

Default, Transition, and Recovery:

2021 Annual Global Corporate Default And Rating Transition Study

April 13, 2022

Key Takeaways

- In 2021, S&P Global Ratings' corporate issuer credit ratings performed very well globally, with all rated defaulters beginning the year in the 'B' category or lower.
- Of the 60 companies that defaulted in 2021 that were rated at the start of the year, 50 (83%) were in the 'CCC'/'C' category, leading to a one-year global Gini ratio of 87.7%.
- Credit quality improved significantly in 2021, with a record-low downgrade rate (5.5%) and one of the highest annual upgrade rates (10.2%).
- Defaults fell across nearly every sector, but consumer services and energy and natural resources led the tally for the seventh year in a row, together accounting for about 40% of the total.

Following a year marked by one of the deepest recessions in the past 100 years, 2021 proved to be a year of better-than-expected economic recovery, despite the lingering COVID-19 pandemic. As in most recovery periods, defaults fell relative to the prior year, with the S&P Global Ratings global speculative-grade corporate default rate falling below 2% for only the eighth time in the past 41 years, to 1.7% (see chart 1 and table 1). The global default tally fell to 72--60 of which were from companies with active ratings at the start of the year--from 226 in 2020.

Corporate downgrades also decreased, outstripped by upgrades by 1.85x. That said, despite the increase in credit quality relative to 2020, the ratings distribution among companies we rate remained weak, with 14.5% of ratings at 'B-' or lower as of year-end, up from 7.4% 10 years earlier.

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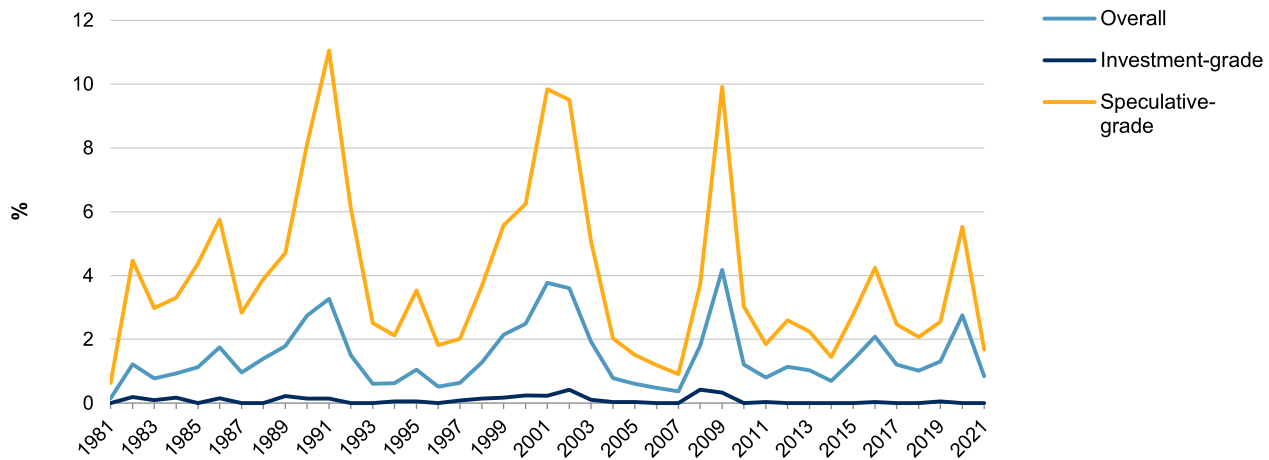
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Chart 1

Global Default Rates: Investment-Grade Versus Speculative-Grade



Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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Table 1

Global Corporate Default Summary

Year	Total defaults*	Investment-grade defaults	Speculative-grade defaults	Default			Total debt outstanding (bil. \$)
				rate (%)	Investment-grade default rate (%)	Speculative-grade default rate (%)	
1981	2	0	2	0.15	0.00	0.63	0.06
1982	18	2	15	1.22	0.19	4.46	0.90
1983	12	1	10	0.77	0.09	2.98	0.37
1984	14	2	12	0.93	0.17	3.31	0.36
1985	19	0	18	1.13	0.00	4.37	0.31
1986	34	2	30	1.74	0.15	5.75	0.46
1987	19	0	19	0.95	0.00	2.83	1.60
1988	32	0	29	1.39	0.00	3.88	3.30
1989	44	3	35	1.79	0.22	4.70	7.28
1990	70	2	56	2.74	0.14	8.12	21.15
1991	93	2	65	3.26	0.14	11.05	23.65
1992	39	0	32	1.50	0.00	6.12	5.40
1993	26	0	14	0.60	0.00	2.51	2.38
1994	21	1	15	0.63	0.05	2.12	2.30
1995	35	1	29	1.05	0.05	3.54	8.97
1996	20	0	16	0.51	0.00	1.81	2.65
1997	23	2	20	0.63	0.08	2.01	4.93

Table 1

Global Corporate Default Summary (cont.)

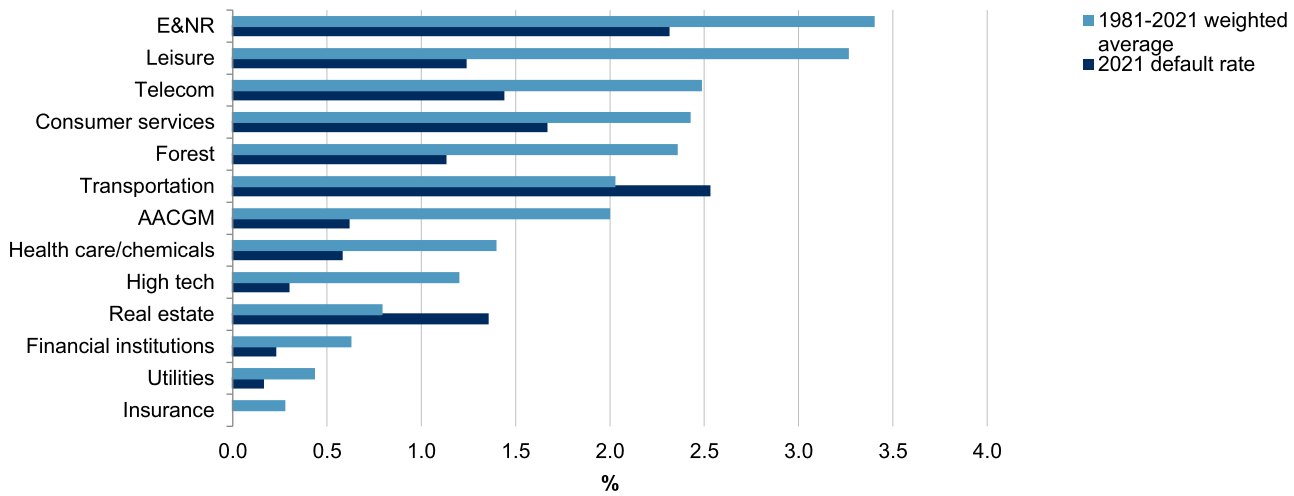
Year	Total defaults*	Investment-grade defaults	Speculative-grade defaults	Default			Total debt outstanding (bil. \$)
				rate (%)	Investment-grade default rate (%)	Speculative-grade default rate (%)	
1998	56	4	48	1.28	0.14	3.67	11.27
1999	109	5	92	2.15	0.17	5.57	39.38
2000	136	7	109	2.48	0.24	6.24	43.28
2001	229	7	172	3.77	0.23	9.84	118.79
2002	226	13	159	3.60	0.42	9.50	190.92
2003	119	3	89	1.93	0.10	5.07	62.89
2004	56	1	38	0.78	0.03	2.03	20.66
2005	40	1	31	0.60	0.03	1.51	42.00
2006	30	0	26	0.48	0.00	1.19	7.13
2007	24	0	21	0.37	0.00	0.91	8.15
2008	127	14	89	1.80	0.42	3.71	429.63
2009	268	11	223	4.17	0.33	9.91	627.70
2010	83	0	64	1.21	0.00	3.03	97.48
2011	53	1	44	0.80	0.03	1.85	84.30
2012	83	0	66	1.14	0.00	2.59	86.70
2013	81	0	62	1.03	0.00	2.24	97.29
2014	60	0	45	0.69	0.00	1.44	91.55
2015	113	0	94	1.36	0.00	2.78	110.31
2016	163	1	143	2.09	0.03	4.24	239.79
2017	95	0	83	1.21	0.00	2.47	104.57
2018	82	0	71	1.02	0.00	2.07	131.65
2019	118	2	92	1.30	0.06	2.54	183.21
2020	226	0	198	2.75	0.00	5.52	353.43
2021	72	0	60	0.84	0.00	1.68	66.28

*This column includes companies that were no longer rated one year prior to default. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Broadly consistent with the prior six years, two sectors led defaults in 2021: consumer services and energy and natural resources (with 29 defaults combined, or 40% of the total). Defaults decreased across nearly all sectors, and only financial institutions had the same number of defaults in 2021 as in 2020 (four). Despite declines in absolute defaults, the transportation and real estate sectors still had annual default rates in 2021 in excess of their long-term averages, but by only about 0.5 percentage point in both cases (see chart 2).

Chart 2

Global Corporate Default Rates By Industry: 2021 Versus Long-Term Average

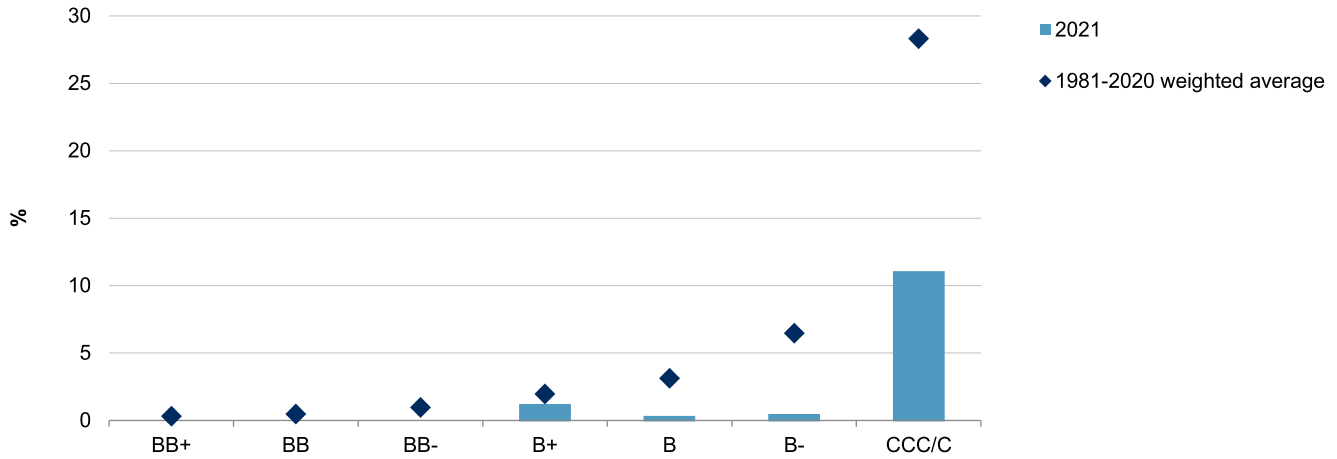


High tech--High technology/computers/office equipment. AACGM--Aerospace/automotive/capital goods/metals. Forest--Forest and building products/homebuilders. E&NR--Energy and natural resources.
 Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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Characteristic of an economic recovery year, most defaults were concentrated at the lowest ratings (see chart 3). In fact, all of the defaulters rated at the start of the year were rated in the 'B' category or lower, with 83% rated 'CCC'/'C'. But even at 'CCC'/'C', the 11% default rate for 2021 was still markedly lower than the 28.3% long-term (1981-2020) weighted average.

Chart 3

Global Corporate Default Rates

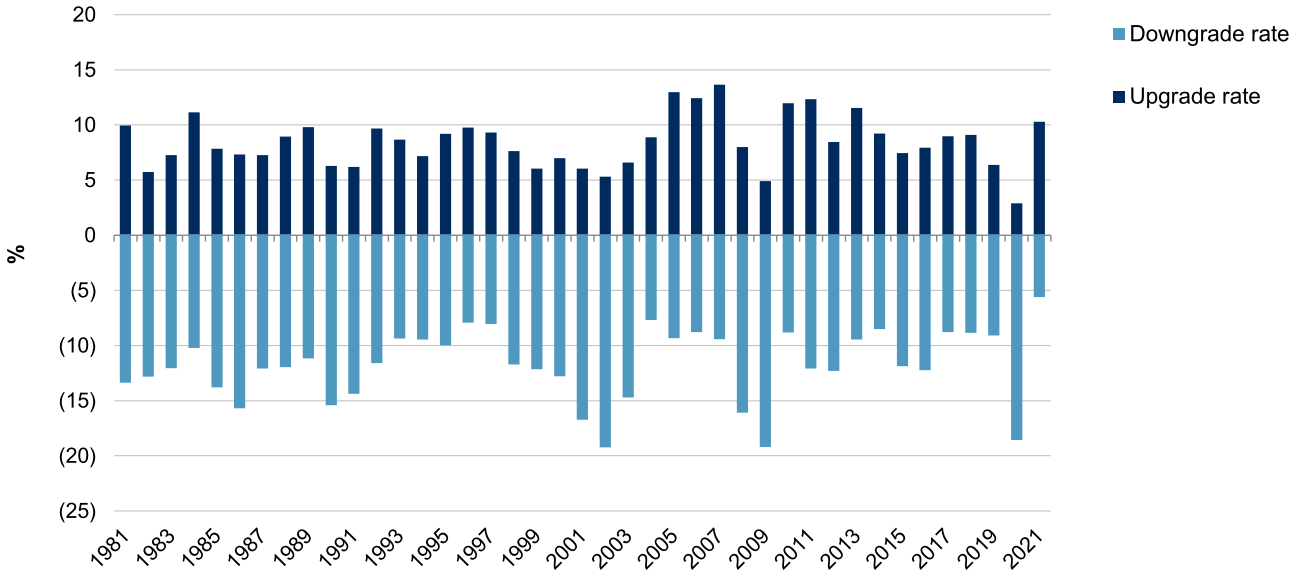


Sources: S&P Global Market Intelligence's CreditPro® and S&P Global Ratings Research.
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Upgrade and downgrade rates improved substantially in 2021, producing the lowest downgrade-to-upgrade ratio recorded. The downgrade rate fell to its lowest yet, at 5.5% (see chart 4), and last year was the first since 2013 with an upgrade rate above 10% (10.2%).

Chart 4

Annual Rating Actions



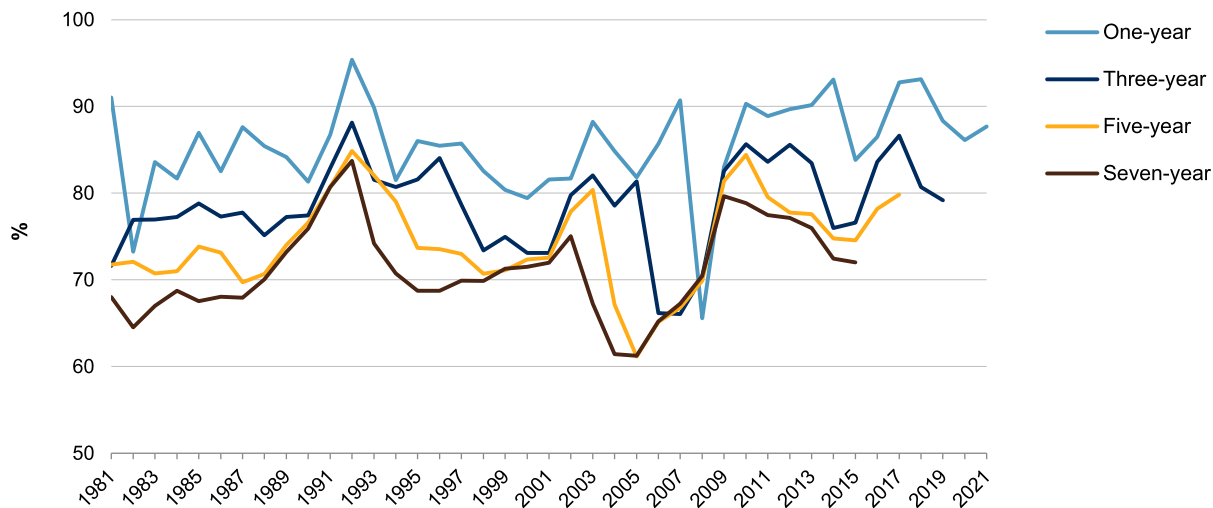
Excludes downgrades to 'D'. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®. Copyright © 2022 by Standard & Poor's Financial Services LLC. All rights reserved.

This default and rating transition study includes industrials, utilities, financial institutions (banks, brokerages, asset managers, and other financial entities), and insurance companies globally with long-term local currency ratings from S&P Global Ratings. We calculated all default rates on an issuer-weighted basis. The default rates that we refer to as weighted averages in this study use the number of issuers at the beginning of each year as the basis for each year's weight. (For a detailed explanation of our data sources and methodology, see Appendix I.)

The one-year Gini ratio remained high in 2021 at 87.7% (see chart 5). The Gini ratio is a measure of the rank-ordering power of ratings over a given time horizon, from one through seven years. It shows the ratio of actual rank-ordering performance to theoretically perfect rank ordering. The one-year Gini in 2021 was well above the one-year weighted average (since 1981) Gini ratio of 82.6% and higher than the median annual Gini ratio over the past 41 years of 85.7% (see table 2 and chart 32). (For details on the Gini methodology, refer to Appendix II.)

Chart 5

Gini Coefficients By Pool Year Across Multiple Time Horizons



Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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All of S&P Global Ratings Research'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 chart 6 and chart 27), and this relationship holds true when broken out by rating modifier (see tables 24 and 26) and by region (see table 25).

As the Gini ratios show, corporate ratings also serve as effective measures of relative risk over time, particularly in low-default years. 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 period. Transition studies have repeatedly confirmed that higher ratings tend to be more stable and that speculative-grade ratings ('BB+' or lower) generally experience more volatility over a given time frame.

However, since the financial downturn of 2008, many high-rated companies have been downgraded, leaving, for example, exceedingly few 'AAA' rated issuers at the start of 2021. Such rating categories with smaller populations will experience high rating transition rates when even a small number of issuers are upgraded or downgraded.

Table 2

Global Average Gini Coefficients By Broad Sector (1981-2021)

Sector	--Time horizon--			
	One-year	Three-year	Five-year	Seven-year
Global				
Weighted average	82.58	75.35	71.59	69.07

Table 2

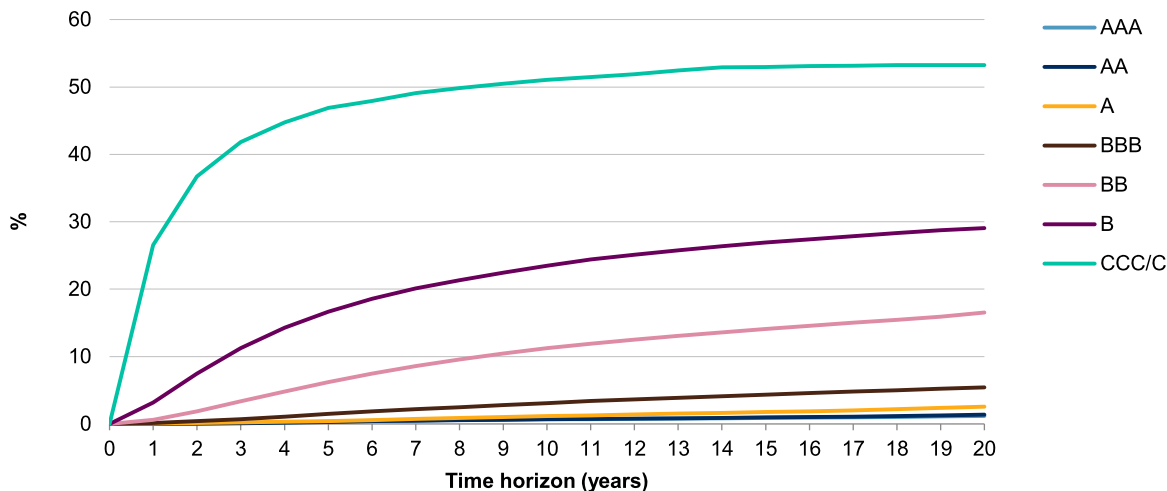
Global Average Gini Coefficients By Broad Sector (1981-2021) (cont.)

(%)	--Time horizon--			
Sector	One-year	Three-year	Five-year	Seven-year
Average	85.47	78.62	74.42	71.25
Standard deviation	(5.43)	(5.14)	(5.34)	(5.20)
Financial				
Weighted average	80.15	70.33	63.13	58.33
Average	83.55	76.71	69.14	63.14
Standard deviation	(19.96)	(14.99)	(16.85)	(16.81)
Nonfinancial				
Weighted average	80.65	72.58	68.79	66.43
Average	84.45	76.73	72.63	69.61
Standard deviation	(5.98)	(5.25)	(5.37)	(5.07)

Numbers in parentheses are standard deviations. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Chart 6

Global Corporate Average Cumulative Default Rates By Rating (1981-2021)



Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

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In 2021, all rating categories had markedly lower default rates than in 2020, with all defaults limited to companies rated in the 'B' and 'CCC'/'C' categories as of the start of the year (see table 3). Even the 'CCC'/'C' category had its fifth-lowest annual default rate, at 11%.

For the second year in a row, there were no defaulters that began 2021 with investment-grade ratings ('BBB-' or higher) (see table 4). Investment-grade defaults have become ever more rare in the post-financial-crisis period, with the only investment-grade defaults coming from the 'BBB'

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category, in three years since 2010. Once again, the default rate in the 'AAA' rating category was zero, consistent with historical trends.

Table 3

Global Corporate Annual Default Rates By Rating Category

(%)	AAA	AA	A	BBB	BB	B	CCC/C
1981	0.00	0.00	0.00	0.00	0.00	2.33	0.00
1982	0.00	0.00	0.21	0.35	4.24	3.18	21.43
1983	0.00	0.00	0.00	0.34	1.16	4.70	6.67
1984	0.00	0.00	0.00	0.68	1.14	3.49	25.00
1985	0.00	0.00	0.00	0.00	1.50	6.53	15.38
1986	0.00	0.00	0.18	0.34	1.33	8.45	23.08
1987	0.00	0.00	0.00	0.00	0.38	3.13	12.28
1988	0.00	0.00	0.00	0.00	1.05	3.68	20.37
1989	0.00	0.00	0.18	0.61	0.73	3.40	33.33
1990	0.00	0.00	0.00	0.58	3.57	8.56	31.25
1991	0.00	0.00	0.00	0.55	1.69	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	0.70	2.62	13.33
1994	0.00	0.00	0.14	0.00	0.28	3.09	16.67
1995	0.00	0.00	0.00	0.17	0.99	4.59	28.00
1996	0.00	0.00	0.00	0.00	0.45	2.91	8.00
1997	0.00	0.00	0.00	0.25	0.19	3.52	12.00
1998	0.00	0.00	0.00	0.41	0.82	4.64	42.86
1999	0.00	0.17	0.18	0.20	0.95	7.31	33.82
2000	0.00	0.00	0.27	0.37	1.16	7.71	35.96
2001	0.00	0.00	0.27	0.34	2.98	11.45	45.45
2002	0.00	0.00	0.00	1.02	2.90	8.20	44.44
2003	0.00	0.00	0.00	0.23	0.59	4.07	32.93
2004	0.00	0.00	0.08	0.00	0.44	1.45	16.30
2005	0.00	0.00	0.00	0.07	0.31	1.75	9.09
2006	0.00	0.00	0.00	0.00	0.30	0.82	13.33
2007	0.00	0.00	0.00	0.00	0.20	0.25	15.24
2008	0.00	0.38	0.39	0.49	0.81	4.11	27.27
2009	0.00	0.00	0.22	0.55	0.75	10.93	49.46
2010	0.00	0.00	0.00	0.00	0.58	0.87	22.83
2011	0.00	0.00	0.00	0.07	0.00	1.68	16.42
2012	0.00	0.00	0.00	0.00	0.30	1.58	27.52
2013	0.00	0.00	0.00	0.00	0.10	1.52	24.67
2014	0.00	0.00	0.00	0.00	0.00	0.79	17.51
2015	0.00	0.00	0.00	0.00	0.16	2.42	26.67

Table 3

Global Corporate Annual Default Rates By Rating Category (cont.)

(%)	AAA	AA	A	BBB	BB	B	CCC/C
2016	0.00	0.00	0.00	0.06	0.47	3.76	33.17
2017	0.00	0.00	0.00	0.00	0.08	1.00	26.67
2018	0.00	0.00	0.00	0.00	0.00	0.94	27.18
2019	0.00	0.00	0.00	0.11	0.00	1.49	29.76
2020	0.00	0.00	0.00	0.00	0.94	3.53	47.68
2021	0.00	0.00	0.00	0.00	0.00	0.52	10.99

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 4

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	0.25	0.00
Maximum	0.00	0.38	0.39	1.02	4.24	13.84	49.46
Weighted long-term average	0.00	0.02	0.05	0.15	0.60	3.18	26.55
Median	0.00	0.00	0.00	0.06	0.58	3.40	25.00
Standard deviation	0.00	0.06	0.10	0.25	0.99	3.25	11.86
2008 default rates	0.00	0.38	0.39	0.49	0.81	4.11	27.27
Latest four quarters (2021Q1-2021Q4)	0.00	0.00	0.00	0.00	0.00	0.52	10.99
Difference between last four quarters and weighted average	0.00	(0.02)	(0.05)	(0.15)	(0.60)	(2.67)	(15.56)
Number of standard deviations		(0.28)	(0.51)	(0.59)	(0.61)	(0.82)	(1.31)

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

2021 Observations

- Of the 72 corporate defaults in 2021, the majority (40) were from companies in the U.S. and associated tax havens (Bermuda and the Cayman Islands). Europe followed with 14 defaults, Latin America with nine, and Asia-Pacific with seven. The remaining two defaults came from Canada.
- Selective defaults accounted for 60% of all defaults in 2021. Distressed exchanges (which are typically selective defaults) accounted for 56.9% of all defaults, well more than missed interest or principal payments (29.2%). Various forms of bankruptcy accounted for only 11% of all defaults.
- Consistent with the decline in the number of defaults, the volume of debt affected by defaults fell to \$66.3 billion in 2021 from \$353.4 billion a year earlier.
- The largest default in 2021 came from China Evergrande Group, with \$11 billion (16.6%) of the

debt affected by default for the year.

- Ratings stability increased in 2021 to 75.1%, largely as a result of the low downgrade and default rates of 5.5% and 0.84%, respectively.
- Only three of the defaulters in 2021 were initially rated investment-grade.
- Among the three defaulters initially rated investment-grade, the average time to default--the time between first rating and date of default--was 14 years, with an associated standard deviation of 10.3 years.
- In contrast, the average time to default among entities initially rated speculative-grade was 3.9 years, with an associated standard deviation of 3.7 years.
- The issuer with the longest time to default in 2021 was Argentina-based YPF S.A., with an initial issuer credit rating of 'BBB-' as of May 3, 1995, 25.8 years before the rating was lowered to 'SD' (selective default) in February 2021.
- In contrast, the issuer with the shortest time to default (18 days) was a confidentially rated Cayman Islands-based homebuilder/real estate company.
- S&P Global Ratings assigned initial ratings to 805 issuers in 2021, up from 610 issuers in 2020 and 637 in 2019. Of these new issuers, 83% were rated speculative-grade.

Annual Global Trends: Defaults Hit Their Lowest Since 2014

The number of defaulters that began the year with active ratings plummeted to 60 in 2021 from 198 in 2020. This was the lowest count since 2014, which saw only 45 (see chart 7). With the decline, the total amount of affected debt also fell, to \$66.3 billion, from \$353.4 billion in 2020 (see chart 8).

As in most years, the U.S. accounted for the majority of defaults in 2021 by both count and the amount of affected debt. The U.S. has the largest number of rated corporate issuers, accounting for roughly 46% of the global total at the start of 2021. With its highly developed financing markets, the U.S. also has a considerably higher share of speculative-grade companies than other regions--it accounted for 52.5% of speculative-grade companies globally at the beginning of 2021.

Table 5

Largest Global Rated Defaulters By Year

Largest corporate defaulters by outstanding debt amount

Year defaulted	Issuer	Amount (mil. \$)
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

Table 5

Largest Global Rated Defaulters By Year (cont.)

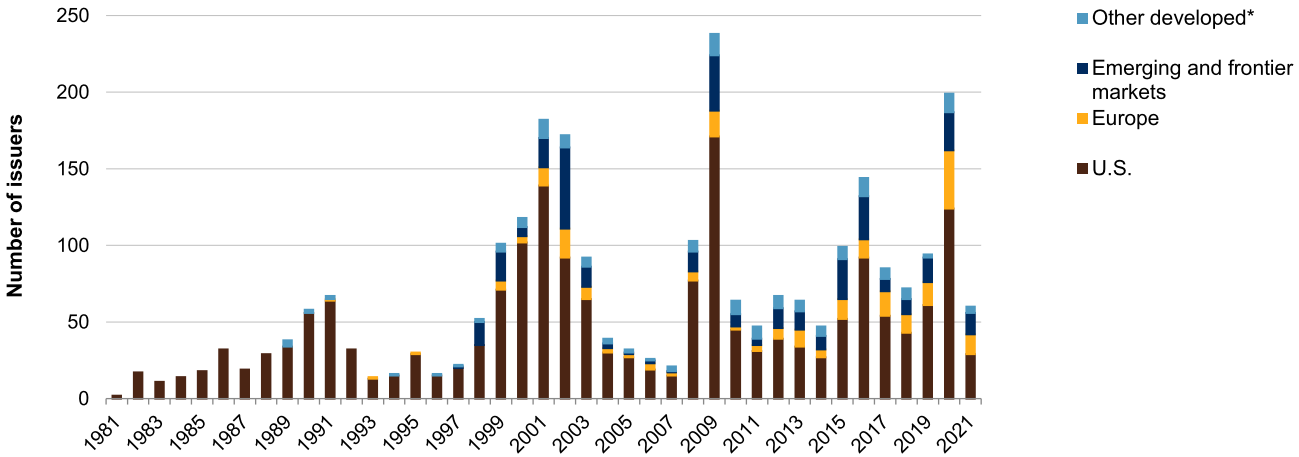
Largest corporate defaulters by outstanding debt amount

Year defaulted	Issuer	Amount (mil. \$)
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
2009	Ford Motor Co.	70,989
2010	Energy Future Holdings Corp.	47,648
2011	Texas Competitive Electric Holdings Co. LLC	32,460
2012	BTA Bank J.S.C.	10,184
2013	Texas Competitive Electric Holdings Co. LLC	31,628
2014	Texas Competitive Electric Holdings Co. LLC	28,651
2015	Arch Coal Inc.	6,025
2016	Petroleos de Venezuela S.A.	19,859
2017	Petroleos de Venezuela S.A.	17,617
2018	iHeartCommunications Inc.	20,176
2019	Community Health Systems Inc.	23,432
2020	Frontier Communications Corp.	22,453
2021	China Evergrande Group	11,025

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Chart 7

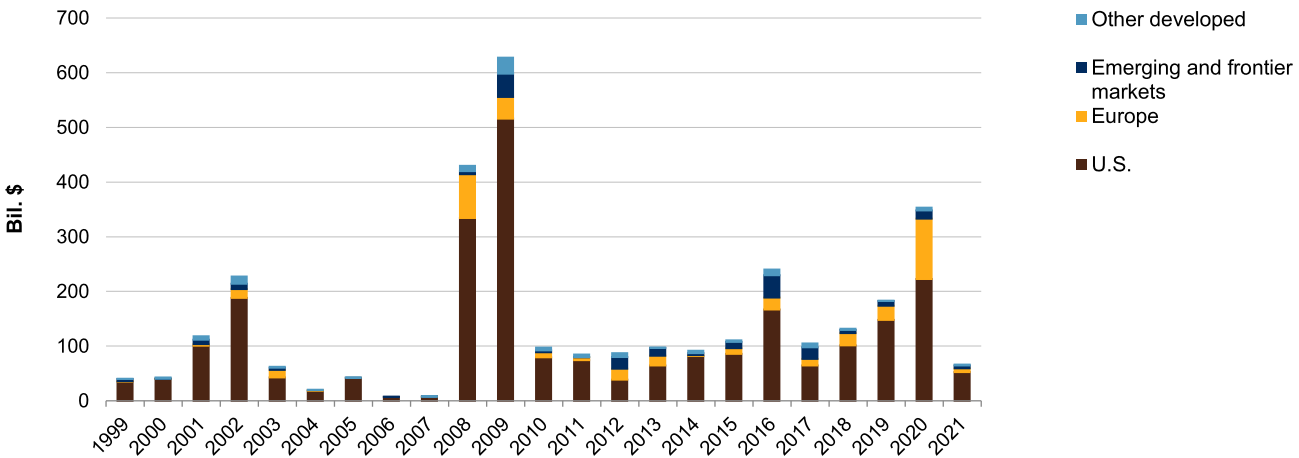
Annual Corporate Defaults By Number Of Issuers



Count excludes defaults from companies that were not rated prior to Jan. 1 of each year. Other developed--Australia, Brunei Darussalam, Canada, Israel, Japan, Republic of Korea, New Zealand, and Singapore. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®. Copyright © 2022 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 8

Annual Global Corporate Defaulters' Debt Amounts Outstanding



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Credit quality improved but remained below 2019 level

As the default rate fell globally, credit quality also showed a net improvement in 2021, with more companies upgraded than downgraded. The upgrade rate rose to 10.2% in 2021--one of the highest annual rates ever. Meanwhile, the downgrade rate fell to 5.5%, a record low. This brought the ratio of downgrades to upgrades to a record low of 0.54x (see table 6). A ratio of 1x would indicate that the percentages of upgrades and downgrades were equal.

That said, upgrades were not high enough to overcome the downgrades of 2020, meaning many ratings are still lower than where they began 2020.

Table 6

Summary Of Annual Corporate Rating Changes

(%)

Year	Issuer count as of Jan. 1	Upgrades	Downgrades*	Defaults	Withdrawn ratings	Changed ratings	Unchanged ratings	Downgrade/upgrade ratio
1981	1,349	9.86	13.27	0.15	2.08	25.35	74.65	1.35
1982	1,398	5.65	12.73	1.22	5.44	25.04	74.96	2.25
1983	1,420	7.18	11.97	0.77	5.14	25.07	74.93	1.67
1984	1,510	11.06	10.13	0.93	2.78	24.90	75.10	0.92
1985	1,598	7.76	13.70	1.13	4.01	26.60	73.40	1.77
1986	1,835	7.25	15.59	1.74	6.81	31.39	68.61	2.15
1987	1,991	7.18	12.00	0.95	9.14	29.28	70.72	1.67
1988	2,081	8.84	11.87	1.39	8.02	30.13	69.87	1.34
1989	2,122	9.71	11.07	1.79	7.59	30.16	69.84	1.14
1990	2,117	6.19	15.30	2.74	6.52	30.75	69.25	2.47
1991	2,053	6.09	14.27	3.26	3.56	27.18	72.82	2.34
1992	2,137	9.59	11.51	1.50	3.93	26.53	73.47	1.20
1993	2,321	8.57	9.26	0.60	8.23	26.67	73.33	1.08
1994	2,553	7.09	9.36	0.63	4.58	21.66	78.34	1.32
1995	2,862	9.08	9.89	1.05	4.58	24.60	75.40	1.09
1996	3,117	9.69	7.83	0.51	6.99	25.02	74.98	0.81
1997	3,478	9.23	7.96	0.63	7.48	25.30	74.70	0.86
1998	4,068	7.55	11.63	1.28	7.94	28.39	71.61	1.54
1999	4,518	5.95	12.04	2.15	8.96	29.11	70.89	2.02
2000	4,670	6.90	12.68	2.48	7.09	29.14	70.86	1.84
2001	4,745	5.96	16.65	3.77	7.50	33.89	66.11	2.79
2002	4,780	5.23	19.14	3.60	7.22	35.19	64.81	3.66
2003	4,777	6.49	14.61	1.93	7.33	30.35	69.65	2.25
2004	5,011	8.78	7.60	0.78	7.24	24.41	75.59	0.87
2005	5,300	12.89	9.23	0.60	8.40	31.11	68.89	0.72

Table 6

Summary Of Annual Corporate Rating Changes (cont.)

(%)

Year	Issuer count as of Jan. 1	Upgrades	Downgrades*	Defaults	Withdrawn ratings	Changed ratings	Unchanged ratings	Downgrade/upgrade ratio
2006	5,459	12.33	8.70	0.48	8.68	30.19	69.81	0.71
2007	5,645	13.55	9.32	0.37	10.61	33.85	66.15	0.69
2008	5,723	7.92	15.99	1.80	7.64	33.34	66.66	2.02
2009	5,606	4.82	19.12	4.17	8.81	36.92	63.08	3.97
2010	5,302	11.88	8.73	1.21	6.47	28.29	71.71	0.73
2011	5,617	12.23	11.98	0.80	7.78	32.79	67.21	0.98
2012	5,798	8.36	12.21	1.14	6.88	28.60	71.40	1.46
2013	6,030	11.44	9.35	1.03	6.72	28.54	71.46	0.82
2014	6,476	9.13	8.42	0.69	7.16	25.40	74.60	0.92
2015	6,897	7.35	11.79	1.36	8.24	28.74	71.26	1.60
2016	6,902	7.85	12.16	2.09	8.30	30.40	69.60	1.55
2017	6,880	8.88	8.68	1.21	9.06	27.82	72.18	0.98
2018	6,967	9.00	8.74	1.02	8.02	26.78	73.22	0.97
2019	7,228	6.29	9.01	1.30	7.80	24.41	75.59	1.43
2020	7,202	2.79	18.45	2.75	6.83	30.82	69.18	6.61
2021	7,117	10.20	5.52	0.84	8.36	24.93	75.07	0.54
Weighted average		8.46	11.50	1.50	7.49	28.94	71.06	1.67
Average		8.39	11.69	1.46	6.97	28.51	71.49	1.64
Median		8.36	11.79	1.21	7.33	28.54	71.46	1.35
Standard deviation		2.35	3.26	0.97	1.85	3.39	3.39	1.11
Minimum		2.79	5.52	0.15	2.08	21.66	63.08	0.54
Maximum		13.55	19.14	4.17	10.61	36.92	78.34	6.61

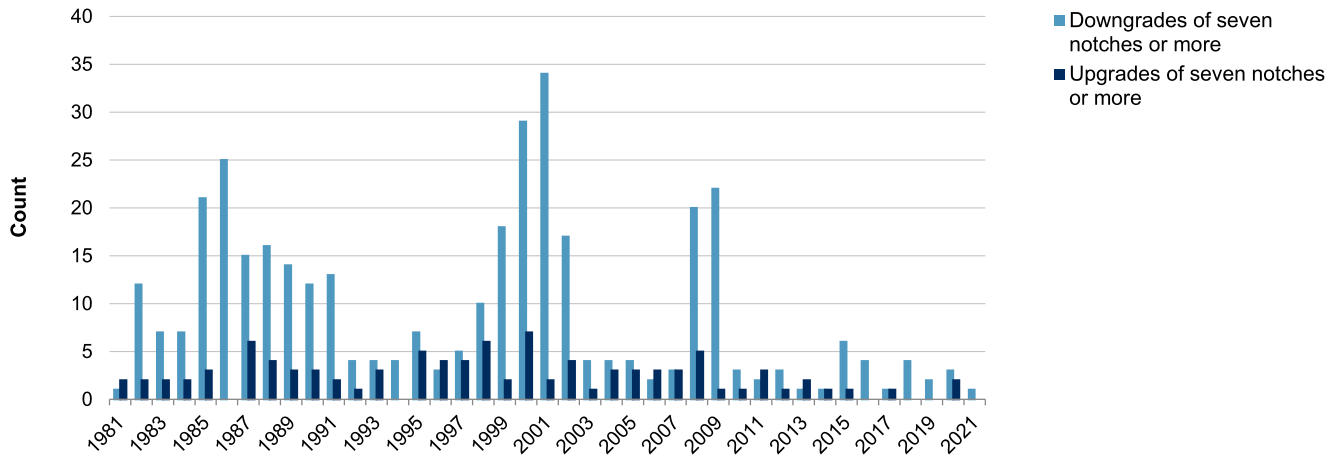
Note: This table compares the net change in ratings from the first to the last day of each year. All intermediate ratings are disregarded. *Excludes downgrades to 'D', shown separately in the default column. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Large rating actions remain infrequent

Consistent with the decrease in the overall proportion of downgrades during the year, the number of large rating changes (which we define as those of seven notches or more) was limited to one in 2021 (see chart 9). For these counts of large downgrades, we include movements to 'D' (default) along with what we normally report as downgrades (that is, downward movements between active ratings). The lone large downgrade was for a confidentially rated financial institution from Europe, which fell to 'D' directly from 'B+'.

Chart 9

Count Of Global Corporate Issuers With Large Rating Moves



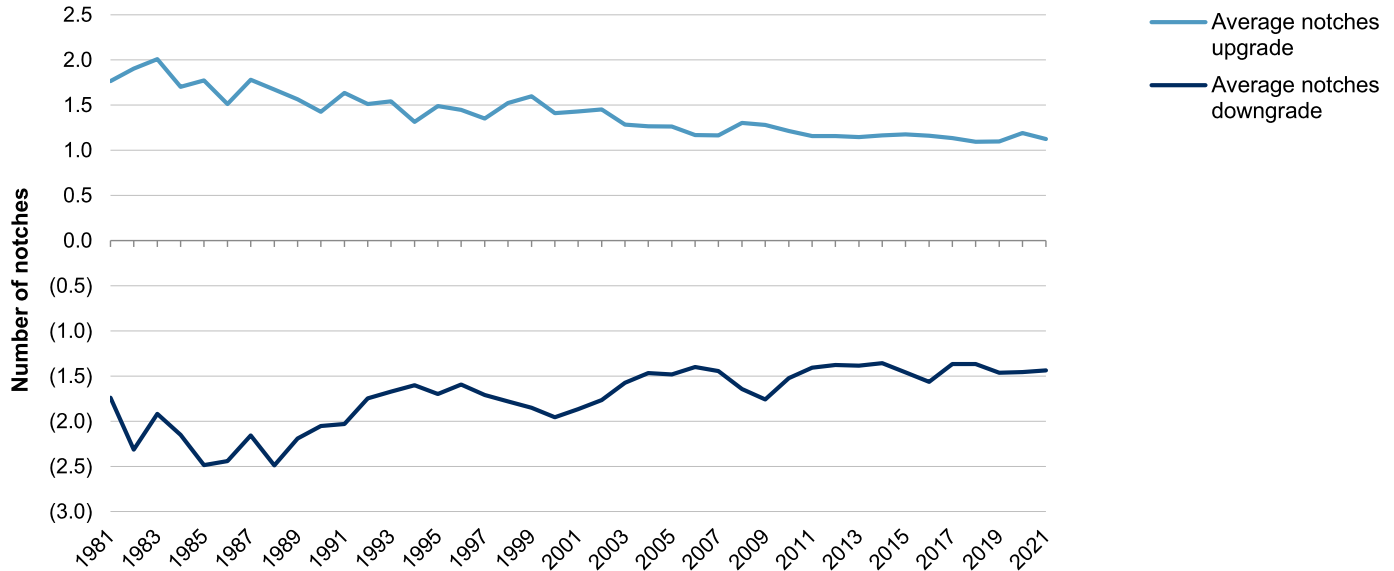
Large rating moves defined as upgrades or downgrades of seven notches or more. Downgrades include movements to default. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

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Companies that experience large downgrades are often outliers, especially in years of high credit stability. The average number of notches for an upgrade dipped to 1.12 in 2021 from 1.19 in 2020, while downgrades reached an average of 1.44 notches--only a fractional difference from 1.46 notches in 2020 (see chart 10).

Chart 10

Average Notch Movements Among Global Rating Actions



Long-term average based on data for 1981-2021. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®. Copyright © 2022 by Standard & Poor's Financial Services LLC. All rights reserved.

Annual speculative-grade default rates decreased in all major regions in 2021 relative to 2020. All four major regions saw speculative-grade default rates below 2%--a first since 2006 and only the second time ever--and all these default rates fell below their long-term annual averages (see table 7 and chart 23).

Table 7

Annual Corporate Speculative-Grade Default Rates By Geographic Region

(%)

Year	U.S. and tax havens*	Europe§	Emerging and frontier markets	Other developed†
1981	0.63	0.00	N.A.	0.00
1982	4.49	0.00	N.A.	0.00
1983	3.02	0.00	N.A.	0.00
1984	3.37	0.00	0.00	0.00
1985	4.47	0.00	N.A.	0.00
1986	5.84	0.00	N.A.	0.00
1987	2.87	0.00	N.A.	0.00
1988	3.93	0.00	N.A.	0.00

Table 7

Annual Corporate Speculative-Grade Default Rates By Geographic Region (cont.)

(%)

Year	U.S. and tax havens*	Europe§	Emerging and frontier markets	Other developed†
1989	4.36	0.00	N.A.	37.50
1990	7.94	0.00	N.A.	28.57
1991	10.73	50.00	N.A.	25.00
1992	6.27	0.00	N.A.	0.00
1993	2.41	20.00	0.00	0.00
1994	2.22	0.00	0.00	0.00
1995	3.66	9.09	0.00	0.00
1996	1.86	0.00	0.00	2.70
1997	2.18	0.00	0.00	1.92
1998	3.26	0.00	8.72	1.22
1999	5.25	6.32	8.72	4.55
2000	7.38	2.56	2.40	5.61
2001	10.55	8.46	6.79	11.43
2002	7.25	12.59	17.04	5.22
2003	5.60	3.73	3.79	4.31
2004	2.45	1.61	0.82	1.84
2005	2.02	0.95	0.24	1.20
2006	1.38	1.80	0.43	0.68
2007	1.02	0.96	0.20	2.05
2008	4.31	2.49	2.17	4.17
2009	11.82	8.08	6.08	8.89
2010	3.48	1.02	1.54	7.20
2011	2.16	1.58	0.76	3.32
2012	2.66	2.23	2.33	3.31
2013	2.19	2.89	1.95	2.67
2014	1.61	0.97	1.30	2.10
2015	2.87	2.11	3.66	2.72
2016	5.21	1.95	3.63	4.20
2017	3.09	2.59	1.03	2.61
2018	2.42	1.95	1.23	2.65
2019	3.11	2.23	1.96	0.72
2020	6.66	5.34	3.19	4.35
2021	1.54	1.80	1.85	1.54
Average	4.14	2.93	3.15	3.58
Median	3.26	2.03	1.96	2.71

Table 7

Annual Corporate Speculative-Grade Default Rates By Geographic Region (cont.)

(%)

Year	U.S. and tax havens*	Europe§	Emerging and frontier markets	Other developed†
Standard deviation	2.67	2.96	3.76	2.52
Minimum	0.63	0.00	0.00	0.68
Maximum	11.82	12.59	17.04	11.43

Descriptive statistics for regions other than U.S. calculated from 1996 to 2021 due to sample size considerations. *U.S., Bermuda, and Cayman Islands. §Austria, Belgium, British Virgin Islands, Bulgaria, Channel Islands, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Gibraltar, Greece, Guernsey, Hungary, Iceland, Ireland, Isle of Man, Italy, Jersey, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, and U.K. †Australia, Brunei Darussalam, Canada, Israel, Japan, Republic of Korea, New Zealand, and Singapore. N.A.--Not available. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

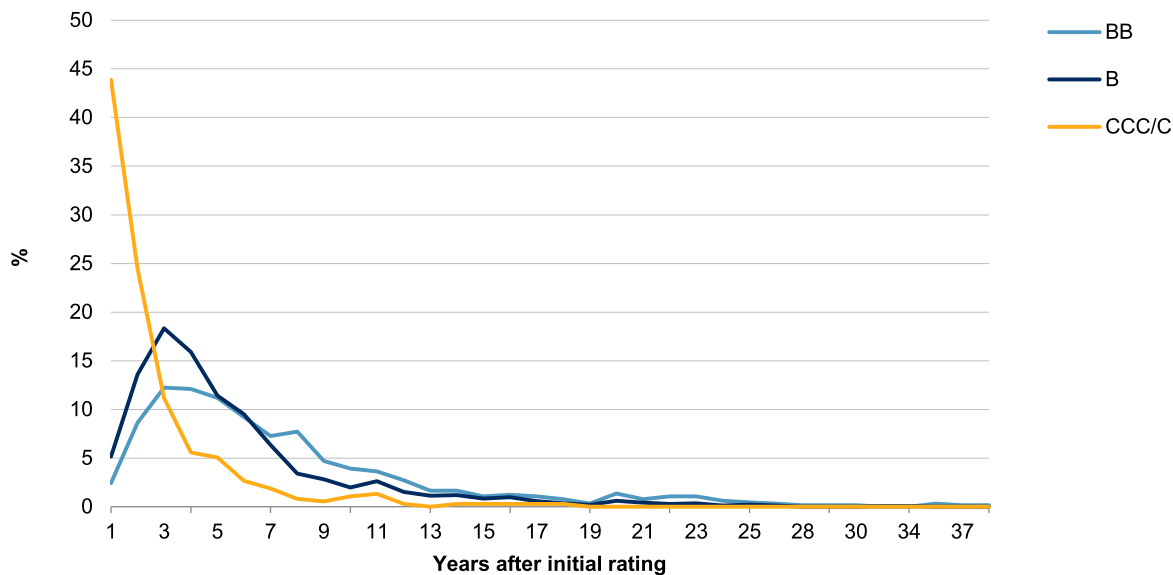
Lower ratings dominate the road to default

Our data on defaulted corporate issuers globally shows 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 11). For example, among defaulters that we rated 'B' at origination, the default rate climbs to a high of 18.3% in the third year and decelerates thereafter.

Defaulted issuers initially rated 'BB' show a similar pattern but peak at a lower rate and over a more drawn-out period, from three to five years after origination. Defaulters initially rated 'CCC' show the reverse pattern, with the highest default rate observed in the first year, which is not surprising given the low rating and S&P Global Ratings' associated criteria (see "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings," Oct. 1, 2012).

Chart 11

Tracking Global Corporate Default Rates From Initial Rating Category



Data based on universe of defaulters from 1981 to 2021. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

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In 2021, 69 of the 72 total defaults, or 96%, were from companies originally rated speculative-grade--nearly 8 percentage points higher than the long-term average of 88.5%. In years with lower-than-average default rates, often more than 90% of defaulters were initially rated speculative-grade, as reflected in the rating path observed for defaulters in the trailing 12 quarters (see chart 12). The median rating for all recently defaulted entities was solidly in the speculative-grade category in the seven years preceding default, and for most of that period, it was at least one notch below the long-term equivalent.

Financial services companies are typically more sensitive to sudden declines in investor and stakeholder confidence than nonfinancial companies, which can contribute to a rapid decline in funding liquidity and credit quality. In turn, this can result in a relatively fast descent into default (see chart 13). This was especially evident during the global financial crisis, when many highly rated banks defaulted within a short time after initial downgrades.

Over the long term (since 1981), financial services defaulters show a 'BB+' median rating five years prior to default. But over the past three years--now that more than a decade has passed since the financial crisis of 2008-2009--financial services defaulters show a median rating in the 'B' category five years prior to default.

Historically, nonfinancial defaulters tend to have a much smoother and shorter path to default (see chart 14). One key reason is that financial services companies typically start with investment-grade ratings, while most nonfinancial issuers have started with speculative-grade ratings, particularly over the past 10 years.

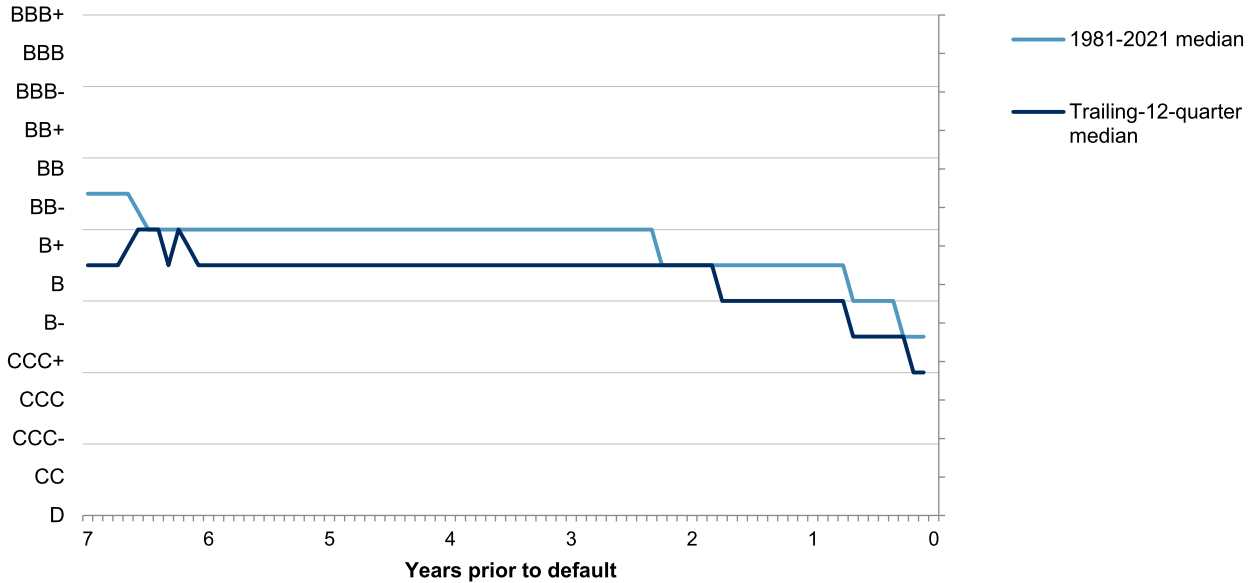
A major difference between financial and nonfinancial companies is the incidence of default.

Default, Transition, and Recovery: 2021 Annual Global Corporate Default And Rating Transition Study

Defaults are much less frequent for financial services companies than for nonfinancials, which can allow outliers to bias the averages. For instance, in the three years ended Dec. 31, 2021, 397 nonfinancial companies defaulted, while only 19 financials did. For both broad categories over the past three years, all of these defaulters were rated in the lowest rating categories several years ahead of their eventual default.

Chart 12

Median Rating Path Of Corporate Defaulters

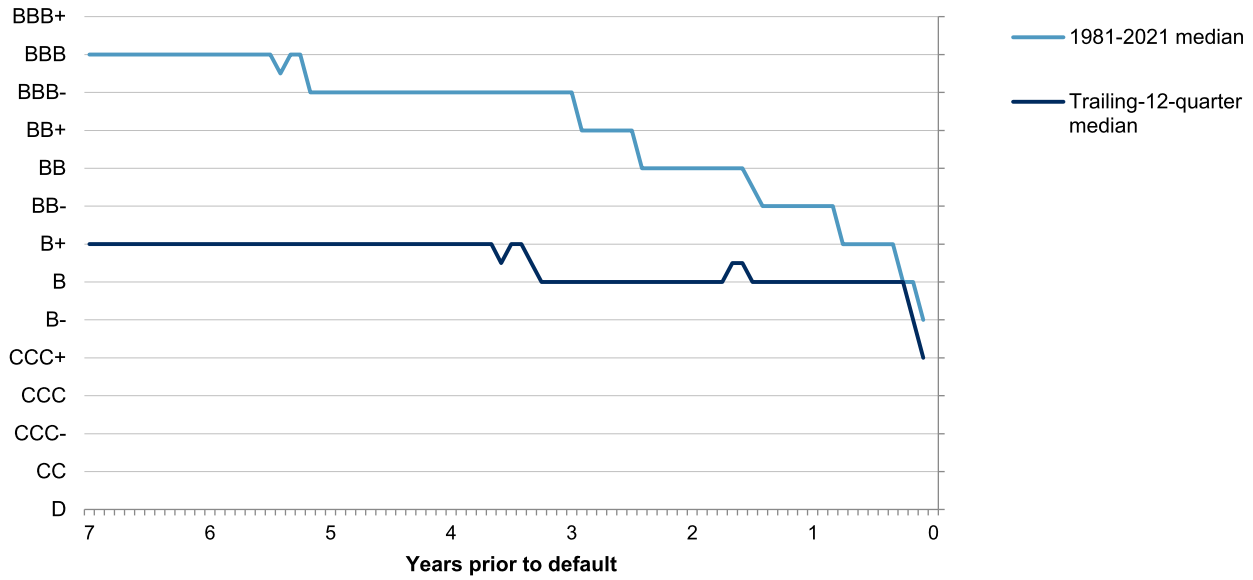


Does not include rating changes to not rated (NR). Data through Dec. 31, 2021. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

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Chart 13

Median Rating Path Of Financial Defaulters

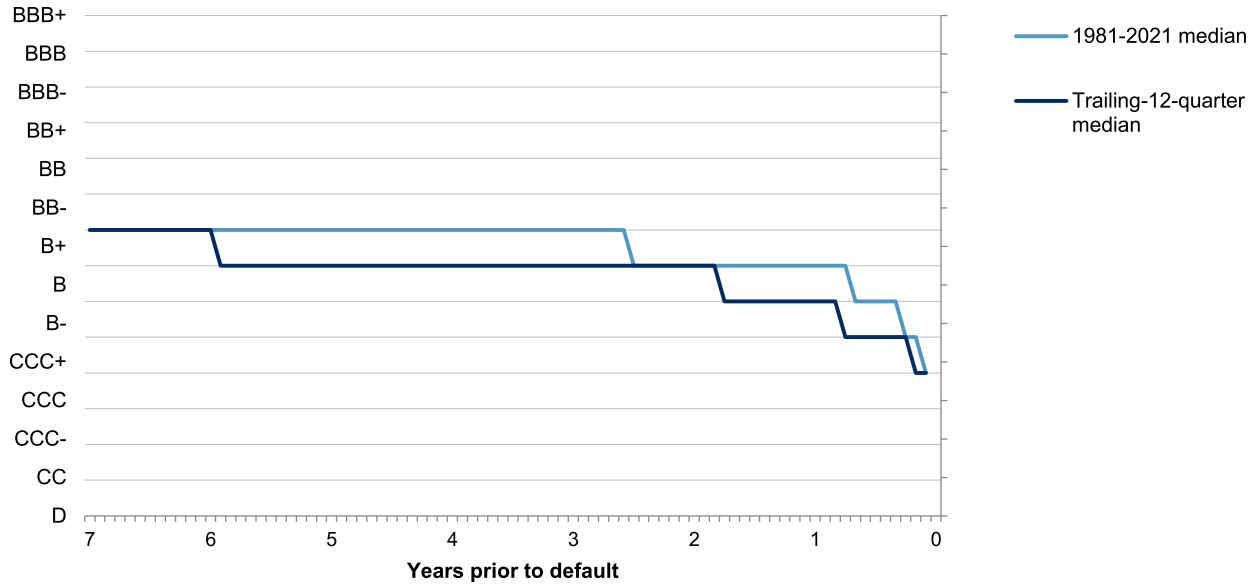


Does not include rating changes to not rated (NR). Financial sector includes insurance companies and financial institutions. Data through Dec. 31, 2021. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

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Chart 14

Median Rating Path Of Nonfinancial Defaulters



Does not include rating changes to not rated (NR). Data through Dec. 31, 2021. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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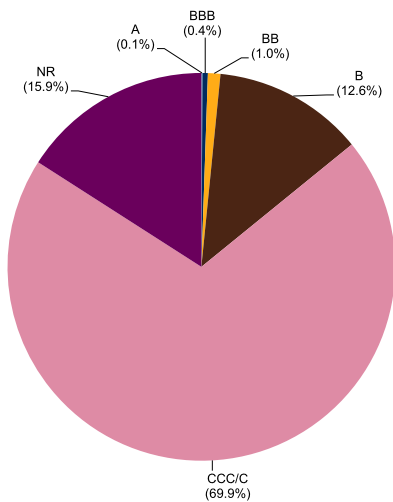
Some issuers default after S&P Global Ratings no longer rates them. We make our best effort to capture such defaults in the database, and we include an entity in the annual default rate calculations if it was rated as of Jan. 1 in the year of default. If, however, S&P Global Ratings withdrew the rating prior to Jan. 1 of the year of default, we do not include the issuer in the default rate calculation in that year. Although defaulters that are not rated (NR) are not always captured in the default rate calculations for the year of default, we do capture them in the longer-term cumulative default rate statistics, which are tied back to the year in which defaulters were last rated.

Of the defaulted companies in 2021, 5.6% were unrated just prior to default, which is well below the long-term percentage of 15.9% (see chart 15). All of the defaulters in 2021 with active ratings immediately prior to default were rated in the lowest rating categories. Specifically, 91.7% were rated 'CCC+' or lower just prior to default, which is much higher than the 69.9% long-term average.

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Chart 15a

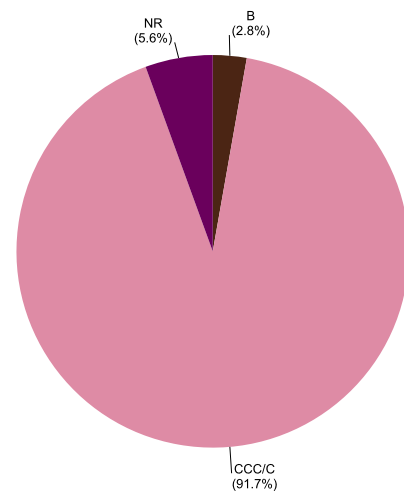
Default Distribution By Rating Prior To 'D' (1981-2021)



NR--Not rated. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®. Copyright © 2022 by Standard & Poor's Financial Services LLC. All rights reserved.

Chart 15b

Default Distribution By Rating Prior To 'D' (2021)



NR--Not rated. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®. Copyright © 2022 by Standard & Poor's Financial Services LLC. All rights reserved.

Table 8 provides a list of all the publicly rated companies that defaulted in 2021. For additional details on the 2021 defaulters, see Appendix III.

Table 8

2021 Global Publicly Rated Corporate Defaults

Company name	Reason for default	Country	Industry	Debt amount outstanding (mil. \$)	Default date	Rating 1 year prior to default	Rating 3 years prior to default	First rating	Date of first rating
HGIM Corp.	Distressed exchange	U.S.	Energy and natural resources	350.0	1/5/2021	B-	-	B-	7/31/2018
Promotora de Informaciones S.A.	Distressed exchange	Spain	Leisure time/media	0.0	1/6/2021	B	-	B-	9/28/2018
Riverbed Parent Inc.	Distressed exchange	U.S.	High tech/computers/office equipment	1,672.0	1/8/2021	CCC+	B	B	2/23/2017
Burger BossCo Intermediate Inc.	Distressed exchange	U.S.	Consumer/service	217.5	1/8/2021	CCC	-	CCC	9/5/2019
AMC Entertainment Holdings Inc.	Distressed exchange	U.S.	Leisure time/media	6,741.0	1/21/2021	-	-	CCC+	8/7/2020
Imagine Group LLC (The)	Distressed exchange	U.S.	Leisure time/media	554.0	1/27/2021	CCC	B	B	2/19/2016
Awesome Acquisition Co. L.P.	Chapter 11	U.S.	Consumer/service	0.0	1/25/2021	NR	NR	B-	5/17/2007
Alpha Media LLC	Chapter 11	U.S.	Leisure time/media	0.0	1/25/2021	NR	B-	B	10/20/2015
Belk Inc.	Missed principal/interest	U.S.	Consumer/service	1,057.6	2/2/2021	CCC	B-	B+	10/27/2015
Peabody Energy Corp.	Distressed exchange	U.S.	Energy and natural resources	2,858.0	2/3/2021	B+	B+	B+	5/10/2017

Default, Transition, and Recovery: 2021 Annual Global Corporate Default And Rating Transition Study

Table 8

2021 Global Publicly Rated Corporate Defaults (cont.)

Company name	Reason for default	Country	Industry	Debt amount outstanding (mil. \$)	Default date	Rating 1 year prior to default	Rating 3 years prior to default	First rating	Date of first rating
Vallourec	Missed principal	France	Energy and natural resources	1,758.1	2/11/2021	B-	B	BBB+	11/10/2011
Renfro Corp.	Distressed exchange	U.S.	Consumer/service	240.1	2/19/2021	-	-	CCC-	7/23/2020
Form Technologies LLC	Distressed exchange	U.S.	Aerospace/automotive/capital goods/metals	2,118.0	2/22/2021	B-	B	B	7/20/2011
CatLuxe Sarl	Distressed exchange	Luxembourg	Consumer/service	315.9	2/22/2021	B-	-	B	10/23/2018
YPF S.A.	Distressed exchange	Argentina	Energy and natural resources	2,900.0	2/26/2021	B-	B+	BBB-	5/3/1995
Sunshine 100 China Holdings Ltd.	Distressed exchange	Cayman Islands	Real estate	0.0	3/2/2021	CCC+	CCC+	B	7/18/2014
HighPoint Resources Corp.	Chapter 11	U.S.	Energy and natural resources	675.0	3/16/2021	B	B-	B-	6/9/2016
Ensign Drilling Inc.	Distressed exchange	Canada	Energy and natural resources	700.0	3/16/2021	BB-	-	BB-	4/1/2019
Washington Prime Group Inc.	Missed interest	U.S.	Real estate	2,090.0	3/17/2021	BB-	BBB-	BBB	4/21/2014
Al Mistral Holdco Ltd.	Distressed exchange	U.K.	Transportation	687.5	3/23/2021	B-	B	B	6/9/2017
Avation PLC	Distressed exchange	U.K.	Transportation	350.0	3/26/2021	BB-	B+	B	5/20/2015
YPF Energia Electrica S.A.	Distressed exchange	Argentina	Utility	400.0	4/13/2021	B-	-	B	7/17/2019
Ion Geophysical Corp.	Distressed exchange	U.S.	Energy and natural resources	120.6	4/14/2021	CCC+	CCC+	CCC+	10/6/2016
Summit Midstream Partners L.P.	Distressed exchange	U.S.	Energy and natural resources	800.0	4/15/2021	-	-	CCC+	1/13/2021
Basic Energy Services Inc.	Missed interest	U.S.	Energy and natural resources	300.0	4/16/2021	CCC+	B	B	3/5/2018
Serta Simmons Bedding LLC	Distressed exchange	U.S.	Consumer/service	3,451.0	4/19/2021	-	-	CCC+	7/6/2020
Medical Depot Holdings Inc.	Distressed exchange	U.S.	Health care/chemicals	292.0	4/19/2021	CCC+	-	CCC+	10/15/2019
Isagenix Worldwide Inc.	Distressed exchange	U.S.	Consumer/service	415.0	4/23/2021	CCC	-	B+	7/2/2018
Maxcom Telecomunicaciones S.A.B. de C.V.	Missed interest	Mexico	Telecommunications	56.9	4/27/2021	CCC+	-	CCC+	12/10/2019
Future Retail Ltd.	Distressed exchange	India	Consumer/service	500.0	4/28/2021	-	-	CCC-	9/15/2020
Codere S.A.	Distressed exchange	Spain	Leisure time/media	1,202.5	4/30/2021	-	-	CCC	11/6/2020

Default, Transition, and Recovery: 2021 Annual Global Corporate Default And Rating Transition Study

Table 8

2021 Global Publicly Rated Corporate Defaults (cont.)

Company name	Reason for default	Country	Industry	Debt amount outstanding (mil. \$)	Default date	Rating 1 year prior to default	Rating 3 years prior to default	First rating	Date of first rating
gategroup Holding AG	Distressed exchange	Switzerland	Transportation	0.0	5/10/2021	B	B-	BB	2/28/2012
Voyager Aviation Holdings LLC	Distressed exchange	U.S.	Transportation	500.0	5/10/2021	B	-	B+	7/23/2018
CDRH Parent Inc.	Distressed exchange	U.S.	Health care/chemicals	877.5	5/14/2021	-	-	CCC-	12/17/2020
Boart Longyear Ltd.	Foreign bankruptcy	Australia	Energy and natural resources	488.0	5/19/2021	-	-	CCC+	7/1/2020
Peabody Energy Corp.*	Distressed exchange	U.S.	Energy and natural resources	1,918.0	6/3/2021	-	-	CCC+	2/8/2021
Carlson Travel Inc.	Missed interest	U.S.	Leisure time/media	1,309.4	6/23/2021	CCC	B-	B	12/5/2016
GTT Communications Inc.	Missed interest	U.S.	Telecommunications	3,874.3	7/1/2021	CCC+	B	B+	10/1/2015
KCIBT Holdings L.P.	Distressed exchange	U.S.	Consumer/service	590.0	7/8/2021	-	-	CCC	8/26/2020
Joye Media SLU	Missed interest	Spain	Leisure time/media	1,091.0	7/9/2021	B-	-	BB-	10/10/2018
Peabody Energy Corp.*	Distressed exchange	U.S.	Energy and natural resources	1,918.0	7/12/2021	-	-	CCC	6/9/2021
Sichuan Languang Development Co. Ltd.	Missed principal	China	Forest and building products/homebuilders	0.0	7/13/2021	B+	B+	B+	6/5/2018
Alpha Holding S.A. de C.V.	Missed interest	Mexico	Financial institutions	300.0	7/20/2021	B-	B-	B-	12/5/2017
Glass Mountain Pipeline LLC	Missed interest	U.S.	Energy and natural resources	30.0	8/9/2021	CCC	B	B	12/4/2017
Sunshine 100 China Holdings Ltd.*	Distressed exchange	Cayman Islands	Real estate	0.0	8/11/2021	-	-	CCC-	3/4/2021
CLISA-Compania Latinoamericana de Infraestructura & Servicios S.A.	Distressed exchange	Argentina	Aerospace/automotive/capital goods/metals	905.0	8/13/2021	CCC	B-	B-	11/15/2006
Array Marketing Canada Inc.	Distressed exchange	Canada	Consumer/service	355.0	9/21/2021	CCC	B	B	1/23/2017
IPC Corp.	Distressed exchange	U.S.	Telecommunications	305.0	10/4/2021	CCC	-	CCC+	11/26/2019
Fantasia Holdings Group Co. Ltd.	Missed principal	Cayman Islands	Real estate	1,950.0	10/5/2021	B	B	BB-	4/28/2010
Sinic Holdings (Group) Co. Ltd.	Missed principal/interest	Cayman Islands	Forest and building products/homebuilders	0.0	10/19/2021	B	-	B	6/10/2020
Exela Technologies Inc.	Distressed exchange	U.S.	Consumer/service	1,496.3	11/2/2021	CCC-	B	B	6/28/2017

Default, Transition, and Recovery: 2021 Annual Global Corporate Default And Rating Transition Study

Table 8

2021 Global Publicly Rated Corporate Defaults (cont.)

Company name	Reason for default	Country	Industry	Debt amount outstanding (mil. \$)	Default date	Rating 1 year prior to default	Rating 3 years prior to default	First rating	Date of first rating
Investimentos e Participacoes em Infraestrutura S.A. - Invepar	Distressed exchange	Brazil	Transportation	0.0	11/11/2021	CCC-	BB-	BB	12/5/2013
Riverbed Parent Inc.*	Distressed exchange	U.S.	High tech/computers/office equipment	1,672.0	11/17/2021	-	-	CCC+	1/26/2021
China Aoyuan Group Ltd.	Missed principal	Cayman Islands	Real estate	935.0	12/6/2021	B+	B+	B	1/10/2014
Serba Dinamik Holdings Bhd.	Missed interest	Malaysia	Energy and natural resources	0.0	12/9/2021	B+	-	BB-	6/4/2019
China Evergrande Group	Missed interest	Cayman Islands	Real estate	11,025.4	12/17/2021	B+	B+	BB	1/10/2010
Total				64,362.6					

Note: This total does not match table 1's because it excludes confidentially rated defaults. *Initial ratings for these companies are those immediately following a prior default in 2021. Initial ratings, or those as of Dec. 31, 1980. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 9

One-Year 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	0.34	0.00	0.00	0.70	0.00	0.00	2.86	7.04	2.22	2.33	8.33	21.43
1983	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37	2.17	0.00	1.59	1.25	10.00	5.26	6.67
1984	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	0.00	0.00	1.64	1.49	2.17	3.57	8.33	25.00
1985	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	1.49	1.37	2.63	13.11	8.33	15.38
1986	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.00	0.79	0.00	1.82	1.19	1.16	4.73	12.16	17.07	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	0.84	1.33	5.95	6.98	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	2.34	2.02	4.50	10.00	20.37
1989	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.90	0.80	0.00	0.00	0.00	2.04	0.43	7.80	5.00	33.33
1990	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00	1.10	2.82	3.06	4.50	4.89	12.26	22.58	31.25
1991	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.75	0.00	3.77	1.12	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	1.96	0.00	1.30	5.88	4.17	13.33
1994	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00	1.84	6.67	3.13	16.67
1995	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	1.57	1.12	2.77	8.08	7.50	28.00
1996	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.56	2.37	3.74	3.85	8.00
1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.35	0.00	0.00	0.00	0.41	0.72	5.34	14.58	12.00
1998	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	1.06	0.67	1.06	0.73	2.61	7.56	9.46	42.86

Table 9

One-Year Global Corporate Default Rates By Rating Modifier (cont.)

(%)	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC/C
1999	0.00	0.00	0.00	0.36	0.00	0.25	0.28	0.00	0.28	0.31	0.55	1.34	0.91	4.24	10.45	15.60	33.82
2000	0.00	0.00	0.00	0.00	0.00	0.24	0.58	0.00	0.26	0.89	0.00	0.82	2.08	5.83	10.08	11.61	35.96
2001	0.00	0.00	0.00	0.00	0.57	0.25	0.00	0.24	0.49	0.28	0.52	1.22	5.65	5.63	17.32	22.63	45.45
2002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.88	1.08	1.59	1.79	4.84	3.27	10.23	19.85	44.44
2003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.54	0.51	0.98	0.28	1.73	5.34	9.52	32.93
2004	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.67	0.53	0.46	2.36	2.84	16.30
2005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.38	0.00	0.51	0.79	2.66	2.96	9.09
2006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.50	0.55	0.82	1.57	13.33
2007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.24	0.19	0.00	0.90	15.24
2008	0.00	0.00	0.44	0.41	0.32	0.21	0.60	0.19	0.61	0.72	1.23	0.66	0.68	3.16	3.48	7.63	27.27
2009	0.00	0.00	0.00	0.00	0.30	0.40	0.00	0.42	0.19	1.13	0.00	1.05	0.98	6.02	10.89	17.89	49.46
2010	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.37	0.57	0.00	0.75	2.16	22.83
2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.42	1.29	4.55	16.42
2012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.61	1.45	3.56	27.52
2013	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.77	0.84	4.13	24.67
2014	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	0.19	0.33	2.78	17.51
2015	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.22	1.77	2.05	4.31	26.67
2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.24	0.00	1.10	0.93	2.34	10.78	33.17
2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.42	0.44	2.89	26.67
2018	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	0.96	1.88	27.18
2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	1.18	0.68	3.33	29.76
2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	1.99	1.87	2.12	6.86	47.68
2021	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	1.14	0.26	0.41	10.99
Average	0.00	0.00	0.01	0.02	0.04	0.05	0.07	0.12	0.20	0.24	0.48	0.66	1.18	2.05	5.62	8.50	24.59
Median	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.68	1.33	3.74	6.86	25.00
Standard deviation	0.00	0.00	0.07	0.08	0.13	0.11	0.19	0.28	0.34	0.41	0.87	0.81	1.61	1.98	4.90	7.38	11.86
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	0.44	0.41	0.57	0.40	0.78	1.10	1.45	1.37	3.77	3.06	7.04	8.72	17.32	32.43	49.46

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Quarterly Trends

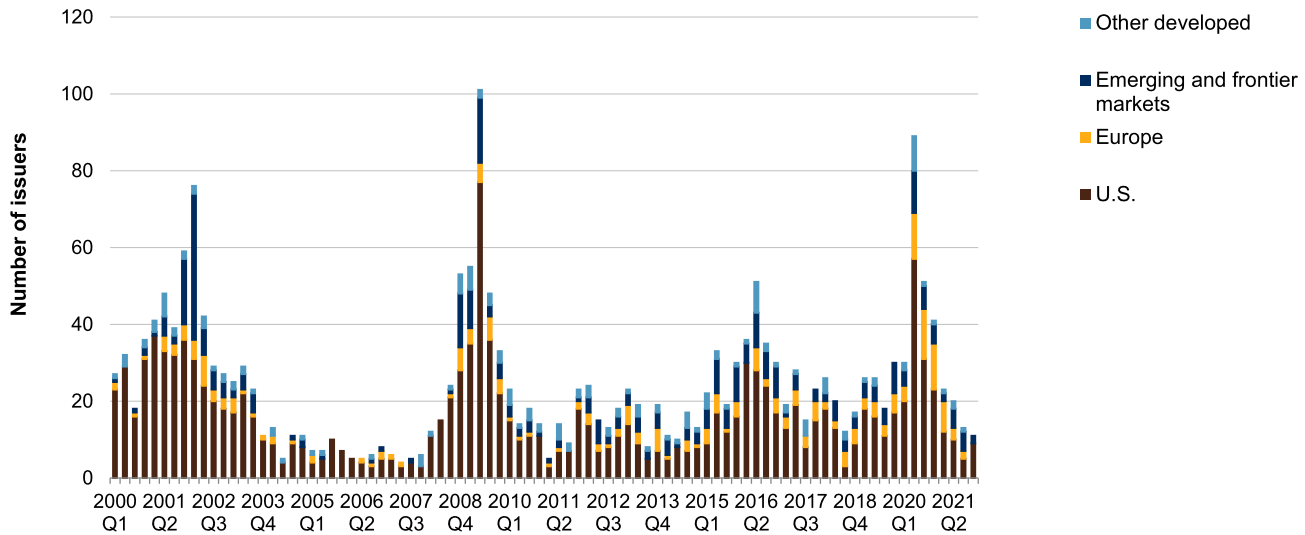
On a year-over-year basis, the number of rated defaults globally was much lower in every quarter of 2021 relative to 2020, and the quarterly pace of defaults consistently declined as the year wore on (see chart 16).

The same pattern generally held true for the debt amounts affected by 2021 defaults (see chart

17). Throughout the year, the U.S. accounted for the majority of the debt, and the largest defaulter in 2021 was Cayman Islands-based homebuilder China Evergrande Group, with \$11 billion outstanding in rated debt at the time of its default. This issuer has far more debt outstanding that we do not rate (see table 5).

Chart 16

Quarterly Corporate Defaults By Number Of Issuers

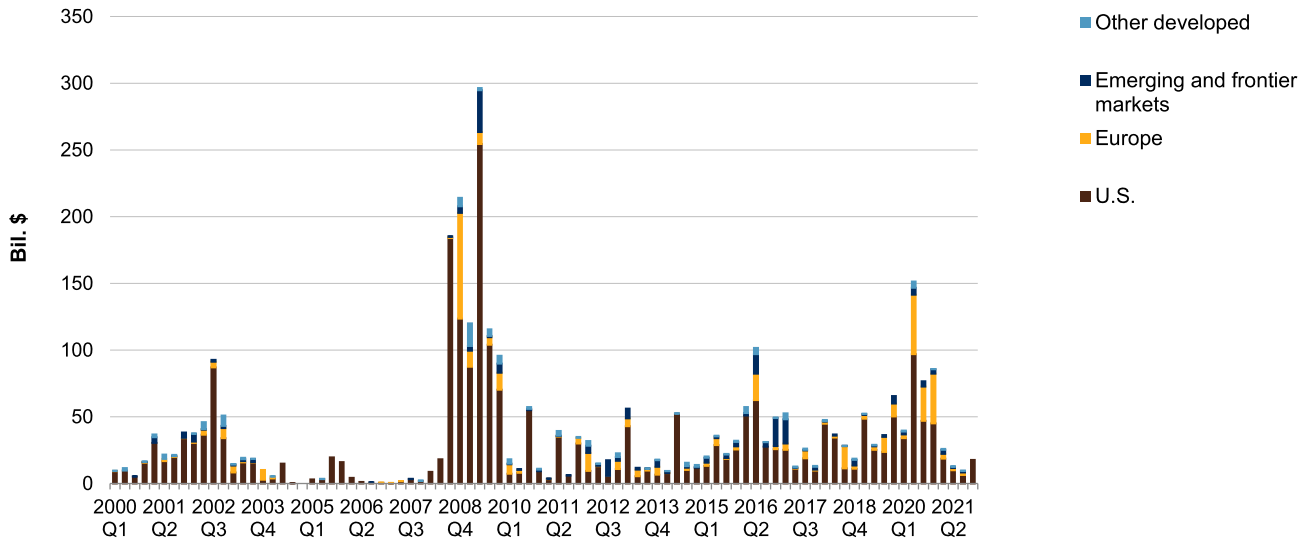


Count excludes defaults that were not rated one quarter prior to default. Other developed--Australia, Brunei Darussalam, Canada, Israel, Japan, Republic of Korea, New Zealand, and Singapore. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

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Chart 17

Quarterly Global Corporate Defaulters' Debt Amounts Outstanding

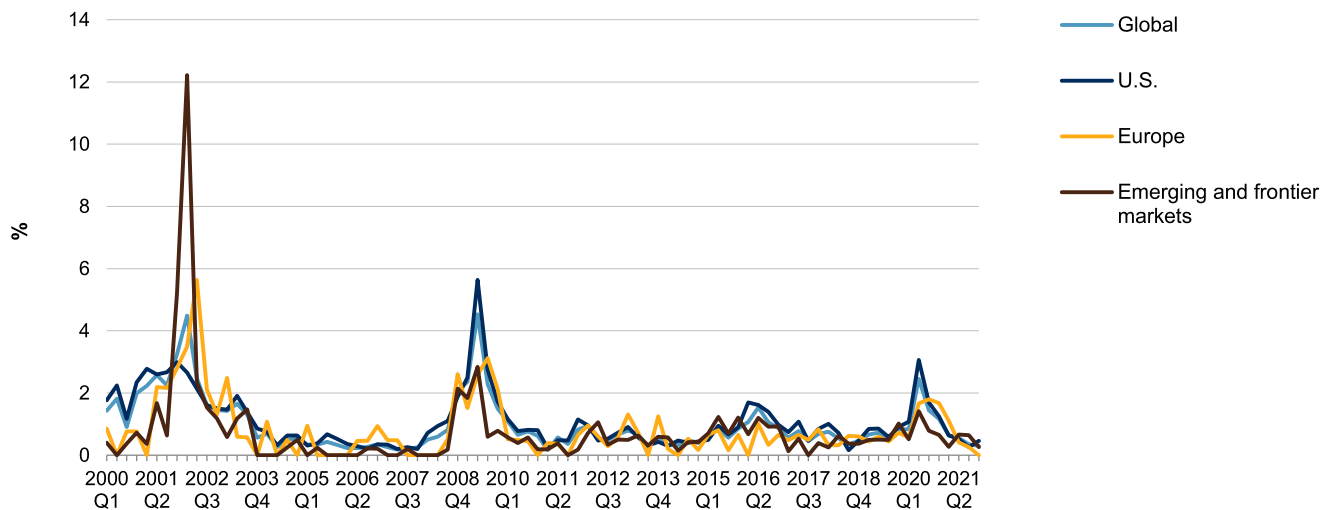


Other developed--Australia, Brunei Darussalam, Canada, Israel, Japan, Republic of Korea, New Zealand, and Singapore. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®. Copyright © 2022 by Standard & Poor's Financial Services LLC. All rights reserved.

The trailing-12-month and annual default rates have become standard measures, but default rates measured over shorter time frames give a more immediate picture of credit market conditions. Based on quarterly intervals of measurement (nonannualized), the default rates in the fourth quarter of 2021 reached their lowest point since the third quarter of 2013 (see chart 18). In fact, 2021 saw some of the lowest default rates in the post-financial-crisis period.

Chart 18

Quarterly Speculative-Grade Default Rates By Region



Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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Lower Ratings Remain Much More Vulnerable To Default

On average, there is a negative correlation between the initial rating on an entity and its time to default, if a default occurs. For example, for the entire pool of defaulters in this study (1981-2021), the average times to default for issuers originally rated in the 'A' and 'B' categories were 14.1 years and 5 years, respectively, from the initial rating (or from Dec. 31, 1980, the start date of the study), whereas issuers in the 'CCC' rating category or lower had an average time to default of only 2.1 years.

In cases where an issuer emerges from a prior default (including distressed exchanges), we consider it a separate entity, and the original rating is the first after the default event. Table 10 displays the medians, averages, and standard deviations for the times to default from the original rating. The differences between each rating category's minimum and maximum times to default are in the last column, under "range." Table 11 presents the average and median times to default from each rating category for all subsequent ratings.

In both cases, the standard deviation of the times to default generally shrinks progressively as the rating gets lower. Broadly speaking, the average and median times to default for each rating category are longer when based on the initial rating than when based on subsequent ratings, particularly for speculative-grade ratings.

Table 10

Time To Default From Original Rating For Global Corporate Defaulters (1981-2021)

Original rating	Defaults	Average years from original rating*	Median years from original rating	Standard deviation of years from original rating	Range
AAA	8	18.0	18.5	11.4	23.0
AA	32	17.4	19.6	10.6	37.8
A	101	14.1	10.9	9.1	37.7
BBB	224	9.3	7.3	6.8	36.1
BB	662	7.1	5.4	5.9	37.8
B	1,767	5.0	3.8	4.3	33.2
CCC/C	376	2.1	1.2	2.7	17.4
Total	3,170	5.9	4.0	5.7	39.4

*Or Dec. 31, 1980, whichever is later. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro® .

Table 11

Time To Default From Post-Original Ratings For Global Corporate Defaulters (1981-2021)

Rating	Average years from rating category	Median years from rating category	Standard deviation of years from rating category
AAA	27.4	27.7	10.0
AA	14.9	15.8	9.4
A	11.5	9.9	8.3
BBB	8.4	6.5	6.9
BB	6.1	4.2	5.8
B	3.3	1.9	3.9
CCC/C	0.9	0.4	1.7
NR	5.2	3.1	5.8
Total	3.4	1.3	4.9

NR--Not rated. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

In line with expectations, the majority of companies that defaulted within one year of the original rating are from the lowest speculative-grade rating categories, 'B' and lower. For example, of the 275 companies that defaulted within 12 months of having been rated, 256 (or 93.1%) were originally in the 'B' or 'CCC'/'C' categories (see table 12).

Only in longer time frames do companies with higher original ratings surface among the defaulters. For example, of all the companies that defaulted during 1981-2021, only two entities rated 'AAA' at inception defaulted within seven years. Throughout the 41-year span, only eight companies initially rated 'AAA' have ever defaulted. These were Macy's Inc., Ally Financial Inc., Ambac Assurance Corp., Mutual Benefit Life Insurance Co., Executive Life Insurance Co. CA, Confederation Life Insurance Co., Motors Liquidation Co. (formerly known as General Motors Corp.), and Eastman Kodak Co.

Table 12

Cumulative Defaulters By Time Horizon Among Global Corporates, From Original Rating (1981-2021)

Defaulting within:	AAA	AA	A	BBB	BB	B	CCC/C	Total
No. of issuers								
1 year	0	0	0	3	16	91	165	275
3 years	0	1	6	29	154	655	299	1,144
5 years	0	3	13	71	308	1,138	339	1,872
7 years	2	6	28	106	417	1,418	356	2,333
Total	8	32	101	224	662	1,767	376	3,170
Percentage of total defaults per time frame (%)								
1 year	0.0	0.0	0.0	1.1	5.8	33.1	60.0	
3 years	0.0	0.1	0.5	2.5	13.5	57.3	26.1	
5 years	0.0	0.2	0.7	3.8	16.5	60.8	18.1	
7 years	0.1	0.3	1.2	4.5	17.9	60.8	15.3	
Total	0.3	1.0	3.2	7.1	20.9	55.7	11.9	

From original rating or Dec. 31, 1980, whichever is later. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 13 shows the cumulative defaults over various time horizons from all ratings received subsequent to initial ratings. Each issuer is likely to be captured multiple times, in line with its migration from one rating to another, so the total count in table 13 is different from that in table 12. For example, 10 companies rated 'A' at any point in their lifetimes (excluding initial ratings) defaulted within one year of receiving this rating.

In table 13, the times to default are from the date that each entity received each unique rating in its path to default. In contrast, table 21 reports transition-to-default rates using the static pool methodology, which calculates movements to default from the beginning of each static pool year. This usually leads to shorter time frames from which to calculate default statistics. Data provided in table 13 also differs from default rates in table 24 owing to the use of the static pool methodology. (For more information on methodologies and definitions, see Appendix I.)

Table 13

Cumulative Defaulters By Time Horizon Among Global Corporates, From Post-Original Ratings (1981-2021)

Defaulting within:	AAA	AA	A	BBB	BB	B	CCC/C	NR	Total
# issuers									
1 year	0	0	10	71	182	1,102	2,940	143	4,448
3 years	0	7	42	148	465	2,224	3,572	336	6,794
5 years	0	9	63	209	652	2,755	3,709	436	7,833
7 years	0	15	78	273	792	3,013	3,762	507	8,440
Total	4	51	221	525	1,180	3,454	3,820	679	9,934

Table 13

Cumulative Defaulters By Time Horizon Among Global Corporates, From Post-Original Ratings (1981-2021) (cont.)

Defaulting within:	AAA	AA	A	BBB	BB	B	CCC/C	NR	Total
# issuers									
Percentage of total defaults per time frame (%)									
1 year	0.0	0.0	0.2	1.6	4.1	24.8	66.1	3.2	
3 years	0.0	0.1	0.6	2.2	6.8	32.7	52.6	4.9	
5 years	0.0	0.1	0.8	2.7	8.3	35.2	47.4	5.6	
7 years	0.0	0.2	0.9	3.2	9.4	35.7	44.6	6.0	
Total	0.0	0.5	2.2	5.3	11.9	34.8	38.5	6.8	

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Defaults arise disproportionately from low rating categories, and this holds true over longer time horizons (see table 14). For example, 359 defaults were recorded in the five-year pool that began in January 2017, and 352 were rated speculative-grade on Jan. 1, 2017. (See table 15 for the seven publicly rated investment-grade defaults during this period.) Lower-rated companies also exhibit lower survival (nondefault) rates over time.

The nonfinancial sector tends to have a much higher share of companies rated speculative-grade, with 61.4% globally as of the beginning of 2021, compared with just 24.5% of financial services companies. However, the speculative-grade share of both the financial and nonfinancial sectors has been growing in recent years. Through Dec. 31, 2021, 60 defaults came from the 2021 pool of rated financial and nonfinancial companies, and all of these were from the lowest rating categories--'B' and lower. Most were nonfinancial companies, and four (three that began the year with active ratings) were financial services issuers.

Table 14

Defaults And Survival Rates In Latest One-Year, Three-Year, And Five-Year Pools

Rating	--Latest one-year--			--Latest three-year--			--Latest five-year--		
	No. of ratings as of Jan. 1, 2021	No. of defaults through December 2021	Nondefault rate (%)	No. of ratings as of Jan. 1, 2019	No. of defaults through December 2021	Nondefault rate (%)	No. of ratings as of Jan. 1, 2017	No. of defaults through December 2021	Nondefault rate (%)
Global									
AAA	8	0	100.0	8	0	100.0	14	0	100.0
AA	290	0	100.0	329	0	100.0	340	0	100.0
A	1,405	0	100.0	1,407	0	100.0	1,370	0	100.0
BBB	1,836	0	100.0	1,869	4	99.8	1,797	7	99.6
BB	1,184	0	100.0	1,332	21	98.4	1,318	24	98.2
B	1,939	10	99.5	2,078	185	91.1	1,801	208	88.5
CCC/C	455	50	89.0	205	106	48.3	240	120	50.0

Table 14

Defaults And Survival Rates In Latest One-Year, Three-Year, And Five-Year Pools (cont.)

Rating	--Latest one-year--			--Latest three-year--			--Latest five-year--		
	No. of ratings as of Jan. 1, 2021	No. of defaults through December 2021	Nondefault rate (%)	No. of ratings as of Jan. 1, 2019	No. of defaults through December 2021	Nondefault rate (%)	No. of ratings as of Jan. 1, 2017	No. of defaults through December 2021	Nondefault rate (%)
Nonfinancials									
AAA	5	0	100.0	5	0	100.0	10	0	100.0
AA	75	0	100.0	100	0	100.0	98	0	100.0
A	600	0	100.0	593	0	100.0	579	0	100.0
BBB	1,242	0	100.0	1,302	4	99.7	1,214	7	99.4
BB	926	0	100.0	1,065	21	98.0	1,032	22	97.9
B	1,695	7	99.6	1,823	175	90.4	1,557	193	87.6
CCC/C	433	50	88.5	193	100	48.2	216	111	48.6
Financials									
AAA	3	0	100.0	3	0	100.0	4	0	100.0
AA	215	0	100.0	229	0	100.0	242	0	100.0
A	805	0	100.0	814	0	100.0	791	0	100.0
BBB	594	0	100.0	567	0	100.0	583	0	100.0
BB	258	0	100.0	267	0	100.0	286	2	99.3
B	244	3	98.8	255	10	96.1	244	15	93.9
CCC/C	22	0	100.0	12	6	50.0	24	9	62.5

These totals may differ from the counts in table 1 because defaults that are not rated at the beginning of the pool year are excluded. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 15

Investment-Grade Defaults In The Five-Year 2017 Static Pool

Company	Country	Industry	Default date	Rating 3 years prior to default		First rating	Date of first rating	Year of default
				Rating 1 year prior to default	Rating 3 years prior to default			
CBL & Associates Properties Inc.	U.S.	Real estate	11/2/2020	B+	BBB-	BBB-	9/15/2015	2020
Distribuidora Internacional de Alimentacion S.A.	Spain	Consumer/service	9/15/2020	CCC	BBB-	BBB-	6/2/2014	2020
Nabors Industries Ltd.	Bermuda	Energy and natural resources	10/30/2020	BB-	BB	BBB	4/11/2013	2020
PG&E Corp.	U.S.	Utilities	1/29/2019	A-	BBB	BBB+	3/10/2009	2019
Pacific Gas & Electric Co.	U.S.	Utilities	1/16/2019	A-	BBB	BBB-	4/16/2004	2019

Table 15

Investment-Grade Defaults In The Five-Year 2017 Static Pool (cont.)

Company	Country	Industry	Default date	Rating 1 year prior to default	Rating 3 years prior to default	First rating	Date of first rating	Year of default
Tupperware Brands Corp.	U.S.	Consumer/service	7/10/2020	BBB-	BBB-	BBB+	6/19/1996	2020
Washington Prime Group Inc.	U.S.	Real estate	3/17/2021	BB-	BBB-	BBB	4/21/2014	2021

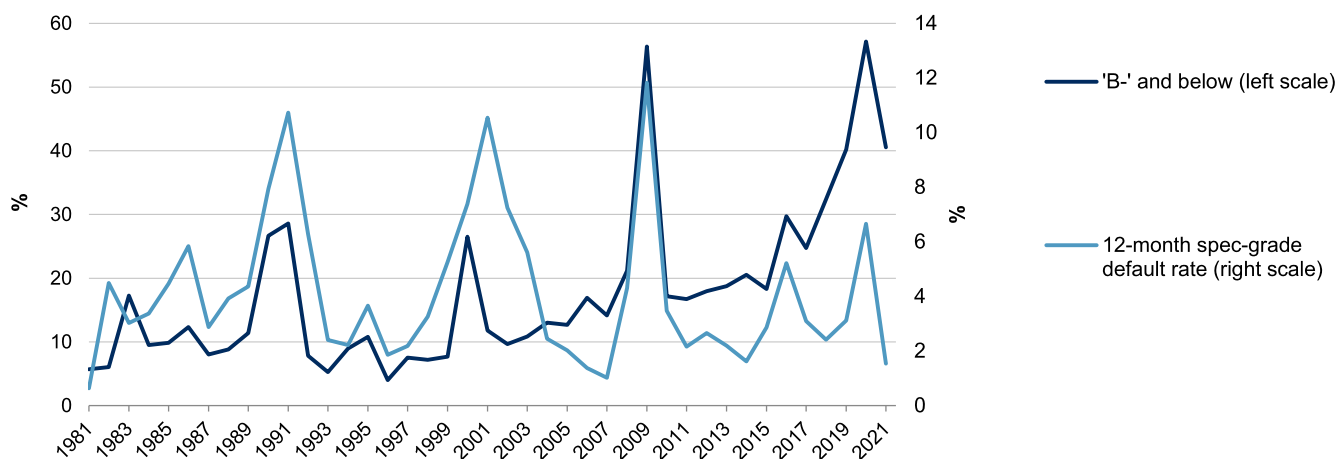
Excludes confidentially rated defaults. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Since 1981, the 'B' rating category has accounted for 1,767 defaults (55.7% of the total from initial rating), well more than double the number of defaults from the 'BB' category (see tables 10 and 12). Given this track record, monitoring the trends of newly assigned ratings could prove useful in anticipating future default activity, based on the observation that years with high numbers of new 'B-' and lower ratings will likely be followed by increased default risk.

As coincident indicators, the proportion of new speculative-grade ratings at 'B-' or lower in the U.S. and the year-end U.S. speculative-grade default rate generally mirror each other throughout most of their shared history (see chart 19). However, in most of the relatively benign period since the financial crisis, the two series have diverged somewhat, as they did in 2004-2007. In 2021, the share of new speculative-grade issuers rated 'B-' or lower fell to 40.5% after hitting an all-time high of 57.1% in 2020. This was still a very high proportion, roughly in line with 2019, making for a three-year period in which the proportion of new issuers at 'B-' or lower has been above 40%.

Chart 19

Speculative-Grade Origination Trends And Default Rate: U.S. And Tax Havens



'B-' and below ratings calculated as a share of total speculative-grade. U.S. and tax havens--U.S., Bermuda, and Cayman Islands. Data through Dec. 31, 2021. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

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Industry Variations: Energy And Consumer Services Lead Defaults For The Seventh Year In A Row

Defaults reached a multiyear low in 2021, with nonfinancial corporates accounting for all but four of the year's defaults (see table 16).

At all horizons, the financial services sector's longer-term default rates were lower in 2021 than long-term averages. This is not surprising at the three- and 10-year horizons, considering the relative stress of the financial crisis has now passed beyond the 10-year time frame.

Investment-grade ratings are proportionately more prevalent among financial services companies as well (relative to nonfinancials). Even at the 10-year horizon, default rates among financial services through 2021 stayed below 3%.

Table 16

Cumulative Global Corporate Default Rates By Sector

(%)

Sector	2021	2020	Average (1981-2021)	Median	Standard deviation	Minimum	Maximum
Financial institutions							
1-year	0.22	0.30	0.64	0.33	0.70	0.00	2.77
3-year	1.05	1.31	1.86	1.31	1.55	0.00	6.46
10-year	2.81	3.03	4.66	4.12	2.48	1.66	10.00
Insurance							
1-year	0.00	0.12	0.48	0.17	0.89	0.00	4.76
3-year	0.25	0.24	1.46	0.91	1.64	0.12	7.14
10-year	0.25	0.61	4.57	4.16	3.25	0.25	14.71
All financials							
1-year	0.14	0.23	0.56	0.41	0.53	0.00	2.06
3-year	0.75	0.89	1.67	1.28	1.16	0.18	4.95
10-year	1.75	2.00	4.60	3.88	2.35	1.75	8.87
All nonfinancials							
1-year	1.15	3.82	1.85	1.46	1.30	0.16	5.72
3-year	5.90	5.78	5.14	4.06	2.77	1.89	12.51
10-year	9.22	8.91	11.28	10.52	3.14	6.96	19.47

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Over the long term, defaults in nonfinancial sectors have tended to be more cyclical than defaults in the financial sectors. While the one-year default rate for nonfinancial companies has climbed above 3.5% in four cyclical peaks (1991, 2001-2002, 2009, and 2020), the annual default rate for financial services has remained below 2% since 1990 and below 1% for the past 12 years (see chart 20).

The higher default rates for nonfinancial sectors are not surprising, given their higher concentration of speculative-grade issuers. Financial services companies are more likely to be initially rated in the investment-grade category, while nonfinancial companies are much more

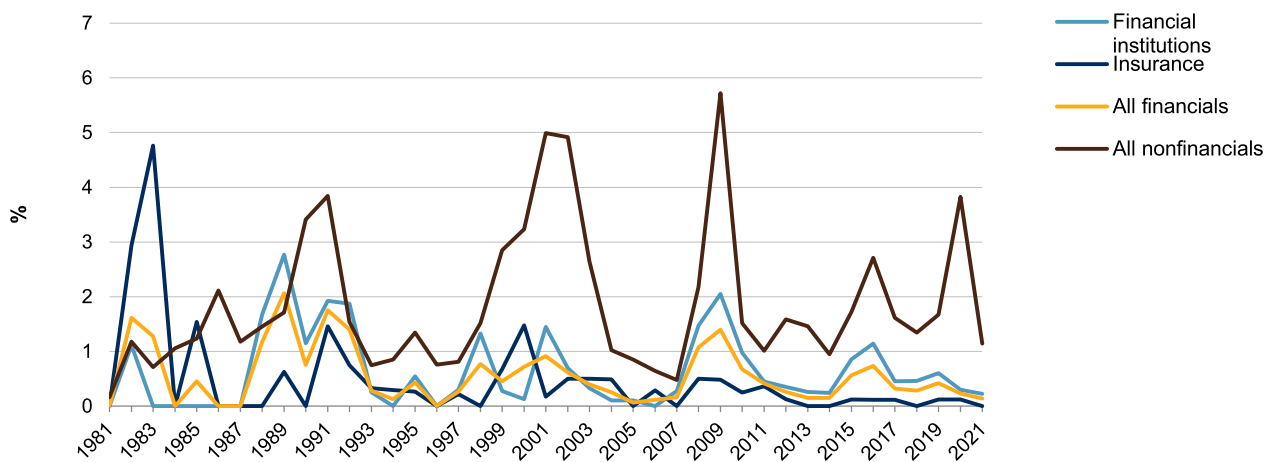
Default, Transition, and Recovery: 2021 Annual Global Corporate Default And Rating Transition Study

likely to initially be rated speculative-grade. Over the 41 years this study covers, 70.2% of financial entities were initially rated investment-grade, compared with only 28.7% of nonfinancial companies. This helps explain the resemblance between the annual default rates of nonfinancial entities and those of the speculative-grade segment as a whole, which certainly contributes to the vast differences between cumulative default rates across financial and nonfinancial sectors (see table 16).

For example, at the end of 2021, the one-year default rate among all financial entities was 0.14%, compared with 1.2% for all nonfinancial entities. The gap becomes even wider over longer time horizons, such as three years and 10 years (see chart 21).

Chart 20

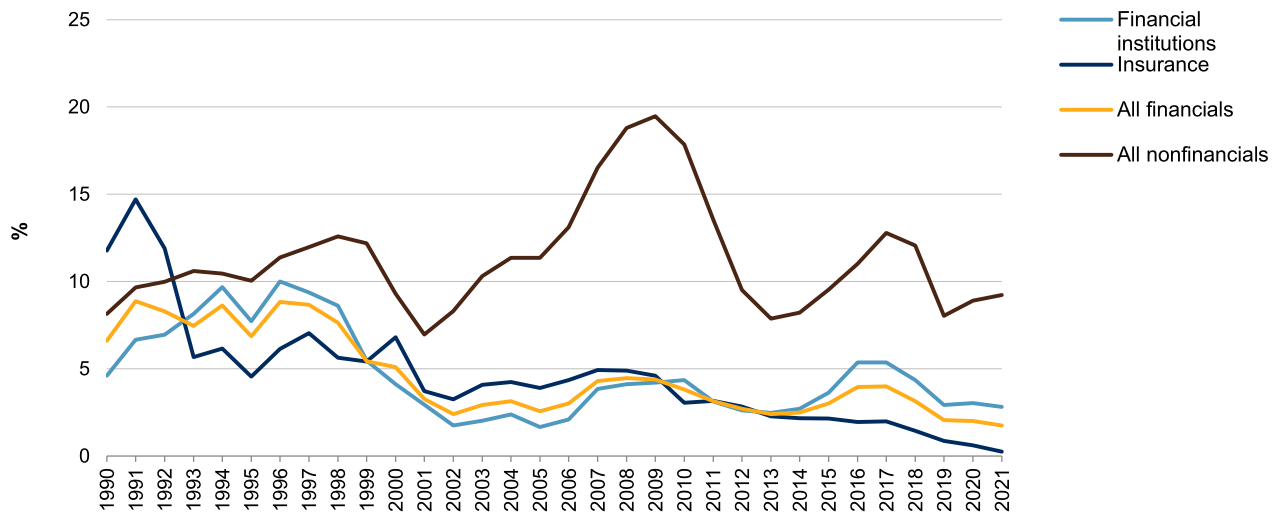
One-Year Default Rates By Broad Sector



Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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Chart 21

10-Year Default Rates By Broad Sector



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A total of 3,170 defaults have been recorded globally since 1981. Over that period, seven sectors have displayed average times to default that are lower than the overall average of 5.9 years: energy and natural resources; financial institutions; health care/chemicals; high technology, computers, and office equipment; leisure time and media; real estate; and telecommunications (see table 17).

Across sectors, the average difference between an industry's median initial rating and the median initial rating of its defaulters was about one notch. The largest gaps were in financial institutions and real estate, which each had a four-notch difference.

Table 17

Time To Default From Original Rating Grouped By Industry

	Median original rating (defaulters)	Median original rating (industry)	Defaults	Average years from original rating*	Median years from original rating	Standard deviation of years from original rating	Range (years)
Aerospace/automotive/Capital goods/metals	B+	BB-	411	6.5	4.5	5.8	36.1
Consumer/service	B+	B+	615	6.7	4.7	6.4	39.3
Energy and natural resources	B	B+	438	4.6	3.3	4.8	35.4
Financial institutions	BB-	BBB	237	5.7	3.7	5.9	28.6
Forest and building products/homebuilders	B+	B+	173	6.5	4.7	5.5	28.2
Health care/chemicals	B+	B+	178	5.8	3.8	5.7	33.7

Table 17

Time To Default From Original Rating Grouped By Industry (cont.)

	Median original rating (defaulters)	Median original rating (industry)	Defaults	Average years from original rating*	Median years from original rating	Standard deviation of years from original rating	Range (years)
High tech/computers/office equipment	B+	B+	105	5.3	3.9	4.7	28.3
Insurance	BBB	A-	77	7.8	6.6	6.3	28.6
Leisure time/media	B	B+	416	5.8	4.0	5.4	34.1
Real estate	B+	BBB-	63	4.4	3.1	3.8	21.4
Telecommunications	B	B+	195	4.0	3.1	3.9	39.1
Transportation	B+	BB	171	6.4	4.2	6.4	36.3
Utility	BB+	BBB+	91	6.6	4.3	6.6	30.4
Total	B+	BB-	3,170	5.9	4.0	5.7	39.4

*Or Dec. 31, 1980, whichever is later. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 18

Time To Default From Post-Original Ratings Grouped By Industry

	Average years to default	Median years to default	Standard deviation of years to default
Aerospace/auto/capital goods/metals	3.7	1.5	5.2
Consumer/service	4.0	1.8	5.6
Energy and natural resources	2.7	1.0	4.2
Financial institutions	3.3	1.1	4.9
Forest and building products/homebuilders	2.9	1.3	4.1
Health care/chemicals	3.2	1.3	4.9
High tech/computers/office equipment	3.9	1.8	5.1
Insurance	3.1	1.7	3.7
Leisure time/media	3.2	1.2	4.5
Real estate	2.3	1.0	3.7
Telecommunications	2.0	0.7	3.9
Transportation	4.5	1.6	6.2
Utility	3.2	0.8	5.1
Total	3.4	1.3	4.9

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Defaults in 2021 came from nearly all sectors, but--consistent with recent years--were heavily represented by two sectors: the energy and natural resources sector (with 14 defaults) and the consumer services sector (with 15 defaults). Only two sectors, energy and natural resources and transportation, had 2021 default rates in excess of 2%, and only real estate and transportation

had default rates in 2021 that were higher than their long-term weighted averages (see table 19).

Table 19

Global Corporate Default Rates By Industry

(%)	2021	2020	Weighted average (1981-2021)	Median	Standard deviation	Minimum	Maximum
Aerospace/automotive/capital goods/metals	0.61	1.54	2.00	1.39	1.95	0.00	9.59
Consumer/service	1.66	6.44	2.42	1.81	1.64	0.00	6.44
Energy and natural resources	2.31	9.74	3.40	1.90	3.05	0.00	14.18
Financial institutions	0.22	0.30	0.62	0.33	0.70	0.00	2.77
Forest and building products/homebuilders	1.13	1.18	2.35	1.41	2.87	0.00	14.87
Health care/chemicals	0.58	2.39	1.39	0.88	1.26	0.00	4.65
High tech/computers/office equipment	0.30	2.08	1.20	1.00	1.48	0.00	5.03
Insurance	0.00	0.12	0.27	0.17	0.89	0.00	4.76
Leisure time/media	1.23	6.36	3.26	2.10	3.17	0.00	16.77
Real estate	1.35	2.28	0.79	0.00	2.63	0.00	12.00
Telecommunications	1.44	2.87	2.48	0.92	3.59	0.00	17.94
Transportation	2.53	3.72	2.02	1.86	1.59	0.00	6.12
Utility	0.16	0.48	0.43	0.17	0.74	0.00	4.43

Includes investment-grade- and speculative-grade-rated entities. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

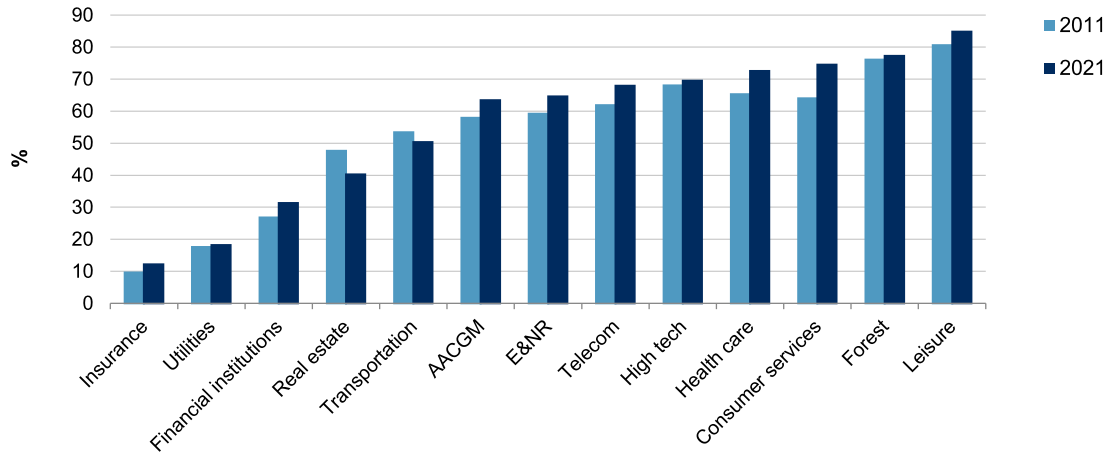
When comparing default rates across sectors, we note some key differences between the industries. Several sectors have had distinct default cycles, such as the high technology/computers/office equipment sector and the telecommunications sector, which both fueled the prolonged spike in defaults during the tech bubble, when the global speculative-grade default rate reached 12.1% in June 2002. Other sectors, such as consumer services, have had more frequent default cycles, both during and between economic cycles.

However, some of the variation in default rates between sectors stems from overall sample size differences, as well as differences in the ratings distribution across industries. For example, leisure and media has a much higher proportion of speculative-grade ratings than financial institutions or insurance (see chart 22).

For the most part, the speculative-grade share of every sector has grown over the past decade, with the exception of the real estate and transportation sectors. Speculative-grade-rated issuers account for more than 60% of total issuers in eight of the 13 industries we track. As has been the case for an extended period, the leisure time and media sector has by far the highest proportion of speculative-grade ratings, with 84.9% of its issuers in this rating category in 2021. Three other sectors' speculative-grade proportions are greater than 70%, and high technology/computers/office equipment reached 69.5% at the end of 2021.

Chart 22

Share Of Speculative-Grade Ratings To Total By Industry



Figures reflect year-end. Leisure--Leisure time/media. High tech--High technology/computers/office equipment. Health care--Health care/chemicals. Forest--Forest and building products/homebuilders. AACGM--Aerospace/automotive/capital goods/metals. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

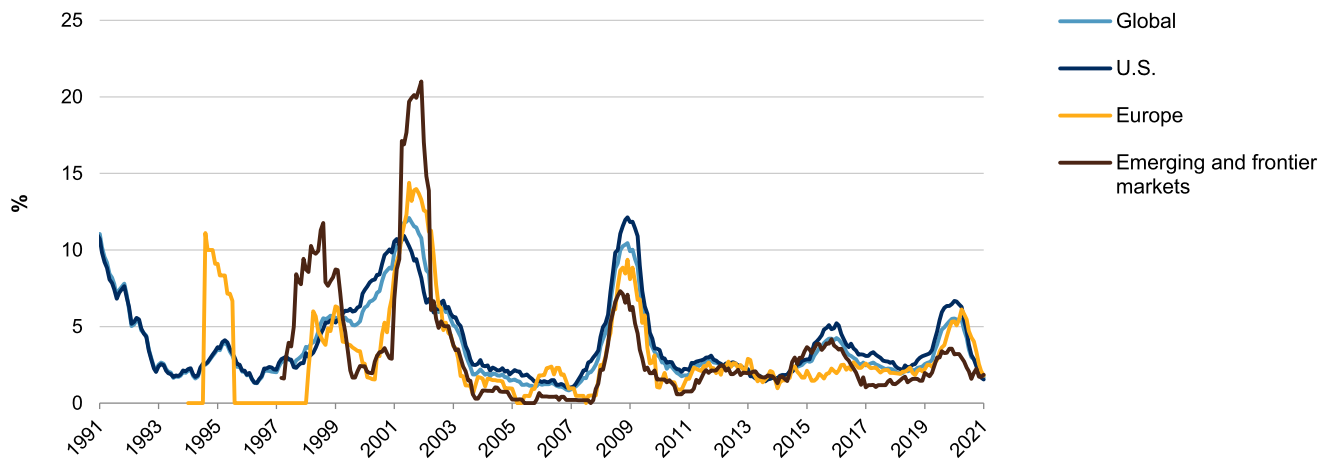
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Speculative-Grade Ratings Represent Half Of Corporate Issuers

Amid the fall in the default rate in 2021 (see chart 23), risk tolerance among lenders remained near the post-financial-crisis high. The share of newly assigned issuer credit ratings that were speculative-grade remained elevated in 2021 at 83%. This was above the 77.4% annual average since 2010.

Chart 23

Trailing-12-Month Speculative-Grade Corporate Default Rate



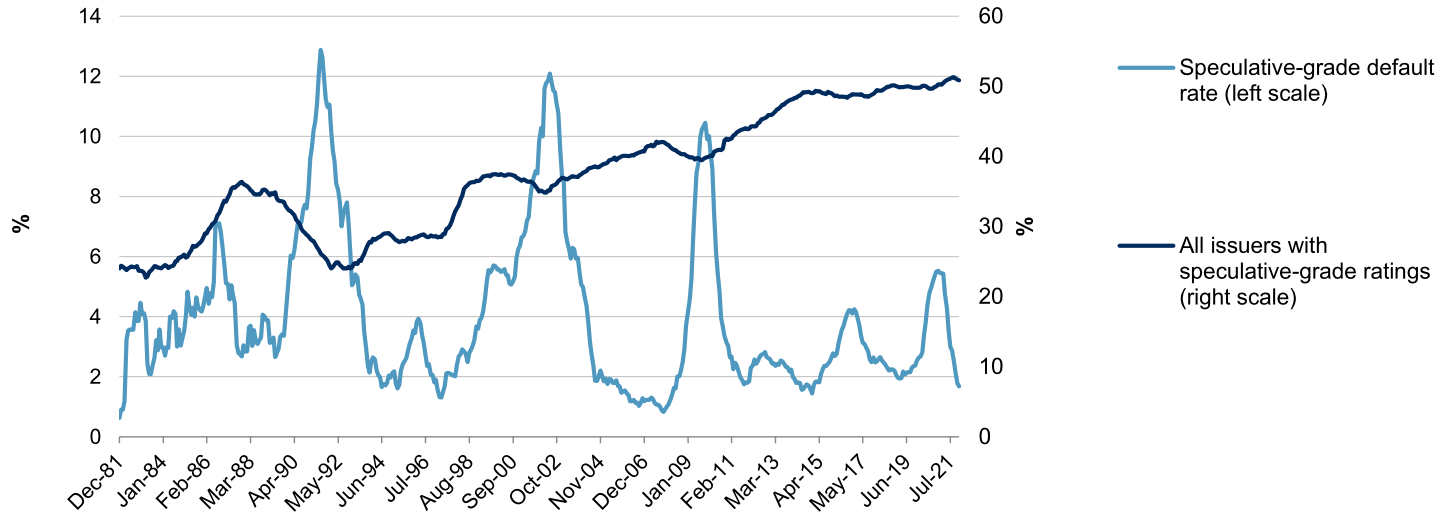
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Globally, speculative-grade issuers constituted 50.9% of rated corporate issuers at the end of 2021, up marginally from 50.3% at the end of 2020 (see chart 24). Speculative-grade issuers have reached a majority before--the first instance in September 2018--but the ratio has largely hovered around 50% since then. The proportion of speculative-grade ratings reached an all-time high of 51.3% in September 2021.

In 2010-2021, about 77% of the initial ratings that S&P Global Ratings assigned to new issuers were speculative-grade. This figure includes new ratings subsequent to prior defaults--such as after distressed exchanges. However, even when we limit the pool of new issuers to those that have never been rated before, speculative-grade issuers still account for 76% of the total. This influx of new speculative-grade issuers has contributed to the growing share of speculative-grade ratings globally, with the U.S. and European regions accounting for roughly 73% of the total since 2010.

Chart 24

Global Speculative-Grade Corporate Default Rate Versus Prevalence Of Speculative-Grade Issuers

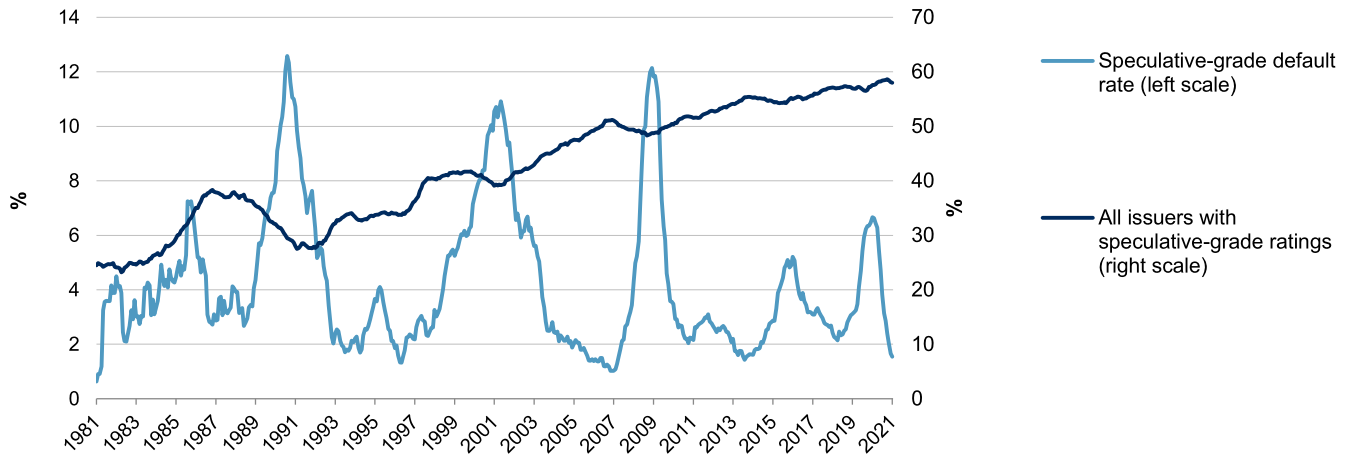


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Historically, a growing concentration of speculative-grade ratings often precedes a period of increased defaults. For example, the share of speculative-grade ratings increased in the U.S. beginning in 2002. After speculative-grade ratings reached a peak of 51% of U.S. corporate ratings in 2007, the default rate hit its cyclical peak of 12% in 2009, following the Great Recession (see chart 25). As was the case globally, the proportion of speculative-grade ratings reached an all-time high in the U.S. in 2021 as well, at over 58%.

Chart 25

U.S. Speculative-Grade Corporate Default Rate Versus Prevalence Of Speculative-Grade Issuers



Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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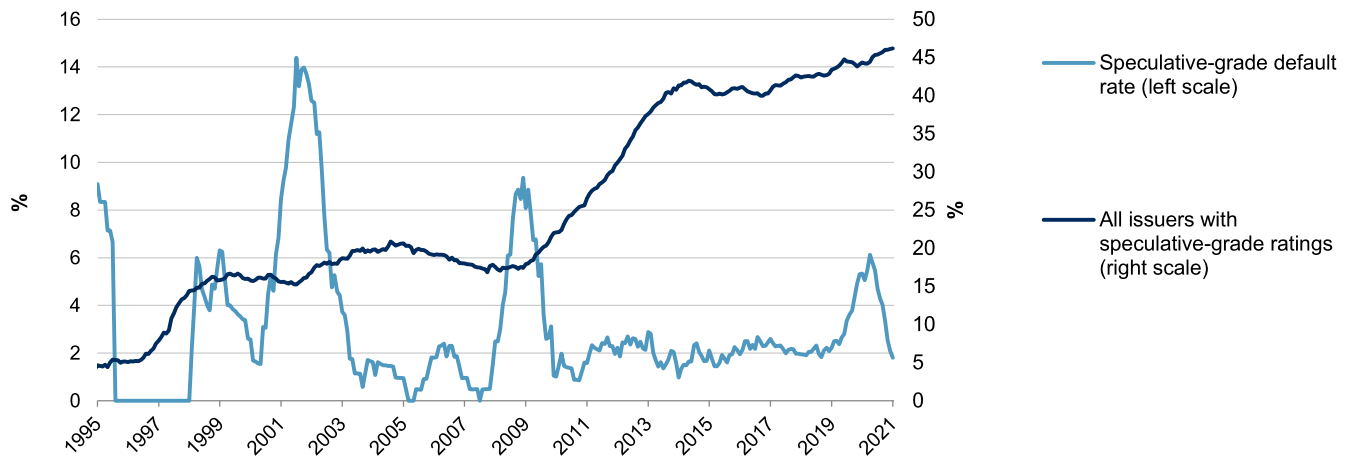
In Europe, by contrast, speculative-grade ratings remain in the minority, though only by a small amount. In large part, this reflects the private nature of the leveraged finance market before the 2008 financial crisis: In 2005, the speculative-grade share of European corporate ratings reached a then-peak near 21%, and once the cycle turned, the European speculative-grade default rate reached 9.4% in November 2009.

However, since 2008, speculative-grade ratings in Europe have surged, with the share more than doubling to 46.2% at the end of 2021. This growth of the publicly rated speculative-grade market in Europe has resulted largely from newly assigned speculative-grade ratings (in addition to downgrades).

Before 2010, the majority of newly assigned European issuer credit ratings were investment-grade, but since then, roughly 74.3% of newly assigned ratings have been speculative-grade annually. With the region moving to promote disintermediation, this share of speculative-grade issuers could continue to grow.

Chart 26

European Speculative-Grade Corporate Default Rate Versus Prevalence Of Speculative-Grade Issuers



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Transition And Cumulative Default Rates Demonstrate Ratings Performance

An analysis of transition rates for 2021 suggests that ratings behavior continues to exhibit consistency with long-term trends. Higher ratings show a negative correspondence with the observed frequency of default. Investment-grade-rated issuers globally tend to exhibit greater ratings stability (as measured by the frequency of rating transitions) than those rated speculative-grade (see table 20). For instance, 92.7% of issuers rated 'A' at the beginning of 2021 were still rated 'A' by Dec. 31, 2021, whereas the comparable share for issuers rated 'B' was only 77.2%.

The number of 'AAA' rated issuers globally declined to just eight by the end of 2021 from 89 at the beginning of 2008. Over this same period, as the number of the highest-rated investment-grade companies dwindled, the count of the lowest-rated investment-grade companies surged. The number of companies rated in the 'BBB' category has grown by 33% since the beginning of 2008, to roughly 1,893 at the end of 2021.

Because of the extremely small size of the 'AAA' rating category, the downgrade of even one issuer will have a large effect on this segment's stability rate. Many events over the long term have contributed to the decline of global 'AAA' rated issuers. For instance, the sovereign downgrades of China in 2017, the U.K. in 2016, France in 2012, and the U.S. in 2011 have factored into the downgrades of many higher-rated financial services companies.

Conversely, among nonfinancial entities, willingness to operate with higher leverage to fund share buybacks, expand businesses, or finance acquisitions has gradually increased. These factors as well, combined with asset managers' growing tolerance for investing in lower-rated companies,

leave just a handful of the highest-rated entities.

Over the long term (1981-2021), heightened ratings stability is broadly consistent with higher ratings (see table 21). A key consideration when analyzing transition matrices that present averages computed over multiple static pools is that the standard deviations associated with each transition point in the matrix are large relative to the averages (outside of stability rates).

Table 20

2021 One-Year Corporate Transition Rates By Region

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
Global									
AAA	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	91.72	5.17	0.00	0.00	0.00	0.00	0.00	3.10
A	0.00	0.50	92.74	3.99	0.00	0.00	0.00	0.00	2.78
BBB	0.00	0.00	2.02	91.78	1.74	0.05	0.00	0.00	4.41
BB	0.00	0.00	0.00	3.89	85.30	3.21	0.17	0.00	7.43
B	0.00	0.00	0.00	0.10	4.54	77.20	1.96	0.52	15.68
CCC/C	0.00	0.00	0.00	0.00	0.00	21.76	50.99	10.99	16.26
U.S.									
AAA	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	92.68	1.63	0.00	0.00	0.00	0.00	0.00	5.69
A	0.00	0.36	90.58	6.88	0.00	0.00	0.00	0.00	2.17
BBB	0.00	0.00	1.69	92.54	1.55	0.00	0.00	0.00	4.23
BB	0.00	0.00	0.00	5.50	83.71	3.67	0.20	0.00	6.92
B	0.00	0.00	0.00	0.00	4.29	76.59	1.52	0.45	17.16
CCC/C	0.00	0.00	0.00	0.00	0.00	26.01	47.25	8.79	17.95
Europe									
AAA	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	87.50	11.36	0.00	0.00	0.00	0.00	0.00	1.14
A	0.00	0.51	92.80	3.60	0.00	0.00	0.00	0.00	3.08
BBB	0.00	0.00	3.50	90.89	1.40	0.00	0.00	0.00	4.21
BB	0.00	0.00	0.00	3.96	82.67	6.44	0.00	0.00	6.93
B	0.00	0.00	0.00	0.00	3.71	80.05	2.55	0.23	13.46
CCC/C	0.00	0.00	0.00	0.00	0.00	13.33	63.33	13.33	10.00
Emerging and frontier markets									
AAA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	95.24	4.76	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	1.35	94.62	1.35	0.00	0.00	0.00	0.00	2.69
BBB	0.00	0.00	1.67	90.38	2.51	0.21	0.00	0.00	5.23
BB	0.00	0.00	0.00	2.48	86.63	1.98	0.25	0.00	8.66

B

Table 20

**2021 One-Year Corporate Transition Rates By Region
(cont.)**

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
CCC/C	0.00	0.00	0.00	0.00	0.00	8.06	61.29	16.13	14.52

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

This study--in line with previous default studies--confirms that over the long term (1981-2021), higher ratings are more stable than lower ratings. Issuers rated 'AAA' were still rated 'AAA' one year later 87.1% of the time, while issuers rated 'CCC'/'C' retained those ratings just 43.9% of the time. This relationship between higher ratings and higher ratings stability holds even over longer time horizons (see table 21) and when broken out by region (see table 22).

In contrast, the relationship is slightly more discontinuous when we examine rating transitions at the modifier (the plus or minus after a rating) level, but these variations are likely a result of sample size considerations, and we do not consider them significant (see table 23). For example, 'AA+' rated issuers were still rated 'AA+' one year later 79.7% of the time, and 'AA' rated issuers were still rated 'AA' one year later 81% of the time. In this case, however, the 'AA+' figure was derived from a much smaller sample than that for the 'AA' rating. And as a general rule, the highest proportions of rating changes for any given rating or rating modifier occur at adjacent ratings and rating modifiers.

Table 21

Global Corporate Average Transition Rates (1981-2021)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
1-year									
AAA	87.09	9.05	0.53	0.05	0.11	0.03	0.05	0.00	3.10
	(7.20)	(7.22)	(0.82)	(0.24)	(0.27)	(0.17)	(0.34)	(0.00)	(2.43)
AA	0.48	87.32	7.72	0.46	0.05	0.06	0.02	0.02	3.88
	(0.53)	(5.16)	(4.11)	(0.67)	(0.19)	(0.20)	(0.06)	(0.07)	(1.79)
A	0.02	1.56	88.73	4.97	0.25	0.11	0.01	0.05	4.29
	(0.09)	(1.06)	(3.76)	(2.12)	(0.38)	(0.24)	(0.06)	(0.10)	(1.67)
BBB	0.00	0.08	3.19	86.72	3.48	0.42	0.09	0.15	5.86
	(0.03)	(0.15)	(1.61)	(3.96)	(1.58)	(0.64)	(0.20)	(0.24)	(1.53)
BB	0.01	0.02	0.10	4.52	78.12	6.66	0.53	0.60	9.43
	(0.05)	(0.08)	(0.23)	(1.97)	(4.54)	(3.10)	(0.69)	(0.80)	(2.16)
B	0.00	0.02	0.06	0.15	4.54	74.73	4.81	3.18	12.51
	(0.00)	(0.08)	(0.19)	(0.20)	(2.15)	(3.91)	(2.76)	(3.01)	(2.24)
CCC/C	0.00	0.00	0.09	0.16	0.49	13.42	43.91	26.55	15.39
	(0.00)	(0.00)	(0.38)	(0.59)	(0.85)	(7.61)	(8.40)	(11.94)	(4.70)

Table 21

Global Corporate Average Transition Rates (1981-2021) (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
3-year									
AAA	65.54	22.15	2.32	0.32	0.26	0.08	0.11	0.13	9.08
	(11.62)	(12.29)	(1.74)	(0.76)	(0.53)	(0.29)	(0.41)	(0.37)	(5.26)
AA	1.11	67.26	18.04	1.92	0.32	0.20	0.03	0.11	11.01
	(0.86)	(9.57)	(6.13)	(1.42)	(0.50)	(0.44)	(0.07)	(0.18)	(3.98)
A	0.05	3.67	70.68	11.14	1.10	0.38	0.08	0.22	12.67
	(0.09)	(2.18)	(7.18)	(2.92)	(1.01)	(0.57)	(0.13)	(0.27)	(3.42)
BBB	0.02	0.24	7.90	66.78	6.71	1.42	0.25	0.74	15.93
	(0.06)	(0.37)	(2.90)	(7.56)	(1.99)	(1.26)	(0.35)	(0.90)	(3.29)
BB	0.01	0.05	0.43	10.32	49.13	11.30	1.15	3.39	24.23
	(0.05)	(0.12)	(0.65)	(3.49)	(7.61)	(2.58)	(0.85)	(3.34)	(3.57)
B	0.00	0.02	0.16	0.63	9.08	42.39	5.26	11.56	30.90
	(0.05)	(0.10)	(0.39)	(0.74)	(3.57)	(5.13)	(2.05)	(6.75)	(4.54)
CCC/C	0.00	0.00	0.11	0.50	1.51	16.52	9.73	42.29	29.35
	(0.00)	(0.00)	(0.46)	(1.11)	(1.52)	(6.72)	(5.59)	(11.54)	(7.86)
5-year									
AAA	49.52	28.83	4.75	0.80	0.34	0.16	0.08	0.34	15.17
	(11.80)	(13.43)	(2.74)	(1.53)	(0.54)	(0.40)	(0.27)	(0.59)	(6.60)
AA	1.37	52.56	23.97	3.38	0.53	0.35	0.04	0.30	17.49
	(0.98)	(9.60)	(5.16)	(1.85)	(0.63)	(0.58)	(0.10)	(0.38)	(4.68)
A	0.06	4.70	57.80	14.39	1.80	0.60	0.13	0.46	20.05
	(0.10)	(2.41)	(8.22)	(2.57)	(1.22)	(0.81)	(0.17)	(0.45)	(4.06)
BBB	0.02	0.37	10.14	53.82	7.50	1.94	0.34	1.58	24.29
	(0.07)	(0.51)	(2.90)	(8.02)	(1.54)	(1.42)	(0.37)	(1.42)	(4.30)
BB	0.01	0.07	0.86	12.27	33.54	11.15	1.15	6.51	34.45
	(0.05)	(0.16)	(0.94)	(3.04)	(7.52)	(1.94)	(0.88)	(4.86)	(3.87)
B	0.01	0.02	0.20	1.26	9.59	25.75	3.21	17.40	42.56
	(0.09)	(0.08)	(0.50)	(1.16)	(2.84)	(4.70)	(1.09)	(7.92)	(5.65)
CCC/C	0.00	0.00	0.09	0.68	2.49	12.34	2.70	46.35	35.35
	(0.00)	(0.00)	(0.43)	(1.58)	(1.98)	(4.51)	(3.35)	(11.16)	(8.50)
7-year									
AAA	38.00	32.66	6.79	1.47	0.35	0.19	0.11	0.51	19.93
	(10.99)	(13.92)	(3.03)	(1.92)	(0.55)	(0.42)	(0.31)	(0.74)	(6.92)
AA	1.43	41.59	27.29	4.51	0.70	0.35	0.03	0.51	23.58
	(0.97)	(7.98)	(4.26)	(1.88)	(0.62)	(0.50)	(0.08)	(0.53)	(4.65)

Table 21

Global Corporate Average Transition Rates (1981-2021) (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
A	0.06	5.11	48.48	16.13	2.28	0.73	0.12	0.80	26.28
	(0.11)	(1.92)	(7.78)	(1.93)	(1.31)	(0.86)	(0.17)	(0.59)	(4.03)
BBB	0.03	0.49	11.01	45.08	7.33	2.12	0.34	2.41	31.19
	(0.10)	(0.57)	(2.62)	(7.49)	(0.87)	(1.17)	(0.31)	(1.78)	(4.48)
BB	0.00	0.08	1.20	12.56	24.71	9.97	0.94	9.46	41.07
	(0.00)	(0.16)	(1.03)	(3.00)	(6.88)	(2.00)	(0.65)	(5.55)	(3.40)
B	0.00	0.02	0.26	1.75	8.55	17.07	1.84	21.48	49.03
	(0.07)	(0.07)	(0.54)	(1.40)	(2.17)	(4.15)	(0.61)	(7.92)	(5.50)
CCC/C									
	(0.00)	(0.00)	(0.54)	(1.89)	(2.08)	(3.56)	(2.57)	(10.97)	(8.91)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 22

Average One-Year Corporate Transition Rates (1981-2021)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
U.S.									
AAA	87.36	8.66	0.58	0.04	0.17	0.04	0.04	0.00	3.11
	(10.17)	(10.31)	(1.16)	(0.21)	(0.41)	(0.27)	(0.27)	(0.00)	(2.48)
AA	0.50	87.37	7.32	0.55	0.08	0.10	0.03	0.03	4.03
	(0.52)	(6.13)	(4.52)	(0.83)	(0.22)	(0.28)	(0.11)	(0.15)	(2.40)
A	0.04	1.61	88.44	5.26	0.35	0.14	0.03	0.07	4.08
	(0.12)	(1.22)	(4.21)	(2.49)	(0.49)	(0.30)	(0.11)	(0.15)	(1.85)
BBB	0.01	0.11	3.35	86.79	3.58	0.54	0.10	0.19	5.33
	(0.05)	(0.17)	(1.87)	(4.70)	(1.78)	(0.82)	(0.16)	(0.30)	(1.87)
BB	0.02	0.04	0.15	4.64	77.71	7.61	0.56	0.72	8.55
	(0.08)	(0.11)	(0.28)	(2.37)	(5.30)	(4.02)	(0.68)	(0.84)	(2.43)
B	0.00	0.03	0.09	0.17	4.26	75.57	4.87	3.39	11.62
	(0.00)	(0.09)	(0.22)	(0.24)	(2.07)	(4.30)	(2.86)	(3.19)	(2.51)
CCC/C	0.00	0.00	0.13	0.20	0.57	12.60	43.99	28.31	14.20
	(0.00)	(0.00)	(0.50)	(0.73)	(1.06)	(8.33)	(8.04)	(12.69)	(4.97)
Europe									
AAA	87.13	9.11	0.46	0.11	0.00	0.00	0.11	0.00	3.08
	(8.71)	(7.72)	(1.36)	(0.91)	(0.00)	(0.00)	(0.76)	(0.00)	(4.45)

Table 22

Average One-Year Corporate Transition Rates (1981-2021) (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AA	0.26	86.27	9.49	0.52	0.00	0.00	0.00	0.00	3.46
	(0.65)	(6.92)	(6.24)	(1.14)	(0.00)	(0.00)	(0.00)	(0.00)	(2.37)
A	0.01	1.75	88.02	5.24	0.14	0.03	0.00	0.03	4.78
	(0.05)	(1.76)	(4.80)	(3.35)	(0.33)	(0.40)	(0.00)	(0.09)	(1.93)
BBB	0.00	0.08	3.91	85.70	3.34	0.26	0.08	0.06	6.56
	(0.00)	(1.20)	(1.93)	(4.63)	(2.58)	(0.49)	(0.26)	(0.19)	(2.92)
BB	0.00	0.00	0.09	5.05	74.88	6.86	0.37	0.34	12.40
	(0.00)	(0.00)	(0.58)	(2.53)	(6.55)	(3.34)	(0.94)	(0.80)	(4.34)
B	0.00	0.00	0.02	0.20	4.77	73.52	5.06	1.96	14.47
	(0.00)	(0.00)	(0.19)	(0.48)	(3.32)	(6.43)	(3.27)	(3.07)	(5.03)
CCC/C	0.00	0.00	0.00	0.20	0.00	12.55	44.33	25.91	17.00
	(0.00)	(0.00)	(0.00)	(0.62)	(0.00)	(9.43)	(16.79)	(15.82)	(8.95)

Emerging and frontier markets

AAA	86.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00
	(35.52)	(30.71)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(20.06)
AA	1.50	85.93	9.88	0.00	0.00	0.00	0.00	0.00	2.69
	(8.21)	(17.03)	(14.14)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(5.05)
A	0.00	0.93	91.19	4.76	0.24	0.21	0.00	0.03	2.64
	(0.00)	(1.41)	(5.45)	(4.09)	(0.72)	(0.49)	(0.00)	(0.15)	(3.10)
BBB	0.00	0.01	1.97	87.30	4.63	0.33	0.15	0.10	5.50
	(0.00)	(0.08)	(2.16)	(5.44)	(4.06)	(1.15)	(0.94)	(0.34)	(1.99)
BB	0.00	0.00	0.03	3.76	80.24	4.88	0.68	0.58	9.83
	(0.00)	(0.00)	(1.23)	(2.38)	(4.47)	(2.50)	(1.83)	(1.14)	(3.12)
B	0.00	0.00	0.00	0.10	5.80	71.68	4.24	3.16	15.03
	(0.00)	(0.00)	(0.00)	(0.28)	(4.04)	(4.64)	(3.58)	(3.46)	(2.98)
CCC/C	0.00	0.00	0.00	0.00	0.39	17.12	46.07	18.66	17.76
	(0.00)	(0.00)	(0.00)	(0.00)	(0.91)	(12.92)	(14.45)	(14.64)	(9.63)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 23

Average One-Year Transition Rates For Global Corporates By Rating Modifier (1981-2021)

(%)

From/to	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC	D	NR
AAA	87.09	5.86	2.50	0.68	0.16	0.24	0.13	0.00	0.05	0.00	0.03	0.05	0.03	0.00	0.03	0.00	0.05	0.00	3.10

Default, Transition, and Recovery: 2021 Annual Global Corporate Default And Rating Transition Study

Table 23

Average One-Year Transition Rates For Global Corporates By Rating Modifier (1981-2021) (cont.)

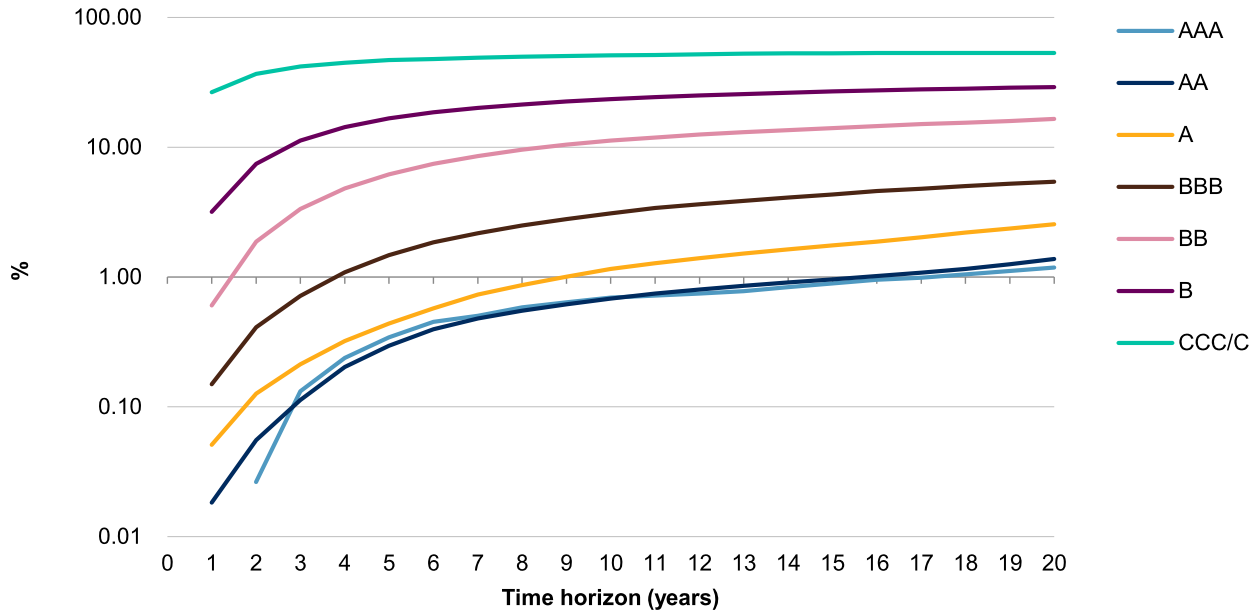
(%)

From/to	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC	D	NR
	(7.20)	(6.20)	(3.19)	(1.04)	(0.45)	(0.56)	(0.34)	(0.00)	(0.24)	(0.00)	(0.17)	(0.18)	(0.14)	(0.00)	(0.17)	(0.00)	(0.34)	(0.00)	(2.43)
AA+	2.21	79.68	10.59	3.38	0.68	0.32	0.18	0.05	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.79
	(3.69)	(11.64)	(7.23)	(4.02)	(2.25)	(0.80)	(0.46)	(0.24)	(0.64)	(0.22)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(2.93)
AA	0.41	1.31	80.99	8.42	2.63	1.12	0.35	0.38	0.13	0.08	0.05	0.03	0.02	0.02	0.00	0.02	0.05	0.02	3.99
	(0.51)	(1.57)	(8.90)	(6.13)	(2.58)	(1.22)	(0.58)	(0.80)	(0.34)	(0.23)	(0.16)	(0.12)	(0.10)	(0.12)	(0.00)	(0.09)	(0.15)	(0.08)	(2.56)
AA-	0.04	0.10	3.68	78.99	9.74	2.18	0.57	0.24	0.14	0.06	0.03	0.00	0.00	0.03	0.08	0.00	0.00	0.03	4.09
	(0.12)	(0.30)	(4.20)	(7.32)	(4.75)	(2.53)	(0.81)	(0.48)	(0.42)	(0.24)	(0.19)	(0.00)	(0.00)	(0.14)	(0.36)	(0.00)	(0.00)	(0.10)	(2.02)
A+	0.00	0.05	0.41	4.23	79.16	8.54	2.04	0.58	0.32	0.08	0.05	0.08	0.01	0.06	0.03	0.00	0.00	0.05	4.31
	(0.00)	(0.19)	(0.67)	(2.58)	(6.42)	(3.22)	(1.50)	(0.64)	(0.42)	(0.18)	(0.16)	(0.24)	(0.05)	(0.18)	(0.13)	(0.00)	(0.00)	(0.14)	(1.87)
A	0.03	0.04	0.21	0.39	5.19	79.36	6.61	2.32	0.81	0.25	0.09	0.10	0.06	0.08	0.02	0.00	0.01	0.05	4.40
	(0.12)	(0.13)	(0.49)	(0.48)	(2.13)	(5.51)	(2.98)	(1.70)	(0.91)	(0.37)	(0.19)	(0.26)	(0.28)	(0.27)	(0.09)	(0.00)	(0.05)	(0.11)	(2.10)
A-	0.03	0.01	0.05	0.14	0.38	6.14	78.87	7.27	1.85	0.53	0.12	0.12	0.10	0.10	0.03	0.01	0.03	0.05	4.16
	(0.18)	(0.04)	(0.14)	(0.26)	(0.59)	(3.18)	(6.39)	(2.94)	(1.56)	(0.60)	(0.31)	(0.33)	(0.22)	(0.27)	(0.08)	(0.07)	(0.13)	(0.17)	(1.81)
BBB+	0.00	0.01	0.05	0.06	0.19	0.69	6.77	76.65	7.98	1.50	0.34	0.26	0.12	0.14	0.09	0.02	0.06	0.09	4.98
	(0.00)	(0.04)	(0.15)	(0.17)	(0.41)	(0.93)	(2.96)	(6.69)	(3.51)	(1.38)	(0.50)	(0.54)	(0.21)	(0.39)	(0.27)	(0.09)	(0.16)	(0.25)	(1.96)
BBB	0.01	0.01	0.04	0.02	0.09	0.28	0.95	7.26	76.68	6.20	1.28	0.63	0.26	0.20	0.10	0.03	0.05	0.14	5.77
	(0.07)	(0.07)	(0.13)	(0.12)	(0.20)	(0.64)	(0.94)	(3.32)	(5.37)	(2.38)	(1.04)	(0.66)	(0.44)	(0.42)	(0.36)	(0.09)	(0.11)	(0.26)	(1.99)
BBB-	0.01	0.01	0.02	0.04	0.06	0.13	0.23	1.08	9.03	72.87	5.57	2.01	0.81	0.36	0.21	0.15	0.19	0.23	6.99
	(0.07)	(0.05)	(0.06)	(0.18)	(0.16)	(0.36)	(0.51)	(1.12)	(3.15)	(5.16)	(2.64)	(1.42)	(0.74)	(0.69)	(0.44)	(0.41)	(0.52)	(0.38)	(2.02)
BB+	0.04	0.00	0.00	0.03	0.03	0.08	0.08	0.37	1.49	10.78	66.10	7.70	2.57	0.97	0.51	0.22	0.33	0.31	8.41
	(0.20)	(0.00)	(0.00)	(0.12)	(0.10)	(0.35)	(0.26)	(0.67)	(1.77)	(4.46)	(7.19)	(4.33)	(1.91)	(1.50)	(1.01)	(0.36)	(0.87)	(0.58)	(2.67)
BB	0.00	0.00	0.03	0.01	0.00	0.05	0.04	0.15	0.56	1.87	9.50	65.34	8.65	2.36	1.03	0.35	0.48	0.46	9.10
	(0.00)	(0.00)	(0.19)	(0.06)	(0.00)	(0.34)	(0.20)	(0.39)	(0.96)	(2.09)	(4.05)	(5.20)	(3.60)	(1.55)	(1.23)	(0.58)	(0.91)	(0.65)	(2.93)
BB-	0.00	0.00	0.00	0.01	0.01	0.01	0.04	0.09	0.22	0.32	1.61	9.40	63.89	8.60	3.01	0.79	0.71	0.92	10.37
	(0.00)	(0.00)	(0.00)	(0.09)	(0.08)	(0.07)	(0.26)	(0.23)	(0.41)	(0.59)	(1.58)	(3.99)	(5.32)	(3.85)	(1.51)	(0.75)	(0.82)	(1.37)	(2.39)
B+	0.00	0.01	0.00	0.03	0.00	0.03	0.06	0.04	0.05	0.10	0.29	1.38	8.23	62.53	9.47	2.58	1.78	1.94	11.47
	(0.00)	(0.05)	(0.00)	(0.13)	(0.00)	(0.09)	(0.19)	(0.12)	(0.15)	(0.20)	(0.34)	(1.08)	(3.62)	(5.86)	(4.12)	(1.42)	(1.64)	(1.93)	(2.55)
B	0.00	0.00	0.01	0.01	0.00	0.03	0.03	0.01	0.05	0.03	0.09	0.20	1.05	7.26	61.60	10.01	3.96	2.99	12.66
	(0.00)	(0.00)	(0.08)	(0.05)	(0.00)	(0.17)	(0.33)	(0.07)	(0.26)	(0.10)	(0.27)	(0.50)	(1.13)	(3.19)	(6.84)	(4.94)	(3.07)	(3.86)	(2.53)
B-	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.05	0.05	0.08	0.07	0.16	0.38	2.02	9.65	55.28	12.15	5.89	14.17
	(0.00)	(0.00)	(0.00)	(0.00)	(0.27)	(0.25)	(0.00)	(0.28)	(0.16)	(0.38)	(0.39)	(0.74)	(0.79)	(2.08)	(4.95)	(6.61)	(5.91)	(5.72)	(3.96)
CCC/C	0.00	0.00	0.00	0.00	0.02	0.00	0.07	0.04	0.07	0.04	0.02	0.13	0.34	0.85	2.53	10.04	43.91	26.55	15.39
	(0.00)	(0.00)	(0.00)	(0.00)	(0.20)	(0.00)	(0.33)	(0.41)	(0.29)	(0.33)	(0.20)	(0.46)	(0.69)	(1.40)	(2.71)	(5.72)	(8.40)	(11.94)	(4.70)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Chart 27

Global Corporate Average Cumulative Default Rates By Rating (1981-2021)



Data provided is identical to that found in chart 4, converted to log scale. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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Table 24

Global Corporate Average Cumulative Default Rates (1981-2021)

Rating	--Time horizon (years)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AAA	0.00	0.03	0.13	0.24	0.34	0.45	0.50	0.58	0.64	0.69	0.72	0.75	0.78	0.83	0.89
AA	0.02	0.06	0.11	0.20	0.30	0.40	0.48	0.55	0.62	0.68	0.74	0.80	0.86	0.91	0.96
A	0.05	0.13	0.21	0.32	0.44	0.57	0.73	0.87	1.01	1.15	1.28	1.40	1.52	1.63	1.76
BBB	0.15	0.41	0.72	1.09	1.48	1.85	2.18	2.50	2.80	3.10	3.40	3.64	3.86	4.09	4.34
BB	0.60	1.88	3.35	4.81	6.19	7.47	8.57	9.56	10.45	11.24	11.90	12.52	13.09	13.57	14.08
B	3.18	7.46	11.26	14.30	16.67	18.59	20.10	21.34	22.45	23.50	24.40	25.10	25.75	26.35	26.92
CCC/C	26.55	36.74	41.80	44.74	46.91	47.95	49.08	49.82	50.48	51.05	51.49	51.92	52.45	52.91	52.97
Investment-grade	0.08	0.23	0.40	0.61	0.83	1.05	1.26	1.45	1.63	1.81	1.98	2.13	2.27	2.40	2.55
Speculative-grade	3.60	6.97	9.86	12.23	14.16	15.75	17.06	18.16	19.14	20.04	20.80	21.44	22.05	22.58	23.09
All rated	1.50	2.93	4.17	5.22	6.10	6.83	7.45	7.97	8.43	8.86	9.23	9.54	9.84	10.10	10.36

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

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The only exceptions to the correspondence between lower ratings and higher default rates occur when the number of defaults is low or when the underlying number of issuers is very small--such as at the rating modifier level in the higher rating categories (see table 26).

Investment-grade-rated issuers seldom default, so the number of defaults among these rating categories is particularly low. This small sample size can, at times, result in historical default rates that seem counterintuitive, such as a higher cumulative default rate for 'AAA' rated companies than for 'AA+' rated companies. These default rates do not imply, however, that 'AAA' rated companies are riskier than 'AA+' rated companies, but rather that both are highly unlikely to default.

Table 25

Average Cumulative Default Rates For Corporates By Region (1981-2021)

(%)	--Time horizon (years)--														
Rating	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
U.S.															
AAA	0.00	0.04	0.17	0.29	0.42	0.54	0.58	0.67	0.75	0.83	0.87	0.92	0.96	1.05	1.14
AA	0.03	0.08	0.16	0.29	0.41	0.55	0.68	0.79	0.88	0.98	1.07	1.15	1.23	1.29	1.38
A	0.07	0.19	0.33	0.49	0.66	0.85	1.06	1.26	1.47	1.69	1.88	2.06	2.24	2.39	2.56
BBB	0.19	0.51	0.87	1.33	1.83	2.32	2.76	3.19	3.61	4.01	4.40	4.69	4.96	5.26	5.57
BB	0.72	2.24	4.05	5.81	7.42	8.98	10.32	11.56	12.67	13.69	14.56	15.37	16.09	16.67	17.28
B	3.39	8.00	12.16	15.48	18.11	20.26	21.96	23.32	24.53	25.66	26.61	27.36	28.07	28.73	29.35
CCC/C	28.31	39.95	45.73	49.25	51.80	52.95	54.34	55.14	55.87	56.48	57.06	57.49	57.98	58.43	58.43
Investment-grade	0.11	0.29	0.51	0.79	1.08	1.37	1.65	1.92	2.18	2.44	2.68	2.87	3.06	3.24	3.44
Speculative-grade	4.04	7.90	11.26	13.98	16.21	18.06	19.59	20.86	22.00	23.04	23.93	24.68	25.38	25.98	26.55
All rated	1.83	3.60	5.16	6.48	7.57	8.51	9.29	9.96	10.56	11.12	11.61	12.00	12.37	12.71	13.03
Europe															
AAA	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
AA	0.00	0.02	0.05	0.10	0.15	0.21	0.23	0.26	0.29	0.29	0.29	0.29	0.29	0.29	0.29
A	0.03	0.06	0.10	0.14	0.22	0.28	0.36	0.39	0.41	0.42	0.42	0.42	0.42	0.42	0.42
BBB	0.06	0.16	0.28	0.40	0.51	0.72	0.91	1.07	1.24	1.41	1.41	1.41	1.41	1.41	1.41
BB	0.34	1.16	1.93	2.66	3.49	4.22	4.88	5.34	5.72	6.08	6.08	6.08	6.08	6.08	6.08
B	1.96	5.22	8.26	10.72	12.72	14.19	15.26	15.97	16.70	17.39	17.39	17.39	17.39	17.39	17.39
CCC/C	25.91	35.94	39.93	43.55	45.60	46.43	46.91	47.48	47.48	48.27	48.27	48.27	48.27	48.27	48.27
Investment-grade	0.03	0.08	0.14	0.21	0.29	0.39	0.48	0.55	0.61	0.66	0.66	0.66	0.66	0.66	0.66
Speculative-grade	2.76	5.37	7.50	9.28	10.77	11.87	12.71	13.29	13.80	14.31	14.31	14.31	14.31	14.31	14.31
All rated	0.77	1.49	2.07	2.55	2.95	3.27	3.52	3.68	3.81	3.94	3.94	3.94	3.94	3.94	3.94
Emerging and frontier markets															
AAA	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
AA	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
A	0.03	0.03	0.03	0.03	0.03	0.03	0.10	0.16	0.24	0.33	0.33	0.33	0.33	0.33	0.33
BBB	0.10	0.46	0.88	1.37	1.83	2.22	2.44	2.64	2.80	2.94	2.94	2.94	2.94	2.94	2.94
BB	0.58	1.64	2.76	3.88	4.92	5.62	6.27	6.71	7.11	7.40	7.40	7.40	7.40	7.40	7.40

Table 25

Average Cumulative Default Rates For Corporates By Region (1981-2021) (cont.)

Rating	--Time horizon (years)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B	3.16	6.58	9.16	11.25	12.71	13.84	14.81	15.74	16.47	17.28					
CCC/C	18.66	23.99	26.71	27.75	28.83	29.66	30.36	31.15	31.82	32.30					
Investment-grade	0.08	0.32	0.60	0.93	1.24	1.50	1.68	1.83	1.96	2.08					
Speculative-grade	2.71	4.97	6.77	8.28	9.48	10.37	11.15	11.82	12.38	12.89					
All rated	1.56	2.94	4.08	5.09	5.91	6.54	7.06	7.52	7.90	8.25					

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 26

Global Corporate Average Cumulative Default Rates By Rating Modifier (1981-2021)

Rating	--Time horizon (years)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AAA	0.00	0.03	0.13	0.24	0.34	0.45	0.50	0.58	0.64	0.69	0.72	0.75	0.78	0.83	0.89
AA+	0.00	0.05	0.05	0.09	0.14	0.19	0.25	0.30	0.35	0.41	0.46	0.52	0.58	0.64	0.70
AA	0.02	0.03	0.08	0.21	0.34	0.46	0.58	0.69	0.77	0.86	0.93	0.99	1.08	1.14	1.20
AA-	0.03	0.08	0.16	0.23	0.30	0.40	0.46	0.51	0.55	0.60	0.66	0.71	0.73	0.77	0.81
A+	0.05	0.08	0.18	0.30	0.39	0.48	0.58	0.68	0.80	0.93	1.04	1.17	1.31	1.47	1.62
A	0.05	0.13	0.21	0.31	0.43	0.59	0.75	0.90	1.07	1.27	1.42	1.54	1.65	1.72	1.87
A-	0.05	0.15	0.24	0.34	0.48	0.63	0.83	0.98	1.10	1.20	1.30	1.42	1.54	1.65	1.74
BBB+	0.09	0.25	0.45	0.64	0.85	1.09	1.28	1.49	1.75	1.99	2.21	2.36	2.53	2.75	2.98
BBB	0.14	0.36	0.56	0.89	1.21	1.54	1.86	2.15	2.45	2.75	3.07	3.32	3.54	3.64	3.83
BBB-	0.23	0.66	1.23	1.87	2.53	3.13	3.63	4.10	4.48	4.83	5.20	5.52	5.81	6.26	6.60
BB+	0.31	0.94	1.69	2.44	3.19	3.95	4.59	5.06	5.62	6.18	6.57	7.03	7.50	7.85	8.39
BB	0.46	1.45	2.82	4.12	5.47	6.57	7.58	8.46	9.32	10.06	10.85	11.43	11.90	12.22	12.56
BB-	0.92	2.86	4.89	6.97	8.79	10.54	12.02	13.41	14.53	15.48	16.22	16.96	17.67	18.34	18.97
B+	1.94	5.31	8.64	11.48	13.73	15.46	17.02	18.37	19.60	20.73	21.70	22.39	23.13	23.80	24.45
B	2.99	6.99	10.59	13.54	15.91	18.05	19.56	20.69	21.80	22.91	23.64	24.37	24.92	25.37	25.87
B-	5.89	12.59	17.88	21.56	24.26	26.23	27.69	28.84	29.65	30.34	31.41	32.10	32.71	33.34	33.77
CCC/C	26.55	36.74	41.80	44.74	46.91	47.95	49.08	49.82	50.48	51.05	51.49	51.92	52.45	52.91	52.97
Investment-grade	0.08	0.23	0.40	0.61	0.83	1.05	1.26	1.45	1.63	1.81	1.98	2.13	2.27	2.40	2.55
Speculative-grade	3.60	6.97	9.86	12.23	14.16	15.75	17.06	18.16	19.14	20.04	20.80	21.44	22.05	22.58	23.09
All rated	1.50	2.93	4.17	5.22	6.10	6.83	7.45	7.97	8.43	8.86	9.23	9.54	9.84	10.10	10.36

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Gini Ratios And Lorenz Curves

A quantitative analysis of the performance of S&P Global Ratings' corporate ratings shows that they continue to correlate with default risk across several time horizons. As one measure of ratings performance, the cumulative share of defaulters was plotted against the cumulative share of issuers by rating in a Lorenz curve to visually render the accuracy of its rank ordering (for definitions and methodology, refer to Appendix II). Over the long term, the global weighted average Gini coefficient (a measure of the rank-ordering power of ratings over a given time horizon) was 82.6% over the one-year horizon, 75.4% over three years, 71.6% over five years, and 69.1% over seven years (see table 27). If the rank ordering of ratings had little predictive value, the cumulative share of defaulting corporate entities and the cumulative share of all entities at each rating would be nearly the same, producing a Gini ratio of zero.

Table 27

Corporate Gini Coefficients By Region (1981-2021)

(%)	--Time horizon--			
Region	One-year	Three-year	Five-year	Seven-year
Global				
Weighted average	82.58	75.35	71.59	69.07
Average	85.47	78.62	74.42	71.25
Standard deviation	(5.43)	(5.14)	(5.34)	(5.20)
U.S.				
Weighted average	80.57	72.85	69.03	66.48
Average	84.36	76.51	72.06	68.79
Standard deviation	(6.81)	(6.57)	(6.58)	(6.13)
Europe				
Weighted average	90.07	85.22	82.36	79.59
Average	91.61	87.39	82.51	76.98
Standard deviation	(4.77)	(5.35)	(6.24)	(10.67)

Numbers in parentheses are standard deviations. Average and standard deviations for Europe calculated for the period 1996-2021 due to sample size considerations. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

In line with expectations, the Gini coefficients decline over time because longer time horizons allow for greater credit degradation among higher-rated entities. In the one-year global Lorenz curve, for example, 96.6% of defaults occurred in the speculative-grade category, while these ratings constituted only 40.3% of all corporate ratings (see chart 28). In the seven-year Lorenz curve, speculative-grade issuers constituted 88.7% of defaulters and only 37.4% of the entire sample (see chart 31).

Table 28

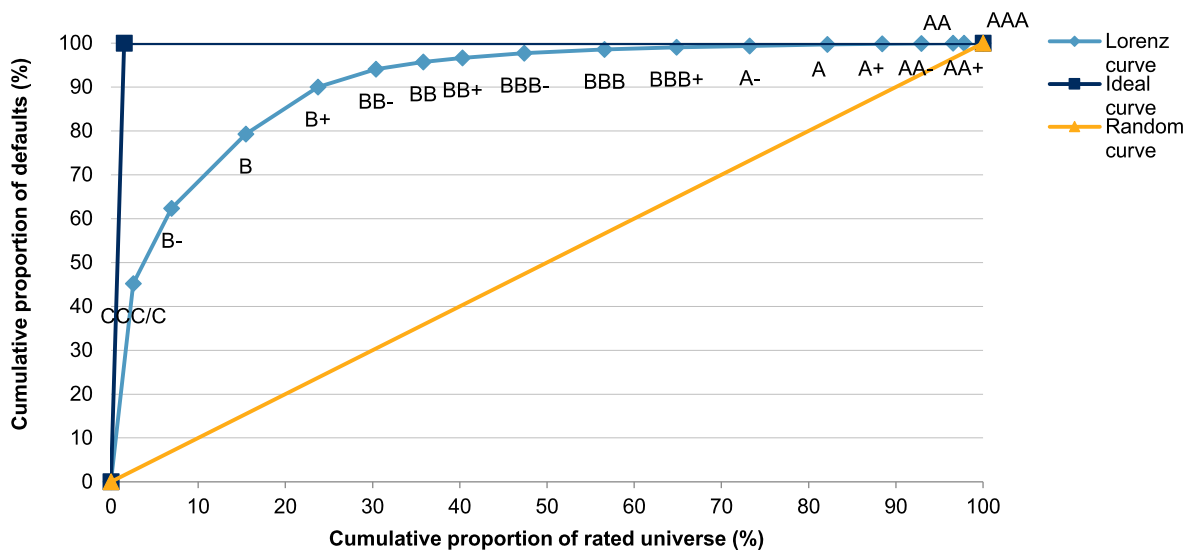
Gini Coefficients For Global Corporates By Broad Sector (1981-2021)

Sector	--Time horizon--			
	One-year	Three-year	Five-year	Seven-year
Financial				
Weighted average	80.15	70.33	63.13	58.33
Average	83.55	76.71	69.14	63.14
Standard deviation	(19.96)	(14.99)	(16.85)	(16.81)
Nonfinancial				
Weighted average	80.65	72.58	68.79	66.43
Average	84.45	76.73	72.63	69.61
Standard deviation	(5.98)	(5.25)	(5.37)	(5.07)

Numbers in parentheses are standard deviations. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Chart 28

Global One-Year Relative Corporate Ratings Performance (1981-2021)

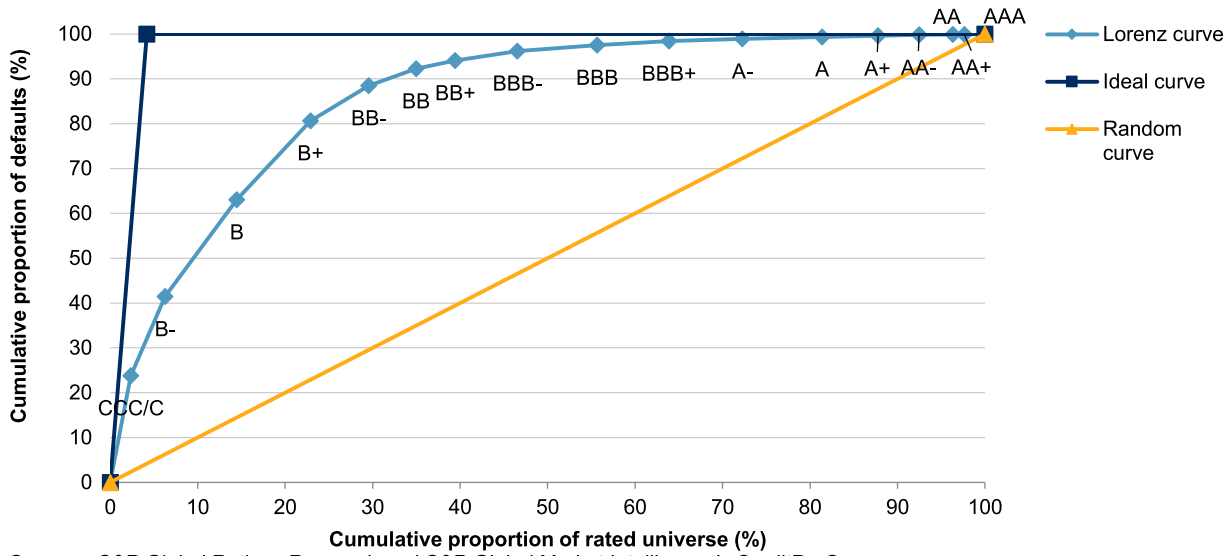


Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

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Chart 29

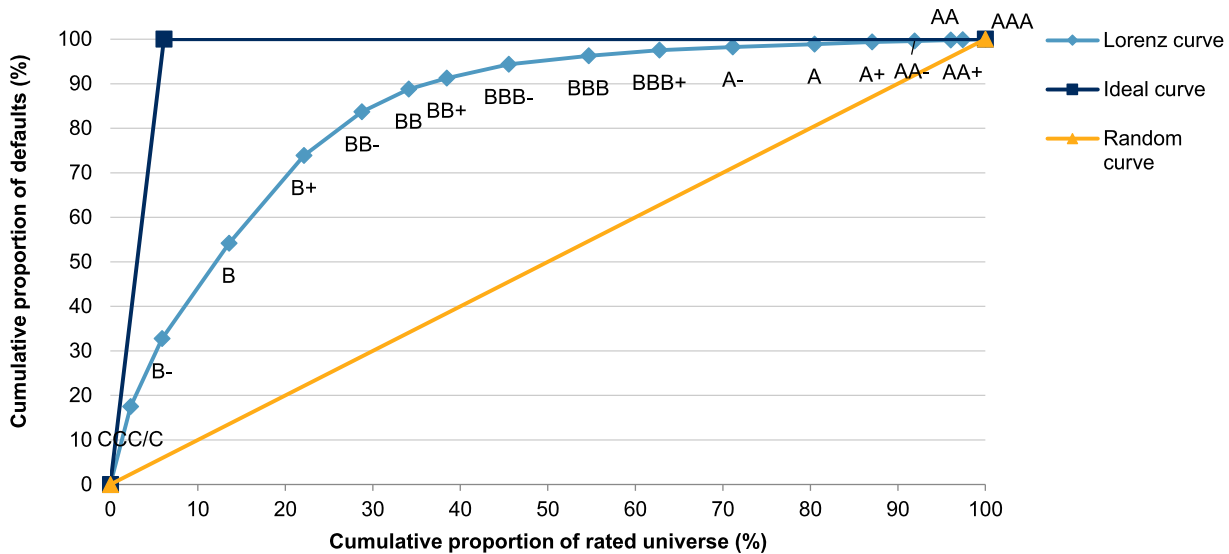
Global Three-Year Relative Corporate Ratings Performance (1981-2021)



Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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Chart 30

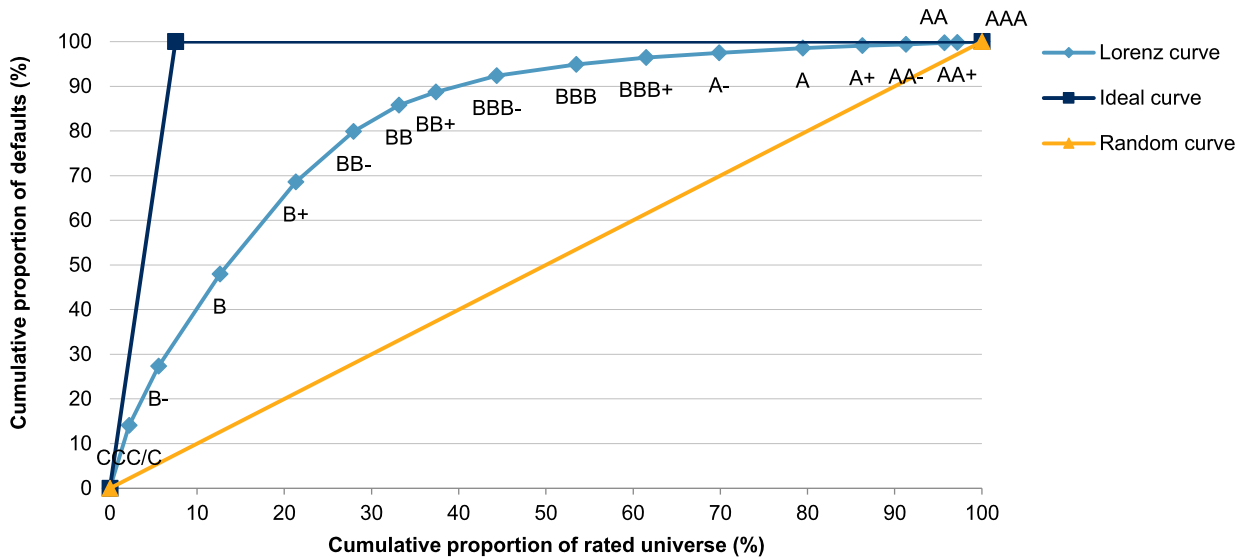
Global Five-Year Relative Corporate Ratings Performance (1981-2021)



Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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Chart 31

Global Seven-Year Relative Corporate Ratings Performance (1981-2021)



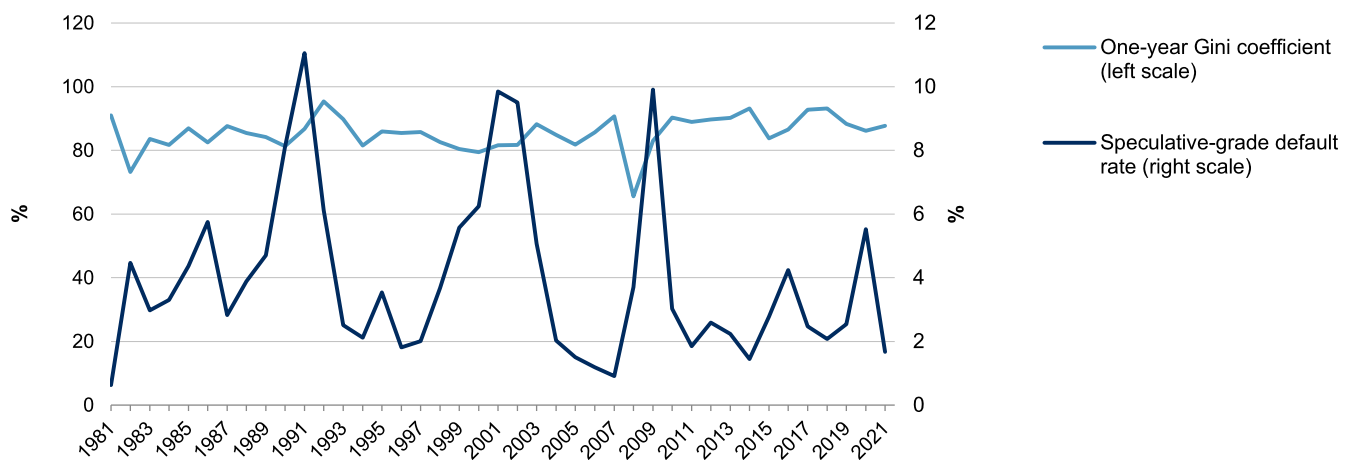
Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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One-year Gini coefficients appear to be broadly cyclical and negatively correlated with default rates (see chart 32). Trends in the one-year Gini ratio emerge during periods of both high and low default rates, which reflects the natural relationship between the two extremes. In periods of high defaults, there tends to be greater variation in the distribution of ratings prior to default, which reduces the Gini. That is, when default pressure is high, economic conditions are such that the likelihood of companies from across the rating spectrum suffering a more rapid deterioration of credit quality is higher.

Consistent with the very low annual default rate in 2021, the global Gini ratio finished historically high. The one-year Gini ratio in 2021 was 87.7%, alongside a speculative-grade default rate of 1.7%. These compare with a Gini of 86.1% and a default rate of 5.5% in 2020.

Chart 32

Global One-Year Gini Coefficients Versus Speculative-Grade Default Rate



Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.
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Appendix I: Methodology And Definitions

This long-term corporate default and rating transition study uses the CreditPro database of long-term local currency issuer credit ratings. The analysis excludes public information (pi) ratings and ratings based on the guarantee of another company or government entity. We also do not include short-term issuer credit ratings.

S&P Global Ratings does not require all issuers with rated debt to be assigned an issuer credit rating. Therefore, if an issuer has rated debt but not an issuer credit rating, we assign a proxy rating so that the CreditPro corporate dataset accurately represents the complete universe of ratings. The local currency senior unsecured rating is the preferred debt rating for the proxy because it is usually consistent with the issuer credit rating. In a small number of cases, we use the subordinated debt rating or the senior secured rating as the proxy.

An S&P Global Ratings issuer credit rating is a forward-looking opinion about an obligor's overall creditworthiness. This opinion focuses on the obligor's capacity and willingness to meet its financial commitments as they come due. It does not apply to any specific financial obligation because it does not take into account the nature and provisions of any single obligation, its standing in bankruptcy or liquidation, statutory preferences, or the legality and enforceability of the obligation. Counterparty credit ratings, corporate credit ratings, and sovereign credit ratings are all forms of issuer credit ratings. Issuer credit ratings can be either long-term or short-term.

Our ongoing enhancement of the 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

This study analyzes the rating histories of 22,469 companies that S&P Global Ratings rated as of Dec. 31, 1980, or that were first rated between that date and Dec. 31, 2021. These include industrials, utilities, financial institutions, and insurance companies around the world with long-term local currency ratings. Structured finance vehicles, public-sector issuers, and sovereign issuers are the subjects of separate default and transition studies, and we exclude them from this study.

In this study, the insurance industry includes life insurance, health insurance, property/casualty insurance, reinsurance, bond insurance, mortgage insurance, and title insurance. In addition to these subsectors, this study groups insurance service providers (such as insurance brokers and third-party administrators that are rated according to corporate criteria) with the insurance industry.

To avoid overcounting, we exclude subsidiaries with debt that is fully guaranteed by a parent or with default risk that is considered identical to that of a parent. 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. We included such subsidiaries for the period during which they had a distinct and separate risk of default.

Issuers with withdrawn ratings

S&P Global Ratings withdraws ratings when an entity's entire debt is paid off or when the program or programs rated are terminated and the relevant debt extinguished. 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, or at the entity's request. For the purposes of this study, a corporate rating may also be withdrawn as a result of mergers and acquisitions.

Definition of default

An obligor rated 'SD' (selective default) or 'D' (default) is in default on one or more of its financial obligations, including rated and unrated financial obligations but excluding hybrid instruments classified as regulatory capital or in nonpayment according to terms. An obligor is considered in default unless S&P Global Ratings believes that such payments will be made within five business days of the due date in the absence of a stated grace period, or within the earlier of the stated grace period or 30 calendar days.

A 'D' rating is assigned when S&P Global Ratings believes that the default will be a general default and that the obligor will fail to pay all or substantially all of its obligations as they come due. An 'SD' rating is assigned when S&P Global Ratings believes that the obligor has selectively defaulted on a specific issue or class of obligations but will continue to meet its payment obligations on other issues or classes of obligations in a timely manner. S&P Global Ratings lowers its rating on an obligor to 'D' or 'SD' if the obligor is conducting a distressed exchange offer.

'R' (regulatory intervention) indicates that an obligor is under regulatory supervision owing to its financial condition. This does not necessarily indicate a default event, but during the period of

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regulatory supervision, the regulators may have the power to favor one class of obligations over others or pay some obligations and not others. Preferred stock is not considered a financial obligation; thus, a missed preferred stock dividend is not normally equated with default. On July 5, 2020, we removed the 'R' symbol from all rating scales.

We deem 'D', 'SD', and 'R' issuer ratings to be defaults for the purposes of this study. A default is assumed to take place on the earliest of:

- The date S&P Global Ratings revised the rating(s) to 'D', 'SD', or 'R';
- The date a debt payment was missed;
- The date a distressed exchange offer was announced; or
- The date the debtor filed for, or was forced into, bankruptcy.

When an issuer defaults, it is not uncommon for S&P Global Ratings to subsequently withdraw the 'D' rating. For the purposes of this study, if an issuer defaults, we end its rating history at 'D'. If any defaulting entity reemerges from bankruptcy--or otherwise restructures its defaulted debt instruments, thereby reestablishing regular, timely payment of all its debts--we reenter this issuer into the database as a new entity. Its rating history after the default event is included in all calculations as entirely separate from its experience leading up to its earlier default.

Many practitioners use statistics from this default study to estimate the "probability of default" and "probability of rating transition." It is important to note that S&P Global Ratings' credit ratings do not imply a specific probability of default.

Regional definitions

Within this study, tables and charts are often presented using specific geographic regions. Some countries can be included in multiple regions, and S&P Global Ratings does not have corporate ratings within every country. The four major regions covered in this study are the U.S., Europe, other developed markets, and emerging and frontier markets. This year we have added to the countries included in other developed and emerging markets.

U.S. and tax havens: U.S., Bermuda, and the Cayman Islands

Europe: Austria, Belgium, British Virgin Islands, Bulgaria, Channel Islands, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Gibraltar, Greece, Guernsey, Hungary, Iceland, Ireland, Isle of Man, Italy, Jersey, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the U.K.

Other developed: Australia, Brunei Darussalam, Canada, Israel, Japan, Republic of Korea, New Zealand, and Singapore

Emerging markets:

Asia-Pacific. Bangladesh, Bhutan, China, Fiji, Hong Kong, India, Indonesia, Macao Special Administrative Region of China, Malaysia, Mongolia, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Taiwan, Thailand, and Vietnam

EMEA (Europe, Middle East, Africa). Angola, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Bulgaria, Cote d'Ivoire, Croatia, Cyprus, Czech Republic, Egypt, Estonia, Gabon, Georgia, Ghana, Greece, Hungary, Jordan, Kazakhstan, Kenya, Kuwait, Latvia, Lebanon, Lithuania, Mauritius, Montenegro, Morocco, Namibia, Nigeria, Oman, Poland, Qatar, Republic of Moldova,

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Romania, Russia, Saudi Arabia, Slovakia, Slovenia, South Africa, Tunisia, Turkey, Ukraine, United Arab Emirates, and Uzbekistan

Latin America and Caribbean. Argentina, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Honduras, Jamaica, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, and Uruguay

Frontier markets:

Asia-Pacific. Cambodia and Marshall Islands

EMEA. Liberia, Syrian Arab Republic, and Togo

Latin America and Caribbean. Aruba, Bahamas, Curacao, Netherlands Antilles*, Turks and Caicos Islands, and Venezuela

*The Netherlands Antilles was dissolved in 2010.

Static pool methodology

S&P Global Ratings Research conducts its default studies on the basis of groupings called static pools. For the purposes of this study, we form static pools by grouping issuers (for example, by rating category) at the beginning of each year, quarter, or month that the database covers. 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, we assign that default to all of the static pools to which the issuer belonged.

We use the static pool methodology to avoid certain pitfalls in estimating default rates, such as by ensuring that default rates account for rating migration and allowing for default rates to be calculated across multiperiod 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, which may yield comparatively low default rates during periods of high rating activity because 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 update revises results to the same starting date of Dec. 31, 1980, to avoid continuity problems.

Entities that have had ratings withdrawn--that is, revised to not rated (NR)--are surveilled with the aim of capturing a potential default. Because static pools include only entities with active ratings as of the beginning date of a given pool, we exclude companies with withdrawn ratings, as well as those that have defaulted, from subsequent static pools. If the rating on an entity is withdrawn after the start date of a particular static pool and the entity subsequently defaults, we will include the entity in that static pool as a defaulter and categorize it in the rating category of which it was a member at that time.

For instance, the 1981 static pool consists of all companies rated as of 12:00:01 a.m. on Jan. 1, 1981. Adding those companies first rated in 1981 to the surviving members (those still actively rated and not in default) 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 through the ratings on these entities

as of 12:00:01 a.m. on Jan. 1, 1982. We used the same method to form static pools for 1983-2021. From Jan. 1, 1981, to Dec. 31, 2021, a total of 22,469 first-time-rated organizations were added to form new static pools, while we excluded 3,170 defaulting companies and 12,023 companies that are no longer assigned ratings (NR).

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 in 1990 and a default in 1993. We would include this hypothetical company in the 1987 and 1988 pools with the 'BB' rating, which was the rating on the issuer 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.

Default rate calculation

We calculated annual default rates for each static pool, first in units and later as percentages with respect to the number of issuers in each rating category. We combined these percentages to obtain cumulative default rates for the 41 years the study covers (see tables 24-26 and 30-32).

Issuer-weighted default rates

All default rates that appear in this study are 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 more useful measures of the performance of ratings.

Average cumulative default rate calculation

The cumulative default rates in this study average the experience of all static pools by first calculating marginal default rates for each possible time horizon and for each static pool, weight-averaging the marginal default rates conditional on survival (survivors being nondefaulters), and accumulating the average conditional marginal default rates (see tables 24-26 and 30-32). We calculated conditional default rates 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, in table 32, the weighted average first-year default rate for all speculative-grade-rated companies for all 41 pools was 3.6%, meaning that an average of 96.4% survived one year. Similarly, the second- and third-year conditional marginal averages--shown in the "Summary statistics" section at the bottom of the table--were 3.5% for the first 40 pools (96.5% of those companies that did not default in the first year survived the second year) and 3.11% for the first 39 pools (96.89% of those companies that did not default by the second year survived the third year), respectively. Multiplying 96.4% by 96.5% results in a 93.03% survival rate to the end of the second year, which leads to a two-year average cumulative default rate of 6.97%. Multiplying 93.03% by 96.89% results in a 90.14% survival rate to the end of the third year, which results in a three-year average cumulative default rate of 9.86%.

Transition analysis

Transition rates compare issuer credit ratings at the beginning of a period with ratings at the end of the period. To compute one-year rating transition rates by rating category, we compared the rating on each entity at the end of a particular year 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 seven consecutive one-year transition matrices from 1985-1991. If the rating on the issuer was withdrawn in the middle of 1991, it would be included in the column representing transitions to NR in the 1991 transition matrix. Similarly, if it defaulted in the middle of 1991, it would be included in the column representing transitions to 'D' in the 1991 one-year transition matrix.

All 1981 static pool members still rated on Jan. 1, 2021, had 41 one-year transitions, while companies first rated on Jan. 1, 2021, had only one. Table 29 displays the summary of one-year transitions in the investment-grade and speculative-grade rating categories. 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 leftmost column, there are nine ratios listed in the rows, corresponding to the ratings from 'AAA' to 'D', plus an entry for NR (see table 22).

The only ratings considered in these calculations are those on entities at the beginning of each static pool and those at the end. All rating changes that occur in between are ignored. For example, if an entity was rated 'A' on Jan. 1, 2021, and was downgraded to 'BBB' in the middle of the year and then upgraded to 'A' later in the year (with no other subsequent rating changes), this entity would be included only in the percentage of issuers that began the year as 'A' that ended the year as 'A'. This also applies to transition matrices that span longer time horizons. If an issuer defaults or if the rating on the issuer is withdrawn in the middle of the year, then it would be considered rated 'D' or not rated as of Dec. 31 of that particular year.

Table 29

Summary Of One-Year Global Corporate Rating Transitions

Year	--Investment-grade rating distribution at year-end--					--Speculative-grade rating distribution at year-end--				
	Jan. 1 investment-grade	Investment-grade (%)	Spec-grade (%)*	Defaulted (%)§	Rating withdrawn (%)	Jan. 1 spec-grade	Investment-grade (%)†	Spec-grade (%)	Defaulted (%)	Rating withdrawn (%)
1981	1,031	97.38	1.36	0.00	1.26	318	4.72	89.94	0.63	4.72
1982	1,062	93.50	3.11	0.19	3.20	336	2.68	80.36	4.46	12.50
1983	1,084	94.28	2.12	0.09	3.51	336	3.27	83.33	2.98	10.42
1984	1,147	95.38	2.27	0.17	2.18	363	4.96	87.05	3.31	4.68
1985	1,186	93.17	3.54	0.00	3.29	412	3.88	85.68	4.37	6.07
1986	1,313	90.25	3.73	0.15	5.86	522	3.07	81.99	5.75	9.20
1987	1,320	90.30	3.11	0.00	6.59	671	3.58	79.43	2.83	14.16
1988	1,334	91.90	2.77	0.00	5.32	747	3.61	79.65	3.88	12.85
1989	1,378	93.47	2.69	0.22	3.63	744	5.24	75.13	4.70	14.92
1990	1,427	94.67	2.10	0.14	3.08	690	3.19	75.07	8.12	13.62

Table 29

Summary Of One-Year Global Corporate Rating Transitions (cont.)

Year	--Investment-grade rating distribution at year-end--						--Speculative-grade rating distribution at year-end--				
	Jan. 1 investment-grade	Investment-grade (%)	Spec-grade (%)*	Defaulted (%)§	Rating withdrawn (%)	Jan. 1 spec-grade	Investment-grade (%)†	Spec-grade (%)	Defaulted (%)	Rating withdrawn (%)	
1991	1,465	96.31	1.77	0.14	1.77	588	3.06	77.89	11.05	7.99	
1992	1,614	96.47	1.24	0.00	2.29	523	6.31	78.59	6.12	8.99	
1993	1,763	92.74	1.53	0.00	5.73	558	4.66	76.70	2.51	16.13	
1994	1,845	95.83	0.76	0.05	3.36	708	4.10	86.02	2.12	7.77	
1995	2,042	95.49	1.13	0.05	3.33	820	3.78	85.00	3.54	7.68	
1996	2,234	94.54	0.63	0.00	4.83	883	4.76	80.97	1.81	12.46	
1997	2,484	93.32	1.17	0.08	5.43	994	4.33	81.09	2.01	12.58	
1998	2,761	90.44	2.21	0.14	7.21	1,307	2.98	83.86	3.67	9.49	
1999	2,867	90.65	1.64	0.17	7.53	1,651	1.64	81.34	5.57	11.45	
2000	2,923	91.58	1.78	0.24	6.40	1,747	2.18	83.34	6.24	8.24	
2001	2,997	90.66	2.67	0.23	6.44	1,748	1.49	79.35	9.84	9.32	
2002	3,107	89.41	3.96	0.42	6.21	1,673	1.79	79.62	9.50	9.09	
2003	3,022	92.42	2.51	0.10	4.96	1,755	1.54	81.99	5.07	11.40	
2004	3,136	94.10	1.02	0.03	4.85	1,875	2.19	84.53	2.03	11.25	
2005	3,244	92.94	1.57	0.03	5.46	2,056	3.11	82.34	1.51	13.04	
2006	3,271	93.82	1.41	0.00	4.77	2,188	2.19	82.08	1.19	14.53	
2007	3,347	90.11	1.76	0.00	8.13	2,298	3.05	81.81	0.91	14.23	
2008	3,325	92.30	1.95	0.42	5.32	2,398	2.13	83.32	3.71	10.84	
2009	3,355	89.48	3.37	0.33	6.83	2,251	1.29	77.03	9.91	11.77	
2010	3,188	94.76	0.94	0.00	4.30	2,114	2.32	84.91	3.03	9.74	
2011	3,238	93.36	1.76	0.03	4.85	2,379	2.35	84.03	1.85	11.77	
2012	3,251	93.76	1.72	0.00	4.52	2,547	1.92	85.59	2.59	9.89	
2013	3,261	94.97	1.38	0.00	3.65	2,769	2.09	85.34	2.24	10.33	
2014	3,360	95.71	1.22	0.00	3.07	3,116	1.41	85.56	1.44	11.59	
2015	3,516	92.92	2.56	0.00	4.52	3,381	1.36	83.76	2.78	12.10	
2016	3,532	93.15	1.73	0.03	5.10	3,370	1.16	82.94	4.24	11.66	
2017	3,521	94.21	1.42	0.00	4.37	3,359	1.46	82.11	2.47	13.96	
2018	3,543	95.15	0.79	0.00	4.06	3,424	1.58	84.23	2.07	12.12	
2019	3,613	95.13	0.66	0.06	4.15	3,615	1.00	85.01	2.54	11.45	
2020	3,616	93.78	2.43	0.00	3.79	3,586	0.31	84.27	5.52	9.90	
2021	3,539	95.42	0.93	0.00	3.65	3,578	1.34	83.96	1.68	13.02	
Weighted average	104,262	93.27	1.82	0.08	4.83	70,398	2.06	82.92	3.60	11.42	
Median		93.50	1.76	0.03	4.52		2.35	82.94	3.03	11.45	

Table 29

Summary Of One-Year Global Corporate Rating Transitions (cont.)

Year	--Investment-grade rating distribution at year-end--					--Speculative-grade rating distribution at year-end--				
	Jan. 1 investment-grade	Investment-grade (%)	Spec-grade (%)*	Defaulted (%)§	Rating withdrawn (%)	Jan. 1 spec-grade	Investment-grade (%)†	Spec-grade (%)	Defaulted (%)	Rating withdrawn (%)
Standard deviation		2.04	0.87	0.12	1.57		1.37	3.24	2.62	2.63
Minimum		89.41	0.63	0.00	1.26		0.31	75.07	0.63	4.68
Maximum		97.38	3.96	0.42	8.13		6.31	89.94	11.05	16.13

*Fallen angels that survived to Jan. 1 of the year after they were downgraded. §Investment-grade defaulters. †Rising stars. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Multiyear transitions

Multiyear transitions were also calculated for periods of two up to 20 years. In this case, we compared the rating at the beginning of the multiyear period with the rating at the end. For example, three-year transition matrices were the result of comparing ratings at the beginning of the years 1981-2019 with the ratings at the end of the years 1983-2021. Otherwise, the methodology was identical to that used for single-year transitions.

We calculated average transition matrices on the basis of the multiyear matrices just described. These average matrices are true summaries, the ratios of which represent the historical incidence of the ratings listed in the first column changing to the ones listed in the top row over the course of the multiyear period (see tables 33-40). Transition matrices that present averages over multiple time horizons are also calculated as issuer-weighted averages.

Rating modifiers

We use rating modifiers (plus and minus signs) to calculate upgrade and downgrade percentages, as well as the magnitude of rating changes, throughout this study. However, some transition tables may use full rating categories for practical reasons. In other words, the use of a rating category suggests that movements to 'AA' from 'AA-' or to 'BBB+' from 'BBB-', for example, are not considered to be rating transitions because the rating remained within the rating category.

Comparing transition rates with default rates

Rating transition rates may be compared with the marginal and cumulative default rates described in the previous sections. For example, the one-year default rate column of table 24 is equivalent to column 'D' of the average one-year transition matrix in table 21, as well as the cumulative average in the "Summary statistics" of the one-year column in table 32.

However, the two-year default rate column in table 24 is not the same as column 'D' of the average two-year transition matrix in table 34. This difference results from the different methods of calculating default rates. The default rates in table 34 are calculated as not conditional on survival, while those in table 24 are average default rates conditional on survival. The two-year default rates in table 24 are calculated in the same way as those in the cumulative average section for the two-year column in table 32, while those in the 'D' column of table 34 are equivalent to

adding up all the defaults behind the two-year column's annual default rates in table 32, divided by the sum of all the issuers in table 32 for the years 1981-2021.

The links between transition matrices and average cumulative default rates are best illustrated through tables 30-32. The default rates in the columns of these tables, associated with each static pool year, are calculated in the same way as they would be for individual years' one-year transition matrices. Tables 30, 31, and 32 are broken out by the broadest rating classifications (all rated, investment-grade, and speculative-grade). These tables can also be constructed for each rating category.

As an example, the two-year column of table 32 shows the two-year default rates (not conditional on survival) for each static pool. These are calculated in the same way as the default column in table 20, though table 20 shows the one-year default rates for each rating category for 2021 exclusively. In the summary sections at the bottom of tables 30-32, the first rows show the issuer-weighted averages of the marginal default rates. These marginal averages are then used to calculate the cumulative average default rates in the rows directly beneath them, as explained in the "Average cumulative default rate" section above. These default rates are the same that appear in table 24 and are average cumulative default rates conditional on survival.

Standard deviations

Many of the tables and charts in this study display averages of default rates, transition rates, and Gini ratios. Often these are issuer-weighted averages. Prior studies have shown that fluctuations in default rates and transitions can vary greatly depending on many circumstances specific to particular time frames, industries, and geographic regions. As a supplement to many of the averages and time series presented in this study, standard deviations are also shown to provide a gauge of the dispersion of data behind these averages.

For the transition matrices in tables 21-23 and 33-44, the standard deviation for each cell in a given matrix is a weighted standard deviation, calculated using the data from each of the underlying cohort years that contribute to the averages, weighted by that cohort year's issuer base for each rating level. For example, in the average one-year global transition matrix in table 33, each cell's weighted standard deviation is calculated from the series of that particular cell in each of the 41 cohorts beginning with the 1981 cohort and ending with the 2021 cohort. The squared difference between each cohort's transition rate and the weighted average--which is the data point in each cell--is multiplied by each cohort's weight. These weights are based on each cohort's rating level's contribution to the 41-year total issuer base for each rating level. We then divide this by the ratio of the total number of nonzero weights minus one and the total number of nonzero weights.

For the Gini ratios in tables 2, 27, and 28, the standard deviations are derived from the time series of Gini ratios for all of their constituent annual cohorts. As an example, the standard deviation applied to the seven-year weighted average global Gini ratio in table 2 (5.2%) was calculated from the time series of all available seven-year Gini ratios by cohort. In this case, these are the seven-year Gini ratios from the 1981 cohort through the 2015 seven-year cohort. We calculated standard deviations for Gini ratios in this study as the standard deviations of a sample, and not those of a population.

Time sample

This study limits the reporting of default rates to the 15-year time horizon. However, the data was gathered for 41 years, and all calculations are based on the rating experience of that period. In

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addition, average default statistics become less reliable at longer time horizons as the sample size becomes smaller and the cyclical nature of default rates has a bigger effect on averages.

Table 30

Static Pool Cumulative Global Corporate Default Rates Among All Ratings (1981-2021)

Rating: All rated

Year	Issuers	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1981	1,349	0.15	1.41	2.15	2.97	3.63	5.04	5.49	6.30	6.89	8.01	9.71	10.16	10.67	10.75	10.97
1982	1,398	1.22	1.93	2.79	3.51	4.94	5.29	6.08	6.58	7.73	9.59	10.09	10.66	10.73	10.94	10.94
1983	1,420	0.77	1.62	2.46	4.08	4.51	5.56	6.06	7.18	9.23	9.79	10.35	10.42	10.63	10.63	10.70
1984	1,510	0.93	1.99	3.84	4.30	5.36	6.09	7.28	9.01	9.60	10.20	10.26	10.46	10.46	10.60	10.60
1985	1,598	1.13	3.07	3.63	5.01	5.88	7.20	9.07	9.64	10.14	10.20	10.51	10.51	10.64	10.64	10.95
1986	1,835	1.74	2.34	3.65	4.52	5.94	7.85	8.50	9.05	9.21	9.48	9.59	9.81	9.92	10.19	10.57
1987	1,991	0.95	2.41	3.87	5.73	8.29	9.39	10.15	10.40	10.75	10.90	11.10	11.20	11.50	11.95	13.01
1988	2,081	1.39	3.03	5.19	8.27	9.37	10.14	10.38	10.86	11.00	11.29	11.48	11.82	12.49	13.41	14.42
1989	2,122	1.79	4.38	7.92	9.10	9.90	10.23	10.65	10.79	11.07	11.45	11.78	12.39	13.34	14.28	14.75
1990	2,117	2.74	6.14	7.56	8.36	8.69	9.16	9.26	9.64	10.11	10.49	11.24	12.19	13.23	13.75	13.89
1991	2,053	3.26	4.77	5.31	5.65	6.19	6.28	6.62	7.06	7.45	8.13	9.16	10.28	10.76	10.96	11.11
1992	2,137	1.50	2.01	2.34	2.95	3.09	3.42	3.84	4.16	4.87	5.85	6.97	7.39	7.58	7.72	7.86
1993	2,321	0.60	1.08	1.98	2.20	2.59	3.02	3.45	4.22	5.34	6.51	6.94	7.11	7.28	7.50	7.63
1994	2,553	0.63	1.76	2.15	2.62	3.09	3.96	4.97	6.31	7.52	8.03	8.26	8.42	8.70	8.81	9.40
1995	2,862	1.05	1.54	2.03	2.59	3.56	4.58	6.43	7.83	8.46	8.70	8.91	9.15	9.26	9.78	10.66
1996	3,117	0.51	1.09	1.83	2.98	4.01	5.74	7.28	7.99	8.28	8.50	8.73	8.85	9.40	10.27	10.39
1997	3,478	0.63	1.61	2.93	4.34	6.30	8.08	9.03	9.32	9.55	9.83	9.98	10.58	11.44	11.53	11.64
1998	4,068	1.28	3.24	5.24	7.87	10.08	11.33	11.82	12.14	12.46	12.61	13.25	14.21	14.31	14.43	14.55
1999	4,518	2.15	4.67	7.99	10.89	12.39	12.95	13.30	13.66	13.81	14.61	15.76	15.94	16.07	16.22	16.31
2000	4,670	2.48	6.06	9.25	10.96	11.67	12.12	12.48	12.70	13.58	14.97	15.14	15.31	15.46	15.61	15.67
2001	4,745	3.77	7.36	9.34	10.05	10.58	10.94	11.15	11.99	13.47	13.66	13.83	13.99	14.18	14.25	14.50
2002	4,780	3.60	5.63	6.42	6.88	7.24	7.45	8.39	9.98	10.19	10.36	10.54	10.79	10.86	11.11	11.38
2003	4,777	1.93	2.72	3.22	3.62	3.83	4.81	6.64	6.91	7.08	7.35	7.64	7.72	8.00	8.27	8.56
2004	5,011	0.78	1.32	1.72	1.96	2.99	4.99	5.33	5.55	5.85	6.13	6.21	6.49	6.77	7.04	7.18
2005	5,300	0.60	1.02	1.36	2.57	4.87	5.36	5.66	6.00	6.30	6.43	6.79	7.09	7.34	7.47	7.74
2006	5,459	0.48	0.88	2.33	5.04	5.66	6.08	6.58	6.94	7.09	7.47	7.86	8.10	8.24	8.50	8.83
2007	5,645	0.37	2.04	5.28	6.15	6.61	7.21	7.64	7.81	8.27	8.70	8.95	9.07	9.34	9.73	9.78
2008	5,723	1.80	5.57	6.66	7.11	7.85	8.25	8.51	9.03	9.51	9.77	9.99	10.26	10.78	10.85	
2009	5,606	4.17	5.33	5.82	6.56	6.97	7.26	7.80	8.35	8.63	8.87	9.10	9.63	9.70		
2010	5,302	1.21	1.90	2.75	3.23	3.62	4.19	4.94	5.30	5.55	5.85	6.51	6.56			
2011	5,617	0.80	1.92	2.62	3.10	3.88	4.82	5.22	5.47	5.75	6.52	6.60				
2012	5,798	1.14	2.07	2.57	3.47	4.57	5.11	5.47	5.80	6.61	6.71					

Table 30

Static Pool Cumulative Global Corporate Default Rates Among All Ratings (1981-2021) (cont.)

Rating: All rated

(%)		--Time horizon (years)--														
Year	Issuers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2013	6,030	1.03	1.63	2.80	4.18	4.86	5.26	5.61	6.50	6.63						
2014	6,476	0.69	1.98	3.57	4.43	4.99	5.47	6.56	6.70							
2015	6,897	1.36	3.29	4.26	4.93	5.63	7.02	7.22								
2016	6,902	2.09	3.12	3.90	4.61	6.17	6.45									
2017	6,880	1.21	2.11	3.01	4.87	5.22										
2018	6,967	1.02	2.12	4.28	4.75											
2019	7,228	1.30	3.79	4.37												
2020	7,202	2.75	3.44													
2021	7,117	0.84														
Summary statistics																
Marginal average		1.50	1.45	1.28	1.09	0.92	0.78	0.66	0.56	0.51	0.47	0.41	0.34	0.32	0.29	0.29
Cumulative average		1.50	2.93	4.17	5.22	6.10	6.83	7.45	7.97	8.43	8.86	9.23	9.54	9.84	10.10	10.36
Standard deviation		0.97	1.65	2.14	2.43	2.55	2.51	2.44	2.43	2.44	2.44	2.44	2.46	2.44	2.51	2.59
Median		1.21	2.12	3.63	4.57	5.63	6.19	7.22	7.82	8.46	9.17	9.71	10.27	10.64	10.69	10.94
Minimum		0.15	0.88	1.36	1.96	2.59	3.02	3.45	4.16	4.87	5.85	6.21	6.49	6.77	7.04	7.18
Maximum		4.17	7.36	9.34	10.96	12.39	12.95	13.30	13.66	13.81	14.97	15.76	15.94	16.07	16.22	16.31

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 31

Static Pool Cumulative Global Corporate Default Rates Among All Investment-Grade Ratings (1981-2021)

Rating: Investment-grade

(%)		--Time horizon (years)--														
Year	Issuers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1981	1,031	0.00	0.39	0.39	0.48	0.68	1.07	1.36	2.13	2.33	3.10	4.17	4.36	4.56	4.56	4.75
1982	1,062	0.19	0.28	0.38	0.56	1.04	1.32	2.07	2.26	3.11	4.24	4.52	4.80	4.80	4.99	4.99
1983	1,084	0.09	0.37	0.46	0.92	1.11	1.66	1.75	2.58	3.69	4.06	4.34	4.34	4.52	4.52	4.52
1984	1,147	0.17	0.26	0.61	0.78	1.22	1.39	2.09	3.05	3.40	3.66	3.66	3.84	3.84	3.92	3.92
1985	1,186	0.00	0.17	0.25	0.84	1.01	1.77	2.78	3.12	3.37	3.37	3.63	3.63	3.79	3.79	3.96
1986	1,313	0.15	0.15	0.53	0.69	1.22	2.13	2.51	2.67	2.67	2.89	2.89	3.05	3.12	3.27	3.58
1987	1,320	0.00	0.15	0.38	0.83	1.74	2.27	2.42	2.50	2.65	2.65	2.80	2.88	3.03	3.18	4.02

Table 31

Static Pool Cumulative Global Corporate Default Rates Among All Investment-Grade Ratings (1981-2021) (cont.)

Rating: Investment-grade

Year	Issuers	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1988	1,334	0.00	0.22	0.37	0.97	1.50	1.65	1.72	1.87	1.87	2.02	2.02	2.17	2.32	3.00	3.82
1989	1,378	0.22	0.36	0.65	1.23	1.38	1.45	1.60	1.60	1.60	1.60	1.81	1.96	2.76	3.41	3.77
1990	1,427	0.14	0.35	0.77	0.98	1.05	1.19	1.19	1.19	1.26	1.54	1.89	2.59	3.15	3.50	3.57
1991	1,465	0.14	0.27	0.41	0.48	0.61	0.61	0.61	0.68	1.02	1.37	2.12	2.66	2.94	3.00	3.07
1992	1,614	0.00	0.06	0.12	0.25	0.25	0.25	0.31	0.56	0.81	1.36	1.86	2.11	2.17	2.29	2.48
1993	1,763	0.00	0.06	0.17	0.17	0.23	0.40	0.74	1.08	1.70	2.33	2.55	2.55	2.67	2.78	2.84
1994	1,845	0.05	0.16	0.16	0.27	0.38	0.81	1.08	1.68	2.28	2.55	2.60	2.66	2.82	2.87	3.25
1995	2,042	0.05	0.05	0.10	0.20	0.69	0.93	1.67	2.25	2.50	2.55	2.60	2.74	2.79	3.18	3.53
1996	2,234	0.00	0.04	0.09	0.49	0.81	1.52	2.06	2.28	2.37	2.42	2.55	2.55	2.95	3.40	3.45
1997	2,484	0.08	0.16	0.48	0.81	1.37	2.09	2.46	2.54	2.58	2.70	2.70	3.10	3.50	3.54	3.66
1998	2,761	0.14	0.43	0.80	1.38	2.39	2.83	3.01	3.11	3.19	3.19	3.66	4.20	4.27	4.42	4.56
1999	2,867	0.17	0.49	0.91	1.88	2.34	2.48	2.58	2.72	2.72	3.24	3.91	3.98	4.12	4.29	4.33
2000	2,923	0.24	0.58	1.54	2.02	2.12	2.26	2.39	2.39	2.98	3.66	3.73	3.90	4.04	4.07	4.14
2001	2,997	0.23	1.23	1.67	1.84	2.00	2.14	2.14	2.67	3.40	3.44	3.60	3.77	3.84	3.87	4.07
2002	3,107	0.42	0.77	0.90	1.03	1.09	1.09	1.64	2.29	2.32	2.45	2.61	2.70	2.74	2.93	3.03
2003	3,022	0.10	0.20	0.30	0.33	0.33	0.86	1.59	1.62	1.72	1.79	1.89	1.92	2.15	2.25	2.32
2004	3,136	0.03	0.10	0.13	0.13	0.64	1.28	1.34	1.43	1.53	1.63	1.63	1.85	1.95	1.98	2.01
2005	3,244	0.03	0.06	0.06	0.62	1.20	1.29	1.39	1.48	1.57	1.57	1.79	1.88	1.88	1.91	1.97
2006	3,271	0.00	0.00	0.49	0.92	1.01	1.10	1.16	1.25	1.25	1.44	1.50	1.50	1.50	1.53	1.59
2007	3,347	0.00	0.48	0.93	1.11	1.20	1.28	1.34	1.34	1.49	1.55	1.55	1.55	1.58	1.67	1.70
2008	3,325	0.42	0.81	0.96	1.08	1.17	1.23	1.23	1.38	1.50	1.50	1.53	1.56	1.62	1.65	
2009	3,355	0.33	0.45	0.54	0.60	0.63	0.63	0.77	0.89	0.89	0.92	0.95	1.01	1.04		
2010	3,188	0.00	0.03	0.06	0.09	0.09	0.25	0.38	0.38	0.44	0.50	0.53	0.56			
2011	3,238	0.03	0.06	0.06	0.06	0.09	0.25	0.25	0.31	0.37	0.46	0.49				
2012	3,251	0.00	0.00	0.00	0.03	0.22	0.22	0.28	0.34	0.43	0.49					
2013	3,261	0.00	0.00	0.00	0.15	0.15	0.25	0.31	0.43	0.46						
2014	3,360	0.00	0.00	0.15	0.15	0.24	0.33	0.48	0.51							
2015	3,516	0.00	0.06	0.06	0.14	0.20	0.37	0.43								
2016	3,532	0.03	0.03	0.11	0.17	0.37	0.40									
2017	3,521	0.00	0.00	0.06	0.17	0.20										
2018	3,543	0.00	0.06	0.11	0.14											
2019	3,613	0.06	0.08	0.11												
2020	3,616	0.00	0.00													
2021	3,539	0.00														

Table 31

Static Pool Cumulative Global Corporate Default Rates Among All Investment-Grade Ratings (1981-2021) (cont.)

Rating: Investment-grade

(%)		--Time horizon (years)--														
Year	Issuers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Summary statistics																
Marginal average		0.08	0.14	0.17	0.21	0.22	0.22	0.21	0.19	0.19	0.18	0.17	0.15	0.14	0.14	0.15
Cumulative average		0.08	0.23	0.40	0.61	0.83	1.05	1.26	1.45	1.63	1.81	1.98	2.13	2.27	2.40	2.55
Standard deviation		0.12	0.27	0.40	0.53	0.64	0.73	0.80	0.88	0.98	1.05	1.09	1.07	1.01	0.96	0.94
Median		0.03	0.16	0.37	0.58	1.01	1.21	1.39	1.65	1.87	2.37	2.55	2.66	2.94	3.23	3.58
Minimum		0.00	0.00	0.00	0.03	0.09	0.22	0.25	0.31	0.37	0.46	0.49	0.56	1.04	1.53	1.59
Maximum		0.42	1.23	1.67	2.02	2.39	2.83	3.01	3.12	3.69	4.24	4.52	4.80	4.80	4.99	4.99

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 32

Static Pool Cumulative Global Corporate Default Rates Among All Speculative-Grade Ratings (1981-2021)

Rating: Speculative-grade

(%)		--Time horizon (years)--														
Year	Issuers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1981	318	0.63	4.72	7.86	11.01	13.21	17.92	18.87	19.81	21.70	23.90	27.67	28.93	30.50	30.82	31.13
1982	336	4.46	7.14	10.42	12.80	17.26	17.86	18.75	20.24	22.32	26.49	27.68	29.17	29.46	29.76	29.76
1983	336	2.98	5.65	8.93	14.29	15.48	18.15	19.94	22.02	27.08	28.27	29.76	30.06	30.36	30.36	30.65
1984	363	3.31	7.44	14.05	15.43	18.46	20.94	23.69	27.82	29.20	30.85	31.13	31.40	31.40	31.68	31.68
1985	412	4.37	11.41	13.35	16.99	19.90	22.82	27.18	28.40	29.61	29.85	30.34	30.34	30.34	30.34	31.07
1986	522	5.75	7.85	11.49	14.18	17.82	22.22	23.56	25.10	25.67	26.05	26.44	26.82	27.01	27.59	28.16
1987	671	2.83	6.86	10.73	15.35	21.16	23.40	25.34	25.93	26.68	27.12	27.42	27.57	28.17	29.21	30.70
1988	747	3.88	8.03	13.79	21.29	23.43	25.30	25.84	26.91	27.31	27.84	28.38	29.05	30.66	31.99	33.33
1989	744	4.70	11.83	21.37	23.66	25.67	26.48	27.42	27.82	28.63	29.70	30.24	31.72	32.93	34.41	35.08
1990	690	8.12	18.12	21.59	23.62	24.49	25.65	25.94	27.10	28.41	28.99	30.58	32.03	34.06	34.93	35.22
1991	588	11.05	15.99	17.52	18.54	20.07	20.41	21.60	22.96	23.47	25.00	26.70	29.25	30.27	30.78	31.12
1992	523	6.12	8.03	9.18	11.28	11.85	13.19	14.72	15.30	17.40	19.69	22.75	23.71	24.28	24.47	24.47
1993	558	2.51	4.30	7.71	8.60	10.04	11.29	12.01	14.16	16.85	19.71	20.79	21.51	21.86	22.40	22.76
1994	708	2.12	5.93	7.34	8.76	10.17	12.15	15.11	18.36	21.19	22.32	23.02	23.45	24.01	24.29	25.42
1995	820	3.54	5.24	6.83	8.54	10.73	13.66	18.29	21.71	23.29	24.02	24.63	25.12	25.37	26.22	28.41
1996	883	1.81	3.74	6.23	9.29	12.12	16.42	20.50	22.42	23.22	23.90	24.35	24.80	25.71	27.63	27.97

Table 32

Static Pool Cumulative Global Corporate Default Rates Among All Speculative-Grade Ratings (1981-2021) (cont.)

Rating: Speculative-grade

(%)		--Time horizon (years)--														
Year	Issuers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1997	994	2.01	5.23	9.05	13.18	18.61	23.04	25.45	26.26	26.96	27.67	28.17	29.28	31.29	31.49	31.59
1998	1,307	3.67	9.18	14.61	21.58	26.32	29.30	30.45	31.22	32.06	32.52	33.51	35.35	35.50	35.58	35.65
1999	1,651	5.57	11.93	20.29	26.53	29.86	31.13	31.92	32.65	33.07	34.34	36.34	36.71	36.83	36.95	37.13
2000	1,747	6.24	15.23	22.15	25.93	27.65	28.62	29.36	29.94	31.31	33.89	34.23	34.40	34.57	34.92	34.97
2001	1,748	9.84	17.85	22.48	24.14	25.29	26.03	26.60	27.97	30.72	31.18	31.35	31.52	31.92	32.04	32.38
2002	1,673	9.50	14.64	16.68	17.75	18.65	19.25	20.92	24.27	24.81	25.04	25.28	25.82	25.94	26.30	26.90
2003	1,755	5.07	7.07	8.26	9.29	9.86	11.62	15.33	16.01	16.30	16.92	17.55	17.72	18.06	18.63	19.32
2004	1,875	2.03	3.36	4.37	5.01	6.93	11.20	12.00	12.43	13.07	13.65	13.87	14.24	14.83	15.52	15.84
2005	2,056	1.51	2.53	3.40	5.64	10.65	11.77	12.40	13.13	13.76	14.11	14.69	15.32	15.95	16.25	16.83
2006	2,188	1.19	2.19	5.07	11.20	12.61	13.53	14.67	15.45	15.81	16.50	17.37	17.96	18.33	18.92	19.65
2007	2,298	0.91	4.31	11.62	13.49	14.49	15.84	16.80	17.23	18.15	19.10	19.71	20.02	20.63	21.45	21.54
2008	2,398	3.71	12.18	14.55	15.47	17.10	17.97	18.60	19.64	20.60	21.23	21.73	22.31	23.48	23.60	
2009	2,251	9.91	12.62	13.68	15.46	16.44	17.15	18.26	19.46	20.17	20.70	21.24	22.48	22.61		
2010	2,114	3.03	4.73	6.81	7.95	8.94	10.12	11.83	12.72	13.25	13.91	15.52	15.61			
2011	2,379	1.85	4.46	6.09	7.23	9.04	11.06	11.98	12.48	13.07	14.75	14.92				
2012	2,547	2.59	4.71	5.85	7.85	10.13	11.35	12.09	12.76	14.49	14.64					
2013	2,769	2.24	3.54	6.10	8.92	10.40	11.16	11.85	13.65	13.90						
2014	3,116	1.44	4.11	7.25	9.05	10.11	11.01	13.13	13.38							
2015	3,381	2.78	6.65	8.64	9.91	11.27	13.93	14.29								
2016	3,370	4.24	6.35	7.86	9.26	12.26	12.79									
2017	3,359	2.47	4.32	6.10	9.79	10.48										
2018	3,424	2.07	4.26	8.59	9.52											
2019	3,615	2.54	7.50	8.63												
2020	3,586	5.52	6.92													
2021	3,578	1.68														
Summary statistics																
Marginal average		3.60	3.50	3.11	2.62	2.20	1.85	1.56	1.32	1.20	1.11	0.96	0.81	0.77	0.68	0.66
Cumulative average		3.60	6.97	9.86	12.23	14.16	15.75	17.06	18.16	19.14	20.04	20.80	21.44	22.05	22.58	23.09
Standard deviation		2.62	4.27	5.33	5.93	6.22	6.19	6.16	6.26	6.29	6.23	6.15	6.10	5.93	5.94	5.93
Median		3.03	6.76	8.93	12.04	14.49	17.50	18.75	20.97	23.22	24.51	26.44	27.20	28.17	29.49	30.65
Minimum		0.63	2.19	3.40	5.01	6.93	10.12	11.83	12.43	13.07	13.65	13.87	14.24	14.83	15.52	15.84

Table 32

Static Pool Cumulative Global Corporate Default Rates Among All Speculative-Grade Ratings (1981-2021) (cont.)

Rating: Speculative-grade

(%)		--Time horizon (years)--														
Year	Issuers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Maximum		11.05	18.12	22.48	26.53	29.86	31.13	31.92	32.65	33.07	34.34	36.34	36.71	36.83	36.95	37.13

Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 33

Average One-Year Global Corporate Transition Matrix (1981-2021)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	87.09	9.05	0.53	0.05	0.11	0.03	0.05	0.00	3.10
	(7.20)	(7.22)	(0.82)	(0.24)	(0.27)	(0.17)	(0.34)	(0.00)	(2.43)
AA	0.48	87.32	7.72	0.46	0.05	0.06	0.02	0.02	3.88
	(0.53)	(5.16)	(4.11)	(0.67)	(0.19)	(0.20)	(0.06)	(0.07)	(1.79)
A	0.02	1.56	88.73	4.97	0.25	0.11	0.01	0.05	4.29
	(0.09)	(1.06)	(3.76)	(2.12)	(0.38)	(0.24)	(0.06)	(0.10)	(1.67)
BBB	0.00	0.08	3.19	86.72	3.48	0.42	0.09	0.15	5.86
	(0.03)	(0.15)	(1.61)	(3.96)	(1.58)	(0.64)	(0.20)	(0.24)	(1.53)
BB	0.01	0.02	0.10	4.52	78.12	6.66	0.53	0.60	9.43
	(0.05)	(0.08)	(0.23)	(1.97)	(4.54)	(3.10)	(0.69)	(0.80)	(2.16)
B	0.00	0.02	0.06	0.15	4.54	74.73	4.81	3.18	12.51
	(0.00)	(0.08)	(0.19)	(0.20)	(2.15)	(3.91)	(2.76)	(3.01)	(2.24)
CCC/C	0.00	0.00	0.09	0.16	0.49	13.42	43.91	26.55	15.39
	(0.00)	(0.00)	(0.38)	(0.59)	(0.85)	(7.61)	(8.40)	(11.94)	(4.70)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 34

Average Two-Year Global Corporate Transition Matrix (1981-2021)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	75.76	16.15	1.42	0.11	0.24	0.05	0.11	0.03	6.14
	(10.20)	(10.61)	(1.47)	(0.30)	(0.46)	(0.23)	(0.41)	(0.17)	(4.24)
AA	0.83	76.39	13.69	1.19	0.17	0.13	0.02	0.06	7.53
	(0.71)	(8.08)	(5.84)	(1.10)	(0.33)	(0.28)	(0.06)	(0.12)	(2.87)
A	0.04	2.80	78.92	8.64	0.66	0.24	0.04	0.13	8.53

Table 34

Average Two-Year Global Corporate Transition Matrix (1981-2021) (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
	(0.07)	(1.74)	(5.97)	(2.86)	(0.77)	(0.39)	(0.10)	(0.19)	(2.69)
BBB	0.01	0.16	5.86	75.69	5.59	0.94	0.19	0.42	11.14
	(0.07)	(0.23)	(2.52)	(6.31)	(1.95)	(1.05)	(0.29)	(0.61)	(2.52)
BB	0.01	0.04	0.25	7.93	61.43	10.01	0.98	1.90	17.45
	(0.05)	(0.09)	(0.47)	(3.11)	(6.52)	(2.66)	(0.86)	(2.09)	(2.99)
B	0.00	0.03	0.11	0.35	7.48	56.00	5.82	7.60	22.61
	(0.00)	(0.10)	(0.27)	(0.42)	(3.36)	(4.82)	(2.47)	(5.38)	(3.50)
CCC/C	0.00	0.00	0.12	0.42	0.95	16.26	20.23	38.26	23.75
	(0.00)	(0.00)	(0.44)	(1.09)	(1.10)	(7.35)	(7.24)	(12.28)	(6.66)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 35

Average Three-Year Global Corporate Transition Matrix (1981-2021)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	65.54	22.15	2.32	0.32	0.26	0.08	0.11	0.13	9.08
	(11.62)	(12.29)	(1.74)	(0.76)	(0.53)	(0.29)	(0.41)	(0.37)	(5.26)
AA	1.11	67.26	18.04	1.92	0.32	0.20	0.03	0.11	11.01
	(0.86)	(9.57)	(6.13)	(1.42)	(0.50)	(0.44)	(0.07)	(0.18)	(3.98)
A	0.05	3.67	70.68	11.14	1.10	0.38	0.08	0.22	12.67
	(0.09)	(2.18)	(7.18)	(2.92)	(1.01)	(0.57)	(0.13)	(0.27)	(3.42)
BBB	0.02	0.24	7.90	66.78	6.71	1.42	0.25	0.74	15.93
	(0.06)	(0.37)	(2.90)	(7.56)	(1.99)	(1.26)	(0.35)	(0.90)	(3.29)
BB	0.01	0.05	0.43	10.32	49.13	11.30	1.15	3.39	24.23
	(0.05)	(0.12)	(0.65)	(3.49)	(7.61)	(2.58)	(0.85)	(3.34)	(3.57)
B	0.00	0.02	0.16	0.63	9.08	42.39	5.26	11.56	30.90
	(0.05)	(0.10)	(0.39)	(0.74)	(3.57)	(5.13)	(2.05)	(6.75)	(4.54)
CCC/C	0.00	0.00	0.11	0.50	1.51	16.52	9.73	42.29	29.35
	(0.00)	(0.00)	(0.46)	(1.11)	(1.52)	(6.72)	(5.59)	(11.54)	(7.86)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 36

Average Five-Year Global Corporate Transition Matrix (1981-2021)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	49.52	28.83	4.75	0.80	0.34	0.16	0.08	0.34	15.17
	(11.80)	(13.43)	(2.74)	(1.53)	(0.54)	(0.40)	(0.27)	(0.59)	(6.60)
AA	1.37	52.56	23.97	3.38	0.53	0.35	0.04	0.30	17.49
	(0.98)	(9.60)	(5.16)	(1.85)	(0.63)	(0.58)	(0.10)	(0.38)	(4.68)
A	0.06	4.70	57.80	14.39	1.80	0.60	0.13	0.46	20.05
	(0.10)	(2.41)	(8.22)	(2.57)	(1.22)	(0.81)	(0.17)	(0.45)	(4.06)
BBB	0.02	0.37	10.14	53.82	7.50	1.94	0.34	1.58	24.29
	(0.07)	(0.51)	(2.90)	(8.02)	(1.54)	(1.42)	(0.37)	(1.42)	(4.30)
BB	0.01	0.07	0.86	12.27	33.54	11.15	1.15	6.51	34.45
	(0.05)	(0.16)	(0.94)	(3.04)	(7.52)	(1.94)	(0.88)	(4.86)	(3.87)
B	0.01	0.02	0.20	1.26	9.59	25.75	3.21	17.40	42.56
	(0.09)	(0.08)	(0.50)	(1.16)	(2.84)	(4.70)	(1.09)	(7.92)	(5.65)
CCC/C	0.00	0.00	0.09	0.68	2.49	12.34	2.70	46.35	35.35
	(0.00)	(0.00)	(0.43)	(1.58)	(1.98)	(4.51)	(3.35)	(11.16)	(8.50)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 37

Average Seven-Year Global Corporate Transition Matrix (1981-2021)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	38.00	32.66	6.79	1.47	0.35	0.19	0.11	0.51	19.93
	(10.99)	(13.92)	(3.03)	(1.92)	(0.55)	(0.42)	(0.31)	(0.74)	(6.92)
AA	1.43	41.59	27.29	4.51	0.70	0.35	0.03	0.51	23.58
	(0.97)	(7.98)	(4.26)	(1.88)	(0.62)	(0.50)	(0.08)	(0.53)	(4.65)
A	0.06	5.11	48.48	16.13	2.28	0.73	0.12	0.80	26.28
	(0.11)	(1.92)	(7.78)	(1.93)	(1.31)	(0.86)	(0.17)	(0.59)	(4.03)
BBB	0.03	0.49	11.01	45.08	7.33	2.12	0.34	2.41	31.19
	(0.10)	(0.57)	(2.62)	(7.49)	(0.87)	(1.17)	(0.31)	(1.78)	(4.48)
BB	0.00	0.08	1.20	12.56	24.71	9.97	0.94	9.46	41.07
	(0.00)	(0.16)	(1.03)	(3.00)	(6.88)	(2.00)	(0.65)	(5.55)	(3.40)
B	0.00	0.02	0.26	1.75	8.55	17.07	1.84	21.48	49.03
	(0.07)	(0.07)	(0.54)	(1.40)	(2.17)	(4.15)	(0.61)	(7.92)	(5.50)
CCC/C	0.00	0.00	0.17	0.89	3.27	7.50	2.05	47.94	38.19

Table 37

Average Seven-Year Global Corporate Transition Matrix (1981-2021) (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
	(0.00)	(0.00)	(0.54)	(1.89)	(2.08)	(3.56)	(2.57)	(10.97)	(8.91)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 38

Average 10-Year Global Corporate Transition Matrix (1981-2021)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	24.91	34.83	9.29	2.77	0.16	0.19	0.05	0.71	27.09
	(9.12)	(14.27)	(3.18)	(2.28)	(0.33)	(0.46)	(0.22)	(0.76)	(6.93)
AA	1.17	29.32	29.34	6.45	0.89	0.39	0.02	0.75	31.66
	(0.82)	(5.06)	(3.41)	(1.91)	(0.72)	(0.35)	(0.08)	(0.60)	(3.78)
A	0.09	5.13	38.10	17.28	2.54	0.87	0.12	1.34	34.54
	(0.16)	(1.49)	(6.33)	(2.00)	(0.94)	(0.64)	(0.16)	(0.86)	(4.23)
BBB	0.01	0.59	11.33	35.90	6.64	2.13	0.26	3.69	39.45
	(0.08)	(0.63)	(2.87)	(6.89)	(1.11)	(1.05)	(0.22)	(2.28)	(4.31)
BB	0.01	0.07	1.60	11.55	16.98	8.02	0.66	13.24	47.88
	(0.06)	(0.13)	(1.01)	(2.67)	(5.24)	(2.08)	(0.36)	(6.34)	(2.71)
B	0.00	0.03	0.32	2.28	7.23	9.95	1.00	26.18	53.02
	(0.00)	(0.06)	(0.56)	(1.60)	(1.74)	(3.04)	(0.57)	(8.49)	(5.01)
CCC/C	0.00	0.00	0.12	0.78	3.77	3.81	0.41	51.17	39.94
	(0.00)	(0.00)	(0.51)	(0.87)	(2.38)	(2.87)	(0.64)	(11.21)	(9.01)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 39

Average 15-Year Global Corporate Transition Matrix (1981-2021)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	12.26	32.85	14.19	2.78	0.56	0.39	0.03	0.95	35.99
	(6.68)	(11.34)	(3.33)	(1.02)	(0.44)	(0.58)	(0.16)	(0.79)	(4.54)
AA	0.81	17.51	28.26	8.82	1.08	0.56	0.03	1.14	41.80
	(0.78)	(3.37)	(3.62)	(2.06)	(0.78)	(0.46)	(0.09)	(0.53)	(3.25)
A	0.11	4.08	26.88	17.53	2.80	0.98	0.12	2.28	45.21
	(0.18)	(1.36)	(4.29)	(1.60)	(0.99)	(0.54)	(0.10)	(0.97)	(3.82)
BBB	0.00	0.67	10.05	25.80	5.36	2.01	0.20	5.95	49.97

Table 39

Average 15-Year Global Corporate Transition Matrix (1981-2021) (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
	(0.00)	(0.45)	(3.04)	(3.92)	(0.69)	(1.04)	(0.19)	(2.53)	(2.78)
BB	0.00	0.12	1.94	9.49	10.07	5.36	0.44	18.39	54.18
	(0.00)	(0.17)	(0.99)	(2.28)	(3.04)	(1.58)	(0.31)	(5.91)	(2.75)
B	0.00	0.07	0.50	2.63	4.17	4.68	0.49	31.94	55.53
	(0.00)	(0.08)	(0.43)	(1.40)	(1.09)	(1.49)	(0.33)	(8.54)	(6.59)
CCC/C	0.00	0.00	0.54	1.03	2.66	1.57	0.18	52.84	41.17
	(0.00)	(0.00)	(1.28)	(1.20)	(2.24)	(1.16)	(0.71)	(11.71)	(11.03)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 40

Average 20-Year Global Corporate Transition Matrix (1981-2021)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	4.99	27.94	17.55	3.65	0.82	0.72	0.03	1.23	43.07
	(3.47)	(8.27)	(4.56)	(1.46)	(0.47)	(0.70)	(0.15)	(0.90)	(4.99)
AA	0.56	10.09	24.54	10.88	1.27	0.69	0.05	1.61	50.31
	(0.64)	(2.06)	(4.06)	(2.25)	(0.62)	(0.51)	(0.14)	(0.92)	(2.03)
A	0.11	2.52	19.85	16.07	2.82	1.22	0.17	3.59	53.65
	(0.17)	(0.91)	(3.03)	(1.44)	(0.83)	(0.72)	(0.15)	(1.31)	(2.64)
BBB	0.00	0.63	7.44	19.23	4.39	1.67	0.12	8.97	57.54
	(0.00)	(0.29)	(1.20)	(1.86)	(0.78)	(0.71)	(0.18)	(1.75)	(2.09)
BB	0.00	0.17	1.64	7.15	5.75	3.92	0.39	24.39	56.59
	(0.00)	(0.22)	(0.48)	(1.43)	(1.96)	(1.02)	(0.38)	(3.82)	(3.09)
B	0.00	0.12	0.41	2.16	2.48	2.49	0.25	38.99	53.09
	(0.00)	(0.15)	(0.21)	(1.04)	(0.79)	(0.87)	(0.23)	(5.18)	(4.57)
CCC/C	0.00	0.00	0.29	1.27	2.05	0.39	0.00	59.77	36.23
	(0.00)	(0.00)	(0.75)	(1.15)	(2.68)	(0.68)	(0.00)	(7.67)	(8.47)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 41

Average Multiyear Global Corporate Transition Matrices (1981-2021): All Financials

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
1-year									
AAA	87.08	9.50	0.34	0.08	0.08	0.04	0.08	0.00	2.79
	(10.09)	(9.83)	(0.98)	(0.37)	(0.38)	(0.24)	(0.48)	(0.00)	(2.62)
AA	0.44	87.58	7.71	0.33	0.02	0.02	0.03	0.03	3.83
	(0.56)	(6.30)	(5.55)	(0.63)	(0.08)	(0.07)	(0.16)	(0.11)	(1.87)
A	0.02	1.99	89.39	3.49	0.17	0.06	0.01	0.08	4.79
	(0.13)	(1.70)	(4.24)	(2.55)	(0.44)	(0.14)	(0.04)	(0.18)	(2.00)
BBB	0.00	0.18	4.22	84.84	3.09	0.36	0.11	0.22	6.98
	(0.00)	(0.50)	(2.89)	(4.95)	(2.39)	(0.76)	(0.25)	(0.50)	(2.00)
BB	0.00	0.08	0.16	5.59	77.38	4.83	0.62	0.58	10.76
	(0.00)	(0.26)	(0.65)	(4.09)	(7.50)	(3.14)	(1.54)	(1.19)	(4.86)
B	0.00	0.03	0.08	0.36	6.20	76.39	3.05	2.48	11.42
	(0.00)	(0.20)	(0.58)	(0.79)	(4.26)	(7.30)	(3.37)	(3.34)	(3.84)
CCC/C	0.00	0.00	0.00	0.00	1.20	16.83	45.69	17.23	19.04
	(0.00)	(0.00)	(0.00)	(0.00)	(3.91)	(11.95)	(19.29)	(16.61)	(11.71)
3-year									
AAA	64.96	23.99	1.61	0.34	0.21	0.08	0.17	0.21	8.42
	(16.43)	(16.60)	(2.21)	(1.13)	(0.57)	(0.35)	(0.59)	(0.55)	(5.96)
AA	1.05	67.92	17.91	1.56	0.17	0.14	0.03	0.18	11.05
	(1.01)	(11.34)	(8.39)	(1.63)	(0.33)	(0.34)	(0.09)	(0.28)	(4.18)
A	0.05	4.73	72.26	7.28	0.90	0.20	0.09	0.34	14.17
	(0.17)	(3.47)	(8.10)	(2.89)	(1.22)	(0.44)	(0.20)	(0.51)	(4.62)
BBB	0.00	0.50	10.30	62.98	4.99	0.89	0.28	1.01	19.05
	(0.00)	(1.09)	(5.89)	(8.51)	(2.77)	(0.98)	(0.62)	(1.35)	(4.45)
BB	0.00	0.11	0.67	12.80	47.56	7.65	0.78	2.43	28.00
	(0.00)	(0.36)	(1.46)	(6.26)	(10.78)	(3.73)	(1.46)	(3.71)	(6.95)
B	0.00	0.00	0.27	1.45	12.53	48.00	3.38	7.44	26.93
	(0.00)	(0.00)	(0.89)	(2.35)	(6.41)	(10.03)	(2.78)	(6.69)	(6.01)
CCC/C	0.00	0.00	0.21	0.42	1.48	25.74	9.92	25.53	36.71
	(0.00)	(0.00)	(3.29)	(2.66)	(3.63)	(14.89)	(9.90)	(16.67)	(15.43)
10-year									
AAA	22.11	38.34	8.80	2.10	0.13	0.30	0.09	0.99	27.14
	(12.19)	(17.03)	(5.13)	(2.68)	(0.38)	(0.67)	(0.32)	(1.22)	(8.87)
AA	0.99	31.93	28.89	4.49	0.36	0.34	0.03	1.09	31.89
	(0.94)	(6.93)	(5.98)	(2.35)	(0.38)	(0.41)	(0.08)	(1.17)	(5.00)

Table 41

Average Multiyear Global Corporate Transition Matrices (1981-2021): All Financials (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
A	0.11	7.15	40.62	9.21	1.75	0.48	0.12	1.58	38.98
	(0.35)	(2.95)	(6.58)	(2.57)	(1.22)	(0.43)	(0.22)	(1.18)	(5.53)
BBB	0.00	1.44	13.48	28.69	3.65	1.12	0.41	4.07	47.15
	(0.00)	(2.76)	(3.31)	(6.69)	(1.69)	(0.51)	(0.60)	(2.32)	(5.16)
BB	0.00	0.07	3.00	14.25	12.53	6.08	0.11	8.53	55.42
	(0.00)	(0.33)	(3.37)	(4.44)	(7.11)	(3.15)	(0.28)	(8.35)	(6.80)
B	0.00	0.00	1.13	5.13	9.41	14.99	0.68	14.88	53.78
	(0.00)	(0.00)	(2.40)	(5.30)	(4.10)	(7.32)	(1.66)	(10.03)	(10.08)
CCC/C	0.00	0.00	0.31	0.93	4.97	7.76	0.31	31.68	54.04
	(0.00)	(0.00)	(4.00)	(2.22)	(6.10)	(8.73)	(1.34)	(18.48)	(16.05)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 42

Average Multiyear Global Corporate Transition Matrices (1981-2021): Insurance

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
1-year									
AAA	87.68	10.13	0.28	0.00	0.07	0.07	0.14	0.00	1.63
	(12.08)	(11.60)	(1.32)	(0.00)	(0.32)	(0.43)	(0.87)	(0.00)	(2.21)
AA	0.53	87.89	7.10	0.33	0.04	0.04	0.06	0.04	3.97
	(0.99)	(6.49)	(5.59)	(0.91)	(0.15)	(0.14)	(0.46)	(0.14)	(2.25)
A	0.01	2.18	90.50	2.68	0.16	0.07	0.01	0.10	4.30
	(0.06)	(2.27)	(4.58)	(2.52)	(0.49)	(0.23)	(0.06)	(0.25)	(1.83)
BBB	0.00	0.13	5.46	83.44	2.53	0.32	0.26	0.18	7.67
	(0.00)	(0.69)	(3.35)	(4.95)	(2.58)	(0.99)	(0.74)	(0.66)	(2.98)
BB	0.00	0.09	0.47	8.03	74.13	3.78	1.04	0.57	11.90
	(0.00)	(0.83)	(2.02)	(8.77)	(12.46)	(4.32)	(3.00)	(2.07)	(7.14)
B	0.00	0.13	0.26	0.66	6.18	75.26	1.97	1.84	13.68
	(0.00)	(1.01)	(2.34)	(2.60)	(7.50)	(11.40)	(3.84)	(4.49)	(6.47)
CCC/C	0.00	0.00	0.00	0.00	3.49	12.79	40.70	23.26	19.77
	(0.00)	(0.00)	(0.00)	(0.00)	(11.48)	(21.87)	(31.98)	(27.68)	(27.97)
3-year									
AAA	65.65	26.13	1.84	0.00	0.14	0.14	0.28	0.35	5.45
	(18.41)	(17.54)	(2.76)	(0.00)	(0.55)	(0.62)	(1.03)	(0.89)	(5.81)

Table 42

**Average Multiyear Global Corporate Transition Matrices (1981-2021):
Insurance (cont.)**

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AA	1.23	69.23	16.13	1.56	0.17	0.22	0.06	0.26	11.13
	(2.00)	(11.27)	(7.19)	(2.11)	(0.49)	(0.57)	(0.19)	(0.43)	(4.10)
A	0.05	4.98	75.36	5.16	0.60	0.12	0.11	0.41	13.21
	(0.15)	(4.64)	(9.08)	(3.19)	(1.22)	(0.62)	(0.23)	(0.91)	(4.11)
BBB	0.00	0.43	13.20	60.92	3.72	0.80	0.37	0.94	19.61
	(0.00)	(1.49)	(5.63)	(8.13)	(3.02)	(0.95)	(1.10)	(1.75)	(4.58)
BB	0.00	0.10	1.85	16.51	42.56	5.13	1.23	2.15	30.46
	(0.00)	(0.86)	(4.02)	(11.21)	(14.56)	(4.39)	(3.91)	(4.74)	(10.59)
B	0.00	0.00	1.41	2.82	11.91	45.61	1.41	6.11	30.72
	(0.00)	(0.00)	(4.69)	(7.12)	(10.52)	(12.65)	(2.29)	(8.08)	(11.07)
CCC/C	0.00	0.00	1.18	2.35	4.71	17.65	14.12	30.59	29.41
	(0.00)	(0.00)	(10.97)	(10.78)	(10.35)	(22.59)	(18.53)	(29.70)	(30.13)
10-year									
AAA	22.66	41.36	9.56	1.63	0.14	0.50	0.14	1.63	22.38
	(14.45)	(16.27)	(6.81)	(2.67)	(0.48)	(1.17)	(0.54)	(1.81)	(10.69)
AA	1.21	34.39	27.42	3.42	0.54	0.54	0.05	1.67	30.76
	(1.72)	(7.27)	(5.90)	(2.51)	(0.71)	(0.73)	(0.15)	(1.22)	(5.11)
A	0.17	7.36	47.07	5.99	1.21	0.33	0.27	1.83	35.77
	(1.14)	(4.66)	(10.52)	(2.94)	(1.73)	(0.39)	(0.47)	(1.80)	(6.25)
BBB	0.00	1.49	18.17	30.29	1.98	0.57	0.18	3.20	44.12
	(0.00)	(3.97)	(5.98)	(4.59)	(2.22)	(0.40)	(0.64)	(4.27)	(4.08)
BB	0.00	0.31	5.13	16.17	10.89	3.73	0.00	10.58	53.19
	(0.00)	(1.38)	(6.91)	(7.49)	(6.69)	(3.53)	(0.00)	(14.76)	(16.96)
B	0.00	0.00	4.47	12.14	9.27	10.22	0.64	14.38	48.88
	(0.00)	(0.00)	(9.38)	(16.13)	(10.72)	(8.46)	(4.93)	(12.20)	(18.79)
CCC/C	0.00	0.00	1.33	0.00	6.67	0.00	0.00	42.67	49.33
	(0.00)	(0.00)	(11.73)	(0.00)	(12.62)	(0.00)	(0.00)	(30.69)	(28.49)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 43

Average Multiyear Global Corporate Transition Matrices (1981-2021): Financial Institutions

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
1-year									
AAA	86.21	8.57	0.42	0.21	0.10	0.00	0.00	0.00	4.49
	(13.38)	(12.87)	(1.29)	(0.93)	(0.79)	(0.00)	(0.00)	(0.00)	(4.46)
AA	0.34	87.27	8.36	0.32	0.00	0.00	0.00	0.02	3.69
	(0.62)	(7.60)	(7.01)	(0.70)	(0.00)	(0.00)	(0.00)	(0.10)	(2.34)
A	0.03	1.83	88.40	4.20	0.18	0.05	0.01	0.06	5.23
	(0.20)	(1.98)	(5.52)	(3.61)	(0.64)	(0.14)	(0.06)	(0.22)	(2.90)
BBB	0.00	0.21	3.65	85.48	3.35	0.38	0.04	0.23	6.67
	(0.00)	(0.63)	(3.28)	(6.01)	(3.08)	(0.98)	(0.19)	(0.67)	(2.33)
BB	0.00	0.07	0.07	4.95	78.23	5.10	0.51	0.59	10.47
	(0.00)	(0.28)	(0.61)	(3.97)	(7.62)	(3.89)	(1.45)	(1.31)	(5.57)
B	0.00	0.00	0.03	0.29	6.20	76.66	3.31	2.64	10.86
	(0.00)	(0.00)	(0.48)	(0.83)	(4.51)	(7.61)	(4.06)	(4.04)	(3.98)
CCC/C	0.00	0.00	0.00	0.00	0.73	17.68	46.73	15.98	18.89
	(0.00)	(0.00)	(0.00)	(0.00)	(3.57)	(12.38)	(19.67)	(15.58)	(11.54)
3-year									
AAA	63.93	20.82	1.26	0.84	0.32	0.00	0.00	0.00	12.83
	(18.96)	(19.26)	(3.00)	(2.12)	(1.03)	(0.00)	(0.00)	(0.00)	(7.62)
AA	0.85	66.57	19.74	1.57	0.16	0.07	0.00	0.09	10.96
	(0.93)	(13.21)	(10.43)	(1.97)	(0.51)	(0.37)	(0.00)	(0.24)	(5.03)
A	0.05	4.51	69.57	9.11	1.15	0.26	0.07	0.27	15.00
	(0.25)	(3.89)	(8.97)	(3.90)	(1.91)	(0.50)	(0.25)	(0.57)	(5.92)
BBB	0.00	0.53	8.92	63.97	5.59	0.93	0.23	1.04	18.79
	(0.00)	(1.16)	(6.53)	(9.83)	(4.05)	(1.33)	(0.74)	(1.80)	(5.48)
BB	0.00	0.11	0.36	11.80	48.90	8.32	0.66	2.51	27.34
	(0.00)	(0.46)	(1.15)	(6.06)	(11.01)	(4.28)	(1.62)	(4.05)	(8.07)
B	0.00	0.00	0.00	1.13	12.68	48.56	3.84	7.75	26.05
	(0.00)	(0.00)	(0.00)	(1.91)	(7.25)	(10.72)	(3.56)	(7.98)	(7.01)
CCC/C	0.00	0.00	0.00	0.00	0.77	27.51	9.00	24.42	38.30
	(0.00)	(0.00)	(0.00)	(0.00)	(3.67)	(15.67)	(12.00)	(15.99)	(16.71)
10-year									
AAA	21.26	33.70	7.63	2.84	0.11	0.00	0.00	0.00	34.46
	(13.77)	(20.43)	(5.45)	(4.69)	(0.57)	(0.00)	(0.00)	(0.00)	(12.35)
AA	0.76	29.45	30.37	5.56	0.19	0.14	0.00	0.52	33.03

Table 43

Average Multiyear Global Corporate Transition Matrices (1981-2021): Financial Institutions (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
	(0.92)	(9.40)	(7.68)	(3.54)	(0.48)	(0.29)	(0.00)	(1.73)	(6.77)
A	0.07	7.00	35.89	11.57	2.14	0.59	0.01	1.39	41.33
	(0.23)	(3.57)	(5.49)	(5.28)	(2.14)	(0.62)	(0.07)	(1.33)	(6.30)
BBB	0.00	1.41	11.16	27.90	4.47	1.39	0.52	4.49	48.65
	(0.00)	(2.64)	(4.16)	(8.78)	(2.89)	(0.78)	(0.87)	(2.53)	(7.24)
BB	0.00	0.00	2.35	13.66	13.03	6.80	0.14	7.91	56.11
	(0.00)	(0.00)	(2.87)	(4.85)	(9.03)	(3.90)	(0.34)	(7.38)	(9.37)
B	0.00	0.00	0.41	3.63	9.45	16.02	0.68	14.99	54.83
	(0.00)	(0.00)	(1.41)	(3.76)	(4.61)	(7.98)	(0.98)	(12.51)	(10.31)
CCC/C	0.00	0.00	0.00	1.21	4.45	10.12	0.40	28.34	55.47
	(0.00)	(0.00)	(0.00)	(2.93)	(7.05)	(10.66)	(1.91)	(18.55)	(15.19)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Table 44

Average Multiyear Global Corporate Transition Matrices (1981-2021): Nonfinancials

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
1-year									
AAA	87.10	8.30	0.84	0.00	0.14	0.00	0.00	0.00	3.63
	(8.63)	(7.81)	(1.67)	(0.00)	(0.47)	(0.00)	(0.00)	(0.00)	(4.12)
AA	0.52	86.95	7.72	0.65	0.09	0.12	0.00	0.00	3.94
	(0.75)	(5.67)	(3.80)	(1.01)	(0.31)	(0.35)	(0.00)	(0.00)	(2.55)
A	0.03	1.17	88.14	6.29	0.33	0.15	0.02	0.03	3.84
	(0.09)	(1.22)	(4.16)	(2.44)	(0.49)	(0.35)	(0.08)	(0.08)	(2.16)
BBB	0.01	0.05	2.79	87.45	3.63	0.44	0.09	0.12	5.42
	(0.04)	(0.12)	(1.69)	(4.45)	(1.80)	(0.69)	(0.22)	(0.25)	(1.80)
BB	0.01	0.01	0.09	4.29	78.28	7.05	0.52	0.61	9.14
	(0.06)	(0.08)	(0.24)	(1.94)	(4.69)	(3.42)	(0.61)	(0.85)	(2.14)
B	0.00	0.02	0.06	0.13	4.34	74.54	5.01	3.26	12.64
	(0.00)	(0.08)	(0.19)	(0.20)	(2.13)	(3.85)	(2.97)	(3.13)	(2.42)
CCC/C	0.00	0.00	0.10	0.18	0.40	12.99	43.68	27.72	14.93
	(0.00)	(0.00)	(0.43)	(0.65)	(0.77)	(8.06)	(8.51)	(12.34)	(4.75)
3-year									
AAA	66.50	19.10	3.51	0.28	0.35	0.07	0.00	0.00	10.18

Table 44

Average Multiyear Global Corporate Transition Matrices (1981-2021): Nonfinancials (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
	(11.71)	(11.05)	(3.22)	(1.30)	(0.86)	(0.32)	(0.00)	(0.00)	(7.27)
AA	1.19	66.35	18.22	2.40	0.54	0.28	0.01	0.03	10.97
	(1.08)	(9.94)	(5.65)	(1.99)	(0.78)	(0.58)	(0.08)	(0.11)	(4.91)
A	0.05	2.75	69.32	14.50	1.28	0.54	0.07	0.12	11.37
	(0.10)	(2.44)	(7.12)	(3.64)	(1.13)	(0.77)	(0.15)	(0.19)	(3.93)
BBB	0.02	0.14	6.99	68.23	7.37	1.63	0.24	0.64	14.74
	(0.07)	(0.26)	(3.12)	(8.32)	(2.17)	(1.46)	(0.33)	(0.99)	(3.78)
BB	0.01	0.03	0.37	9.80	49.46	12.06	1.23	3.59	23.44
	(0.06)	(0.13)	(0.64)	(3.50)	(7.79)	(3.05)	(0.85)	(3.48)	(3.81)
B	0.00	0.02	0.15	0.54	8.69	41.75	5.47	12.03	31.35
	(0.05)	(0.11)	(0.40)	(0.70)	(3.53)	(4.85)	(2.24)	(6.95)	(4.94)
CCC/C	0.00	0.00	0.09	0.52	1.52	15.19	9.70	44.69	28.29
	(0.00)	(0.00)	(0.36)	(1.10)	(1.65)	(6.60)	(6.00)	(11.93)	(7.89)
10-year									
AAA	29.73	28.77	10.13	3.92	0.22	0.00	0.00	0.22	27.00
	(9.46)	(10.46)	(4.50)	(3.60)	(0.60)	(0.00)	(0.00)	(0.55)	(9.30)
AA	1.39	26.13	29.89	8.86	1.54	0.45	0.02	0.33	31.38
	(1.05)	(8.19)	(3.90)	(3.80)	(1.17)	(0.53)	(0.10)	(0.52)	(5.56)
A	0.07	3.63	36.23	23.27	3.14	1.15	0.11	1.16	31.24
	(0.15)	(2.31)	(6.15)	(3.97)	(1.19)	(0.83)	(0.18)	(0.93)	(4.54)
BBB	0.02	0.30	10.58	38.40	7.67	2.49	0.21	3.56	36.78
	(0.10)	(0.31)	(3.79)	(7.99)	(1.34)	(1.40)	(0.21)	(2.52)	(5.15)
BB	0.01	0.07	1.34	11.06	17.79	8.37	0.76	14.09	46.51
	(0.07)	(0.14)	(0.95)	(3.27)	(5.35)	(2.39)	(0.40)	(6.42)	(3.21)
B	0.00	0.03	0.24	2.00	7.02	9.45	1.04	27.28	52.95
	(0.00)	(0.07)	(0.57)	(1.48)	(1.76)	(2.71)	(0.58)	(8.53)	(5.22)
CCC/C	0.00	0.00	0.09	0.76	3.59	3.21	0.42	54.13	37.80
	(0.00)	(0.00)	(0.35)	(0.95)	(2.47)	(2.51)	(0.68)	(11.24)	(9.14)

Numbers in parentheses are weighted standard deviations, weighted by the issuer base. Sources: S&P Global Ratings Research and S&P Global Market Intelligence's CreditPro®.

Appendix II: Gini Methodology

We utilize the Lorenz curve, a graphical representation of the proportionality of a distribution, as one measure of ratings performance, and we summarize this via the Gini coefficient. For this

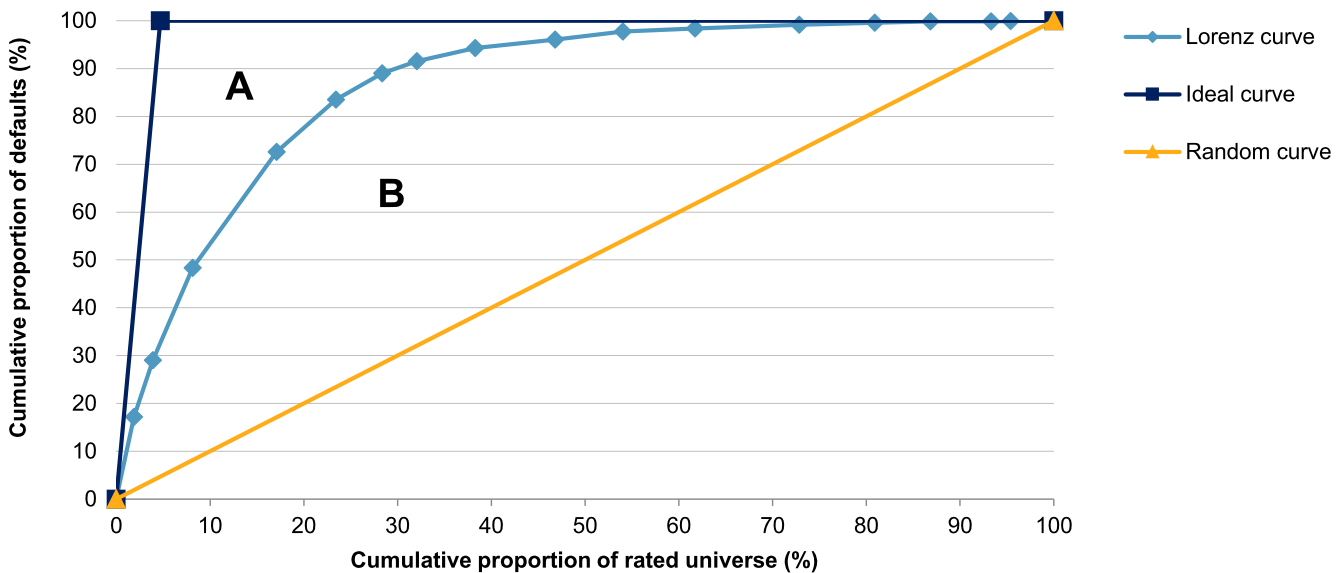
study, the Lorenz curve is plotted with the x-axis showing the cumulative share of issuers, arranged by rating, while the y-axis represents the cumulative share of defaulters, also arranged by rating. For both axes of the Lorenz curve, the observations are ordered from the low end of the ratings scale ('CCC'/ 'C') to the high end ('AAA').

As an example, if 'CCC'/ 'C' rated entities made up 10% of the total population of issuers at the start of the time frame examined (x-axis) and 50% of the defaulters (y-axis), then the coordinate (10, 50) would be the first point on the curve. If S&P Global Ratings' 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 (the ideal curve), and the Gini coefficient would be 1 (see chart 33).

Chart 33 illustrates the procedure for calculating the Gini coefficients: Area B is bounded by the random curve and the Lorenz curve, while area A is bounded by the Lorenz curve and the ideal curve. The Gini coefficient is defined as area B divided by the total of area A plus area 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.

Chart 33

Sample Lorenz Curve



Source: S&P Global Ratings Research.
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Appendix III: 2021 Defaults In Profile

In 2021, there were 72 defaults among companies rated by S&P Global Ratings, including 16 confidential issuers that defaulted on outstanding debt of US\$66.3 billion. Riverbed Parent Inc.

and Sunshine 100 China Holdings Ltd. defaulted twice, and Peabody Energy Corp. defaulted three times. This appendix provides summaries of the events leading up to each default and, in some cases, events following the default. We also list the defaulting instruments that S&P Global Ratings rates for each company.

HGIM Corp.

- US\$350 million floating-rate first-lien term bank loan due July 2, 2023

On Jan. 5, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Louisiana-based marine transportation services provider HGIM Corp. to 'SD' from 'CC' following the company's announcement of a distressed term loan repurchase. The noteholders would receive a 50% discount to par value. The issuer announced a cash tender offer to repurchase a portion of its US\$350 million first-lien term loan, tendering US\$11.4 million in face value for US\$5.7 million in cash.

On Jan. 14, 2021, we raised our issuer credit rating on HGIM to 'CCC+' from 'SD'. The rating reflected the company's unsustainable leverage, with debt to EBITDA of more than 8x in 2021. The issuer announced a follow-up offer seeking another US\$30 million at a 45%-50% discount to par.

Table 45

Issuer Credit Rating - HGIM Corp.

Date	To
14-Jan-2021	CCC+/Negative/--
05-Jan-2021	SD/NM/--
11-Dec-2020	CC/Negative/--
13-Apr-2020	CCC+/Negative/--
31-Jul-2018	B-/Stable/--
14-May-2018	NR/--/--
08-Mar-2018	D/--/--
21-Jun-2017	CCC-/Negative/--
10-Jun-2016	CCC+/Negative/--
08-Dec-2015	B-/Stable/--
08-Jun-2015	B/Negative/--
04-Jun-2013	B/Stable/--

Promotora de Informaciones S.A.

On Jan. 6, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Spain-based print and audiovisual media operator Promotora de Informaciones S.A. to 'SD' from 'CC', following the company's announcement that it would amend its loans and issue about €110 million of supersenior debt. The transactions would include repaying €400 million in debt and extending remaining debt with a modest increase in interest rates.

On Jan. 7, 2021, we raised our issuer credit rating on Promotora de Informaciones to 'CCC+' from 'SD'. The issuer's debt refinancing increased liquidity for the company, reducing its risk of default

within 12 months. The negative outlook reflected the issuer's vulnerable capital structure and tough operating conditions.

Table 46

Issuer Credit Rating – Promotora de Informaciones S.A.

Date	To
07-Jan-2021	CCC+/Negative/--
06-Jan-2021	SD/NM/--
26-Oct-2020	CC/Negative/--
24-Jun-2020	CCC+/Negative/--
25-Mar-2020	B-/Watch Neg/--
01-May-2019	B/Stable/--
28-Sep-2018	B-/Stable/--

Burger BossCo Intermediate Inc.

- US\$25 million floating-rate revolving bank loan due April 25, 2022
- US\$192.5 million floating-rate first-lien term bank loan due April 25, 2024

On Jan. 8, 2021, S&P Global Ratings lowered its issuer credit rating on Delaware-based quick-service restaurant operator and franchisor Burger BossCo Intermediate Inc. to 'SD' from 'CCC'. The issuer executed a transaction that included conversion of accrued principal on a second lien to preferred equity and an extension of maturities on a revolver. The company converted accredited value of US\$52 million on the second lien to series C paid-in-kind preferred equity.

On Jan. 15, 2021, we raised our issuer credit rating on the company to 'CCC' from 'SD', following the close of the distressed exchange transactions. The negative outlook reflected our view that the issuer faced continued default risk over the next 12 months because of high leverage and significant execution risk.

Table 47

Issuer Credit Rating – Burger BossCo Intermediate Inc.

Date	To
15-Jan-2021	CCC/Negative/--
08-Jan-2021	SD/NM/--
05-Sep-2019	CCC/Negative/--
03-Sep-2019	SD/NM/--
11-Dec-2018	CCC+/Negative/--
10-Jul-2018	B-/Stable/--

Riverbed Parent Inc.

- US\$77 million floating-rate term bank loan due April 24, 2022

Default, Transition, and Recovery: 2021 Annual Global Corporate Default And Rating Transition Study

- US\$525 million 8.875% notes due March 1, 2023
- US\$1.07 billion floating-rate first-lien term bank loan due Dec. 31, 2025

On Jan. 8, 2021, S&P Global Ratings lowered its long-term issuer credit rating on California-based network performance software solutions provider Riverbed Parent Inc. to 'SD' from 'CC', after the issuer announced a debt restructuring. The transaction was viewed as distressed on account of unsecured debtholders receiving US\$850 in new second-lien loans per US\$1,000 principal amount. Not all of the lenders participated; about US\$77 million in principal remained outstanding under first-lien term notes due April 2022, and US\$9 million in principal remained for notes due 2023.

On Jan. 26, 2021, we raised our issuer credit rating on the issuer to 'CCC+' from 'SD' following the completion of the debt restructuring. The transactions increased the company's interest expense and extended its debt maturity profile. The cost-savings measures improved the issuer's EBITDA margin, but we still believed its capital structure was unsustainable.

On Sept. 16, 2021, we lowered our issuer credit rating on Riverbed to 'CCC' from 'CCC+' and placed it on CreditWatch with negative implications. These actions reflected the mounting risk that Riverbed would default on its upcoming \$77 million term loan B maturity in April 2022, given its continued poor performance through the second quarter of fiscal year 2021.

On Oct. 13, 2021, we lowered our issuer credit rating on Riverbed to 'CC' from 'CCC' following company's announcement that it entered into a restructuring support agreement with its equity sponsors and an ad hoc group of lenders around a comprehensive financial restructuring that would allow it to reduce its funded secured debt by over \$1 billion and also provide a \$100 million cash infusion. The negative outlook reflected our expectation that we would lower the issuer credit rating on Riverbed to 'SD' if the transaction closed, given that we would consider it to be a distressed exchange.

On Nov. 17, 2021, we lowered our issuer credit rating on Riverbed to 'D' from 'CC' after the company and its subsidiaries filed voluntary petitions under Chapter 11 of the U.S. Bankruptcy Code. At the same time, we lowered all of our ratings on the company's debt to 'D'.

On Dec. 21, 2021, we discontinued all of our ratings on Riverbed Parent Inc. and Riverbed Technology Inc., including our 'D' issuer credit ratings, following the completion of the company's financial restructuring and subsequent emergence from Chapter 11 bankruptcy.

Table 48

Issuer Credit Rating - Riverbed Parent Inc.

Date	To
21-Dec-2021	NR/--/--
17-Nov-2021	D/--/--
13-Oct-2021	CCC/Negative/--
16-Sep-2021	CCC/Watch Neg/--
26-Jan-2021	CCC+/Negative/--
08-Jan-2021	SD/NM/--
03-Dec-2020	CC/Negative/--
25-Nov-2020	CCC/Negative/--
23-Aug-2019	CCC+/Negative/--

Table 48

Issuer Credit Rating – Riverbed Parent Inc. (cont.)

Date	To
02-Apr-2019	B-/Negative/--
21-Aug-2018	B/Stable/--
11-May-2017	B/Negative/--
23-Feb-2017	B/Stable/--

AMC Entertainment Holdings Inc.

- US\$225 million floating-rate revolving facility bank loan due April 22, 2024
- £500 million 6.375% senior notes due Nov. 15, 2024
- US\$500 million 10.50% first-lien notes due April 15, 2025
- US\$600 million 5.75% senior subordinated notes due June 15, 2025
- US\$2 billion floating-rate initial B-1 term bank loan due April 22, 2026
- US\$200 million 10.50% first-lien notes due April 24, 2026
- US\$1.46 billion 12.00% second-lien notes due June 15, 2026
- US\$595 million 5.875% senior notes due 2026
- US\$475 million 6.125% notes due May 15, 2027

On Jan. 21, 2021, S&P Global Ratings lowered its issuer credit rating on Missouri-based theatrical exhibition business operator AMC Entertainment Holdings Inc. to 'SD' from 'CC', after the issuer completed a distressed exchange of its US\$100 million second-lien notes. The transactions included debt- to-equity conversion and payment-in-kind options. The new US\$100 million first-lien notes would provide incremental liquidity, as in late 2020 AMC's cash burn was about US\$125 million.

On Jan. 25, 2021, we raised our issuer credit rating on AMC Entertainment Holdings to 'CCC-' from 'SD'. The negative outlook reflected our view that the issuer would face a liquidity shortfall over the next six months. We expected the issuer's revenue and cash flow would not recover to pre-COVID-19 levels until at least 2022.

On June 10, 2021, we raised our rating on AMC to 'CCC+' from 'CCC-'. AMC had raised nearly \$818 million in gross equity proceeds and roughly \$1.83 billion in total equity so far in the year. The incremental liquidity, combined with improved debt-trading levels, made it less likely that AMC would pursue a subpar debt exchange or other forms of debt restructuring in the near future. The positive outlook reflected the potential for a higher rating if AMC prioritized its sizable cash balance toward reducing its heavy debt load and interest burden, thereby improving its cash flow prospects and the sustainability of its capital structure.

Table 49

Issuer Credit Rating – AMC Entertainment Holdings Inc.

Date	To
10-Jun-2021	CCC+/Positive/--
25-Jan-2021	CCC-/Negative/--
21-Jan-2021	SD/NM/--
16-Dec-2020	CC/Negative/--
01-Oct-2020	CCC-/Negative/--
07-Aug-2020	CCC+/Watch Neg/--
03-Aug-2020	SD/NM/--
03-Jun-2020	CC/Negative/--
02-Apr-2020	CCC-/Negative/--
16-Mar-2020	B/Watch Neg/--
07-Aug-2018	B/Stable/--
21-Aug-2017	B+/Negative/--
13-Mar-2017	B+/Stable/--
24-Jan-2017	B+/Watch Neg/--
21-Oct-2016	B+/Stable/--
07-Mar-2016	B+/Watch Neg/--
10-Mar-2015	B+/Stable/--
17-Oct-2012	B/Stable/--
21-May-2012	B/Watch Dev/--
08-Jun-2007	B/Stable/--

Alpha Media LLC

On Jan. 25, 2021, Oregon-based radio broadcast media company Alpha Media LLC defaulted after it filed for Chapter 11 bankruptcy under the U.S. Bankruptcy Code. The issuer planned to restructure its US\$267 million of debt through transactions that would help the company to sustain through the economic downturn brought on by COVID-19 and emerge from bankruptcy.

On July 19, 2021, Alpha Media emerged from Chapter 11 bankruptcy.

Table 50

Issuer Credit Rating – Alpha Media LLC

Date	To
05-Oct-2018	NR/--/--
30-Jul-2018	CCC/Watch Dev/--
07-May-2018	CCC+/Watch Neg/--
16-Aug-2017	B-/Negative/--
20-Oct-2015	B/Stable/--

Awesome Acquisition Co. L.P.

On Jan. 25, 2021, Texas-based restaurants owner and franchiser Awesome Acquisition Co. L.P. defaulted after filing voluntary petitions seeking relief under Chapter 11 of the U.S. Bankruptcy Code.

Table 51

Issuer Credit Rating - Awesome Acquisition Co. L.P.

Date	To
28-Oct-2011	NR/--/--
21-May-2010	B/Positive/--
19-May-2009	B/Stable/--
28-May-2008	B-/Positive/--
17-May-2007	B-/Stable/--

The Imagine Group LLC

- US\$30 million floating-rate revolver bank loan due May 31, 2022
- US\$409 million floating-rate first-lien bank loan due June 21, 2022
- US\$25 million floating-rate term B-2 bank loan due June 21, 2022
- US\$90 million floating-rate second-lien bank loan due June 21, 2023

On Jan. 27, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Minnesota-based marketing solutions provider The Imagine Group LLC to 'D' from 'CCC' after the issuer completed a debt recapitalization. The transaction involved a combination of repurchases and debt exchanges that would reduce its outstanding debt burden to US\$100 million from about US\$550 million. This would provide greater operational and financial flexibility for the issuer. On the same day, we discontinued all our issuer credit ratings at the issuer's request.

Table 52

Issuer Credit Rating - The Imagine Group LLC

Date	To
27-Jan-2021	NR/--/--
27-Jan-2021	D/--/--
08-Jan-2020	CCC/Negative/--
02-Dec-2019	CCC-/Negative/--
29-Aug-2019	CCC+/Negative/--
19-Dec-2018	B-/Stable/--
13-Oct-2017	B/Negative/--
19-Feb-2016	B/Stable/--

Belk Inc.

- US\$100.6 million floating-rate first-lien B bank loan due Dec. 12, 2022
- US\$957 million variable-rate first-lien term bank loan due July 31, 2025

On Feb. 2, 2021, S&P Global Ratings lowered its issuer credit rating on North Carolina-based department store operator Belk Inc. to 'D' from 'CC', after the issuer missed interest payments on its second-lien term loan and scheduled amortization payment due on its first-lien term loan. The issuer entered Chapter 11 restructuring under the U.S. Bankruptcy Code, which would reduce debt by US\$450 million and halve the interest burden to about US\$75 million.

On Feb. 25, 2021, we raised our issuer credit rating on the issuer to 'CCC+' from 'D' after it emerged from bankruptcy with US\$225 million of new capital, debt reduction of about US\$450 million, and interest savings of about US\$70 million.

Table 53

Issuer Credit Rating - Belk Inc.

Date	To
25-Feb-2021	CCC+/Negative/--
02-Feb-2021	D/--/--
26-Jan-2021	CC/Negative/--
10-Jun-2019	CCC/Negative/--
18-May-2018	B-/Negative/--
19-Sep-2017	B-/Stable/--
22-Dec-2016	B/Stable/--
27-Oct-2015	B+/Stable/--

Peabody Energy Corp.

- US\$500 million 6.00% notes due March 31, 2022
- US\$324 million 6.00% letter of credit facility notes due Dec. 31, 2024
- US\$194 million 8.50% pay-in-kind notes due Dec. 31, 2024
- US\$400 million floating-rate term bank loan due March 31, 2025
- US\$500 million 6.375% notes due March 31, 2025

On Feb. 3, 2021, S&P Global Ratings lowered its long-term issuer credit rating on the Missouri-based coal producer Peabody Energy Corp. to 'SD' from 'CC' after the company's completed distressed exchange of its senior secured notes due 2022. After the exchange, nonparticipatory lenders' notes (about 13% of the 2022 notes) would become junior to those of the lenders that participated. The issuer also extended the maturity on its revolving credit facility, with adequate compensation provided to all parties.

On Feb. 8, 2021, we raised our issuer credit rating on the issuer to 'CCC+' from 'SD' on a reassessment of the issuer's credit quality after the distressed exchanges. The exchanges

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lowered the company's debt profile but increased the interest costs. In addition, considering Peabody's shrinking U.S. thermal power operations and struggling metallurgical coal business bear nearly all of its debt burden, the issuer's leverage was quite high.

On June 3, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Peabody Energy Corp. to 'SD' from 'CCC+'. The issuer completed debt-for-equity exchanges for a total of \$26.5 million of principal outstanding of 6% senior notes. This was the second time we lowered our rating on the issuer to 'SD' in 2021.

On June 9, 2021, we raised our long-term issuer credit rating on Peabody Energy Corp. to 'CCC' from 'SD' after it restructured its issue of senior unsecured notes due 2022. The issuer had nearly \$1.6 billion in debt, most of which would come due between 2022 and 2025. While the company's leverage ratio (7.5x-8.5x debt to EBITDA) did not indicate an unsustainable capital structure, the 'CCC' rating and negative outlook factored in environmental, social, and governance issues that might pose risks to refinancing debt obligations before or at maturity.

On July 12, 2021, S&P Global Ratings lowered its issuer credit rating on Peabody Energy Corp. to 'SD' from 'CCC' after the announcement of a tender offer to purchase up to US\$13.281 million of its 8.5% senior secured notes due 2024 and a letter-of-credit revolving facility due 2024 at a discount to par. The offer was made to satisfy the requirements under the indenture and the credit agreement. The downgrade followed the debt repurchases and announced below-par tender offer, which we viewed as a distressed debt exchange.

On Aug. 20, 2021, we raised our issuer credit rating on the company to 'CCC+' from 'SD' after it had materially lowered its nearest maturity, leading to improved liquidity. We still viewed the capital structure as unsustainable over the long term, however. The negative outlook reflected the potential for a downgrade over the next 12 months if the risk of default, conventional or otherwise, appeared more imminent because of unanticipated liquidity shortfalls.

Table 54

Issuer Credit Rating – Peabody Energy Corp.

Date	To
20-Aug-2021	CCC+/Negative/--
12-Jul-2021	SD/NM/--
09-Jun-2021	CCC/Negative/--
03-Jun-2021	SD/NM/--
08-Feb-2021	CCC+/Negative/--
03-Feb-2021	SD/NM/--
02-Feb-2021	CC/Negative/--
10-Nov-2020	CCC-/Watch Neg/--
14-Aug-2020	CCC+/Negative/--
10-Jul-2020	B/Negative/--
09-Dec-2019	B+/Stable/--
22-Feb-2018	BB-/Stable/--
10-May-2017	B+/Stable/--
25-Oct-2016	NR/--/--
18-Mar-2016	D/--/--
15-Jan-2016	CCC+/Negative/--

Table 54

Issuer Credit Rating - Peabody Energy Corp. (cont.)

Date	To
15-Jul-2015	B/Stable/--
23-Jan-2015	BB-/Negative/--
09-May-2014	BB-/Stable/--
26-Aug-2013	BB/Stable/--
15-Sep-2008	BB+/Stable/--
11-Aug-2008	BB/Watch Pos/--
07-Jul-2006	BB/Stable/--
03-Jan-2006	BB/Positive/--
20-Jul-2001	BB/Stable/--
11-Aug-2000	BB-/Positive/--
11-May-1998	BB-/Stable/--

Vallourec

- €550 million 6.625% bonds due Oct. 15, 2022
- €400 million 6.375% notes due Oct. 15, 2023
- €500 million 2.25% bonds due Sept. 30, 2024

On Feb. 11, 2021, S&P Global Ratings lowered its issuer credit rating on France-based specialty seamless steel producer Vallourec to 'SD' from 'CC' after the issuer missed a principal payment on its revolving credit facility. The issuer primarily caters to the oil and gas and petrochemicals sector, which accounted for about 79% of 2019 sales.

The issuer reached a three-part agreement with its debtholders to restructure its debt: a €1.6 billion debt-to-equity swap, a write-off of about €200 million, and the remaining €1.7 billion of unsecured bonds. At closing, the company would also benefit from its cash position of about €1.4 billion.

On July 1, 2021, we raised our long- and short-term issuer credit ratings on Vallourec to 'B/B' from 'SD/D' after the company completed its debt restructuring, having reduced its €3.5 billion gross debt by about 50% (€1.8 billion) through debt-to-equity conversion and write-offs. The stable outlook reflected favorable market conditions, namely elevated iron ore prices that would translate into healthy profitability and limit cash burn in the coming 12-18 months.

Table 55

Issuer Credit Rating - Vallourec

Date	To
01-Jul-2021	B/Stable/--
11-Feb-2021	SD/NM/--
24-Nov-2020	CC/Negative/--

Table 55

**Issuer Credit Rating -
Vallourec (cont.)**

Date	To
02-Sep-2020	CCC-/Negative/--
31-Mar-2020	CCC+/Watch Dev/--
19-Feb-2020	B-/Watch Pos/--
26-Nov-2018	B-/Negative/--
27-Feb-2017	B/Negative/--
12-May-2016	B+/Negative/--
02-Feb-2016	BB-/Negative/--
04-Aug-2015	BB+/Negative/--
22-Jun-2015	BB+/Stable/--
29-Apr-2015	BBB-/Watch Neg/--
13-Feb-2015	BBB/Negative/--
17-Sep-2014	BBB/Stable/--
17-Jun-2014	BBB+/Watch Neg/--
09-Aug-2013	BBB+/Stable/--
22-Jun-2012	BBB+/Negative/--
10-Nov-2011	BBB+/Stable/--

Renfro Corp.

- US\$209.9 million floating-rate term loan B bank loan due June 14, 2021
- US\$20.2 million floating-rate priming term bank loan due June 14, 2021
- US\$10 million superpriming term bank loan due June 14, 2021

On Feb. 19, 2021, S&P Global Ratings lowered its long-term issuer credit rating on North Carolina-based sock manufacturer Renfro Corp. to 'SD' from 'CCC-' following completion of a transaction with approval from all its lenders whereby the company issued a new \$10 million superpriming term loan facility to fund its operations. We viewed this transaction as tantamount to a default on the original \$220 million term loan and \$20 million priming term loan due to the company's weak operating performance, liquidity constraints, the near-term maturity of its debt facilities, the distressed trading prices of its debt on the secondary market, and the lack of adequate compensation for its existing lenders involved in the transaction.

On Feb. 22, 2021, we raised our issuer credit rating on Renfro to 'CCC-' from 'SD'. The negative outlook reflected the high probability that Renfro would default on its debt obligations or engage in a restructuring transaction over the next six months.

On June 10, 2021, we discontinued all ratings on Renfro Corp. due to its acquisition by private holding company The Renco Group Inc. All outstanding debts of the company have been satisfied with its acquisition.

Table 56

Issuer Credit Rating – Renfro Corp.

Date	To
10-Jun-2021	NR/--/--
22-Feb-2021	CCC-/Negative/--
19-Feb-2021	SD/NM/--
23-Jul-2020	CCC-/Negative/--
20-Jul-2020	SD/NM/--
18-May-2020	CCC-/Negative/--
31-Jan-2020	CCC/Negative/--
17-Sep-2019	CCC+/Negative/--
02-Oct-2018	B/Negative/--
26-Sep-2017	B/Stable/--
30-Oct-2015	B/Negative/--
09-Jan-2013	B/Stable/--
25-Oct-2012	B/Positive/--
06-Oct-2010	B/Stable/--
22-Apr-2010	B-/Positive/--
18-May-2009	B-/Negative/--
11-Dec-2008	B/Watch Neg/--
24-Sep-2008	B/Negative/--
11-Sep-2006	B/Stable/--

CatLuxe Sarl (CatLuxe Acquisition Sarl)

- €45 million floating-rate revolving credit facility bank loan due Sept. 28, 2023
- €154 million floating-rate term loan B2 bank loan due Sept. 28, 2024
- €61 million floating-rate term loan B1 bank loan due Sept. 28, 2024

On Feb. 22, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Spain-based global bridalwear company Pronovias (CatLuxe) to 'SD' from 'CCC+' following the company's amendment to its €72 million second-lien term loan to pay in-kind interest till maturity in 2025. This modification was distressed in nature because we believed the second-lien lender was receiving less favorable terms than originally promised under the credit agreement.

On March 1, 2021, we raised our issuer credit rating on Pronovias to 'CCC' from 'SD'. We expected Pronovias' liquidity would remain constrained, given we anticipated the first half of 2021 would be particularly challenging for the company, but we expected a recent equity injection and cash interest savings would alleviate some pressure. The negative outlook reflected our view that a near-term liquidity crisis or a distressed exchange could occur in the next six to 12 months if EBITDA levels did not pick up from their 2020 level or if cash collection deteriorated.

Table 57

Issuer Credit Rating - CatLuxe Sarl (CatLuxe Acquisition Sarl)

Date	To
01-Mar-2021	CCC/Negative/--
22-Feb-2021	SD/NM/--
01-Apr-2020	CCC+/Negative/--
10-Dec-2019	B-/Stable/--
23-Oct-2018	B/Negative/--

Form Technologies LLC

- US\$100 million floating-rate revolver bank loan due July 30, 2021
- US\$893 million floating-rate first-lien term B-2 bank loan due Jan. 28, 2022
- US\$210 million floating-rate second-lien bank loan due Jan. 30, 2023
- US\$175 million last-out first-lien term bank loan due Oct. 31, 2025
- US\$100 million revolver bank loan due April 30, 2025
- US\$640 million first-out first-lien term bank loan due July 31, 2025

On Feb. 22, 2021, S&P Global Ratings lowered its issuer credit rating on Charlotte, N.C.-based global manufacturer Form Technologies LLC to 'SD' from 'CC' following the company's completion of its recapitalization. We viewed the transaction as tantamount to a default on the second-lien term loan because the majority of lenders received a 3% discount to par value, which we viewed as less than the original promise.

On Feb. 23, 2021, we raised our issuer credit rating on the company to 'CCC+' from 'SD' following the close of Form Technologies' transaction support agreement. The stable outlook reflected our view of the company's improved operating performance and adequate liquidity following the recapitalization.

On Dec. 4, 2021, we raised our issuer credit rating on Form Technologies to 'B-' from 'CCC+'. The company had significantly improved its operating performance following the close of its refinancing transaction in early 2021, and we expected its S&P Global Ratings-adjusted EBITDA margins to improve toward the midteens in 2021 despite supply-chain challenges.

Table 58

Issuer Credit Rating - Form Technologies LLC

Date	To
03-Dec-2021	B-/Stable/--
23-Feb-2021	CCC+/Stable/--
22-Feb-2021	SD/NM/--
08-Feb-2021	CC/Negative/--
27-Mar-2020	CCC/Negative/--
16-Sep-2019	B-/Stable/--

Table 58

Issuer Credit Rating – Form Technologies LLC (cont.)

Date	To
20-Jul-2011	B/Stable/--

YPF S.A.

- ARS4.602 billion 16.50% notes series LII due May 9, 2022
- US\$1 billion 8.50% notes due March 23, 2025
- US\$400 million 10.00% bonds due July 25, 2026
- US\$750 million 6.95% notes series LIII due July 21, 2027
- US\$750 million 7.00% notes series LIV due Dec. 15, 2047

On Feb. 11, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Argentine oil and gas company YPF S.A. to 'SD' from 'CC'. The company announced that 59.79% of the bondholders of its outstanding US\$413 million 8.5% senior unsecured notes due March 23, 2021, accepted the exchange offer, which the company made on Jan. 7, 2021. We considered the exchange offer of the 2021 bonds distressed because we believed there was a realistic probability of a conventional default, given the transfer and convertibility restrictions that Argentina's central bank imposed.

On March 1, 2021, we raised our issuer credit ratings on YPF to 'CCC+' from 'SD' following the exchange of a large portion of its foreign currency debt, which extended debt maturities and reduced interest and debt payments through 2023. The outlook was stable, reflecting more balanced cash flow and normalizing business conditions.

Table 59

Issuer Credit Rating – YPF S.A

Date	To
01-Mar-2021	CCC+/Stable/--
26-Feb-2021	SD/NM/--
11-Jan-2021	CC/Negative/--
18-Sep-2020	CCC-/Watch Neg/--
08-Sep-2020	CCC+/Stable/--
08-May-2020	CCC+/Negative/--
20-Aug-2019	B-/Negative/--
13-Nov-2018	B/Stable/--
03-Sep-2018	B+/Watch Neg/--
30-Oct-2017	B+/Stable/--
04-May-2017	B/Stable/--

Sunshine 100 China Holdings Ltd.

On March 2, 2021, S&P Global Ratings lowered its issuer credit rating on China-based (incorporated in Cayman Islands) company Sunshine 100 China Holdings Ltd. to 'SD' from 'CCC-'. The downgrade followed the completion of Sunshine's repurchase of HK\$750 million convertible bonds below par. We considered the repurchase to be distressed and tantamount to a default given noteholders received less than the original promise.

On March 4, 2021, we raised our issuer credit rating on Sunshine 100 China Holdings to 'CCC-' from 'SD'. The negative outlook reflected our view that Sunshine's default risk remained elevated, considering its hefty maturities in 2021, including various domestic bonds, trust financing, and U.S. dollar-denominated senior notes.

On Aug. 11, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Sunshine 100 China Holdings Ltd. to 'SD' from 'CCC-' following nonrepayment of principal and interest totaling US\$52.4 million on its convertible bond due Aug. 11, 2021.

On Aug. 27, 2021, we revised our long-term issuer credit rating on Sunshine 100 China Holdings Ltd. to 'D'. The company had not been able to follow through with its plan to repay principal and interest totaling US\$52.4 million on its convertible bond within 10 business days from the original maturity of Aug. 11, 2021. The company's management did not provide a new repayment timeline on this selective default after it failed to raise necessary funds, as originally planned. As the China-based developer struggled to obtain new financing, this could also trigger cross-defaults and accelerated repayment demand on the company's other debts, including its U.S. dollar bonds and domestic borrowings.

On Sept. 27, 2021, we withdrew our long-term issuer credit rating at the company's request.

Table 60

Issuer Credit Rating – Sunshine 100 China Holdings Ltd.

Date	To
26-Sep-2021	NR/--/--
27-Aug-2021	D/--/--
11-Aug-2021	SD/NM/--
04-Mar-2021	CCC-/Negative/--
02-Mar-2021	SD/NM/--
22-Sep-2020	CCC-/Negative/--
03-Jul-2020	CCC-/Watch Neg/--
16-Apr-2020	CCC/Watch Neg/--
10-Oct-2017	CCC+/Negative/--
18-Jul-2017	CCC+/Watch Neg/--
06-Apr-2016	B-/Negative/--
18-Jul-2014	B/Stable/--

Ensign Drilling Inc. (Ensign Energy Services Inc.)

- US\$700 million 9.25% senior notes due April 15, 2024

On March 16, 2021, S&P Global Ratings lowered its issuer credit rating on Canada-based drilling company Ensign Drilling Inc. to 'SD' from 'CCC+'. The downgrade reflected Ensign's below-par debt repurchases, which cumulatively over the past several quarters represented a meaningful proportion of the original principal. The company disclosed that since the beginning of 2020, it had repurchased a meaningful portion of its senior unsecured notes due 2024 at well below par.

On March 25, 2021, we raised our issuer credit rating on Ensign Drilling to 'CCC+' from 'SD' after we reassessed the company's creditworthiness after reviewing its capital structure and liquidity position following the several distressed debt repurchases below par in 2020. The negative outlook reflected the company's high leverage, constrained liquidity, and refinancing risk associated with upcoming debt maturities, including the credit facility, amid challenging operating conditions for contract drillers.

Table 61

Issuer Credit Rating - Ensign Drilling Inc. (Ensign Energy Services Inc.)

Date	To
25-Mar-2021	CCC+/Negative/--
16-Mar-2021	SD/NM/--
17-Apr-2020	CCC+/Negative/--
01-Apr-2019	BB-/Stable/--

HighPoint Resources Corp.

- US\$400 million 7.00% senior notes due Oct. 15, 2022
- US\$275 million 8.75% notes due June 15, 2025

On March 16, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Colorado-based oil and gas exploration and production company HighPoint Resources Corp. to 'D' from 'CC' following the company's filing of voluntary petitions under Chapter 11 of the U.S. Bankruptcy Code.

In April 2021, Bonanza Creek Energy Inc. completed its previously announced \$376 million merger with HighPoint Resources Corp.

On April 22, 2021, we withdrew our ratings on the company.

Table 62

Issuer Credit Rating - HighPoint Resources Corp.

Date	To
22-Apr-2021	NR/--/--
16-Mar-2021	D/--/--
12-Nov-2020	CC/Negative/--
27-Mar-2020	CCC+/Negative/--
30-Mar-2018	B/Stable/--
06-Dec-2017	B-/Watch Pos/--
09-Jun-2016	B-/Negative/--

Table 62

Issuer Credit Rating - HighPoint Resources Corp. (cont.)

Date	To
06-Jun-2016	SD/NM/--
09-Feb-2016	B-/Stable/--
02-Oct-2015	B/Stable/--
30-Sep-2013	B+/Stable/--
08-May-2012	BB-/Negative/--
24-Jun-2009	BB-/Stable/--

Washington Prime Group Inc.

- US\$340 million 3.51% term bank loan due Jan 10, 2023
- US\$750 million 6.45% notes due Aug. 15, 2024
- US\$350 million floating-rate term bank loan due Dec. 30, 2022
- US\$650 million floating-rate revolver bank loan due Dec. 30, 2021

On March 17, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Indiana-based Washington Prime Group Inc. to 'D' from 'CC'. The downgrade reflected the company's announcement that it would not make the \$23.2 million interest payment due Feb. 15, 2021, on its 6.45% senior notes in the 30-day grace period. The failure to make this payment could trigger the cross-default provisions under each of the company's corporate credit facilities. The company also announced the suspension of dividends on its outstanding preferred stock.

On June 25, 2021, we withdrew our long-term issuer credit ratings on Washington Prime Group Inc.

Table 63

Issuer Credit Rating - Washington Prime Group Inc.

Date	To
25-Jun-2021	NR/--/--
17-Mar-2021	D/--/--
12-Nov-2020	CC/Negative/--
24-Aug-2020	CCC/Negative/--
20-Mar-2020	CCC+/Negative/--
25-Oct-2019	BB-/Negative/--
22-Feb-2019	BB/Negative/--
01-May-2018	BBB-/Negative/--
26-Oct-2015	BBB-/Stable/--
16-Sep-2014	BBB/Negative/--
21-Apr-2014	BBB/Stable/--

AI Mistral Holdco Ltd.

- US\$515 million floating-rate first-lien term bank loan due March 9, 2024
- US\$172.5 million floating-rate second-lien term bank loan due March 9, 2025

On March 23, 2021, S&P Global Ratings lowered its long-term issuer credit rating on U.K.-based global integrated marine support services provider AI Mistral Holdco Ltd. to 'SD' from 'CCC+'. AI Mistral Holdco Ltd., the parent of V.Group, had agreed with its lenders to undertake a debt restructuring, including a write-off of about \$98 million of its second-lien term loan. As part of the restructuring, the current owner, Advent International Corp., made a US\$50 million equity contribution. We viewed the transaction as distressed and tantamount to default because the second-lien lenders received less than the original promise of the debt instrument and because without the restructuring, the group would likely have faced liquidity pressure over the medium term.

On April 7, 2021, we raised our issuer credit rating on AI Mistral to 'CCC+' from 'SD'. AI Mistral's financial restructuring resulted in lower debt and interest costs, while an equity contribution from the owner strengthened the company's liquidity. The stable outlook reflected our expectation that AI Mistral had adequate liquidity headroom for the next 12 months.

Table 64

Issuer Credit Rating – AI Mistral Holdco Ltd.

Date	To
07-Apr-2021	CCC+/Stable/--
23-Mar-2021	SD/NM/--
15-Jun-2020	CCC+/Stable/--
11-Sep-2019	B-/Stable/--
09-Jun-2017	B/Stable/--

Avation PLC

- US\$350 million callable medium-term notes series 2 due Oct. 31, 2026

On March 26, 2021, S&P Global Ratings lowered its long-term issuer credit rating on U.K.-based (Singapore-headquartered) aircraft lessor Avation PLC to 'SD' from 'CC' after the company completed the restructuring of its US\$342.6 million senior notes due May 2021 with 100% consent from bondholders. We viewed the debt restructuring as a distressed exchange.

On March 29, 2021, we raised our issuer credit rating on Avation PLC to 'CCC' from 'SD'. The upgrade reflected our view that immediate risks had abated following the extension of Avation's US\$342.6 million unsecured bonds. The developing outlook indicated that we might raise or lower our ratings over the next 12 months depending on the company's ability to successfully refinance its upcoming maturities in a timely manner.

Table 65

Issuer Credit Rating - Avation PLC

Date	To
29-Mar-2021	CCC/Developing/--
26-Mar-2021	SD/NM/--
10-Feb-2021	CC/Watch Neg/--
21-Jan-2021	CCC-/Watch Neg/--
09-Jul-2020	CCC/Watch Neg/--
30-Mar-2020	B/Watch Neg/--
02-Oct-2019	BB-/Stable/--
16-Apr-2018	B+/Positive/--
21-Dec-2016	B+/Stable/--
20-May-2015	B/Stable/--

YPF Energia Electrica S.A.

- US\$400 million 10.00% bonds due July 25, 2026

On April 13, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Argentina-based electricity generation company YPF Energia Electrica S.A. to 'SD' from 'CCC-' following execution of a distressed exchange for its US\$100 million Series I bond. Argentina's central bank had lifted restrictions on domestic issuers with debt maturities over US\$1 million. The company offered a combination of cash and two other options, including exchange for 100% of the bond and a Series VI bond. The refinanced amount was to be extended for an additional two years.

On April 15, 2021, we raised our issuer credit rating on the company to 'CCC+' from 'SD'. The rating action reflected the absence of additional debt post-refinancing, which would reduce the company's leverage starting in 2021. The company had completed three projects in the fourth quarter of 2020, and another three projects were likely to be completed by 2021. Given this, the short-term refinancing risks for the company had ceased, as it wouldn't have large maturities till 2026.

Table 66

Issuer Credit Rating - YPF Energia Electrica S.A.

Date	To
15-Apr-2021	CCC+/Stable/--
13-Apr-2021	SD/NM/--
18-Sep-2020	CCC-/Watch Neg/--
08-Sep-2020	CCC+/Stable/--
08-May-2020	CCC+/Negative/--
20-Aug-2019	B-/Negative/--
17-Jul-2019	B/Stable/--

ION Geophysical Corp.

- US\$120.569 million 9.125% senior secured second-priority notes due Dec. 15, 2021

On April 14, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Texas-based marine seismic data company ION Geophysical Corp. to 'SD' from 'CC', following the company's announcement of the completion of a debt exchange that extended the maturity of its second-lien bonds to 2025. The US\$121 million 9.125% second-lien senior secured bonds were exchanged with a combination of cash and new 8% second-lien senior convertible notes due 2025.

On June 2, 2021, we raised the long-term issuer credit rating on the company to 'CCC' from 'SD' with a negative outlook after it completed a debt restructuring. The company raised \$14 million of net proceeds after issuing \$116 million. This improved its liquidity position and increased its cash balance to nearly \$48 million. The company still faced business challenges as oil and gas companies continued to limit their spending.

Table 67

Issuer Credit Rating - ION Geophysical Corp.

Date	To
02-Jun-2021	CCC/Negative/--
14-Apr-2021	SD/NM/--
06-Jan-2021	CC/Negative/--
24-Feb-2020	CCC+/Negative/--
12-Feb-2019	CCC+/Stable/--
06-Oct-2016	CCC+/Negative/--
29-Apr-2016	SD/NM/--
01-Mar-2016	CC/Negative/--
15-Jun-2015	CCC/Developing/--
24-Nov-2014	B-/Negative/--
10-Dec-2013	B/Negative/--
01-May-2013	B+/Stable/--

Summit Midstream Partners L.P.

- US\$300 million 5.50% senior notes due Aug. 15, 2022
- US\$500 million 5.75% senior notes due April 15, 2025

On April 15, 2021, S&P Global Ratings lowered its issuer credit rating on Texas-based natural gas and crude treatment company Summit Midstream Partners L.P. to 'SD' from 'CC'. The issuer closed its US\$18.66 million preferred unit exchange, in which 30 common units were issued for each preferred unit. The exchange was considered distressed because the preferred holders would get less than what was promised. This action reduced the company's debt balance by over US\$9 million.

On Oct. 13, 2021, we raised the long-term issuer credit rating on Summit to 'B' from 'SD' after it

launched a refinancing transaction involving its two wholly owned subsidiaries, Summit Midstream Holdings LLC and Summit Midstream Finance Corp. Through the transaction, the company issued US\$700 million of new second-priority secured notes due 2026. The proceeds of the transaction would go toward the repayment of the company's debt obligations, namely its 5.50% senior unsecured notes and revolving credit facility, both maturing in 2022.

Table 68

Issuer Credit Rating - Summit Midstream Partners L.P.

Date	To
13-Oct-2021	B/Stable/--
15-Apr-2021	SD/NM/--
18-Mar-2021	CC/Negative/--
13-Jan-2021	CCC+/Negative/--
25-Sep-2020	SD/NM/--
02-Sep-2020	CC/Negative/--
05-Aug-2020	CCC/Negative/--
23-Jun-2020	SD/NM/--
05-Jun-2020	CCC/Negative/--
25-Mar-2020	B/Negative/--
06-Feb-2020	B+/Stable/--
08-Nov-2017	BB-/Stable/--
05-Jun-2013	B+/Stable/--

Basic Energy Services Inc.

- US\$300 million 10.75% notes due 2023

On April 16, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Texas-based oilfield services provider Basic Energy Services Inc. to 'D' from 'CCC-' after the company chose not to make an interest payment of US\$16.335 million within a 30-day grace period. The interest was due on its 10.75% senior secured notes due 2023.

On Aug. 20, 2021, we withdrew the issuer credit rating on Basic Energy Services Inc.

Table 69

Issuer Credit Rating - Basic Energy Services Inc.

Date	To
20-Aug-2021	NR/--/--
16-Apr-2021	D/--/--
21-Dec-2020	CCC-/Negative/--
06-Nov-2020	CC/Negative/--
31-Jan-2020	CCC+/Negative/--
21-May-2019	B-/Negative/--

Table 69

Issuer Credit Rating - Basic Energy Services Inc. (cont.)

Date	To
21-Sep-2018	B/Negative/--
05-Mar-2018	B/Stable/--
25-Oct-2016	NR/--/--
16-Sep-2016	D/--/--
15-Aug-2016	CC/Negative/--
25-Jul-2016	CCC-/Negative/--
24-Mar-2016	CCC+/Negative/--
05-Aug-2015	B-/Negative/--
10-Apr-2015	B/Stable/--
29-Aug-2013	B+/Stable/--
28-Sep-2012	B+/Positive/--
01-Jul-2011	B+/Stable/--
03-Aug-2010	B/Stable/--
10-Dec-2009	B/Negative/--
07-Jul-2009	B+/Negative/--
10-Feb-2009	BB-/Negative/--
17-Jul-2008	BB-/Stable/--
22-Apr-2008	BB-/Watch Pos/--
10-Mar-2008	BB-/Stable/--
30-Mar-2006	B+/Positive/--
22-Nov-2005	B+/Stable/--
28-Oct-2003	B/Stable/--

Medical Depot Holdings Inc.

- US\$122.5 million floating-rate first-lien bank loan due June 1, 2025
- US\$2.5 million floating-rate revolver bank loan due Jan. 3, 2022
- US\$167 million floating-rate second-lien bank loan due Jan. 3, 2024

On April 19, 2021, S&P Global Ratings lowered its long-term issuer credit rating on New York-based durable medical devices manufacturer Medical Depot Holdings Inc. to 'SD' from 'CCC+' after the issuer completed a distressed exchange. With this transaction, the issuer amended terms of its first-lien term loan and converted a 1.5-lien loan into preferred shares. We viewed this transaction as distressed because of an extension of the maturity of the first-lien loan, though there was incremental paid-in-kind interest of 2%. There was still US\$4 million outstanding in the capital structure of the company.

On April 26, 2021, we raised our long-term issuer credit rating on the company to 'CCC+' from 'SD'.

The distressed exchange improved the company's short-term liquidity position, but the market offset due to the pandemic still presented some risks.

Table 70

Issuer Credit Rating – Medical Depot Holdings Inc.

Date	To
26-Apr-2021	CCC+/Negative/--
19-Apr-2021	SD/NM/--
15-Oct-2019	CCC+/Negative/--
07-Oct-2019	D/--/--
23-Sep-2019	CC/Watch Neg/--
12-Sep-2019	CCC/Negative/--
24-Jul-2017	B-/Negative/--
14-Nov-2016	B/Stable/--

Serta Simmons Bedding LLC

- US\$1.95 billion floating-rate first-lien term bank loan due Nov. 8, 2023
- US\$450 million floating-rate second-lien term bank loan due Nov. 8, 2024
- US\$200 million floating-rate first-out superpriority bank loan due Aug. 10, 2023
- US\$851 million second-out superpriority bank loan due Aug. 10, 2023

On April 19, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Illinois-based mattress and bedding products manufacturer Serta Simmons Bedding LLC to 'SD' from 'CC'. The company completed a tender offer for a distressed exchange on its second-lien term loan due 2024 at US\$0.60 on the dollar.

On May 12, 2021, we raised the long-term issuer credit rating to 'CCC-' from 'SD' after the issuer's liquidity position improved. After the exchange, the issuer would have US\$200 million cash and another US\$170 million in a revolver. This action reduced the company's leverage to 13.3x from 12.5x.

On June 30, 2021, we raised the long-term issuer credit rating to 'CCC' after the issuer announced it would potentially conduct repurchases on its first-lien debt tranche. There was a possibility of further debt restructuring because the capital structure remained unsustainable.

Table 71

Issuer Credit Rating – Serta Simmons Bedding LLC

Date	To
30-Jun-2021	CCC/Negative/--
12-May-2021	CCC-/Negative/--
19-Apr-2021	SD/NM/--
05-Apr-2021	CC/Negative/--
06-Jul-2020	CCC+/Negative/--

Table 71

Issuer Credit Rating - Serta Simmons Bedding LLC (cont.)

Date	To
23-Jun-2020	SD/NM/--
09-Jun-2020	CC/Negative/--
21-Apr-2020	CCC-/Negative/--
04-Dec-2019	CCC/Negative/--
28-Mar-2019	CCC+/Negative/--
20-Mar-2018	B-/Negative/--
07-Sep-2012	B/Stable/--

Isagenix Worldwide Inc.

- US\$40 million floating-rate revolver bank loan due June 14, 2023
- US\$375 million floating-rate term bank loan due June 14, 2025

On April 23, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Delaware-based cosmetics products manufacturer Isagenix Worldwide Inc. to 'SD' from 'CCC'. The issuer repurchased a significant portion of its senior secured term loan at an average price well below par, about US\$0.65 per dollar. The total repurchased value was about US\$65.5 million of the US\$375 million loan amount.

On April 30, 2021, we raised our long-term issuer credit rating on the company to 'B-' from 'SD'. Its operating performance had improved, and we expected EBITDA to grow in 2021, though the uncertainty in the post-pandemic environment could affect performance.

Table 72

Issuer Credit Rating - Isagenix Worldwide Inc.

Date	To
30-Apr-2021	B-/Negative/--
23-Apr-2021	SD/NM/--
20-Feb-2020	CCC/Negative/--
10-Dec-2019	CCC+/Negative/--
29-Jul-2019	B-/Negative/--
14-Feb-2019	B+/Negative/--
02-Jul-2018	B+/Stable/--

Maxcom Telecomunicaciones S.A.B. de C.V.

- US\$56.858 million 8.00% notes due Oct. 25, 2024

On April 27, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Mexico-based

telecom services provider Maxcom Telecomunicaciones S.A.B. de C.V. to 'D' from 'CCC-', after the issuer announced that it wouldn't be making the interest payment on its 8% senior secured notes due 2024. The interest amount of about US\$2.3 million wouldn't be paid within the 30-day grace period. The issuer has limited access to financial and capital markets, given tax claims from Mexico's Servicio de Administración Tributaria. The company was still in talks with its shareholders for some strategic alternatives.

Table 73

Issuer Credit Rating - Maxcom Telecomunicaciones S.A.B. de C.V.

Date	To
27-Apr-2021	D/--/--
09-Nov-2020	CCC-/Negative/--
07-Jul-2020	CCC-/Watch Neg/--
10-Dec-2019	CCC+/Stable/--
21-Aug-2019	D/--/--
19-Jun-2019	CC/Watch Neg/--
05-Apr-2019	CCC/Negative/--
03-Apr-2019	SD/NM/--
26-May-2017	CCC+/Stable/--
24-May-2017	SD/NM/--
27-Apr-2017	CC/Negative/--
17-Feb-2016	CCC+/Stable/--
01-Apr-2014	B-/Stable/--
19-Jun-2013	D/--/--
21-Feb-2013	CC/Negative/--
06-Dec-2012	CCC+/Watch Neg/--
23-Aug-2011	CCC+/Negative/--
03-Mar-2011	B-/Negative/--
22-Jun-2010	B/Negative/--
09-Mar-2009	B/Stable/--
12-Oct-2007	B/Positive/--
27-Nov-2006	B/Stable/--

Future Retail Ltd.

- US\$500 million 5.60% notes due Jan. 22, 2025

On April 28, 2021, S&P Global Ratings lowered its issuer credit rating on India-based fashion and household products retailer Future Retail Ltd. to 'SD' from 'CCC-', after the issuer completed a one-time restructuring of its onshore debt of about Indian rupee (INR) 102 billion. The restructuring was approved by the central bank under a resolution framework for COVID-19-related stress.

On April 30, 2021, we raised our issuer credit rating on Future Retail Ltd. to 'CCC-' from 'SD' after the completion of the debt restructuring improved the liquidity status of the company as it pushed its debt repayments further out. The company's debt service ability remained uncertain in the long term, given the pandemic resulted in a 70% drop in sales. However, we believed the asset sale to Reliance Industries Ltd. could improve the issuer's credit standing.

Table 74

Issuer Credit Rating - Future Retail Ltd.

Date	To
30-Apr-2021	CCC-/Developing/--
28-Apr-2021	SD/NM/--
15-Sep-2020	CCC-/Developing/--

Codere S.A.

- EUR500 million 6.75% notes due Nov. 1, 2023
- US\$300 million 7.625% notes due Nov. 1, 2023
- EUR85 million 12.75% notes due Sept. 30, 2023
- EUR165 million 10.75% notes due Sept. 30, 2023

On April 30, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Spain-based gaming business owner Codere S.A. to 'SD' from 'CC'. The company entered into an agreement with its ad hoc committee, formed by a majority of its noteholders, to pursue a debt restructuring. The issuer had used its 30-day grace period for interest on its supersenior notes due 2023 and deferred the US\$13.4 million coupon payment.

On Dec. 17, 2021, we withdrew our long-term issuer credit ratings on Codere S.A. after the completion of its restructuring agreement.

Table 75

Issuer Credit Rating - Codere S.A.

Date	To
17-Dec-2021	NR/--/--
30-Apr-2021	SD/NM/--
18-Mar-2021	CC/Negative/--
06-Nov-2020	CCC/Negative/--
15-Oct-2020	SD/NM/--
16-Jul-2020	CC/Negative/--
17-Jun-2020	CCC-/Negative/--
30-Apr-2020	CCC/Negative/--
17-Mar-2020	CCC+/Negative/--
14-Oct-2019	B-/Negative/--
10-Sep-2019	B/Watch Neg/--

Table 75

Issuer Credit Rating - Codere S.A. (cont.)

Date	To
29-Sep-2016	B/Stable/--
16-Jan-2014	D/--/--
19-Dec-2013	SD/NM/--
24-Sep-2013	CC/Negative/--
20-Aug-2013	SD/NM/--
29-Jul-2013	CC/Negative/--
21-Jun-2013	SD/NM/--
19-Dec-2012	CCC/Negative/--
06-Jul-2012	B-/Negative/--
02-Jul-2010	B/Stable/--
02-Jul-2009	B/Negative/--
27-Oct-2008	B+/Watch Neg/--
26-Oct-2007	BB-/Stable/--
11-Jun-2007	BB-/Watch Neg/--
14-Jun-2005	BB-/Stable/--

gategroup Holding AG

On May 10, 2021, S&P Global Ratings lowered its issuer credit rating on the Switzerland-based airline catering service provider gategroup Holding AG to 'SD' from 'CCC' after the issuer restructured its loans. The creditors agreed to extend the maturity of its €665 million senior bank debt and Swiss franc (CHF) 350 million unsecured notes by five years. Senior debt lenders also agreed to an option in exchange of annual interest payments. Shareholders provided additional liquidity freedom, as the financial maintenance covenants were replaced with a CHF25 million minimum liquidity test.

On May 19, 2021, we raised the long-term issuer credit rating to 'CCC+' from 'SD' after the company completed the restructuring and issued a new CHF475 million subordinated loan due March 2027 provided by its shareholders. These transactions improved the liquidity position of the company along with reducing the interest payments and principal repayments in 2021-2022.

Table 76

Issuer Credit Rating - gategroup Holding AG

Date	To
19-May-2021	CCC+/Stable/--
10-May-2021	SD/NM/--
18-Nov-2020	CCC/Watch Neg/--
09-Apr-2020	B/Watch Neg/--
06-Dec-2019	B+/Stable/--

Table 76

**Issuer Credit Rating - gategroup Holding
AG (cont.)**

Date	To
03-Apr-2019	B-/Watch Pos/--
29-Mar-2018	B-/Stable/--
08-Mar-2018	B-/Watch Pos/--
13-Feb-2018	B-/Stable/--
29-Nov-2017	B/Stable/--
23-Dec-2016	B+/Stable/--
20-Apr-2016	BB-/Watch Neg/--
15-Jul-2014	BB-/Positive/--
11-Jun-2013	BB-/Stable/--
28-Feb-2013	BB/Negative/--
28-Feb-2012	BB/Stable/--

Voyager Aviation Holdings LLC

- US\$500 million 8.50% notes due Aug. 15, 2021

On May 10, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Delaware-based aircraft leasing company Voyager Aviation Holdings LLC to 'SD' from 'CC'. The issuer completed restructuring of its US\$415 million senior unsecured notes due August 2021. About 98.5% of its bondholders approved this transaction. The US\$415 million senior unsecured notes were exchanged for US\$150 million 8.5% senior unsecured notes, US\$200 million in preferred equity, and 100% of the issuer's common equity shares. Later on the same day, we withdrew the issuer credit rating at the issuer's request.

Table 77

Issuer Credit Rating - Voyager Aviation Holdings LLC

Date	To
10-May-2021	NR/--/--
10-May-2021	SD/NM/--
22-Feb-2021	CC/Watch Neg/--
18-Feb-2021	CCC-/Watch Neg/--
16-Dec-2020	CCC/Negative/--
22-Jul-2020	CCC+/Watch Dev/--
31-Mar-2020	B/Watch Neg/--
23-Jul-2018	B+/Stable/--

CDRH Parent Inc.

- US\$545 million floating-rate first-lien term bank loan due July 1, 2021
- US\$82.5 million floating-rate revolver bank loan due July 1, 2021
- US\$250 million floating-rate second-lien term bank loan due July 1, 2022

On May 14, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Florida-based wound care services provider CDRH Parent Inc. to 'D' from 'CC' following a distressed exchange. The issuer exchanged a portion of its outstanding principal amount under first-lien credit facilities, nearly US\$150 million, with preferred equity and paid another US\$440 million with new debt and equity. It also exchanged a US\$269 million second-lien term loan with common equity shares.

On June 21, 2021, we withdrew the issuer credit rating on CDRH Parent Inc. at the issuer's request.

Table 78

Issuer Credit Rating - CDRH Parent Inc.

Date	To
21-Jun-2021	NR/--/--
14-May-2021	D/--/--
7-Apr-2021	CC/Watch Neg/--
17-Dec-2020	CCC-/Negative/--
6-Nov-2020	SD/NM/--
5-Dec-2019	CCC-/Negative/--
14-May-2019	CCC+/Negative/--
8-Feb-2018	B-/Negative/--
27-Jun-2017	B-/Stable/--
9-Jun-2014	B/Negative/--

Boart Longyear Ltd.

- US\$88 million 7.00% senior notes due Dec. 31, 2022
- US\$200 million 10.00% senior secured notes due Dec. 31, 2022

On May 19, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Australia-based drilling services provider and manufacturer Boart Longyear Ltd. to 'D' from 'CC', following a restructuring agreement with its lenders. As per the agreement, after the completion of upcoming legal proceedings in Australia, Boart Longyear Ltd. would file for protection under Chapter 15 of the U.S. Bankruptcy Code. Under this agreement, a sizable portion (US\$796 million) of its debt would be converted to new equity.

Later, on, Sept. 23, 2021, we raised the long-term issuer credit rating to 'B-' from 'D' after the company equitized approximately US\$796 million of debt, which was substantially all of its capital structure. This included about US\$348 million of senior secured notes, US\$354 million of term loan debt, and US\$94 million of senior unsecured notes. This resolution would result in a material

reduction of leverage, with debt to EBITDA of about 2x in 2021, compared with almost 20x in 2020 and about 10x in 2019.

Earlier, on March 5, 2021, we had lowered our long-term issuer credit rating on Boart Longyear Ltd. to 'CC' from 'CCC+'. The downgrade followed ongoing negotiations on recapitalization or refinancing of the company's debt obligations ahead of its June 2021 interest payment on its senior secured notes.

Table 79

Issuer Credit Rating - Boart Longyear Ltd.

Date	To
23-Sep-21	B-/Stable/--
19-May-21	D/--/--
5-Mar-21	CC/Watch Neg/--
1-Jul-20	CCC+/Negative/--
23-Jun-20	SD/NM/--
29-May-20	CC/Watch Neg/--
19-Jul-18	CCC+/Stable/--
13-Sep-17	CCC+/Negative/--
1-Sep-17	SD/NM/--
5-Apr-17	CC/Watch Neg/--
10-Feb-17	CCC-/Negative/--
13-Jul-16	CCC+/Stable/--
15-Jul-15	CCC+/Negative/--
24-Oct-14	CCC/Watch Pos/--
18-Jul-14	CCC/Negative/--
6-Mar-14	CCC+/Negative/--
12-Sep-13	B/Negative/--
15-Jul-13	B+/Stable/--
1-Oct-12	BB-/Stable/--
1-May-12	BB-/Positive/--
15-Mar-11	BB-/Stable/--

Carlson Travel Inc.

- €325 million floating rate senior notes due June 15, 2025
- US\$410.978 million 6.75% senior notes due Dec. 15, 2025
- US\$250 million 11.50% senior notes due Dec. 15, 2026
- US\$260 million 10.50% senior notes due March 31, 2025

On April 7, 2021, S&P Global Ratings assigned a 'CCC' long-term issuer credit rating to Minnesota-based travel management company Carlson Travel Inc., reflecting the risk of the

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company violating its covenants or engaging in debt restructuring over the next 12 months. The expectation of low travel volumes amid the pandemic further pressured the company's cash flow despite cost-management initiatives.

On June 23, 2021, we lowered our issuer credit rating on Carlson Travel Inc. to 'D' from 'CCC'. The company entered into a forbearance agreement with its lenders on June 21 to defer its interest payment due June 15, 2021. This agreement allowed the firm to preserve cash on the balance sheet.

On Dec. 17, 2021, we withdrew the issuer credit rating on Carlson Travel Inc. at the issuer's request.

Table 80

Issuer Credit Rating - Carlson Travel Inc.

Date	To
17-Dec-2021	NR/--/--
23-Jun-2021	D/--/--
07-Apr-2021	CCC/Negative/--

GTT Communications Inc.

- US\$550 million 7.875% notes due 2024
- US\$250 million floating-rate revolver bank loan due May 31, 2023
- US\$1.77 billion floating-rate term B bank loan due May 31, 2025
- US\$140 million floating-rate incremental bank loan due May 31, 2025
- €750 million floating-rate term B bank loan due May 31, 2025
- US\$275 million term bank loan due 2021

On July 1, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Virginia-based internet protocol network operator GTT Communications Inc. to 'SD' from 'CCC-' due to a missed interest payment of US\$22.6 million due June 30, 2021, on the company's unsecured notes. The company was still in talks with its creditors for waivers for selling its infrastructure division for US\$2.15 billion.

On Nov. 2, 2021, we lowered our issuer credit rating on GTT Communications Inc. to 'D' from 'SD'. The company had filed voluntary petitions under Chapter 11 of the U.S. Bankruptcy Code.

Table 81

Issuer Credit Rating - GTT Communications Inc.

Date	To
02-Nov-2021	D/--/--
01-Jul-2021	SD/NM/--
23-Feb-2021	CCC-/Negative/--
13-Jan-2021	CCC/Negative/--
15-Dec-2020	CCC/Watch Neg/--

Table 81

Issuer Credit Rating - GTT Communications Inc. (cont.)

Date	To
11-Aug-2020	CCC+/Watch Neg/--
10-Apr-2020	CCC+/Negative/--
20-Nov-2019	B-/Negative/--
24-Jan-2019	B-/Stable/--
17-Apr-2018	B/Negative/--
26-Feb-2018	B/Watch Neg/--
25-Sep-2017	B/Stable/--
29-Nov-2016	B+/Negative/--
09-Nov-2016	B+/Watch Neg/--
01-Oct-2015	B+/Stable/--

KCIBT Holdings L.P.

- US\$385 million floating-rate first-lien term loan B bank loan due June 1, 2024
- US\$140 million floating-rate second-lien term bank loan due June 1, 2025
- US\$65 million floating-rate first-lien revolving bank loan due June 1, 2022

On July 8, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Virginia-based third-party travel documentation provider KCIBT Holdings L.P. to 'SD' from 'CCC'. The rating action followed an amendment to the terms of the company's first and second term loans. This amendment allowed the company to partially pay-in-kind the interest due on its second-lien term loan until March 31, 2023, and waive the interest payment on its second-lien term loan until at least March 31, 2023. Additionally, the amendment modified the minimum liquidity covenant and enabled the company to waive the total leverage covenant on its debt facilities until Dec. 31, 2023.

Further, the maturity dates on the company's first-lien facility and second-lien term loan were extended to June 1, 2025, and Dec. 1, 2025, respectively. The financial sponsors of the company agreed to contribute US\$25 million for its liquidity. The slow-paced recovery from COVID-19 in business travel also affected the company's revenue.

On Aug. 13, 2021, we raised our issuer credit rating on KCIBT Holdings L.P. to 'CCC' from 'SD'. While the amendments provided additional liquidity and delayed short-term covenant risks, the downgrade reflected the likelihood of weakening liquidity over the course of the next 12 months amid the possibility of a new distressed restructuring or debt exchange.

Table 82

Issuer Credit Rating - KCIBT Holdings L.P.

Date	To
13-Aug-2021	CCC/Negative/--
08-Jul-2021	SD/NM/--

Table 82

**Issuer Credit Rating - KCIBT Holdings
L.P. (cont.)**

Date	To
26-Aug-2020	CCC/Negative/--
24-Aug-2020	SD/NM/--
17-Mar-2020	CCC+/Negative/--
20-Dec-2019	B-/Negative/--
13-Mar-2019	B-/Stable/--
15-May-2017	B/Stable/--

Joye Media SLU

- €142.41 million floating-rate term B2 bank loan due June 22, 2025
- €180 million floating-rate term bank loan due Dec. 22, 2025
- €184.33 million floating-rate term A1 bank loan due June 22, 2024
- €237.58 million floating-rate term B1 bank loan due June 22, 2025
- €115.66 million floating-rate term A2 bank loan due June 22, 2024
- €60 million floating-rate multicurrency revolving credit facility loan due June 22, 2024

On July 9, 2021, S&P Global lowered its long-term issuer credit rating on Spain-based Joye Media SLU to 'D' from 'CCC-'. Joye Media SLU is the parent company of Mediapro, a leading international sports media and audiovisual group with operation in over 150 countries.

The rating action on Joye Media SLU reflected its failure to meet interest payments and amortization on its first- and second-lien debt instruments due June 28, 2021. Further, the company failed to meet its obligations within the stated three-day grace period. Lenders agreed to waive interest aggregating to €20 million and €25 million amortization until July 31, 2021, which gave the company additional time to restructure negotiations. Further, lenders waived the minimum liquidity covenant, and the company was granted an extension to provide its audited financial statements within 150 days from the end of the financial year.

Table 83

Issuer Credit Rating - Joye Media S.L.

Date	To
09-Jul-2021	D/--/--
27-Apr-2021	CCC-/Negative/--
22-Oct-2020	CCC+/Negative/--
18-Jun-2020	B-/Watch Neg/--
20-Apr-2020	B/Watch Neg/--
10-Oct-2018	BB-/Stable/--

Sichuan Languang Development Co. Ltd.

On July 13, 2021, S&P Global Ratings lowered its long-term issuer credit rating on China-based property developer Sichuan Languang Development Co. Ltd. to 'D' from 'CCC-' after the company failed to repay interest and principal totaling about Chinese renminbi (RMB) 968 million on its medium-term note due July 11, 2021. We did not expect the company to be able to repay the note within the stated grace period of 10 days, given its exceptionally weak liquidity.

Later, on July 13, 2021, we withdrew our long-term issuer credit rating at the company's request.

Earlier, on June 18, 2021, we lowered our long-term issuer credit rating on Sichuan Languang to 'CCC-' from 'B-'. The company faced high nonpayment risk, given its domestic bonds totaling RMB4.2 billion coming due over the next three months, with the first maturity on July 11, 2021. Also, there had been a lack of progress on Sichuan Languang's project disposal plan.

Table 84

Issuer Credit Rating - Sichuan Languang Development Co. Ltd.

Date	To
13-Jul-2021	NR/--/--
13-Jul-2021	D/--/--
18-Jun-2021	CCC-/Negative/--
31-May-2021	B-/Watch Neg/--
06-May-2021	B+/Negative/--
05-Jun-2018	B+/Stable/--

Alpha Holding S.A. de C.V.

- US\$300 million 10.00% notes due Dec. 19, 2022

On July 20, 2021, S&P Global Ratings lowered its issuer credit on Mexican lending company Alpha Holding S.A. de C.V. to 'D' from 'CC'. The company missed an interest payment on its senior notes of US\$300 million.

Later, on Sept. 15, 2021, we withdrew our issuer credit rating on the issuer's request. Amid a Chapter 11 filing for its Colombian operations and a voluntary bankruptcy proceeding petition according to Mexico's bankruptcy law, the company announced that it had stopped its on-balance-sheet origination activities.

Earlier, on June 18, 2021, we lowered our issuer credit and senior unsecured debt ratings on the company to 'CC' from 'CCC', after the announcement of the exercise of a 30-day grace period for the US\$15 million cash interest payment due June 19, 2021, on its US\$300 million senior secured notes due December 2022. The company said that an ad hoc group of holders of more than 50% in principal amount of the notes had appointed financial and legal advisers engaged in dialogue with Alpha Holding S.A. de C.V.

Table 85

Issuer Credit Rating – Alpha Holding S.A. de C.V.

Date	To
15-Sep-2021	NR/--/--
20-Jul-2021	D/--/--
18-Jun-2021	CC/Watch Neg/--
22-Apr-2021	CCC/Watch Neg/--
24-Jun-2020	B-/Stable/--
27-Jan-2020	B-/Watch Pos/--
05-Dec-2017	B-/Stable/--

Comdata SpA

- €85 million floating-rate revolving credit facility bank loan due May 30, 2023
- €510 million floating-rate term loan B bank loan due May 30, 2024

On July 30, 2021, S&P Global Ratings assigned its 'SD' long-term issuer credit rating to Italy-based Comdata SpA. The company provides BPO services in the customer operations segment and has a widespread presence across 222 countries. The rating action followed the formalization of the company's debt restructuring agreement with its lenders dated July 30, 2021.

The restructuring would result in an amalgamation of both the senior secured facilities: a €510 million term loan B and €85 million revolving credit facility. This would effectively lead to an extended maturity for the revolver by one year because its maturity would align to that of the term loan B following the amalgamation. Further, it was expected that about one-third of the amalgamated amount would be converted into quasi-equity instruments.

On Aug. 10, 2021, we raised our issuer credit rating on Comdata SpA to 'CCC+' from 'SD' after the completion of the debt restructuring. The upgrade came in light of Comdata's improved liquidity and extended debt maturity profile as it converted part of its senior secured debt into quasi-equity instruments and raised €25 million of new money. However, the company's leverage position remained substantial with adjusted debt to EBITDA below 9x in 2021. We expected an improvement in EBITDA to improve the company's leverage position in the coming years.

Table 86

Issuer Credit Rating – Comdata SpA

Date	To
10-Aug-2021	CCC+/Positive/--
30-Jul-2021	SD/NM/--

Glass Mountain Pipeline LLC

- US\$30 million 9.50% notes due July 20, 2023

On Aug. 9, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Delaware-based

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Glass Mountain Pipeline LLC to 'D' from 'CC'. The company operates as a crude oil transportation system connecting the STACK, Mississippi Lime, and Granite Wash plays to Cushing, Oklahoma. The rating action followed the company's missed interest payment on its outstanding debt due July 30, 2021. The company entered into a forbearance agreement with its lenders dated Aug. 5, 2021.

On Dec. 6, 2021, we withdrew the long-term issuer credit rating on Glass Mountain Pipeline LLC.

Table 87

Issuer Credit Rating - Glass Mountain Pipeline LLC

Date	To
06-Dec-2021	NR/--/--
09-Aug-2021	D/--/--
21-Apr-2021	CC/Negative/--
11-May-2020	CCC/Negative/--
27-Mar-2020	B-/Negative/--
01-Aug-2019	B/Negative/--
10-Jul-2019	B-/Stable/--
20-May-2019	B/Negative/--
04-Dec-2017	B/Stable/--

Compania Latinoamericana de Infraestructura & Servicios S.A.

- US\$270.04 million 9.50% notes due July 20, 2023
- US\$335 million notes due 2027
- US\$300 million floating-rate term B bank loan due Dec. 23, 2024

On Aug. 13, 2021, S&P Global Ratings lowered its global scale issuer credit rating on Argentine conglomerate Compañía Latinoamericana de Infraestructura y Servicios S.A. (CLISA) to 'SD' from 'CC'. The company announced that 97% of the bondholders of its 2023 senior secured and unsecured notes accepted the exchange offer the company launched on July 15, 2021. This implied that investors would receive less value than what was originally promised.

On Aug. 18, 2021, we raised our issuer credit rating on CLISA to 'CCC' from 'SD', following completion of its debt exchange of 2023 senior secured and unsecured notes for new 2027 senior secured notes. The completion of the transaction improved liquidity and reduced refinancing risk. The positive outlook reflected our belief that CLISA's liquidity would continue to gradually improve in the next six to 12 months, mainly because of the interest pay-in-kind option, which reduced the overall interest burden, and our expectation that the construction segment would gradually recover.

Table 88

Issuer Credit Rating - Compania Latinoamericana de Infraestructura & Servicios S.A.

Date	To
18-Aug-2021	CCC/Positive/--

Table 88

Issuer Credit Rating - Compania Latinoamericana de Infraestructura & Servicios S.A. (cont.)

Date	To
13-Aug-2021	SD/NM/--
15-Jul-2021	CC/Negative/--
01-Jul-2021	CCC-/Negative/--
11-Oct-2019	CCC/Negative/--
02-Sep-2019	CCC/Watch Neg/--
24-Jul-2018	B-/Negative/--
10-May-2018	B-/Watch Neg/--
03-Feb-2016	B-/Stable/--
18-Jun-2014	CCC-/Negative/--
03-Apr-2014	CCC/Negative/--
13-Sep-2013	CCC+/Negative/--
01-Nov-2012	B-/Negative/--
24-Apr-2012	B/Negative/--
17-Dec-2010	B/Stable/--
14-Sep-2010	B-/Watch Pos/--
25-Jun-2009	B-/Stable/--
05-Nov-2008	B-/Negative/--
15-Nov-2006	B-/Stable/--
19-Mar-2003	NR/--/--
02-Jan-2003	D/--/--
21-Jan-2002	SD/NM/--
01-Nov-2001	CCC-/Watch Neg/--
10-Oct-2001	CCC+/Watch Neg/--
26-May-2000	B-/Watch Neg/--
20-Aug-1999	B+/Stable/--
22-Jul-1999	BB-/Negative/--
15-May-1997	BB-/Stable/--

Array Canada Inc.

- US\$40 million floating-rate revolver bank loan due Feb. 10, 2022
- US\$315 million floating-rate term bank loan due Feb. 10, 2023

On Sept. 21, 2021, S&P Global lowered its long-term issuer credit rating on Canada-based marketing services provider Array Canada Inc. to 'SD' from 'CCC'. The rating action followed the completion of a debt-for-equity transaction with 100% of the company's first-lien (term loan and

revolving facility) lenders. The said debt-for-equity exchange reduced the company's debt burden by more than 50%.

Table 89

Issuer Credit Rating – Array Canada Inc.

Date	To
21-Sep-2021	SD/NM/--
08-Sep-2020	CCC/Negative/--
27-Mar-2020	CCC+/Watch Neg/--
24-Jan-2020	CCC+/Negative/--
03-Jul-2019	B/Negative/--
23-Jan-2017	B/Stable/--

IPC Corp.

- US\$305 million floating-rate second-lien bank loan due Feb. 6, 2021

On Oct. 4, 2021, S&P Global Ratings lowered its long-term issuer credit rating on New Jersey-based debt-issuing vehicle IPC Corp. to 'SD' from 'CCC-' due to a restructuring agreement on the company's second-lien debt. The company's second-lien debtholders were granted equity in exchange for eliminating previous claims. The distressed exchange agreement resulted in a reduction of the company's debt by more than US\$400 million.

On Oct. 4, 2021, we withdrew our long-term issuer credit ratings on IPC Corp. because its new debt did not require a rating.

Table 90

Issuer Credit Rating – IPC Corp.

Date	To
04-Oct-2021	NR/--/--
04-Oct-2021	SD/NM/--
16-Apr-2021	CCC-/Negative/--
30-Sep-2020	CCC/Negative/--
26-Nov-2019	CCC+/Negative/--
14-Nov-2019	SD/NM/--
03-Jul-2019	CC/Watch Neg/--
14-Jan-2019	CCC+/Negative/--
19-Mar-2018	B-/Stable/--
12-Jun-2017	B-/Negative/--
23-Feb-2017	B/Watch Neg/--
07-Jan-2015	B/Stable/--

Fantasia Holdings Group Co. Ltd.

- US\$500 million 7.375% notes due Oct. 4, 2021
- US\$300 million 7.95% notes due July 5, 2022
- US\$300 million 11.75% notes due April 17, 2022
- US\$200 million 12.25% callable notes due Oct. 18, 2022
- US\$450 million 10.875% notes due Jan. 9, 2023
- US\$200 million 14.50% callable notes due June 25, 2024

On Oct. 5, 2021, S&P Global Ratings lowered its long-term issuer credit rating on China-based (Cayman Islands-incorporated) residential and commercial property developer Fantasia Holdings Group Co. Ltd. to 'SD' from 'CCC' after it failed to repay its principal of US\$206 million due Oct. 4, 2021, on its senior notes. The company's missed payment highlighted its strained liquidity position despite sufficient cash on hand. Its liquidity position was further pressured by worsening funding conditions and slower-than-expected asset disposals.

Earlier, on Sept. 29, 2021, we lowered our long-term issuer credit rating on Fantasia Holdings Group Co. Ltd. to 'CCC' from 'B', reflecting substantial risk of nonrepayment of the company's debt obligations totaling US\$760 million over the next six months. The downgrade also reflected the company's failure to communicate a concrete repayment plan despite imminent maturity.

On Dec. 14, 2021, we withdrew our long-term issuer credit ratings on Fantasia Holdings Group Co. Ltd. at the issuer's request.

Table 91

Issuer Credit Rating - Fantasia Holdings Group Co. Ltd.

Date	To
14-Dec-2021	NR/--/--
05-Oct-2021	SD/NM/--
29-Sep-2021	CCC/Watch Neg/--
14-Sep-2021	B/Negative/--
04-Apr-2019	B/Stable/--
04-Sep-2018	B/Negative/--
19-Apr-2018	B/Stable/--
22-Mar-2018	B+/Watch Neg/--
29-Apr-2015	B+/Stable/--
22-Aug-2014	B+/Negative/--
23-Apr-2014	BB-/Negative/--
02-Apr-2013	BB-/Stable/--
24-Nov-2010	BB-/Negative/--
28-Apr-2010	BB-/Stable/--

Sinic Holdings (Group) Co. Ltd.

On Oct. 19, 2021, S&P Global Ratings lowered its long-term issuer credit rating on China-based (Cayman Islands-incorporated) residential property developer Sinic Holdings (Group) Co. Ltd. to 'SD' from 'CC' following nonrepayment of principal and interest on the company's US\$250 million offshore senior unsecured notes due Oct. 18, 2021. The company failed to meet its obligations despite holding RMB14 billion in cash on hand as of June 30, 2021.

Later, on Nov. 4, 2021, we withdrew our long-term issuer credit rating at the company's request.

Earlier, on Oct. 4, 2021, we lowered our long-term issuer credit rating on Sinic Holdings (Group) Co. Ltd. to 'CC' from 'CCC+', reflecting the likelihood of default on its US\$246 million senior unsecured notes due Oct. 18, 2021, due to strained liquidity.

Table 92

Issuer Credit Rating - Sinic Holdings (Group) Co. Ltd.

Date	To
03-Nov-2021	NR/--/--
19-Oct-2021	SD/NM/--
04-Oct-2021	CC/Watch Neg/--
20-Sep-2021	CCC+/Watch Neg/--
10-Sep-2021	B/Negative/--
10-Jun-2020	B/Stable/--

Exela Technologies Inc.

- US\$1 billion 10.00% senior notes due July 15, 2023
- US\$396.301 million floating-rate term B bank loan due July 12, 2023
- US\$100 million floating-rate revolver bank loan due July 12, 2022

On Nov. 2, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Irving, Texas-based business process automation company Exela Technologies Inc. to 'SD' from 'CCC-'. The company announced an exchange offer for its senior secured term loans and secured notes. It had repurchased about US\$95 million of debt in the open market so far in the year.

On Dec. 17, 2021, we raised our issuer credit rating on Exela Technologies Inc. to 'CCC-' from 'SD' following some exchange transactions. The company had reduced its interest expense and amortization payments and eliminated its financial covenant requirements, as well as reduced its debt.

Table 93

Issuer Credit Rating - Exela Technologies Inc.

Date	To
17-Dec-2021	CCC-/Negative/--
02-Nov-2021	SD/NM/--

Table 93

Issuer Credit Rating - Exela Technologies Inc. (cont.)

Date	To
26-Nov-2019	CCC-/Negative/--
15-Aug-2019	CCC+/Negative/--
30-May-2019	B-/Negative/--
28-Jun-2017	B/Stable/--

Investimentos e Participacoes em Infraestrutura S.A. - Invepar

On Nov. 11, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Brazil-based transportation infrastructure group Investimentos e Participacoes em Infraestrutura S.A. - Invepar to 'D' from 'CC'. The company transferred some of its subsidiaries to its debentureholders in exchange for early amortization of about 68.3% of its third and fifth debentures' principal amount at the holding level. At the same time, the company refinanced the terms of its remaining debt (about Brazilian real 854 million) by extending the maturity date of its fifth debentures to August 2024 from October 2021. In addition, it offered a lower interest rate of inflation plus 6.5% to its debentureholders (versus previous inflation plus 12.6%). We saw the debt restructuring as a distressed exchange considering Invepar's fragile financial situation and the fact the group was not honoring the original promise of its debt by paying the creditors in kind while creditors were receiving less value with the lower interest rate.

Table 94

Issuer Credit Rating - Investimentos e Participacoes em Infraestrutura S.A.

Date	To
11-Nov-2021	D/--/--
07-Apr-2021	CC/Negative/--
25-Sep-2020	CCC-/Negative/--
31-Mar-2020	CCC/Negative/--
10-Jun-2019	CCC+/Negative/--
11-Feb-2019	CCC+/Watch Neg/--
12-Nov-2018	B/Watch Neg/--
28-Aug-2018	BB-/Watch Neg/--
29-Sep-2016	BB-/Stable/--
24-May-2016	BB-/Watch Neg/--
18-Feb-2016	BB/Negative/--
05-Dec-2013	BB/Stable/--

China Aoyuan Group Ltd.

- US\$250 million 5.375% notes due Sept. 13, 2022

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- US\$225 million 7.95% notes due Jan. 19, 2023
- US\$460 million 6.35% callable notes due Jan. 8, 2024

On Dec. 6, 2021, S&P Global Ratings lowered its long-term issuer credit rating on China-based property developer China Aoyuan Group Ltd. to 'SD' from 'CCC' following nonrepayment of principal of around US\$651.2 million.

Earlier, on Nov. 16, 2021, we lowered our long-term issuer credit rating on the company to 'CCC' from 'B' because we believed the company might not have access to its cash balance to fulfill its debt obligations. The rating action reflected nonpayment risk in the absence of timely alternate fundraising plans.

On Dec. 6, 2021, we withdrew our long-term issuer credit ratings on China Aoyuan Group Ltd. at the issuer's request.

Table 95

Issuer Credit Rating - China Aoyuan Group Ltd.

Date	To
06-Dec-2021	NR/--/--
06-Dec-2021	SD/NM/--
16-Nov-2021	CCC/Negative/--
15-Oct-2021	B/Negative/--
15-Apr-2021	B+/Stable/--
22-Mar-2019	B+/Positive/--
20-Jul-2017	B+/Stable/--
05-Oct-2016	B/Positive/--
10-Jan-2014	B/Stable/--

Serba Dinamik Holdings Bhd.

On Dec. 9, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Malaysia-based engineering and construction company Serba Dinamik Holdings Bhd. to 'D' from 'CC'. The company failed to cure its US\$7 million missed coupon payment on its outstanding US\$222 million senior unsecured sukuk (Islamic bond) due May 2022, which constituted an event of default. The grace period for the coupon payment expired Dec. 9, 2021. We believed the default on the sukuk was likely to result in cross-defaults on the company's other US\$180 million senior unsecured sukuk due March 2025 as well as long-term bank facilities. We believed Serba's constrained ability to secure fresh external funding, coupled with persistent cash burn from its operations, would result in the company not being current on its debt obligations.

Earlier, on Nov. 12, 2021, we lowered our long-term issuer credit rating on the company to 'CC' from 'CCC' after it missed a coupon payment on the US\$222 million outstanding sukuk due May 2022.

Table 96

Issuer Credit Rating - Serba Dinamik Holdings Berhad

Date	To
09-Dec-2021	D/--/--
12-Nov-2021	CC/Negative/--
18-Aug-2021	CCC/Negative/--
31-May-2021	B-/Watch Neg/--
25-Jun-2020	B+/Stable/--
03-Apr-2020	BB-/Watch Neg/--
04-Jun-2019	BB-/Stable/--

China Evergrande Group

- US\$1.345 billion 7.50% notes due June 28, 2023
- US\$4.68 billion 8.75% notes due June 28, 2025
- US\$1.45 billion 9.50% callable notes due April 11, 2022
- US\$850 million 10.00% callable notes due April 11, 2023
- US\$700 million 10.50% callable notes due April 04, 2024
- US\$1 billion 11.50% notes due Jan. 22, 2023
- US\$1 billion 12.00% notes due Jan. 22, 2024

On Dec. 17, 2021, S&P Global Ratings lowered its long-term issuer credit rating on Cayman Islands-based property development business company China Evergrande Group to 'SD' from 'CC'. The company had failed to make coupon payments on its outstanding U.S. dollar senior notes. The grace periods for payments had also lapsed.

On Dec. 17, 2021, we withdrew the long-term issuer credit rating on China Evergrande Group.

Table 97

Issuer Credit Rating - China Evergrande Group

Date	To
17-Dec-2021	NR/--/--
17-Dec-2021	SD/NM/--
15-Sep-2021	CC/Negative/--
05-Aug-2021	CCC/Negative/--
26-Jul-2021	B-/Negative/--
12-Apr-2021	B+/Stable/--
24-Sep-2020	B+/Negative/--
03-Sep-2019	B+/Stable/--
03-Sep-2018	B+/Positive/--
03-Apr-2018	B/Positive/--

Table 97

Issuer Credit Rating - China Evergrande Group (cont.)

Date	To
18-May-2017	B/Stable/--
08-Apr-2016	B-/Negative/--
06-May-2015	B+/Negative/--
28-Apr-2014	BB-/Negative/--
27-Jan-2014	BB/Watch Neg/--
19-Feb-2013	BB/Stable/--
29-Jun-2012	BB/Negative/--
10-Jan-2010	BB/Stable/--

Related Research

- U.S. Recovery Study: Clouds Loom As Defaults Rise, Dec. 7, 2021
- S&P Global Ratings Definitions, Nov. 10, 2021

The use of the term "methodology" in this article refers to data aggregation and calculation methods used in conducting the research. It does not relate to S&P Global Ratings' methodologies, which are publicly available criteria used to determine credit ratings.

This report does not constitute a rating action.

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