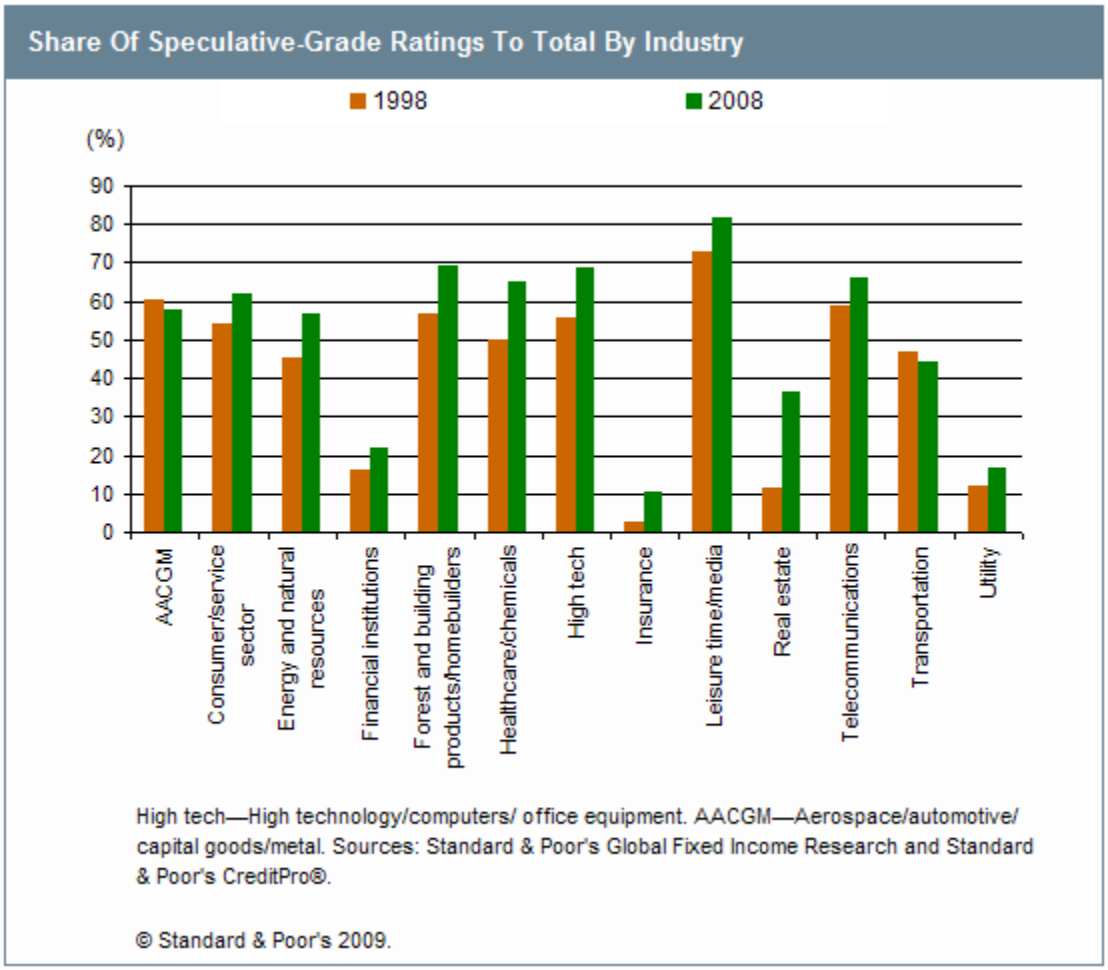

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Chart 18A

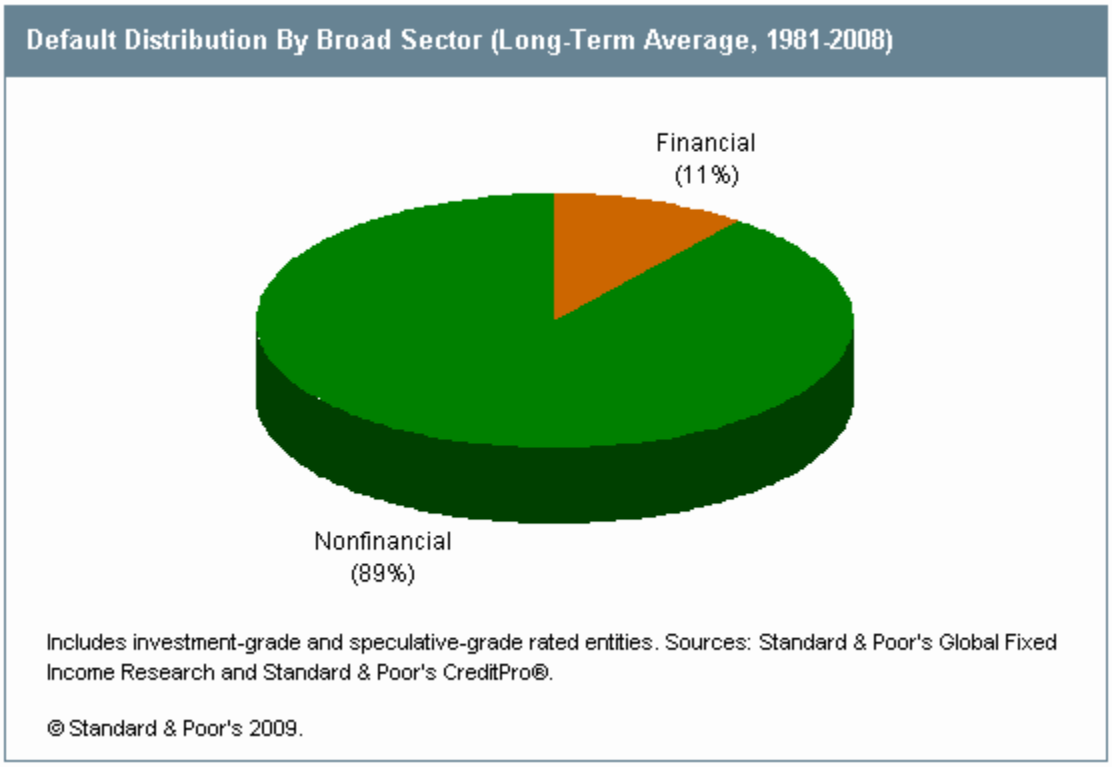
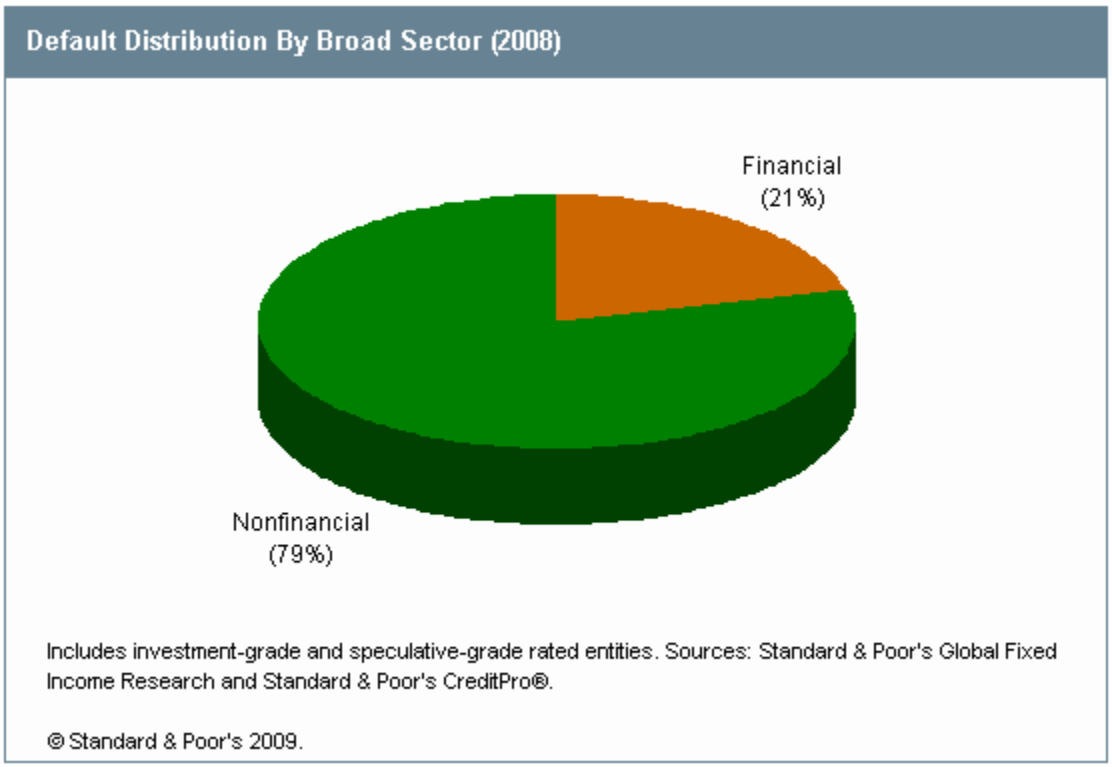


Chart 18B



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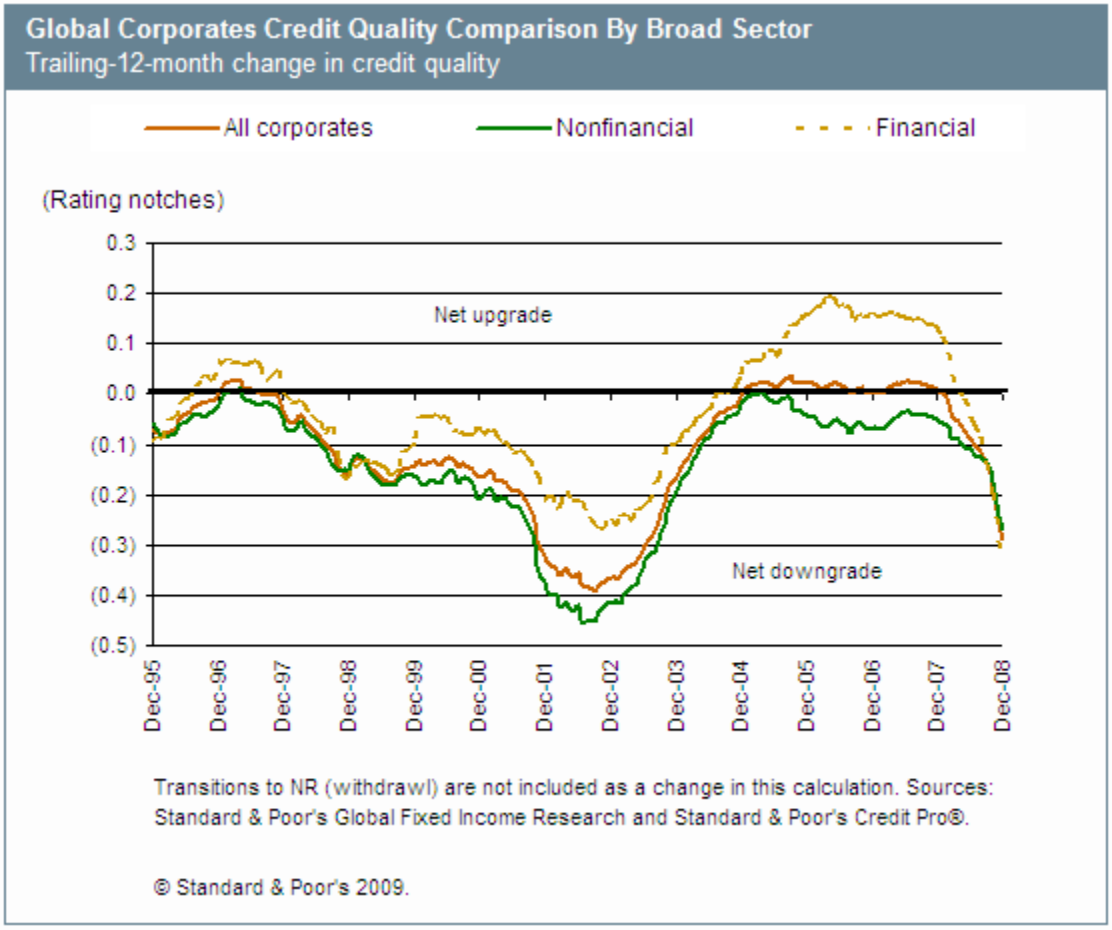
This is not surprising, given the extraordinary turbulence and volatility in the financial environment during the course of 2008. A measure of change in credit quality—which combines the average change in the frequency of downgrades or upgrades and magnitude of such rating transitions, weighted by the total number of issuers outstanding in each sector—is displayed in Chart 19. Note the especially sharp trajectory of decline within the global financial sector, which saw an unprecedented reversal after starting from a net position of strength at the end of 2007.

Chart 19



Hefty Growth In Speculative-Grade Ratings

The upsurge in defaults can also be illustrated on a trailing-12-month basis (see Chart 20). Globally, the speculative-grade default rate rose to its highest level since April 2004, ending 2008 at 3.43%. At 4.02%, the 12-month rolling speculative-grade default rate for the U.S. was the highest by region compared with 0.98% a year earlier. The trailing-12-month speculative-grade default rate for Europe also rose to 2.54% from 0.99% in 2007, while the emerging markets default rate rose to 1.96% from 0.18%.

Notwithstanding the visible uptick in defaults, speculative-grade default rates had yet to exceed their long-term (1981-2008) averages by the end of 2008. Globally, the 3.43% is short of its 4.26% long-term average; the same

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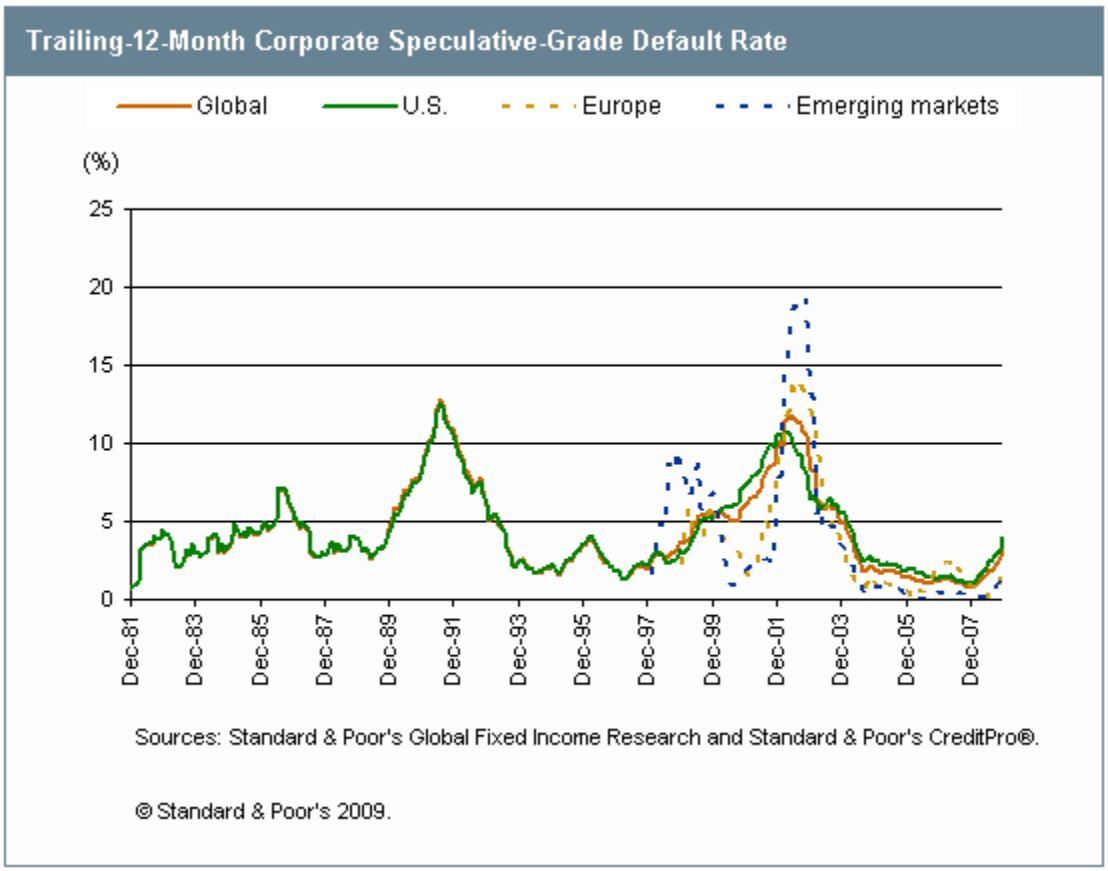
conclusion holds for the U.S., which is below its long-term average of 4.33%. The same trend holds for Europe and the emerging markets, where the long-term average equals 3.72% and 3.93%, respectively.

After a visible rise in the 2003-2007 period, the proportion of new issuers rated speculative-grade waned in 2008. In 2008, 50% of new issuers were rated 'BB+' or lower, nearly 18% lower than the 68% recorded a year earlier and below the 65% average recorded in 2003-2007. In 2001, only 39% were initially rated speculative grade, while 2005 experienced an all-time high of nearly 72%. As default rates accelerate, the proportion of issuers rated speculative-grade is expected to fall further.

Chart 20



The wave of new speculative-grade ratings in 2003-2008 is beginning to have an impact on the default rate in the U.S. and globally, with the anticipated maturation of the seasoning effect (see Charts 21 and 22). Even in Europe, where a peak in speculative-grade rating originations dates back to 2005, default rates are expected to rise appreciably (see Chart 23).

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Chart 21

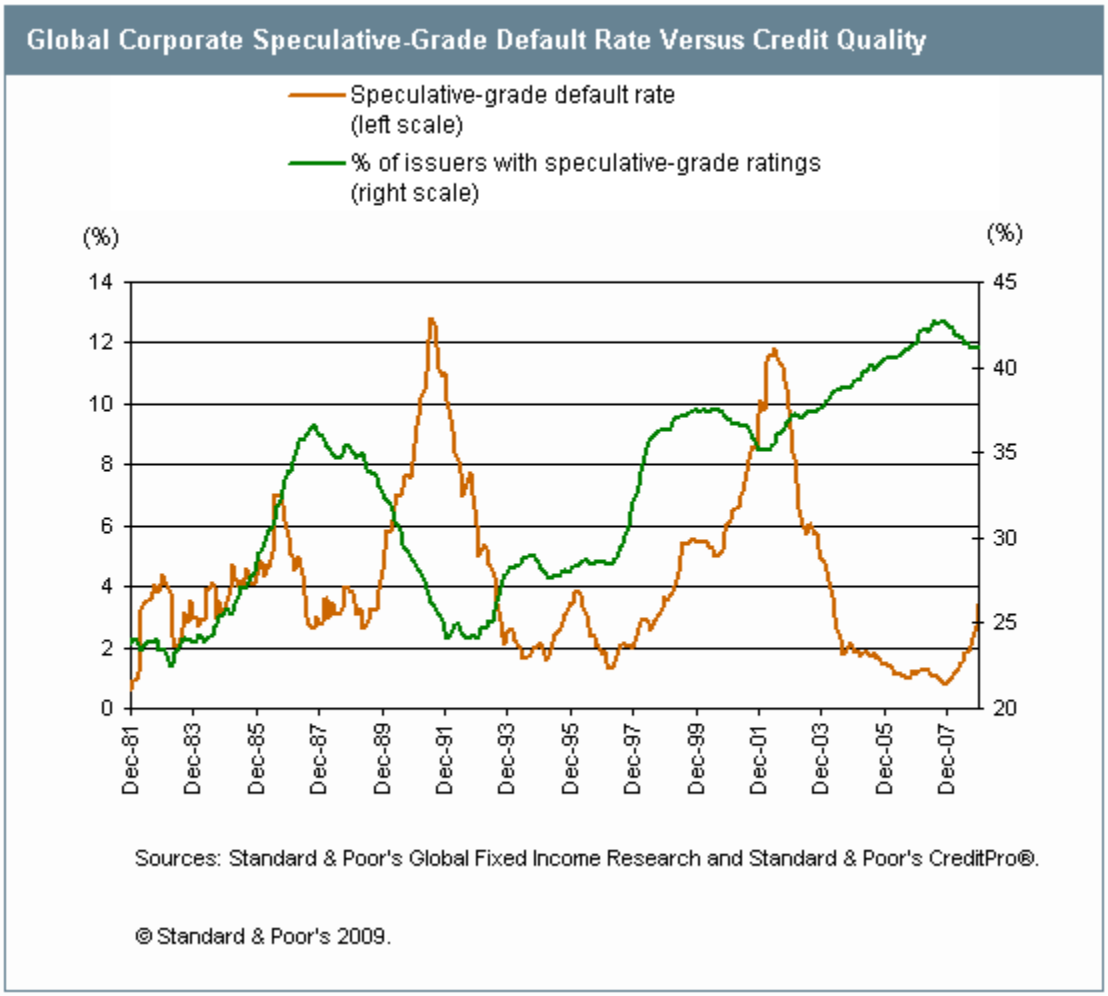

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Chart 22

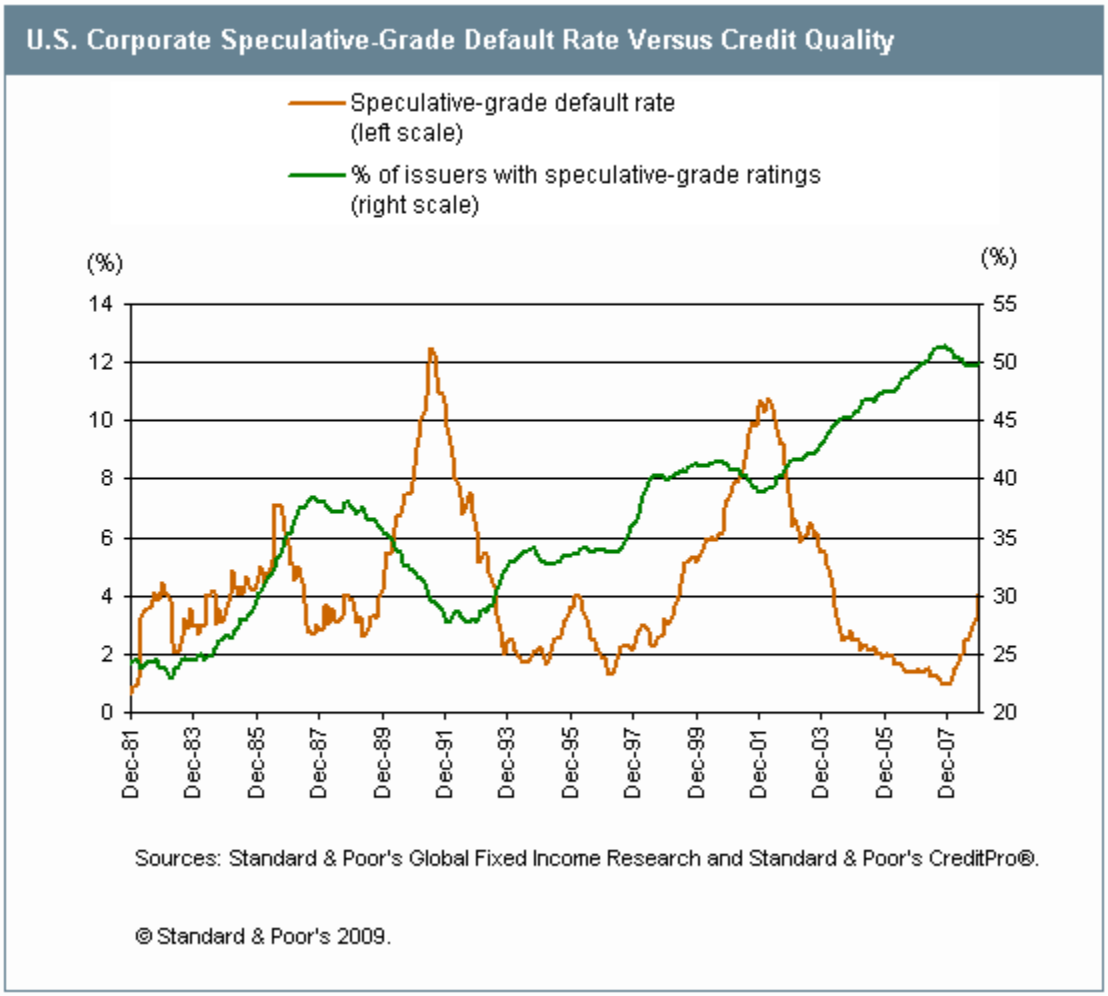

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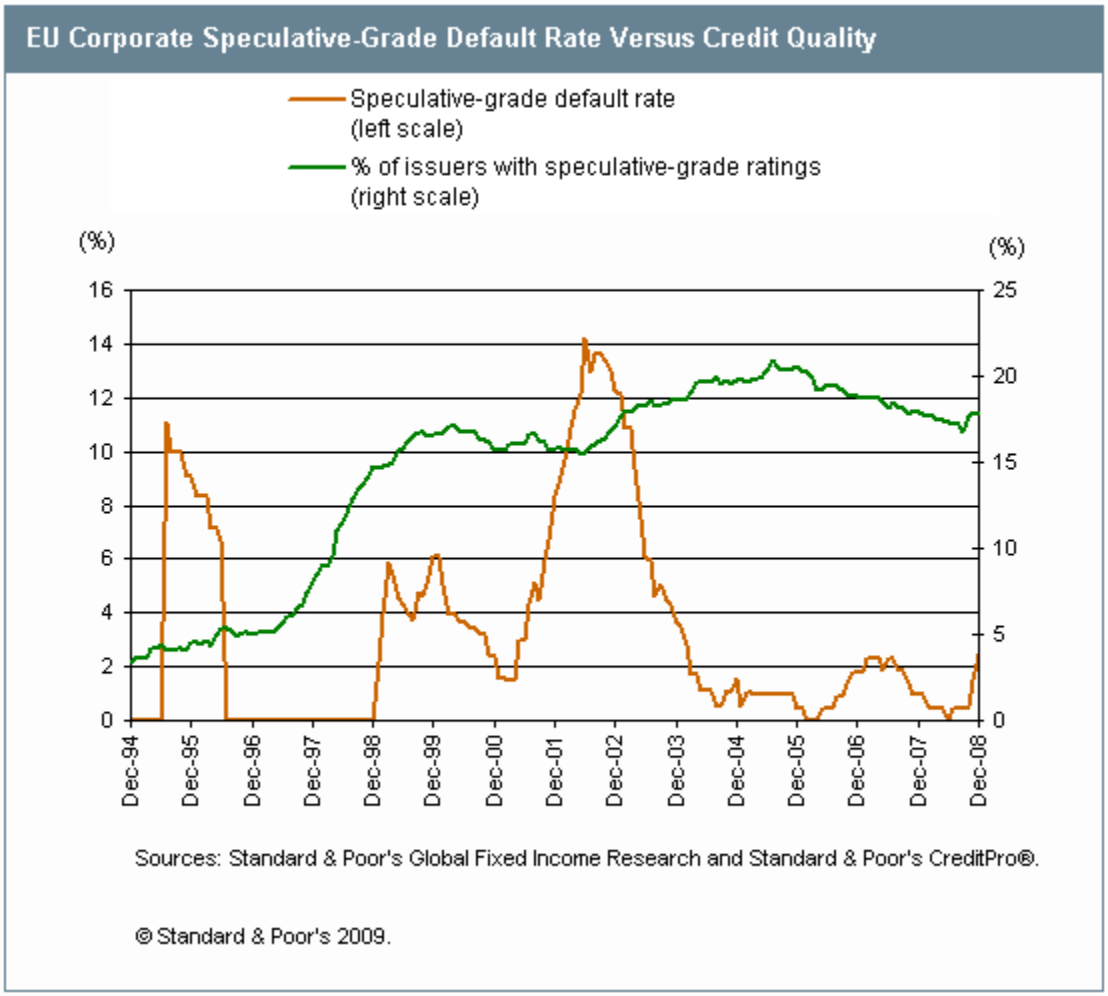
Chart 23



Transition Tables And Cumulative Default Rates

Analysis of transition rates over the four quarters ended December 2008 suggests that ratings behavior continues to exhibit consistency with long-term trends, showing a clear negative correspondence between credit rating and default probability. Table 12 demonstrates that investment-grade-rated issuers—globally—tend to exhibit greater credit stability (as measured by the frequency of rating transition) than their speculative-grade counterparts. For instance, 87.59% of issuers rated 'A' at the beginning as of Jan. 1, 2008, were still rated 'A' by Dec. 31, 2008, whereas the comparable share for an issuer rated 'B' was only 73.16%. The same relationship holds even when the transition rates are analyzed separately for the U.S., Europe, or the emerging markets. Some unusually large transitions from 'AAA' to 'B' and 'CCC' observed in Table 12 are attributable to pronounced deterioration among some monoline insurers, notably FGIC Corp, FGIC UK Ltd., and CIFG Guaranty.

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Table 12

2008 Global Corporate Transition Rates (%)

From/To	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	81.82	6.06	3.03	0.00	0.00	1.01	2.02	0.00	6.06
AA	0.00	77.65	17.23	0.57	0.00	0.00	0.19	0.38	3.98
A	0.00	1.59	87.59	4.92	0.45	0.00	0.00	0.38	5.07
BBB	0.00	0.00	2.57	86.81	3.59	0.27	0.20	0.47	6.09
BB	0.00	0.09	0.00	4.94	77.21	8.26	1.04	0.76	7.69
B	0.00	0.00	0.00	0.14	3.68	73.16	8.08	3.82	11.11
CCC/C	0.00	0.00	0.00	0.00	0.00	11.22	41.84	26.53	20.41

Source: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

This pattern correlates with the long-term (1981-2008) trend of ratings behavior among all global rated issuers. This study—in line with previous default studies—confirms that higher ratings are more stable than lower ratings. 'AAA' rated issuers were still rated 'AAA' one year later 88.39% of the time, and 'CCC'/'C' ratings remained 'CCC'/'C' 46.96% of the time. These long-term relationships do not change even when default rates are calculated over longer time horizons (see Table 13). In contrast, the relationship is slightly more discontinuous if we examine the rating transitions across modifiers (i.e., a plus or minus after a rating), but these variations are likely a fallout of sample size variations, and we do not consider them statistically significant For example, 'AA+' rated issuers were still rated 'AA+' one year later 76.93% of the time, and 'AA' rated issuers were still rated 'AA' one year later 81.45% of the time.

Table 13

Global Corporate Average Transition Rates, 1981-2008 (%)

From/To	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
One year									
AAA	88.39	7.63	0.53	0.06	0.08	0.03	0.06	0.00	3.23
	(5.21)	(4.92)	(0.86)	(0.18)	(0.27)	(0.19)	(0.38)	(0.00)	(2.42)
AA	0.58	87.02	7.79	0.54	0.06	0.09	0.03	0.03	3.86
	(0.52)	(4.44)	(3.72)	(0.76)	(0.27)	(0.26)	(0.08)	(0.08)	(1.83)
A	0.04	2.04	87.19	5.35	0.40	0.16	0.03	0.08	4.72
	(0.14)	(1.13)	(3.50)	(2.12)	(0.50)	(0.37)	(0.07)	(0.11)	(1.96)
BBB	0.01	0.15	3.87	84.28	4.00	0.69	0.16	0.24	6.60
	(0.07)	(0.24)	(2.33)	(4.54)	(1.83)	(1.07)	(0.25)	(0.27)	(1.86)
BB	0.02	0.05	0.19	5.30	75.74	7.22	0.80	0.99	9.68
	(0.06)	(0.17)	(0.40)	(2.43)	(5.00)	(4.82)	(0.94)	(1.08)	(2.94)
B	0.00	0.05	0.15	0.26	5.68	73.02	4.34	4.51	12.00
	(0.00)	(0.13)	(0.39)	(0.34)	(2.56)	(5.29)	(2.53)	(3.17)	(3.11)
CCC/C	0.00	0.00	0.23	0.34	0.97	11.84	46.96	25.67	14.00
	(0.00)	(0.00)	(0.75)	(1.07)	(1.35)	(7.93)	(12.27)	(12.15)	(7.72)
Three yeara									
AAA	68.97	18.56	2.53	0.32	0.12	0.06	0.09	0.09	9.26
	(7.99)	(7.53)	(1.53)	(0.86)	(0.35)	(0.30)	(0.46)	(0.29)	(4.92)
AA	1.41	67.03	17.65	2.28	0.37	0.23	0.03	0.11	10.89

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Table 13

Global Corporate Average Transition Rates, 1981-2008 (%) (cont.)

	(0.74)	(7.05)	(4.93)	(1.48)	(0.69)	(0.54)	(0.08)	(0.14)	(4.17)
A	0.09	4.83	67.24	11.85	1.47	0.59	0.11	0.31	13.51
	(0.12)	(2.31)	(6.24)	(2.98)	(1.17)	(0.86)	(0.17)	(0.27)	(3.79)
BBB	0.03	0.46	9.30	60.83	7.57	2.18	0.40	1.16	18.07
	(0.11)	(0.54)	(4.01)	(7.75)	(2.77)	(1.82)	(0.52)	(0.88)	(3.54)
BB	0.02	0.07	0.74	11.43	43.89	11.75	1.45	5.19	25.46
	(0.10)	(0.24)	(1.12)	(4.47)	(5.81)	(4.05)	(1.14)	(3.54)	(4.12)
B	0.01	0.06	0.39	1.27	11.61	37.87	4.46	15.00	29.34
	(0.13)	(0.17)	(0.82)	(0.94)	(3.68)	(6.19)	(2.45)	(7.17)	(6.23)
CCC/C	0.00	0.00	0.32	0.97	2.26	15.99	13.09	39.85	27.53
	(0.00)	(0.00)	(0.90)	(2.46)	(3.52)	(7.82)	(11.62)	(13.80)	(12.19)
Five years									
AAA	54.23	23.49	5.10	0.93	0.12	0.09	0.06	0.28	15.69
	(6.78)	(6.72)	(2.30)	(1.87)	(0.36)	(0.37)	(0.26)	(0.56)	(6.39)
AA	1.75	51.73	23.52	4.08	0.60	0.36	0.04	0.30	17.62
	(0.87)	(6.56)	(4.56)	(1.81)	(0.75)	(0.76)	(0.12)	(0.36)	(4.98)
A	0.12	5.92	53.37	15.23	2.44	0.95	0.17	0.68	21.11
	(0.11)	(2.58)	(7.10)	(2.48)	(1.28)	(1.19)	(0.23)	(0.45)	(4.29)
BBB	0.05	0.78	10.84	47.07	8.28	2.91	0.52	2.57	26.99
	(0.11)	(0.67)	(4.44)	(8.01)	(2.53)	(1.91)	(0.60)	(1.32)	(4.56)
BB	0.02	0.12	1.51	12.26	28.12	11.03	1.59	9.98	35.37
	(0.09)	(0.29)	(1.26)	(4.36)	(5.45)	(3.41)	(1.54)	(4.71)	(4.50)
B	0.03	0.06	0.50	2.13	10.92	20.83	2.88	23.18	39.47
	(0.28)	(0.15)	(1.23)	(1.58)	(3.09)	(5.44)	(1.50)	(8.13)	(6.57)
CCC/C	0.00	0.00	0.23	1.21	3.48	11.21	3.33	47.80	32.73
	(0.00)	(0.00)	(0.89)	(4.32)	(3.40)	(5.32)	(8.35)	(14.06)	(12.45)
Seven years									
AAA	43.25	26.15	7.30	1.79	0.20	0.07	0.10	0.43	20.71
	(4.42)	(5.17)	(2.52)	(2.20)	(0.50)	(0.30)	(0.32)	(0.76)	(6.96)
AA	1.82	40.46	26.71	5.41	0.82	0.31	0.02	0.54	23.90
	(1.01)	(4.76)	(3.80)	(1.61)	(0.74)	(0.61)	(0.08)	(0.55)	(4.94)
A	0.12	5.97	43.50	16.83	3.10	1.12	0.17	1.22	27.96
	(0.14)	(2.16)	(6.32)	(1.93)	(1.35)	(1.30)	(0.25)	(0.55)	(3.68)
BBB	0.06	1.04	10.74	37.80	8.14	2.96	0.48	4.10	34.68
	(0.18)	(0.52)	(4.04)	(6.30)	(0.85)	(1.38)	(0.55)	(1.59)	(3.67)
BB	0.00	0.12	1.92	12.07	19.12	9.34	1.13	14.77	41.53
	(0.00)	(0.31)	(1.40)	(4.68)	(4.59)	(2.83)	(1.05)	(4.55)	(4.25)
B	0.01	0.04	0.70	2.31	8.38	12.45	1.82	29.42	44.86
	(0.24)	(0.15)	(1.05)	(2.11)	(2.31)	(3.02)	(0.98)	(6.80)	(6.33)
CCC/C	0.00	0.00	0.39	1.47	3.63	6.39	1.57	53.14	33.40
	(0.00)	(0.00)	(0.98)	(4.96)	(2.62)	(3.49)	(4.71)	(12.53)	(11.05)

Numbers in parentheses are standard deviations. Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

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All of Standard & Poor's default studies have found a clear correlation between ratings and defaults: the higher the rating, the lower the observed frequency of default, and vice versa. Over each time span, lower ratings correspond to higher default rates (see Table 14 and Chart 24).

Chart 24

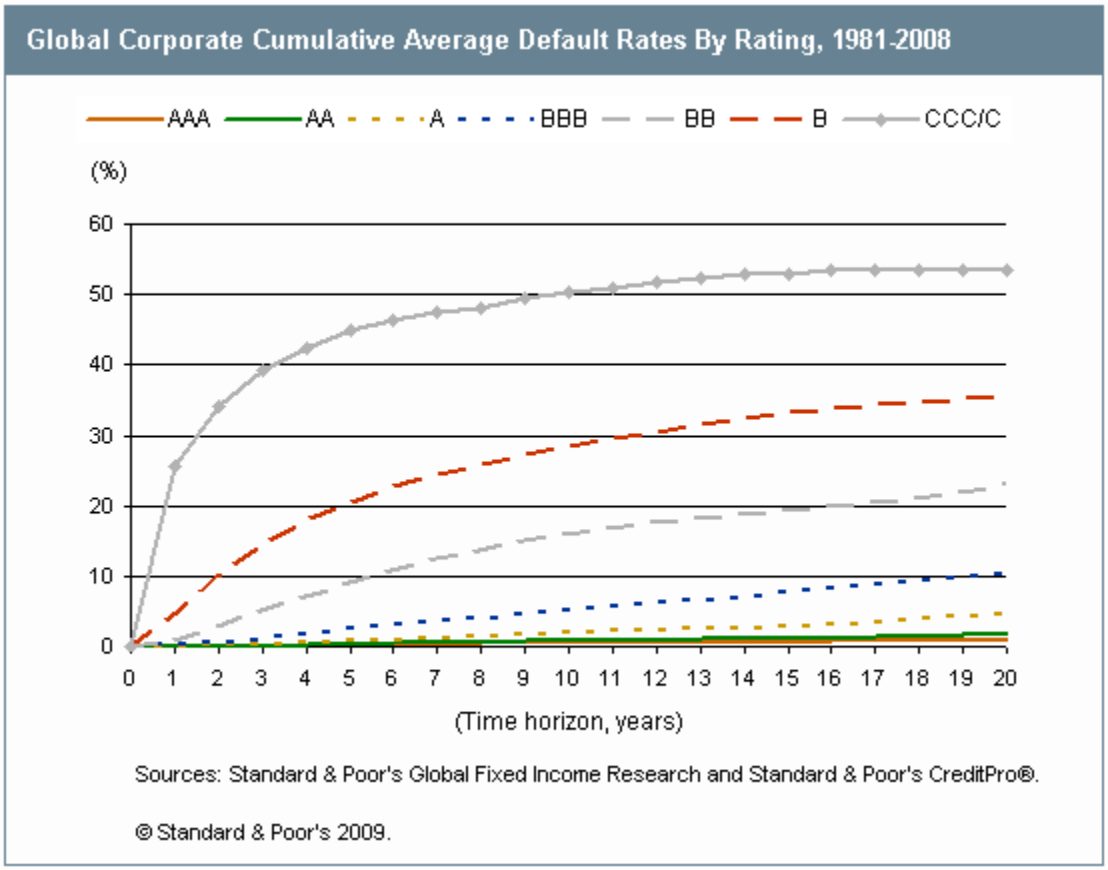

Table 14

Global Corporate Cumulative Average Default Rates (1981 - 2008) (%)

	—Time horizon (years)—														
Rating	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
AAA	0.00	0.00	0.09	0.18	0.27	0.37	0.40	0.47	0.51	0.55	0.55	0.55	0.55	0.60	0.65
	(0.00)	(0.00)	(0.29)	(0.40)	(0.56)	(0.69)	(0.76)	(0.85)	(0.87)	(0.87)	(0.88)	(0.89)	(0.89)	(0.97)	(1.05)
AA	0.03	0.08	0.14	0.25	0.34	0.45	0.56	0.65	0.73	0.83	0.92	0.99	1.08	1.15	1.20
	(0.08)	(0.11)	(0.14)	(0.25)	(0.36)	(0.48)	(0.55)	(0.63)	(0.68)	(0.71)	(0.71)	(0.72)	(0.70)	(0.70)	(0.69)
A	0.08	0.20	0.34	0.52	0.72	0.95	1.21	1.45	1.69	1.94	2.17	2.35	2.53	2.68	2.91
	(0.11)	(0.20)	(0.27)	(0.37)	(0.45)	(0.49)	(0.55)	(0.59)	(0.69)	(0.79)	(0.89)	(0.94)	(0.90)	(0.86)	(0.78)
BBB	0.24	0.68	1.17	1.79	2.43	3.06	3.59	4.12	4.63	5.16	5.68	6.12	6.63	7.15	7.70
	(0.27)	(0.60)	(0.88)	(1.10)	(1.32)	(1.48)	(1.59)	(1.63)	(1.68)	(1.61)	(1.43)	(1.31)	(1.20)	(1.11)	(1.06)
BB	0.99	2.88	5.07	7.18	9.07	10.90	12.41	13.74	15.00	16.02	16.89	17.64	18.28	18.76	19.33
	(1.08)	(2.39)	(3.54)	(4.24)	(4.71)	(4.79)	(4.55)	(4.41)	(4.41)	(4.26)	(4.35)	(4.38)	(4.58)	(4.63)	(4.77)
B	4.51	9.87	14.43	17.97	20.58	22.67	24.46	25.93	27.17	28.41	29.54	30.50	31.45	32.32	33.14

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Table 14

Global Corporate Cumulative Average Default Rates (1981 - 2008) (%) (cont.)

	(3.17)	(5.81)	(7.17)	(7.93)	(8.13)	(7.58)	(6.80)	(6.67)	(6.40)	(5.69)	(4.44)	(3.74)	(3.70)	(4.00)	(4.12)
CCC/C	25.67	34.10	39.25	42.29	44.93	46.24	47.45	48.09	49.53	50.33	51.03	51.77	52.33	52.93	52.93
	(12.15)	(13.07)	(13.80)	(14.56)	(14.06)	(12.32)	(12.53)	(12.29)	(11.90)	(11.03)	(11.43)	(11.14)	(10.98)	(11.38)	(11.47)
Investment grade	0.12	0.33	0.57	0.88	1.19	1.51	1.80	2.07	2.34	2.62	2.87	3.08	3.30	3.52	3.76
	(0.12)	(0.26)	(0.40)	(0.52)	(0.62)	(0.67)	(0.70)	(0.72)	(0.77)	(0.81)	(0.82)	(0.79)	(0.74)	(0.68)	(0.65)
Speculative grade	4.06	7.99	11.48	14.32	16.59	18.51	20.13	21.49	22.75	23.86	24.84	25.69	26.48	27.16	27.82
	(2.71)	(4.62)	(5.81)	(6.35)	(6.39)	(5.79)	(5.15)	(4.87)	(4.42)	(3.88)	(3.27)	(3.11)	(3.46)	(3.64)	(3.69)
All rated	1.47	2.94	4.25	5.37	6.30	7.11	7.80	8.40	8.95	9.46	9.92	10.30	10.68	11.02	11.38
	(0.97)	(1.80)	(2.43)	(2.82)	(2.96)	(2.85)	(2.70)	(2.59)	(2.36)	(2.03)	(1.59)	(1.50)	(1.76)	(2.00)	(2.20)

Numbers in parentheses are standard deviations. Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

Gini Ratios And Lorenz Curves

A quantitative analysis of the performance of Standard & Poor's ratings shows that corporate ratings continue to correlate with the level of default risk across several time horizons. To measure ratings performance, the cumulative share of issuers by rating is plotted against the cumulative share of defaulters in a Lorenz curve to visually render the accuracy of its rank ordering (for definition and methodology, refer to Appendix II). The results are in Charts 16-19. Over the long term, the global weighted average one-year transition to default has a one-year Gini coefficient of 82%; three-year, 76%; five-year, 73%; and seven-year, 72%.

Table 15

Corporate Gini Coefficients By Region (1981-2008)

	—Time horizon (years)—			
Region	**1**	**3**	**5**	**7**
Global				
Weighted average	81.56	75.91	73.23	71.57
Average	83.79	77.80	74.07	70.99
Sandard deviation	(5.75)	(4.43)	(4.42)	(4.35)
U.S.				
Weighted average	80.03	74.73	72.25	70.27
Average	82.51	76.31	72.79	69.82
Sandard deviation	(7.08)	(5.87)	(5.19)	(4.88)
Europe				
Weighted average	91.08	84.15	76.71	75.45
Average	91.70	88.89	79.19	66.94
Sandard deviation	(6.03)	(6.25)	(7.80)	(11.87)

Numbers in parentheses are standard deviations. Weighted averages refer to issuer-weighted calculations. Standard deviation for Europe calculated for 1999-2008. Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

Table 15 displays the variation in Gini coefficients by region, and Table 16 by broad sector. As expected, the Gini coefficients decline over time because longer time horizons allow greater opportunity for credit degradation among

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higher rated entities. In the one-year global Lorenz curve, for example, 94.5% of defaults occurred in the speculative-grade category ('BB+' or lower), while ratings of 'BB+' or lower constituted only 33.2% of all corporate ratings (see Chart 25). Looking at the seven-year Lorenz curve, speculative-grade issuers constituted 85.1% of defaulters and only 30.3% of the entire sample. If the rank ordering of ratings had little predictive value, the cumulative share of defaulting corporate entities and the cumulative share of all entities would be nearly the same.

Table 16

Gini Coefficients For Global Corporates By Broad Sector (1981-2008)

	—Time horizon (years)—			
Sector	**1**	**3**	**5**	**7**
Financial				
Weighted average	77.79	69.78	64.36	62.51
Average	78.53	72.43	66.08	61.81
Standard deviation	(23.94)	(14.09)	(13.80)	(11.00)
Nonfinancial				
Weighted average	80.15	73.95	71.52	69.92
Average	82.95	76.64	73.20	70.22
Standard deviation	(6.51)	(5.11)	(5.16)	(4.98)

Numbers in parentheses are standard deviations. Sources: Standard & Poor's Global Fixed Income Research and Standard & Poor's CreditPro®.

Chart 25

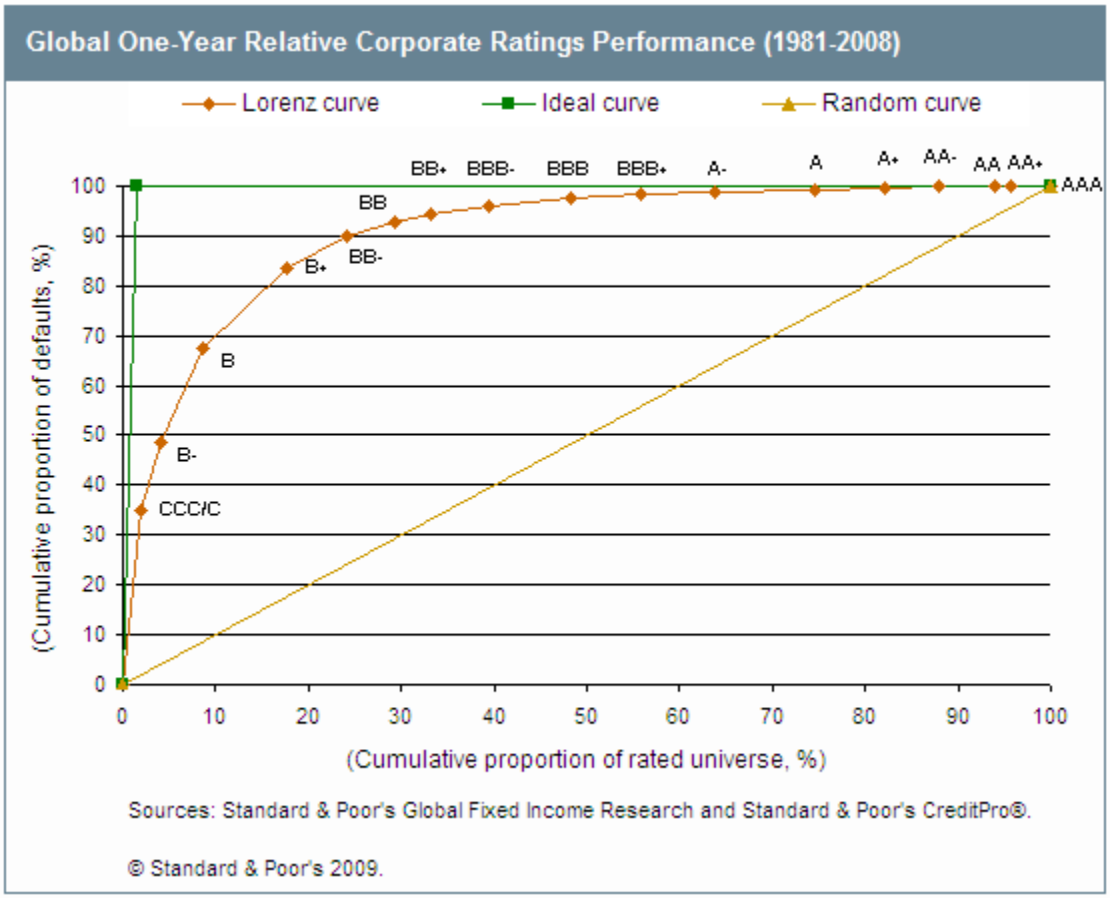

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Chart 26

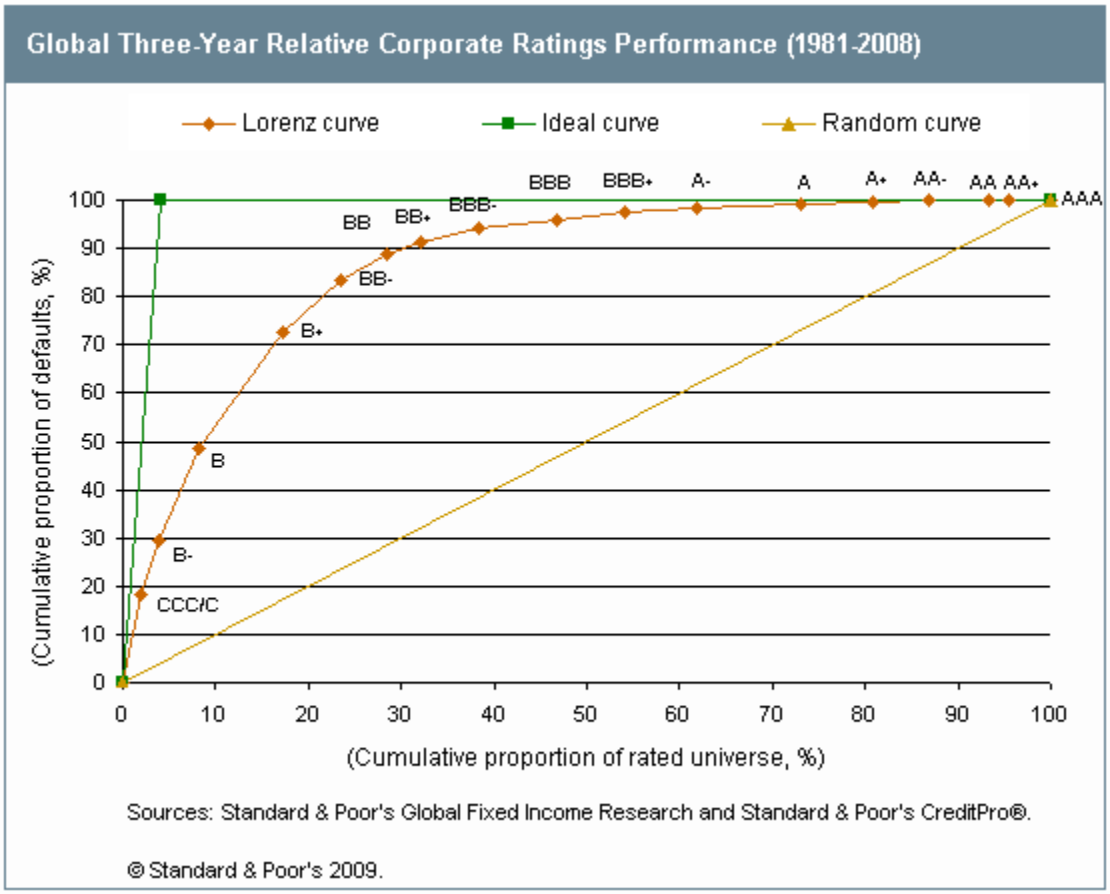

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Chart 27

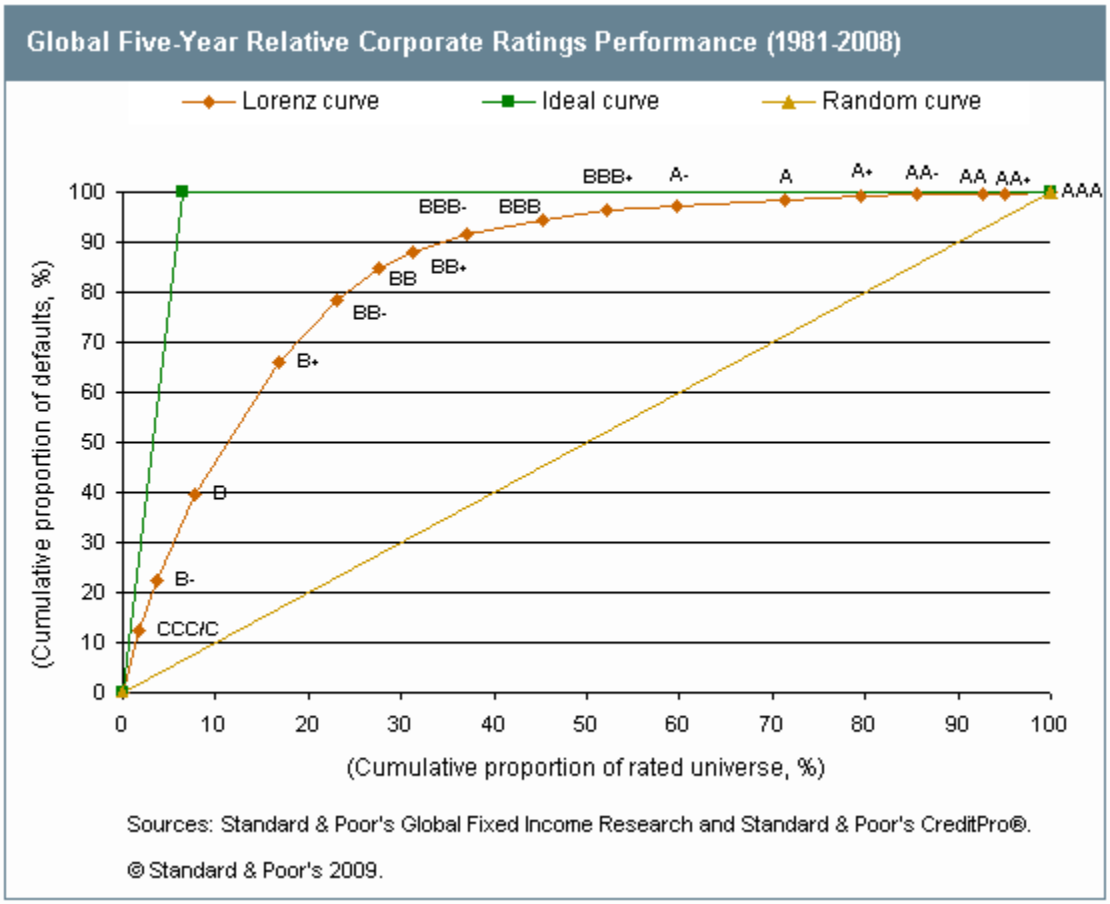

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Chart 28

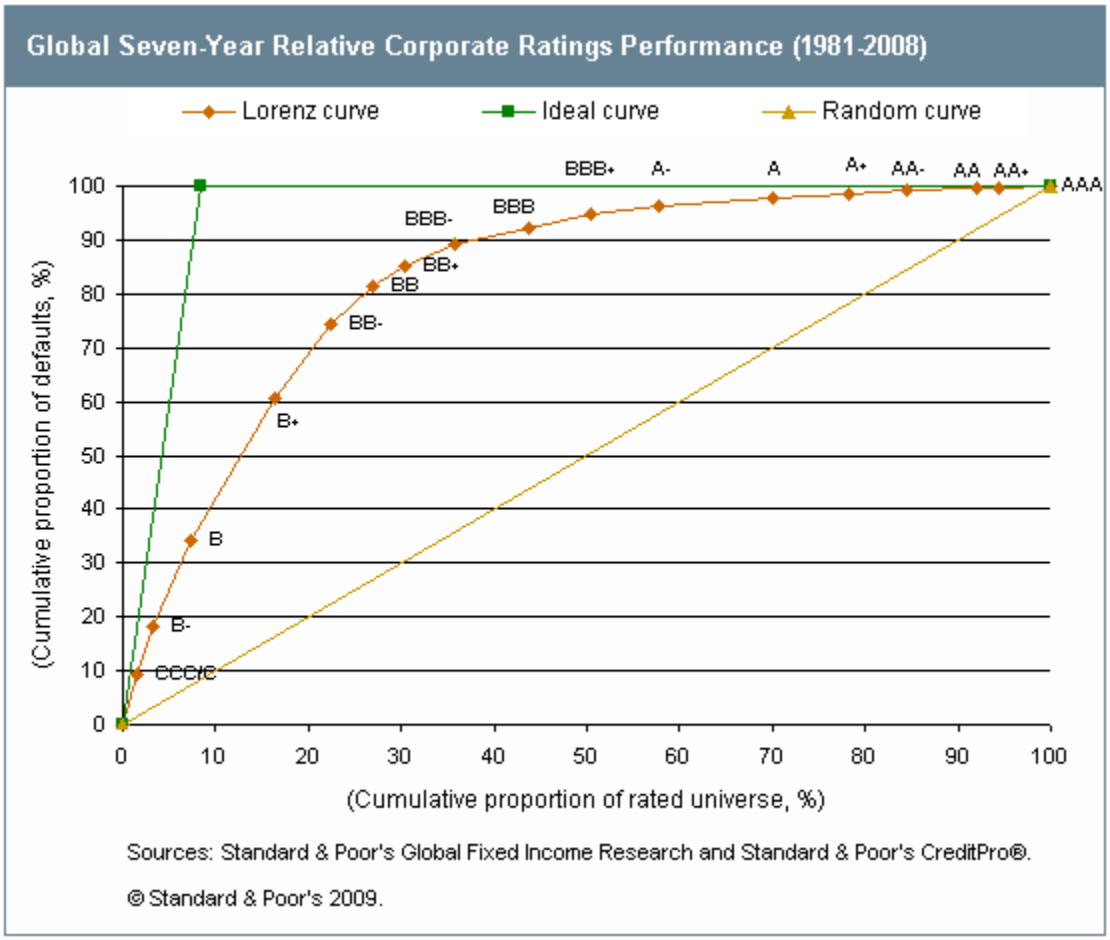

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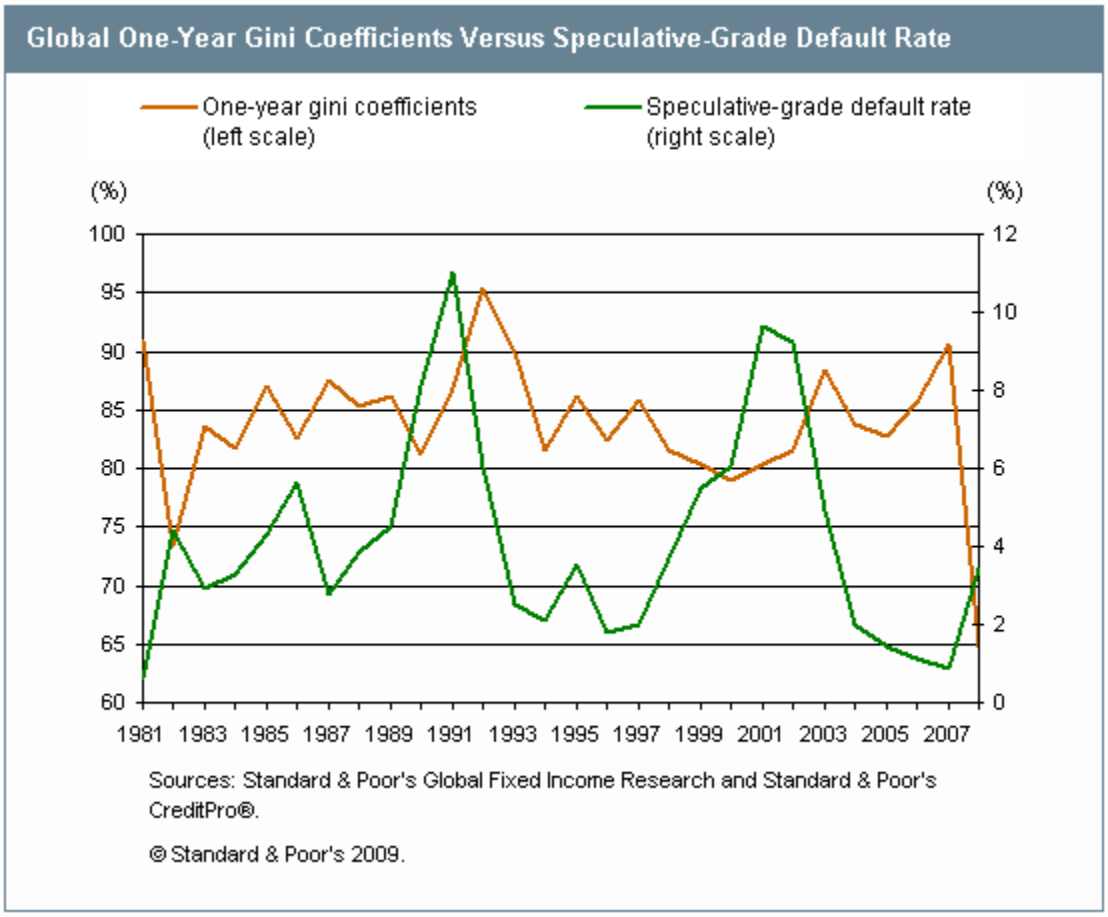
Chart 29



The pattern of one-year Gini coefficients appears to be broadly cyclical (see Chart 29). Trends in the one-year Gini ratio emerge during periods of both extremes in default pressure, which is a reflection of the natural relationship between the two concepts. In periods of high defaults, there tends to be greater variation with respect to how the defaults are distributed across the ratings spectrum, which reduces the Gini. That is, when default pressure is high, the economic conditions are such that there is an increased likelihood of companies from across the rating spectrum suffering a more rapid deterioration of credit quality. At 65% in 2008, the one-year Gini dropped to an all-time low. Much of this decline was attributable to extraordinary turbulence among global financials, which led the average Gini in that segment to decline to 78%. Meanwhile, an average Gini ratio of 80.2% was recorded among global nonfinancials.

Appendix I: Default Methodology And Definitions

This long-term corporate default and rating transition study uses the CreditPro® 7.72 database of long-term local currency issuer credit ratings. An issuer credit rating reflects Standard & Poor's opinion of a company's overall capacity to pay its obligations (that is, its fundamental creditworthiness). This opinion focuses on the obligor's ability and willingness to meet its financial commitments on a timely basis, and it generally indicates the likelihood of default regarding all financial obligations of the firm. It is not necessary for a company to have rated debt to be

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assigned an issuer credit rating.

Although the rating on a company's very senior forms of secured debt, particularly ones with strong covenants, may occasionally be rated higher than the issuer credit rating on the company, specific issues are typically rated as high as or lower than these ratings, depending on their relative priority within the company's debt structure. If they are speculative grade, issuer credit ratings are generally two notches higher than subordinated debt ratings. Otherwise, they are generally one notch higher. Therefore, though a 'BB+' issuer credit rating is generally paired with a 'BB-' subordinated debt rating, a 'AA' issuer credit rating usually corresponds to a 'AA-' subordinated rating.

Standard & Poor's ongoing enhancement of the CreditPro® database used to generate this study could lead to outcomes that differ to some degree from those reported in previous studies. However, this poses no continuity problem because each study reports statistics back to Dec. 31, 1980. Therefore, each annual default study is self-contained and effectively supersedes all previous versions.

Issuers included in this study

The study analyzes the rating histories of 13,552 companies that were rated by Standard & Poor's as of Dec. 31, 1980, or that were first rated between that date and Dec. 31, 2007. These companies include industrials, utilities, financial institutions, and insurance companies around the world with long-term local currency ratings. The analysis excludes public information ("pi") ratings and ratings based on the guarantee of another company. Structured finance vehicles, public-sector issuers, and sovereign issuers are the subject of separate default and transition studies and are also excluded from this study.

Subsidiaries with debt that is fully guaranteed by a parent or with default risk that is considered identical to that of their parents were excluded. The latter are companies with obligations that are not legally guaranteed by a parent but that have operating or financing activities that are so inextricably entwined with those of the parent that it would be impossible to imagine the default of one and not the other. At times, however, some of these subsidiaries might not yet have been covered by a parent's guarantee, or the relationship that combines the default risk of parent and subsidiary might have come to an end or might not have begun. Such subsidiaries were included for the period during which they carried a distinct and separate risk of default.

Definition of default

A default is recorded on the first occurrence of a payment default on any financial obligation, rated or unrated, other than a financial obligation subject to a bona fide commercial dispute; an exception occurs when an interest payment missed on the due date is made within the grace period. Preferred stock is not considered a financial obligation; thus, a missed preferred stock dividend is not normally equated with default. Distressed exchanges, on the other hand, are considered defaults whenever the debt holders are coerced into accepting substitute instruments with lower coupons, longer maturities, or any other diminished financial terms.

Issue ratings are usually revised to 'D' following a company's default on the corresponding obligation. In addition, 'SD' is used whenever Standard & Poor's believes that an obligor that has selectively defaulted on a specific issue or class of obligations will continue to meet its payment obligations on other issues or classes of obligations in a timely matter. 'R' indicates that an obligor is under regulatory supervision owing to its financial condition. This does not necessarily indicate a default event, but the regulator might have the power to favor one class of obligations over others or pay some obligations and not others. 'D', 'SD', and 'R' issuer ratings are deemed defaults for purposes of this study. A default is assumed to take place on the earliest of: the date Standard & Poor's revised the ratings to 'D', 'SD', or 'R'; the date a debt payment was missed; the date a distressed exchange offer was announced; or the

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date the debtor filed or was forced into bankruptcy.

Calculations

Static pool methodology.

Standard & Poor's conducts its default studies on the basis of groupings called static pools. Static pools are formed by grouping issuers by rating category at the beginning of each year covered by the study. Each static pool is followed from that point forward. All companies included in the study are assigned to one or more static pools. When an issuer defaults, that default is assigned back to all of the static pools to which the issuer belonged.

Standard & Poor's uses the static pool methodology to avoid certain pitfalls in estimating default rates. This is to ensure that default rates account for rating migration and to allow for default rates to be calculated across multi-period time horizons. Some methods for calculating default and rating transition rates might charge defaults against only the initial rating on the issuer, ignoring more recent rating changes that supply more current information. Other methods may calculate default rates using only the most recent year's default and rating data; this method may yield comparatively low default rates during periods of high rating activity, as they ignore prior years' default activity.

The pools are static in the sense that their membership remains constant over time. Each static pool can be interpreted as a buy-and-hold portfolio. Because errors, if any, are corrected by every new update and because the criteria for inclusion or exclusion of companies in the default study are subject to minor revisions as time goes by, it is not possible to compare static pools across different studies. Therefore, every new update revises results back to the same starting date of Dec. 31, 1980, so as to avoid continuity problems.

Entities that have had ratings withdrawn—that is, revised to N.R.—are surveilled with the aim of capturing a potential default. These companies, as well as those that have defaulted, are excluded from subsequent static pools.

For instance, the 1981 static pool consists of all companies rated as of 12:01 a.m. Jan. 1, 1981. Adding those companies first rated in 1981 to the surviving members of the 1981 static pool forms the 1982 static pool. All rating changes that took place are reflected in the newly formed 1982 static pool. This same method was used to form static pools for 1983 through 2008. From Jan. 1, 1981, to Dec. 31, 2008, a total of 12,166 first-time rated organizations were added to form new static pools, while 1,668 defaulting companies and 5,965 companies with a last rating that was classified as N.R. were excluded from them.

Consider the following example: An issuer is originally rated 'BB' in mid-1986 and is downgraded to 'B' in 1988. This is followed by a rating withdrawal (N.R.) in 1990 and a default ('D') in 1993. This hypothetical company would be included in the 1987 and 1988 pools with the 'BB' rating, which it was rated at the beginning of those years; likewise, it would be included in the 1989 and 1990 pools with the 'B' rating. It would not be part of the 1986 pool because it was not rated as of the first day of that year, and it would not be included in any pool after the last day of 1990 because the rating had been withdrawn by then. Yet each of the four pools in which this company was included (1987-1990) would record its 1993 default at the appropriate time horizon.

Ratings are withdrawn when an entity's entire debt is paid off or when the program or programs rated are terminated and the relevant debt extinguished. They may also occur as a result of mergers and acquisitions. Others are withdrawn because of a lack of cooperation, particularly when a company is experiencing financial difficulties and refuses to provide all the information needed to continue surveillance on the ratings.

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Default rate calculation.
Annual default rates were calculated for each static pool: first in units and later as percentages with respect to the number of issuers in each rating category. Finally, these percentages were combined to obtain cumulative default rates for the 28 years covered by the study .

Issuer-weighted default rates.
Averages that appear in this study are calculated based on the number of issuers rather than the dollar amounts affected by defaults or rating changes. Although dollar amounts provide information about the portion of the market that is affected by defaults or rating changes, issuer-weighted averages are a more useful measure of the performance of ratings.

Many practitioners utilize statistics from this default study and CreditPro® to estimate "probability of default" and "probability of rating transition." It is important to note that Standard & Poor's ratings do not imply a specific probability of default.

Cumulative average default rate calculation.
Cumulative default rates that average the experience of all static pools were derived by calculating marginal default rates, conditional on survival (survivors being nondefaulters) for each possible time horizon and for each static pool, weight averaging the conditional marginal default rates, and accumulating the average conditional marginal default rates (see Table 14). Conditional default rates are calculated by dividing the number of issuers in a static pool that default at a specific time horizon by the number of issuers that survived (did not default) to that point in time. Weights are based on the number of issuers in each static pool. Cumulative default rates are one minus the product of the proportion of survivors (nondefaulters).

For instance, the weighted average first-year default rate for 'B' rated companies for all 28 pools was 4.51%, meaning that an average of 95.49% survived one year. Similarly, the second- and third-year conditional marginal averages were 5.62% for the first 27 pools (94.38% of those companies that did not default in the first year survived the second year) and 5.06% for the first 26 pools (94.94% of those companies that did not default by the second year survived the third year), respectively. Multiplying 95.49% by 94.38% results in an 90.12% survival rate to the end of the second year, which is a two-year cumulative average default rate of 9.88%. Multiplying 90.12% by 94.94% results in an 85.56% survival rate to the end of the third year, which is a three-year cumulative average default rate of 14.44%.

Time sample.
This update limits the reporting of default rates to the 15-year time horizon. However, the data was gathered for 28 years and all calculations are based on the rating experience of that period. The maturities of most obligations are much shorter than 15 years. In addition, average default statistics become less reliable at longer time horizons as the sample size becomes smaller and the cyclical nature of default rates increases its effect on averages.

Default patterns share broad similarities across all static pools, suggesting that Standard & Poor's rating standards have been consistent over time. Adverse business conditions tend to coincide with default upswings for all pools. Speculative-grade issuers have been hit the hardest by these upswings, but investment-grade default rates also increase in stressful periods.

Transition analysis

Transition rates compare issuer ratings at the beginning of a time period with ratings at the end of the period. To compute one-year rating transition rates by rating category, the rating on each entity at the end of a particular year

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was compared with the rating at the beginning of the same year. An issuer that remained rated for more than one year was counted as many times as the number of years it was rated. For instance, an issuer continually rated from the middle of 1984 to the middle of 1991 would appear in the six consecutive one-year transition matrices from 1985 to 1990. All 1981 static pool members still rated on Dec. 31, 2008, had 28 one-year transitions, while companies first rated between Jan. 1, 2008, and Dec. 31, 2008, had only one.

Each one-year transition matrix displays all rating movements between letter categories from the beginning of the year through year-end. For each rating listed in the matrix's left-most column, there are nine ratios listed in the rows, corresponding to the ratings from 'AAA' to 'D', plus an entry for N.R.

Multi-year transitions

Multi-year transitions were also calculated for periods of two up to 20 years. In this case, the rating at the beginning of the multi-year period was compared with the rating at the end. For example, three-year transition matrices were the result of comparing ratings at the beginning of the years 1981-2006 with the ratings at the end of the years 1983-2008. Otherwise, the methodology was identical to that used for single-year transitions.

Average transition matrices were calculated on the basis of the multi-year matrices just described. These average matrices are a true summary, the ratios of which represent the historical incidence of the ratings listed on the first column, changing to the ones listed on the top row over the course of the multi-year period.

Comparing transition rates with default rates

Rating transition rates may be compared with the marginal and cumulative default rates described in the previous section. For example, note that the one-year default rate column of Table 14 is equivalent to column 'D' of the average one-year transition matrix found in Table 13. . This difference results from the different static pools used to calculate transition to default and cumulative average default rates. Cumulative average default rates are the summary of all static pools from 1981-2008, while the number of pools used in the average transition rate is limited by the transition's time horizon.

Appendix II: Gini Methodology

To measure ratings performance or ratings accuracy, the cumulative share of issuers by rating is plotted against the cumulative share of defaulters in a Lorenz curve to visually render the accuracy of their rank ordering. The Lorenz curve was developed by Max O. Lorenz as a graphical representation of the proportionality of a distribution. To build the Lorenz curve, the observations are ordered from the low end of the ratings scale ('CCC'/'C') to the high end ('AAA'). If Standard & Poor's corporate ratings only randomly approximated default risk, the Lorenz curve would fall along the diagonal. Its Gini coefficient—which is a summary statistic of the Lorenz curve—would thus be zero. If corporate ratings were perfectly rank-ordered so that all defaults occurred only among the lowest-rated entities, the curve would capture all of the area above the diagonal on the graph and its Gini coefficient would be one (see Chart 24). The procedure for calculating the Gini coefficients is illustrated below and is accomplished by dividing area B by the total area A + B. In other words, the Gini coefficient captures the extent to which actual ratings accuracy diverges from the random scenario and aspires to the ideal scenario.

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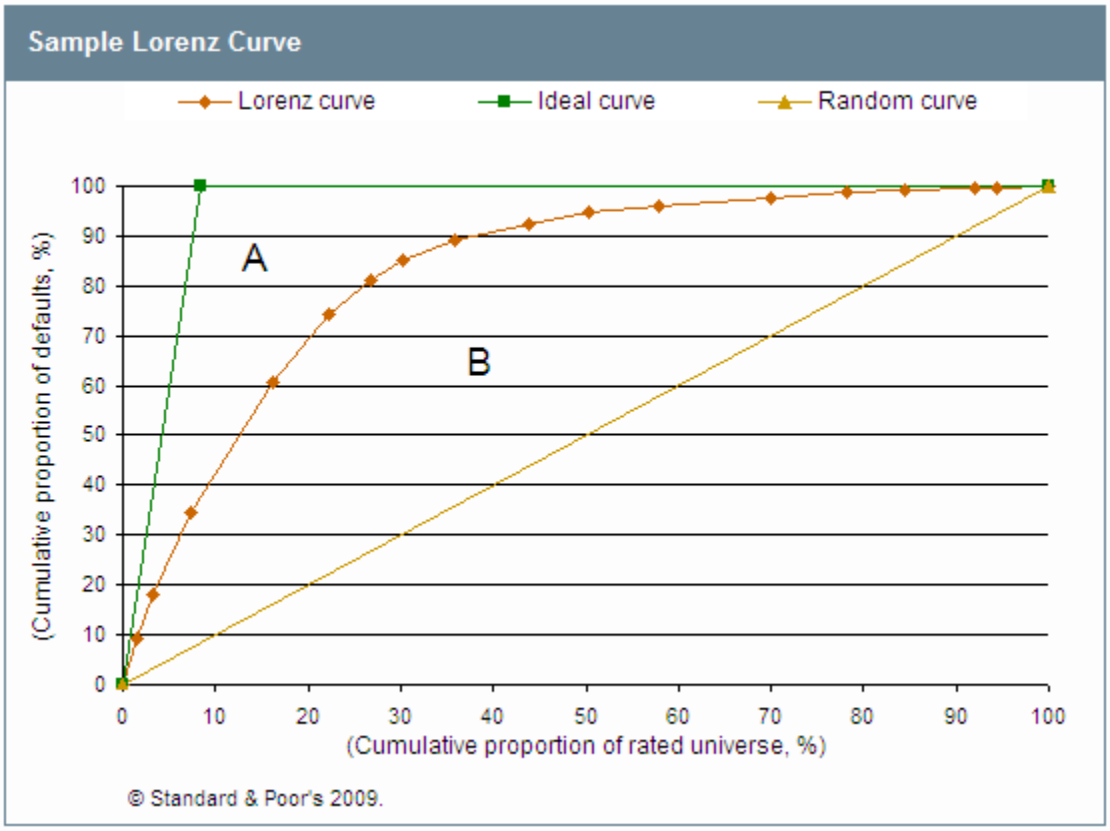
Chart 30



We would like to thank our CRISIL colleagues Preeti Iyer, Kartikey Kaushik, Nivritti Mishra and Sumitra Sharma for their assistance with this report.

Additional Contacts:
Cameron Miller, New York (1) 212-438-7617; cameron_miller@standardandpoors.com
Jacinto Torres, New York (1) 212-438-3243; jacinto_torres@standardandpoors.com

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