

Default, Transition, and Recovery:

2017 Annual Global Corporate Default Study And Rating Transitions

April 5, 2018

The year following the U.K.'s watershed vote to leave the EU and the U.S. election of Donald Trump had the potential to produce quite a deal of market turbulence, but that never came to pass. Instead, equity markets roared ahead in 2017, and the corporate bond market saw increased issuance and falling yields globally. The Brexit process followed a somewhat predictable path, the Trump Administration made few, if any, legislative changes through most of the year, and emerging markets experienced improved economic growth.

Amid exceptionally low volatility, defaults among corporate entities rated by S&P Global Ratings were relatively limited in 2017, falling to a three-year low of 95 (see table 1). Residual stress among oil and gas companies caused the energy and natural resources sector to remain the leading industry in defaults for the fourth straight year. Running nearly alongside was the consumer services sector, which saw many retailers in developed markets default amid sector-specific structural changes that have been causing many brick-and-mortar store closures--a trend that is expected to continue. The 95 total defaulted corporate issuers in 2017 accounted for \$104.6 billion in debt, less than half the \$239.8 billion total for 2016.

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Overview

- The number of defaults globally declined to 95 in 2017 from 163 in 2016. This decrease pushed the global speculative-grade default rate down to 2.4% in 2017 from 4.2% at the end of 2016, alongside an essentially static tally of speculative-grade issuers (with one fewer speculative-grade issuer at the start of the year than in 2016).
- Residual stress from a prolonged period of low oil and other commodity prices remained the leading cause of defaults, but only just. Fundamental changes for the retail and consumer products industries are evolving as a leading area of stress, resulting in a jump in defaults within the consumer services sector. These two sectors combined to account for 54% of all defaults in 2017.
- The one-year global Gini ratio rose to 92.7 in 2017, a notable increase over 86.4 in 2016 and well higher than the postrecession average of 89.3. Driving much of this strong reading, the 'CCC'/'C' category accounted for more than 77% of all defaults.
- The overall rate of rating actions decreased slightly in 2017 relative to 2016, largely due to a drop in the rate of downgrades, to 8.7% from 12.2% in 2016, while the upgrade rate rose to 9% from 7.9%. The Sept. 21 downgrade of China was the largest single driver of corporate downgrades in 2017, with 31 Greater Chinese entities downgraded, by an average of one notch.
- Meanwhile, the Oct. 30 upgrade of Argentina was the largest single driver of upgrades in 2017, resulting in roughly 16 one-notch upgrades among Argentine corporates. Following close behind, 11 financial companies in Italy were upgraded by one notch following the Oct. 27 sovereign upgrade.

At the end of December 2017, the global speculative-grade default rate fell to 2.4%, its lowest level since 2014 and roughly in line with the postrecession (2010 onward) average of 2.6% (see chart 1). Alongside the decline in defaults, credit quality and rating stability measures slightly improved as well (see table 6). For example, the ratio of downgrades to upgrades fell to 0.97, reflecting more upgrades than downgrades, while the proportion of changed ratings fell to 28% in 2017 from 30.5% in 2016. In the case of nearly all of the main statistics presented in this study, 2017 proved to be the best year since 2014 from a credit quality perspective, with relative highs (for Ginis, upgrade rates, and stability rates) and lows (such as for defaults and downgrade rates).

All of the defaulted companies in 2017 that were rated as of the beginning of the year (83) had a speculative-grade rating ('BB+' or lower) (see table 1). Of the remaining 12 defaults, two were by companies that S&P Global Ratings first rated in 2017, and 10 were by companies with ratings that were withdrawn before the beginning of the year. Of the total 95 defaulters, 90 (95%) initially had speculative-grade ratings, 80 of which were from the 'B' and 'CCC'/'C' rating categories. We consider companies reemerging from a prior default to be separate entities, with their rating histories beginning with the postdefault rating.

This 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. (For a detailed explanation of our data sources and methodology, see Appendix I.)

Over half of all defaults in 2017 were attributable to two sectors: energy and natural resources

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(28.4% of the total) and the consumer services sector (25.3%). Nearly all other sectors had default rates well below their long-term averages, with only the high tech, computers, and office equipment sector exceeding its long-term average, though that average is relatively low (see chart 2). 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.

Table 1

Global Corporate Default Summary

Year	Total defaults*	Investment-grade defaults	Speculative-grade defaults	Default rate (%)	Investment-grade default rate (%)	Speculative-grade default rate (%)	Total debt outstanding (bil. \$)
1981	2	0	2	0.14	0.00	0.62	0.06
1982	18	2	15	1.19	0.18	4.41	0.90
1983	12	1	10	0.76	0.09	2.94	0.37
1984	14	2	12	0.91	0.17	3.27	0.36
1985	19	0	18	1.11	0.00	4.32	0.31
1986	34	2	30	1.72	0.15	5.67	0.46
1987	19	0	19	0.94	0.00	2.79	1.60
1988	32	0	29	1.38	0.00	3.85	3.30
1989	44	3	35	1.77	0.22	4.67	7.28
1990	70	2	56	2.73	0.14	8.12	21.15
1991	93	2	65	3.25	0.14	11.05	23.65
1992	39	0	32	1.49	0.00	6.10	5.40
1993	26	0	14	0.60	0.00	2.50	2.38
1994	21	1	15	0.63	0.05	2.11	2.30
1995	35	1	29	1.05	0.05	3.53	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
1998	56	4	48	1.28	0.14	3.66	11.27
1999	109	5	92	2.14	0.17	5.56	39.38
2000	136	7	109	2.48	0.24	6.23	43.28
2001	229	7	173	3.78	0.23	9.87	118.79
2002	226	13	159	3.59	0.42	9.50	190.92
2003	119	3	89	1.92	0.10	5.07	62.89
2004	56	1	38	0.78	0.03	2.02	20.66
2005	40	1	31	0.60	0.03	1.50	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	3.69	429.63
2009	268	11	224	4.18	0.33	9.90	627.70
2010	83	0	64	1.20	0.00	3.01	97.48
2011	53	1	44	0.80	0.03	1.84	84.30

Table 1

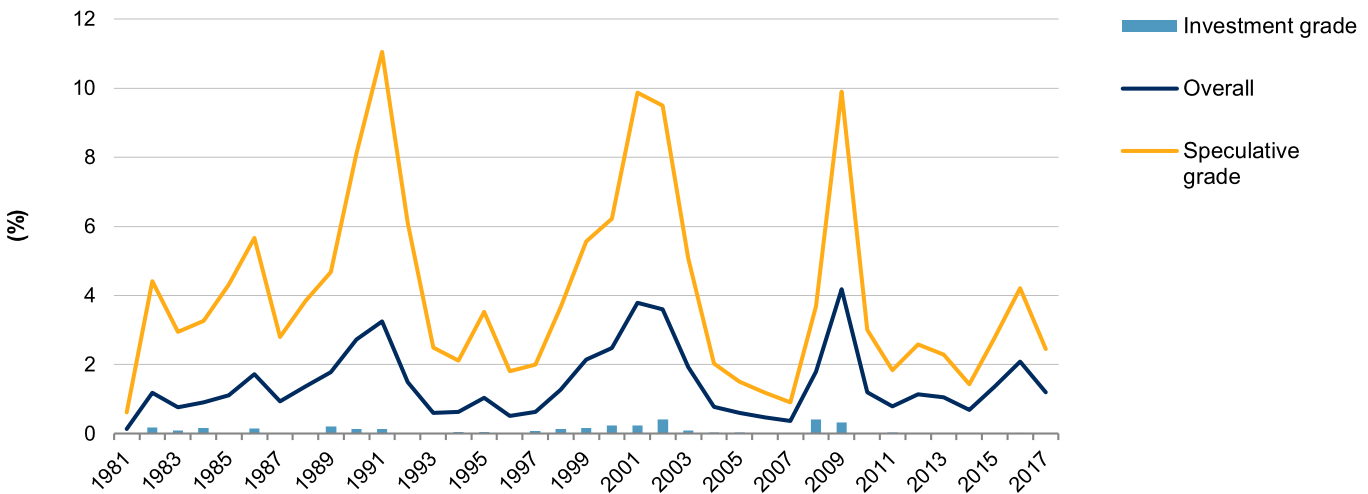
Global Corporate Default Summary (cont.)

Year	Total defaults*	Investment-grade defaults	Speculative-grade defaults	Default rate (%)			Total debt outstanding (bil. \$)
				Investment-grade default rate (%)	Speculative-grade default rate (%)	rate (%)	
2012	83	0	66	1.14	0.00	2.58	86.70
2013	81	0	64	1.06	0.00	2.30	97.29
2014	60	0	45	0.69	0.00	1.43	91.55
2015	113	0	94	1.36	0.00	2.76	110.31
2016	163	1	143	2.08	0.03	4.21	239.79
2017	95	0	83	1.20	0.00	2.44	104.57

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

Chart 1

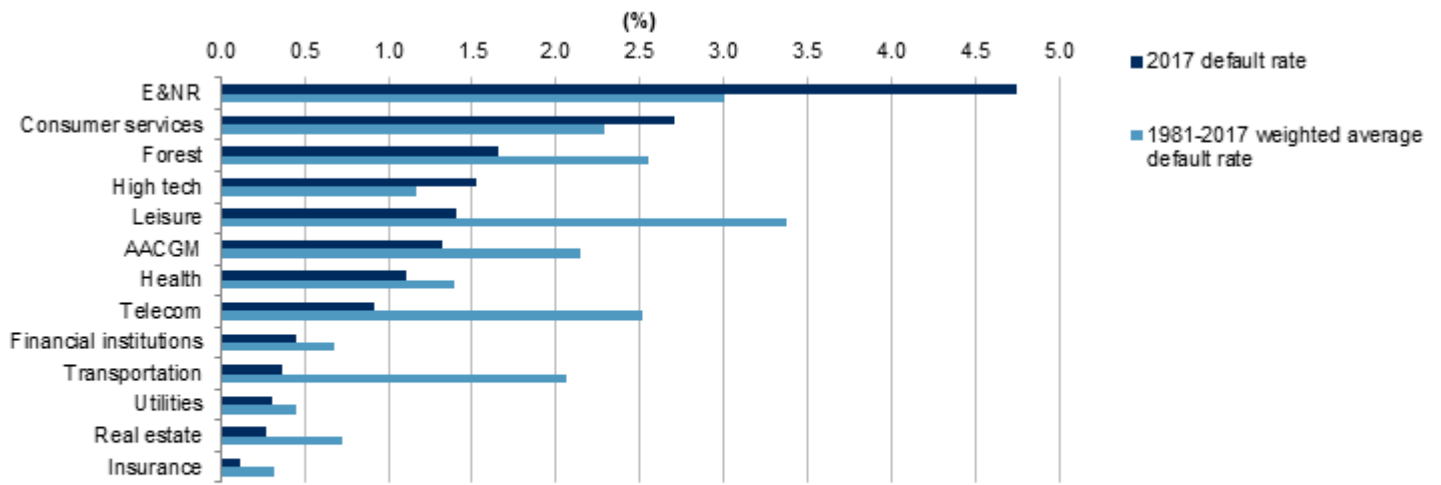
Global Default Rates: Investment Grade Versus Speculative Grade



Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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Chart 2

Global Corporate Default Rates By Industry: 2017 Versus Long-Term Average

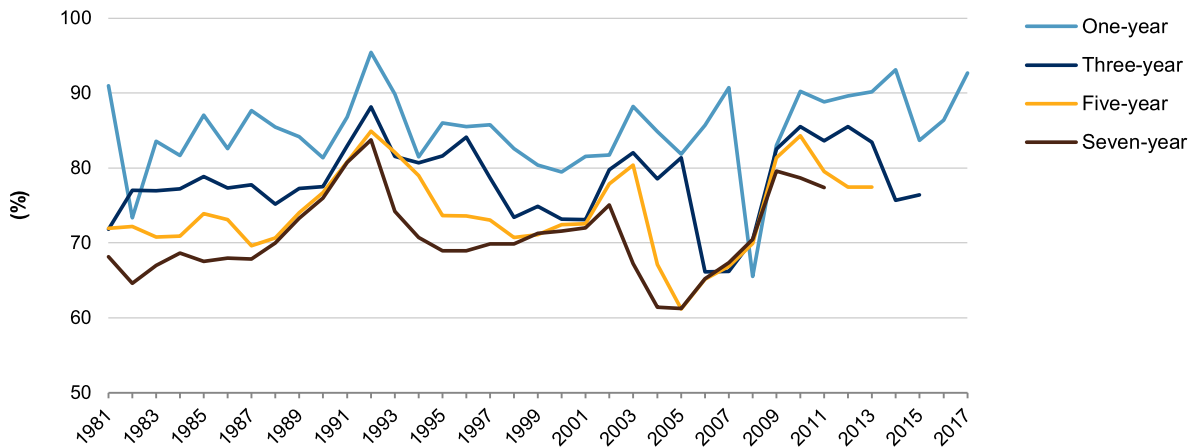


E&NR--Energy and natural resources. Forest--Forest and building products and homebuilders. High tech--High technology, computers, and office equipment. Leisure--Leisure time and media. AACGM--Aerospace, auto, capital goods, and metals. Health--Health care and chemicals. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

The Gini ratio is a measure of the rank-ordering power of ratings over a given time horizon, from one through seven years (see chart 3). It shows the ratio of actual rank-ordering performance to theoretically perfect rank ordering. Consistent with the declining number of defaults in 2017, the one-year Gini ratio rose to 92.7 in 2017 from 86.4 in 2016. As with many of the headline statistics in this study, this was the Gini's highest level since 2014 (see chart 30 and table 2). (For details on the Gini methodology, refer to Appendix II.)

Chart 3

Gini Coefficients By Pool Year Across Multiple Time Horizons



Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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All of S&P Global Fixed Income 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 4 and chart 25). We found that the same is true when we break out the data by rating (see tables 24 and 26) as well as by region (see table 25).

As the Gini ratios show, the ability of corporate ratings to serve as effective measures of relative risk remains intact 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 generally experience more volatility.

However, since the financial downturn of 2008, many highly rated companies have been downgraded, leaving, for example, exceedingly few 'AAA' rated issuers at the start of 2017. As 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 (1981-2017)

Sector	--Time horizon--			
	One-year	Three-year	Five-year	Seven-year
Global				
Weighted average	82.39	75.00	71.65	69.43
Average	85.09	78.17	74.12	70.84
Standard deviation	(5.53)	(5.14)	(5.52)	(5.33)

Table 2

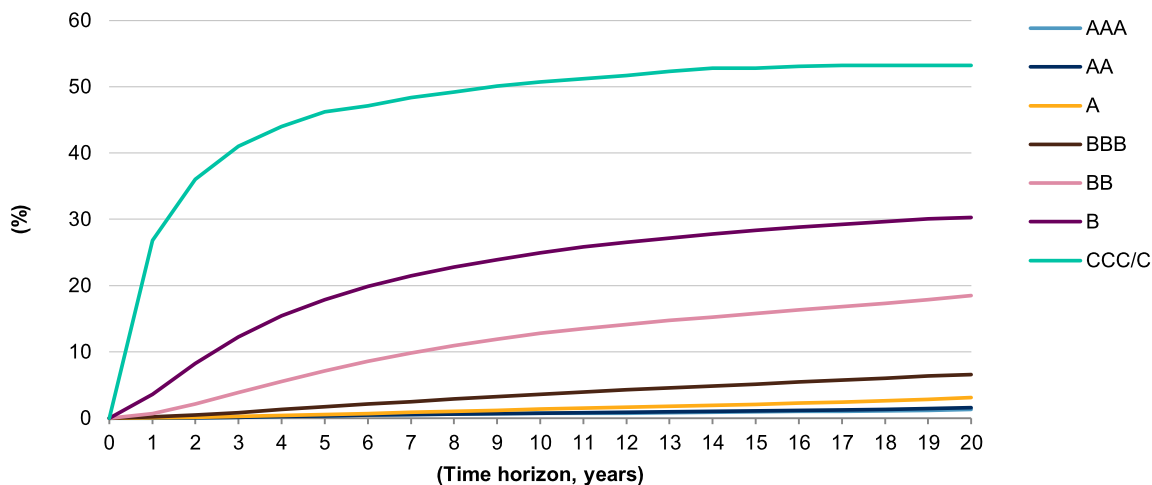
Global Average Gini Coefficients By Broad Sector (1981-2017) (cont.)

Sector	--Time horizon--			
	One-year	Three-year	Five-year	Seven-year
Financial				
Weighted average	79.66	69.13	61.08	56.38
Average	81.72	74.64	66.47	59.64
Standard deviation	(19.10)	(14.57)	(16.10)	(14.80)
Nonfinancial				
Weighted average	80.85	72.73	69.65	67.85
Average	84.33	76.77	72.96	70.08
Standard deviation	(6.13)	(5.47)	(5.54)	(5.18)

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

Chart 4

Global Average Cumulative Corporate Default Rates By Rating (1981-2017)



Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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All of the rated defaulters in 2017 began the year with a speculative-grade rating, and of those, 95% were from the lowest rating categories: 'B' and 'CCC'/'C' (see table 3). The default rate for the 'BB' category hit its lowest point (0.08%) since 2014, when it was zero. This low rate reflects the lone default of GNC Holdings Inc., which began the year with a 'BB' rating and defaulted on Dec. 27. This was the last corporate default of 2017, and the firm experienced five prior downgrades over the course of the year.

Default rates for the 'B' and 'CCC'/'C' categories also fell noticeably from 2016, hitting their lowest points since 2014 as well. Default rates across all rating categories in 2017 were below their long-term weighted averages, with the most notable decline in the 'B' segment (see table 4). Once

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again, the default rate in the 'AAA' rating category was zero, continuing the unblemished default record for corporate ratings in this category and consistent with historical trends. And for the eighth year in a row, there were no defaults by companies from the 'A' category or higher.

Table 3

Global Annual Corporate Default Rates By Rating Category

(%)	AAA	AA	A	BBB	BB	B	CCC/C
1981	0.00	0.00	0.00	0.00	0.00	2.27	0.00
1982	0.00	0.00	0.21	0.34	4.22	3.13	21.43
1983	0.00	0.00	0.00	0.32	1.16	4.58	6.67
1984	0.00	0.00	0.00	0.66	1.14	3.41	25.00
1985	0.00	0.00	0.00	0.00	1.48	6.47	15.38
1986	0.00	0.00	0.18	0.33	1.31	8.36	23.08
1987	0.00	0.00	0.00	0.00	0.38	3.08	12.28
1988	0.00	0.00	0.00	0.00	1.05	3.63	20.37
1989	0.00	0.00	0.18	0.60	0.72	3.38	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	3.08	16.67
1995	0.00	0.00	0.00	0.17	0.99	4.58	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	3.51	12.00
1998	0.00	0.00	0.00	0.41	0.82	4.63	42.86
1999	0.00	0.17	0.18	0.20	0.95	7.29	33.33
2000	0.00	0.00	0.27	0.37	1.16	7.70	35.96
2001	0.00	0.00	0.27	0.34	2.96	11.53	45.45
2002	0.00	0.00	0.00	1.01	2.89	8.21	44.44
2003	0.00	0.00	0.00	0.23	0.58	4.07	32.73
2004	0.00	0.00	0.08	0.00	0.44	1.45	16.18
2005	0.00	0.00	0.00	0.07	0.31	1.74	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	4.09	27.27
2009	0.00	0.00	0.22	0.55	0.75	10.94	49.46
2010	0.00	0.00	0.00	0.00	0.58	0.86	22.62
2011	0.00	0.00	0.00	0.07	0.00	1.67	16.30
2012	0.00	0.00	0.00	0.00	0.30	1.57	27.52
2013	0.00	0.00	0.00	0.00	0.10	1.64	24.50
2014	0.00	0.00	0.00	0.00	0.00	0.78	17.42

Table 3

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

(%)	AAA	AA	A	BBB	BB	B	CCC/C
2015	0.00	0.00	0.00	0.00	0.16	2.40	26.51
2016	0.00	0.00	0.00	0.06	0.47	3.70	33.17
2017	0.00	0.00	0.00	0.00	0.08	0.98	26.23

Sources: S&P Global Fixed Income 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	1.01	4.22	13.84	49.46
Weighted long-term average	0.00	0.02	0.06	0.17	0.68	3.59	26.82
Median	0.00	0.00	0.00	0.07	0.58	3.41	24.50
Standard deviation	0.00	0.07	0.10	0.26	1.01	3.29	11.61
2008 default rate	0.00	0.38	0.39	0.49	0.81	4.09	27.27
Latest four quarters (Q1 2017-Q4 2017)	0.00	0.00	0.00	0.00	0.08	0.98	26.23
Difference between past four quarters and weighted average	0.00	(0.02)	(0.06)	(0.17)	(0.61)	(2.61)	(0.59)
Number of standard deviations	0.00	(0.29)	(0.57)	(0.67)	(0.60)	(0.79)	(0.05)

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

2017 Key Findings

- By count, the U.S. and associated tax havens (Bermuda and the Cayman Islands) accounted for 63 defaults in 2017. Europe had 16 defaults, while emerging markets and the other developed region (Australia, Canada, Japan, and New Zealand) had eight each.
- Distressed exchanges accounted for the largest number of defaults in 2017 (42%), followed by Chapter 11 filing (28.4%). Following closely behind were missed interest or principal payments (27.4%). One issuer was placed into administration, and another filed for Chapter 15.
- As of Dec. 31, 2017, trailing-12-month speculative-grade default rates had fallen across most regions from a year earlier. The global speculative-grade default rate was 2.4% at the end of 2017, compared with 4.2% in 2016. The default rate was 3% in the U.S., 4.1% in the other developed region, and 0.96% in the emerging markets (see table 7). Meanwhile, the default rate for Europe rose to 2.4% in 2017 from 1.9% in 2016.
- All of the 83 defaulters rated by S&P Global Ratings at the beginning of the year had speculative-grade ratings at that time. The remainder of the 2017 defaulters began the year without ratings or were first assigned ratings later in the year. None began the year rated investment grade ('BBB-' or higher).

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- Of the entities that defaulted in 2017 (and that had ratings as of Jan. 1, 2017), 92% were rated 'B-' or lower at the start of the year.
- The volume of debt affected by defaults in 2017 fell substantially from 2016. However, for two years in a row, the largest defaulter in terms of outstanding debt volume was Petroleos de Venezuela S.A., which was downgraded to 'SD' (selective default) on Nov. 14 following its inability to meet the coupon payments on its 2027 and 2037 notes within its 30-calendar-day grace period. At the time, the company had roughly \$17.6 billion in outstanding debt.
- Slow and steady was the theme for fixed income investors in 2017. Treasury yields slowly rose in the second half of the year, but without any coincident rise among corporate yields. As a result, both investment-grade and speculative-grade bonds in the U.S. saw a rather staid pace of incremental returns on a monthly basis in 2017, finishing the year with respective gains of 6.8% and 7.6%.
- Issuance growth, particularly in the U.S. and Europe, offset a decline in China during 2017. New corporate issuance in 2017 hit an all-time high of \$4.25 trillion (over 13,603 issues), up from \$4 trillion (12,892 issues) in 2016.
- Bond spreads in the U.S. fell through most of 2017, with investment-grade spreads falling fairly consistently over the course of the year and speculative-grade spreads falling in the fourth quarter after multiple earlier gyrations. Investment-grade spreads began the year at their highest point, 149 basis points (bps), but fell to their lowest point, 116 bps, at the end of the year. Meanwhile, speculative-grade spreads began 2017 at 405 bps and finished at 328 bps.
- The outstanding debt volume affected by defaults fell to \$104.6 billion from \$239.8 billion in 2016. This averages to \$1.1 billion per defaulter, which is generally consistent with the post-Lehman Bros. (2009 onward) annual average of \$1.38 billion (see chart 6).
- Overall ratings stability rose somewhat in 2017 from a year earlier. The main drivers of the decline in the percentage of changed ratings (to 28% from 30.5% in 2016) were decreased default and downgrade rates. Meanwhile, the pace of upgrades actually increased (to 9% from 7.9% in 2016).
- The percentage of defaulters with confidential ratings rose slightly in 2017 relative to the two prior years. Of the total 95 defaulters, nine (9.5%) had confidential issuer credit ratings. By contrast, in 2016, confidentially rated issuers accounted for 8.6% of all corporate defaulters.
- Five of the defaulters in 2017 were initially rated investment grade, and the other 90 (95% of the total) had speculative-grade initial ratings.
- Of the defaulted entities in 2017 that S&P Global Ratings initially rated investment grade, the average time to default--the time between first rating and date of default--was 28.4 years, with an associated standard deviation of 10.7 years. Our database begins with all active ratings as of Dec. 31, 1980, and two of these defaulters have this as their first rating date. If we were to use their actual first rating dates, the time to default would be even longer.
- In contrast, the average time to default among entities initially rated speculative grade was 6.4 years, with an associated standard deviation of 6.8 years.
- For all of the issuers that defaulted in 2017, the average time to default from the first rating was 7.5 years, with a median of 4.6 years and a standard deviation of 8.5 years.
- The issuer with the longest time to default in 2017 was U.S.-based transportation company Tidewater Inc. (no longer rated), which took 36.4 years to default from its initial rating in our data set as of Dec. 31, 1980. The initial rating on the firm was 'BBB-', which was assigned on Aug. 6, 1971. This makes its actual time to default 45.8 years. Similarly, three other companies

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also took over 36 years to default.

- The issuer with the shortest time to default (48 days) was Goodman Networks Inc. This was the second time the company had defaulted since July 2016. Meanwhile, iHeartCommunications Inc. took only one day longer to default in 2017, and this default was the company's fourth since 2008.
- Despite an overall decline in defaults in 2017, every sector had at least one. The industry with the largest number of defaulters last year was energy and natural resources, with 27 (28.4% of the total), followed closely by the consumer services sector with 24 (25.3%). All other sectors had fewer than 10 defaults, with six having fewer than five.
- S&P Global Ratings assigned initial ratings to 804 issuers in 2017, up from 687 in 2016. Of these new issuers, 78.6% had speculative-grade ratings--one of the highest proportions annually, surpassed only by 2013 (79%) and 2010 (79.3%).

Annual Global Trends: 2017 Was A Year Of Relative Calm

The number of defaulters that began the year with active ratings fell in 2017 relative to 2016, to 83 from 144. This marks the lowest count since 2014 (see chart 5). Nonetheless, the 2017 default total was significantly higher than in 2014 (when there were 45 rated at the beginning of the year, 60 in total). With a decline in the number of defaults in 2017, the amount of affected debt also fell: In 2017, there was \$104.6 billion in outstanding debt attributable to 95 defaults, compared with \$239.8 billion across 163 defaults in 2016 (see chart 6).

Consistent with historical trends, the U.S. accounted for the majority of defaults in 2017, by both count and the amount of affected debt. This majority is mostly attributable to the larger rated population in the U.S., which accounted for roughly 46% of the global total at the start of 2017. In recent years, emerging markets have contributed a growing share to the global default total, reaching 25% in 2014. But in 2017, the region's proportion of the total plummeted to just 8.4%, a six-year low.

Along with a decline in the default rate, the pace of rating changes also subsided in 2017 (see table 6). The pace of downgrades declined markedly, while the rate of upgrades increased by about one percentage point over 2016's reading. These shifts nudged the downgrade-to-upgrade ratio to 0.97 in 2017, down from 1.5 in 2016. A ratio of 1 would indicate that the percentages of upgrades and downgrades were equal.

Over the course of the year, downgrades and upgrades generally kept pace with each other until September, when monthly downgrades exceeded upgrades 102 to 59. Downgrades again noticeably outpaced upgrades in November, 107 to 58. In September, the sovereign downgrade of China led to the year's largest number of downgrades attributable to a single event. In November, the downgrade of South Africa resulted in the downgrades of roughly 20 corporations based there, primarily financial services companies.

Table 5

Annual Largest Global Rated 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

Table 5

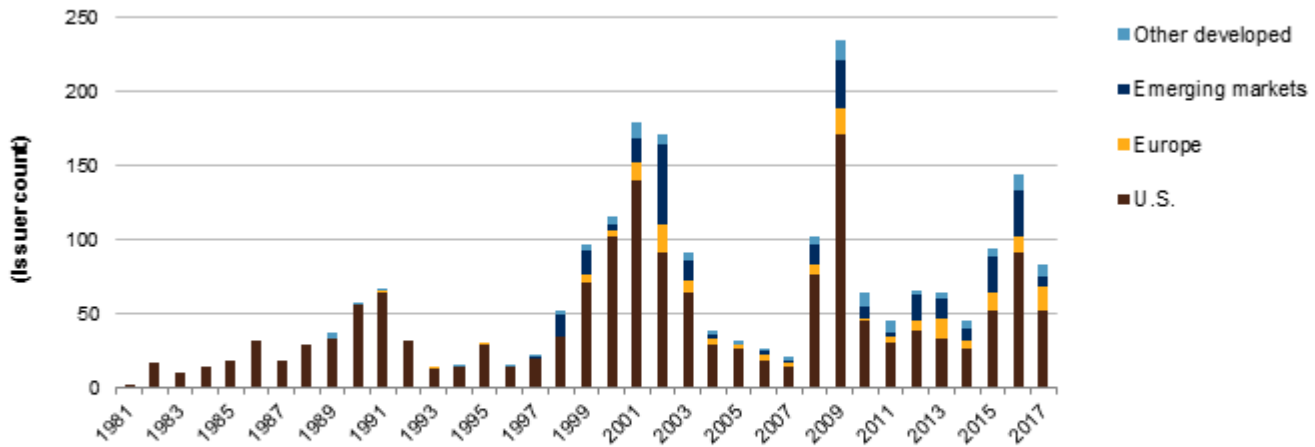
Annual Largest Global Rated Corporate Defaulters By Outstanding Debt Amount (cont.)

Year defaulted	Issuer	Amount (mil. \$)
1997	Flagstar Corp.	1,021
1998	Service Merchandise Co.	1,326
1999	Integrated Health Services Inc.	3,394
2000	Owens Corning	3,299
2001	Enron Corp.	10,779
2002	WorldCom Inc.	30,000
2003	Parmalat Finanziaria SpA	7,177
2004	RCN Corp.	1,800
2005	Calpine Corp.	9,559
2006	Pliant Corp.	1,644
2007	Movie Gallery Inc.	1,225
2008	Lehman Brothers Holdings Inc.	144,426
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

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

Chart 5

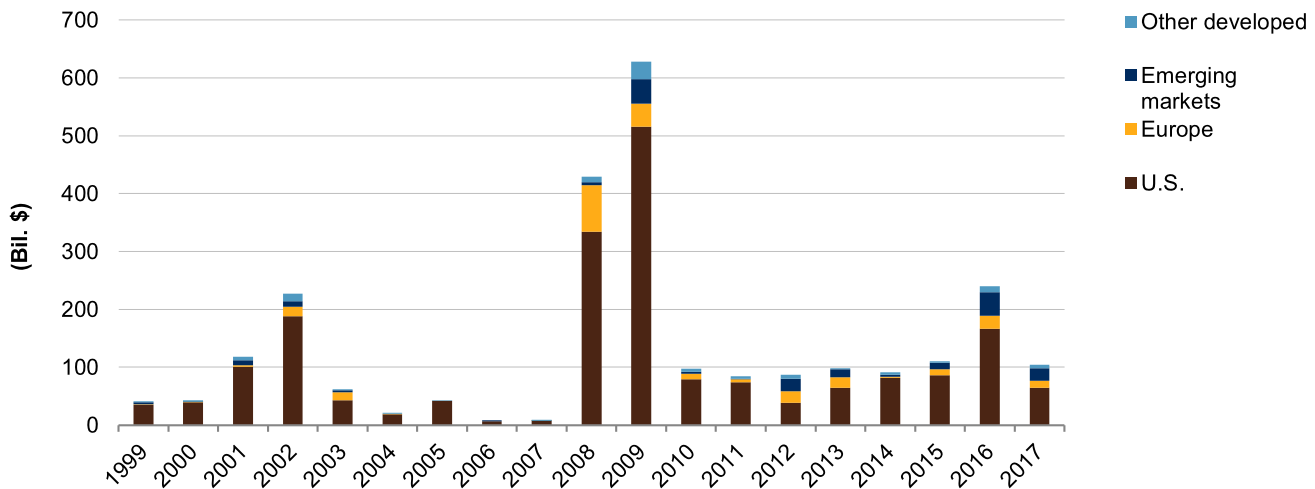
Annual Corporate Defaults By Number Of Issuers



Note: The other developed region consists of Australia, Canada, Japan, and New Zealand. Count excludes defaults that were not rated prior to Jan. 1 of each year. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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Chart 6

Annual Global Corporate Defaulters' Debt Amounts Outstanding



Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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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	1,383	9.76	13.30	0.14	2.02	25.23	74.77	1.36
1982	1,431	5.87	12.65	1.19	5.38	25.09	74.91	2.15
1983	1,452	7.09	11.78	0.76	5.23	24.86	75.14	1.66
1984	1,539	11.24	10.07	0.91	2.86	25.08	74.92	0.90
1985	1,626	7.87	13.78	1.11	4.06	26.81	73.19	1.75
1986	1,862	7.25	15.79	1.72	6.82	31.58	68.42	2.18
1987	2,015	7.20	11.86	0.94	9.23	29.23	70.77	1.65
1988	2,103	8.89	11.89	1.38	8.18	30.34	69.66	1.34
1989	2,141	9.67	10.98	1.77	7.99	30.41	69.59	1.14
1990	2,125	6.16	15.25	2.73	6.54	30.68	69.32	2.47
1991	2,060	6.02	14.32	3.25	3.54	27.14	72.86	2.38
1992	2,144	9.56	11.47	1.49	3.96	26.49	73.51	1.20
1993	2,327	8.55	9.24	0.60	8.34	26.73	73.27	1.08
1994	2,558	7.08	9.34	0.63	4.61	21.66	78.34	1.32
1995	2,868	9.10	9.87	1.05	4.60	24.62	75.38	1.08
1996	3,129	9.72	7.80	0.51	7.03	25.06	74.94	0.80
1997	3,489	9.23	7.94	0.63	7.57	25.37	74.63	0.86
1998	4,077	7.53	11.65	1.28	7.97	28.43	71.57	1.55
1999	4,527	5.92	12.04	2.14	9.03	29.14	70.86	2.03
2000	4,681	6.86	12.65	2.48	7.11	29.10	70.90	1.84
2001	4,756	6.01	16.61	3.78	7.55	33.96	66.04	2.76
2002	4,785	5.20	19.14	3.59	7.23	35.17	64.83	3.68
2003	4,782	6.48	14.60	1.92	7.32	30.32	69.68	2.25
2004	5,018	8.77	7.59	0.78	7.25	24.39	75.61	0.87
2005	5,309	12.86	9.21	0.60	8.46	31.14	68.86	0.72
2006	5,466	12.33	8.74	0.48	8.73	30.28	69.72	0.71
2007	5,651	13.54	9.29	0.37	10.62	33.82	66.18	0.69
2008	5,734	7.92	16.01	1.80	7.71	33.43	66.57	2.02
2009	5,620	4.80	19.13	4.18	8.86	36.98	63.02	3.98
2010	5,312	11.92	8.77	1.20	6.49	28.39	71.61	0.74
2011	5,630	12.22	11.97	0.80	7.83	32.82	67.18	0.98
2012	5,804	8.39	12.27	1.14	6.91	28.70	71.30	1.46
2013	6,042	11.44	9.38	1.06	6.72	28.60	71.40	0.82
2014	6,489	9.17	8.43	0.69	7.17	25.46	74.54	0.92

Table 6

Summary Of Annual Corporate Rating Changes* (cont.)

(%)

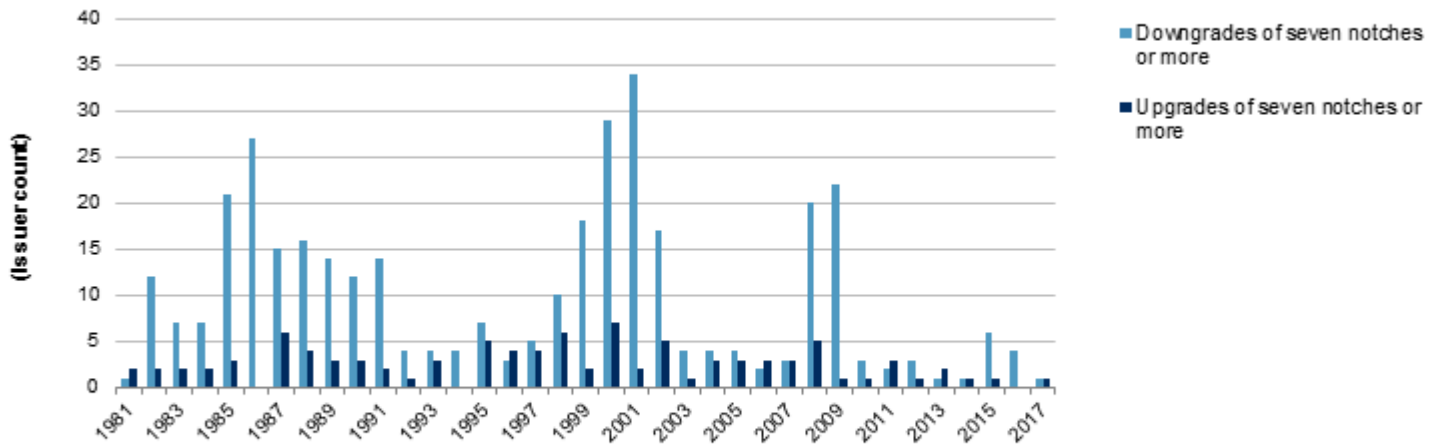
Year	Issuer count as of Jan. 1	Upgrades	Downgrades§	Defaults	Withdrawn ratings	Changed ratings	Unchanged ratings	Downgrade/upgrade ratio
2015	6,905	7.36	11.79	1.36	8.33	28.83	71.17	1.60
2016	6,915	7.91	12.15	2.08	8.34	30.48	69.52	1.54
2017	6,900	8.96	8.72	1.20	9.09	27.97	72.03	0.97
Weighted average		8.74	11.70	1.50	7.47	29.42	70.58	1.53
Average		8.54	11.82	1.45	6.94	28.75	71.25	1.55
Median		8.39	11.79	1.19	7.25	28.70	71.30	1.36
Standard deviation		2.24	3.01	0.99	1.94	3.43	3.43	0.79
Minimum		4.80	7.59	0.14	2.02	21.66	63.02	0.69
Maximum		13.54	19.14	4.18	10.62	36.98	78.34	3.98

*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 defaults column. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Ratings stability--as measured by the percentage of issuers with unchanged ratings over the course of the year--rose in 2017. Alongside this increase, the number of large rating changes (which we define as those of more than six notches) fell, with one large downgrade and one large upgrade in 2017, compared with four such downgrades in 2016 (see chart 7). In this study, we include movements to 'D' (default) among what we normally report as downgrades (i.e., downward movements between active ratings). The one large downgrade in 2017 was the default of a confidentially rated company, which was rated 'B+' just prior to default. The large upgrade was for U.K.-based Annington Homes Ltd., which moved to 'BBB' from 'CCC+' on July 12; the upgrade resulted from S&P Global Ratings' view that a successful refinancing announced by the parent company (Annington Ltd.) would free the firm from the restrictions of its existing securitization structure, thus substantially improving our assessment of Annington Homes Ltd.'s credit profile.

Chart 7

Number Of Global Corporate Issuers Affected By Large Rating Changes

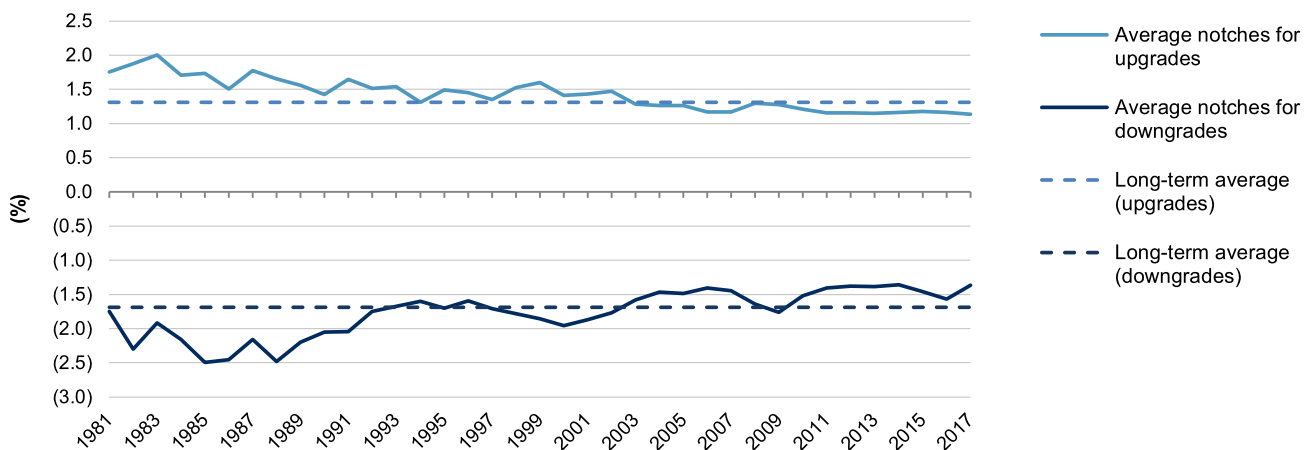


Note: Large rating changes are defined as those of seven notches or more. Downgrades include movements to default. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

Consistent with the higher stability rate and diminished number of large rating actions in 2017, the annual average number of notches for ratings changes declined as well (see chart 8). At the end of 2017, the average number of notches for upgrades was 1.14 (compared with 1.16 in 2016), and the average number of notches for downgrades was 1.36 (1.56 in 2016).

Chart 8

Average Notch Movements Among Global Rating Actions



Note: Long-term averages based on data from 1981-2017. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

Default, Transition, and Recovery: 2017 Annual Global Corporate Default Study And Rating Transitions

Annual speculative-grade default rates decreased in most major regions in 2017, though the rate in Europe increased slightly (see table 7 and chart 21). Even with an increase in the European speculative-grade default rate, all regions had default rates in 2017 that were below their long-term averages.

Table 7

Annual Speculative-Grade Corporate Default Rates By Geographic Region

(%)

Year	U.S. and tax havens*	Europe§	Emerging markets	Other developed†
1981	0.63	0.00	N.A.	0.00
1982	4.44	0.00	N.A.	0.00
1983	2.99	0.00	N.A.	0.00
1984	3.32	0.00	N.A.	0.00
1985	4.41	0.00	N.A.	0.00
1986	5.76	0.00	N.A.	0.00
1987	2.84	0.00	N.A.	0.00
1988	3.89	0.00	N.A.	0.00
1989	4.33	0.00	N.A.	42.86
1990	7.94	0.00	N.A.	33.33
1991	10.73	66.67	N.A.	14.29
1992	6.25	0.00	N.A.	0.00
1993	2.40	20.00	0.00	0.00
1994	2.20	0.00	0.00	0.00
1995	3.65	9.09	0.00	0.00
1996	1.85	0.00	0.00	2.70
1997	2.17	0.00	0.00	1.92
1998	3.25	0.00	8.55	1.43
1999	5.25	6.32	7.62	4.40
2000	7.38	2.56	1.65	6.52
2001	10.62	8.46	6.25	12.36
2002	7.26	12.59	17.61	5.94
2003	5.60	3.70	3.94	4.76
2004	2.45	1.60	0.85	1.99
2005	2.02	0.93	0.25	1.30
2006	1.38	1.78	0.44	0.76
2007	1.02	0.96	0.20	2.26
2008	4.29	2.50	2.41	3.85
2009	11.75	8.72	5.47	9.68
2010	3.45	1.02	1.56	8.04
2011	2.14	1.59	0.48	6.19
2012	2.64	2.26	2.63	2.34

Table 7

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

(%)

Year	U.S. and tax havens*	Europe§	Emerging markets	Other developed†
2013	2.18	3.46	2.00	1.99
2014	1.60	0.98	1.04	2.82
2015	2.85	1.96	3.19	2.78
2016	5.13	1.93	3.54	6.11
2017	3.01	2.37	0.96	4.14
Average	4.19	2.98	3.21	4.29
Median	3.32	1.95	1.83	3.34
Standard deviation	2.72	3.23	4.06	2.96
Minimum	0.63	0.00	0.00	0.76
Maximum	11.75	12.59	17.61	12.36

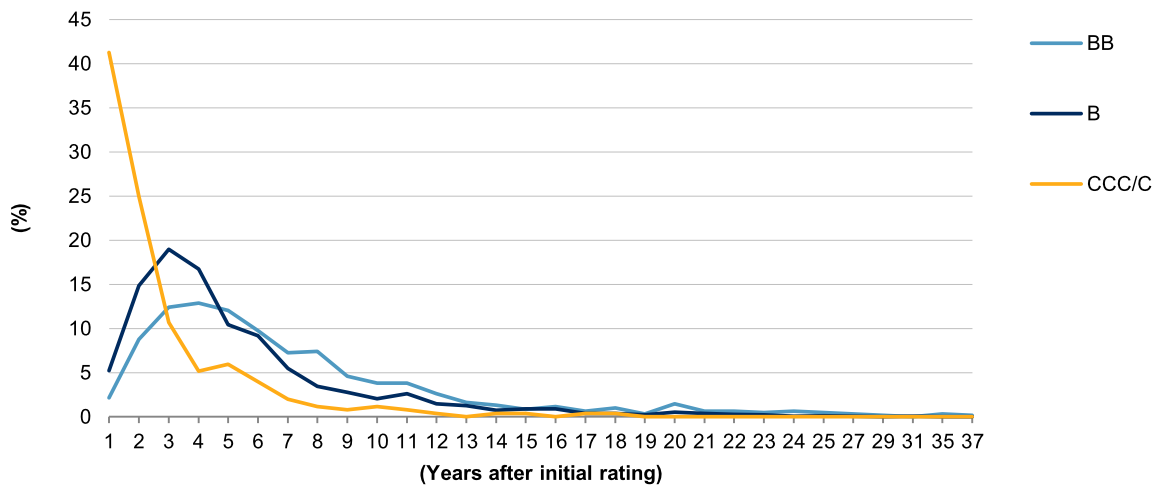
Note: Descriptive statistics for regions other than the U.S. are calculated from 1996-2016 due to sample size considerations. *U.S., Bermuda, and Cayman Islands. §Austria, Belgium, British Virgin Islands, Bulgaria, Channel Islands, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Gibraltar, Greece, Guernsey, Hungary, Iceland, Ireland, Isle of Man, Italy, Jersey, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, U.K. †Australia, Canada, Japan, and New Zealand N.A.--Not available. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Data on defaulted corporate issuers globally show 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 9). For example, among defaulters that were rated 'B' at origination, the default rate climbs to a high of 19% in the first three years and then decelerates thereafter.

Defaulted issuers initially rated 'BB' show a similar pattern but peak a little later, in the fourth year. 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 9

Tracking Global Corporate Default Rates From Initial Rating Category



Note: Data based on universe of defaulters from 1981-2017. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

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In 2017, 90 (94.7%) of the 95 defaulted entities were originally rated speculative grade, which is more than seven percentage points higher than the long-term average of 87.2%. This high percentage is typical in years with lower default rates and is reflected in the rating path observed for defaulters in the trailing 12 quarters (see chart 10). 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 that of the long-term equivalent.

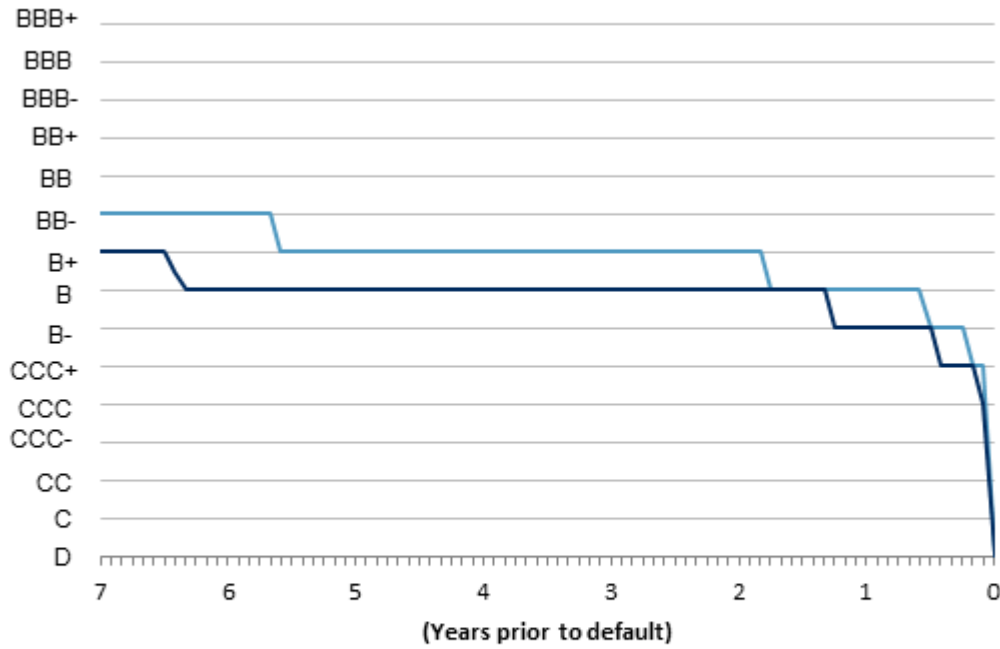
Financial institutions and insurance companies are particularly sensitive to sudden declines in investor confidence, which can result in a relatively fast descent into default (see chart 11). This was especially evident during the recent financial crisis, when many highly rated banks defaulted within a short amount of time from their initial downgrades. But now that nearly a decade has passed since the crisis, even the recent financial defaulters had a speculative-grade median rating seven years prior to default.

Conversely, nonfinancial defaulters tend to have a much smoother and shorter path to default (see chart 12). One key factor in this division is that financial services companies typically start with investment-grade ratings, while most nonfinancial issuers have speculative-grade initial ratings, particularly over the past 10 years.

Another major difference between financial and nonfinancial companies is the incidence of default. Defaults are much less frequent for financial companies than they are for nonfinancials, which can allow outliers to bias the averages. For instance, in the three years ended Dec. 31, 2017, 333 nonfinancial companies defaulted, while only 38 financials did. This helps to explain the more volatile path to default among financial institutions and insurance companies.

Chart 10

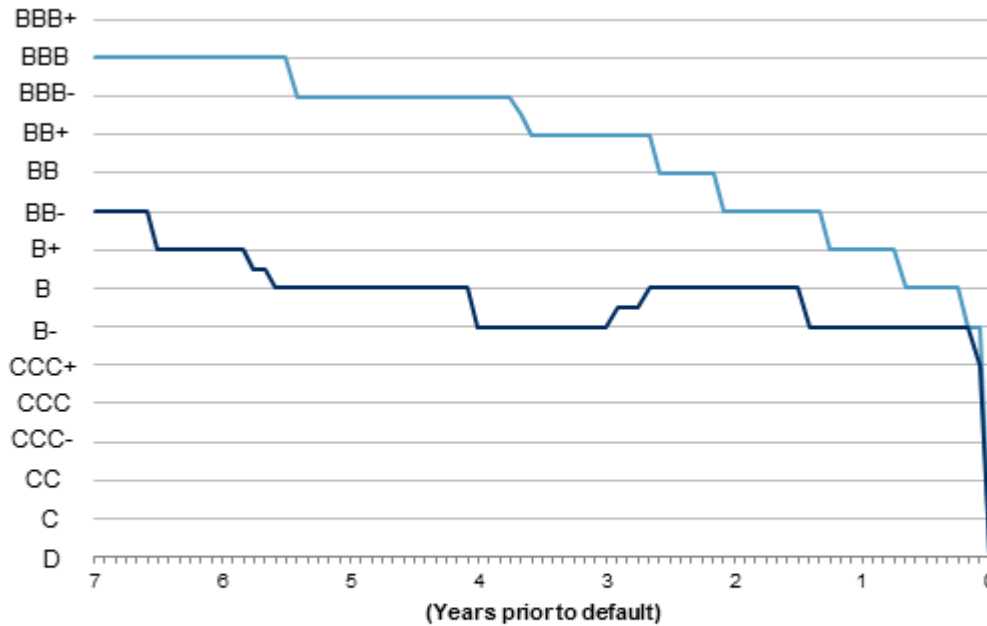
Median Rating Path Of Corporate Defaulters



Note: Rating changes to 'NR' (not rated) not included. Data through Dec. 31, 2017. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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Chart 11

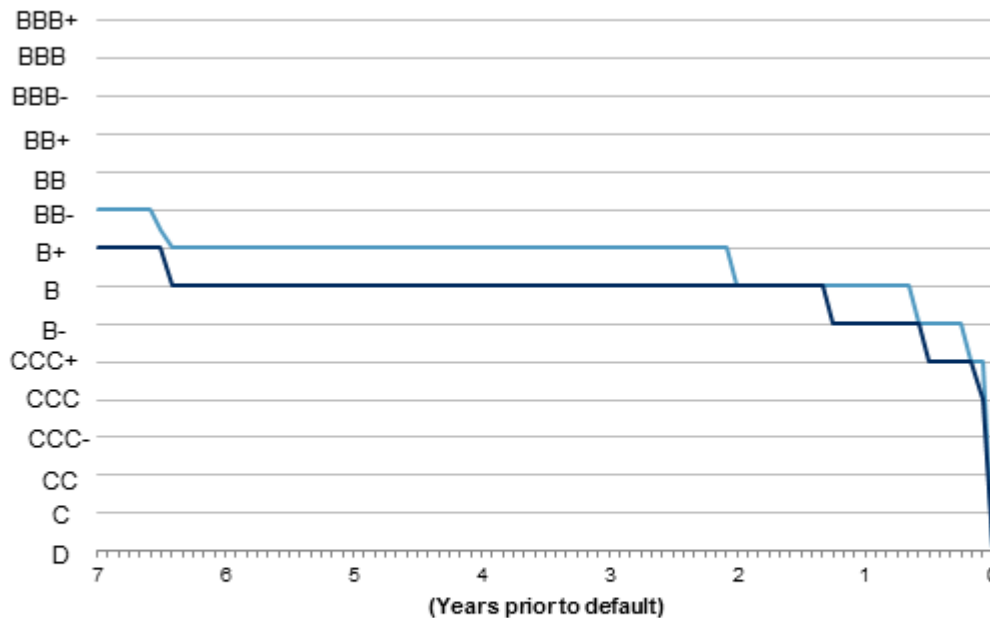
Median Rating Path Of Financial Defaulters



Note: Rating changes to 'NR' (not rated) not included. *The financial sector includes insurance companies and financial institutions. Data through Dec. 31, 2017. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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Chart 12

Median Rating Path Of Nonfinancial Defaulters



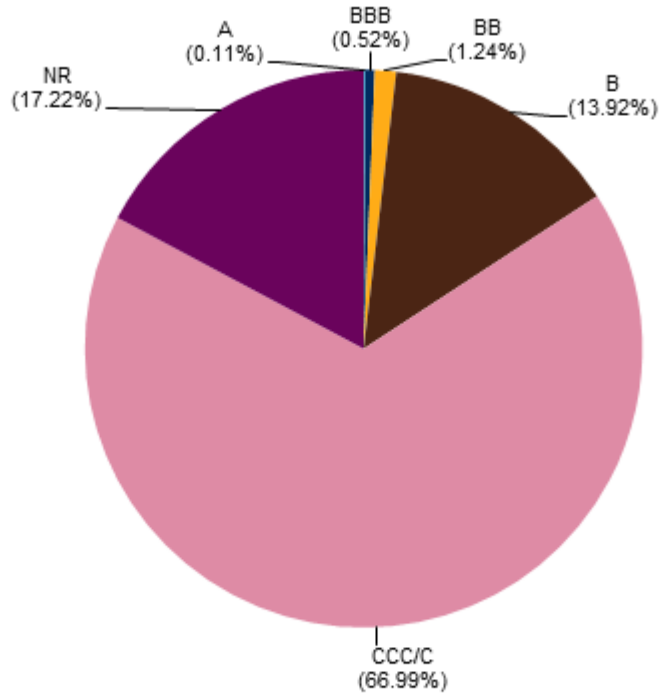
Note: Rating changes to 'NR' (not rated) not included. Data through Dec. 31, 2017. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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Some issuers default after S&P Global Ratings no longer rates them. We make 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.

Of the 95 defaulted companies in 2017, 14.7% were not rated just prior to default, which is slightly lower than the long-term total of 17.2% (see charts 13A and 13B). Furthermore, although 'NR' (not rated) defaulters 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. All of the defaulters in 2017 that had active ratings immediately prior to default were rated in the lowest rating categories. Specifically, 83.2% were rated 'CCC+' or lower just prior to default, which is much higher than the 67% long-term figure.

Chart 13A

Default Distribution By Rating Prior To 'D' (1981-2017)

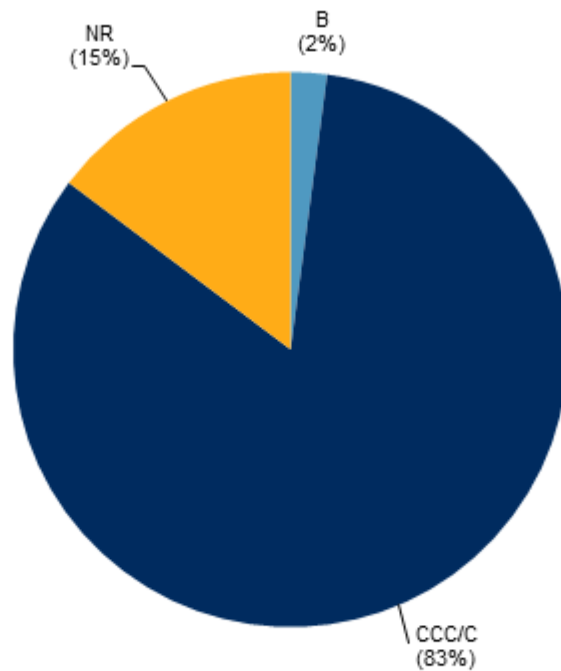


NR—Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

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Chart 13B

Default Distribution By Rating Prior To 'D' (2017)



NR—Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

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Table 8 provides a list of all the publicly rated companies that defaulted in 2017. For additional details on the 2017 defaulters, see Appendix III.

Table 8

2017 Global Publicly Rated Corporate Defaults

Company name	Reason for default	Country	Industry	Debt amount outstanding (mil. \$)	Default date	Rating one year prior to default	Rating three years prior to default	First rating	Date of first rating
Shelf Drilling Holdings Ltd.	Distressed exchange	Cayman Islands	Energy and natural resources	615.4	1/11/2017	B+	B+	B	12/20/2012
Limited Stores Inc.	Chapter 11	U.S.	Consumer services	0.0	1/17/2017	NR	NR	BB-	12/31/1980
Avaya Inc.	Chapter 11	U.S.	High tech/computers/office equipment	5,336.8	1/19/2017	B-	B-	BBB	9/7/2000
Perpetual Energy Inc.	Distressed exchange	Canada	Energy and natural resources	240.4	1/24/2017	-	-	CCC	11/10/2016
Approach Resources Inc.	Distressed exchange	U.S.	Energy and natural resources	250.0	1/27/2017	B	B	B	6/3/2013

Default, Transition, and Recovery: 2017 Annual Global Corporate Default Study And Rating Transitions

Table 8

2017 Global Publicly Rated Corporate Defaults (cont.)

Company name	Reason for default	Country	Industry	Debt amount outstanding (mil. \$)	Default date	Rating one year prior to default	Rating three years prior to default	First rating	Date of first rating
Avanti Communications Group PLC	Distressed exchange	U.K.	Telecommunications	685.0	1/27/2017	B-	B-	B-	9/27/2013
Toisa Ltd.	Chapter 11	U.K.	Energy and natural resources	0.0	1/29/2017	NR	NR	BB-	7/19/2001
Vanguard Natural Resources LLC	Chapter 11	U.S.	Energy and natural resources	550.0	2/2/2017	-	-	CCC-	8/18/2016
iHeartCommunications Inc.	Distressed exchange	U.S.	Leisure time/media	850.0	2/8/2017	-	-	CC	12/21/2016
Delta Bank JSC	Missed principal	Kazakhstan	Financial institutions	315.8	2/16/2017	B	B	B	6/27/2011
BCBG Max Azria Group Inc.	Chapter 11	U.S.	Consumer services	0.0	2/28/2017	NR	CCC-	B-	4/28/2009
Answers Corp.	Chapter 11	U.S.	High tech/computers/office equipment	545.0	3/3/2017	CCC+	-	B	9/17/2014
hhgregg Inc.	Chapter 11	U.S.	Consumer services	0.0	3/6/2017	NR	NR	B+	2/25/2009
Goodman Networks Inc.	Chapter 11	U.S.	Telecommunications	325.0	3/13/2017	-	-	CC	1/24/2017
Pinnacle Operating Corp.	Distressed exchange	U.S.	Health care/chemicals	650.0	3/13/2017	B-	B	B	4/10/2013
GulfMark Offshore Inc.	Missed interest	U.S.	Energy and natural resources	500.0	3/16/2017	CCC	BB-	BB-	6/1/1998
EXCO Resources Inc.	Distressed exchange	U.S.	Energy and natural resources	1,051.7	3/16/2017	-	-	CCC+	10/17/2016
SquareTwo Financial Corp.	Chapter 11	U.S.	Financial institutions	290.0	3/19/2017	-	-	CCC+	6/3/2016
Neovia Logistics L.P.	Distressed exchange	U.S.	Transportation	125.0	3/20/2017	B-	B	B+	7/19/2012
EMECO Holdings Ltd.	Distressed exchange	Australia	Aerospace/auto/capital goods/metals	335.0	3/30/2017	CCC+	B+	B+	2/27/2014
Ocean Rig UDW Inc.	Chapter 15	Marshall Islands	Energy and natural resources	500.0	4/3/2017	CCC+	B	B	9/16/2011
Angelica Corp.	Chapter 11	U.S.	Consumer services	0.0	4/3/2017	NR	NR	B	9/22/2010
Payless Inc.	Chapter 11	U.S.	Consumer services	665.0	4/5/2017	B	B	BBB-	3/24/2000
Talos Energy LLC	Distressed exchange	U.S.	Energy and natural resources	0.0	4/10/2017	B-	B-	B-	1/29/2013
iPayment Inc.	Distressed exchange	U.S.	High tech/computers/office equipment	1,071.0	4/11/2017	B-	-	B-	12/31/2014
Sprint Industrial Holdings LLC	Distressed exchange	U.S.	Aerospace/auto/capital goods/metals	253.5	4/13/2017	CCC	B	B	4/23/2013

Default, Transition, and Recovery: 2017 Annual Global Corporate Default Study And Rating Transitions

Table 8

2017 Global Publicly Rated Corporate Defaults (cont.)

Company name	Reason for default	Country	Industry	Debt amount outstanding (mil. \$)	Default date	Rating one year prior to default	Rating three years prior to default	First rating	Date of first rating
Iracore International Holdings Inc.	Distressed exchange	U.S.	Energy and natural resources	125.0	4/18/2017	CCC+	B-	B-	5/6/2013
Spanish Broadcasting System Inc.	Missed principal/interest	U.S.	Leisure time/media	275.0	4/21/2017	CCC+	B-	B	8/15/1994
Sequa Corp.	Distressed exchange	U.S.	Aerospace/auto/capital goods/metals	1,850.0	5/1/2017	CCC+	B	BBB-	12/31/1980
Ameriforge Group Inc. d/b/a AFGlobal Corp.	Chapter 11	U.S.	Energy and natural resources	775.0	5/1/2017	B	B	B	1/4/2013
Millar Western Forest Products Ltd.	Distressed exchange	Canada	Forest and building products/homebuilders	210.0	5/2/2017	B-	B-	B+	4/24/1998
Sable Permian Resources LLC	Distressed exchange	U.S.	Energy and natural resources	3,455.0	5/3/2017	-	-	CCC	5/25/2016
Rue21 Inc.	Missed interest	U.S.	Consumer services	788.5	5/4/2017	B-	B-	B-	8/6/2013
Agrokor d.d.	Missed interest	Croatia	Consumer services	985.3	5/8/2017	B	B	B+	3/30/2000
Marsh Supermarkets Inc.	Chapter 11	U.S.	Consumer services	0.0	5/11/2017	NR	NR	BB-	2/5/1993
Affinion Group Holdings Inc.	Distressed exchange	U.S.	Leisure time/media	2,495.1	5/11/2017	CCC+	-	CCC+	11/13/2015
Tidewater Inc.	Chapter 11	U.S.	Transportation	0.0	5/17/2017	NR	NR	BBB-	12/31/1980
CGG	Missed interest	France	Energy and natural resources	3,036.3	5/18/2017	CCC+	B+	BB	11/6/2000
W3 Topco LLC	Distressed exchange	U.S.	Energy and natural resources	476.2	5/22/2017	B-	B-	B-	10/3/2011
Frigoglass SAIC	Missed interest	Greece	Consumer services	250.0	5/23/2017	CCC+	BB-	BB-	5/7/2013
Maxcom Telecomunicaciones S.A.B. de C.V.	Distressed exchange	Mexico	Telecommunications	180.4	5/24/2017	CCC+	B-	B-	4/1/2014
Ascent Resources - Marcellus LLC	Missed interest	U.S.	Energy and natural resources	1,200.0	5/31/2017	CCC	-	B-	6/24/2014
The Gymboree Corp.	Missed interest	U.S.	Consumer services	991.0	6/2/2017	-	-	CCC+	6/2/2016
Rooster Energy Ltd.	Chapter 11	Canada	Energy and natural resources	0.0	6/2/2017	NR	-	CCC+	7/22/2014
HCR HealthCare LLC	Missed principal	U.S.	Health care/chemicals	575.0	6/6/2017	B-	B	BB-	5/19/1983
Aurora Diagnostics Holdings LLC	Distressed exchange	U.S.	Health care/chemicals	430.0	6/6/2017	CCC+	CCC+	CCC+	12/6/2010
Novartex	Distressed exchange	France	Consumer services	1,442.0	6/6/2017	CCC+	-	CCC+	1/20/2015
CST Industries Inc.	Chapter 11	U.S.	Aerospace/auto/capital goods/metals	0.0	6/9/2017	NR	NR	B	7/31/2006
GenOn Energy Inc.	Distressed exchange	U.S.	Energy and natural resources	3,350.0	6/14/2017	CCC	B	B	12/17/2010

Default, Transition, and Recovery: 2017 Annual Global Corporate Default Study And Rating Transitions

Table 8

2017 Global Publicly Rated Corporate Defaults (cont.)

Company name	Reason for default	Country	Industry	Debt amount outstanding (mil. \$)	Default date	Rating one year prior to default	Rating three years prior to default	First rating	Date of first rating
A.M. Castle & Co.	Chapter 11	U.S.	Energy and natural resources	0.0	6/18/2017	NR	-	CCC+	2/19/2016
Mood Media Corp.	Distressed exchange	Canada	Leisure time/media	600.0	6/29/2017	CCC+	B-	B	4/6/2011
True Religion Apparel Inc.	Chapter 11	U.S.	Consumer services	485.0	7/5/2017	CCC	B-	B	7/9/2013
J. Crew Group Inc.	Distressed exchange	U.S.	Consumer services	2,067.0	7/12/2017	B-	B	B-	5/9/2003
Armstrong Energy Inc.	Missed interest	U.S.	Aerospace/auto/capital goods/metals	200.0	7/17/2017	B-	B-	B-	11/29/2012
Norske Skogindustrier ASA	Missed interest	Norway	Forest and building products/homebuilders	298.5	7/18/2017	CCC-	-	CCC-	4/29/2016
Global A&T Electronics Ltd.	Missed interest	Singapore	High tech/computers/office equipment	1,127.3	8/8/2017	B-	B-	B	12/19/2008
Hornbeck Offshore Services Inc.	Distressed exchange	U.S.	Energy and natural resources	1,125.0	8/9/2017	CCC+	B+	B+	6/29/2001
Tops Holding II Corporation	Distressed exchange	U.S.	Consumer services	777.5	8/10/2017	B-	B	B	5/8/2013
MIE Holdings Corp.	Distressed exchange	Cayman Islands	Energy and natural resources	700.0	8/28/2017	B-	B+	B+	4/26/2011
Quintis Ltd.	Missed interest	Australia	Forest and building products/homebuilders	250.0	8/31/2017	B+	B	B	5/1/2011
Boart Longyear Ltd.	Distressed exchange	Australia	Aerospace/auto/capital goods/metals	488.0	9/1/2017	CCC+	CCC	BB-	3/15/2011
Floworks International LLC	Distressed exchange	U.S.	Energy and natural resources	250.0	9/6/2017	CCC+	-	CCC+	10/6/2015
Toys "R" Us Inc.	Chapter 11	U.S.	Consumer services	3,990.0	9/19/2017	B-	B-	A	8/11/1981
Appvion Inc.	Chapter 11	U.S.	Forest and building products/homebuilders	585.0	10/2/2017	B-	B	B	10/2/2009
Concordia International Corp.	Missed interest	Canada	Health care/chemicals	4,443.0	10/17/2017	B	-	B	4/1/2015
Pinnacle Holdco S.a.r.l.	Missed principal/interest	Luxembourg	High tech/computers/office equipment	516.0	10/18/2017	B-	B	B	8/7/2012
Brock Holdings II Inc.	Distressed exchange	U.S.	Aerospace/auto/capital goods/metals	190.0	10/30/2017	CCC+	B	B+	2/25/2011
Cumulus Media Inc.	Missed interest	U.S.	Leisure time/media	2,835.0	11/2/2017	CCC	B	B	6/22/1998
99 Cents Only Stores LLC	Distressed exchange	U.S.	Consumer services	1,298.0	11/8/2017	CCC+	B	B	2/17/2012
Corporacion Electrica Nacional S.A.	Missed interest	Venezuela	Utility	650.0	11/10/2017	CCC	CCC+	B	6/14/2012

Default, Transition, and Recovery: 2017 Annual Global Corporate Default Study And Rating Transitions

Table 8

2017 Global Publicly Rated Corporate Defaults (cont.)

Company name	Reason for default	Country	Industry	Debt amount outstanding (mil. \$)	Default date	Rating one year prior to default	Rating three years prior to default	First rating	Date of first rating
Pacific Drilling S.A.	Chapter 11	Luxembourg	Energy and natural resources	2,500.0	11/12/2017	CCC-	B	B	11/12/2012
J.G. Wentworth LLC	Chapter 11	U.S.	Financial institutions	595.0	11/13/2017	CCC+	B	B	10/10/2011
Bank RBK JSC	Distressed exchange	Kazakhstan	Financial institutions	21.0	11/13/2017	B-	B-	B-	1/30/2012
Petroleos de Venezuela S.A.	Missed interest	Venezuela	Energy and natural resources	17,616.7	11/14/2017	CCC-	-	CCC-	11/3/2016
Real Industry Inc.	Chapter 11	U.S.	Insurance	525.0	11/17/2017	B	-	B	12/1/2014
Velocity Pooling Vehicle LLC	Chapter 11	U.S.	Consumer services	380.0	11/20/2017	CCC+	B	B	4/25/2014
Sterling Mid-Holdings Ltd.	Distressed exchange	Jersey	Financial institutions	745.0	11/27/2017	CCC+	-	CCC+	8/23/2016
Bibby Offshore Holdings Ltd.	Distressed exchange	U.K.	Energy and natural resources	260.9	12/6/2017	B	B+	B+	7/4/2014
Walter Investment Management Corp.	Chapter 11	U.S.	Financial institutions	2,075.0	12/7/2017	B	B+	B+	5/24/2011
Denbury Resources Inc.	Distressed exchange	U.S.	Energy and natural resources	6,786.0	12/11/2017	CCC+	-	CCC+	5/24/2016
Charming Charlie LLC	Chapter 11	U.S.	Consumer services	150.0	12/13/2017	B-	B-	B-	12/6/2013
Elli Investments Ltd.	Missed interest	U.K.	Health care/chemicals	703.3	12/18/2017	CCC-	B-	B-	8/3/2012
The Bon-Ton Stores Inc.	Missed interest	U.S.	Consumer services	350.0	12/19/2017	CCC+	B-	B+	2/17/2006
EP Energy LLC	Distressed exchange	U.S.	Energy and natural resources	5,800.0	12/21/2017	B	BB-	BB-	6/8/2012
EXCO Resources Inc.	Missed interest	U.S.	Energy and natural resources	1,734.7	12/22/2017	-	-	CCC-	3/23/2017
GNC Holdings Inc.	Distressed exchange	U.S.	Consumer services	1,650.0	12/27/2017	BB	BB+	BB-	2/27/2012
Total				102,812.3					

Note: The total in this table does not match that in table 1 because it excludes confidentially rated defaults. Initial ratings for these companies are those immediately following a prior default in 2017. Initial ratings, or those as of Dec. 31, 1980. Sources: S&P Global Fixed Income 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	0.33	0.00	0.00	0.68	0.00	0.00	2.86	7.04	2.22	2.33	7.41	21.43
1983	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	2.17	0.00	1.59	1.23	9.80	4.76	6.67
1984	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	0.00	0.00	1.64	1.49	2.15	3.51	7.69	25.00

Default, Transition, and Recovery: 2017 Annual Global Corporate Default Study And Rating Transitions

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
1985	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64	1.49	1.33	2.61	13.11	8.00	15.38
1986	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00	0.78	0.00	1.82	1.18	1.12	4.68	12.16	16.67	23.08
1987	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	1.31	5.95	6.82	12.28
1988	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.34	1.99	4.50	9.80	20.37
1989	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.90	0.78	0.00	0.00	0.00	2.00	0.43	7.80	4.88	33.33
1990	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00	1.10	2.78	3.09	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	0.74	0.00	3.70	1.14	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	1.94	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	0.86	0.00	1.84	6.58	3.13	16.67
1995	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	1.56	1.12	2.77	8.00	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	0.65	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	5.30	14.58	12.00
1998	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	1.05	0.67	1.06	0.72	2.60	7.56	9.46	42.86
1999	0.00	0.00	0.00	0.36	0.00	0.24	0.27	0.00	0.28	0.31	0.55	1.34	0.91	4.22	10.45	15.60	33.33
2000	0.00	0.00	0.00	0.00	0.00	0.24	0.57	0.00	0.26	0.89	0.00	0.82	2.06	5.83	10.04	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	5.62	5.84	17.24	22.46	45.45
2002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.88	1.07	1.59	1.78	4.83	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	0.29	1.73	5.34	9.52	32.73
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	2.35	2.84	16.18
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	2.64	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	0.43	0.41	0.32	0.21	0.60	0.19	0.61	0.73	1.22	0.66	0.68	3.16	3.45	7.59	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	5.99	10.82	17.99	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	0.36	0.56	0.00	0.75	2.13	22.62
2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.42	1.28	4.50	16.30
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	0.60	1.44	3.52	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	0.83	4.68	24.50
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	2.75	17.42
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	1.76	2.03	4.27	26.51
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	1.11	0.92	2.30	10.63	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	0.41	0.43	2.87	26.23
Average	0.00	0.00	0.01	0.02	0.04	0.05	0.08	0.13	0.22	0.25	0.51	0.73	1.25	2.15	6.10	8.99	24.07
Median	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.72	1.73	5.30	7.41	24.50
Standard deviation	0.00	0.00	0.07	0.09	0.14	0.11	0.20	0.29	0.34	0.42	0.89	0.82	1.65	2.06	4.89	7.50	11.61

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
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	0.00	0.00	0.43	0.41	0.57	0.40	0.76	1.10	1.40	1.33	3.70	3.09	7.04	8.72	17.24	32.43	49.46

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

2017 Timeline: All Quiet On The Western Front

Despite the monumental Brexit vote and U.S. presidential election in 2016, which many attributed to economic frustration, 2017 proved to be a rather calm year for financial markets. Both votes were perceived as marked departures from the status quo in each country. Going in a completely opposite course in 2017, the 19th National Congress of the Communist Party of China further solidified current General Secretary Xi Jinping's position.

Corporate defaults fell to under 100 after breaching that threshold in the prior two years, with many energy and natural resources companies adjusting to a new operating environment, characterized by prevailing oil prices at about half of what they were at their 2014 peak. While the energy and natural resources sector still led all other sectors by default count in 2017, emerging stress for many global retailers boosted the consumer services sector's default count to nearly the same level. In all likelihood, these industry-specific headwinds will only intensify, raising the odds of the consumer services sector becoming the leading source of defaults in the year ahead.

Nonetheless, equity market volatility reached an all-time low in the U.S. toward the end of the year, and corporate bond spreads saw their most subdued and least volatile period since 2007, supported by multiyear-low borrowing costs in both the U.S. and Europe.

The year began with a continuation of the "Trump trade" in equity markets, which started shortly after the November 2016 election. This was particularly true in the U.S. as talk of tax reform began in earnest, eclipsed only by what would turn out to be bluster concerning a possible repeal or substantive overhaul of the Affordable Care Act.

Reform on both fronts ran into resistance early on. Tax reform initially hinged on a border adjustment that would tax imports at a rate of 20% while exempting exports. This would have raised roughly \$1 trillion in revenue, which would have been needed to offset cuts included elsewhere in the plan. Ultimately, however, this provision was met with heavy resistance from the retail sector, already facing substantial headwinds globally as online retailers and increased price transparency began to cut into the viability of many traditional retail chains.

January produced the first sovereign default of the year, with Mozambique failing to make an interest payment of US\$59.8 million on its sovereign bond due 2023, resulting in a downgrade to 'SD' from 'CC'. Two days earlier, the Ministry of Finance had stated that it would not make the interest payment.

In addition to health care and tax reform, another early spot of hopefulness in the new Trump Administration among investors was regulatory reform, particularly for banks. Early in the year, the president signed a memorandum ordering a review of the Dodd-Frank Act, with the intent to reduce the reach and impact of the existing set of regulations. Much of the intended focus of reductions was on loosening capital requirements for banks, which many assumed would translate into an opportunity for banks to return more to shareholders, boosting the stocks of

many of the largest banks in the U.S. But as with many of the legislative topics discussed earlier in the year, progress did not materialize. In fact, the Senate would still be drafting a bill into March 2018.

In an effort to support global oil prices, OPEC members in November 2016 agreed to cut their daily production amounts. January 2017 data confirmed that production had fallen to 32.1 million barrels a day, compared with 33 million a month earlier. Through the first two months of the year, the price of a barrel of West Texas Intermediate remained stable in a tight band of between \$50.8 and \$54.5. However, this stability was followed by declines and larger fluctuations over most of the remainder of the year.

Finally, at the end of the month, Microsoft came to market in a massive seven-tranche \$17 billion deal, the proceeds from which would be used for general corporate purposes, including paying off short-term debt associated with Microsoft's recent acquisition of LinkedIn Corp.

For global retailers, shifting fundamentals led to increasing defaults and to what many believe will be a prolonged period of sustained stress. In an effort to get ahead of the curve, J.C. Penney Co. announced in late February that it would close roughly 140 of its 1,000 stores by June, as well as offer a voluntary buyout program to about 6% of its workforce. The 100-plus-year-old retailer--like many others--had experienced a weak holiday shopping season in 2016, citing continuing competition from online retailers. The move to close many weaker stores was in part motivated by the possibility of moving some remaining stores to act as locations for shipping or picking up online orders.

March was an eventful month across the globe. Despite recent stabilization, Brazil experienced another bout of political unrest. An unknown number of top politicians involved in the so-called Lava Jato, or "Car Wash," probe awaited the possibility of being named publicly, based on a decision from the Supreme Court. At the same time, labor groups conducted widespread protests against President Michel Temer's economic policies. It was expected that making this list public would push some politicians away from an already weakened President Temer and his unpopular reforms. The Lava Jato investigation is still ongoing. Also within Latin America, Belize amended the terms of its U.S. dollar-denominated bonds due 2038, constituting a selective default on March 17.

March also saw the first of three interest rate increases by the Federal Reserve. On March 16, the Fed raised its benchmark rate by 25 bps, to a range of 0.75%-1%. At the time, the Fed communicated its intent to make another two similar hikes during the year--a forecast that would prove true. This increase was largely the result of a stronger economy, and that, combined with the gradual and adhered-to schedule of future hikes, would help financial markets take the Fed's actions in stride for the remainder of the year.

Finally, at the end of the month, the U.K. triggered Article 50 of the Lisbon Treaty, formally beginning the Brexit process. Ahead of what proved to be an arduous process throughout 2017, initial indications were that Britain and the EU were very far apart on what their new relationship would look like.

Fearing a divided government going into the Brexit negotiations, Prime Minister Theresa May called for a snap election in April in a bid to solidify her majority in Parliament. Amid supportive public opinion, it was the general belief that the Tories would increase their majority, making for a stronger negotiating stance for the prime minister in dealing with her European counterparts. The pound rose on the announcement to its highest level in four months. Parliament approved the upcoming election for June in a 522-13 vote.

Meanwhile in France, the first round of votes for the presidential election closed, with Emmanuel Macron and Marine Le Pen finishing first and second, respectively. This was a strong showing for

the anti-establishment candidate Ms. Le Pen, but all indicators pointed to Mr. Macron winning in the upcoming runoff between the two, calming markets. Nonetheless, the second-place finish for Ms. Le Pen underscored the divisions within France.

U.S. challenges with North Korea heated up in April as the Koreans appeared ready to conduct their sixth nuclear weapons test. While nothing of note would happen in 2017 in terms of Korean and U.S. brinkmanship, the issue strained U.S.-Chinese relations--particularly on trade--as the U.S. hoped for Chinese help in pressuring Korea to abandon its ambitions.

In more positive news, on April 25, the NASDAQ broke the 6,000 mark for the first time ever. Tech stocks had performed well, reflecting their increased impact on the U.S. economy as well as optimism surrounding the possibility of Congress and President Trump passing tax reform with provisions--such as foreign cash repatriation--that were expected to be favorable to the largest tech companies.

It would not take long to question the optimism surrounding tax reform, however. As early as May, it became apparent that finding consensus, even among Republicans, would prove difficult. Paying for the desired reductions to tax rates--particularly for corporations--proved to be a stubborn sticking point. The biggest offset, the border adjustment tax, met with considerable resistance, as did the removal of the net interest deduction. Talk had already begun that while reform was expected, it would likely happen toward the end of the year.

In another legislative headache for the year, repealing the Affordable Care Act looked almost attainable when on May 4 the House passed an overhaul bill by a tight vote of 217-213. This sent the bill to the Senate, where it would ultimately flounder in July after four Republican senators withdrew their support, leading the party to abandon an overhaul of the 2010 bill.

In Brazil, the Lava Jato scandal reached the highest level of the government in May, implicating President Temer. As part of a plea bargain, senior executives of the world's largest meat processor, JBS, submitted a tape to the Supreme Court of President Temer approving a bribe to silence the former speaker of the lower house of Congress. Shortly thereafter, holding company JBS S.A. agreed to pay 10.3 billion reais over 25 years and admitted that it had paid about \$150 million to politicians, mostly in bribes. Brazilian equities reflected investor pessimism, with the Sao Paulo Stock Exchange, BRSP Bovespa Index losing nearly 9% on May 18.

May was the month with the most defaults in 2017, with peak default counts in both the energy and natural resources and consumer services sectors, at five and four, respectively. These two sectors accounted for over half of the global default total for the year. Consistent with the prior two years, most defaulters in the energy and natural resources sector were oil and gas companies. However, within the consumer services sector, industry profiles were more mixed. The challenges faced by many retailers resulted in many defaults, but a large number of consumer products companies contributed to the total as well. And while the stressors faced by oil and gas companies subsided in the second half of the year--resulting in a reduced pace of defaults--the incidence of default among retailers and consumer products companies remained elevated through the remainder of 2017. Finally, in line with expectations, the Fed raised the target federal funds rate by another 25 bps on June 15.

Equity markets in developed economies generally hit new highs over the course of 2017, with volatility declining to historical lows. On July 21, the CBOE Volatility Index (VIX) closed at 9.36, its lowest level since Dec. 22, 1993. Only two days earlier, the S&P 500 had reached 2,474, a new all-time high daily close (which would be exceeded another 88 times).

While equity markets were enjoying some of the most favorable conditions in decades, the Trump Administration unveiled its first attempt to redefine the North American Free Trade Agreement (NAFTA). Although the plan was not as provocative as the president's campaign rhetoric, which

had hinted at a possible U.S. withdrawal from the agreement, it did call attention to certain sticking points, such as reducing the U.S. trade deficit, preventing other countries from manipulating their currencies for export pricing advantages, and enforcing stronger labor and environmental standards.

In retrospect, September was arguably the most eventful month for financial markets in 2017. Large-scale data breaches potentially affected millions of consumers and businesses. The most public of these was at Equifax, which in early September announced that its website had been hacked during the May-July period, with the personal information--including Social Security numbers--of over 140 million people accessed and potentially compromised. Most of the victims were U.S. citizens, with a small number of Britons and Canadians affected.

Making a disastrous situation worse, Equifax admitted to being aware of the breach in late July, meaning the company had taken roughly six weeks to let the public know. In addition, three Equifax employees, including the chief financial officer, had sold shares in the company after the discovery of the breach but before the public announcement. The fallout would linger, with the firm's reputation taking harsh criticism from the public and a few state attorneys general; Congress held hearings on the matter.

Later in the month, the SEC disclosed that its Edgar system of company filings had been hacked in 2016 and that the perpetrators likely traded on the information. Similar to the Equifax scenario, it was revealed that SEC staff were aware of the hack in 2016 but the breach was not reported, in part because it wasn't until August 2017 that the possibility of illegal trading on the information became known.

Corporate defaults were relatively low in September, at only three, but the month did produce one of the most headline-grabbing defaulters of the year. On Sept. 18, U.S.-based toy retailer Toys "R" Us Inc. filed for Chapter 11 bankruptcy protection. This was a case in point of the shifting landscape faced by many brick-and-mortar-retailers in recent years--and of what may be a continuing trend into the next few years. The firm fell victim to the combination of a high debt load, competition from big-box discount retailers, and the hard shift to online shopping by consumers.

In Europe, September brought some relief as well as new challenges. Portugal was upgraded to 'BBB-' on Sept. 15, bringing it back up into the investment-grade category. The country had been enjoying solid economic fundamentals, with GDP expanding nearly 3% in the second quarter on a year-over-year basis and unemployment falling to 9.1% from nearly twice that level in 2013. Meanwhile, the much-anticipated German election on Sept. 24 continued the rise of anti-establishment political parties across the region. Once again, it would largely come at the expense of the center-left, as Chancellor Angela Merkel's Christian Democrats came in first but with 33% of the vote--their lowest share in the post-World War II era. The outcome led to a protracted period of coalition building for Chancellor Merkel, with most anticipating a much more difficult governing process ahead for the country.

In the Asia-Pacific region, September saw perhaps the most far-reaching downgrade of the year. On Sept. 21, S&P Global Ratings lowered the long-term sovereign credit ratings on the People's Republic of China to 'A+/A-1' from 'AA-/A-1+'. The rating action was prompted by a prolonged period of strong credit growth, which increased the country's economic and financial risks, along with lower average income, less transparency, and a more restricted flow of information relative to similarly rated peers. This event was the single largest contributor to corporate downgrades for the year, with approximately 30 issuers downgraded either directly or indirectly as a result.

The Fed also made news in September. At the Federal Open Market Committee (FOMC) meeting on Sept. 19-20, the Fed kept the federal funds rate steady but announced its intent for one more 25 bps hike in December. As broadly expected, the FOMC also unanimously decided to reduce its

holdings of Treasury and mortgage-backed bonds as early as October.

This long-anticipated reduction in the Fed's balance sheet was a historic change in its nearly decade-long quantitative easing program, though the reduction would be gradual while also leaving the Fed with a larger portion of bonds than before the crisis. The reduction would not entail the Fed selling bonds, but instead would allow its existing portfolio to mature without reinvesting the debt in new bonds--at a rate of only \$10 billion each month, with a \$10 billion increase in this pace each quarter to a maximum of \$50 billion.

Not long after the sovereign was downgraded in September, China's Communist Party held its 19th National Congress from Oct. 18-24. During the meeting, the party adopted a new guiding philosophy, bearing General Secretary Xi Jinping's name, and wrote it into the constitution. General Secretary Jinping's leadership was also likely solidified for the foreseeable future, with the majority of the party's leadership being replaced but without a likely successor for the general secretary.

After spending most of the year trying to make legislative headway but with few results, President Trump on Dec. 22 signed the Tax Cuts and Jobs Act. The bill set in motion a momentous shift in tax policy, headlined by a reduction in the statutory corporate tax rate to 21% from 35%. Many deductions for both businesses and individuals were removed, including the ability of firms to deduct the majority of their net interest expense, potentially hurting highly leveraged companies. A one-time 15.5% tax on foreign profits would allow firms with large foreign cash piles to repatriate them back to the U.S., complemented by a shift to a territorial tax system, similar to that used by the rest of the globe.

Brexit negotiations also progressed during the last month of the year, albeit without total resolution. Ultimately, Prime Minister May and representatives of the EU would come to agree on certain issues, such as the financial settlement Britain will pay, as well as the rights of EU citizens during the remainder of the negotiation process. Still, the issue of Northern Ireland and a possible "hard" border with the Republic of Ireland remains an open item. Nonetheless, enough progress was made during December to pave the way for the important issue of trade to be addressed in 2018.

After the Trump election and Brexit, many were anticipating an eventful 2017 with the potential for increased financial market disruption. But in the end, 2017 came and went with little by way of setbacks.

The elevated stress in the oil and gas sector abated as many issuers adjusted to lower oil prices. This led to a marked reduction in the number of defaults from the sector. On the other hand, longer-term stress has perhaps only just started for brick-and-mortar retailers, and their increased contribution to the default total will likely grow over time.

The Trump Administration ultimately had minimal negative impact on markets in 2017, but with few legislative actions through most of the year. The full ramifications of the tax overhaul may take some time to realize, but the initial reaction has been positive. Meanwhile, the Brexit process moved slowly along, with minimal changes for fixed income markets relative to the start of the year. Defaults in Europe were limited in impact, and bond issuance in the region was robust.

Quarterly Trends

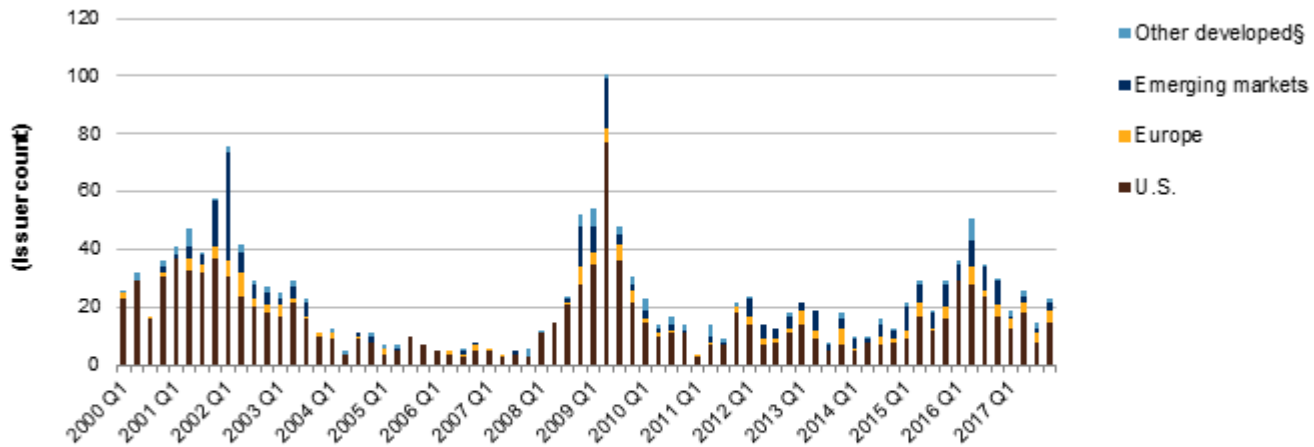
On a year-over-year basis, the number of rated defaults was lower in every quarter of 2017 (see chart 14). The energy and natural resources sector led the default count in every quarter but the third, when the consumer services sector produced six defaults, compared with three from energy and natural resources.

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In terms of the amount of affected debt of defaulters, 2017 had much lower totals on a quarterly basis (see chart 15). This decrease was largely attributable to the U.S., as all other major regions had some quarters with higher debt totals relative to 2016. In many cases, a particular year will be punctuated by one or two large defaulters (see table 5), but as in 2016, the main driver of quarterly debt amounts affected in 2017 was simply the total number of defaults.

Chart 14

Quarterly Corporate Defaults By Number Of Issuers*

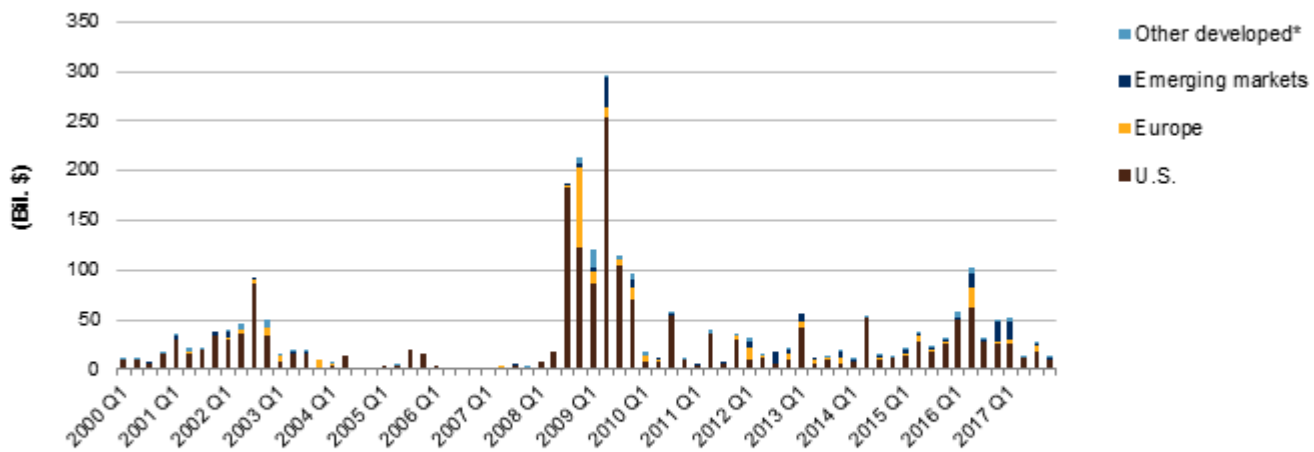


*Count excludes defaults that were not rated one quarter prior to default. §The other developed region consists of Australia, Canada, Japan, and New Zealand. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

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Chart 15

Quarterly Global Corporate Defaulters' Debt Amounts Outstanding



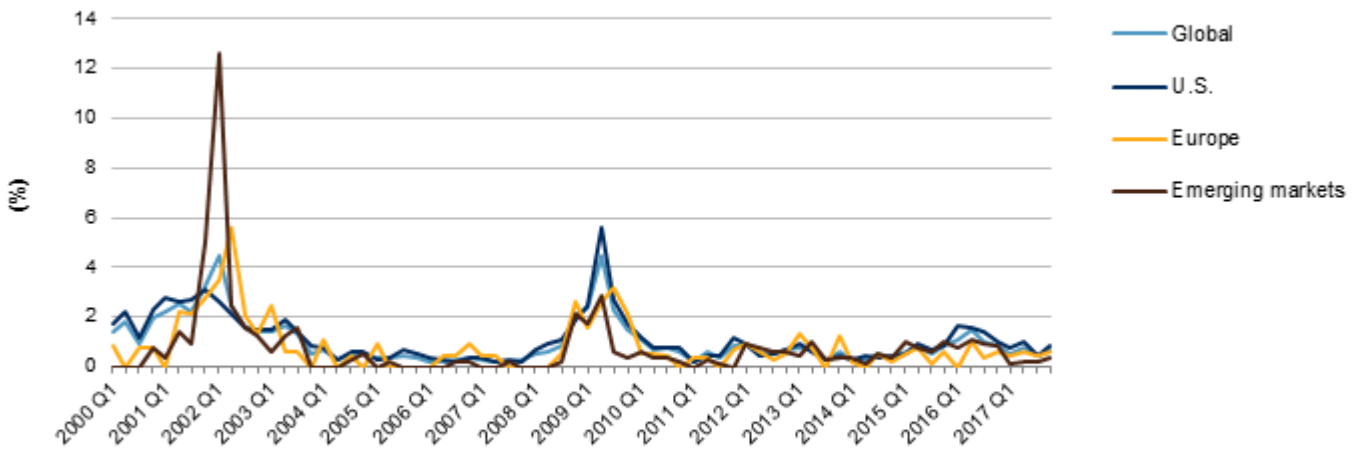
*The other developed region consists of Australia, Canada, Japan, and New Zealand. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

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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), default activity contracted across most major regions throughout 2017 (see chart 16). The exception was Europe, which had higher default rates in each quarter of 2017 relative to the same quarter in 2016. The fourth-quarter default rates were 0.67%, 0.84%, 0.64%, and 0.35% for the global, U.S., European, and emerging markets regions, respectively.

Chart 16

Quarterly Speculative-Grade Default Rates By Region



Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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Lower Ratings Are Consistent With Higher Default Vulnerability

On average, there is a negative correlation between the initial rating on a firm and its time to default, if a default occurs. For example, for the entire pool of defaulters in this study (1981-2017), the average times to default for issuers originally rated in the 'A' and 'B' categories were 13.5 years and 4.8 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 2.2 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 median, average, and standard deviations for the time 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 received.

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 (1981-2017)

Original rating	Default count	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	29	15.2	14.4	8.5	27.3

Table 10

Time To Default From Original Rating For Global Corporate Defaulters (1981-2017) (cont.)

Original rating	Default count	Average years from original rating*	Median years from original rating	Standard deviation of years from original rating	Range
A	98	13.5	10.9	8.5	34.5
BBB	207	8.8	7.1	6.5	36.1
BB	605	6.7	5.2	5.5	35.8
B	1,473	4.8	3.5	4.1	30.5
CCC/C	252	2.2	1.3	2.8	17.4
Total	2,672	5.8	4.0	5.5	36.4

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

Table 11

Time To Default From Post-Original Ratings For Global Corporate Defaulters (1981-2017)

Rating	Average years from rating category	Median years from rating category	Standard deviation of years from rating category
AAA	23.7	23.3	8.2
AA	13.7	15.2	8.7
A	10.8	9.3	7.7
BBB	8.0	6.3	6.7
BB	5.8	4.0	5.6
B	3.0	1.7	3.6
CCC/C	0.8	0.3	1.6
NR	4.9	2.9	5.3
Total	3.2	1.2	4.7

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

Table 12 shows the cumulative distribution of defaulters by timeline, based on the original rating. The first row shows the ratings distribution of defaults occurring within 12 months of the original rating. The second row shows the distribution of the cumulative count of defaults occurring within three years of the original rating. In line with expectations, the majority (91.9%) of companies that defaulted within one year of the original rating are from the lowest speculative-grade rating categories. For example, of the 197 companies that defaulted within 12 months of having been rated, 181 were originally in the 'B' category ('B+', 'B', and 'B-') or lower.

Only in longer time frames do companies with higher original ratings surface among the defaulters. For example, of all the companies that defaulted during 1981-2017, only two entities rated 'AAA' at inception defaulted within seven years. Throughout the 37-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 Ratings (1981-2017)*

	AAA	AA	A	BBB	BB	B	CCC/C	Total
Number of issuers defaulting within:								
One year				3	13	77	104	197
Three years		1	6	29	141	576	194	947
Five years		3	13	71	292	977	222	1,578
Seven years	2	6	28	102	395	1,193	237	1,963
Total	8	29	98	207	605	1,473	252	2,672
Percentage of total defaults per time frame (%)								
One year	0.0	0.0	0.0	1.5	6.6	39.1	52.8	
Three years	0.0	0.1	0.6	3.1	14.9	60.8	20.5	
Five years	0.0	0.2	0.8	4.5	18.5	61.9	14.1	
Seven years	0.1	0.3	1.4	5.2	20.1	60.8	12.1	
Total	0.3	1.1	3.7	7.7	22.6	55.1	9.4	

*Or from Dec. 31, 1980, whichever is later. Sources: S&P Global Fixed Income 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 differ 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 (1981-2017)

	AAA	AA	A	BBB	BB	B	CCC/C	NR	Total
Number of issuers defaulting within:									
One year			10	65	178	998	2,361	134	3,746
Three years		7	40	140	435	1,929	2,840	309	5,700
Five years		9	61	195	601	2,345	2,945	398	6,554
Seven years		15	74	254	728	2,557	2,984	464	7,076

Table 13

Cumulative Defaulters By Time Horizon Among Global Corporates, From Post-Original Ratings (1981-2017) (cont.)

	AAA	AA	A	BBB	BB	B	CCC/C	NR	Total
Total	3	47	205	474	1,046	2,857	3,025	606	8,263
Percentage of total defaults per time frame (%)									
One year	0.0	0.0	0.3	1.7	4.8	26.6	63.0	3.6	
Three years	0.0	0.1	0.7	2.5	7.6	33.8	49.8	5.4	
Five years	0.0	0.1	0.9	3.0	9.2	35.8	44.9	6.1	
Seven years	0.0	0.2	1.0	3.6	10.3	36.1	42.2	6.6	
Total	0.0	0.6	2.5	5.7	12.7	34.6	36.6	7.3	

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

Defaults arise disproportionately from low rating categories, even during times of heightened stress (see table 14). This is also true over longer time horizons. For example, 296 defaults were recorded in the five-year pool that began in January 2013, of which 291 were rated speculative grade on Jan. 1, 2013. (See table 15 for the five publicly rated investment-grade defaults during this period.)

Among nonfinancial entities, the lower the rating, the higher the percentage of defaults and the lower the survival rates. Among financials, ratings are generally concentrated in the investment-grade category, and the speculative-grade category accounts for no more than 25.8% of all ratings in any of these three pools. Still, the percentage of speculative-grade ratings is increasing over time among financial services issuers. Thus far, only seven defaults have come from the 2017 pool, and those were from the lowest rating categories.

Table 14

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

Rating	--Latest one-year pool--			--Latest three-year pool--			--Latest five-year pool--		
	Number of ratings as of Jan. 1, 2017	Number of defaults through December 2017	Survival rate (%)	Number of ratings as of Jan. 1, 2015	Number of defaults through December 2017	Survival rate (%)	Number of ratings as of Jan. 1, 2013	Number of defaults through December 2017	Survival rate (%)
Global									
AAA	14	0	100.0	16	0	100.0	22	0	100.0
AA	336	0	100.0	343	0	100.0	314	0	100.0
A	1,355	0	100.0	1,339	0	100.0	1,270	0	100.0
BBB	1,800	0	100.0	1,806	2	99.9	1,648	5	99.7
BB	1,317	1	99.9	1,232	25	98.0	1,048	29	97.2
B	1,834	18	99.0	2,003	202	89.9	1,589	197	87.6
CCC/C	244	64	73.8	166	65	60.8	151	65	57.0

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Table 14

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

Rating	--Latest one-year pool--			--Latest three-year pool--			--Latest five-year pool--		
	Number of ratings as of Jan. 1, 2017	Number of defaults through December 2017	Survival rate (%)	Number of ratings as of Jan. 1, 2015	Number of defaults through December 2017	Survival rate (%)	Number of ratings as of Jan. 1, 2013	Number of defaults through December 2017	Survival rate (%)
Nonfinancials									
AAA	10	0	100.0	12	0	100.0	14	0	100.0
AA	97	0	100.0	94	0	100.0	81	0	100.0
A	576	0	100.0	548	0	100.0	522	0	100.0
BBB	1,220	0	100.0	1,248	1	99.9	1,107	3	99.7
BB	1,031	1	99.9	974	24	97.5	811	27	96.7
B	1,587	15	99.1	1,771	179	89.9	1,403	181	87.1
CCC/C	221	60	72.9	140	58	58.6	132	59	55.3
Financials									
AAA	4	0	100.0	4	0	100.0	8	0	100.0
AA	239	0	100.0	249	0	100.0	233	0	100.0
A	779	0	100.0	791	0	100.0	748	0	100.0
BBB	580	0	100.0	558	1	99.8	541	2	99.6
BB	286	0	100.0	258	1	99.6	237	2	99.2
B	247	3	98.8	232	23	90.1	186	16	91.4
CCC/C	23	4	82.6	26	7	73.1	19	6	68.4

Note: The totals in this table may differ from those in table 1 because defaults that are not rated at the beginning of the pool year are excluded. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 15

Investment-Grade Defaults In The Five-Year 2013 Static Pool

Company	Country	Industry	Default date	Rating one year prior to default	Rating three years prior to default	First rating	Date of first rating	Year of default
Government Development Bank for Puerto Rico	U.S.	Financial institutions	4/11/2016	B-	BB	A+	8/9/1989	2016
Cleveland-Cliffs Inc.	U.S.	Energy and natural resources	4/12/2016	B	BBB-	BBB-	9/8/2008	2016
Oi S.A.	Brazil	Telecommunications	6/21/2016	BB+	BBB-	BBB-	9/6/2011	2016
Samarco Mineracao S.A.	Brazil	Energy and natural resources	9/28/2016	BB+	BBB	BBB	10/22/2012	2016

Table 15

Investment-Grade Defaults In The Five-Year 2013 Static Pool (cont.)

Company	Country	Industry	Default date	Rating one year prior to default	Rating three years prior to default	First rating	Date of first rating	Year of default
Istmo Compania de Reaseguros Inc.	Panama	Insurance	12/16/2016	BBB	BBB	BBB-	1/31/2007	2016

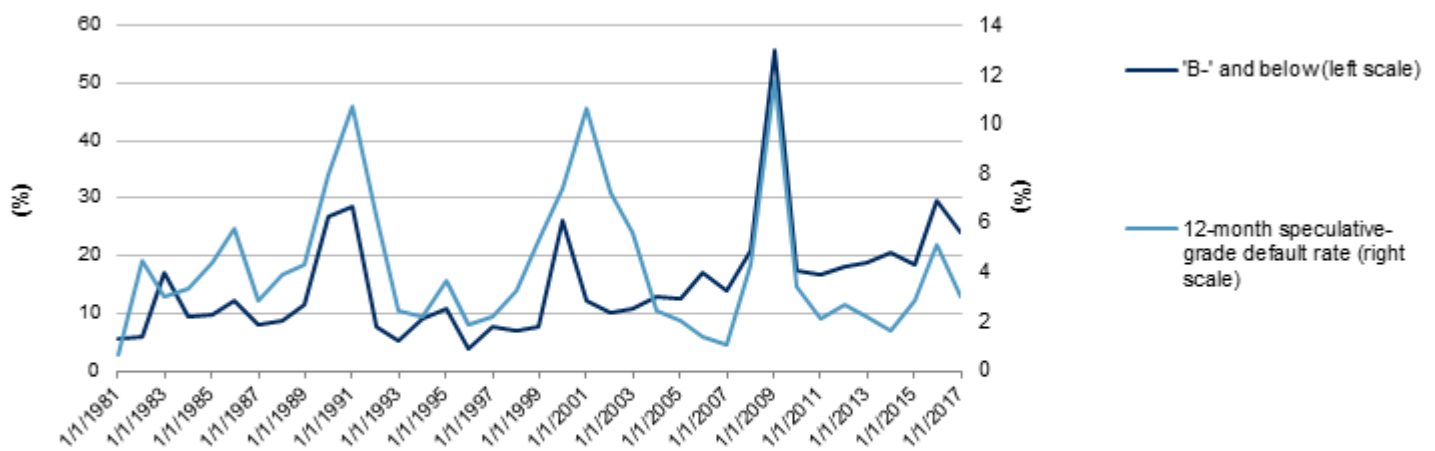
Note: Excludes confidentially rated defaults. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Since 1981, the 'B' rating category has accounted for 1,473 defaulters (55.1% of the total, from initial rating), well more than double the number of entities in the 'BB' category (see tables 10 and 12). Given this track record, monitoring the trends of new ratings assigned could prove useful in anticipating future default activity, based on the notion that years characterized by high numbers of new ratings of 'B-' or lower will likely be followed by increased default risk.

Chart 17 plots the proportion of all new speculative-grade ratings of 'B-' or lower in the U.S. against the year-end U.S. speculative-grade default rate. As coincident indicators, the two series generally mirror each other in broad movements throughout most of their shared history--uncannily so in the 2009 spike in the default rate. However, in most of the relatively benign period since then, the two series have diverged somewhat, as in 2004-2007. The historical parallel picked up again in 2016 following the increasing stress in the energy and natural resources sector, which was particularly hard felt in the U.S.

Chart 17

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



Note: 'B-' and below ratings calculated as a share of total speculative-grade ratings. U.S. and tax havens--U.S., Bermuda, and Cayman Islands. Data through Dec. 31, 2017. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

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Industry Variations: Retail Catches Up With Oil And Gas

Broadly speaking, default rates across both nonfinancial and financial sectors decreased in 2017 relative to the prior year, in many cases falling below their long-term averages (see table 16). Across various time frames, average default rates are always higher for nonfinancial companies than for financial companies. In 2017, financial companies accounted for 7.4% of total defaults globally. This is a slightly lower proportion of the annual total than the long-term average of 10.3% and 9.8% in 2016. In many cases, default rates across various time horizons have fallen below their 2016 levels.

Table 16

Cumulative Global Corporate Default Rates By Sector

(%)

Sector	2017	2016	Average (1981-2017)	Median	Standard deviation	Minimum	Maximum
Financial institutions							
One-year	0.46	1.14	0.66	0.33	0.73	0.00	2.80
Three-year	2.27	1.87	1.93	1.34	1.64	0.00	6.52
10-year	5.39	5.39	4.85	4.18	2.58	1.66	10.12
Insurance							
One-year	0.12	0.12	0.52	0.25	0.91	0.00	4.65
Three-year	0.36	0.25	1.58	1.00	1.63	0.12	6.98
10-year	1.99	1.95	5.07	4.42	3.00	1.95	14.29
All financials							
One-year	0.32	0.74	0.59	0.43	0.55	0.00	2.07
Three-year	1.51	1.23	1.76	1.51	1.20	0.18	4.97
10-year	3.99	3.96	4.92	4.15	2.27	2.39	8.87
All nonfinancials							
One-year	1.60	2.69	1.82	1.50	1.33	0.16	5.72
Three-year	5.47	4.65	5.11	3.96	2.91	1.88	12.47
10-year	12.76	11.01	11.42	10.69	3.24	6.98	19.37

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

Over the long term, cyclicity has been more pronounced in nonfinancial sectors than in financial sectors, which is as we would expect, considering the differences in their rating profiles (see chart 18). Financial companies were more likely to have an initial rating in the investment-grade category, while nonfinancial companies were more likely to initially have speculative-grade ratings.

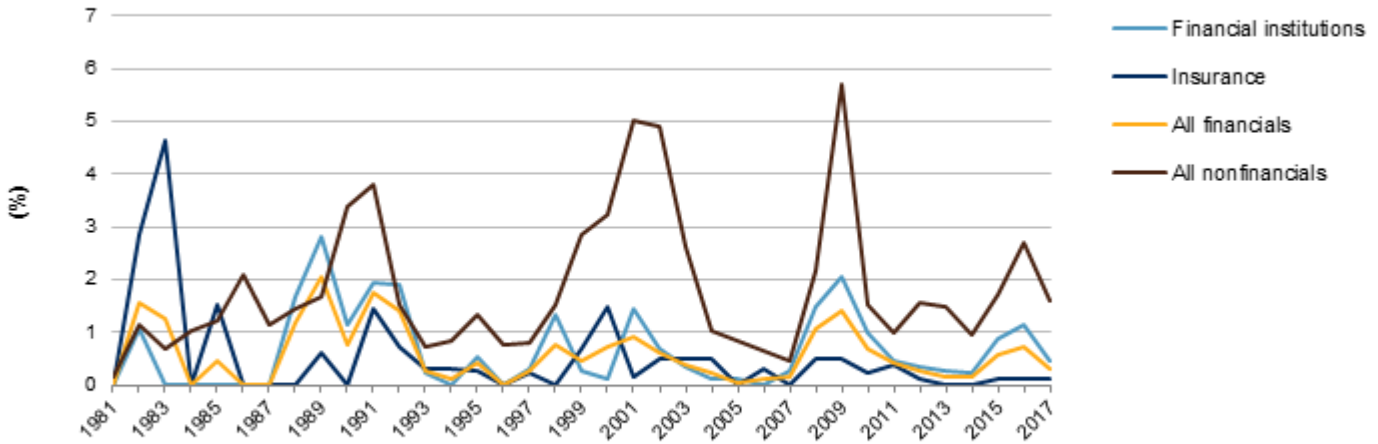
Over the 37 years this study covers, 71.7% of financial entities had initial investment-grade ratings, while only 31.4% of nonfinancial companies did. This helps to explain the resemblance between the annual default rates of nonfinancial entities and those of the speculative-grade universe as a whole, which certainly contributes to the vast differences between cumulative default rates across financial and nonfinancial sectors. For example, at the end of 2017, the one-year default rate among all financial entities was 0.3%, compared with 1.6% for all

Default, Transition, and Recovery: 2017 Annual Global Corporate Default Study And Rating Transitions

nonfinancials. The gap becomes even wider over longer time horizons, such as three years and 10 years (see chart 19).

Chart 18

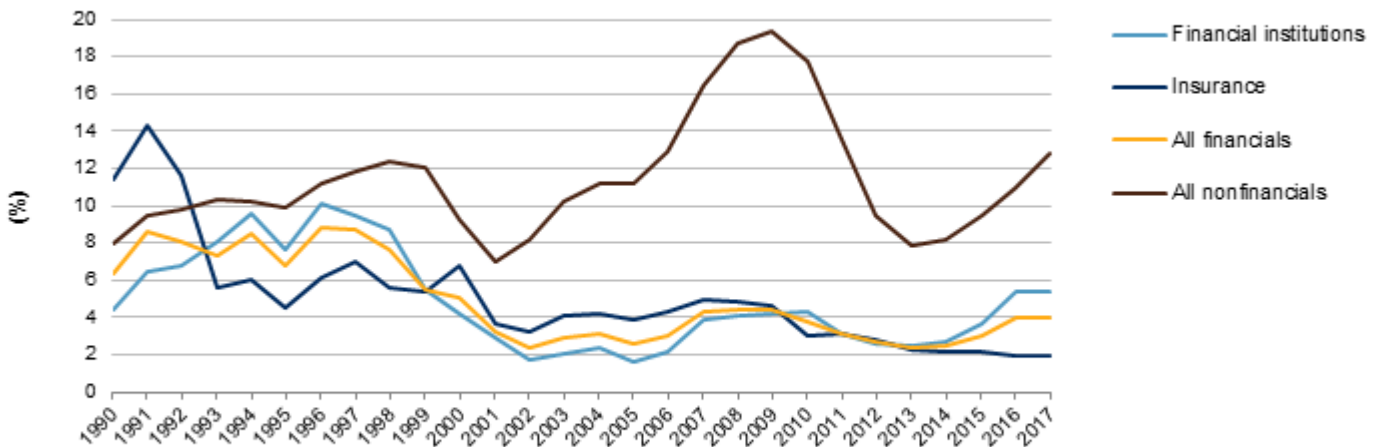
One-Year Default Rates By Broad Sector



Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's Credit Pro®.
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Chart 19

10-Year Default Rates By Broad Sector



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Of the 2,672 defaults recorded globally over the long term, six sectors displayed an average time to default that was lower than the overall average of 5.8 years. These sectors are energy and natural

Default, Transition, and Recovery: 2017 Annual Global Corporate Default Study And Rating Transitions

resources; financial institutions; high technology, computers, and office equipment; leisure time and media; real estate; and telecommunications (see table 17). Using the median rather than the mean adds the transportation and utility sectors to the list. Across sectors, the average difference between an industry's median initial rating and the median initial rating of its defaulters was about 1.4 notches. The largest gap between the two was in financial institutions, which had a four-notch difference, with the 212 defaulting issuers having a median original rating of 'BB-', compared with a sector median of 'BBB'.

Table 17

Time To Default From Original Ratings By Industry*

	Median original rating (defaulters)	Median original rating (industry)	Default count	Average years from original rating*	Median years from original rating	Standard deviation of years from original rating	Range (years)
Aerospace/auto/capital goods/metals	B+	BB-	374	6.4	4.5	5.7	36.1
Consumer services	B+	B+	488	6.4	4.5	5.7	36.0
Energy and natural resources	B	B+	312	4.5	3.3	4.5	35.4
Financial institutions	BB-	BBB	212	5.5	3.7	5.7	28.6
Forest and building products/homebuilders	B+	BB-	159	6.4	4.7	5.2	27.8
Health care/chemicals	B+	B+	150	6.0	4.1	5.5	33.7
High tech/computers/office equipment	B+	B+	91	5.5	3.9	4.8	28.4
Insurance	BBB+	A-	74	8.0	6.6	6.3	28.6
Leisure time/media	B	B+	365	5.7	4.0	5.3	34.1
Real estate	BB-	BBB-	45	3.7	2.8	2.8	10.5
Telecommunications	B	B+	173	3.9	3.2	3.0	21.4
Transportation	B+	BB	148	6.5	3.9	6.7	36.3
Utility	BB+	BBB+	81	6.3	4.0	6.5	30.2
Total	B+	BB	2,672	5.8	4.0	5.5	36.4

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

Table 18

Time To Default From Post-Original Ratings 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	5.1
Consumer services	3.5	1.6	4.9
Energy and natural resources	2.7	1.0	4.3
Financial institutions	3.0	1.0	4.7
Forest and building products/homebuilders	3.0	1.3	4.2
Health care/chemicals	3.1	1.4	4.7

Table 18

Time To Default From Post-Original Ratings By Industry (cont.)

	Average years to default	Median years to default	Standard deviation of years to default
High tech/computers/office equipment	4.1	2.0	5.2
Insurance	3.1	1.7	3.7
Leisure time/media	3.2	1.2	4.5
Real estate	1.4	0.8	1.7
Telecommunications	1.6	0.6	2.8
Transportation	4.8	1.7	6.5
Utilities	3.2	0.8	5.2
Total	3.2	1.2	4.7

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

While the overall default rate decreased in 2017, the year was still more difficult for issuers in the energy and natural resources and consumer services sectors. These two industries accounted for over half of the year's defaults and split the total nearly evenly. Even in a year with a low default total, these two industries' 2017 default rates still exceeded their long-term averages amid sector-specific stressors (see table 19). The only other sector whose default rate exceeded its long-term average was the high technology, computers, and office equipment sector, but to a much lesser degree.

Despite relatively few defaults in the year, four industries had default rates in 2017 that were higher than their comparable 2016 rates, but with an average increase of only 0.68% (see table 19). Seven other sectors had lower default rates in 2017 relative to 2016, with a more noticeable average decline of 2%, while the insurance and real estate sectors had the same default rates in 2017 as in 2016--with both being minimal. Not surprisingly, the largest decrease was in the energy and natural resources sector, with a default rate of 4.7% in 2017, compared with 13.6% in 2016. This is a near threefold decline but still stands as the highest sector-level default rate in 2017.

The energy and natural resources sector has experienced considerable headwinds via plummeting oil prices since the second half of 2014. Oil prices have generally become more stable, though they remain much lower than in 2014. The sector accounted for 27 defaults in 2017, down from 82 in 2016. This still leaves the sector as the leader in total defaults for the year, but the consumer services sector was close behind with 24. This is a relatively large percentage increase, up from 16 in 2016. Global retailers and consumer products companies are going through fundamental shifts in their business models, facing heady competition from online retailers and large discount chains and increased price transparency for consumers.

Table 19

Global Corporate Default Rates By Industry

(%)	2017	2016	Weighted average (1981-2017)	Median	Standard deviation	Minimum	Maximum
Aerospace/auto/capital goods/metals	1.33	1.84	2.15	1.33	2.04	0.00	9.45
Consumer services	2.71	1.75	2.28	1.75	1.58	0.00	6.29
Energy and natural resources	4.74	13.64	3.01	1.71	2.89	0.00	13.64

Table 19

Global Corporate Default Rates By Industry (cont.)

(%)	2017	2016	Weighted average (1981-2017)	Median	Standard deviation	Minimum	Maximum
Financial institutions	0.46	1.14	0.67	0.33	0.73	0.00	2.80
Forest and building products/homebuilders	1.65	0.88	2.56	1.50	2.90	0.00	14.51
Health care/chemicals	1.10	0.65	1.39	0.84	1.31	0.00	4.87
High tech/computers/office equipment	1.52	0.98	1.17	0.97	1.45	0.00	4.85
Insurance	0.12	0.12	0.32	0.25	0.91	0.00	4.65
Leisure time/media	1.41	2.07	3.37	2.13	3.28	0.00	16.87
Real estate	0.27	0.27	0.72	0.00	2.75	0.00	12.00
Telecommunications	0.92	1.34	2.51	0.90	3.82	0.00	18.26
Transportation	0.37	2.99	2.06	1.85	1.65	0.00	6.00
Utilities	0.31	0.47	0.45	0.17	0.76	0.00	4.26

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

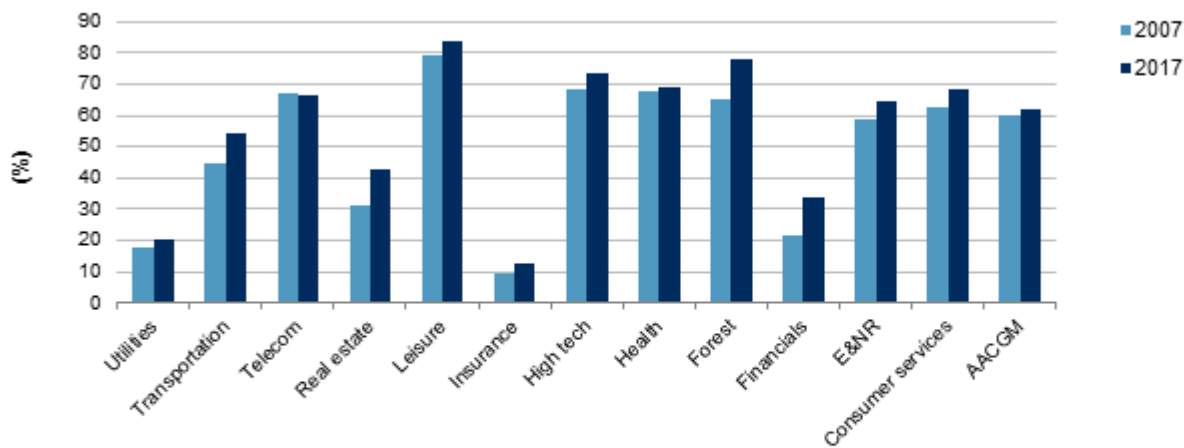
When comparing default rates across sectors, we note some key differences between the various industries. Several sectors have had distinct default cycles, such as the high technology, computers, and office equipment sector and the telecommunications sector, which both fueled the prolonged and pronounced spike in the default rate during the tech bubble, when the default rate peaked at 12.1% in June 2002. Other sectors, such as the consumer services sector, 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 differentiation in the ratings mix across industries. For example, the leisure and media sector has a much higher proportion of speculative-grade ratings than the financial institutions or insurance sector (see chart 20).

What is most compelling is that nearly every sector now has a higher proportion of speculative-grade ratings than it did 10 years ago, and speculative-grade-rated issuers account for more than 50% of total issuers in nine of the 13 industries, with the majority of these industries' proportions exceeding 60%. The notable exception in 2017 is telecommunications, whose proportion of speculative-grade issuers actually declined relative to 2007. As has been the case for an extended period, the leisure time and media sector has far and away the highest proportion of speculative-grade ratings, beginning 2017 with nearly 85% of its issuers in this rating group.

Chart 20

Share Of Speculative-Grade Ratings To Total By Industry



Note: Figures reflect year-end. Leisure—Leisure time and media. High tech—High technology, computers, and office equipment. Health—Health care and chemicals. Forest—Forest and building products and homebuilders. Financials—Financial institutions. E&NR—Energy and natural resources. AACGM—Aerospace/auto/capital goods/metals. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

Speculative-Grade Ratings Are Nearly A Global Majority

Historical experience suggests that growth in speculative-grade ratings is usually a precursor to a period of increased defaults. The surge in speculative-grade originations beginning in 2002 in the U.S. supports this notion (see chart 23). By contrast, speculative-grade rating originations in Europe were more subdued in the prerecession period (see chart 24). This was attributable to much of the leveraged activity having migrated to the private credit estimate market, which is not included in this study or the CreditPro® database.

However, the number of speculative-grade ratings in Europe has grown tremendously since 2009 as a result of a slight increase in the rate of downgrades and a marked increase in the number of initial speculative-grade ratings for new issuers. The number of new issuers assigned speculative-grade ratings in Europe in 2017 was 146, marking the fifth year in a row with more than 100. New issuers with speculative-grade ratings became the majority in Europe in 2010, and the gap has generally only been widening since. With the region moving to promote disintermediation, we expect this gap to persist and perhaps widen further in the coming years. S&P Global Ratings rated 41.7% of European issuers speculative grade as of Dec. 31, 2017, compared with 55.9% of U.S. issuers.

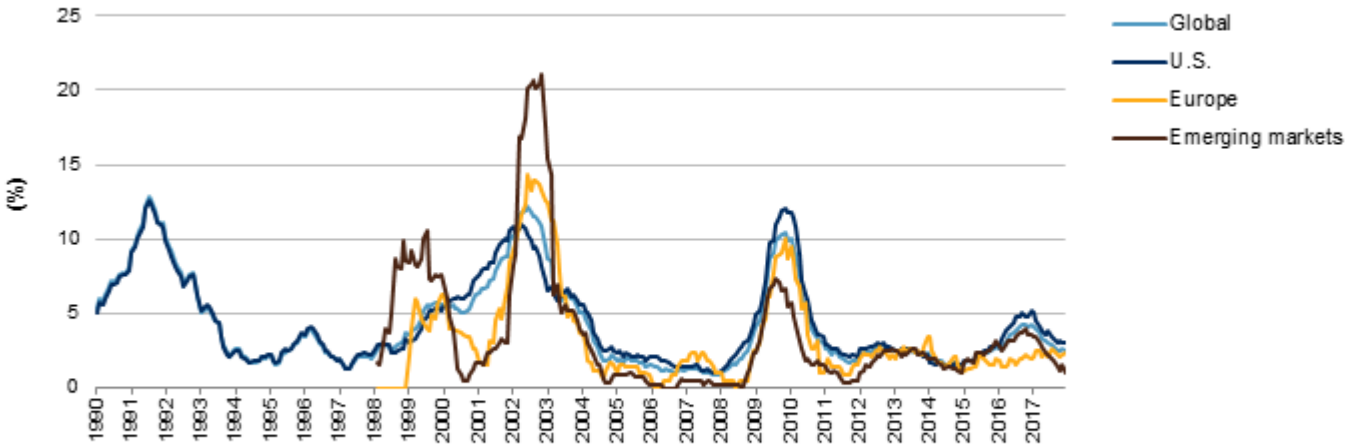
On a trailing-12-month basis, the global speculative-grade default rate peaked at 10.4% in November 2009 (see chart 21). Risk tolerance among lenders has increased (while systemic risk has concurrently decreased) since the global economic and financial downturn, as demonstrated by a marked and sustained increase in the share of new issuers rated speculative grade over the past eight years, which hit a high of 79.3% in 2010.

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A more difficult lending environment in the second half of 2015 contributed to the lower number of initial speculative-grade issuer ratings that year, but this proportion has rebounded since. In 2017, 632 initial speculative-grade ratings entered our study population, compared with 512 in 2016. New investment-grade issuer ratings, on the other hand, generally held steady over the past two years, with 172 new issuer ratings in 2017, compared with 175 in 2016.

Chart 21

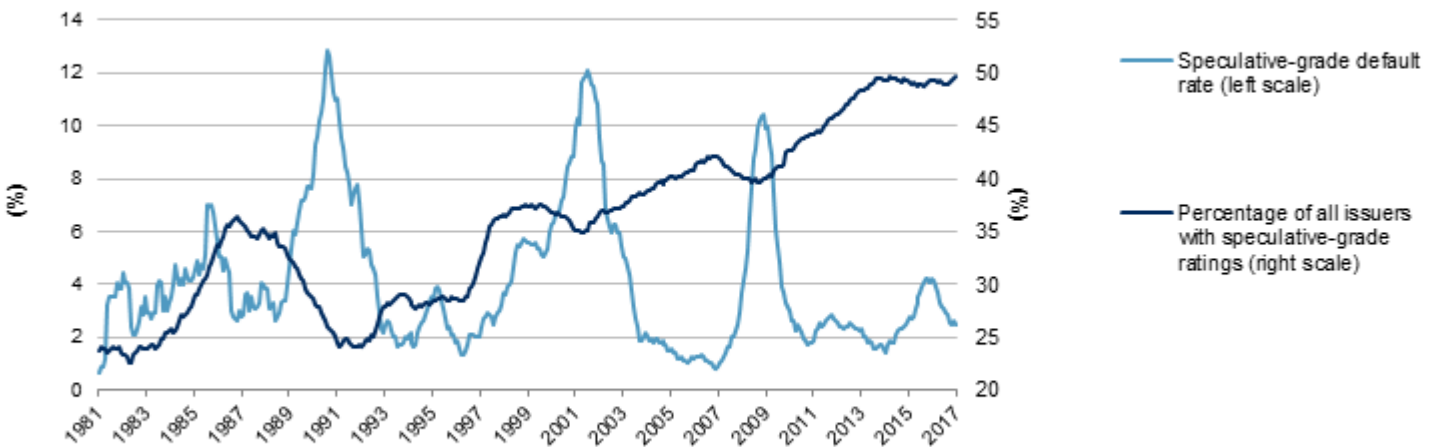
Trailing-12-Month Speculative-Grade Corporate Default Rates



Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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Chart 22

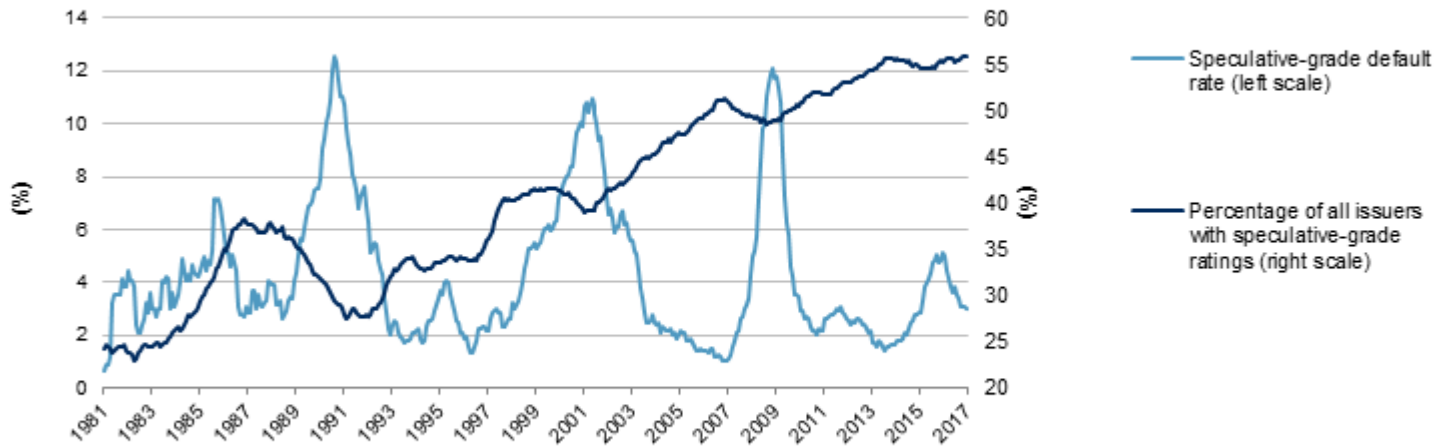
Global Speculative-Grade Corporate Default Rate Versus Prevalence Of Speculative-Grade Issuers



Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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Chart 23

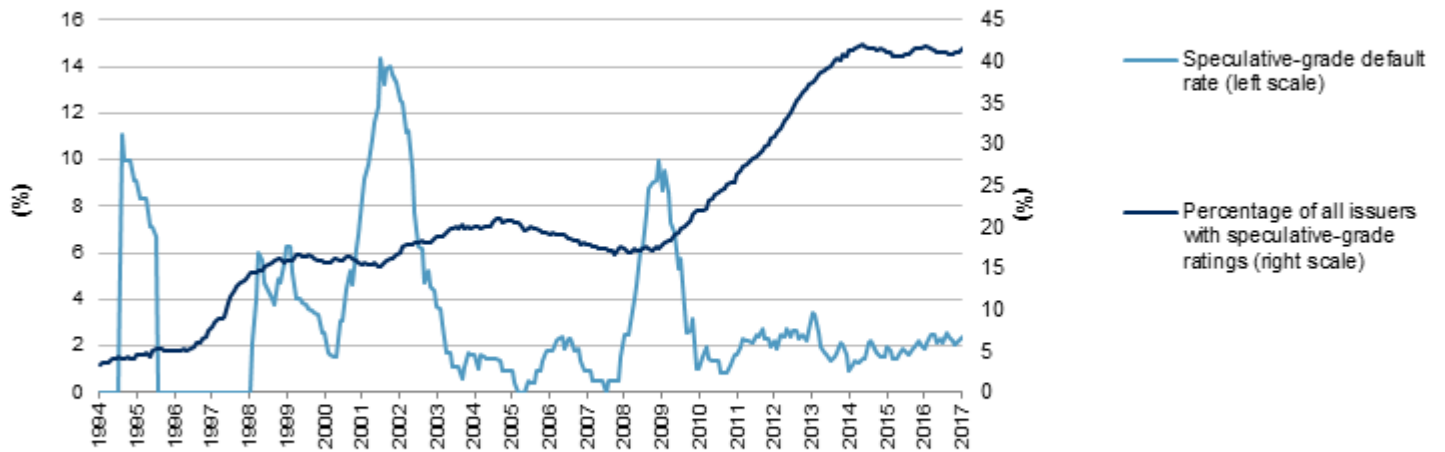
U.S. Speculative-Grade Corporate Default Rate Versus Prevalence Of Speculative-Grade Issuers



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Chart 24

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



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Transition Tables And Cumulative Default Rates Demonstrate Ratings Performance

An analysis of transition rates over the four quarters ended December 2017 suggests that ratings behavior continues to exhibit consistency with long-term trends, showing a negative correspondence between ratings and 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 their speculative-grade counterparts (see table 20). For instance, 93.4% of issuers rated 'A' at the beginning of 2017 were still rated 'A' by Dec. 31, 2017, whereas the comparable share for issuers rated 'B' was only 75.7%. The same relationship generally holds even when analyzing the transition rates by region, with the 'AAA' category in emerging markets being a notable exception. The low stability rate for 'AAA' issuers in this region is a result of multiple downgrades that resulted from the lowering of the sovereign rating on China on Sept. 21.

The downgrade of China is yet another example of events in recent years (as well as institutional shifts by investors) that have nearly erased the 'AAA' population of corporates. Similar events, such as the downgrade of the U.S. in 2011 and the lingering effects of the financial crisis on European sovereigns, have led to the downgrades of many higher-rated financial institutions and insurance companies. Conversely, among nonfinancial entities, there has been a more gradual trend of increased willingness to operate with higher leverage to expand businesses or finance acquisitions. These factors have combined with a growing tolerance by asset managers to invest in lower-quality companies, leaving a negligible population of the highest-rated firms.

For example, at the start of 2008, the number of 'AAA' rated issuers totaled 89 globally. That number fell to nine at the start of 2018. By comparison, the largest rating category, the 'BBB' category, had 1,422 issuers at the start of 2008, compared with 1,821 at the start of 2018. 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. In 2017, as a result of the sovereign downgrade of China, S&P Global Ratings downgraded MTR Corp. Ltd., Kowloon-Canton Railway Corp., Airport Authority Hong Kong, Hong Kong Mortgage Corp. Ltd., and Urban Renewal Authority--all from Hong Kong.

Over the long term (1981-2017), 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

2017 One-Year Corporate Transition Rates By Region

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
Global									
AAA	64.29	35.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	92.56	4.17	0.00	0.00	0.00	0.00	0.00	3.27
A	0.00	0.44	93.36	2.36	0.00	0.00	0.00	0.00	3.84
BBB	0.00	0.00	2.33	90.00	2.67	0.11	0.00	0.00	4.89
BB	0.00	0.00	0.08	3.57	80.56	4.63	0.00	0.08	11.09
B	0.00	0.00	0.00	0.00	3.65	75.68	4.14	0.98	15.54

Table 20

2017 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	0.41	0.00	16.80	38.11	26.23	18.44
U.S.									
AAA	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	94.59	2.70	0.00	0.00	0.00	0.00	0.00	2.70
A	0.00	0.76	94.66	2.86	0.00	0.00	0.00	0.00	1.72
BBB	0.00	0.00	2.80	90.25	1.74	0.13	0.00	0.00	5.07
BB	0.00	0.00	0.18	2.54	82.79	5.62	0.00	0.18	8.70
B	0.00	0.00	0.00	0.00	2.92	77.45	5.00	1.13	13.49
CCC/C	0.00	0.00	0.00	0.00	0.00	13.42	41.61	26.85	18.12
Europe									
AAA	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	93.07	0.00	0.00	0.00	0.00	0.00	0.00	6.93
A	0.00	0.26	90.36	2.34	0.00	0.00	0.00	0.00	7.03
BBB	0.00	0.00	3.79	89.39	2.02	0.00	0.00	0.00	4.80
BB	0.00	0.00	0.00	8.41	78.97	2.80	0.00	0.00	9.81
B	0.00	0.00	0.00	0.00	4.04	70.35	3.23	0.27	22.10
CCC/C	0.00	0.00	0.00	2.04	0.00	10.20	38.78	28.57	20.41
Emerging markets									
AAA	37.50	62.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	75.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.46	94.50	2.29	0.00	0.00	0.00	0.00	2.75
BBB	0.00	0.00	0.62	88.68	5.56	0.00	0.00	0.00	5.14
BB	0.00	0.00	0.00	2.68	79.38	4.74	0.00	0.00	13.20
B	0.00	0.00	0.00	0.00	5.11	77.00	2.88	0.64	14.38
CCC/C	0.00	0.00	0.00	0.00	0.00	39.39	21.21	18.18	21.21

D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

This study--in line with previous default studies--confirms that over the long term (1981-2017), higher ratings are more stable than lower ratings. Issuers rated 'AAA' were still rated 'AAA' one year later 87% of the time, and issuers rated in the 'CCC'/C' category retained those ratings 43.5% of the time. These long-term relationships do not change even when default rates are calculated over longer time horizons (see table 21) or when broken out by region (see table 22).

In contrast, the relationship is slightly more discontinuous when we examine rating transitions across modifiers (the plus or minus after a rating), 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 78% of the time, and 'AA' rated issuers were still rated 'AA' one year later 80.4% of the time. In this particular case, however, the 'AA+'

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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 (1981-2017)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
One-year									
AAA	86.99	9.12	0.53	0.05	0.08	0.03	0.05	0.00	3.15
	(7.20)	(7.27)	(0.83)	(0.25)	(0.25)	(0.17)	(0.35)	(0.00)	(2.43)
AA	0.51	86.95	7.91	0.50	0.05	0.07	0.02	0.02	3.97
	(0.53)	(5.25)	(4.18)	(0.68)	(0.19)	(0.21)	(0.07)	(0.08)	(1.87)
A	0.03	1.72	88.00	5.22	0.30	0.12	0.02	0.06	4.52
	(0.09)	(1.03)	(3.63)	(2.15)	(0.39)	(0.26)	(0.07)	(0.11)	(1.74)
BBB	0.01	0.10	3.45	85.79	3.73	0.49	0.11	0.17	6.16
	(0.04)	(0.16)	(1.63)	(3.77)	(1.51)	(0.69)	(0.22)	(0.25)	(1.58)
BB	0.01	0.03	0.12	4.88	77.19	6.79	0.58	0.68	9.72
	(0.06)	(0.09)	(0.25)	(1.86)	(4.36)	(3.08)	(0.75)	(0.84)	(2.31)
B	0.00	0.02	0.08	0.18	5.05	74.34	4.44	3.59	12.28
	(0.00)	(0.08)	(0.20)	(0.22)	(2.01)	(4.11)	(2.12)	(3.22)	(2.29)
CCC/C	0.00	0.00	0.12	0.21	0.59	13.18	43.46	26.82	15.63
	(0.00)	(0.00)	(0.43)	(0.66)	(0.95)	(7.82)	(8.81)	(11.07)	(5.32)
Three-year									
AAA	65.48	22.09	2.35	0.32	0.19	0.08	0.11	0.13	9.24
	(11.50)	(12.18)	(1.73)	(0.76)	(0.45)	(0.29)	(0.42)	(0.37)	(5.25)
AA	1.21	66.14	18.53	2.06	0.35	0.22	0.03	0.12	11.33
	(0.81)	(9.41)	(6.17)	(1.38)	(0.50)	(0.45)	(0.07)	(0.18)	(4.09)
A	0.06	4.07	68.85	11.72	1.30	0.44	0.09	0.25	13.21
	(0.10)	(2.07)	(6.33)	(2.73)	(0.98)	(0.62)	(0.14)	(0.28)	(3.47)
BBB	0.02	0.28	8.42	64.66	7.11	1.64	0.30	0.87	16.70
	(0.06)	(0.39)	(3.01)	(6.88)	(1.98)	(1.31)	(0.37)	(0.95)	(3.29)
BB	0.01	0.06	0.51	11.08	47.04	11.58	1.25	3.96	24.51
	(0.06)	(0.13)	(0.70)	(3.26)	(7.08)	(2.60)	(0.91)	(3.45)	(4.04)
B	0.00	0.03	0.21	0.78	10.23	41.46	4.67	12.57	30.05
	(0.05)	(0.11)	(0.42)	(0.78)	(3.17)	(5.56)	(1.66)	(7.35)	(4.82)
CCC/C	0.00	0.00	0.14	0.61	1.63	16.86	10.54	40.65	29.57
	(0.00)	(0.00)	(0.52)	(1.23)	(1.71)	(6.86)	(6.08)	(12.43)	(8.81)
Five-year									
AAA	49.55	28.51	4.83	0.81	0.24	0.16	0.08	0.35	15.46
	(11.87)	(13.22)	(2.69)	(1.54)	(0.47)	(0.41)	(0.28)	(0.60)	(6.49)

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Table 21

Global Corporate Average Transition Rates (1981-2017) (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AA	1.49	50.83	24.58	3.63	0.58	0.38	0.04	0.33	18.13
	(0.93)	(8.46)	(4.98)	(1.70)	(0.63)	(0.59)	(0.10)	(0.38)	(4.56)
A	0.08	5.15	55.47	14.98	2.09	0.69	0.15	0.54	20.86
	(0.10)	(2.30)	(6.98)	(2.31)	(1.13)	(0.87)	(0.18)	(0.43)	(4.01)
BBB	0.02	0.45	10.52	51.55	7.64	2.23	0.39	1.84	25.35
	(0.07)	(0.54)	(3.16)	(7.55)	(1.70)	(1.44)	(0.39)	(1.46)	(4.38)
BB	0.01	0.08	1.03	12.71	31.43	11.03	1.26	7.56	34.89
	(0.06)	(0.18)	(0.97)	(3.15)	(7.07)	(2.15)	(0.92)	(4.85)	(4.41)
B	0.01	0.03	0.26	1.57	10.47	25.16	2.93	18.76	40.80
	(0.11)	(0.09)	(0.56)	(1.19)	(2.64)	(5.43)	(1.01)	(8.72)	(5.47)
CCC/C	0.00	0.00	0.12	0.73	2.89	12.09	2.62	46.73	34.83
	(0.00)	(0.00)	(0.49)	(1.79)	(2.06)	(4.61)	(3.68)	(12.03)	(9.05)
Seven-year									
AAA	38.01	32.16	6.94	1.48	0.30	0.19	0.11	0.52	20.30
	(11.09)	(13.50)	(2.89)	(1.89)	(0.53)	(0.43)	(0.31)	(0.74)	(6.62)
AA	1.56	39.48	28.00	4.83	0.77	0.39	0.03	0.56	24.39
	(0.90)	(4.92)	(3.64)	(1.60)	(0.60)	(0.50)	(0.08)	(0.53)	(4.28)
A	0.07	5.45	45.98	16.66	2.63	0.85	0.14	0.94	27.29
	(0.12)	(1.80)	(6.16)	(1.49)	(1.14)	(0.91)	(0.18)	(0.53)	(3.76)
BBB	0.03	0.58	11.02	42.77	7.38	2.40	0.39	2.86	32.58
	(0.11)	(0.59)	(2.83)	(7.01)	(0.87)	(1.16)	(0.32)	(1.71)	(4.36)
BB	0.00	0.08	1.39	12.58	22.60	9.74	1.03	10.83	41.76
	(0.00)	(0.18)	(1.07)	(3.16)	(6.25)	(2.18)	(0.67)	(5.26)	(3.84)
B	0.01	0.02	0.35	2.07	9.05	16.10	1.72	23.43	47.24
	(0.08)	(0.09)	(0.59)	(1.47)	(1.98)	(4.48)	(0.59)	(8.32)	(5.09)
CCC/C	0.00	0.00	0.22	1.00	3.66	7.79	1.48	49.09	36.77
	(0.00)	(0.00)	(0.60)	(2.11)	(2.02)	(4.00)	(2.01)	(11.81)	(9.27)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 22

Average One-Year Corporate Transition Rates (1981-2017)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
U.S.									
AAA	87.32	8.67	0.58	0.04	0.12	0.04	0.04	0.00	3.18
	(10.17)	(10.34)	(1.16)	(0.21)	(0.36)	(0.27)	(0.27)	(0.00)	(2.49)
AA	0.52	87.05	7.47	0.58	0.08	0.10	0.03	0.03	4.12
	(0.52)	(6.25)	(4.59)	(0.83)	(0.23)	(0.28)	(0.11)	(0.16)	(2.42)
A	0.04	1.74	87.89	5.34	0.39	0.15	0.03	0.07	4.33
	(0.12)	(1.20)	(4.11)	(2.52)	(0.50)	(0.33)	(0.11)	(0.16)	(1.89)
BBB	0.01	0.12	3.54	86.13	3.75	0.60	0.11	0.21	5.53
	(0.05)	(0.18)	(1.94)	(4.67)	(1.78)	(0.87)	(0.16)	(0.32)	(1.94)
BB	0.02	0.05	0.18	4.90	76.99	7.66	0.58	0.78	8.85
	(0.08)	(0.12)	(0.31)	(2.30)	(5.15)	(3.87)	(0.71)	(0.86)	(2.54)
B	0.00	0.03	0.11	0.20	4.62	75.33	4.60	3.78	11.33
	(0.00)	(0.10)	(0.24)	(0.25)	(2.04)	(4.56)	(2.46)	(3.34)	(2.35)
CCC/C	0.00	0.00	0.17	0.26	0.69	11.93	43.76	28.79	14.40
	(0.00)	(0.00)	(0.56)	(0.82)	(1.17)	(7.89)	(8.61)	(11.51)	(5.31)
Europe									
AAA	82.72	11.11	0.62	0.21	0.00	0.00	0.21	0.00	5.14
	(7.81)	(8.48)	(1.70)	(1.22)	(0.00)	(0.00)	(1.02)	(0.00)	(5.03)
AA	0.28	85.25	10.11	0.56	0.00	0.00	0.00	0.00	3.81
	(0.50)	(7.24)	(6.54)	(1.18)	(0.00)	(0.00)	(0.00)	(0.00)	(2.12)
A	0.01	1.83	86.86	5.90	0.18	0.01	0.00	0.04	5.16
	(0.05)	(1.44)	(4.46)	(3.41)	(0.36)	(0.06)	(0.00)	(0.10)	(1.88)
BBB	0.00	0.09	4.24	84.09	3.76	0.35	0.09	0.07	7.31
	(0.00)	(0.21)	(1.91)	(3.84)	(2.71)	(0.55)	(0.29)	(0.22)	(2.54)
BB	0.00	0.00	0.08	5.48	73.34	7.12	0.38	0.38	13.23
	(0.00)	(0.00)	(0.67)	(2.44)	(6.63)	(3.64)	(1.04)	(0.90)	(4.36)
B	0.00	0.00	0.04	0.32	6.35	71.01	4.21	2.25	15.83
	(0.00)	(0.00)	(0.25)	(0.58)	(3.03)	(6.25)	(2.43)	(3.19)	(5.53)
CCC/C	0.00	0.00	0.00	0.35	0.00	12.77	41.13	26.60	19.15
	(0.00)	(0.00)	(0.00)	(0.79)	(0.00)	(11.69)	(17.59)	(17.19)	(10.74)
Emerging markets									
AAA	90.12	8.64	0.00	0.00	0.00	0.00	0.00	0.00	1.23
	(21.43)	(20.97)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(6.49)
AA	1.27	86.84	8.86	0.25	0.00	0.00	0.00	0.00	2.78
	(5.61)	(12.35)	(10.06)	(1.53)	(0.00)	(0.00)	(0.00)	(0.00)	(3.82)

Table 22

Average One-Year Corporate Transition Rates (1981-2017) (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
A	0.00 (0.00)	1.90 (1.73)	90.14 (5.77)	4.93 (4.41)	0.35 (0.84)	0.35 (1.22)	0.00 (0.00)	0.04 (0.16)	2.29 (1.13)
BBB	0.00 (0.00)	0.02 (0.10)	2.42 (2.39)	86.26 (5.68)	4.85 (4.36)	0.41 (1.33)	0.20 (1.11)	0.14 (0.38)	5.71 (1.95)
BB	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	4.39 (2.55)	79.88 (4.60)	4.75 (2.26)	0.74 (2.28)	0.63 (1.21)	9.61 (3.43)
B	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.05 (0.24)	6.27 (3.88)	72.31 (5.38)	3.66 (3.16)	3.16 (3.69)	14.55 (3.11)
CCC/C	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.48 (0.96)	18.76 (13.67)	44.52 (14.79)	17.97 (15.48)	18.28 (11.05)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. For Europe and emerging markets, calculations are for 1996-2016 due to sample size considerations. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 23

Average One-Year Transition Rates For Global Corporates By Rating Modifier (1981-2017)

(%)

From/to	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC	D	NR
AAA	86.99 (7.20)	5.88 (6.21)	2.54 (3.29)	0.69 (1.04)	0.16 (0.45)	0.24 (0.56)	0.13 (0.35)	0.00 (0.00)	0.05 (0.25)	0.00 (0.00)	0.03 (0.17)	0.05 (0.19)	0.00 (0.00)	0.00 (0.00)	0.03 (0.17)	0.00 (0.00)	0.05 (0.35)	0.00 (0.00)	3.15 (2.43)
AA+	2.42 (3.82)	77.96 (10.97)	11.29 (7.20)	3.70 (4.09)	0.74 (2.36)	0.39 (0.84)	0.20 (0.48)	0.05 (0.25)	0.10 (0.67)	0.05 (0.23)	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)	3.11 (2.97)
AA	0.43 (0.51)	1.31 (1.58)	80.43 (8.93)	8.63 (6.14)	2.80 (2.60)	1.19 (1.23)	0.38 (0.65)	0.40 (0.82)	0.13 (0.35)	0.08 (0.24)	0.05 (0.16)	0.03 (0.13)	0.02 (0.10)	0.02 (0.12)	0.00 (0.00)	0.02 (0.09)	0.05 (0.15)	0.02 (0.08)	4.02 (2.59)
AA-	0.04 (0.13)	0.11 (0.31)	3.88 (4.31)	78.32 (7.37)	9.93 (4.81)	2.30 (2.58)	0.59 (0.82)	0.27 (0.49)	0.16 (0.44)	0.07 (0.25)	0.03 (0.20)	0.00 (0.00)	0.00 (0.00)	0.03 (0.15)	0.08 (0.38)	0.00 (0.00)	0.00 (0.00)	0.03 (0.10)	4.17 (2.03)
A+	0.00 (0.00)	0.06 (0.20)	0.47 (0.69)	4.52 (2.57)	77.69 (5.42)	9.07 (2.98)	2.25 (1.47)	0.64 (0.65)	0.36 (0.43)	0.09 (0.19)	0.06 (0.17)	0.09 (0.25)	0.01 (0.05)	0.07 (0.19)	0.03 (0.13)	0.00 (0.00)	0.00 (0.00)	0.05 (0.14)	4.53 (1.87)
A	0.04 (0.13)	0.04 (0.13)	0.23 (0.50)	0.44 (0.48)	5.23 (1.99)	78.37 (5.34)	6.96 (3.01)	2.48 (1.73)	0.91 (0.94)	0.28 (0.39)	0.12 (0.21)	0.11 (0.27)	0.07 (0.31)	0.10 (0.34)	0.02 (0.10)	0.00 (0.00)	0.01 (0.06)	0.06 (0.12)	4.54 (2.20)
A-	0.04 (0.19)	0.01 (0.05)	0.07 (0.15)	0.16 (0.27)	0.46 (0.61)	6.59 (3.21)	77.31 (5.89)	7.46 (3.09)	2.14 (1.54)	0.60 (0.62)	0.15 (0.33)	0.15 (0.35)	0.12 (0.24)	0.11 (0.29)	0.02 (0.08)	0.01 (0.08)	0.03 (0.15)	0.07 (0.18)	4.50 (1.86)
BBB+	0.00 (0.00)	0.01 (0.05)	0.06 (0.16)	0.07 (0.18)	0.22 (0.44)	0.83 (1.02)	7.16 (2.95)	74.89 (6.11)	8.30 (3.29)	1.72 (1.44)	0.39 (0.53)	0.32 (0.58)	0.14 (0.22)	0.17 (0.42)	0.11 (0.30)	0.03 (0.09)	0.07 (0.18)	0.11 (0.27)	5.40 (1.95)
BBB	0.01 (0.07)	0.01 (0.07)	0.04 (0.14)	0.03 (0.13)	0.11 (0.22)	0.33 (0.68)	1.08 (0.98)	7.79 (3.16)	75.14 (4.36)	6.33 (2.28)	1.45 (1.05)	0.63 (0.61)	0.30 (0.48)	0.24 (0.45)	0.12 (0.39)	0.04 (0.10)	0.06 (0.12)	0.17 (0.28)	6.13 (2.00)

Table 23

Average One-Year Transition Rates For Global Corporates By Rating Modifier (1981-2017) (cont.)

(%)

From/to	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC	D	NR
BBB-	0.01	0.01	0.02	0.05	0.07	0.15	0.29	1.26	9.22	71.80	5.69	2.22	0.88	0.40	0.24	0.17	0.22	0.25	7.05
	(0.07)	(0.05)	(0.06)	(0.20)	(0.17)	(0.39)	(0.57)	(1.12)	(3.18)	(5.05)	(2.62)	(1.49)	(0.78)	(0.81)	(0.47)	(0.45)	(0.56)	(0.40)	(2.26)
BB+	0.05	0.00	0.00	0.03	0.02	0.09	0.09	0.44	1.75	11.49	64.17	7.63	2.83	1.06	0.61	0.25	0.41	0.34	8.74
	(0.22)	(0.00)	(0.00)	(0.13)	(0.09)	(0.39)	(0.29)	(0.71)	(1.85)	(4.33)	(6.22)	(4.16)	(1.96)	(1.59)	(1.17)	(0.39)	(0.94)	(0.63)	(2.77)
BB	0.00	0.00	0.04	0.01	0.00	0.06	0.05	0.18	0.53	2.14	9.62	65.08	8.02	2.24	1.04	0.33	0.56	0.56	9.52
	(0.00)	(0.00)	(0.21)	(0.06)	(0.00)	(0.37)	(0.22)	(0.42)	(0.85)	(2.17)	(4.22)	(5.22)	(2.95)	(1.53)	(1.33)	(0.58)	(0.98)	(0.67)	(3.09)
BB-	0.00	0.00	0.00	0.01	0.01	0.01	0.05	0.10	0.24	0.38	1.84	9.39	63.19	8.59	3.15	0.81	0.71	1.00	10.51
	(0.00)	(0.00)	(0.00)	(0.10)	(0.08)	(0.08)	(0.28)	(0.24)	(0.44)	(0.64)	(1.63)	(3.81)	(5.35)	(3.76)	(1.58)	(0.84)	(0.84)	(1.43)	(2.65)
B+	0.00	0.01	0.00	0.03	0.00	0.03	0.06	0.05	0.06	0.11	0.31	1.52	8.15	62.89	9.00	2.52	1.74	2.08	11.44
	(0.00)	(0.06)	(0.00)	(0.14)	(0.00)	(0.09)	(0.20)	(0.13)	(0.16)	(0.21)	(0.35)	(1.08)	(3.44)	(5.73)	(3.61)	(1.30)	(1.62)	(2.03)	(2.71)
B	0.00	0.00	0.01	0.01	0.00	0.04	0.04	0.02	0.06	0.04	0.13	0.24	1.21	7.84	61.46	8.73	4.03	3.60	12.55
	(0.00)	(0.00)	(0.09)	(0.06)	(0.00)	(0.20)	(0.37)	(0.08)	(0.30)	(0.11)	(0.37)	(0.57)	(1.24)	(3.14)	(7.11)	(3.37)	(3.25)	(4.23)	(2.74)
B-	0.00	0.00	0.00	0.00	0.02	0.04	0.00	0.08	0.06	0.11	0.09	0.15	0.51	2.45	10.33	53.57	11.72	7.15	13.73
	(0.00)	(0.00)	(0.00)	(0.00)	(0.30)	(0.30)	(0.00)	(0.33)	(0.18)	(0.44)	(0.45)	(0.88)	(0.90)	(2.26)	(5.33)	(6.90)	(4.11)	(6.25)	(4.11)
CCC/C	0.00	0.00	0.00	0.00	0.03	0.00	0.09	0.06	0.09	0.06	0.03	0.15	0.41	1.03	2.66	9.48	43.46	26.82	15.63
	(0.00)	(0.00)	(0.00)	(0.00)	(0.23)	(0.00)	(0.37)	(0.47)	(0.33)	(0.38)	(0.24)	(0.51)	(0.77)	(1.55)	(3.03)	(5.64)	(8.81)	(11.07)	(5.32)

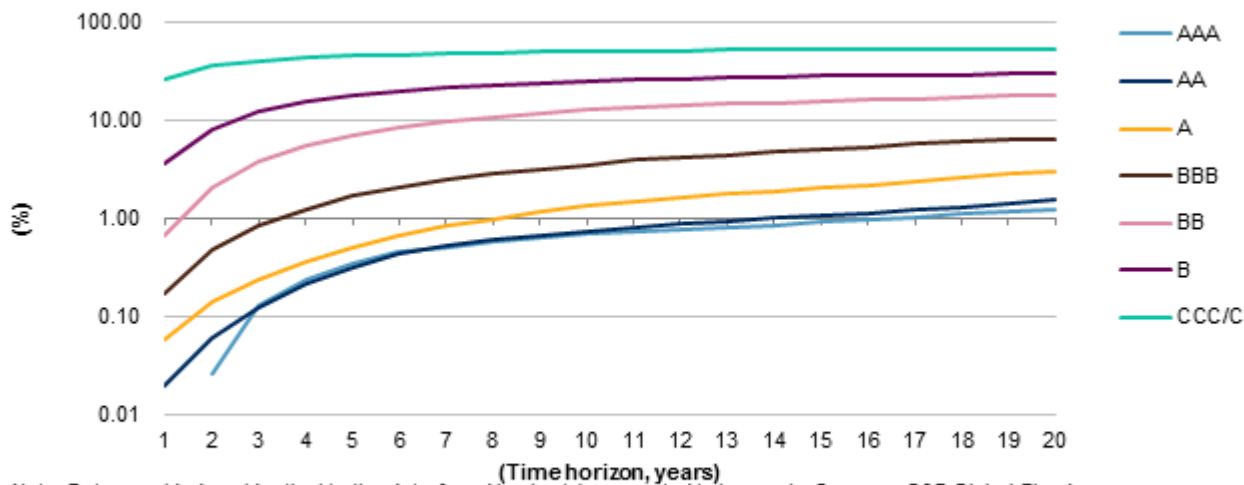
Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Over each time span, lower ratings correspond to higher default rates (see table 24 and chart 25).

This holds true in every region worldwide (see table 25).

Chart 25

Global Corporate Average Cumulative Default Rates By Rating (1981-2017)



Note: Data provided are identical to the data found in chart 4, converted to log scale. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

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Table 24

Global Corporate Average Cumulative Default Rates (1981-2017)

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	0.35	0.46	0.51	0.60	0.65	0.71	0.74	0.77	0.80	0.86	0.93
AA	0.02	0.06	0.12	0.22	0.32	0.43	0.53	0.60	0.68	0.75	0.82	0.89	0.95	1.01	1.07
A	0.06	0.14	0.24	0.37	0.51	0.66	0.85	1.01	1.17	1.34	1.50	1.64	1.79	1.93	2.09
BBB	0.17	0.49	0.84	1.26	1.70	2.13	2.50	2.87	3.23	3.58	3.94	4.24	4.52	4.81	5.11
BB	0.68	2.13	3.83	5.53	7.11	8.57	9.81	10.92	11.90	12.77	13.49	14.14	14.72	15.24	15.80
B	3.59	8.25	12.26	15.44	17.88	19.88	21.48	22.76	23.90	24.95	25.84	26.53	27.15	27.75	28.34
CCC/C	26.82	36.03	41.03	43.97	46.22	47.13	48.33	49.23	50.08	50.71	51.20	51.71	52.34	52.82	52.82
Investment grade	0.10	0.26	0.45	0.68	0.92	1.17	1.40	1.61	1.82	2.03	2.23	2.40	2.57	2.73	2.91
Speculative grade	3.75	7.31	10.39	12.90	14.95	16.64	18.05	19.23	20.27	21.21	22.00	22.65	23.25	23.80	24.34
All rated	1.50	2.95	4.22	5.29	6.18	6.94	7.57	8.12	8.60	9.05	9.44	9.77	10.07	10.35	10.63

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

The only exceptions occur when the number of defaults is low or when the underlying population of issuers is very small--such as at the rating modifier level among the higher rating categories (see table 26). Investment-grade-rated issuers seldom default, so the number of defaults among

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these rating categories is particularly low. This small sample size can at times result in historical default rates that seem counterintuitive. These default rates do not imply, however, that 'AAA' rated companies are riskier than 'AA+' rated companies, for example, but rather that both are highly unlikely to default.

Table 25

Average Cumulative Default Rates For Corporates By Region (1981-2017)

(%)	--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	0.41	0.54	0.58	0.66	0.75	0.84	0.88	0.93	0.98	1.07	1.17
AA	0.03	0.08	0.17	0.31	0.44	0.59	0.73	0.85	0.94	1.04	1.14	1.23	1.31	1.39	1.48
A	0.07	0.20	0.35	0.53	0.71	0.92	1.15	1.37	1.60	1.83	2.05	2.25	2.44	2.61	2.79
BBB	0.21	0.56	0.95	1.44	1.97	2.50	2.97	3.44	3.90	4.35	4.80	5.14	5.45	5.79	6.14
BB	0.78	2.45	4.44	6.39	8.15	9.85	11.29	12.62	13.79	14.84	15.71	16.51	17.22	17.82	18.46
B	3.78	8.74	13.09	16.52	19.18	21.37	23.16	24.58	25.83	27.00	27.99	28.76	29.46	30.12	30.75
CCC/C	28.79	39.34	45.00	48.55	51.23	52.38	53.84	54.84	55.81	56.49	57.11	57.68	58.30	58.78	58.78
Investment grade	0.12	0.31	0.54	0.84	1.14	1.45	1.74	2.03	2.30	2.59	2.85	3.07	3.27	3.47	3.69
Speculative grade	4.13	8.13	11.63	14.47	16.76	18.68	20.30	21.65	22.84	23.93	24.83	25.60	26.30	26.91	27.50
All rated	1.80	3.57	5.13	6.44	7.53	8.47	9.26	9.95	10.56	11.13	11.62	12.03	12.40	12.73	13.07
Europe															
AAA	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
AA	0.00	0.03	0.07	0.13	0.21	0.28	0.32								
A	0.04	0.08	0.12	0.18	0.28	0.36	0.47								
BBB	0.07	0.21	0.36	0.50	0.60	0.82	1.04								
BB	0.38	1.25	2.12	2.87	3.96	4.90	5.86								
B	2.25	5.75	8.88	11.29	13.37	14.77	15.57								
CCC/C	26.60	35.56	40.05	44.17	46.37	46.37	47.27								
Investment grade	0.04	0.11	0.18	0.27	0.36	0.47	0.59								
Speculative grade	2.68	5.27	7.41	9.08	10.65	11.73	12.62								
All rated	0.69	1.34	1.86	2.26	2.62	2.91	3.15								
Emerging markets															
AAA	0.00	0.00	0.00	0.00	0.00										
AA	0.00	0.00	0.00	0.00	0.00										
A	0.04	0.04	0.04	0.04	0.04										
BBB	0.14	0.61	1.16	1.81	2.41										
BB	0.63	1.90	3.29	4.65	5.67										
B	3.16	6.53	9.01	10.95	12.24										

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Table 25

Average Cumulative Default Rates For Corporates By Region (1981-2017) (cont.)

Rating	--Time horizon (years)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CCC/C	17.97	22.33	24.69	25.29	25.98										
Investment grade	0.10	0.41	0.77	1.18	1.58										
Speculative grade	2.76	5.11	7.02	8.57	9.69										
All rated	1.59	3.04	4.28	5.35	6.15										

Note: Figures for Europe and emerging markets are calculated for the period 1996-2016 due to sample size considerations. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 26

Global Corporate Average Cumulative Default Rates By Rating Modifier (1981-2017)

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	0.35	0.46	0.51	0.60	0.65	0.71	0.74	0.77	0.80	0.86	0.93
AA+	0.00	0.05	0.05	0.10	0.16	0.21	0.27	0.33	0.39	0.45	0.51	0.57	0.64	0.70	0.77
AA	0.02	0.03	0.08	0.22	0.36	0.48	0.61	0.72	0.81	0.91	0.99	1.05	1.16	1.23	1.30
AA-	0.03	0.09	0.18	0.25	0.33	0.45	0.52	0.57	0.63	0.69	0.75	0.82	0.84	0.89	0.94
A+	0.05	0.09	0.20	0.34	0.45	0.55	0.66	0.79	0.93	1.08	1.22	1.36	1.54	1.74	1.92
A	0.06	0.15	0.24	0.36	0.49	0.68	0.86	1.03	1.23	1.47	1.65	1.81	1.94	2.03	2.21
A-	0.07	0.17	0.28	0.40	0.57	0.74	0.98	1.16	1.30	1.42	1.54	1.68	1.82	1.95	2.05
BBB+	0.11	0.31	0.53	0.77	1.03	1.32	1.54	1.78	2.04	2.30	2.56	2.74	2.98	3.28	3.61
BBB	0.17	0.43	0.68	1.05	1.42	1.80	2.15	2.49	2.85	3.23	3.61	3.95	4.21	4.32	4.53
BBB-	0.25	0.77	1.39	2.11	2.84	3.50	4.09	4.65	5.11	5.53	6.00	6.39	6.74	7.28	7.68
BB+	0.34	1.11	2.02	2.94	3.86	4.74	5.50	6.05	6.70	7.33	7.74	8.21	8.66	9.04	9.59
BB	0.56	1.71	3.38	4.94	6.52	7.77	8.89	9.85	10.75	11.53	12.32	12.99	13.42	13.76	14.21
BB-	1.00	3.13	5.37	7.66	9.66	11.62	13.24	14.80	16.04	17.12	17.98	18.71	19.48	20.22	20.87
B+	2.08	5.71	9.23	12.21	14.53	16.33	17.98	19.43	20.77	21.97	22.96	23.67	24.39	25.09	25.79
B	3.60	8.29	12.29	15.46	17.89	20.15	21.66	22.76	23.77	24.81	25.59	26.32	26.90	27.45	28.01
B-	7.15	14.28	19.62	23.37	26.18	28.31	29.99	31.13	31.84	32.40	33.18	33.78	34.05	34.36	34.63
CCC/C	26.82	36.03	41.03	43.97	46.22	47.13	48.33	49.23	50.08	50.71	51.20	51.71	52.34	52.82	52.82
Investment grade	0.10	0.26	0.45	0.68	0.92	1.17	1.40	1.61	1.82	2.03	2.23	2.40	2.57	2.73	2.91
Speculative grade	3.75	7.31	10.39	12.90	14.95	16.64	18.05	19.23	20.27	21.21	22.00	22.65	23.25	23.80	24.34
All rated	1.50	2.95	4.22	5.29	6.18	6.94	7.57	8.12	8.60	9.05	9.44	9.77	10.07	10.35	10.63

Sources: S&P Global Fixed Income 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' credit ratings shows that corporate ratings continue to correlate with the level of default risk across several time horizons. As one measure of ratings performance, we plotted the cumulative share of defaulters 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 was 82.4% over the one-year horizon, 75% over three years, 71.7% over five years, and 69.4% over seven years (see charts 26-29).

Table 27

Corporate Gini Coefficients By Region (1981-2017)

Region	--Time horizon--			
	One-year	Three-year	Five-year	Seven-year
Global				
Weighted average	82.39	75.00	71.65	69.43
Average	85.09	78.17	74.12	70.84
Standard deviation	(5.53)	(5.14)	(5.52)	(5.33)
U.S.				
Weighted average	80.70	72.84	69.40	67.30
Average	84.07	76.16	72.00	68.72
Standard deviation	(6.94)	(6.75)	(6.92)	(6.42)
Europe				
Weighted average	90.42	85.60	83.32	79.02
Average	92.05	88.20	83.21	75.36
Standard deviation	(5.13)	(5.56)	(6.90)	(10.87)

Note: Numbers in parentheses are standard deviations. Averages and standard deviations for Europe are calculated for the period 1996-2016 due to sample size considerations. Sources: S&P Global Fixed Income 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, 96.1% of defaults occurred in the speculative-grade category, while these ratings constituted only 38.5% of all corporate ratings (see chart 26). In the seven-year Lorenz curve, speculative-grade issuers constituted 87.2% of defaulters and only 35.1% of the entire sample (see chart 29). 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 28

Gini Coefficients For Global Corporates By Broad Sector (1981-2017)

Sector	--Time horizon--			
	One-year	Three-year	Five-year	Seven-year
Financial				
Weighted average	79.66	69.13	61.08	56.38

Table 28

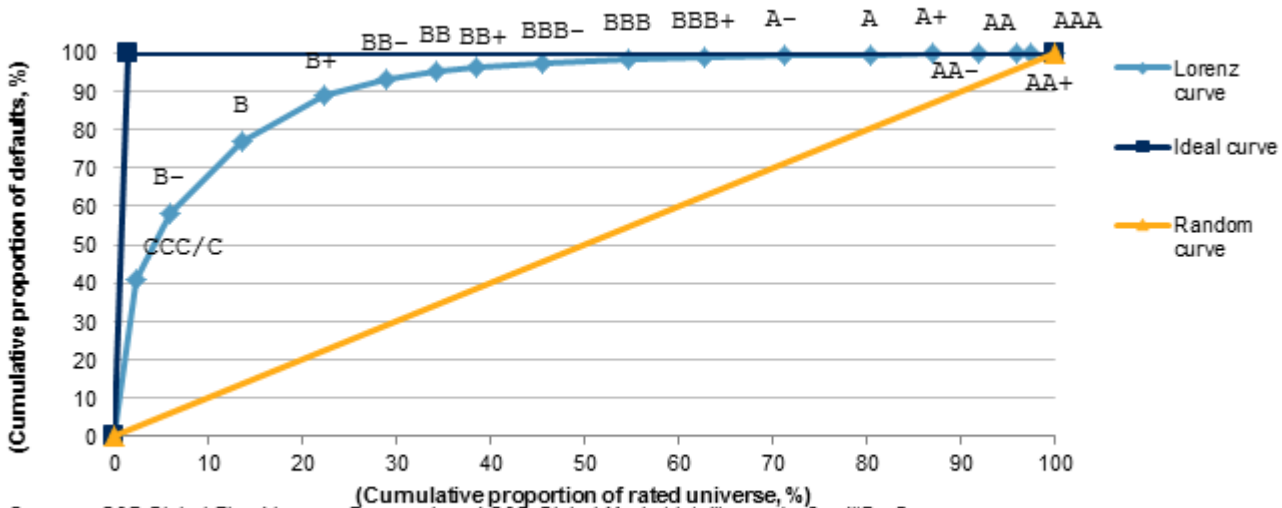
Gini Coefficients For Global Corporates By Broad Sector (1981-2017) (cont.)

Sector	--Time horizon--			
	One-year	Three-year	Five-year	Seven-year
Average	81.72	74.64	66.47	59.64
Standard deviation	(19.10)	(14.57)	(16.10)	(14.80)
Nonfinancial				
Weighted average	80.85	72.73	69.65	67.85
Average	84.33	76.77	72.96	70.08
Standard deviation	(6.13)	(5.47)	(5.54)	(5.18)

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

Chart 26

Global One-Year Relative Corporate Ratings Performance (1981-2017)

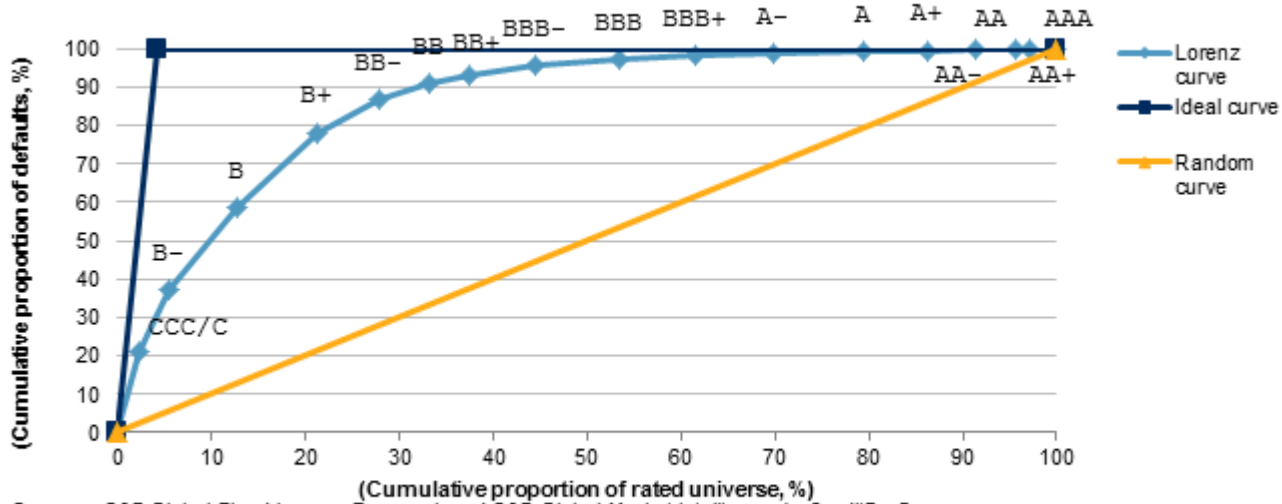


Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

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Chart 27

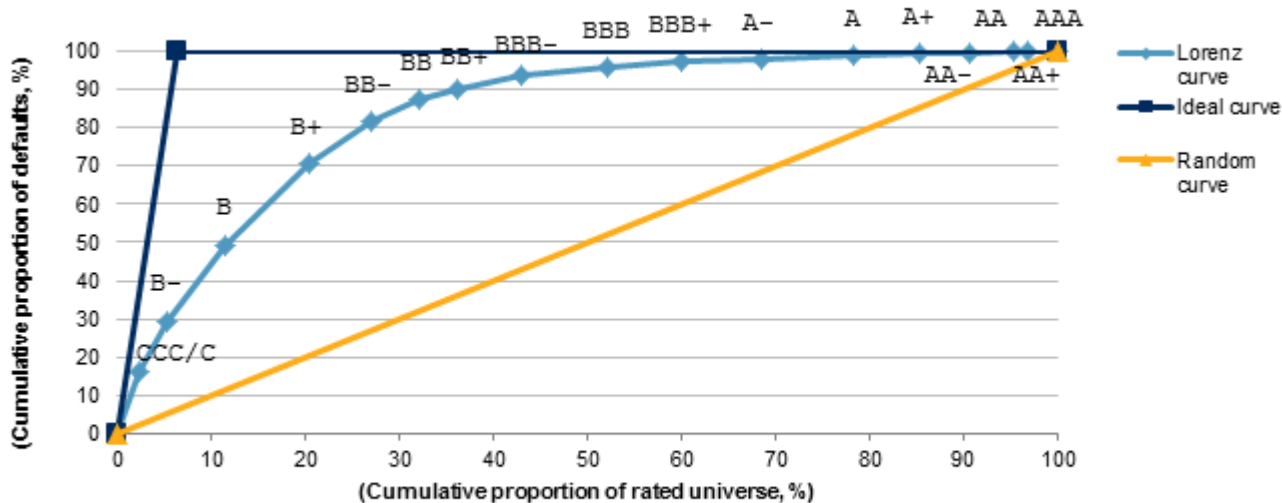
Global Three-Year Relative Corporate Ratings Performance (1981-2017)



Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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Chart 28

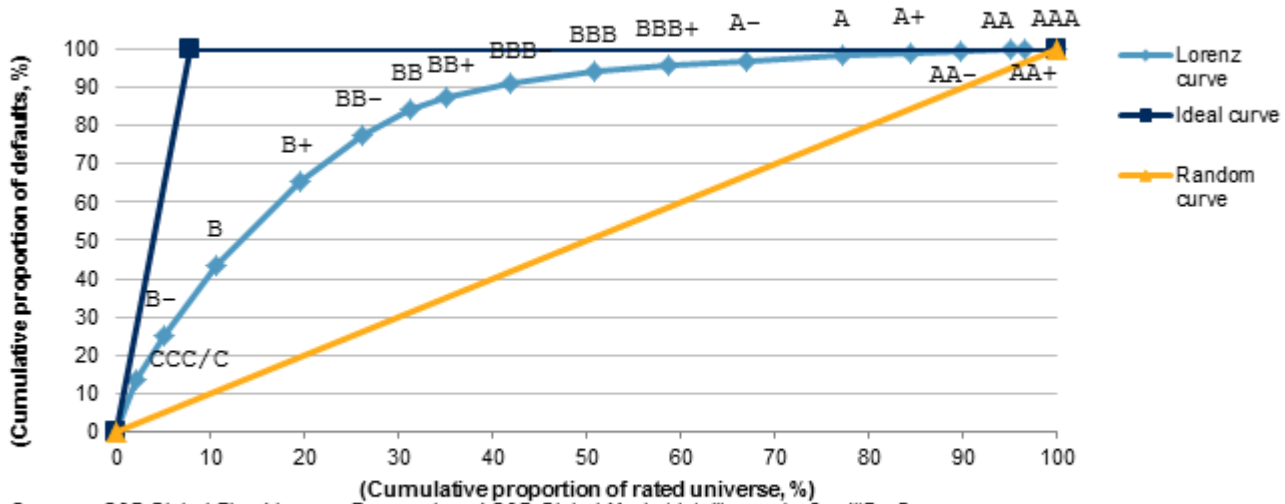
Global Five-Year Relative Corporate Ratings Performance (1981-2017)



Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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Chart 29

Global Seven-Year Relative Corporate Ratings Performance (1981-2017)



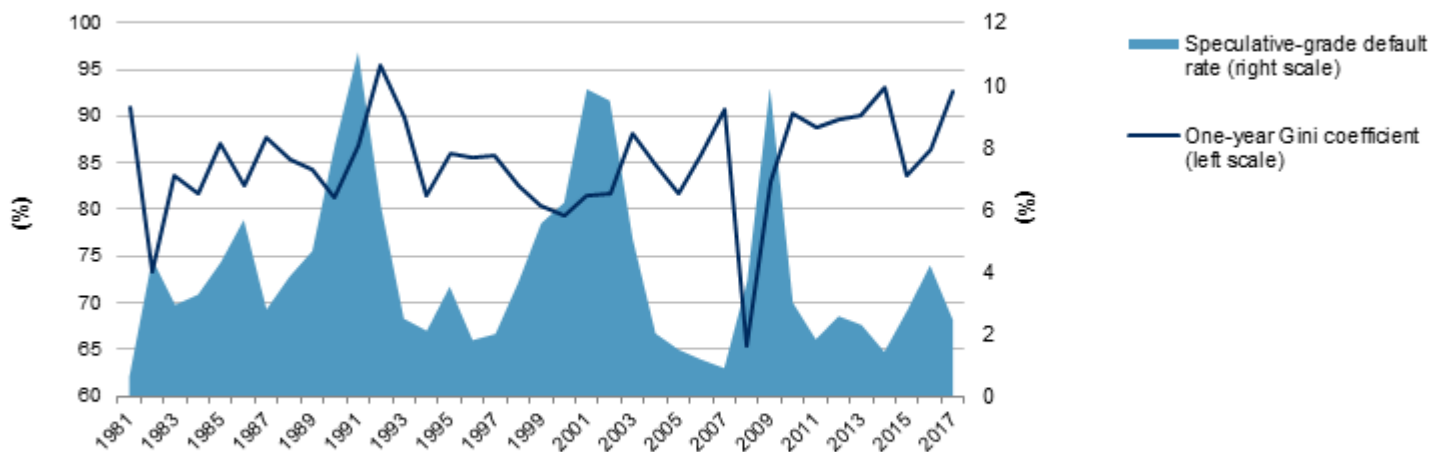
Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.
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One-year Gini coefficients appear to be broadly cyclical and negatively correlated with default rates (see chart 30). Trends in the one-year Gini ratio emerge during periods of both high and low default rates, which is a reflection of the natural relationship between the two extremes. In periods of high defaults, there tends to be greater variation in the distribution of defaults with regard to prior ratings, 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.

The experience of 2017 generally coincides with this observation. The one-year Gini ratio in 2017 was 92.7, alongside a relatively low default rate of 2.4%. This compares with a Gini of 86.4 and a default rate of 4.2% in 2016.

Chart 30

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



Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

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 ratings. S&P Global Ratings does not require all issuers with debt rated to have 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-level rating used for the proxy because this rating is usually consistent with the issuer credit rating. In a small number of cases, we used 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.

S&P Global Ratings' 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 19,727 companies that S&P Global Ratings rated as of Dec. 31, 1980, or that were first rated between that date and Dec. 31, 2017. 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.

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 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.

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:

Default, Transition, and Recovery: 2017 Annual Global Corporate Default Study And Rating Transitions

- 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 regions covered in this study are:

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

Other developed: Australia, Canada, Japan, and New Zealand

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, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the U.K.

Emerging markets: Angola, Argentina, Armenia, Aruba, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belize, Bhutan, Bolivia, Bosnia-Herzegovina, Brazil, Brunei Darussalam, Cambodia, Chile, China, Colombia, Costa Rica, Curacao, Dominican Republic, Egypt, El Salvador, Fiji, Gabon, Georgia, Ghana, Grenada, Guatemala, Honduras, Hong Kong, India, Indonesia, Israel, Jamaica, Jordan, Kazakhstan, Kenya, Korea (Republic of), Kuwait, Lebanon, Liberia, Macao, Malaysia, Marshall Islands, Mauritius, Mexico, Mongolia, Morocco, Namibia, Netherlands Antilles, Nigeria, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Qatar, Russian Federation, Saudi Arabia, Singapore, South Africa, Sri Lanka, Syrian Arab Republic, Taiwan, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Turks and Caicos Islands, Ukraine, United Arab Emirates, Uruguay, Uzbekistan, Venezuela, and Vietnam

Calculations

Static pool methodology. S&P Global Fixed Income 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 back to all of the static pools to which the issuer belonged.

S&P Global Ratings uses the static pool methodology to avoid certain pitfalls in estimating default rates. This is to ensure that default rates account for rating migration and to allow for default rates to be calculated across 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 new update revises results back to the same starting date of Dec. 31, 1980, so as to avoid continuity problems.

Entities that have had ratings withdrawn--that is, revised to 'NR' (not rated)--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 default 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 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 1983-2017. From Jan. 1, 1981, to Dec. 31, 2017, a total of 19,725 first-time-rated organizations were added to form new static pools, while we excluded 2,672 defaulting companies and 10,037 companies with last ratings of '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 37 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 a more useful measure 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 37 pools was 3.75%, meaning that an average of 96.25% survived one year. Similarly, the second- and third-year conditional marginal averages--shown in the summary statistics section at the bottom portion of the table--were 3.69% for the first 36 pools (96.31% of those companies that did not default in the first year survived the second year) and 3.32% for the first 35 pools (96.68% of those companies that did not default by the second year survived the third year), respectively. Multiplying 96.25% by 96.31% results in a 92.69% survival rate to the end of the second year, which is a two-year average cumulative default rate of 7.31%. Multiplying 92.69% by 96.68% results in an 89.61% survival rate to the end of the third year, which results in a three-year average cumulative default rate of 10.39%.

Transition analysis. Transition rates compare issuer 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, 2017, had 37 one-year transitions, while companies first rated on Jan. 1, 2017, 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, 2017, 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 either 'D' or 'NR' would be considered the rating on the issuer as of Dec. 31 of that particular year.

Table 29

Summary Of One-Year Global Corporate Rating Transitions

Year	--Ratings distribution at year-end--									
	--Began the year as investment grade--					--Began the year as speculative grade--				
	Issuer count as of Jan. 1	Investment grade (%)	Speculative grade (%)*	Defaulted (%)§	Rating withdrawn (%)	Issuer count as of Jan. 1	Investment grade (%)†	Speculative grade (%)	Defaulted (%)	Rating withdrawn (%)
1981	1,062	97.36	1.41	0.00	1.22	321	4.67	90.03	0.62	4.67
1982	1,091	93.58	3.02	0.18	3.21	340	2.65	80.59	4.41	12.35
1983	1,112	94.15	2.07	0.09	3.69	340	3.24	83.53	2.94	10.29
1984	1,172	95.31	2.30	0.17	2.22	367	4.90	86.92	3.27	4.90
1985	1,209	93.05	3.56	0.00	3.39	417	3.84	85.85	4.32	6.00
1986	1,333	90.10	3.83	0.15	5.93	529	3.02	82.23	5.67	9.07
1987	1,335	90.34	3.00	0.00	6.67	680	3.53	79.41	2.79	14.26
1988	1,349	91.85	2.74	0.00	5.41	754	3.58	79.44	3.85	13.13
1989	1,392	93.10	2.66	0.22	4.02	749	5.21	74.77	4.67	15.35
1990	1,435	94.63	2.09	0.14	3.14	690	3.19	75.07	8.12	13.62
1991	1,472	96.26	1.83	0.14	1.77	588	2.89	78.06	11.05	7.99
1992	1,619	96.42	1.24	0.00	2.35	525	6.29	78.67	6.10	8.95
1993	1,767	92.59	1.53	0.00	5.89	560	4.64	76.79	2.50	16.07
1994	1,847	95.83	0.76	0.05	3.36	711	4.08	85.94	2.11	7.88
1995	2,046	95.50	1.12	0.05	3.32	822	3.77	84.91	3.53	7.79
1996	2,244	94.47	0.62	0.00	4.90	885	4.75	81.02	1.81	12.43
1997	2,492	93.26	1.16	0.08	5.50	997	4.31	80.94	2.01	12.74
1998	2,767	90.39	2.20	0.14	7.26	1,310	2.98	83.89	3.66	9.47
1999	2,873	90.60	1.64	0.17	7.59	1,654	1.63	81.26	5.56	11.55
2000	2,930	91.57	1.77	0.24	6.42	1,751	2.17	83.32	6.23	8.28
2001	3,003	90.64	2.66	0.23	6.46	1,753	1.54	79.18	9.87	9.41
2002	3,111	89.39	3.99	0.42	6.20	1,674	1.79	79.57	9.50	9.14
2003	3,025	92.43	2.51	0.10	4.96	1,757	1.54	82.01	5.07	11.38
2004	3,140	94.08	1.02	0.03	4.87	1,878	2.18	84.56	2.02	11.24
2005	3,249	92.86	1.60	0.03	5.51	2,060	3.06	82.33	1.50	13.11
2006	3,273	93.77	1.47	0.00	4.77	2,193	2.19	81.99	1.19	14.64
2007	3,347	90.14	1.73	0.00	8.13	2,304	3.04	81.81	0.91	14.24
2008	3,325	92.21	1.92	0.42	5.44	2,409	2.16	83.31	3.69	10.83
2009	3,358	89.34	3.39	0.33	6.94	2,262	1.28	77.10	9.90	11.72
2010	3,184	94.72	0.94	0.00	4.33	2,128	2.30	84.96	3.01	9.73
2011	3,233	93.29	1.76	0.03	4.92	2,397	2.38	84.02	1.84	11.76
2012	3,243	93.74	1.73	0.00	4.53	2,561	1.91	85.59	2.58	9.92
2013	3,254	94.96	1.35	0.00	3.69	2,788	2.12	85.33	2.30	10.26

Table 29

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

Year	--Ratings distribution at year-end--									
	--Began the year as investment grade--					--Began the year as speculative grade--				
	Issuer count as of Jan. 1	Investment grade (%)	Speculative grade (%)*	Defaulted (%)§	Rating withdrawn (%)	Issuer count as of Jan. 1	Investment grade (%)†	Speculative grade (%)	Defaulted (%)	Rating withdrawn (%)
2014	3,351	95.70	1.22	0.00	3.07	3,138	1.40	85.63	1.43	11.54
2015	3,504	92.78	2.54	0.00	4.68	3,401	1.35	83.80	2.76	12.08
2016	3,519	93.07	1.76	0.03	5.14	3,396	1.18	82.95	4.21	11.66
2017	3,505	94.27	1.43	0.00	4.31	3,395	1.44	82.09	2.44	14.02
Weighted average	90,171	92.97	1.92	0.10	5.02	56,484	2.31	82.55	3.75	11.40
Median		93.26	1.76	0.03	4.87		2.89	82.23	3.27	11.38
Standard deviation		2.09	0.85	0.12	1.64		1.29	3.36	2.69	2.75
Minimum		89.34	0.62	0.00	1.22		1.18	74.77	0.62	4.67
Maximum		97.36	3.99	0.42	8.13		6.29	90.03	11.05	16.07

*Fallen angels that survived to Jan. 1 of the year after they were downgraded. §Investment-grade defaulters. †Rising stars. Sources: S&P Global Fixed Income 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 1981-2015 with the ratings at the end of the years 1983-2017. 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 a true summary, 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 transitions to, for example, 'AA' from 'AA-' or to 'BBB+' from 'BBB-' 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 1981-2016.

The links between transition matrices and average cumulative default rates can be 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 2017 exclusively. In the summary section at the bottom of tables 30-32, the first row shows the issuer-weighted averages of the marginal default rates. These marginal averages are then used to calculate the cumulative average default rates in the row 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 within 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 37 cohorts beginning with the 1981 cohort and ending with the 2017 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 37-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.

Regarding the Gini ratios in tables 2, 27, and 28, their 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 (5.29) 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 beginning with the 1981 cohort through the 2010 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 were gathered for 37 years, and all calculations are based on the rating experience of that period. In addition, average default statistics become less reliable at longer

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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 (1981-2017)

(%)

Year	Issuer count	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1981	1,383	0.14	1.37	2.10	2.89	3.54	4.92	5.35	6.15	6.72	7.81	9.47	9.98	10.48	10.56	10.77
1982	1,431	1.19	1.89	2.73	3.42	4.82	5.17	5.94	6.43	7.55	9.36	9.85	10.41	10.48	10.69	10.69
1983	1,452	0.76	1.58	2.41	3.99	4.41	5.44	5.92	7.02	9.02	9.57	10.12	10.19	10.40	10.40	10.47
1984	1,539	0.91	1.95	3.77	4.22	5.26	5.98	7.15	8.84	9.42	10.01	10.07	10.27	10.27	10.40	10.40
1985	1,626	1.11	3.01	3.57	4.92	5.78	7.07	8.92	9.47	9.96	10.02	10.33	10.33	10.46	10.46	10.76
1986	1,862	1.72	2.31	3.60	4.46	5.85	7.73	8.38	8.92	9.08	9.34	9.45	9.67	9.77	10.04	10.42
1987	2,015	0.94	2.38	3.82	5.66	8.19	9.28	10.02	10.27	10.62	10.77	10.97	11.07	11.36	11.81	12.85
1988	2,103	1.38	3.00	5.14	8.18	9.27	10.03	10.27	10.75	10.89	11.17	11.36	11.70	12.36	13.31	14.27
1989	2,141	1.77	4.34	7.85	9.01	9.81	10.14	10.56	10.70	10.98	11.35	11.68	12.28	13.26	14.15	14.62
1990	2,125	2.73	6.12	7.53	8.33	8.66	9.13	9.22	9.60	10.07	10.45	11.20	12.19	13.18	13.69	13.84
1991	2,060	3.25	4.76	5.29	5.63	6.17	6.26	6.60	7.04	7.43	8.11	9.17	10.24	10.73	10.92	11.07
1992	2,144	1.49	2.01	2.33	2.94	3.08	3.40	3.82	4.15	4.85	5.88	6.95	7.37	7.56	7.70	7.84
1993	2,327	0.60	1.07	1.98	2.19	2.58	3.01	3.44	4.21	5.33	6.45	6.88	7.05	7.22	7.43	7.56
1994	2,558	0.63	1.76	2.15	2.62	3.09	3.95	4.96	6.29	7.47	7.97	8.21	8.37	8.64	8.76	9.34
1995	2,868	1.05	1.53	2.02	2.58	3.56	4.57	6.42	7.78	8.37	8.61	8.82	9.07	9.17	9.69	10.53
1996	3,129	0.51	1.09	1.82	2.97	3.99	5.72	7.22	7.89	8.18	8.41	8.63	8.76	9.30	10.13	10.29
1997	3,489	0.63	1.61	2.92	4.33	6.25	8.00	8.91	9.20	9.43	9.72	9.86	10.46	11.29	11.38	11.49
1998	4,077	1.28	3.24	5.22	7.87	10.08	11.31	11.80	12.12	12.44	12.58	13.22	14.15	14.25	14.37	14.50
1999	4,527	2.14	4.66	8.00	10.89	12.37	12.92	13.28	13.63	13.78	14.58	15.73	15.90	16.04	16.19	16.28
2000	4,681	2.48	6.07	9.23	10.92	11.62	12.07	12.43	12.65	13.52	14.91	15.08	15.25	15.40	15.55	15.62
2001	4,756	3.78	7.36	9.31	10.03	10.56	10.91	11.12	11.96	13.44	13.62	13.79	13.96	14.15	14.21	14.47
2002	4,785	3.59	5.62	6.42	6.88	7.23	7.44	8.38	9.97	10.18	10.34	10.53	10.78	10.85	11.10	11.37
2003	4,782	1.92	2.72	3.22	3.62	3.83	4.81	6.63	6.90	7.07	7.34	7.63	7.72	7.99	8.26	8.53
2004	5,018	0.78	1.32	1.71	1.95	2.99	4.98	5.32	5.54	5.84	6.12	6.20	6.48	6.76	7.03	
2005	5,309	0.60	1.02	1.36	2.56	4.86	5.35	5.65	5.99	6.29	6.42	6.78	7.08	7.33		
2006	5,466	0.48	0.88	2.32	5.03	5.65	6.07	6.57	6.93	7.08	7.46	7.85	8.09			
2007	5,651	0.37	2.04	5.29	6.16	6.62	7.22	7.64	7.82	8.28	8.71	8.95				
2008	5,734	1.80	5.58	6.66	7.12	7.85	8.25	8.51	9.03	9.50	9.77					
2009	5,620	4.18	5.34	5.82	6.57	6.98	7.26	7.79	8.35	8.63						
2010	5,312	1.20	1.90	2.75	3.22	3.61	4.18	4.93	5.29							
2011	5,630	0.80	1.94	2.63	3.11	3.89	4.83	5.22								
2012	5,804	1.14	2.07	2.57	3.46	4.58	5.12									

Table 30

Static Pool Cumulative Global Corporate Default Rates Among All Ratings (1981-2017) (cont.)

2013	6,042	1.06	1.66	2.83	4.22	4.90											
2014	6,489	0.69	1.97	3.58	4.44												
2015	6,905	1.36	3.29	4.26													
2016	6,915	2.08	3.11														
2017	6,900	1.20															
Summary statistics																	
Marginal average		1.50	1.47	1.31	1.12	0.94	0.80	0.69	0.59	0.53	0.49	0.43	0.36	0.33	0.31	0.31	
Cumulative average		1.50	2.95	4.22	5.29	6.18	6.94	7.57	8.12	8.60	9.05	9.44	9.77	10.07	10.35	10.63	
Standard deviation		0.99	1.73	2.25	2.56	2.68	2.62	2.52	2.45	2.38	2.39	2.43	2.52	2.56	2.54	2.45	
Median		1.19	2.05	3.57	4.38	5.65	6.17	7.22	8.12	9.02	9.47	9.85	10.25	10.48	10.62	10.77	
Minimum		0.14	0.88	1.36	1.95	2.58	3.01	3.44	4.15	4.85	5.88	6.20	6.48	6.76	7.03	7.56	
Maximum		4.18	7.36	9.31	10.92	12.37	12.92	13.28	13.63	13.78	14.91	15.73	15.90	16.04	16.19	16.28	

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

Table 31

Static Pool Cumulative Global Corporate Default Rates Among All Investment-Grade Ratings (1981-2017)

(%)

Year	Issuer count	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1981	1,062	0.00	0.38	0.38	0.47	0.66	1.04	1.32	2.07	2.26	3.01	4.05	4.33	4.52	4.52	4.71
1982	1,091	0.18	0.27	0.37	0.55	1.01	1.28	2.02	2.20	3.02	4.12	4.40	4.67	4.67	4.86	4.86
1983	1,112	0.09	0.36	0.45	0.90	1.08	1.62	1.71	2.52	3.60	3.96	4.23	4.23	4.41	4.41	4.41
1984	1,172	0.17	0.26	0.60	0.77	1.19	1.37	2.05	2.99	3.33	3.58	3.58	3.75	3.75	3.84	3.84
1985	1,209	0.00	0.17	0.25	0.83	0.99	1.74	2.73	3.06	3.31	3.31	3.56	3.56	3.72	3.72	3.89
1986	1,333	0.15	0.15	0.53	0.68	1.20	2.10	2.48	2.63	2.63	2.85	2.85	3.00	3.08	3.23	3.53
1987	1,335	0.00	0.15	0.37	0.82	1.72	2.25	2.40	2.47	2.62	2.62	2.77	2.85	3.00	3.15	3.97
1988	1,349	0.00	0.22	0.37	0.96	1.48	1.63	1.70	1.85	1.85	2.00	2.00	2.15	2.30	2.97	3.71
1989	1,392	0.22	0.36	0.65	1.22	1.36	1.44	1.58	1.58	1.58	1.58	1.80	1.94	2.73	3.38	3.74
1990	1,435	0.14	0.35	0.77	0.98	1.05	1.18	1.18	1.18	1.25	1.53	1.88	2.58	3.14	3.48	3.55
1991	1,472	0.14	0.27	0.41	0.48	0.61	0.61	0.61	0.68	1.02	1.36	2.11	2.65	2.92	2.99	3.06
1992	1,619	0.00	0.06	0.12	0.25	0.25	0.25	0.31	0.56	0.80	1.36	1.85	2.10	2.16	2.29	2.47
1993	1,767	0.00	0.06	0.17	0.17	0.23	0.40	0.74	1.08	1.70	2.32	2.55	2.55	2.66	2.77	2.83
1994	1,847	0.05	0.16	0.16	0.27	0.38	0.81	1.08	1.68	2.27	2.54	2.60	2.65	2.82	2.87	3.25

Table 31

Static Pool Cumulative Global Corporate Default Rates Among All Investment-Grade Ratings (1981-2017) (cont.)

1995	2,046	0.05	0.05	0.10	0.20	0.68	0.93	1.66	2.25	2.49	2.54	2.59	2.74	2.79	3.18	3.52
1996	2,244	0.00	0.04	0.09	0.49	0.80	1.52	2.05	2.27	2.36	2.41	2.54	2.54	2.94	3.39	3.43
1997	2,492	0.08	0.16	0.48	0.80	1.36	2.09	2.45	2.53	2.57	2.69	2.69	3.09	3.49	3.53	3.65
1998	2,767	0.14	0.43	0.80	1.37	2.39	2.82	3.00	3.11	3.18	3.18	3.65	4.19	4.26	4.41	4.55
1999	2,873	0.17	0.49	0.90	1.88	2.33	2.47	2.58	2.71	2.71	3.24	3.90	3.97	4.11	4.28	4.32
2000	2,930	0.24	0.58	1.54	2.01	2.12	2.25	2.39	2.39	2.97	3.65	3.72	3.89	4.03	4.06	4.13
2001	3,003	0.23	1.23	1.67	1.83	2.00	2.13	2.13	2.66	3.40	3.43	3.60	3.76	3.83	3.86	4.06
2002	3,111	0.42	0.77	0.90	1.03	1.09	1.09	1.64	2.28	2.31	2.44	2.60	2.70	2.73	2.93	3.02
2003	3,025	0.10	0.20	0.30	0.33	0.33	0.86	1.59	1.62	1.72	1.79	1.88	1.92	2.15	2.25	2.31
2004	3,140	0.03	0.10	0.13	0.13	0.64	1.27	1.34	1.43	1.53	1.62	1.62	1.85	1.94	1.97	
2005	3,249	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		
2006	3,273	0.00	0.00	0.49	0.92	1.01	1.10	1.16	1.25	1.25	1.44	1.50	1.50			
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				
2008	3,325	0.42	0.81	0.96	1.08	1.17	1.23	1.23	1.38	1.50	1.50					
2009	3,358	0.33	0.45	0.54	0.60	0.63	0.63	0.77	0.89	0.89						
2010	3,184	0.00	0.03	0.06	0.09	0.09	0.25	0.38	0.38							
2011	3,233	0.03	0.06	0.06	0.06	0.09	0.25	0.25								
2012	3,243	0.00	0.00	0.00	0.03	0.22	0.22									
2013	3,254	0.00	0.00	0.00	0.15	0.15										
2014	3,351	0.00	0.00	0.15	0.15											
2015	3,504	0.00	0.06	0.06												
2016	3,519	0.03	0.03													
2017	3,505	0.00														
Summary statistics																
Marginal average		0.10	0.16	0.19	0.24	0.24	0.25	0.23	0.22	0.21	0.21	0.21	0.18	0.17	0.17	0.18
Cumulative average		0.10	0.26	0.45	0.68	0.92	1.17	1.40	1.61	1.82	2.03	2.23	2.40	2.57	2.73	2.91
Standard deviation		0.12	0.27	0.41	0.53	0.63	0.69	0.74	0.77	0.82	0.86	0.90	0.90	0.83	0.76	0.67
Median		0.03	0.16	0.37	0.65	1.01	1.28	1.59	1.96	2.27	2.49	2.60	2.72	3.00	3.38	3.71
Minimum		0.00	0.00	0.00	0.03	0.09	0.22	0.25	0.38	0.80	1.36	1.50	1.50	1.88	1.97	2.31
Maximum		0.42	1.23	1.67	2.01	2.39	2.82	3.00	3.11	3.60	4.12	4.40	4.67	4.67	4.86	4.86

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

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Table 32

Static Pool Cumulative Global Corporate Default Rates Among All Speculative-Grade Ratings (1981-2017)

(%)

Year	Issuer count	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1981	321	0.62	4.67	7.79	10.90	13.08	17.76	18.69	19.63	21.50	23.68	27.41	28.66	30.22	30.53	30.84
1982	340	4.41	7.06	10.29	12.65	17.06	17.65	18.53	20.00	22.06	26.18	27.35	28.82	29.12	29.41	29.41
1983	340	2.94	5.59	8.82	14.12	15.29	17.94	19.71	21.76	26.76	27.94	29.41	29.71	30.00	30.00	30.29
1984	367	3.27	7.36	13.90	15.26	18.26	20.71	23.43	27.52	28.88	30.52	30.79	31.06	31.06	31.34	31.34
1985	417	4.32	11.27	13.19	16.79	19.66	22.54	26.86	28.06	29.26	29.50	29.98	29.98	29.98	29.98	30.70
1986	529	5.67	7.75	11.34	13.99	17.58	21.93	23.25	24.76	25.33	25.71	26.09	26.47	26.65	27.22	27.79
1987	680	2.79	6.76	10.59	15.15	20.88	23.09	25.00	25.59	26.32	26.76	27.06	27.21	27.79	28.82	30.29
1988	754	3.85	7.96	13.66	21.09	23.21	25.07	25.60	26.66	27.06	27.59	28.12	28.78	30.37	31.83	33.16
1989	749	4.67	11.75	21.23	23.50	25.50	26.30	27.24	27.64	28.44	29.51	30.04	31.51	32.84	34.18	34.85
1990	690	8.12	18.12	21.59	23.62	24.49	25.65	25.94	27.10	28.41	28.99	30.58	32.17	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	26.87	29.25	30.27	30.78	31.12
1992	525	6.10	8.00	9.14	11.24	11.81	13.14	14.67	15.24	17.33	19.81	22.67	23.62	24.19	24.38	24.38
1993	560	2.50	4.29	7.68	8.57	10.00	11.25	11.96	14.11	16.79	19.46	20.54	21.25	21.61	22.14	22.50
1994	711	2.11	5.91	7.31	8.72	10.13	12.10	15.05	18.28	20.96	22.08	22.78	23.21	23.77	24.05	25.18
1995	822	3.53	5.23	6.81	8.52	10.71	13.63	18.25	21.53	22.99	23.72	24.33	24.82	25.06	25.91	27.98
1996	885	1.81	3.73	6.21	9.27	12.09	16.38	20.34	22.15	22.94	23.62	24.07	24.52	25.42	27.23	27.68
1997	997	2.01	5.22	9.03	13.14	18.46	22.77	25.08	25.88	26.58	27.28	27.78	28.89	30.79	30.99	31.09
1998	1,310	3.66	9.16	14.58	21.60	26.34	29.24	30.38	31.15	31.98	32.44	33.44	35.19	35.34	35.42	35.50
1999	1,654	5.56	11.91	20.31	26.54	29.81	31.08	31.86	32.59	33.01	34.28	36.28	36.64	36.76	36.88	37.06
2000	1,751	6.23	15.25	22.10	25.81	27.53	28.50	29.24	29.81	31.18	33.75	34.09	34.27	34.44	34.78	34.84
2001	1,753	9.87	17.86	22.42	24.07	25.21	25.96	26.53	27.90	30.63	31.09	31.26	31.43	31.83	31.95	32.29
2002	1,674	9.50	14.64	16.67	17.74	18.64	19.24	20.91	24.25	24.79	25.03	25.27	25.81	25.93	26.28	26.88
2003	1,757	5.07	7.06	8.25	9.28	9.85	11.61	15.31	15.99	16.28	16.90	17.53	17.70	18.04	18.61	19.24
2004	1,878	2.02	3.35	4.37	5.01	6.92	11.18	11.98	12.41	13.05	13.63	13.84	14.22	14.80	15.50	
2005	2,060	1.50	2.52	3.40	5.63	10.63	11.75	12.38	13.11	13.74	14.08	14.66	15.29	15.92		
2006	2,193	1.19	2.19	5.06	11.17	12.59	13.50	14.64	15.41	15.78	16.46	17.33	17.92			
2007	2,304	0.91	4.30	11.63	13.50	14.50	15.84	16.80	17.23	18.14	19.10	19.70				
2008	2,409	3.69	12.16	14.53	15.44	17.06	17.93	18.56	19.59	20.55	21.17					
2009	2,262	9.90	12.60	13.66	15.43	16.40	17.11	18.21	19.41	20.11						
2010	2,128	3.01	4.70	6.77	7.89	8.88	10.06	11.75	12.64							
2011	2,397	1.84	4.46	6.09	7.22	9.01	11.01	11.93								
2012	2,561	2.58	4.69	5.82	7.81	10.11	11.32									
2013	2,788	2.30	3.59	6.13	8.97	10.44										

Table 32

Static Pool Cumulative Global Corporate Default Rates Among All Speculative-Grade Ratings (1981-2017) (cont.)

2014	3,138	1.43	4.08	7.23	9.02											
2015	3,401	2.76	6.62	8.59												
2016	3,396	4.21	6.30													
2017	3,395	2.44														
Summary statistics																
Marginal average		3.75	3.69	3.32	2.81	2.35	1.98	1.70	1.44	1.29	1.18	1.00	0.84	0.77	0.72	0.71
Cumulative average		3.75	7.31	10.39	12.90	14.95	16.64	18.05	19.23	20.27	21.21	22.00	22.65	23.25	23.80	24.34
Standard deviation		2.69	4.42	5.50	6.08	6.30	6.15	5.95	5.83	5.64	5.69	5.81	5.90	5.78	5.27	4.40
Median		3.27	6.69	9.14	13.32	16.40	17.84	19.71	21.96	23.47	25.37	27.06	28.72	29.98	29.99	30.70
Minimum		0.62	2.19	3.40	5.01	6.92	10.06	11.75	12.41	13.05	13.63	13.84	14.22	14.80	15.50	19.24
Maximum		11.05	18.12	22.42	26.54	29.81	31.08	31.86	32.59	33.01	34.28	36.28	36.64	36.76	36.88	37.06

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

Table 33

Average Multiyear Global Corporate Transition Matrix (1981-2017): One-Year Transition Rates

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	86.99 (7.20)	9.12 (7.27)	0.53 (0.83)	0.05 (0.25)	0.08 (0.25)	0.03 (0.17)	0.05 (0.35)	0.00 (0.00)	3.15 (2.43)
AA	0.51 (0.53)	86.95 (5.25)	7.91 (4.18)	0.50 (0.68)	0.05 (0.19)	0.07 (0.21)	0.02 (0.07)	0.02 (0.08)	3.97 (1.87)
A	0.03 (0.09)	1.72 (1.03)	88.00 (3.63)	5.22 (2.15)	0.30 (0.39)	0.12 (0.26)	0.02 (0.07)	0.06 (0.11)	4.52 (1.74)
BBB	0.01 (0.04)	0.10 (0.16)	3.45 (1.63)	85.79 (3.77)	3.73 (1.51)	0.49 (0.69)	0.11 (0.22)	0.17 (0.25)	6.16 (1.58)
BB	0.01 (0.06)	0.03 (0.09)	0.12 (0.25)	4.88 (1.86)	77.19 (4.36)	6.79 (3.08)	0.58 (0.75)	0.68 (0.84)	9.72 (2.31)
B	0.00 (0.00)	0.02 (0.08)	0.08 (0.20)	0.18 (0.22)	5.05 (2.01)	74.34 (4.11)	4.44 (2.12)	3.59 (3.22)	12.28 (2.29)
CCC/C	0.00 (0.00)	0.00 (0.00)	0.12 (0.43)	0.21 (0.66)	0.59 (0.95)	13.18 (7.82)	43.46 (8.81)	26.82 (11.07)	15.63 (5.32)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 34

Average Multiyear Global Corporate Transition Matrix (1981-2017): Two-Year Transition Rates

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	75.66	16.17	1.44	0.11	0.19	0.05	0.11	0.03	6.25
	(10.11)	(10.54)	(1.47)	(0.30)	(0.39)	(0.23)	(0.41)	(0.17)	(4.25)
AA	0.90	75.66	14.06	1.27	0.19	0.14	0.02	0.06	7.69
	(0.68)	(8.12)	(5.95)	(1.09)	(0.34)	(0.29)	(0.07)	(0.12)	(3.00)
A	0.04	3.11	77.54	9.12	0.78	0.28	0.04	0.14	8.96
	(0.07)	(1.65)	(5.47)	(2.79)	(0.78)	(0.44)	(0.11)	(0.20)	(2.73)
BBB	0.02	0.19	6.33	73.99	5.94	1.10	0.22	0.50	11.72
	(0.08)	(0.24)	(2.53)	(5.79)	(1.90)	(1.10)	(0.31)	(0.64)	(2.51)
BB	0.01	0.04	0.30	8.63	59.82	10.19	1.06	2.16	17.78
	(0.06)	(0.10)	(0.51)	(2.81)	(6.22)	(2.64)	(0.91)	(2.21)	(3.27)
B	0.00	0.03	0.15	0.43	8.47	55.23	5.12	8.41	22.15
	(0.00)	(0.11)	(0.30)	(0.44)	(3.05)	(5.17)	(1.95)	(5.77)	(3.72)
CCC/C	0.00	0.00	0.16	0.54	1.11	16.84	21.33	36.07	23.94
	(0.00)	(0.00)	(0.49)	(1.21)	(1.17)	(7.71)	(7.78)	(12.60)	(7.46)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 35

Average Multiyear Global Corporate Transition Matrix (1981-2017): Three-Year Transition Rates

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	65.48	22.09	2.35	0.32	0.19	0.08	0.11	0.13	9.24
	(11.50)	(12.18)	(1.73)	(0.76)	(0.45)	(0.29)	(0.42)	(0.37)	(5.25)
AA	1.21	66.14	18.53	2.06	0.35	0.22	0.03	0.12	11.33
	(0.81)	(9.41)	(6.17)	(1.38)	(0.50)	(0.45)	(0.07)	(0.18)	(4.09)
A	0.06	4.07	68.85	11.72	1.30	0.44	0.09	0.25	13.21
	(0.10)	(2.07)	(6.33)	(2.73)	(0.98)	(0.62)	(0.14)	(0.28)	(3.47)
BBB	0.02	0.28	8.42	64.66	7.11	1.64	0.30	0.87	16.70
	(0.06)	(0.39)	(3.01)	(6.88)	(1.98)	(1.31)	(0.37)	(0.95)	(3.29)
BB	0.01	0.06	0.51	11.08	47.04	11.58	1.25	3.96	24.51
	(0.06)	(0.13)	(0.70)	(3.26)	(7.08)	(2.60)	(0.91)	(3.45)	(4.04)
B	0.00	0.03	0.21	0.78	10.23	41.46	4.67	12.57	30.05
	(0.05)	(0.11)	(0.42)	(0.78)	(3.17)	(5.56)	(1.66)	(7.35)	(4.82)
CCC/C	0.00	0.00	0.14	0.61	1.63	16.86	10.54	40.65	29.57

Table 35

Average Multiyear Global Corporate Transition Matrix (1981-2017): Three-Year Transition Rates (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
	(0.00)	(0.00)	(0.52)	(1.23)	(1.71)	(6.86)	(6.08)	(12.43)	(8.81)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 36

Average Multiyear Global Corporate Transition Matrix (1981-2017): Five-Year Transition Rates

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	49.55	28.51	4.83	0.81	0.24	0.16	0.08	0.35	15.46
	(11.87)	(13.22)	(2.69)	(1.54)	(0.47)	(0.41)	(0.28)	(0.60)	(6.49)
AA	1.49	50.83	24.58	3.63	0.58	0.38	0.04	0.33	18.13
	(0.93)	(8.46)	(4.98)	(1.70)	(0.63)	(0.59)	(0.10)	(0.38)	(4.56)
A	0.08	5.15	55.47	14.98	2.09	0.69	0.15	0.54	20.86
	(0.10)	(2.30)	(6.98)	(2.31)	(1.13)	(0.87)	(0.18)	(0.43)	(4.01)
BBB	0.02	0.45	10.52	51.55	7.64	2.23	0.39	1.84	25.35
	(0.07)	(0.54)	(3.16)	(7.55)	(1.70)	(1.44)	(0.39)	(1.46)	(4.38)
BB	0.01	0.08	1.03	12.71	31.43	11.03	1.26	7.56	34.89
	(0.06)	(0.18)	(0.97)	(3.15)	(7.07)	(2.15)	(0.92)	(4.85)	(4.41)
B	0.01	0.03	0.26	1.57	10.47	25.16	2.93	18.76	40.80
	(0.11)	(0.09)	(0.56)	(1.19)	(2.64)	(5.43)	(1.01)	(8.72)	(5.47)
CCC/C	0.00	0.00	0.12	0.73	2.89	12.09	2.62	46.73	34.83
	(0.00)	(0.00)	(0.49)	(1.79)	(2.06)	(4.61)	(3.68)	(12.03)	(9.05)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 37

Average Multiyear Global Corporate Transition Matrix (1981-2017): Seven-Year Transition Rates

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	38.01	32.16	6.94	1.48	0.30	0.19	0.11	0.52	20.30
	(11.09)	(13.50)	(2.89)	(1.89)	(0.53)	(0.43)	(0.31)	(0.74)	(6.62)
AA	1.56	39.48	28.00	4.83	0.77	0.39	0.03	0.56	24.39
	(0.90)	(4.92)	(3.64)	(1.60)	(0.60)	(0.50)	(0.08)	(0.53)	(4.28)

Table 37

Average Multiyear Global Corporate Transition Matrix (1981-2017): Seven-Year Transition Rates (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
A	0.07	5.45	45.98	16.66	2.63	0.85	0.14	0.94	27.29
	(0.12)	(1.80)	(6.16)	(1.49)	(1.14)	(0.91)	(0.18)	(0.53)	(3.76)
BBB	0.03	0.58	11.02	42.77	7.38	2.40	0.39	2.86	32.58
	(0.11)	(0.59)	(2.83)	(7.01)	(0.87)	(1.16)	(0.32)	(1.71)	(4.36)
BB	0.00	0.08	1.39	12.58	22.60	9.74	1.03	10.83	41.76
	(0.00)	(0.18)	(1.07)	(3.16)	(6.25)	(2.18)	(0.67)	(5.26)	(3.84)
B	0.01	0.02	0.35	2.07	9.05	16.10	1.72	23.43	47.24
	(0.08)	(0.09)	(0.59)	(1.47)	(1.98)	(4.48)	(0.59)	(8.32)	(5.09)
CCC/C	0.00	0.00	0.22	1.00	3.66	7.79	1.48	49.09	36.77
	(0.00)	(0.00)	(0.60)	(2.11)	(2.02)	(4.00)	(2.01)	(11.81)	(9.27)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 38

Average Multiyear Global Corporate Transition Matrix (1981-2017): 10-Year Transition Rates

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	25.54	32.89	9.69	2.83	0.17	0.20	0.06	0.75	27.88
	(8.80)	(12.08)	(2.80)	(2.23)	(0.34)	(0.48)	(0.23)	(0.76)	(6.37)
AA	1.31	28.15	29.44	6.83	1.01	0.43	0.03	0.85	31.96
	(0.73)	(3.76)	(3.61)	(1.59)	(0.68)	(0.35)	(0.08)	(0.56)	(3.65)
A	0.11	5.32	35.70	17.58	2.93	0.98	0.14	1.58	35.66
	(0.16)	(1.52)	(4.67)	(2.05)	(0.63)	(0.66)	(0.18)	(0.74)	(3.99)
BBB	0.02	0.69	10.93	33.27	6.72	2.37	0.32	4.40	41.27
	(0.09)	(0.67)	(3.05)	(5.82)	(1.20)	(1.05)	(0.22)	(2.01)	(3.59)
BB	0.01	0.07	1.72	11.24	15.29	7.80	0.68	14.99	48.18
	(0.07)	(0.14)	(1.09)	(2.86)	(4.79)	(2.27)	(0.40)	(5.61)	(3.16)
B	0.00	0.03	0.41	2.45	6.78	8.93	0.85	28.57	51.97
	(0.00)	(0.07)	(0.61)	(1.78)	(1.68)	(2.99)	(0.55)	(8.18)	(4.89)
CCC/C	0.00	0.00	0.17	0.80	3.42	4.27	0.34	51.03	39.98
	(0.00)	(0.00)	(0.59)	(0.97)	(2.41)	(3.23)	(0.67)	(11.43)	(9.74)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 39

Average Multiyear Global Corporate Transition Matrix (1981-2017): 15-Year Transition Rates

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	12.99	30.62	14.83	2.83	0.63	0.43	0.03	0.92	36.72
	(6.63)	(9.74)	(2.82)	(0.99)	(0.42)	(0.60)	(0.17)	(0.84)	(4.20)
AA	0.94	16.65	27.60	8.97	1.25	0.64	0.03	1.13	42.78
	(0.76)	(2.85)	(3.73)	(2.17)	(0.73)	(0.45)	(0.10)	(0.56)	(2.57)
A	0.14	4.03	24.91	17.59	3.12	1.19	0.16	2.63	46.23
	(0.20)	(1.49)	(3.06)	(1.83)	(0.87)	(0.47)	(0.14)	(0.79)	(3.90)
BBB	0.00	0.74	8.70	23.78	5.56	2.37	0.26	7.27	51.32
	(0.00)	(0.50)	(2.57)	(3.01)	(0.71)	(0.96)	(0.18)	(1.52)	(2.80)
BB	0.00	0.14	2.01	8.55	8.58	5.24	0.42	20.95	54.12
	(0.00)	(0.20)	(1.13)	(2.11)	(2.67)	(1.87)	(0.39)	(4.64)	(3.34)
B	0.00	0.07	0.53	2.49	3.91	4.10	0.45	35.68	52.78
	(0.00)	(0.09)	(0.49)	(1.46)	(1.17)	(1.52)	(0.39)	(6.85)	(5.30)
CCC/C	0.00	0.00	0.50	1.01	2.52	1.26	0.17	58.07	36.47
	(0.00)	(0.00)	(1.50)	(1.17)	(2.60)	(1.08)	(0.80)	(8.28)	(8.48)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 40

Average Multiyear Global Corporate Transition Matrix (1981-2017): 20-Year Transition Rates

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
AAA	5.48	25.33	18.69	3.65	0.91	0.87	0.04	1.33	43.69
	(3.62)	(6.67)	(4.11)	(1.55)	(0.44)	(0.67)	(0.16)	(0.97)	(5.20)
AA	0.65	9.33	23.05	11.56	1.51	0.87	0.06	1.83	51.14
	(0.70)	(1.66)	(3.77)	(1.93)	(0.49)	(0.44)	(0.15)	(0.93)	(1.92)
A	0.15	2.73	18.21	15.39	3.05	1.46	0.20	3.84	54.97
	(0.19)	(0.89)	(2.06)	(1.02)	(0.77)	(0.67)	(0.16)	(1.31)	(1.88)
BBB	0.00	0.70	6.87	18.48	4.05	1.78	0.14	9.61	58.37
	(0.00)	(0.33)	(1.06)	(1.69)	(0.84)	(0.81)	(0.22)	(1.56)	(2.26)
BB	0.00	0.06	1.65	6.68	4.42	3.90	0.43	24.58	58.28
	(0.00)	(0.16)	(0.59)	(1.60)	(1.56)	(1.10)	(0.45)	(3.87)	(3.06)
B	0.00	0.07	0.43	2.49	2.62	2.24	0.29	37.18	54.68
	(0.00)	(0.16)	(0.26)	(1.07)	(0.65)	(1.00)	(0.26)	(4.59)	(4.61)
CCC/C	0.00	0.00	0.34	0.68	2.05	0.51	0.00	57.34	39.08

Table 40

Average Multiyear Global Corporate Transition Matrix (1981-2017): 20-Year Transition Rates (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
	(0.00)	(0.00)	(0.97)	(0.91)	(3.35)	(0.84)	(0.00)	(9.26)	(10.14)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 41

Average Multiyear Global Corporate Transition Matrix (1981-2017): All Financials

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
One-year									
AAA	87.00	9.59	0.34	0.09	0.09	0.04	0.09	0.00	2.77
	(10.12)	(9.86)	(0.98)	(0.37)	(0.38)	(0.24)	(0.48)	(0.00)	(2.63)
AA	0.49	87.05	8.06	0.36	0.02	0.02	0.03	0.03	3.93
	(0.57)	(6.42)	(5.67)	(0.65)	(0.08)	(0.08)	(0.16)	(0.12)	(1.98)
A	0.02	2.27	88.34	3.93	0.21	0.07	0.01	0.09	5.06
	(0.13)	(1.72)	(3.98)	(2.59)	(0.48)	(0.16)	(0.05)	(0.19)	(2.11)
BBB	0.00	0.23	4.63	83.21	3.58	0.44	0.13	0.27	7.51
	(0.00)	(0.55)	(3.06)	(4.16)	(2.42)	(0.84)	(0.27)	(0.55)	(1.92)
BB	0.00	0.10	0.17	6.32	75.49	4.97	0.77	0.74	11.44
	(0.00)	(0.29)	(0.74)	(4.20)	(7.12)	(2.99)	(1.71)	(1.30)	(5.19)
B	0.00	0.03	0.10	0.45	6.90	75.32	3.09	2.85	11.26
	(0.00)	(0.22)	(0.67)	(0.88)	(4.52)	(7.98)	(3.59)	(3.72)	(4.33)
CCC/C	0.00	0.00	0.00	0.00	1.35	16.18	45.62	17.08	19.78
	(0.00)	(0.00)	(0.00)	(0.00)	(4.12)	(11.52)	(18.72)	(16.17)	(12.09)
Three-year									
AAA	64.84	24.17	1.63	0.34	0.21	0.09	0.17	0.21	8.34
	(16.46)	(16.65)	(2.23)	(1.14)	(0.57)	(0.35)	(0.60)	(0.55)	(5.99)
AA	1.17	66.21	18.86	1.73	0.18	0.16	0.04	0.20	11.45
	(1.00)	(10.87)	(8.31)	(1.61)	(0.34)	(0.36)	(0.10)	(0.29)	(4.34)
A	0.04	5.44	69.86	8.08	1.10	0.24	0.11	0.41	14.72
	(0.15)	(3.39)	(7.17)	(2.60)	(1.27)	(0.47)	(0.22)	(0.53)	(4.90)
BBB	0.00	0.62	11.19	59.68	5.53	1.06	0.35	1.27	20.29
	(0.00)	(1.21)	(6.39)	(6.22)	(2.88)	(1.06)	(0.68)	(1.41)	(4.12)
BB	0.00	0.14	0.81	14.35	44.70	7.67	0.95	3.23	28.16
	(0.00)	(0.42)	(1.66)	(6.20)	(10.20)	(4.26)	(1.65)	(3.97)	(7.56)
B	0.00	0.00	0.37	1.86	13.74	45.92	3.30	8.21	26.61

Table 41

Average Multiyear Global Corporate Transition Matrix (1981-2017): All Financials (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
	(0.00)	(0.00)	(1.03)	(2.63)	(7.06)	(11.55)	(3.04)	(7.55)	(6.99)
CCC/C	0.00	0.00	0.25	0.50	1.75	23.19	10.97	23.94	39.40
	(0.00)	(0.00)	(3.58)	(2.89)	(3.89)	(14.24)	(10.35)	(17.25)	(15.00)
10-year									
AAA	23.31	36.05	9.22	2.18	0.14	0.32	0.09	1.07	27.62
	(11.91)	(14.88)	(5.11)	(2.77)	(0.39)	(0.69)	(0.33)	(1.24)	(8.37)
AA	1.13	30.80	29.49	5.00	0.43	0.38	0.03	1.29	31.44
	(0.86)	(6.23)	(6.09)	(2.09)	(0.37)	(0.43)	(0.09)	(1.15)	(5.17)
A	0.10	8.12	37.64	9.01	2.20	0.48	0.16	2.06	40.23
	(0.37)	(2.81)	(4.78)	(2.81)	(1.09)	(0.48)	(0.24)	(0.94)	(5.84)
BBB	0.00	1.92	13.95	26.06	2.92	1.02	0.55	5.00	48.59
	(0.00)	(3.18)	(3.77)	(5.99)	(1.42)	(0.53)	(0.65)	(1.99)	(5.45)
BB	0.00	0.10	3.77	15.13	10.95	4.84	0.10	10.60	54.51
	(0.00)	(0.39)	(3.69)	(4.65)	(7.88)	(2.70)	(0.29)	(9.05)	(7.87)
B	0.00	0.00	1.63	5.80	9.56	11.60	0.57	15.20	55.64
	(0.00)	(0.00)	(2.73)	(5.98)	(4.59)	(7.32)	(1.74)	(11.44)	(10.65)
CCC/C	0.00	0.00	0.43	0.43	4.33	9.96	0.00	30.30	54.55
	(0.00)	(0.00)	(4.73)	(1.33)	(5.90)	(9.36)	(0.00)	(21.36)	(18.65)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 42

Average Multiyear Global Corporate Transition Matrix (1981-2017): Insurance

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
One-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	0.60	87.41	7.53	0.37	0.05	0.05	0.07	0.05	3.88
	(1.03)	(6.75)	(5.76)	(0.96)	(0.15)	(0.14)	(0.49)	(0.15)	(2.27)
A	0.01	2.49	89.57	3.19	0.20	0.08	0.01	0.12	4.32
	(0.07)	(2.42)	(4.62)	(2.60)	(0.54)	(0.26)	(0.06)	(0.27)	(1.95)
BBB	0.00	0.16	5.91	82.01	2.92	0.38	0.32	0.22	8.07
	(0.00)	(0.75)	(3.42)	(4.34)	(2.69)	(1.07)	(0.80)	(0.72)	(3.05)
BB	0.00	0.11	0.45	8.36	72.77	3.95	1.24	0.68	12.43

Table 42

**Average Multiyear Global Corporate Transition Matrix (1981-2017): Insurance
(cont.)**

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
	(0.00)	(0.94)	(2.16)	(9.44)	(12.51)	(4.57)	(3.25)	(2.25)	(7.53)
B	0.00	0.19	0.38	0.95	7.81	72.95	2.48	2.48	12.76
	(0.00)	(1.21)	(2.81)	(3.08)	(8.17)	(13.00)	(4.50)	(5.26)	(7.17)
CCC/C	0.00	0.00	0.00	0.00	3.57	13.10	40.48	22.62	20.24
	(0.00)	(0.00)	(0.00)	(0.00)	(11.62)	(22.06)	(31.39)	(26.58)	(28.16)
Three-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)
AA	1.39	67.52	17.18	1.76	0.20	0.24	0.07	0.29	11.35
	(2.07)	(10.93)	(7.14)	(2.16)	(0.51)	(0.60)	(0.20)	(0.44)	(4.13)
A	0.06	5.84	73.36	6.11	0.77	0.15	0.14	0.53	13.03
	(0.17)	(4.90)	(9.23)	(3.02)	(1.33)	(0.70)	(0.25)	(1.00)	(4.46)
BBB	0.00	0.50	14.22	58.57	4.16	0.89	0.46	1.14	20.06
	(0.00)	(1.65)	(6.04)	(7.16)	(3.21)	(1.02)	(1.22)	(1.90)	(4.31)
BB	0.00	0.13	1.90	16.88	41.75	4.82	1.52	2.66	30.33
	(0.00)	(0.99)	(4.45)	(12.20)	(15.01)	(4.68)	(4.40)	(5.15)	(11.33)
B	0.00	0.00	2.11	4.22	14.75	42.86	1.41	7.73	26.93
	(0.00)	(0.00)	(5.61)	(8.30)	(10.92)	(15.42)	(2.75)	(9.34)	(10.28)
CCC/C	0.00	0.00	1.22	2.44	4.88	18.29	14.63	30.49	28.05
	(0.00)	(0.00)	(11.19)	(10.98)	(10.51)	(22.77)	(18.70)	(28.87)	(28.39)
10-year									
AAA	23.70	39.48	10.00	1.70	0.15	0.52	0.15	1.70	22.59
	(13.92)	(13.87)	(6.65)	(2.72)	(0.49)	(1.19)	(0.56)	(1.82)	(10.79)
AA	1.44	32.74	28.21	3.99	0.64	0.61	0.06	1.98	30.34
	(1.78)	(6.26)	(5.62)	(2.30)	(0.74)	(0.77)	(0.16)	(1.06)	(5.46)
A	0.25	8.21	43.05	7.14	1.71	0.41	0.39	2.54	36.30
	(1.36)	(5.32)	(10.00)	(2.84)	(1.86)	(0.43)	(0.53)	(1.70)	(7.31)
BBB	0.00	1.96	17.47	29.99	2.61	0.59	0.26	4.24	42.89
	(0.00)	(4.77)	(7.20)	(5.50)	(2.52)	(0.49)	(0.76)	(4.88)	(4.63)
BB	0.00	0.45	6.52	17.08	11.69	2.92	0.00	15.28	46.07
	(0.00)	(1.68)	(7.88)	(8.69)	(8.13)	(3.92)	(0.00)	(15.59)	(14.98)
B	0.00	0.00	6.28	12.11	9.42	7.17	0.90	17.04	47.09
	(0.00)	(0.00)	(10.60)	(17.74)	(9.94)	(8.44)	(5.13)	(12.87)	(17.95)
CCC/C	0.00	0.00	2.08	0.00	0.00	0.00	0.00	50.00	47.92

Table 42

Average Multiyear Global Corporate Transition Matrix (1981-2017): Insurance (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
	(0.00)	(0.00)	(14.67)	(0.00)	(0.00)	(0.00)	(0.00)	(35.30)	(35.24)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 43

Average Multiyear Global Corporate Transition Matrix (1981-2017): Financial Institutions

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
One-year									
AAA	85.99	8.77	0.43	0.21	0.11	0.00	0.00	0.00	4.49
	(13.48)	(12.99)	(1.30)	(0.95)	(0.80)	(0.00)	(0.00)	(0.00)	(4.53)
AA	0.38	86.67	8.60	0.35	0.00	0.00	0.00	0.02	3.98
	(0.64)	(7.62)	(7.11)	(0.73)	(0.00)	(0.00)	(0.00)	(0.10)	(2.36)
A	0.02	2.08	87.32	4.54	0.22	0.06	0.01	0.07	5.68
	(0.19)	(2.02)	(5.42)	(3.81)	(0.69)	(0.15)	(0.06)	(0.24)	(2.98)
BBB	0.00	0.26	4.01	83.79	3.90	0.46	0.05	0.29	7.23
	(0.00)	(0.71)	(3.57)	(5.57)	(3.20)	(1.09)	(0.22)	(0.74)	(2.34)
BB	0.00	0.09	0.09	5.75	76.26	5.25	0.63	0.76	11.16
	(0.00)	(0.32)	(0.70)	(3.92)	(7.39)	(3.91)	(1.63)	(1.43)	(6.16)
B	0.00	0.00	0.04	0.34	6.70	75.84	3.22	2.93	10.93
	(0.00)	(0.00)	(0.55)	(0.93)	(4.85)	(8.37)	(4.28)	(4.54)	(4.46)
CCC/C	0.00	0.00	0.00	0.00	0.83	16.90	46.81	15.79	19.67
	(0.00)	(0.00)	(0.00)	(0.00)	(3.81)	(11.87)	(19.26)	(15.10)	(12.00)
Three-year									
AAA	63.61	21.17	1.30	0.86	0.32	0.00	0.00	0.00	12.74
	(19.12)	(19.40)	(3.04)	(2.15)	(1.05)	(0.00)	(0.00)	(0.00)	(7.88)
AA	0.95	64.87	20.58	1.69	0.17	0.07	0.00	0.10	11.56
	(0.94)	(12.79)	(10.40)	(1.97)	(0.54)	(0.39)	(0.00)	(0.26)	(5.14)
A	0.02	5.12	67.08	9.65	1.35	0.31	0.09	0.32	16.06
	(0.21)	(3.91)	(7.84)	(4.05)	(2.02)	(0.53)	(0.27)	(0.61)	(5.95)
BBB	0.00	0.69	9.68	60.23	6.21	1.15	0.30	1.34	20.41
	(0.00)	(1.29)	(7.19)	(7.53)	(4.30)	(1.47)	(0.83)	(1.95)	(5.26)
BB	0.00	0.15	0.48	13.61	45.56	8.50	0.78	3.39	27.52
	(0.00)	(0.53)	(1.32)	(5.67)	(10.30)	(4.97)	(1.87)	(4.39)	(9.13)

Table 43

Average Multiyear Global Corporate Transition Matrix (1981-2017): Financial Institutions (cont.)

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
B	0.00	0.00	0.00	1.35	13.52	46.57	3.71	8.31	26.54
	(0.00)	(0.00)	(0.00)	(2.18)	(8.27)	(12.23)	(3.95)	(9.21)	(8.49)
CCC/C	0.00	0.00	0.00	0.00	0.94	24.45	10.03	22.26	42.32
	(0.00)	(0.00)	(0.00)	(0.00)	(4.05)	(15.00)	(12.95)	(16.54)	(15.14)
10-year									
AAA	22.65	30.32	7.92	2.97	0.12	0.00	0.00	0.00	36.01
	(14.40)	(18.33)	(5.70)	(4.95)	(0.61)	(0.00)	(0.00)	(0.00)	(10.69)
AA	0.83	28.86	30.78	6.01	0.22	0.16	0.00	0.61	32.53
	(0.87)	(9.37)	(8.14)	(3.59)	(0.52)	(0.31)	(0.00)	(1.85)	(6.58)
A	0.00	8.06	34.07	10.24	2.52	0.53	0.02	1.74	42.82
	(0.00)	(3.38)	(4.62)	(5.07)	(2.29)	(0.66)	(0.08)	(1.28)	(6.28)
BBB	0.00	1.90	12.34	24.27	3.06	1.22	0.68	5.34	51.19
	(0.00)	(2.99)	(3.91)	(7.07)	(1.88)	(0.77)	(0.97)	(2.20)	(6.91)
BB	0.00	0.00	2.96	14.56	10.74	5.40	0.13	9.22	56.98
	(0.00)	(0.00)	(3.08)	(5.22)	(9.67)	(3.51)	(0.35)	(8.24)	(10.86)
B	0.00	0.00	0.60	4.40	9.59	12.59	0.50	14.79	57.54
	(0.00)	(0.00)	(1.67)	(4.28)	(5.34)	(8.37)	(0.99)	(15.01)	(11.92)
CCC/C	0.00	0.00	0.00	0.55	5.46	12.57	0.00	25.14	56.28
	(0.00)	(0.00)	(0.00)	(1.75)	(7.70)	(11.30)	(0.00)	(20.02)	(17.28)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Table 44

Average Multiyear Global Corporate Transition Matrix (1981-2017): Nonfinancials

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
One-year									
AAA	86.97	8.34	0.84	0.00	0.07	0.00	0.00	0.00	3.78
	(8.68)	(7.91)	(1.67)	(0.00)	(0.34)	(0.00)	(0.00)	(0.00)	(4.20)
AA	0.55	86.81	7.72	0.69	0.09	0.12	0.00	0.00	4.02
	(0.76)	(5.60)	(3.68)	(1.01)	(0.31)	(0.35)	(0.00)	(0.00)	(2.65)
A	0.04	1.27	87.72	6.30	0.38	0.17	0.02	0.03	4.08
	(0.11)	(1.24)	(4.20)	(2.49)	(0.49)	(0.39)	(0.09)	(0.08)	(2.25)
BBB	0.01	0.05	3.01	86.74	3.79	0.50	0.10	0.14	5.66
	(0.05)	(0.12)	(1.77)	(4.55)	(1.75)	(0.74)	(0.24)	(0.27)	(1.92)

Table 44

**Average Multiyear Global Corporate Transition Matrix (1981-2017):
Nonfinancials (cont.)**

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
BB	0.02	0.02	0.11	4.59	77.53	7.16	0.54	0.67	9.36
	(0.07)	(0.09)	(0.26)	(1.83)	(4.70)	(3.44)	(0.66)	(0.88)	(2.33)
B	0.00	0.02	0.08	0.15	4.85	74.23	4.59	3.68	12.40
	(0.00)	(0.09)	(0.21)	(0.22)	(2.00)	(4.02)	(2.30)	(3.34)	(2.43)
CCC/C	0.00	0.00	0.14	0.24	0.48	12.72	43.13	28.30	15.00
	(0.00)	(0.00)	(0.50)	(0.75)	(0.87)	(8.21)	(9.00)	(11.59)	(5.46)
Three-year									
AAA	66.55	18.65	3.56	0.28	0.14	0.07	0.00	0.00	10.75
	(11.44)	(10.27)	(3.18)	(1.30)	(0.47)	(0.32)	(0.00)	(0.00)	(7.43)
AA	1.26	66.05	18.11	2.48	0.57	0.30	0.02	0.03	11.18
	(1.05)	(10.12)	(5.71)	(1.99)	(0.79)	(0.59)	(0.08)	(0.11)	(5.06)
A	0.07	2.99	68.04	14.62	1.46	0.61	0.08	0.12	12.02
	(0.11)	(2.49)	(6.66)	(3.74)	(1.11)	(0.82)	(0.15)	(0.19)	(3.87)
BBB	0.03	0.16	7.42	66.45	7.68	1.85	0.28	0.73	15.41
	(0.08)	(0.28)	(3.33)	(8.27)	(2.22)	(1.52)	(0.35)	(1.06)	(3.92)
BB	0.01	0.04	0.45	10.45	47.50	12.34	1.31	4.10	23.80
	(0.06)	(0.14)	(0.68)	(3.34)	(7.41)	(3.02)	(0.90)	(3.62)	(4.31)
B	0.00	0.03	0.19	0.67	9.86	40.99	4.81	13.03	30.41
	(0.05)	(0.12)	(0.45)	(0.74)	(3.03)	(5.28)	(1.80)	(7.56)	(5.18)
CCC/C	0.00	0.00	0.12	0.63	1.61	15.86	10.47	43.29	28.02
	(0.00)	(0.00)	(0.41)	(1.22)	(1.87)	(6.77)	(6.65)	(13.16)	(8.88)
10-year									
AAA	29.21	27.69	10.45	3.89	0.23	0.00	0.00	0.23	28.30
	(9.63)	(9.26)	(3.96)	(3.44)	(0.61)	(0.00)	(0.00)	(0.55)	(9.07)
AA	1.51	25.22	29.39	8.85	1.65	0.47	0.02	0.35	32.52
	(1.02)	(7.80)	(3.86)	(3.88)	(1.12)	(0.53)	(0.10)	(0.53)	(4.45)
A	0.12	3.56	34.48	22.98	3.39	1.30	0.12	1.28	32.79
	(0.16)	(2.43)	(4.94)	(4.22)	(1.09)	(0.81)	(0.19)	(0.92)	(3.32)
BBB	0.02	0.32	10.01	35.47	7.89	2.78	0.25	4.22	39.04
	(0.11)	(0.33)	(3.92)	(6.66)	(1.35)	(1.36)	(0.22)	(2.28)	(3.96)
BB	0.02	0.07	1.40	10.61	15.99	8.28	0.77	15.70	47.16
	(0.08)	(0.15)	(1.04)	(3.39)	(4.66)	(2.60)	(0.44)	(5.72)	(3.67)
B	0.00	0.04	0.30	2.15	6.54	8.70	0.88	29.75	51.65
	(0.00)	(0.08)	(0.64)	(1.63)	(1.64)	(2.76)	(0.53)	(8.07)	(4.95)
CCC/C	0.00	0.00	0.13	0.85	3.28	3.41	0.39	54.16	37.77

Table 44

**Average Multiyear Global Corporate Transition Matrix (1981-2017):
Nonfinancials (cont.)**

(%)

From/to	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
	(0.00)	(0.00)	(0.40)	(1.09)	(2.56)	(2.97)	(0.77)	(11.07)	(9.43)

Note: Numbers in parentheses are weighted standard deviations, weighted by the issuer base. D--Default. NR--Not rated. Sources: S&P Global Fixed Income Research and S&P Global Market Intelligence's CreditPro®.

Appendix II: Gini Methodology

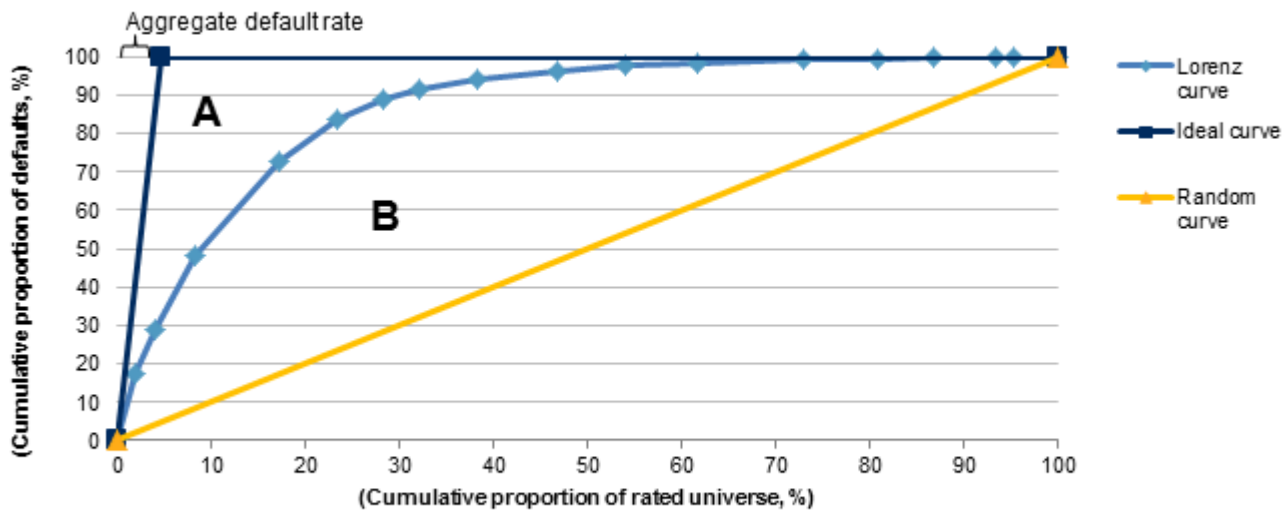
To measure relative ratings performance, we utilize the Lorenz curve as a graphical representation of the proportionality of a distribution, and we summarize this via the Gini coefficient. For this study, the Lorenz curve is plotted with the x-axis showing the cumulative share of issuers, arranged by 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 its Gini coefficient would be 1 (see chart 31).

The procedure for calculating the Gini coefficients is illustrated in chart 31: 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 areas A plus 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 31

Sample Lorenz Curve



Source: S&P Global Fixed Income Research.
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Appendix III: Defaults In Profile

In 2017, 95 companies, including nine confidential issuers, defaulted on US\$104.6 billion of debt. This appendix provides summaries of the events leading up to each default and, in some cases, events following the default. We also include each company's defaulting instruments that S&P Global Ratings rates.

Shelf Drilling Holdings Ltd.

- US\$75 million floating-rate first-lien bank loan due May 31, 2018
- US\$475 million 8.625% callable notes due Nov. 1, 2018
- US\$160 million floating-rate revolving credit facility bank loan due April 30, 2020
- US\$350 million bank loan due Oct. 8, 2018

On Jan. 11, 2017, S&P Global Ratings lowered its long-term corporate credit rating on Dubai-headquartered oilfield services company Shelf Drilling Holdings Ltd. (SDHL) to 'SD' (selective default) from 'CC'. The downgrade followed the issuer's announcement that it had completed the exchange of 93.6% of its \$475 million outstanding senior secured notes for new notes due 2020. The company also exchanged a \$350 million term loan for cash, preferred shares, and new notes due 2020. S&P Global Ratings views these transactions as tantamount to default.

On Jan. 18, 2017, we raised the long-term corporate credit rating on SDHL to 'B-' from 'SD' after the completion and settlement of the voluntary exchange offer, through which the issuer resized and reduced its debt burden and improved its capital structure.

Table 45

Issuer Credit Rating History - Shelf Drilling Holdings Ltd.

Date	To
18-Jan-2017	B-/Stable/--
11-Jan-2017	SD/NM/--
24-Oct-2016	CC/Negative/--
13-Sep-2016	CCC/Watch Neg/--
09-Jun-2016	B/Negative/--
04-Apr-2016	B+/Watch Neg/--
09-Jul-2014	B+/Positive/--
23-Sep-2013	B+/Stable/--
24-Jun-2013	B/Positive/--
20-Dec-2012	B/Stable/--

Avaya Inc.

- US\$1.009 billion 7.00% senior secured notes due April 1, 2019
- US\$1.384 billion 10.50% second-lien senior secured notes due March 1, 2021
- US\$290 million 9.00% senior secured notes due April 1, 2019
- US\$1.138 billion term B-6 bank loan due March 30, 2018
- US\$2.186 billion term B-3 bank loan due Oct. 26, 2017
- US\$135 million term B-4 bank loan due Oct. 26, 2017
- US\$1.5 billion term B-7 bank loan due May 29, 2020

On Jan. 19, 2017, S&P Global Ratings lowered its corporate credit rating on California-based communications solutions provider Avaya Inc. to 'D' (default) from 'CCC'. The rating action followed the issuer's Chapter 11 bankruptcy filing. The issuer planned to continue its operations and simultaneously develop a reorganization plan in order to emerge from bankruptcy by the end of 2017. The ratings were later withdrawn on March 24, 2017.

Later, on Dec. 15, 2017, upon emergence from bankruptcy, we assigned our 'B' corporate credit rating to Avaya Inc. The rating on Avaya reflects key credit risks, including sharp revenue declines in its UC business, which still represents a majority of the company's revenue, potential reputational damage, and loss of key personnel.

Table 46

Issuer Credit Rating History - Avaya Inc.

Date	To
15-Dec-2017	B/Stable/--
24-Mar-2017	NR/--/--
19-Jan-2017	D/--/--
08-Apr-2016	CCC/Negative/--

Table 46

Issuer Credit Rating History - Avaya Inc. (cont.)

Date	To
17-Apr-2015	B-/Stable/--
30-May-2013	B-/Negative/--
18-Jan-2011	B-/Stable/--
16-Mar-2010	B-/Negative/--
14-Sep-2009	B/Watch Neg/--
01-Jul-2008	B/Negative/--
01-Nov-2007	B/Stable/--
05-Jun-2007	B+/Watch Neg/--
27-Jan-2005	BB/Stable/--
30-Apr-2004	B+/Positive/--
05-May-2003	B+/Stable/--
03-Sep-2002	BB-/Negative/--
31-Jul-2002	BB+/Watch Neg/--
11-Mar-2002	BB+/Negative/--
29-Jan-2002	BBB-/Negative/--
07-Sep-2000	BBB/Negative/--

Perpetual Energy Inc.

- CAD35.9 million 8.75% notes due March 15, 2018
- CAD24.7 million 8.75% notes due July 23, 2019
- CAD125 million 8.75% notes due July 23, 2019
- CAD150 million 8.75% senior unsecured notes due March 15, 2018

On Jan. 24, 2017, S&P Global Ratings lowered its long-term corporate credit rating on Calgary, Alta.-based oil and gas exploration and production provider Perpetual Energy Inc. to 'SD' from 'CC'. The ratings were lowered after the issuer completed a securities swap exchanging a portion of its 8.75% senior unsecured notes outstanding for a new 8.75% senior unsecured note due 2021. Because the issuer has extended the maturity with this exchange, S&P Global Ratings views this transaction as distressed.

On Jan. 25, 2017, we raised our long-term corporate credit rating on Perpetual Energy Inc. to 'CCC-' from 'SD'. The upgrade reflected the issuer's weak liquidity and dependence on external funds to support its production levels and financing charges. The outlook was negative.

Later, on Nov. 20, 2017, we raised our long-term corporate credit rating on Perpetual Energy Inc. by two notches, to 'CCC+' from 'CCC-'. The upgrade reflected the company's enhanced liquidity assessment following the several initiatives Perpetual took in 2017 to improve its capital structure and ultimately increase its liquidity through a higher revolving credit facility and longer average weighted maturity.

Table 47

Issuer Credit Rating History – Perpetual Energy Inc.

Date	To
20-Nov-2017	CCC+/Stable/--
25-Jan-2017	CCC-/Negative/--
24-Jan-2017	SD/NM/--
12-Dec-2016	CC/Negative/--
10-Nov-2016	CCC/Negative/--
7-Oct-2016	NR/NR/--
29-Apr-2016	SD/NM/--
19-Apr-2016	CC/Negative/--
11-Mar-2016	CCC+/Stable/--
16-Jul-2014	B-/Stable/--
27-Feb-2014	CCC+/Stable/--
5-Dec-2012	CCC+/Developing/--
7-Jun-2012	B-/Negative/--
14-Feb-2012	B/Negative/--
1-Mar-2011	B/Stable/--

Avanti Communications Group PLC

- US\$685 million 10.00% callable notes due Oct. 1, 2019
- US\$125 million 10% first-lien notes due Oct. 1, 2019
- US\$685.41 million 12% third-lien notes due Oct. 1, 2023
- US\$617.66 million 10% first-lien notes due Oct. 1, 2019
- US\$150 million 10% first-lien notes due Oct. 1, 2019

On Jan. 27, 2017, S&P Global Ratings lowered its corporate credit rating on U.K.-based fixed satellite services provider Avanti Communications Group PLC to 'SD' from 'CC'. The downgrade followed the issuer's completion of a distressed exchange wherein it exchanged \$708 million of its senior secured notes due 2019 for a combination of \$497 million amended notes with a payment-in-kind (PIK) toggle feature and subordinated position maturing in 2022/2023, as well as \$211 million of newly issued senior PIK toggle notes maturing in 2021/2022. S&P Global Ratings considers the transaction distressed because the issuer has been offered less than the original promise of the notes.

On Oct. 20, 2017, we withdrew our 'SD' corporate credit rating on Avanti Communications Group PLC due to a lack of sufficient information.

Table 48

Issuer Credit Rating History – Avanti Communications Group PLC

Date	To
20-Oct-2017	NR/--/--
27-Jan-2017	SD/NM/--
28-Dec-2016	CC/Negative/--
12-Jul-2016	CCC-/Negative/--
26-Feb-2016	B-/Watch Neg/--
27-Sep-2013	B-/Stable/--

Approach Resources Inc.

- US\$250 million 7.00% senior unsecured notes due June 15, 2021
- US\$1 billion first-lien guaranteed senior secured bank loan due May 7, 2019

On Jan. 27, 2017, S&P Global Ratings lowered its corporate credit rating on Fort Worth, Texas-based exploration and production company Approach Resources Inc. to 'SD' from 'CC'. The downgrade followed the issuer's exchange of a \$130.5 million principal amount of its senior notes due 2021 for \$39.2 million in new shares of common stock. S&P Global Ratings views this exchange as distressed because the bonds have been swapped for a junior equity.

On April 25, 2017, we raised our corporate credit rating on Approach Resources Inc. to 'CCC+' from 'SD'. The rating action reflected the completion of Approach Resources' debt-for-equity exchange offer with Wilks Brothers LLC and SDW Investments LLC to exchange a \$130.5 million principal amount of the company's 7% senior unsecured notes due 2021 for 39.2 million new shares of Approach Resources.

On May 30, 2017, we affirmed our 'CCC+' corporate credit rating on Approach Resources. We subsequently withdrew the corporate credit and debt ratings at the company's request.

Table 49

Issuer Credit Rating History – Approach Resources Inc.

Date	To
30-May-2017	NR/--/--
25-Apr-2017	CCC+/Stable/--
27-Jan-2017	SD/NM/--
03-Nov-2016	CC/Negative/--
09-Feb-2016	CCC+/Negative/--
03-Jun-2013	B/Stable/--

Toisa Ltd.

- US\$70 million term A first-lien senior secured bank loan due June 30, 2020

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- US\$70 million term B first-lien senior secured bank loan due Nov. 30, 2020
- GBP60 million term first-lien senior secured bank loan due Oct. 21, 2020

Bermuda-based offshore and construction vessels operator Toisa Ltd. defaulted after the issuer filed for Chapter 11 in bankruptcy court on Jan. 29, 2017. The ratings on the issuer were withdrawn on March 5, 2004, following the issuer's request, as it has no debt ratings outstanding and no plan to issue public debt in the future.

Table 50

Issuer Credit Rating History - Toisa Ltd.

Date	To
05-Mar-2004	NR/--/--
19-Jul-2001	BB-/Stable/--

Limited Stores Inc.

Columbus, Ohio-based Limited Stores Inc. defaulted after the company filed for Chapter 11 in bankruptcy court on Jan. 17, 2017. The ratings on the issuer were withdrawn on July 26, 1982.

Table 51

Senior Unsecured (Local Currency) - Limited Stores Inc.

Date	To
26-Jul-1982	NR/--/--
22-Jul-1981	B+/-/--
31-Dec-1980	BB-/--/--

Vanguard Natural Resources LLC

- US\$550 million 7.875% senior notes due April 1, 2020

On Feb. 2, 2017, S&P Global Ratings lowered its corporate credit and senior unsecured debt ratings on Houston-based exploration and production company Vanguard Natural Resources LLC to 'D' from 'CCC-'. The ratings were lowered after the issuer filed for protection under Chapter 11 of the U.S. Bankruptcy Code. The company plans to reach an agreement with certain bondholders and lenders to restructure its balance sheet. The rating on the issuer was withdrawn on March 22, 2017.

Table 52

Issuer Credit Rating History - Vanguard Natural Resources LLC

Date	To
22-Mar-2017	NR/--/--
02-Feb-2017	D/--/--
18-Aug-2016	CCC-/Negative/--
11-Aug-2016	SD/NM/--

Table 52

Issuer Credit Rating History - Vanguard Natural Resources LLC (cont.)

Date	To
12-Jan-2016	CC/Negative/--
08-Jan-2016	B-/Negative/--
03-Nov-2015	B+/Stable/--
22-May-2015	B+/Watch Pos/--
20-Nov-2012	B+/Stable/--
26-Mar-2012	B/Stable/--

iHeartCommunications Inc.

- US\$850 million 10.00% senior notes due Jan. 15, 2018

On Feb. 8, 2017, S&P Global Ratings lowered its corporate credit rating on San Antonio, Texas-based radio broadcaster and outdoors advertising company iHeartMedia Inc. and its subsidiary iHeartCommunications Inc. to 'SD' from 'CC' after it closed an exchange of \$476.4 million of its notes for \$476.4 million of 11.25% senior secured priority guarantee notes due 2021. S&P Global Ratings views this transaction as tantamount to default because the noteholders will be accepting securities trading 25% below par and the issuer has extended the debt maturity by three years.

We later raised the credit rating on iHeartMedia Inc. and its subsidiary iHeartCommunications Inc. to 'CCC' from 'SD' on Feb. 13, 2017, because the issuer may look to exchange debt at subpar levels or repurchase debt at discounted levels in 2017. The rating outlook is negative.

Table 53

Issuer Credit Rating History - iHeartCommunications Inc.

Date	To
15-Mar-2017	CC/Negative/--
13-Feb-2017	CCC/Negative/--
08-Feb-2017	SD/NM/--
21-Dec-2016	CC/Negative/--
15-Dec-2016	SD/NM/--
14-Jun-2016	CCC/Negative/--
08-Mar-2016	CCC/Watch Neg/--
07-Jan-2016	CCC/Negative/--
13-Dec-2011	CCC+/Negative/--
11-Dec-2009	CCC+/Positive/--
31-Aug-2009	CCC/Negative/--
28-Aug-2009	SD/NM/--
04-Aug-2009	CC/Negative/--

Table 53

Issuer Credit Rating History - iHeartCommunications Inc. (cont.)

Date	To
08-Jun-2009	CCC/Negative/--
04-May-2009	B-/Watch Neg/--
05-Mar-2009	B-/Negative/--
20-Feb-2009	B-/Watch Neg/--
13-Feb-2009	B/Watch Neg/--
24-Dec-2008	B/Stable/--
23-Dec-2008	SD/NM/--
05-Dec-2008	CC/Negative/--
18-Jun-2008	B/Stable/--
19-Apr-2007	B+/Watch Neg/--
16-Nov-2006	BB+/Watch Neg/--
26-Oct-2006	BBB-/Watch Neg/--
29-Apr-2005	BBB-/Negative/--
06-May-2003	BBB-/Stable/--
28-Mar-2002	BBB-/Negative/--
06-Oct-2000	BBB-/Stable/--
31-Aug-2000	BBB-/Positive/--
29-Feb-2000	BBB-/Stable/--
04-Oct-1999	BBB-/Negative/--
15-Mar-1999	BBB-/Stable/--
08-Oct-1998	BBB-/Watch Neg/--
26-Sep-1997	BBB-/Stable/--

Delta Bank JSC

- KZT10 billion 9.50% bonds
- KZT40 billion 7.50% medium-term notes due May 27, 2023
- KZT15 billion 7.20% notes series 2 due June 12, 2021
- KZT10 billion 8.00% bonds series 4 due June 12, 2026
- KZT10 billion 7.00% notes series 1 due June 12, 2019
- KZT15 billion 8.50% bonds series 3 due June 12, 2029

On Feb. 16, 2017, S&P Global Ratings lowered its long- and short-term counterparty credit ratings on Kazakhstan-based Delta Bank JSC to 'D/D' from 'CC/C'. The ratings were lowered after the issuer missed the full principal amount payment of Kazakhstan tenge 9.8 billion on its domestic senior unsecured bond following the end of the grace period on Feb. 14, 2017. The bank also

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confirmed that it had not paid some term deposits that were at maturity. S&P Global Ratings considers all these nonpayments as tantamount to general default.

On April 3, 2017, we affirmed our 'D' long-term issuer credit rating on Delta Bank. The affirmation of the rating reflected Delta Bank's failure to repay some term deposits that were due in February and March 2017.

Later, on Nov. 10, 2017, the ratings on the company were withdrawn.

Table 54

Issuer Credit Rating History - Delta Bank JSC

Date	To
10-Nov-2017	NR/--/--
16-Feb-2017	D/--/--
02-Feb-2017	CC/Watch Neg/--
23-Jan-2017	CCC-/Watch Neg/--
30-Dec-2016	CCC+/Watch Dev/--
27-Jun-2011	B/Stable/--

BCBG Max Azria Group Inc.

On Feb. 28, 2017, Vernon, Calif.-based women's apparel retailer BCBG Max Azria Group Inc. defaulted after filing for Chapter 11 bankruptcy protection. On Nov. 7, 2014, S&P Global Ratings withdrew its 'CCC-' corporate credit rating on the company at the issuer's request.

Table 55

Issuer Credit Rating History - BCBG Max Azria Group Inc.

Date	To
07-Nov-2014	NR/--/--
16-Jul-2013	CCC-/Negative/--
21-Jun-2012	CCC/Negative/--
27-Jan-2012	CCC+/Developing/--
06-May-2011	B-/Stable/--
06-Jan-2011	CCC+/Developing/--
12-Feb-2010	B/Stable/--
01-Oct-2009	B-/Stable/--
28-Apr-2009	B-/Negative/--
07-Apr-2009	SD/NM/--
18-Feb-2009	CCC+/Negative/--
14-Aug-2008	B-/Negative/--
06-Jun-2008	CCC/Negative/--
16-Oct-2007	B-/Negative/--
10-Jul-2007	B-/Watch Neg/--

Table 55

Issuer Credit Rating History - BCBG Max Azria Group Inc. (cont.)

Date	To
18-Jul-2006	B/Negative/--
18-Oct-2005	B+/Stable/--

hhgregg Inc.

On March 6, 2017, Indianapolis-based hhgregg Inc. defaulted after filing a Chapter 11 petition with the U.S. Bankruptcy Court. On April 15, 2011, S&P Global Ratings withdrew the 'B+' corporate credit rating on the company at its request.

Table 56

Issuer Credit Rating History - hhgregg Inc.

Date	To
15-Apr-2011	NR/--/--
15-Sep-2009	B+/Stable/--
09-Jul-2009	B+/Watch Neg/--
25-Feb-2009	B+/Stable/--

Answers Corp.

- US\$40 million revolver bank loan due Oct. 3, 2019
- US\$325 million first-lien bank loan due Oct. 1, 2021
- US\$180 million second-lien bank loan due Oct. 3, 2022

On March 3, 2017, St. Louis-based internet advertising and data analytics company Answers Corp. defaulted after filing for Chapter 11 with the Southern District of New York. On Jan. 5, 2017, prior to the company's default, S&P Global Ratings withdrew its 'CCC' corporate credit rating on the issuer due to lack of timely and sufficient information.

Table 57

Issuer Credit Rating History - Answers Corp.

Date	To
05-Jan-2017	NR/--/--
20-Jul-2016	CCC/Negative/--
11-Sep-2015	CCC+/Stable/--
02-Jun-2015	B-/Stable/--
17-Sep-2014	B/Stable/--

Pinnacle Operating Corp.

- US\$350 million first-lien term B bank loan due Nov. 15, 2018
- US\$300 million 9.00% senior secured second-lien notes due May 15, 2023

On March 13, 2017, S&P Global Ratings lowered its corporate credit rating on Colorado-based distribution company Pinnacle Operating Corp. to 'SD' from 'CC'. The downgrade followed the issuer's completion of an exchange offer to existing holders of its senior secured second-lien notes due 2020, partially for new 1.5-lien notes due in 2023 and partially for preferred stock. S&P Global Ratings considers this transaction to be a default because noteholders would receive less than the original promise.

Later, on March 16, 2017, we raised the corporate credit rating on Pinnacle Operating Corp. to 'CCC+' from 'SD'. The ratings were raised after reassessing the capital structure of the company following the exchange. The rating outlook is stable.

Table 58

Issuer Credit Rating History - Pinnacle Operating Corp.

Date	To
16-Mar-2017	CCC+/Stable/--
13-Mar-2017	SD/NM/--
01-Feb-2017	CC/Negative/--
23-Sep-2016	CCC/Negative/--
15-Aug-2016	CCC+/Stable/--
04-Aug-2015	B-/Stable/--
29-Aug-2014	B/Negative/--
10-Apr-2013	B/Stable/--

EXCO Resources Inc.

- US\$400 million bank loan due Oct. 19, 2020
- US\$375 million revolver bank loan due July 31, 2018
- US\$750 million 7.50% notes due Sept. 15, 2018
- US\$500 million 8.50% senior notes due April 15, 2022
- US\$300 million second-lien term bank loan due Oct. 19, 2020
- US\$300 million 1.5-lien payment-in-kind notes due March 20, 2022

On Dec. 22, 2017, S&P Global Ratings lowered its corporate credit rating on Dallas-based oil and gas exploration and production company EXCO Resources Inc. to 'D' from 'CCC-'. The downgrade reflected the failure by EXCO to meet interest and covenant requirements on its outstanding debt.

Earlier, on March 16, 2017, we lowered our corporate rating on EXCO Resources Inc. to 'SD' from 'CCC+'. The downgrade came after the issuer closed a negotiated transaction to exchange a portion of its second-lien secured debt for a new 1.75-lien term loan with an option to meet

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interest obligations with cash, common equity, or additional 1.75-lien term loans.

Later, on March 23, 2017, we raised the corporate credit rating on EXCO Resources Inc. to 'CCC-' from 'SD' after reassessing the corporate credit rating on the company after it exchanged most of its outstanding second-lien secured term loans for 1.75-lien secured PIK term loans. The rating outlook is negative.

Table 59

Issuer Credit Rating History - EXCO Resources Inc.

Date	To
22-Dec-2017	D/--/--
23-Mar-2017	CCC-/Negative/--
16-Mar-2017	SD/NM/--
17-Oct-2016	CCC+/Negative/--
03-Nov-2015	SD/NM/--
29-Oct-2015	CCC+/Developing/--
21-Oct-2015	SD/NM/--
09-Oct-2015	B-/Negative/--
30-Apr-2015	B-/Stable/--
16-Jan-2015	B/Negative/--
22-Oct-2013	B/Stable/--
09-May-2012	B/Negative/--
07-Feb-2012	B+/Stable/--
18-Jul-2011	BB-/Stable/--
02-Nov-2010	BB-/Watch Neg/--
07-Oct-2009	BB-/Stable/--
19-Aug-2009	B+/Stable/--
30-Jun-2009	B/Watch Pos/--
26-Jan-2009	B/Negative/--
23-May-2008	B/Stable/--
27-Dec-2006	B/Watch Neg/--
21-Apr-2006	B/Stable/--
14-Oct-2005	B/Developing/--
20-Jan-2005	B+/Watch Neg/--
12-Jan-2004	B+/Stable/--

GulfMark Offshore Inc.

- US\$500 million 6.375% notes due March 15, 2022

On March 16, 2017, S&P Global Ratings lowered its corporate credit rating on Houston-based offshore service provider GulfMark Offshore Inc. to 'D' from 'CCC-'. The downgrade followed the issuer's failure to make the March 15 interest payment on its 6.375% senior unsecured notes due

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2022. S&P Global Ratings does not expect the company to make the interest payment and believes that the issuer may negotiate with bondholders to restructure its debt.

Earlier, on Jan. 4, 2017, we had raised the corporate credit rating on GulfMark Offshore Inc. to 'CCC-' from 'CC' after the issuer announced that it had terminated its tender offer to purchase up to \$300 million of its 6.375% senior unsecured notes due 2022 at below par. The rating outlook was negative.

Later, the ratings on the company were withdrawn on May 1, 2017.

Table 60

Issuer Credit Rating History - GulfMark Offshore Inc.

Date	To
1-May-2017	NR/--/--
16-Mar-2017	D/--/--
04-Jan-2017	CCC-/Negative/--
28-Nov-2016	CC/Negative/--
11-Mar-2016	CCC/Negative/--
21-Aug-2015	B-/Stable/--
29-May-2015	B+/Negative/--
29-Nov-2007	BB-/Stable/--
28-Sep-2006	B+/Stable/--
01-Dec-2003	BB-/Negative/--
23-Sep-2002	BB-/Stable/--
07-Dec-2001	BB-/Negative/--
31-May-2001	BB-/Watch Neg/--
13-Mar-2000	BB-/Stable/--
12-Mar-1999	BB-/Negative/--
01-Jun-1998	BB-/Stable/--

Goodman Networks Inc.

- US\$325 million 12.125% senior secured notes due July 1, 2018
- US\$25 million revolver first-lien senior secured bank loan due April 1, 2018

On March 13, 2017, Frisco, Texas-based telecom infrastructure services provider Goodman Networks Inc. defaulted after it filed for Chapter 11 with the U.S. Bankruptcy Court.

Earlier, on Jan. 24, 2017, we withdrew our ratings on the issuer at the company's request after raising the corporate credit rating to 'CC' from 'SD'. The outlook was negative.

Table 61

Issuer Credit Rating History - Goodman Networks Inc.

Date	To
24-Jan-2017	NR/--/--

Table 61

Issuer Credit Rating History - Goodman Networks Inc. (cont.)

Date	To
24-Jan-2017	CC/Negative/--
07-Jul-2016	SD/NM/--
22-Dec-2015	CCC+/Negative/--
01-Jun-2015	B-/Stable/--
12-May-2014	B/Negative/--
25-Oct-2012	B/Stable/--
19-Apr-2012	B+/Watch Neg/--
08-Jun-2011	B+/Stable/--

SquareTwo Financial Corp.

- US\$290 million 11.625% senior secured second-lien notes due April 1, 2017
- US\$146.13 million PIK term 1.5 first-lien guaranteed senior secured bank loan due May 24, 2019

On March 19, 2017, Denver-based SquareTwo Financial Corp. filed for Chapter 11 with the U.S. Bankruptcy Court.

On March 16, 2017, S&P Global Ratings withdrew all ratings due to the issuer's unresponsiveness in providing reliable information to conduct ongoing surveillance prior to the company's default.

Table 62

Issuer Credit Rating History - SquareTwo Financial Corp.

Date	To
16-Mar-2017	NR/--/--
03-Jun-2016	CCC+/Negative/--
01-Apr-2016	D/--/--
11-Dec-2015	CCC/Watch Neg/--
13-Mar-2014	B-/Negative/--
23-Mar-2012	B/Negative/--
24-Mar-2010	B/Stable/--

Neovia Logistics L.P.

- US\$125 million 10.00% senior notes due Feb. 15, 2018

On March 20, 2017, S&P Global Ratings lowered its corporate credit rating on Downers Grove, Ill.-based logistics provider Neovia Logistics L.P. and Neovia Logistics Intermediate Holdings L.P. to 'SD' from 'CC'. The downgrade reflected the issuer's completion of an exchange plan for its

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senior unsecured PIK toggle notes due in 2018, thus extending the maturity on the new notes. S&P Global Ratings also considers this transaction distressed because the exchange consideration is less than the promised full payment.

Table 63

Issuer Credit Rating History - Neovia Logistics L.P.

Date	To
24-Apr-2017	CCC+/Stable/--
20-Mar-2017	SD/NM/--
11-Jan-2017	CC/Watch Neg/--
22-Apr-2016	CCC+/Negative/--
09-Dec-2015	B-/Negative/--
14-Feb-2013	B/Stable/--
19-Jul-2012	B+/Stable/--

Emeco Holdings Ltd.

- US\$335 million 9.875% second-lien notes due March 15, 2019

On March 31, 2017, S&P Global Ratings lowered its long-term corporate credit rating on Australia-based mining equipment rental company Emeco Holdings Ltd. to 'SD' from 'CC'. The rating was lowered after the issuer implemented a creditors' scheme of arrangement that will swap its existing US\$282.7 million of senior secured notes for 34% of ordinary shares in a newly merged group comprising Emeco, Orionstone, and Andy's Earthmovers and for new senior secured notes. S&P Global Ratings views this transaction as distressed because the noteholders will receive less than the original promise of the securities.

On April 7, 2017, we raised our corporate credit rating on Emeco to 'B-' from 'SD' after reassessing Emeco's new capital structure following the company's recent recapitalization and merger. The recapitalization has reduced leverage and improved the sustainability of Emeco's capital structure. The outlook on the long-term rating is negative.

On Nov. 3, 2017, we revised our rating outlook on Emeco Holdings Ltd. to stable from negative, reflecting our view that Emeco's credit metrics would improve in fiscal 2018 due to increasing earnings from a recovery in trading conditions in the mining equipment rental industry, as well as a full year of earnings from Orionstone and Andy's Earthmovers.

Table 64

Issuer Credit Rating History - Emeco Holdings Ltd.

Date	To
03-Nov-2017	B-/Stable/--
07-Apr-2017	B-/Negative/--
30-Mar-2017	SD/NM/--
26-Sep-2016	CC/Negative/--
19-May-2016	CCC/Negative/--
14-Jan-2016	CCC+/Negative/--

Table 64

Issuer Credit Rating History - Emeco Holdings Ltd. (cont.)

Date	To
28-Aug-2015	B-/Negative/--
11-Feb-2015	B/Negative/--
27-Feb-2014	B+/Stable/--

Angelica Corp.

On April 3, 2017, Alpharetta, Ga.-based linen management services company Angelica Corp. defaulted after it filed for Chapter 11 in the U.S. Bankruptcy Court.

Earlier, on Nov. 10, 2010, we withdrew our preliminary ratings on Angelica, including the 'B' corporate credit rating, at the company's request.

Table 65

Issuer Credit Rating History - Angelica Corp.

Date	To
10-Nov-2010	NR/--/--
22-Sep-2010	B/Stable/--

Ocean Rig UDW Inc.

- US\$500 million 7.25% notes due April 1, 2019

On April 3, 2017, S&P Global Ratings lowered its long-term corporate credit rating on Cayman Islands-domiciled drilling company Ocean Rig UDW Inc. to 'D' from 'CCC-'. The company entered into a restructuring agreement with creditors holding more than 72% of its debt, and joint provisional liquidators filed a Chapter 15 petition in a Manhattan bankruptcy court on behalf of the company. Under the agreement, Ocean Rig would swap \$3.69 billion in debt for equity, \$288 million in cash, and \$450 million in new secured debt.

On Oct. 27, 2017, we raised our long-term corporate credit rating on Ocean Rig UDW Inc. to 'B-' from 'D'. The outlook is stable. The rating was raised because of our view that the restructuring has now well positioned the company to face the turbulent market conditions in offshore drilling and the consequent poor operating and financial performance that we anticipate for all players in the segment over the next couple of years.

Table 66

Issuer Credit Rating History - Ocean Rig UDW Inc.

Date	To
27-Oct-2017	B-/Stable/--
03-Apr-2017	D/--/--
22-Aug-2016	CCC-/Negative/--

Table 66

Issuer Credit Rating History - Ocean Rig UDW Inc. (cont.)

Date	To
21-Apr-2016	CCC+/Negative/--
19-Feb-2016	CCC+/Watch Neg/--
07-Apr-2015	B-/Stable/--
13-Mar-2013	B/Negative/--
06-Dec-2012	B/Watch Neg/--
16-Sep-2011	B/Stable/--

Payless Inc.

- US\$520 million first-lien term bank loan due March 11, 2021
- US\$145 million second-lien term bank loan due March 11, 2022

On April 5, 2017, S&P Global Ratings lowered its corporate credit rating on Topeka, Kan.-based footwear retailer company Payless Inc. to 'D' from 'CCC' after the issuer filed for Chapter 11 bankruptcy protection. Payless will immediately close 400 stores as it looks to restructure its struggling operations and significant balance sheet debt.

On Aug. 22, 2017, we assigned our 'B-' corporate credit rating to Payless Inc. The outlook is negative. The rating was raised following the issuer's emergence from bankruptcy after its plan was declared effective after its balance sheet debt was reduced to half.

Table 67

Issuer Credit Rating History - Payless Inc.

Date	To
22-Aug-2017	B-/Negative/--
20-Jun-2017	NR/--/--
05-Apr-2017	D/--/--
01-Feb-2017	CCC/Negative/--
02-Dec-2016	B-/Negative/--
24-Aug-2016	B/Negative/--
13-Feb-2015	B/Stable/--
19-Feb-2014	B/Negative/--
07-Sep-2012	B/Stable/--
03-May-2012	B/Watch Neg/--
20-Dec-2011	B/Stable/--
14-Jun-2011	B+/Stable/--
03-Jun-2010	B+/Positive/--
15-Sep-2008	B+/Stable/--

Table 67

Issuer Credit Rating History - Payless Inc. (cont.)

Date	To
08-May-2008	B+/Negative/--
27-Jul-2007	B+/Stable/--
23-May-2007	BB-/Watch Neg/--
22-Nov-2005	BB-/Stable/--
02-Sep-2004	BB-/Negative/--
02-Mar-2004	BB/Watch Neg/--
10-Jul-2003	BB/Stable/--
17-Jun-2003	BBB-/Watch Neg/--
30-May-2002	BBB-/Negative/--
24-Mar-2000	BBB-/Stable/--

Talos Energy LLC

On April 10, 2017, S&P Global Ratings lowered its corporate credit rating on Houston-based oil and gas exploration and production company Talos Energy LLC to 'SD' from 'CCC+'. The downgrade followed the company's announcement that it completed an exchange offer to existing holders of its \$300 million senior unsecured 9.75% notes due February 2018, a distressed exchange tantamount to default as per our criteria.

On June 23, 2017, we withdrew our ratings, including the 'SD' corporate credit rating, at the company's request.

Table 68

Issuer Credit Rating History - Talos Energy LLC

Date	To
23-Jun-2017	NR/--/--
10-Apr-2017	SD/NM/--
26-Jan-2017	CCC+/Negative/--
25-Jan-2016	B-/Negative/--
14-Aug-2015	B/Stable/--
31-Jul-2014	B-/Positive/--
29-Jan-2013	B-/Stable/--

iPayment Inc.

- US\$400 million 10.25% senior notes due May 15, 2018
- US\$375 million term B bank loan due May 8, 2017

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- US\$296 million 9.50% second-lien notes due Dec. 15, 2019
- US\$35 million term first-lien guaranteed senior secured bank loan due May 8, 2017

On April 11, 2017, S&P Global Ratings lowered its corporate credit rating on New York-based merchant acquirer company iPayment Inc. to 'SD' from 'CC' after the issuer completed a debt exchange transaction that we view as distressed.

On April 12, 2017, we raised our corporate credit rating on iPayment to 'B-' from 'SD'. The rating outlook is stable. The company completed a distressed exchange transaction whereby it will exchange the majority of its second-lien notes for a combination of cash, common equity, and new preferred stock. The stable outlook reflects our view that iPayment will grow EBITDA at least in the low-single-digit percentage area over the next 12 months as the company invests in growth initiatives.

Table 69

Issuer Credit Rating History - iPayment Inc.

Date	To
12-Apr-2017	B-/Stable/--
11-Apr-2017	SD/NM/--
18-Jan-2017	CC/Negative/--
23-Dec-2016	CCC-/Negative/--
15-Aug-2016	CCC/Negative/--
21-Apr-2016	B-/Negative/--
31-Dec-2014	B-/Stable/--
30-Dec-2014	SD/NM/--
03-Oct-2014	CC/Negative/--
13-Jun-2014	CCC/Negative/--
12-Dec-2013	B-/Negative/--
21-Apr-2011	B/Stable/--
12-Jun-2009	B-/Negative/--
12-Jul-2006	B/Negative/--
05-Apr-2006	B/Stable/--

Sprint Industrial Holdings LLC

- US\$76 million second-lien term bank loan due 2019
- US\$165 million first-lien term bank loan due 2019
- US\$12.5 million first-lien revolver bank loan due Feb. 12, 2019

On April 13, 2017, S&P Global Ratings lowered its corporate credit rating on Houston-based specialty equipment rental company Sprint Industrial Holdings LLC to 'SD' from 'CC' following the company's executed amendments to its first- and second-lien secured credit facilities. We view the terms of the amendment to Sprint's second-lien term loan as a distressed restructuring because the company will not fulfill its obligation in accordance with the original terms of the

credit agreement.

On April 18, 2017, we raised our corporate credit rating on Sprint to 'CCC' from 'SD' after the issuer made amendments to its first- and second-lien credit agreements. The outlook is negative, reflecting our belief that Sprint Industrial remains vulnerable to continued weakness in its end markets, which could lead to a liquidity shortfall or cause the company to consider a distressed restructuring.

Table 70

Issuer Credit Rating History - Sprint Industrial Holdings LLC

Date	To
18-Apr-2017	CCC/Negative/--
13-Apr-2017	SD/NM/--
03-Apr-2017	CC/Negative/--
05-Apr-2016	CCC/Negative/--
17-Feb-2016	CCC/Watch Neg/--
11-Dec-2015	CCC/Negative/--
02-Apr-2015	B/Negative/--
23-Apr-2013	B/Stable/--

Iracore International Holdings Inc.

- US\$125 million 9.50% notes due June 1, 2018

On April 18, 2017, S&P Global Ratings lowered its corporate credit rating on Salt Lake City-based oilfield services company Iracore International Holdings Inc. to 'SD' from 'CCC-' following the company's announcement that it completed a transaction with holders of its debt to exchange all of its senior secured notes for equity. We subsequently withdrew the ratings at the company's request.

Table 71

Issuer Credit Rating History - Iracore International Holdings Inc.

Date	To
18-Apr-2017	NR/--/--
18-Apr-2017	SD/NM/--
06-May-2016	CCC-/Negative/--
25-Nov-2014	CCC+/Negative/--
06-May-2013	B-/Stable/--

Spanish Broadcasting System Inc.

- US\$275 million 12.50% first-lien notes due April 15, 2017

On April 21, 2017, S&P Global Ratings lowered its corporate credit rating on Miami-based Spanish

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language broadcaster company Spanish Broadcasting System Inc. (SBS) to 'D' from 'CCC-' following the company's announcement that it didn't repay its \$275 million 12.5% senior secured notes that were due April 15, 2017.

On May 23, 2017, we withdrew our 'D' corporate credit and issue-level ratings on SBS. We withdrew the ratings because we were unlikely to raise them from 'D', based on SBS' ongoing plans to restructure its debt.

Table 72

Issuer Credit Rating History - Spanish Broadcasting System Inc.

Date	To
23-May-2017	NR/--/--
21-Apr-2017	D/--/--
15-Feb-2017	CCC-/Negative/--
20-May-2016	CCC/Negative/--
16-May-2014	CCC+/Negative/--
30-Nov-2012	B-/Negative/--
08-Feb-2012	B-/Stable/--
13-Jun-2011	B-/Negative/--
08-Jul-2010	B-/Stable/--
19-Nov-2009	CCC+/Positive/--
16-Oct-2008	CCC+/Negative/--
15-Aug-2008	B-/Negative/--
30-Nov-2006	B-/Stable/--
08-Sep-2006	B/Watch Neg/--
14-Oct-2003	B/Negative/--
03-Nov-2000	B+/Negative/--
09-Nov-1999	B+/Stable/--
15-Aug-1994	B/Watch Pos/--

Ameriforge Group Inc. d/b/a AFGlobal Corp.

- US\$235 million second-lien term bank loan due Dec. 19, 2020
- US\$540 million first-lien term bank loan due Dec. 19, 2019
- US\$110 million first-lien guaranteed senior secured revolver due Dec. 19, 2017

On May 1, 2017, S&P Global Ratings lowered its corporate credit rating on Houston-based oilfield services company Ameriforge Group Inc. d/b/a AFGlobal Corp. to 'D' from 'CCC-'. The 'D' rating was assigned after Ameriforge announced that it filed for protection under Chapter 11 under the U.S. Bankruptcy Code, where it will implement a negotiated settlement with bondholders and lenders.

We then withdrew all ratings on Ameriforge at the company's request.

Earlier, on Jan. 5, 2017, we lowered our corporate credit rating on Ameriforge to 'CCC-', with a negative outlook, from 'CCC'. This rating action followed the company's disclosure that it engaged

advisers to evaluate potential strategic opportunities to enhance its liquidity and address its capital structure.

Table 73

Issuer Credit Rating History – Ameriforge Group Inc. d/b/a AFGlobal Corp.

Date	To
01-May-2017	NR/--/--
01-May-2017	D/--/--
05-Jan-2017	CCC-/Negative/--
10-May-2016	CCC/Negative/--
28-May-2015	B/Negative/--
04-Jan-2013	B/Stable/--

Sequa Corp.

- US\$350 million 7.00% senior unsecured notes due Dec. 15, 2017
- US\$200 million revolver bank loan due 2017
- US\$1.3 billion term bank loan due June 19, 2017

On May 1, 2017, S&P Global Ratings lowered its corporate credit rating on Palm Beach Gardens, Fla.-based Sequa Corp. to 'SD' from 'CC' and removed all ratings from CreditWatch, where they were placed with negative implications on April 4, 2017. Sequa completed an exchange offer for most of its \$350 million senior unsecured notes due Dec. 15, 2017. We consider this a distressed exchange and thus the equivalent of a default, based on our criteria and the final transaction terms.

On May 2, 2017, we raised our corporate credit rating on Sequa to 'B-' from 'SD'. The outlook is stable, reflecting our expectation that the company's debt leverage will gradually improve as earnings benefit from volume growth and cost reduction efforts. The refinancing improved the company's liquidity by pushing out its debt maturities and resulted in lower debt, although debt leverage remains high.

Table 74

Issuer Credit Rating History – Sequa Corp.

Date	To
02-May-2017	B-/Stable/--
01-May-2017	SD/NM/--
04-Apr-2017	CC/Watch Neg/--
22-Sep-2016	CCC/Negative/--
15-Apr-2015	CCC+/Stable/--
15-Sep-2014	B-/Stable/--
28-Aug-2013	B/Negative/--
26-Jun-2012	B/Stable/--
20-Jun-2011	B-/Positive/--

Table 74

Issuer Credit Rating History - Sequa Corp. (cont.)

Date	To
25-Jun-2010	B-/Stable/--
29-Jun-2009	B-/Negative/--
05-Dec-2007	B/Stable/--
10-Jul-2007	BB-/Watch Neg/--
24-Mar-2006	BB-/Stable/--
28-May-2003	BB-/Negative/--
18-Mar-2003	BB-/Watch Neg/--
15-May-2002	BB-/Negative/--
21-Sep-2001	BB/Watch Neg/--
30-Sep-1997	BB/Stable/--
26-Aug-1994	BB/Negative/--
27-Aug-1993	BB/Stable/--
12-Apr-1993	BB+/Watch Neg/--
28-May-1992	BB+/Stable/--
21-Aug-1991	BB+/Watch Neg/--
20-Aug-1991	BBB-/NM/--
19-Jun-1989	BBB-/Stable/--
16-Jun-1989	BB+/Stable/--
07-Dec-1988	BB+/Positive/--
06-Apr-1988	BB+/Stable/--
21-Sep-1983	BB/--/--
12-Dec-1980	BBB/--/--
02-Oct-1978	BB+/--/--

Millar Western Forest Products Ltd.

- US\$210 million 8.50% notes due April 1, 2021
- US\$131.25 million 9% senior secured bond due April 30, 2022

On May 2, 2017, S&P Global Ratings lowered its long-term corporate credit rating on Canada-based Millar Western Forest Products Ltd. to 'SD' from 'CC'. The downgrade followed the company's announcement that it completed the debt exchange of its 8.5% senior unsecured notes due 2021. The debtholders received less than what was promised in the original debt terms. As such, we consider the transaction a distressed exchange, which meets our definition of a default.

We withdrew all ratings on the company at its request.

Earlier, on March 9, 2017, we lowered our long-term corporate credit rating on Millar to 'CC' from 'B-' following its announcement of a proposed exchange offering, which we view as a distressed

exchange, if completed. In addition, we placed all the ratings on CreditWatch with negative implications.

Table 75

Issuer Credit Rating History - Millar Western Forest Products Ltd.

Date	To
02-May-2017	NR/--/--
02-May-2017	SD/NM/--
09-Mar-2017	CC/Watch Neg/--
25-Aug-2016	B-/Negative/--
26-Mar-2013	B-/Stable/--
29-Mar-2012	B-/Negative/--
29-Apr-2010	B-/Stable/--
25-Mar-2009	B-/Negative/--
24-Sep-2008	B-/Stable/--
10-Mar-2006	B-/Negative/--
06-Oct-2005	B+/Negative/--
24-Apr-1998	B+/Stable/--

Sable Permian Resources LLC

- US\$350 million 6.737% senior unsecured notes due Aug. 1, 2019
- US\$295 million 8.00% secured second-lien notes due June 15, 2020
- US\$650 million 7.125% senior unsecured notes due Nov. 1, 2020
- US\$600 million 7.375% senior unsecured notes due Nov. 1, 2021
- US\$560 million first-lien notes due 2020
- US\$1 billion revolver bank loan due May 1, 2019

On May 3, 2017, S&P Global Ratings lowered its corporate credit rating on Oklahoma City-based oil and gas exploration and production company Sable Permian Resources LLC to 'SD' from 'CCC'. The downgrade followed the company's announcement that it agreed to exchange approximately \$325 million of principal amount of its second-lien secured debt and unsecured debt for equity interests. We view this transaction as distressed because the ranking of the equity in the capital structure would be considered junior to the original debt.

On May 23, 2017, we raised our corporate credit rating on Sable Permian to 'CCC,' with a negative outlook, from 'SD' following the completion of the restructuring. The negative outlook reflected our view that Sable could face a liquidity shortfall over the next 12 months, given its less-than-adequate liquidity and our assumption for significant cash outspending.

On Sept. 11, 2017, S&P Global Ratings raised its corporate credit rating on Sable Permian Resources LLC to 'CCC+' from 'CCC'. The outlook is negative. The upgrade reflected our assessment that Sable's leverage will improve, as we expect the issuer to use its equity proceeds to aggressively increase production.

Table 76

Issuer Credit Rating History - Sable Permian Resources LLC

Date	To
11-Sep-2017	CCC+/Negative/--
23-May-2017	CCC/Negative/--
03-May-2017	SD/NM/--
25-May-2016	CCC/Negative/--
13-May-2016	SD/NM/--
02-Oct-2015	CCC+/Negative/--
04-May-2015	B-/Negative/--
30-Oct-2014	B/Negative/--
09-Jul-2014	B/Stable/--

Agrokor d.d.

- EUR300 million 9.875% bonds due May 1, 2019
- US\$300 million 8.875% notes due Feb. 1, 2020
- EUR325 million 9.125% notes due Feb. 1, 2020

On May 8, 2017, S&P Global Ratings lowered its corporate credit rating on Croatian retailer Agrokor d.d. to 'SD' from 'CC'. On May 1, 2017, the company missed a coupon payment on its €300 million senior secured notes due 2019. Under a new Croatian law, Agrokor is restricted from making debt payments to lenders and bondholders. Therefore, we think it is highly unlikely that Agrokor will resume payments within the 30-day grace period.

On May 17, 2017, we affirmed our corporate credit ratings on Agrokor at 'SD'. We withdrew the ratings because the rating engagement was not renewed, and we chose not to continue ratings surveillance on an unsolicited basis.

On April 2, 2017, a spokesperson for Agrokor said that the company reached an agreement with its group of bank creditors to freeze debt payments. Consequently, on April 5, 2017, we lowered our long- and short-term corporate credit ratings on Agrokor to 'CC/C' from 'B-/B' with a negative outlook.

Table 77

Issuer Credit Rating History - Agrokor d.d.

Date	To
17-May-2017	NR/--/--
08-May-2017	SD/NM/--
05-Apr-2017	CC/Negative/--
03-Mar-2017	B-/Negative/--
30-Apr-2013	B/Stable/--
18-Apr-2012	B/Positive/--
31-May-2011	B/Stable/--

Table 77

**Issuer Credit Rating History - Agrokor
d.d. (cont.)**

Date	To
07-Apr-2011	B/Watch Neg/--
11-Nov-2010	B/Stable/--
21-Feb-2008	B/Negative/--
12-Nov-2007	B/Watch Neg/--
13-Oct-2006	B/Positive/--
04-Oct-2005	B/Negative/--
17-Mar-2005	B+/Negative/--
30-Mar-2000	B+/Stable/--

rue21 Inc.

- US\$250 million 9.00% senior notes due Oct. 15, 2021
- US\$538.5 million term B bank loan due Oct. 9, 2020
- US\$150 million first-lien senior secured asset-based revolver due Oct. 10, 2018

On May 4, 2017, S&P Global Ratings lowered its corporate credit rating on Warrendale, Pa.-based specialty apparel retailer rue21 Inc. to 'D' from 'CC'. The downgrade reflected our confirmation that the company missed an interest payment on its term loan and the belief that rue21 will not meet its financial obligations following the conclusion of the forbearance agreement with its lenders. Furthermore, we anticipated a default by the company would be a general default.

On July 19, 2017, we withdrew our ratings on the company.

On Sept. 22, rue21 Inc. issued a statement announcing that it emerged from Chapter 11.

Table 78

Issuer Credit Rating History - Rue21 Inc.

Date	To
19-Jul-2017	NR/--/--
04-May-2017	D/--/--
07-Apr-2017	CC/Negative/--
30-Jan-2017	CCC-/Negative/--
08-Dec-2016	CCC/Negative/--
20-Apr-2016	B-/Negative/--
06-Aug-2013	B-/Stable/--

Affinion Group Holdings Inc.

- US\$325 million 13.75% payment-in-kind/toggle notes series A due Sept. 15, 2018

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- US\$425 million second-lien term bank loan due Oct. 31, 2018
- US\$775 million first-lien term bank loan due April 30, 2018
- US\$80 million revolver bank loan due Jan. 29, 2018
- US\$475 million 7.875% notes due Dec. 15, 2018
- US\$110 million 7.50% payment-in-kind notes due July 30, 2018
- US\$362.6 million 13.50% senior subordinated notes due 2018

On May 10, 2017, S&P Global Ratings lowered its corporate credit rating on Stamford, Conn.-based loyalty and customer engagement solutions company Affinion Group Holdings Inc. to 'SD' from 'CC' following the company's announcement that it closed an exchange transaction in which it exchanged various senior unsecured notes due 2018 for new senior cash 12.5%/PIK step-up to 15.5% notes due November 2022 and warrants for 28% of fully diluted equity.

On May 12, 2017, we raised our corporate credit rating on Affinion to 'CCC+' from 'SD' with a negative outlook. The upgrade followed Affinion's completion of its exchange offer on certain senior unsecured notes, which we viewed as a distressed exchange, and refinancing of its senior secured credit facilities. The negative rating outlook indicated our view that Affinion's capital structure is unsustainable because the company depends on favorable business and economic conditions to grow and manage its high debt leverage. Although the restructuring alleviates its near-term debt maturity risks, the company faces the prospect of increased leverage due to the PIK feature under the new notes.

Table 79

Issuer Credit Rating History - Affinion Group Holdings Inc.

Date	To
12-May-2017	CCC+/Negative/--
11-May-2017	SD/NM/--
03-Apr-2017	CC/Negative/--
22-Feb-2017	CCC+/Negative/--
13-Nov-2015	CCC+/Stable/--
10-Nov-2015	SD/NM/--
01-Oct-2015	CC/Negative/--
12-Jun-2014	CCC+/Negative/--
10-Jun-2014	SD/NM/--
30-Apr-2014	CC/Negative/--
26-Dec-2013	CCC+/Negative/--
17-Dec-2013	SD/NM/--
08-Nov-2013	CC/Negative/--
25-Jun-2013	CCC+/Negative/--
07-Dec-2012	B-/Stable/--
20-Aug-2012	B/Watch Neg/--
27-Mar-2012	B/Negative/--
08-Dec-2011	B+/Negative/--

Table 79

Issuer Credit Rating History - Affinion Group Holdings Inc. (cont.)

Date	To
08-Feb-2011	B+/Stable/--
28-Sep-2010	B+/Negative/--

CGG

- US\$400 million 7.75% callable notes due May 15, 2017
- US\$650 million 6.50% bonds due June 1, 2021
- US\$325 million revolving credit facility bank loan due July 15, 2018
- EUR400 million 5.875% notes due May 15, 2020
- US\$500 million 6.875% callable bonds due Jan. 15, 2022
- US\$165 million revolving credit facility bank loan due July 15, 2018
- US\$100 million revolving credit facility bank loan due July 1, 2018
- US\$100 million term loan facility bank loan due July 1, 2018
- US\$350 million floating-rate bank loan due 2021
- EUR\$360 million 1.25% convertible bond due Jan. 1, 2019
- EUR\$360.111 million 1.75% convertible bond due Jan. 1, 2020
- US\$342.1225 million first-lien guaranteed term loan due May 15, 2019
- US\$100 million first-lien guaranteed revolver bank due Dec. 16, 2019
- US\$150 million first-lien guaranteed term loan due Dec. 16, 2019

On May 18, 2017, S&P Global Ratings lowered its corporate credit rating on French geoscience company CGG to 'D' from 'CCC-'. The downgrade followed the interest payment on CGG's senior unsecured note (due 2020), which was due on May 15, 2017, being put on hold.

On Jan. 10, 2017, we lowered our long-term corporate credit rating on CGG to 'CCC-' from 'CCC+' with a negative outlook following the company's announcement that it intended to achieve a financial restructuring to reduce its current debt levels.

Table 80

Issuer Credit Rating History - CGG

Date	To
18-May-2017	D/--/--
10-Jan-2017	CCC-/Negative/--
16-Nov-2015	CCC+/Negative/--
07-Aug-2015	B-/Stable/--
22-Jan-2015	B/Negative/--

Table 80

**Issuer Credit Rating History -
CGG (cont.)**

Date	To
08-Aug-2014	B+/Negative/--
07-Apr-2014	B+/Stable/--
29-Nov-2012	BB-/Stable/--
25-Sep-2012	BB-/Watch Neg/--
30-Mar-2012	BB-/Stable/--
02-Dec-2010	BB-/Negative/--
11-May-2010	BB-/Stable/--
01-Jun-2009	BB/Negative/--
13-Dec-2007	BB/Stable/--
11-Jan-2007	BB-/Positive/--
05-Sep-2006	BB-/Watch Neg/--
12-Dec-2005	BB-/Stable/--
30-Aug-2005	BB-/Watch Neg/--
15-Apr-2005	BB-/Stable/--
23-Nov-2004	BB/Negative/--
02-Sep-2004	BB/Watch Neg/--
21-Feb-2003	BB/Negative/--
23-Dec-2002	BB/Watch Neg/--
06-Dec-2002	BB/Negative/--
06-Nov-2000	BB/Stable/--

Tidewater Inc.

- US\$44.5 million 3.9% senior unsecured notes due Dec. 31, 2017
- US\$25 million 3.95% senior unsecured notes due Dec. 31, 2017
- US\$25 million 4.17% senior unsecured notes due Dec. 30, 2018
- US\$25 million 4.12% senior unsecured notes due Dec. 30, 2018
- US\$50 million 4.06% senior unsecured notes due March 31, 2019
- US\$50 million 4.33% senior unsecured notes due Dec. 30, 2019
- US\$100 million 4.51% senior unsecured notes due Dec. 31, 2020
- US\$65 million 4.56% senior unsecured notes due Dec. 31, 2020
- US\$50 million 4.64% senior unsecured notes due June 30, 2021
- US\$65 million 4.54% senior unsecured notes due June 30, 2021
- US\$48 million 4.61% senior unsecured notes due Dec. 30, 2022

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- US\$600 million guaranteed senior unsecured revolver bank due June 21, 2019
- US\$300 million guaranteed senior unsecured term loan due June 21, 2019

On May 17, 2017, New Orleans-based operator of the world's largest marine supply fleet company, Tidewater Inc., defaulted after filing for Chapter 11 protection in the U.S. Bankruptcy Court.

Earlier, on June 6, 1997, we withdrew our ratings on the company.

Table 81

Issuer Credit Rating History - Tidewater Inc.

Date	To
06-Jun-1997	NR/--/--
04-Nov-1996	BBB/Stable/--
16-Apr-1996	BBB-/Stable/--
27-Oct-1994	BBB-/NM/--
23-Dec-1993	BBB-/Stable/--
15-Apr-1993	BB+/Stable/--
14-Apr-1993	CCC/Stable/--
29-Mar-1990	CCC/NM/--
18-Dec-1987	CCC/Positive/--
07-Oct-1986	CCC/--/--
20-Mar-1986	BB/--/--
12-Dec-1980	BBB/--/--
20-Nov-1980	BB/--/--
06-Aug-1971	BBB/--/--

Marsh Supermarkets Inc.

On May 11, 2017, Indianapolis-based food retailer Marsh Supermarkets Inc. defaulted after filing for Chapter 11 in the U.S. Bankruptcy Court.

Earlier, on Sept. 28, 2006, we withdrew our 'B-' corporate credit and all other ratings on the company following the announcement that MSH Supermarkets Inc., an affiliate of Sun Capital Partners, had completed the acquisition of Marsh Supermarkets for about \$325 million.

Table 82

Issuer Credit Rating History - Marsh Supermarkets Inc.

Date	To
28-Sep-2006	NR/--/--
29-Nov-2005	B-/Watch Dev/--
14-Sep-2005	B-/Negative/--
03-Mar-2005	B/Stable/--
11-Nov-2004	B+/Watch Neg/--

Table 82

Issuer Credit Rating History - Marsh Supermarkets Inc. (cont.)

Date	To
16-Jun-2004	B+/Negative/--
01-Dec-2003	B+/Stable/--
20-Feb-2003	BB-/Negative/--
11-Oct-2002	BB/Negative/--
23-Jul-1997	BB/Stable/--
05-Aug-1996	NR/--/--
05-Feb-1993	BB-/Stable/--

W3 Topco LLC

- US\$10 million first-lien tranche B notes due June 14, 2020
- US\$115 million second-lien term bank loan due 2020
- US\$21.214 million first-lien tranche C notes due June 14, 2020
- US\$270 million first-lien term bank loan due 2020
- US\$60 million revolving bank loan due 2018

On May 22, 2017, S&P Global Ratings lowered its corporate credit rating on Houston-based oilfield services company W3 Topco LLC (formerly known as W3 Co.) to 'D' from 'CCC' following the exchange of all of the issuer's outstanding debt for debt and equity at below par. We view this as a distressed exchange for the entire \$480 million in outstanding debt because investors are receiving less than par, and because of our view that the company was facing a realistic possibility of a conventional default prior to the exchange.

On June 21, 2017, we raised our corporate credit rating on W3 Topco LLC to 'B-' from 'D' following completion of a capital restructuring. The negative outlook reflected the potential for a downgrade if currently weak credit measures did not improve over the next 12 months.

Table 83

Issuer Credit Rating History - W3 Topco LLC

Date	To
21-Jun-2017	B-/Negative/--
22-May-2017	D/--/--
25-May-2016	CCC/Negative/--
22-May-2015	B-/Negative/--
03-Oct-2011	B-/Stable/--

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

- US\$180.354 million step-up senior notes due 2020

On May 24, 2017, S&P Global Ratings lowered its corporate credit rating on Mexico-based telecommunications company Maxcom Telecomunicaciones S.A.B. de C.V. to 'SD' from

'CC' following the company's announcement on May 23 that it executed a debt repurchase for \$13.1 million of its senior secured step-up notes due 2020 through cash on hand. We view the debt repurchases, which we believe were conducted at prices substantially below par value, as tantamount to default.

On May 26, 2017, we raised our corporate credit rating on Maxcom Telecomunicaciones S.A.B. de C.V. to 'CCC+' from 'SD' with a stable outlook. The upgrade reflected our reassessment of our corporate credit rating after the company repurchased \$13.1 million of its outstanding senior secured step-up notes due 2020 at substantially below par. The stable outlook reflected our expectation that liquidity will remain adequate, allowing Maxcom to cover its financial obligations over the next 12 months.

Table 84

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

Date	To
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/--

Frigoglass SAIC

- EUR250 million 8.25% notes due May 15, 2018

On May 23, 2017, S&P Global Ratings lowered its long-term corporate credit rating on Greek ice-cold merchandiser Frigoglass SAIC to 'SD' from 'CC' following a missed coupon payment on its €250 million senior unsecured notes due 2018 on May 15, 2017. We did not expect Frigoglass to be able to make a payment in the relevant grace period of 30 days from the missed payment date. The

company intended to apply to the High Court of Justice of England and Wales to sanction a scheme of arrangement to implement restructuring.

Earlier, on March 21, 2017, we lowered our corporate credit rating on Frigoglass to 'CC' from 'CCC+' with a negative outlook following the company's announcement that it would offer noteholders the option to exchange their senior notes with new first-lien notes as part of a broad capital restructuring.

Table 85

Issuer Credit Rating History - Frigoglass SAIC

Date	To
23-May-2017	SD/NM/--
21-Mar-2017	CC/Negative/--
14-Apr-2016	CCC+/Negative/--
29-Feb-2016	CCC/Watch Dev/--
04-Jun-2014	B+/Stable/--
05-Dec-2013	BB-/Negative/--
07-May-2013	BB-/Stable/--

Ascent Resources - Marcellus LLC

- US\$450 million second-lien term bank loan due 2021
- US\$750 million first-lien term bank loan due 2020

On May 31, 2017, S&P Global Ratings lowered its corporate credit rating on Oklahoma City-based oil and gas exploration and production company Ascent Resources – Marcellus LLC to 'D' from 'CCC-' as the company entered a 30-day grace period to make the interest payments on its first-lien term loan due 2020 and its second-lien term loan due 2021. We believed it was unlikely that the company would make these interest payments by the end of the grace period and that it would either restructure its debt out of court or file for Chapter 11 bankruptcy protection.

Earlier, on Nov. 17, 2016, we lowered our corporate credit rating on Ascent Resources to 'CCC-' from 'CCC' with a negative outlook following the company's announcement that it hired advisers to evaluate a potential capital restructuring, either through a privately negotiated exchange or Chapter 11 filing.

Table 86

Issuer Credit Rating History - Ascent Resources - Marcellus LLC

Date	To
31-May-2017	D/--/--
17-Nov-2016	CCC-/Negative/--
16-Dec-2015	CCC/Negative/--
18-May-2015	CCC+/Negative/--
24-Jun-2014	B-/Stable/--

Aurora Diagnostics Holdings LLC

- US\$200 million 10.75% senior notes due Jan. 15, 2018
- US\$30 million revolver bank loan due July 31, 2019
- US\$165 million term bank loan due July 31, 2019
- US\$25 million delayed draw term bank loan due July 31, 2019
- US\$10 million delayed term B bank loan due July 31, 2019

On June 6, 2017, S&P Global Ratings lowered its corporate credit rating on Palm Beach Gardens, Fla.-based anatomic pathology laboratory services Aurora Diagnostic Holdings LLC to 'SD' from 'CC' following the company's announcement that it closed an exchange offer with 99% of the holders of its \$200 million 10.75% senior unsecured notes due 2018, which we view as a distressed exchange. We subsequently withdrew all of our ratings on Aurora and its subsidiary at the company's request.

Earlier, on May 1, 2017, we lowered our long-term corporate credit rating on Aurora Diagnostics Holdings LLC to 'CC' from 'CCC' with a negative outlook as the company provided more details surrounding its proposed exchange offering, which we view as a distressed exchange, if completed.

Table 87

Issuer Credit Rating History - Aurora Diagnostics Holdings LLC

Date	To
06-Jun-2017	NR/--/--
06-Jun-2017	SD/NM/--
01-May-2017	CC/Negative/--
23-Nov-2016	CCC/Negative/--
20-May-2016	CCC+/Negative/--
30-Jun-2015	CCC+/Stable/--
20-Apr-2015	CCC+/Watch Neg/--
05-Aug-2014	CCC+/Stable/--
27-Jun-2014	CCC/Negative/--
17-Oct-2013	CCC+/Negative/--
19-Nov-2012	B-/Negative/--
31-Oct-2012	B/Negative/--
01-Jun-2011	B/Stable/--

Gymboree Corp. (The)

- US\$820 million term bank loan due Feb. 23, 2018
- US\$400 million 9.125% senior unsecured notes due Dec. 1, 2018
- USD\$50 million first-lien guaranteed senior secured term notes due Sept. 24, 2020

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On June 2, 2017, S&P Global Ratings lowered its corporate credit rating on San Francisco-based children's apparel retailer company The Gymboree Corp. to 'D' from 'CC'. The Gymboree Corp. announced that it elected not to pay the June 1, 2017, interest payment due on its 9.125% senior notes due 2018. We did not expect the company to make this payment or any other payments on its debt obligations, and expected a general default given ongoing lender negotiations.

Later, on July 6, 2017, we withdrew our ratings on the company.

Earlier, on Jan. 10, 2017, we lowered our corporate credit rating on The Gymboree Corp. to 'CC' from 'CCC+' with a negative outlook. The downgrade reflected significant near-term refinancing requirements, limited liquidity, and continuing weak operating performance. The negative outlook reflected substantial refinancing risk and deteriorating liquidity of the company.

Table 88

Issuer Credit Rating History - Gymboree Corp. (The)

Date	To
06-Jul-2017	NR/--/--
02-Jun-2017	D/--/--
10-Jan-2017	CC/Negative/--
02-Jun-2016	CCC+/Negative/--
27-May-2016	SD/NM/--
27-Apr-2016	CC/Watch Neg/--
21-Dec-2015	CCC+/Negative/--
12-May-2014	CCC+/Developing/--
09-Nov-2012	B-/Stable/--
17-Jun-2011	B/Stable/--
09-Feb-2011	B+/Stable/--

Rooster Energy Ltd.

On June 2, 2017, Canada-based oil and gas exploration and production and oilfield services company Rooster Energy Ltd. defaulted after filing for Chapter 11 in bankruptcy court.

Earlier, on Feb. 12, 2015, we affirmed our 'CCC-' corporate credit and senior secured ratings on Rooster Energy Ltd. We subsequently withdrew the rating at the issuer's request because the company's public debt offering did not materialize.

Table 89

Issuer Credit Rating History - Rooster Energy Ltd.

Date	To
12-Feb-2015	NR/--/--
16-Jan-2015	CCC-/Negative/--
22-Jul-2014	CCC+/Developing/--

HCR HealthCare LLC

- US\$400 million term loan B bank loan due April 6, 2018
- US\$175 million revolver bank loan due April 6, 2016

On June 6, 2017, S&P Global Ratings lowered its corporate credit rating on Toledo, Ohio-based skilled nursing and assisted living facility operator HCR HealthCare LLC to 'D' from 'B-'. The rating action followed the announcement that HCR's debt lenders accelerated their term loan to HCR on May 16. The debt acceleration followed an auditor's opinion that raised substantial doubts about the company's ability to continue as a going concern. The company also breached its forbearance agreement with its lessor, Quality Care Properties.

Later, on July 27, 2017, we withdrew our ratings on the company.

Table 90

Issuer Credit Rating History - HCR HealthCare LLC

Date	To
27-Jul-2017	NR/--/--
06-Jun-2017	D/--/--
19-May-2016	B-/Developing/--
02-Apr-2015	B-/Stable/--
20-Jan-2015	B-/Negative/--
18-Mar-2014	B/Negative/--
30-Nov-2011	B/Stable/--
03-Aug-2011	B/Watch Neg/--
30-Oct-2007	B/Stable/--
02-Jul-2007	B+/Watch Neg/--
12-Apr-2007	BBB-/Watch Neg/--
11-May-2006	BBB/Negative/--
27-Feb-2001	BBB/Stable/--
29-Jun-2000	BBB/Negative/--
03-Mar-2000	BBB/Watch Neg/--
01-Oct-1998	BBB/Stable/--
16-Sep-1997	BBB/Watch Neg/--
04-Oct-1994	BBB/Stable/--
22-Oct-1993	BBB-/Positive/--
06-Oct-1992	BBB-/Stable/--
26-May-1992	BB+/Stable/--
04-Apr-1989	BB+/Negative/--
26-Aug-1988	BB+/Stable/--
22-Dec-1987	BB+/-/--
09-Apr-1985	BB/--/--

Table 90

Issuer Credit Rating History - HCR HealthCare LLC (cont.)

Date	To
19-May-1983	BB-/--/--

Novartex

- EUR500 million bonds due Oct. 20, 2019
- EUR780 million bank loan due Oct. 29, 2020

On June 6, 2017, S&P Global Ratings lowered its long-term corporate credit rating on Novartex S.A.S., the parent company of France-based mass-market apparel and footwear retailer Vivarte Group, to 'SD' from 'CC' following Novartex's agreement with its creditors on the terms of a distressed exchange offer, which we consider tantamount to a selective default.

On July 6, 2017, we raised our long-term corporate credit rating on Novartex S.A.S. after the completion of its distressed exchange offer, converting €780 million of debt to equity. The outlook is stable, reflecting our view that the cash-preserving features of the new capital structure and strengthening earnings and working capital control will prevent default in the next 12 months. However, the ability to cover any operating setbacks will depend on Vivarte's execution of the asset sales as planned.

Table 91

Issuer Credit Rating History - Novartex

Date	To
06-Jul-2017	CCC/Stable/--
06-Jun-2017	SD/NM/--
25-Jan-2017	CC/Negative/--
29-Jul-2016	CCC/Negative/--
20-Jan-2015	CCC+/Stable/--

CST Industries Inc.

On June 9, 2017, Lenexa, Kan.-based storage tank and cover manufacturer CST Industries Inc. defaulted after filing for Chapter 11 in the U.S. Bankruptcy Court.

Earlier, on May 25, 2012, we withdrew our ratings, including the 'CCC' corporate credit rating, on CST Industries Inc. at the issuer's request.

Table 92

Issuer Credit Rating History - CST Industries Inc.

Date	To
25-May-2012	NR/--/--

Table 92

Issuer Credit Rating History - CST Industries Inc. (cont.)

Date	To
28-Mar-2012	CCC/Negative/--
13-Jan-2012	CCC/Watch Neg/--
04-Aug-2011	B-/Negative/--
06-Aug-2010	B/Negative/--
25-Aug-2009	B/Stable/--
05-Mar-2009	B/Negative/--
31-Jul-2006	B/Stable/--

GenOn Energy Inc.

- US\$725 million 7.875% senior notes due June 15, 2017
- US\$675 million 9.50% senior notes due Oct. 15, 2018
- US\$550 million 9.875% senior unsecured notes due Oct. 15, 2020
- US\$550 million 10.50% first-lien notes due June 1, 2022
- US\$400 million 9.125% senior notes due May 1, 2031
- US\$450 million 8.50% notes due Oct. 1, 2021

On June 14, 2017, S&P Global Ratings lowered its issuer credit rating on Princeton, N.J.-based independent power producer company GenOn Energy Inc. and its affiliates to 'D' from 'CC' following the company's announcement that it would initiate an exchange offer on GenOn Americas Generation's unsecured notes, resulting in a prepackaged bankruptcy filing. Also, a consent agreement was reached with 93% of its noteholders.

Later, on July 20, 2017, we withdrew our ratings on the company.

Earlier, on May 25, 2017, we lowered our issuer credit rating on GenOn Energy Inc. to 'CC' from 'CCC-' with a negative outlook. The downgrade resulted from a filing made by the issuer that indicated that GenOn was pursuing an exchange with the existing debtholders.

Table 93

Issuer Credit Rating History - GenOn Energy Inc.

Date	To
20-Jul-2017	NR/--/--
14-Jun-2017	D/--/--
25-May-2017	CC/Negative/--
10-Jan-2017	CCC-/Negative/--
24-May-2016	CCC/Negative/--
16-Feb-2016	CCC+/Negative/--

Table 93

Issuer Credit Rating History - GenOn Energy Inc. (cont.)

Date	To
02-Oct-2015	CCC+/Stable/--
20-Oct-2014	B-/Stable/--
19-Dec-2012	B/Stable/--
23-Jul-2012	B-/Watch Pos/--
03-May-2012	B-/Stable/--
13-Dec-2011	B/Negative/--
17-Dec-2010	B/Stable/--

A.M. Castle & Co.

- US\$57.5 million 7% senior unsecured convertible notes due Dec. 15, 2017
- US\$203.319 million 12.75% second-lien notes due Dec. 15, 2018
- US\$75 million 11% first-lien guaranteed senior secured term loan due Sept. 14, 2018
- US\$37 million 11% first-lien guaranteed senior secured delayed draw term DD due Sept. 14, 2018

On June 18, 2017, Oak Brook, Ill.-based metals distributor A.M. Castle & Co. defaulted after filing for Chapter 11 in the U.S. Bankruptcy Court.

Earlier, on Feb. 9, 2016, S&P Global Ratings lowered its corporate credit rating on A.M. Castle & Co. to 'SD' from 'CC', reflecting the company's Feb. 3, 2016, announcement of the consummation of an exchange offer for its senior secured notes.

Later, on Feb. 19, 2016, we raised our corporate credit rating on A.M. Castle & Co. to 'CCC+' from 'SD' with a negative outlook following the completion of its exchange offer on the senior secured notes due December 2016. Subsequently, we withdrew all of our ratings on A.M. Castle at the company's request.

Table 94

Issuer Credit Rating History - A.M. Castle & Co.

Date	To
19-Feb-2016	NR/--/--
19-Feb-2016	CCC+/Negative/--
09-Feb-2016	SD/NM/--
22-Jan-2016	CC/Negative/--
09-Feb-2015	CCC+/Negative/--
18-Aug-2014	B-/Negative/--
31-Oct-2013	B-/Stable/--
26-Jun-2013	B/Stable/--

Table 94

Issuer Credit Rating History – A.M. Castle & Co. (cont.)

Date	To
05-Jan-2012	B+/Stable/--

Mood Media Corp.

- US\$350 million 9.25% notes due Oct. 15, 2020
- US\$235 million variable-rate first-lien bank loan due May 1, 2019
- US\$15 million variable-rate revolver bank loan due May 1, 2019

On June 29, 2017, S&P Global Ratings lowered its corporate credit rating on U.S.-based in-store media company Mood Media Corp. to 'SD' from 'CC'. The downgrade followed Mood Media's announcement that it exchanged \$350 million of its 9.25% senior unsecured notes due 2020 for new \$175 million senior secured second-lien 6% cash and 8% PIK interest notes due 2024 and new equity considerations. We view the debt exchange as tantamount to a default because the debt maturity was extended beyond the original term and the new notes' PIK terms would defer cash interest payments. With the closing of the debt exchange, the company redomiciled to the U.S. from Canada.

On June 30, 2017, we raised our corporate credit rating on Mood Media to 'B-', with a negative outlook, from 'SD' following the completion of the company's debt exchange offer.

Earlier, on April 18, 2017, we lowered our corporate credit rating on Mood Media to 'CC' from 'CCC+' following the company's announcement that it was offering to exchange its 9.25% senior unsecured notes due in 2020 for new issues of second-lien notes due in 2024 plus new common equity.

Table 95

Issuer Credit Rating History – Mood Media Corp.

Date	To
30-Jun-2017	B-/Negative/--
29-Jun-2017	SD/NM/--
18-Apr-2017	CC/Negative/--
17-Apr-2015	CCC+/Negative/--
07-Apr-2014	B-/Negative/--
24-Apr-2013	B-/Stable/--
09-Oct-2012	B/Stable/--
27-Apr-2012	B/Positive/--
06-Apr-2011	B/Stable/--

True Religion Apparel Inc.

- US\$85 million second-lien term bank loan due Jan. 30, 2020
- US\$400 million first-lien term bank loan due July 30, 2019
- US\$60 million first-lien guaranteed senior secured asset-based revolver due July 30, 2018

On July 5, 2017, S&P Global Ratings lowered its corporate credit rating on Vernon, Calif.-based specialty apparel retailer True Religion Apparel Inc. to 'D' from 'CCC' after the issuer filed for Chapter 11 bankruptcy. The company planned to engage lenders in an arranged debt-for-equity swap amid weakness in the competitive retail environment and as the company sought to restructure its struggling operations. At the time of the bankruptcy filing, True Religion had about \$368 million of its \$400 million first-lien term loan and all of its \$85 million second-lien term loan debt outstanding, as well as some outstanding borrowings under its asset-backed lending revolving credit facility.

On Oct. 30, 2017, the company emerged from Chapter 11 protection.

Table 96

Issuer Credit Rating History - True Religion Apparel Inc.

Date	To
07-Aug-2017	NR/--/--
05-Jul-2017	D/--/--
18-Dec-2015	CCC/Negative/--
12-May-2014	B-/Stable/--
09-Jul-2013	B/Stable/--

J. Crew Group Inc.

- US\$500 million 7.75% PIK toggle notes due May 1, 2019
- US\$1.567 billion term loan B bank loan due March 5, 2020
- US\$350 million first-lien guaranteed senior secured asset-based revolver due Nov. 11, 2021

On July 12, 2017, S&P Global Ratings lowered its corporate credit rating on New York-based multibrand, multichannel specialty retailer J. Crew Group Inc. to 'SD' from 'CC'. The downgrade followed the close of J. Crew's previously announced debt exchange transaction for unsecured 7.75% and 8.50% senior PIK toggle notes issued by the company's parent, Chino's Intermediate Holdings A Inc.

On July 14, 2017, we raised our corporate credit rating on the company to 'CCC+' from 'SD'. The rating action followed a review of J. Crew's capital structure following the company's exchange of the unsecured PIK toggle notes maturing in 2019. The distressed exchange transaction modestly reduced debt levels by about \$40 million and extended the company's debt maturity profile to 2021. However, S&P Global Ratings' credit rating on J. Crew also reflects a projection for continued operating weakness, modestly negative free operating cash flow, and the still-large debt burden.

Table 97

Issuer Credit Rating History - J. Crew Group Inc.

Date	To
14-Jul-2017	CCC+/Negative/--
12-Jul-2017	SD/NM/--
14-Jun-2017	CC/Negative/--
13-Dec-2016	CCC-/Negative/--
2-Sep-2015	B-/Negative/--
5-Dec-2014	B-/Stable/--
28-Oct-2013	B/Negative/--
20-Sep-2013	B/Stable/--
4-Apr-2013	B/Positive/--
11-Jun-2012	B/Stable/--
5-Dec-2011	B/Negative/--
31-Jan-2011	B/Stable/--
23-Nov-2010	BB-/Watch Neg/--
2-Apr-2010	BB+/Stable/--
8-Dec-2009	BB-/Positive/--
8-Apr-2009	BB-/Stable/--
31-Oct-2007	BB-/Positive/--
23-Mar-2007	B+/Positive/--
17-Jul-2006	B+/Stable/--
15-Dec-2005	B/Watch Pos/--
19-Aug-2005	B-/Watch Pos/--
22-Dec-2004	B-/Positive/--
8-May-2003	B-/Negative/--
8-May-2003	SD/NM/--
14-Apr-2003	CC/Watch Neg/--
3-Jun-2002	B-/Negative/--
30-Nov-2001	B/Negative/--
1-Oct-2001	B/Stable/--
6-Jul-2000	B/Positive/--
22-May-1998	B/Negative/--
26-Sep-1997	B+/Negative/--

Armstrong Energy Inc.

- US\$200 million 11.75% senior secured notes due Nov. 15, 2019

On July 17, 2017, S&P Global Ratings lowered its corporate credit and issue-level ratings on

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Illinois-based producer of low-chlorine, high-sulfur thermal coal Armstrong Energy Inc. to 'D' from 'CC' and removed the ratings from CreditWatch.

The downgrade reflected Armstrong's failure to make an \$11.75 million interest payment on 11.75% senior secured notes within the 30-day grace period that expired on July 17, 2017. The interest payment on the notes was originally due on June 15, 2017, after which the company exercised its 30-day grace period.

On Nov. 16, 2017, we withdrew all our ratings on Armstrong. The company and substantially all of its wholly owned subsidiaries filed for Chapter 11 bankruptcy protection on Nov. 1, 2017, in the U.S. Bankruptcy Court. As part of the Chapter 11 reorganization plan, essentially all of Armstrong's assets will be transferred to a new entity that will be jointly owned by the senior secured bondholders and Knight Hawk Holdings LLC.

Table 98

Issuer Credit Rating History - Armstrong Energy Inc.

Date	To
16-Nov-2017	NR/--/--
17-Jul-2017	D/--/--
16-Jun-2017	CC/Watch Neg/--
4-Apr-2017	CCC-/Negative/--
20-Jan-2017	CCC/Negative/--
24-Oct-2016	CCC-/Watch Dev/--
18-Aug-2016	CCC+/Negative/--
29-Nov-2012	B-/Stable/--

Norske Skogindustrier ASA

- US\$200 million 7.125% bonds due Oct. 15, 2033
- €114 million 7.00% notes due Dec. 30, 2016
- €78.95 million 2% notes due Dec. 30, 2115
- €114.212 million 7% bonds due Dec. 30, 2026

On July 18, 2017, S&P Global Ratings lowered its long- and short-term corporate credit ratings on Norwegian paper producer Norske Skogindustrier ASA to 'SD' from 'CC/C'.

The downgrade followed Norske Skog's announcement that it had entered a standstill agreement with the holders of its senior secured notes in order to suspend coupon payments beyond the 30-day contractual grace period under the existing senior secured notes' indenture, which had expired on July 14.

On Nov. 29, 2017, S&P Global Ratings revised its long- and short-term corporate credit ratings on Norske Skogindustrier ASA and its core rated subsidiaries to 'D' from 'SD', as the

issuer has now defaulted on all of its notes. The company has not paid the cash coupon due on its unsecured notes due in 2033 before the expiry of the contractual grace period on Nov. 15, 2017. The issuer decided not to make this payment, given its ongoing restructuring negotiations with creditors.

Table 99

Issuer Credit Rating History - Norske Skogindustrier ASA

Date	To
29-Nov-2017	D/--/--
18-Jul-2017	SD/NM/--
6-Jun-2017	CC/Watch Neg/--
27-Mar-2017	CCC+/Negative/--
21-Jul-2016	CCC+/Stable/--
29-Apr-2016	CCC-/Watch Dev/--
13-Apr-2016	SD/NM/--
17-Nov-2015	CC/Watch Neg/--
25-Sep-2015	CCC/Negative/--
6-Mar-2015	CCC+/Negative/--
27-Feb-2015	SD/NM/--
22-Jan-2015	CC/Watch Neg/--
6-Feb-2014	CCC+/Negative/--
2-Aug-2013	CCC/Negative/--
6-May-2013	CCC+/Negative/--
15-Feb-2013	CCC+/Stable/--
12-Feb-2013	SD/NM/--
21-Nov-2012	CCC+/Watch Neg/--
9-Mar-2012	B-/Stable/--
10-Nov-2011	B-/Negative/--
20-Sep-2011	B-/Watch Neg/--
16-Jun-2011	B-/Stable/--
12-Aug-2010	B-/Negative/--
17-Feb-2010	B/Negative/--
19-May-2009	B+/Negative/--
23-Sep-2008	BB-/Negative/--
21-Apr-2008	BB-/Watch Neg/--
28-Jan-2008	BB/Negative/--
22-Oct-2007	BB+/Negative/--
14-Nov-2006	BB+/Stable/--
20-Oct-2006	BBB-/Watch Neg/--
21-Mar-2006	BBB-/Negative/--
8-Apr-2004	BBB-/Stable/--
18-Mar-2004	BBB/Watch Neg/--
25-Mar-2003	BBB/Negative/--
5-Feb-2003	BBB/Watch Neg/--

Table 99

Issuer Credit Rating History - Norske Skogindustrier ASA (cont.)

Date	To
12-Oct-2001	BBB/Stable/--

Global A&T Electronics Ltd.

- US\$625 million 10.00% notes due Feb. 1, 2019
- US\$502.257 million 10.00% notes due Feb. 1, 2019

On Aug. 8, 2017, S&P Global Ratings lowered its long-term corporate credit rating on Singapore-based semiconductor assembly and test services provider Global A&T Electronics Ltd. (GATE) to 'D' from 'CCC-' after the company missed an interest payment of US\$56 million due on Aug. 1, 2017, on its senior secured notes maturing in 2019. The timing and final terms of the company's restructuring plan are still under discussion with its creditors. We will reassess the ratings once the debt restructuring is complete. The rating would then take into account GATE's business prospects and the new capital structure.

On Dec. 19, 2017, the company filed for bankruptcy protection under Chapter 11.

Table 100

Issuer Credit Rating History - Global A&T Electronics Ltd.

Date	To
8-Aug-2017	D/--/--
9-May-2017	CCC-/Negative/--
25-Jan-2017	CCC+/Negative/--
20-Jul-2015	B-/Stable/--
9-May-2014	B-/Negative/--
17-Feb-2014	B-/Watch Neg/--
17-Nov-2013	B-/Watch Neg/--
8-Jul-2013	B/Stable/--
22-Jun-2011	B/Positive/--
25-Nov-2010	B/Stable/--
23-Jun-2010	B-/Stable/--
5-Aug-2009	B-/Negative/--
19-Dec-2008	B/Negative/--

Hornbeck Offshore Services Inc.

- US\$375 million 5.875% senior notes due April 1, 2020
- US\$300 million 1.50% convertible due Sept. 1, 2019

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- US\$450 million 5.00% senior unsecured notes due March 1, 2021
- US\$300 million first-lien guaranteed senior secured delayed draw payment-in-kind term DD due June 15, 2023
- US\$300 million 1.50% convertible due Sept. 1, 2019

On Aug. 9, 2017, S&P Global Ratings lowered its corporate credit rating on Covington, La.-based offshore vessel provider Hornbeck Offshore Services Inc. to 'SD' from 'CCC-'. The downgrade followed the disclosure that Hornbeck Offshore had completed a debt exchange whereby holders of \$200 million of its convertible notes due 2019 and \$8.1 million of its senior notes due 2020 exchanged the debt for \$95.3 million of a new secured first-lien term loan credit facility maturing in 2023 and \$54.1 million in cash.

On Aug. 18, 2017, we raised our corporate credit rating on the company to 'CCC-' from 'SD'. The upgrade reflected a reassessment of the rating on the company following the company's completion of a debt exchange.

Table 101

Issuer Credit Rating History - Hornbeck Offshore Services Inc.

Date	To
18-Aug-2017	CCC-/Negative/--
9-Aug-2017	SD/NM/--
4-Nov-2016	CCC-/Negative/--
6-Jul-2016	CCC+/Negative/--
2-Jul-2015	B+/Stable/--
12-Sep-2014	BB-/Stable/--
25-Sep-2013	B+/Positive/--
10-Nov-2011	B+/Stable/--
8-Jun-2010	B+/Negative/--
26-Aug-2004	BB-/Stable/--
11-Mar-2004	B+/Watch Pos/--
14-Oct-2002	B+/Stable/--
23-Jul-2002	B+/Watch Pos/--
17-Apr-2002	B+/Negative/--
29-Jun-2001	B+/Stable/--

Tops Holding II Corp.

- US\$150 million 8.75% senior notes due June 15, 2018
- US\$560 million 8.00% senior notes due 2022
- US\$67.511 million 9.00% senior notes due March 15, 2021

On Aug. 10, 2017, S&P Global Ratings lowered its corporate credit rating on Williamsville, N.Y.-based supermarket operator Tops Holding II Corp. to 'SD' from 'CC'. The downgrade followed the announcement that an exchange offer to existing holders of Tops Holding II Corp.'s senior

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unsecured notes had been completed. The company has exchanged \$76.4 million of existing debt for \$67.5 million in new notes due 2021, issued by Tops Holding LLC and Tops Markets II Corp., and \$9.9 million in cash.

On Aug. 15, 2017, we raised our corporate credit rating on the company to 'CCC+' from 'SD'. The upgrade followed a reassessment of Tops' competitive position, liquidity, and capital structure after the company completed its exchange offer. The completed tender offer reduces Tops Holding II Corp.'s near-term debt maturity, with approximately \$9 million in unsecured notes remaining, due June 2018 (\$85.5 million prior to the exchange).

Table 102

Issuer Credit Rating History - Tops Holding II Corp.

Date	To
15-Aug-2017	CCC+/Negative/--
10-Aug-2017	SD/NM/--
28-Jul-2017	CC/Negative/--
5-May-2017	CCC+/Negative/--
13-May-2016	B-/Stable/--
8-May-2013	B/Stable/--

MIE Holdings Corp.

- US\$200 million 6.875% notes due Feb. 6, 2018
- US\$500 million 7.50% notes due April 25, 2019

On Aug. 28, 2017, S&P Global Ratings lowered its long-term corporate credit rating on upstream oil and gas issuer MIE Holdings Corp. to 'SD' from 'CC' after the company completed an exchange offer for its senior unsecured notes due 2018 and 2019. The company repurchased at a discount US\$18.3 million of the 2018 notes and US\$160.1 million of the 2019 notes.

On Aug. 29, 2017, we raised our corporate credit rating on the company to 'CCC-' from 'SD', reflecting the view that the company's nonrepayment risk in the next six months remained high in the absence of unanticipated, significantly favorable changes in the company's circumstances. MIE's capital structure is still unsustainable, despite the recent completion of its exchange offer.

Table 103

Issuer Credit Rating History - MIE Holdings Corp.

Date	To
28-Aug-2017	CCC-/Negative/--
28-Aug-2017	SD/NM/--
12-Jun-2017	CC/Negative/--
11-Apr-2017	CCC/Negative/--
25-Jan-2016	B-/Negative/--
7-Aug-2015	B/Watch Neg/--
19-Jan-2015	B/Stable/--

Table 103

Issuer Credit Rating History - MIE Holdings Corp. (cont.)

Date	To
26-Apr-2011	B+/Stable/--

Quintis Ltd.

- US\$250 million 8.75% notes due Aug. 1, 2023

On Sept. 1, 2017, S&P Global Ratings lowered its long-term corporate credit rating on Australia-based producer and seller of Indian and Australian sandalwood Quintis Ltd. to 'D' from 'CCC-' on account of a missed interest payment on the issuer's US\$250 million 8.75% senior secured notes within the 30-day grace period from the initial interest payment date of Aug. 1, 2017.

Table 104

Issuer Credit Rating History - Quintis Ltd.

Date	To
31-Aug-2017	D/--/--
22-Jun-2017	CCC-/Watch Neg/--
30-May-2017	CCC+/Watch Neg/--
11-May-2017	B/Watch Neg/--
31-Mar-2017	B+/Negative/--
14-Jul-2016	B+/Stable/--
29-Apr-2015	B/Positive/--
1-May-2011	B/Stable/--

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 Sept. 1, 2017, S&P Global Ratings lowered its corporate credit rating on Salt Lake City-based drilling service provider Boart Longyear Ltd. to 'SD' from 'CC'. The downgrade followed the company's announcement that it had completed an exchange offer in which \$196 million of its 7% senior unsecured notes due 2021 were converted into common equity. At the same time, the company reinstated the senior secured notes due 2018 at approximately \$200 million, plus accrued interest. The senior secured notes now expire December 2022, and Boart has the option to PIK interest for the first four quarters. The senior secured noteholders also receive 4% common equity after the recapitalization.

On Sept. 13, 2017, we raised our corporate credit rating on the company to 'CCC+' from 'SD', anticipating that despite the recapitalization, the company's capital structure is unsustainable in

the long term.

Table 105

Issuer Credit Rating History - Boart Longyear Ltd.

Date	To
13-Sep-2017	CCC+/Negative/--
1-Sep-2017	SD/NM/--
5-Apr-2017	CC/Watch Neg/--
10-Feb-2017	CCC-/Negative/--
13-Jul-2016	CCC+/Stable/--
15-Jul-2015	CCC+/Negative/--
24-Oct-2014	CCC/Watch Pos/--
18-Jul-2014	CCC/Negative/--
6-Mar-2014	CCC+/Negative/--
12-Sep-2013	B/Negative/--
15-Jul-2013	B+/Stable/--
1-Oct-2012	BB-/Stable/--
1-May-2012	BB-/Positive/--
15-Mar-2011	BB-/Stable/--

FloWorks International LLC

- US\$250 million 8.75% senior notes due Nov. 15, 2019
- US\$350 million first-lien senior secured asset-based revolver due June 9, 2020

On Sept. 6, 2017, S&P Global Ratings lowered its corporate credit rating on Houston-based specialty industrial supplier of pipe, valves, fittings, and related products FloWorks International LLC to 'SD' from 'CC'. The downgrade followed the company's announcement that it completed an exchange offer for its existing \$250 million 8.75% senior secured notes due 2019 (\$220.9 million of principal outstanding).

Table 106

Issuer Credit Rating History - FloWorks International LLC

Date	To
6-Sep-2017	NR/--/--
6-Sep-2017	SD/NM/--
26-Jul-2017	CC/Watch Neg/--
17-Oct-2016	CCC+/Negative/--
6-Oct-2015	CCC+/Stable/--
29-Sep-2015	SD/NM/--
25-Oct-2013	B-/Stable/--
22-Oct-2012	B/Stable/--

Toys "R" Us Inc.

- US\$400 million 7.375% notes due Oct. 15, 2018
- US\$583 million 12.00% senior notes due Aug. 15, 2021
- US\$200 million 8.75% debenture due Sept. 1, 2021
- US\$400 million term B-2 bank loan due May 25, 2018
- US\$225 million term B-3 bank loan due May 25, 2018
- US\$1.025 billion term B-4 bank loan due 2020
- US\$350 million first-in, last-out term bank loan due 2019

On Sept. 19, 2017, S&P Global Ratings lowered its ratings on New Jersey-based toy and juvenile-products retailer Toys "R" Us Inc., including the corporate credit rating, to 'D' from 'CCC-'. The downgrade reflected Toys' and its subsidiaries' filing of bankruptcy.

The company had commitments for a \$3.1 billion debtor-in-possession facility, which would provide liquidity for continuing the buildup of holiday inventory.

Table 107

Issuer Credit Rating History - Toys "R" Us Inc.

Date	To
19-Sep-2017	D/--/--
18-Sep-2017	CCC-/Watch Neg/--
7-Sep-2017	CCC+/Watch Neg/--
19-Jun-2017	B-/Negative/--
19-Dec-2013	B-/Stable/--
8-Jun-2011	B/Stable/--
1-Jun-2010	B/Watch Pos/--
9-Nov-2009	B/Stable/--
17-Dec-2008	B/Negative/--
29-Jun-2007	B/Stable/--
17-May-2007	B-/Watch Pos/--
8-May-2007	B-/Watch Neg/--
21-Oct-2005	B-/Stable/--
30-Jun-2005	B+/Watch Neg/--
10-Mar-2004	BB/Watch Neg/--
8-Jan-2004	BB+/Watch Neg/--
17-Nov-2003	BBB-/Negative/--
5-Mar-2003	BBB-/Stable/--
28-May-2002	BBB/Stable/--
11-Oct-2001	BBB+/Watch Neg/--
20-Mar-2000	BBB+/Negative/--

Table 107

Issuer Credit Rating History - Toys "R" Us Inc. (cont.)

Date	To
31-Aug-1999	A-/Watch Neg/--
10-May-1999	A-/Stable/--
16-Sep-1998	A+/Watch Neg/--
22-Apr-1998	A+/Negative/--
10-May-1996	A+/Stable/--
20-Nov-1995	AA/Watch Neg/--
16-May-1994	AA/Stable/--
15-Sep-1983	AA/Watch Neg/--
1-Dec-1982	A+/--/--

Appvion Inc.

- US\$335 million first-lien term loan bank loan due 2019
- US\$250 million 9.00% second-lien senior secured notes due June 1, 2020

On Oct. 2, 2017, S&P Global Ratings lowered its corporate credit rating on coated paper manufacturer Appvion Inc. to 'D' from 'CCC' following the company's announcement that it had filed for Chapter 11 bankruptcy protection. In addition, the company also announced that it obtained a commitment for \$85 million in new debtor-in-possession financing from a group of its first-lien lenders.

Table 108

Issuer Credit Rating History - Appvion Inc.

Date	To
2-Oct-2017	D/--/--
30-Aug-2017	CCC/Watch Dev/--
24-Aug-2016	B-/Stable/--
2-Dec-2014	B/Negative/--
12-Nov-2013	B/Stable/--
11-Jun-2013	B/Positive/--
16-Jul-2012	B/Stable/--
18-May-2012	B/Watch Pos/--
2-Oct-2009	B/Stable/--
1-Oct-2009	SD/NM/--
18-Aug-2009	CC/Negative/--
20-Apr-2009	B/Negative/--
2-Feb-2009	B/Watch Neg/--

Table 108

Issuer Credit Rating History - Appvion Inc. (cont.)

Date	To
5-Dec-2008	BB-/Watch Neg/--
30-Mar-2006	BB-/Stable/--
9-Jun-2005	BB/Negative/--
24-Sep-2001	BB/Stable/--

Pinnacle Holdco S.a.r.l.

- US\$135 million second-lien term bank loan due July 30, 2020
- US\$345 million first-lien term bank loan due July 30, 2019
- US\$36 million revolver bank loan due July 30, 2018

On Oct. 18, 2017, S&P Global Ratings lowered its corporate credit rating on Luxembourg-based Pinnacle Holdco S.a.r.l. to 'D' from 'CCC' after the company did not make the interest and principal payments on its first-lien term loan due 2019 and its second-lien term loan due 2020 as of Sept. 29, 2017. Also, we didn't expect that Pinnacle would make the required interest and principal payments on its first- and second-lien term loans on Dec. 31, 2017.

On Oct. 20, 2017, S&P Global Ratings raised its corporate credit rating on Pinnacle Holdco S.a.r.l. to 'CCC' from 'D'. The upgrade followed the Oct. 16, 2017, announcement of Pinnacle's agreement to be acquired by Emerson Electric Co. for \$510 million. The acquisition will expand Emerson's core O&G software platform by adding seismic imaging and modeling software capabilities for the E&P market.

On Jan. 4, 2018, we withdrew our 'CCC' corporate credit rating on Pinnacle Holdco S.a.r.l. due to the close of its acquisition by Emerson Electric Co.

Table 109

Issuer Credit Rating History - Pinnacle Holdco S.a.r.l.

Date	To
4-Jan-2018	NR/--/--
20-Oct-2017	CCC/Watch Pos/--
18-Oct-2017	D/--/--
27-Jun-2017	CCC/Negative/--
14-Dec-2016	CCC+/Negative/--
6-May-2016	B-/Negative/--
31-Aug-2015	B/Negative/--
7-Aug-2012	B/Stable/--

Concordia International Corp.

- US\$650 million term bank loan due 2022
- US\$100 million revolver bank loan due 2020
- US\$610 million notes due 2023
- US\$1.1 billion term B bank loan due Oct. 21, 2021
- US\$200 million revolver bank loan due Oct. 21, 2020
- US\$790 million 9.50% senior notes due 2022
- GBP500 million term B bank loan due 2022
- US\$350 million 9.00% senior notes due 2022
- US\$45 million guaranteed senior unsecured due Oct. 21, 2017
- US\$135 million guaranteed senior unsecured due Oct. 21, 2022

On Oct. 17, 2017, S&P Global Ratings lowered its corporate credit rating on Ontario, Canada-based specialty pharmaceutical company Concordia International Corp. to 'SD' from 'CCC-' and removed the rating from CreditWatch, where it was placed with negative implications on Sept. 18, 2017. The company failed to make its interest payment due Oct. 16, 2017, on its \$735 million senior unsecured notes as it continued negotiations to address its unsustainable capital structure. Given our view of the company's debt level as unsustainable and ongoing restructuring discussions, we did not expect the company to make a payment within the grace period.

Table 110

Issuer Credit Rating History - Concordia International Corp.

Date	To
17-Oct-2017	SD/NM/--
18-Sep-2017	CCC-/Watch Neg/--
24-May-2017	CCC+/Negative/--
10-Nov-2016	B-/Negative/--
6-Oct-2016	B/Negative/--
23-Aug-2016	B/Stable/--
30-Sep-2015	B/Positive/--
1-Apr-2015	B/Stable/--

Brock Holdings II Inc.

- US\$190 million second-lien term bank loan due March 16, 2018

On Oct. 30, 2017, S&P Global Ratings lowered its corporate credit rating on Houston-based industrial specialty services provider Brock Holdings II Inc. and its wholly owned subsidiary Brock Holdings III Inc. to 'SD' from 'CCC-'. The downgrade followed The Brock Group's announcement that American Industrial Partners acquired majority ownership of the company. The company completed a debt exchange offer in which it exchanged Brock Holdings III Inc.'s second-lien term

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loan due 2018 for equity. We view this exchange as tantamount to a default because of Brock's previously meaningful upcoming debt maturities and distressed financial position.

On Nov. 15, 2017, we raised our corporate credit rating on the company and Brock Holdings III Inc. to 'B-' from 'SD', as the company recapitalized and no longer faced meaningful near-term debt maturities. Our ratings reflected the company's exposure to somewhat cyclical end markets in a highly fragmented and competitive industry.

Subsequently, we withdrew all of our ratings on Brock and Brock III at the issuer's request.

Table 111

Issuer Credit Rating History - Brock Holdings II Inc.

Date	To
15-Nov-2017	NR/--/--
15-Nov-2017	B-/Stable/--
30-Oct-2017	SD/NM/--
26-Oct-2017	CCC-/Negative/--
9-Mar-2016	CCC+/Developing/--
31-Mar-2015	B-/Stable/--
18-Mar-2014	B/Stable/--
30-Oct-2013	B/Negative/--
25-Feb-2011	B+/Stable/--

Cumulus Media Inc.

- US\$2.025 billion term bank loan due Dec. 23, 2020
- US\$200 million revolving bank loan due Dec. 23, 2018
- US\$610 million 7.75% senior notes due May 1, 2019

On Nov. 2, 2017, S&P Global Ratings lowered its corporate credit ratings on Atlanta-based media and entertainment company Cumulus Media Inc. and its subsidiary Cumulus Media Holdings Inc. to 'SD' from 'CCC'. The downgrade followed Cumulus' announcement that it did not pay a \$23.6 million interest payment on its 7.75% senior notes due 2019. The payment was due on Nov. 1. We believe that the nonpayment was a conscious decision by the company in order to preserve cash flow or put bondholders in a situation to participate in a subpar debt exchange.

Later, on Dec. 1, 2017, we lowered our corporate credit rating on Cumulus Media Inc. and subsidiary Cumulus Media Holdings Inc. to 'D' from 'SD'. The downgrade followed Cumulus' announcement that it filed a voluntary petition under Chapter 11 of the U.S. Bankruptcy Code on Nov. 29, 2017.

Table 112

Issuer Credit Rating History - Cumulus Media Inc.

Date	To
08-Jan-2018	NR/--/--
01-Dec-2017	D/--/--

Table 112

Issuer Credit Rating History - Cumulus Media Inc. (cont.)

Date	To
02-Nov-2017	SD/NM/--
14-Mar-2017	CCC/Negative/--
07-Dec-2016	CC/Negative/--
22-Mar-2016	CCC/Negative/--
06-Nov-2015	B-/Negative/--
05-Mar-2015	B/Negative/--
28-Aug-2014	B/Stable/--
04-Dec-2013	B/Positive/--
21-Sep-2012	B/Stable/--
27-Sep-2011	B/Positive/--
25-Apr-2011	B/Watch Pos/--
18-Feb-2011	B-/Watch Pos/--
02-Feb-2011	B-/Positive/--
04-Dec-2009	B-/Stable/--
19-Dec-2008	B/Negative/--
23-May-2006	B/Stable/--
11-May-2006	B+/Watch Neg/--
14-Mar-2006	B+/Stable/--
10-Jun-2005	B+/Positive/--
13-Nov-2002	B+/Stable/--
04-Dec-2000	B/Stable/--
17-Mar-2000	B+/Watch Neg/--
05-Aug-1999	B+/Stable/--
22-Jun-1998	B/Stable/--

99 Cents Only Stores LLC

- US\$250 million 11.00% senior notes due Dec. 15, 2019
- US\$433.99 million first-lien term bank loan due Jan. 13, 2022
- US\$625 million first-lien term bank loan due Jan. 11, 2019
- US\$160 million first-lien guaranteed senior secured asset-based revolver due April 8, 2021
- US\$25 million first-lien guaranteed senior secured term FILO due April 8, 2021

On Nov. 8, 2017, S&P Global Ratings lowered its corporate credit rating on California-based retailer 99 Cents Only Stores LLC to 'SD' from 'CC'. The downgrade followed 99 Cents' completed amendment of its first-lien term loan.

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After the amendment, the company will pay cash interest of L+500 basis points and PIK interest of 150 basis points on \$434 million of its new first-lien term debt that matures Jan. 13, 2022, and PIK interest of 850 basis points on \$130 million of its new second-lien term debt maturing 91 days outside of the extended first-lien term loan.

Later, on Dec. 19, 2017, we raised our corporate credit rating on 99 Cents Only Stores LLC to 'CCC+' from 'SD'. The upgrade followed our reassessment of the company's competitive position, liquidity, and capital structure, which we reviewed after the company completed its recent exchange offer and term loan amendment.

Table 113

Issuer Credit Rating History - 99 Cents Only Stores LLC

Date	To
19-Dec-2017	CCC+/Negative/--
08-Nov-2017	SD/NM/--
29-Sep-2017	CC/Negative/--
24-May-2016	CCC+/Negative/--
19-Nov-2015	B-/Negative/--
24-Nov-2014	B-/Stable/--
01-Oct-2013	B/Negative/--
17-Feb-2012	B/Stable/--

Corporacion Electrica Nacional S.A.

- US\$650 million 8.50% notes due April 10, 2018

On Nov. 10, 2017, S&P Global Ratings lowered its long-term corporate credit rating on Venezuela-based electric power and energy producer and distributor Corporacion Electrica Nacional S.A. (Corpoelec) to 'SD' from 'CC'. The rating action reflected that the interest payment due on Oct. 10, 2017, on Corpoelec's \$650 million 8.5% notes due 2018 was not made within the 30-day grace period (which ended on Nov. 9, 2017).

Table 114

Issuer Credit Rating History - Corporacion Electrica Nacional S.A.

Date	To
10-Nov-2017	SD/NM/--
6-Nov-2017	CC/Watch Neg/--
12-Jul-2017	CCC-/Negative/--
10-Feb-2015	CCC/Negative/--
18-Sep-2014	CCC+/Negative/--
17-Dec-2013	B-/Negative/--
23-Apr-2013	B/Negative/--
14-Jun-2012	B/Stable/--

Pacific Drilling S.A.

- US\$750 million 5.375% first-lien notes due June 1, 2020
- US\$750 million first-lien guaranteed senior secured bank loan due June 3, 2018
- US\$475 million first-lien guaranteed senior secured bank loan due June 3, 2018
- US\$500 million 7.25% senior secured notes due Dec. 1, 2017

On Jan. 31, 2017, S&P Global Ratings affirmed its ratings on Luxembourg-based oil and gas drilling company Pacific Drilling S.A., including the 'CCC-' corporate credit rating. We subsequently withdrew all ratings on the company.

Table 115

Issuer Credit Rating History - Pacific Drilling S.A.

Date	To
31-Jan-2017	NR/--/--
9-Nov-2016	CCC-/Negative/--
14-Jun-2016	CCC+/Negative/--
13-Nov-2015	B-/Negative/--
10-Jul-2015	B/Negative/--
12-Nov-2012	B/Stable/--

J.G. Wentworth LLC

- US\$20 million revolver bank loan due Dec. 31, 2017
- US\$575 million term loan bank loan due Feb. 28, 2019

On Nov. 13, 2017, S&P Global Ratings lowered its issuer credit rating on Delaware-based finance company J.G. Wentworth LLC to 'D' from 'CCC-'. The rating action reflected the company's announcement that it is filing for Chapter 11 bankruptcy.

Table 116

Issuer Credit Rating History - J.G. Wentworth LLC

Date	To
13-Nov-2017	D/--/--
26-Jun-2017	CCC-/Negative/--
3-Jun-2016	CCC+/Negative/--
11-Dec-2014	B/Stable/--
30-May-2013	B/Negative/--
10-Oct-2011	B/Stable/--
31-Mar-2009	NR/--/--
31-Mar-2009	CC/Negative/--

Table 116

Issuer Credit Rating History - J.G. Wentworth LLC (cont.)

Date	To
17-Mar-2009	CC/Watch Neg/--
26-Nov-2008	CCC+/Watch Neg/--
29-Mar-2006	B-/Stable/--

Bank RBK JSC

- KZT7 billion 8.00% perpetual notes
- KZT5 billion 9.50% notes due May 2, 2020
- KZT50 billion 10.50% notes due Dec. 18, 2021

On Nov. 13, 2017, S&P Global Ratings lowered its long-term issuer credit ratings on Kazakhstan-based Bank RBK JSC to 'D' from 'CCC+'. The downgrade followed the public announcement by the National Bank of Kazakhstan (NBK) that Bank RBK's timely client payments were being made on a limited basis due to low liquidity.

Later, on Dec. 22, 2017, we raised our long-term issuer credit rating on Bank RBK JSC to 'CCC' from 'D'. The upgrade reflected our understanding that Bank RBK has resumed servicing its obligations in full and on time following capital and liquidity inflows from the NBK.

Table 117

Issuer Credit Rating History - Bank RBK JSC

Date	To
22-Dec-2017	CCC/Watch Dev/--
13-Nov-2017	D/--/--
23-Aug-2017	CCC+/Watch Neg/--
26-May-2017	B-/Watch Neg/--
27-Feb-2017	B-/Negative/--
18-Nov-2015	B-/Stable/--
4-Nov-2014	B-/Positive/--
30-Jan-2012	B-/Stable/--

Petroleos de Venezuela S.A.

- US\$1.5 billion 5.50% senior unsecured notes due April 12, 2037
- US\$2.4 billion 9.00% notes due Nov. 17, 2021
- US\$3 billion 5.375% senior unsecured notes due April 12, 2027
- US\$3 billion 8.50% notes due Oct. 27, 2020

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- US\$4.5 billion 6.00% senior unsecured notes due Nov. 15, 2026
- US\$5 billion 6.00% notes due May 16, 2024
- US\$3 billion 12.75% notes due Feb. 17, 2022
- US\$3 billion 9.75% notes due May 17, 2035
- US\$3 billion 6.00% notes due Oct. 28, 2022
- US\$3 billion 12.75% notes due Feb. 17, 2022
- US\$3 billion 9.75% notes due May 17, 2035
- US\$1.50 billion first-lien senior secured due Feb. 27, 2018
- US\$4 billion first-lien senior secured due July 26, 2019
- US\$1.5 billion first-lien senior secured due June 28, 2026

On Nov. 14, 2017, S&P Global Ratings lowered its corporate credit rating on Venezuela-based integrated oil and gas company Petroleos de Venezuela S.A. to 'SD' from 'CC'. The issuer was not able to meet the coupon payments on its 2027 and 2037 notes within its 30-calendar-day grace period.

Table 118

Issuer Credit Rating History - Petroleos de Venezuela S.A.

Date	To
14-Nov-2017	SD/NM/--
3-Nov-2017	CC/Watch Neg/--
20-Oct-2017	CCC-/Watch Neg/--
3-Nov-2016	CCC-/Negative/--
25-Oct-2016	SD/NM/--
19-Sep-2016	CC/Negative/--
10-Feb-2015	CCC/Negative/--
17-Sep-2014	CCC+/Negative/--
13-Dec-2013	B-/Negative/--
17-Jun-2013	B/Negative/--
22-Apr-2013	B+/Negative/--
13-Jan-2010	B+/Stable/--
12-Jun-2009	B+/Negative/--
10-Dec-2008	BB-/Negative/--
8-Mar-2007	BB-/Stable/--
1-Nov-2006	B+/Watch Pos/--
8-Feb-2006	B+/Watch Dev/--
15-Aug-2005	B+/Stable/--
25-Aug-2004	B/Stable/--
31-Jul-2003	B-/Stable/--
16-Apr-2003	CCC+/Stable/--

Table 118

Issuer Credit Rating History - Petroleos de Venezuela S.A. (cont.)

Date	To
13-Dec-2002	CCC+/Negative/--
24-Sep-2002	B-/Negative/--
15-Mar-2002	B/Negative/--
12-Feb-2002	B/Watch Neg/--
21-Dec-1999	B/Stable/--
31-Aug-1998	B+/Negative/--
5-Jun-1997	B+/Stable/--
24-Jan-1997	B/Positive/--
26-Jun-1996	B/Stable/--
23-Feb-1996	B/Negative/--
1-Dec-1995	B+/Watch Neg/--
1-Dec-1995	B+/NM/--
27-Jul-1994	B+/Negative/--
7-Mar-1994	BB-/Watch Neg/--
4-Mar-1994	BB/Stable/--
8-Jul-1993	BB/Negative/--

Real Industry Inc.

- US\$110 million revolver bank loan due Feb. 27, 2019
- US\$305 million 10.00% notes due Jan. 15, 2019
- US\$110 million ABL revolver bank loan due March 14, 2022

On Nov. 17, 2017, S&P Global Ratings lowered its corporate credit rating on California-based metal and mining company Real Industry Inc. to 'D' from 'CCC+'. The 'D' rating reflected Real Industry's announcement of filing protection under Chapter 11 of the U.S. Bankruptcy Code.

Table 119

Issuer Credit Rating History - Real Industry Inc.

Date	To
17-Nov-2017	D/--/--
14-Nov-2017	CCC+/Watch Neg/--
14-Nov-2016	B/Negative/--
1-Dec-2014	B/Stable/--
1-May-2009	NR/--/--
18-Mar-2008	D/--/--

Table 119

Issuer Credit Rating History - Real Industry Inc. (cont.)

Date	To
4-Mar-2008	CC/Watch Neg/--
29-Feb-2008	CCC-/Watch Neg/--
5-Feb-2008	CCC+/Watch Neg/--
22-May-2007	B-/Watch Dev/--
5-Mar-2007	B-/Watch Neg/--
1-Mar-2007	B+/Watch Neg/--
20-Sep-2005	B+/Stable/--
24-May-2004	CCC+/Positive/--
18-Apr-2003	CCC+/Stable/--
30-Nov-2000	CCC+/Negative/--
15-Aug-2000	B/Watch Neg/--
2-Aug-2000	B+/Watch Neg/--
8-May-2000	BB/Watch Neg/--
19-Jan-2000	BBB-/Negative/--
9-Nov-1999	BBB/Watch Neg/--
25-Aug-1999	BBB/Negative/--
23-Mar-1999	BBB/Positive/--

Velocity Pooling Vehicle LLC

- US\$295 million first-lien term bank loan due May 14, 2021
- US\$85 million second-lien term bank loan due May 13, 2022
- US\$110 million first guaranteed lien senior secured asset-based revolver due May 14, 2019

On Nov. 20, 2017, S&P Global Ratings lowered its corporate credit rating on Texas-based consumer products company Velocity Pooling Vehicle LLC to 'D' from 'CCC'. The downgrade reflected Velocity's bankruptcy filing. Velocity has secured up to \$135 million in debtor-in-possession financing in order to provide liquidity through the bankruptcy process.

Later, on Jan. 8, 2018, the ratings on the company were withdrawn.

Table 120

Issuer Credit Rating History - Velocity Pooling Vehicle LLC

Date	To
8-Jan-2018	NR/--/--
20-Nov-2017	D/--/--
30-Jan-2017	CCC/Negative/--
20-Apr-2016	CCC+/Negative/--

Table 120

Issuer Credit Rating History - Velocity Pooling Vehicle LLC (cont.)

Date	To
28-Apr-2015	B/Negative/--
25-Apr-2014	B/Stable/--

Sterling Mid-Holdings Ltd.

- US\$745 million 12.00% PIK toggle notes due June 16, 2020
- US\$55 million 10.50% notes due June 15, 2020

On Nov. 27, 2017, S&P Global Ratings lowered its issuer credit rating on Jersey-based finance company Sterling Mid-Holdings Ltd. to 'SD' from 'CC'. The downgrade followed the announcement of the expiration of the issuer's revised cash tender offer for any and all of DFC Finance Corp.'s (subsidiary of Sterling Mid-Holdings Ltd.) 10.5%/12.0% senior secured PIK toggle notes due 2020 and 10.5% senior secured notes due 2020 at 70% of par.

On Dec. 1, 2017, we raised our long-term issuer credit rating on Sterling Mid-Holdings Ltd. to 'CCC' from 'SD'. The rating reflected Sterling's ongoing weak operating performance, its unsustainable financial leverage, its exposure to adverse regulatory reforms, and its reliance on Lone Star Funds--a private equity firm--through equity injections and debt buybacks.

Table 121

Issuer Credit Rating History - Sterling Mid-Holdings Ltd.

Date	To
1-Dec-2017	CCC/Negative/--
27-Nov-2017	SD/NM/--
31-Oct-2017	CC/Negative/--
23-Aug-2016	CCC+/Negative/--
18-Aug-2016	SD/NM/--
29-Jun-2016	CC/Watch Neg/--
27-May-2016	CCC/Negative/--
18-Nov-2015	B-/Negative/--
11-Dec-2014	B-/Stable/--
6-Jun-2014	B/Negative/--

Bibby Offshore Holdings Ltd.

- EUR175 million 7.50% notes due July 15, 2021
- EUR20 million variable-rate super senior revolving credit facility bank loan due July 19, 2019

On Dec. 6, 2017, S&P Global Ratings lowered its long-term corporate credit rating on U.K.-based

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subsea service provider Bibby Offshore Holdings Ltd. to 'SD' from 'CC'. We lowered the rating following Bibby Offshore's announcement that it had reached an agreement with 80% of noteholders relating to its recapitalization, which we view as a distressed exchange. The company is now seeking the approval of the remaining 20%.

All the ratings were subsequently withdrawn at Bibby Offshore's request.

Table 122

Issuer Credit Rating History - Bibby Offshore Holdings Ltd.

Date	To
6-Dec-2017	NR/--/--
6-Dec-2017	SD/NM/--
30-Aug-2017	CC/Negative/--
26-Jun-2017	CCC-/Negative/--
14-Dec-2016	CCC+/Negative/--
28-Jun-2016	B/Negative/--
7-Apr-2016	B+/Watch Neg/--
4-Jul-2014	B+/Stable/--

Walter Investment Management Corp.

- US\$1.5 billion first-lien term bank loan due 2020
- US\$575 million 7.875% senior notes due Dec. 15, 2021
- US\$290 million 4.50% notes due Nov. 1, 2019

On Dec. 7, 2017, S&P Global Ratings lowered its issuer credit rating on Florida-based finance company Walter Investment Management Corp. to 'D' from 'CCC-'. Our rating action reflected the company's announcement that it filed for Chapter 11 bankruptcy.

Table 123

Issuer Credit Rating History - Walter Investment Management Corp.

Date	To
7-Dec-2017	D/--/--
18-Jul-2017	CCC-/Negative/--
17-Mar-2017	CCC/Negative/--
19-Jul-2016	B/Negative/--
13-Jun-2016	B+/Negative/--
14-Oct-2015	B+/Stable/--
11-Dec-2014	B+/Negative/--
24-May-2011	B+/Stable/--

Denbury Resources Inc.

- US\$1.2 billion 4.625% senior subordinate notes due July 15, 2023
- US\$1.25 billion 5.50% senior notes due May 1, 2022
- US\$3.5 billion revolving bank loan due Dec. 9, 2019
- US\$400 million 6.375% senior notes due Aug. 15, 2021
- US\$615.1 million 9.00% second-lien notes due May 15, 2021
- US\$84.65 million 3.50% senior unsecured notes due March 31, 2024
- US\$381.568 million 9.25% second-lien notes due March 31, 2018
- US\$1.05 billion 1L (first-lien) guaranteed senior secured reserve-based revolver due Dec. 9, 2019

On Dec. 8, 2017, S&P Global Ratings lowered its corporate credit rating on Texas-based oil and natural gas company Denbury Resources Inc. to 'SD' from 'CC'. The downgrade followed Denbury's announcement that it has closed a privately negotiated agreement to exchange a portion of its senior subordinated notes due 2022 and 2023 for new senior secured second-lien notes and new senior convertible notes at a significant discount to par.

Table 124

Issuer Credit Rating History - Denbury Resources Inc.

Date	To
11-Dec-2017	SD/NM/--
4-Dec-2017	CC/Negative/--
24-May-2016	CCC+/Negative/--
12-May-2016	SD/NM/--
4-May-2016	CC/Negative/--
9-Feb-2016	B/Negative/--
23-Dec-2015	BB-/Negative/--
2-Oct-2015	BB-/Stable/--
16-Jan-2015	BB/Negative/--
22-Jan-2013	BB/Stable/--
25-Oct-2012	BB/Positive/--
21-Jun-2010	BB/Stable/--
26-Jan-2009	BB/Negative/--
4-Nov-2005	BB/Stable/--
11-Mar-2004	BB-/Positive/--
20-May-2002	BB-/Stable/--
8-Jun-2001	B+/Positive/--
3-Sep-1999	B+/Stable/--
27-Apr-1999	B/Positive/--

Table 124

Issuer Credit Rating History - Denbury Resources Inc. (cont.)

Date	To
11-Aug-1998	B/Stable/--
27-Jan-1998	B+/Stable/--

Charming Charlie LLC

- US\$150 million term B bank loan due Dec. 24, 2019

On Dec. 13, 2017, S&P Global Ratings lowered its corporate credit rating on Houston-based fashion jewelry and accessories retailer Charming Charlie LLC to 'D' from 'CCC'. The rating action followed the company's announcement that it would file for Chapter 11 bankruptcy protection.

Table 125

Issuer Credit Rating History - Charming Charlie LLC

Date	To
13-Dec-2017	D/--/--
19-Oct-2017	CCC/Negative/--
10-Feb-2017	CCC+/Negative/--
31-May-2016	B-/Negative/--
21-Jan-2016	B-/Watch Neg/--
6-Dec-2013	B-/Stable/--

Elli Investments Ltd.

- EUR350 million 8.75% notes due June 15, 2019
- EUR175 million 12.25% notes due June 15, 2020

On Dec. 18, 2017, S&P Global Ratings lowered its long-term corporate credit rating on U.K.-based health and social care provider Elli Investments Ltd. to 'SD' from 'CC'. The downgrade followed Elli's missed payment of coupons due on Dec. 15 on two outstanding senior note issues.

Table 126

Issuer Credit Rating History - Elli Investments Ltd.

Date	To
18-Dec-2017	SD/NM/--
25-Oct-2017	CC/Negative/--
2-Nov-2015	CCC-/Negative/--
2-Apr-2015	CCC+/Stable/--
3-Aug-2012	B-/Stable/--

Bon-Ton Stores Inc. (The)

- US\$350 million 8.00% second-lien senior notes due June 15, 2021

On Dec. 19, 2017, S&P Global Ratings lowered its corporate credit rating on Pennsylvania-based department store Bon-Ton Stores Inc. to 'SD' from 'CCC'. The downgrade followed Bon-Ton's recent announcement that it did not make a \$14 million interest payment on its 8% second-lien notes due on Dec. 15.

Table 127

Issuer Credit Rating History - Bon-Ton Stores Inc. (The)

Date	To
19-Dec-2017	SD/NM/--
22-Nov-2017	CCC/Negative/--
18-Aug-2016	CCC+/Negative/--
27-Jun-2016	CCC/Negative/--
1-Dec-2015	CCC+/Negative/--
10-Jan-2012	B-/Stable/--
10-Nov-2011	B/Negative/--
21-Apr-2010	B/Stable/--
11-Dec-2009	B-/Stable/--
5-Feb-2009	B-/Negative/--
16-Oct-2008	B-/Stable/--
16-Jan-2008	B/Negative/--
8-Nov-2007	B/Stable/--
13-Aug-2007	B+/Negative/--
17-Feb-2006	B+/Stable/--

EP Energy LLC

- US\$1 billion 8.00% notes due Feb. 15, 2025
- US\$2 billion 9.375% senior unsecured notes due May 1, 2020
- US\$350 million 7.75% senior unsecured notes due Sept. 1, 2022
- US\$400 million term bank loan due April 30, 2019
- US\$500 million 8.00% senior notes due Nov. 29, 2024
- US\$750 million term bank loan due May 24, 2018
- US\$800 million 6.375% notes due 2023
- US\$1.65 billion 1L guaranteed senior secured reserve-based revolver due May 24, 2019

On Dec. 21, 2017, S&P Global Ratings lowered its corporate credit rating on Houston-based exploration and production company EP Energy LLC to 'SD' from 'CC'. The downgrade followed EP

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Energy's announcement of the results of an early tender offer for its 2020, 2022, and 2023 senior unsecured notes. We view the exchange as distressed given that the maturity was extended on all of the exchanged notes and less than par was received on the exchanged 2022 and 2023 notes.

On Jan. 8, 2018, we raised our corporate credit rating on EP Energy LLC to 'CCC+' from 'SD'. The upgrade reflected the announcement that EP has completed exchanges of its unsecured debt, which we considered to be distressed, for 1.5-lien secured debt due 2024.

Table 128

Issuer Credit Rating History - EP Energy LLC

Date	To
8-Jan-2018	CCC+/Negative/--
21-Dec-2017	SD/NM/--
21-Nov-2017	CC/Negative/--
27-Jun-2017	CCC+/Negative/--
16-Jun-2017	B-/Negative/--
3-Jun-2016	B/Negative/--
9-Feb-2016	B/Stable/--
8-Jun-2012	BB-/Stable/--

GNC Holdings Inc.

- US\$1.35 billion term B bank loan due March 1, 2019
- US\$300 million revolver bank loan due Sept. 1, 2018
- US\$287.5 million 1.5% senior unsecured notes due Aug. 15, 2020

On Dec. 27, 2017, S&P Global Ratings lowered its corporate credit rating on Pittsburgh-based specialty retailer of health, wellness, and performance products GNC Holdings Inc. to 'SD' from 'CC'. The downgrade followed the close of GNC's previously announced debt exchange transaction for \$98.9 million of convertible senior unsecured notes due 2020.

Table 129

Issuer Credit Rating History - GNC Holdings Inc.

Date	To
27-Dec-2017	SD/NM/--
21-Dec-2017	CC/Watch Neg/--
5-Dec-2017	CCC+/Watch Neg/--
10-Nov-2017	B/Negative/--
22-Sep-2017	B+/Negative/--
17-Mar-2017	BB-/Negative/--
17-Feb-2017	BB/Watch Neg/--
1-Aug-2016	BB/Negative/--
4-May-2016	BB+/Negative/--

Table 129

Issuer Credit Rating History - GNC Holdings Inc. (cont.)

Date	To
20-Nov-2013	BB+/Stable/--
26-Jul-2012	BB/Stable/--
27-Feb-2012	BB-/Stable/--

Related Research

- Despite Recent Volatility, The U.S. Speculative-Grade Corporate Default Rate Is Expected To Fall To 2.6% By December 2018, Feb. 13, 2018
- Recovery Study (U.S.): Quantitative Easing, Low Yields, And Distressed Exchanges Have Boosted Bond Recoveries Since 2010, Dec. 14, 2017

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.

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