Impairment Review
November 30, 2016

Best's Impairment Rate and Rating Transition Study – 1977 to 2015

Impairments edge up in 2015.

This is the 13th study conducted by A.M. Best on the long-term impairment rates of A.M. Best-rated, U.S.-domiciled insurance companies. It updates *Best's Impairment Rate and Rating Transition Study – 1977 to 2014*, published August 21, 2015.

Since the last impairment study (which included impairments from 1977 through 2014), nine companies have been added to the list of impaired insurers in 2015, as listed in **Exhibit 1**. The nine impairments, which consisted of eight property/casualty (P/C) insurers and one life/health (L/H) insurer, is four more than the number of impairments reported in 2014.

Exhibit 1
Gross Impairments (2015)*
U.S. Life/Health and Property/Casualty Data

Company Name	State of Domicile	Year of Impairment	Type
Polish Women's Alliance of America	IL	2015	LH
Affirmative Insurance Company	IL	2015	PC
Lumbermen's Underwriting Alliance	MO	2015	PC
Regis Insurance Company	PA	2015	PC
Millers Classified Insurance Company	IL	2015	PC
ALICOT Insurance Company	TX	2015	PC
Lincoln General Insurance Company	PA	2015	PC
Affirmative Insurance Company of MI	MI	2015	PC
National Contractors Ins Co, Inc. A RRG	MT	2015	PC

* Companies with a Best's FSR Dec. 31, 1977 or after, which became impaired in 2015
Source: A.M. Best data and research

Definition of Impairments

A.M. Best designates an insurer as a Financially Impaired Company (FIC) upon the first official regulatory action taken by an insurance department. Such state actions include involuntary liquidation because of insolvency as well as other regulatory processes and procedures such as supervision, rehabilitation, receivership, conservatorship, a cease-and-desist order, suspension, license revocation, administrative order, and any other action that restricts a company's freedom to conduct its insurance business as normal. Companies that enter voluntary dissolution and are not under financial duress at that time are not counted as financially impaired. (See sidebar: **Financially Impaired Companies Defined**)

The Scope of the Impairment Study

The study includes P/C and L/H insurance companies domiciled in the United States that traditionally have filed statutory statements. Managed care companies are excluded from the life/health pool. The study covers the 38 one-year periods from December 31, 1977 to December 31, 2015, and includes only U.S. companies that had at least one Financial Strength Rating (FSR) or one corresponding Long-Term Issuer Credit Rating (ICR) over this period.

The reader should note that impairment counts in this impairment study and prior studies are based on individual operating companies, not on groups or rating units. As such, the failure of a large group

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Financially Impaired Companies Defined

A.M. Best designates an insurer as a Financially Impaired Company (FIC) as of the first official regulatory action taken by an insurance department, whereby the insurer's:

- Ability to conduct normal insurance operations is adversely affected;
- Capital and surplus have been deemed inadequate to meet regulatory requirements; and/or
- General financial condition has triggered regulatory concern.

State actions include supervision, rehabilitation, liquidation, receivership, conservatorship, cease-and-desist orders, suspension, license revocation, and certain administrative orders. A.M. Best emphasizes that the FICs in this study might not technically have been declared insolvent.

It should be noted that the above definition of an FIC is broader than that of "E" (under regulatory supervision), which is assigned only when an insurer is "no longer allowed to conduct normal ongoing insurance operations." Thus, a company may be designated as financially impaired in this study, but not have been assigned an "E." Further, "F" (in liquidation) can reflect liquidation as part of the impairment process, or it can indicate a voluntary dissolution. Unless under financial duress, voluntary dissolutions are not counted as impairments. Before 1992, a Best's Rating of "NA-10" was used to indicate that a company was under regulatory supervision and/or in liquidation.

In this document, we use the terms gross impairments, net impairments, and liquidations, which are defined as follows (See sidebar: **Illustration - Calculation of Gross Impairment, Net Impairment, and Liquidation Rates**):

- Gross impairments encompass the broadest definition of impairments as defined here for FICs and reflects the impairment data A.M. Best has used to produce its ratings performance statistics in prior impairment studies. This measure of impairment rates includes companies that A.M. Best has ceased rating by the time of impairment and further reduces cohorts of insurance carriers by withdrawn ratings, thus further boosting impairment rates.
- Net impairments represent gross impairments except that insurers that became impaired after ratings withdrawals are not counted and cohorts of insurers are not reduced for withdrawn ratings. This measurement of impairment rates is more consistent with performance statistics calculation methodology prescribed by regulators and the methodology applied by some credit ratings agencies in calculating corporate default statistics.
- Liquidations represent insurers counted in the net impairments that were eventually liquidated. A.M. Best believes this subset of impaired insurers is more closely connected to the potential for losses to policyholders than either the gross impairment or net impairment measure.

can affect annual impairment counts significantly. For example, 9 of the 27 impairments in 1999 are attributed to the impairment of General American Life Insurance Co. (See sidebar: **Illustration of Impairment Without Subsequent Default on Policyholder Obligations**)

The reader also should be aware that A.M. Best will continue to improve and possibly expand the database upon which this impairment study is based. Updates, therefore, may include corrections to the data, or they may include or exclude new insurance companies. (See sidebar: **A Note on Revisions**)

These adjustments to the data or inclusion criteria may make it difficult to compare the results of one study with its predecessors. However, to provide as much consistency as possible, the study's updates and revisions will be done from the common starting point of December 31, 1977 for FSRs and December 31, 2001 for ICRs.

Insurance Company Impairment Rates vs. Corporate Issuer Default Rates

The credit markets broadly deem an issuer default as having occurred when an issuer misses interest or principal payments on its obligations, restructures its debt in a way that is deleterious to investors,

Illustration of Impairment Without Subsequent Default on Policyholder Obligations

To illustrate how financial impairments, as defined by A.M. Best, can occur without a default on an insurance company's financial obligations to its policyholders, it is instructive to observe the financial impairment of General American Life Insurance Co. (GALIC). In August 1999, the Missouri Department of Insurance placed GALIC under administrative supervision to avoid a "run on the bank" by the company's policyholders. In January 2000, Metropolitan Life Insurance Co. purchased GALIC and its affiliates from General American Mutual Holding Co., the operating company's parent. Administrative supervision of GALIC ended at that time.

Although the company was under administrative supervision for approximately five months, it was not liquidated, and it continued to satisfy its financial obligations under its insurance policies. Accordingly, no insurance policy default event occurred. As the company and its affiliates were under administrative supervision for a period, however, they were counted as impaired, according to A.M. Best's definition of impairment.

or files for bankruptcy. Financial impairment of insurance companies, by contrast, can occur even if an insurance company has not formally been declared insolvent. For instance, an FIC's capital and surplus could have been deemed inadequate to meet risk-based capital requirements, or there might have been regulatory concern regarding its general financial condition. Thus, at any given rating level, significantly more insurers would be impaired, according to the A.M. Best definition, than actually would default on insurance policies and contract obligations.

Subsets of Impairment Data Presented

A.M. Best has traditionally only presented impairment rates associated with Financial Strength Ratings that have been grouped into seven broad rating categories: "A++/A+," "A/A-," "B++/B+," "B/B-," "C++/C+," "C/C-," and "D."[1] With this study, however, A.M. Best will present for the first time impairment rates associated with more granular rating categories (in some exhibits) as well as impairment rates associated with ICRs – the ratings scale most familiar to users of debt market ratings.

Furthermore, this study will present three subsets of impairment-related data:

- *Gross impairments*, which encompass the broadest definition of impairments as defined earlier and reflect the impairment data A.M. Best has used to produce its ratings performance statistics in prior impairment studies;
- *Net impairments*, which represent gross impairments except that insurers that became impaired after ratings withdrawals are not counted and cohorts of insurers are not reduced for withdrawn ratings; and
- *Liquidations*, which represent insurers counted under the net impairment tabulation that were eventually liquidated.

These three definitions of performance statistics provide different views of the credit risk associated with insurance carriers rated by A.M. Best. (See sidebar: **Illustration - Calculation of Gross Impairment, Net Impairment, and Liquidation Rates**)

Impairments Associated With Financial Strength Ratings

The study covers the 38 one-year periods from December 31, 1977 to December 31, 2015, and includes only U.S. companies that had at least one FSR over this period. Of the 5,183 companies that had an A.M. Best rating in this period, 761 eventually became financially impaired

[1] The FSR groupings in this study included the Financial Performance Ratings (FPRs) that were introduced in 1990 and discontinued in 2002. See the Preface of a pre-2002 Best's Insurance Report for groupings of FSRs and FPRs.

Illustration - Calculation of Gross Impairment, Net Impairment, and Liquidation Rates

The assumptions below apply in our calculation of 10-year impairment and liquidation rates.	
A) Number of Insurers in Beginning Cohort	**1000**
B) Total Impairments by the Tenth Year (Regardless of Withdrawal Status)	**40**
C) Total Withdrawals by the Tenth Year	**15**
C1) Total Withdrawn Insurers That Were Also Impaired	10
C2) Total Withdrawn Insurers That Were Not Impaired	5
D) Net Impairments by the Tenth Year	**30**
E) Liquidations as a Subset of Net Impairments	**15**

Gross Impairment Rate
The gross impairment rate is the ratio of the 40 impairments that occurred in the 10-year observation period to the starting cohort of insurance companies reduced by the number of withdrawn companies that were not impaired. The calculation, with data pulled from the table above, is as follows:

Gross Impairment Rate = (Item B) / (Item A – Item C2) = 40 / (1000 – 5) = 40 / 995 = 4.02%

Net Impairment Rate
The net impairment rate is the ratio of 30 impairments, representing net impairments (the 40 impairments less the number of impaired companies that withdrew [30 = 40 – 10]), to the starting cohort of insurance companies. The calculation, with data pulled from the table above, is as follows:

Net Impairment Rate = (Item B – Item C1) / (Item A) = (40 – 10) / 1000 = 30 / 1000 = 3.00%

Liquidation Rate
The liquidation rate is the ratio of the 15 net impairments that were liquidated to the starting cohort of insurance companies. The calculation, with data pulled from the table above, is as follows:

Liquidation Rate = (Item E) / (Item A) = 15 / 1000 = 1.50%

A Note on Revisions

As a result of ongoing research efforts, A.M. Best's Impairment Database is updated continually to reflect the incorporation of new data or adjustments to existing data.

Ongoing historical research occasionally leads to the restatement of certain data, primarily a company's initial year of impairment. If any change places a company outside of this study's parameters, that company is eliminated.

This study includes the most accurate information currently available from what is believed to be the most comprehensive insurance company impairment database in existence. After incorporating all updates and revisions, the results of the current study remain broadly consistent with those published for the prior study.

(**Exhibit 2**), although just 576 of those insurers had a rating at the time of impairment. Furthermore, of the 576 impaired companies that had an A.M. Best rating when they became impaired, 375 (65%) went into liquidation – a significant fact when attempting to compare impairments to corporate defaults, as discussed later in this study.

In 1977, A.M. Best had the following seven FSR Rating Symbols (excluding the impaired category): "A+," "A," "B+," "B," "C+," "C," and "D."[2] In 1992, the company added Rating Notches to the Rating Symbols such that the spectrum of ratings including Rating Notches, were as follows: "A++," "A+," "A," "A-," "B++," "B+," "B," "B-," "C++," "C+," "C," "C-," and "D." These same FSR Rating Symbols and Rating Notches remain in use today.

[2] The rating category "NA-7" is included in the "D" category.

Exhibit 2

Gross Impairment Count by Year (1978-2015)

U.S. Life/Health and Property/Casualty Data

Year	Number of Impairments*	% of Total Impairments
1978	8	1.1%
1979	6	0.8%
1980	5	0.7%
1981	10	1.3%
1982	7	0.9%
1983	16	2.1%
1984	21	2.8%
1985	36	4.7%
1986	25	3.3%
1987	25	3.3%
1988	24	3.2%
1989	40	5.3%
1990	36	4.7%
1991	56	7.4%
1992	33	4.3%
1993	29	3.8%
1994	24	3.2%
1995	10	1.3%
1996	19	2.5%
1997	31	4.1%
1998	18	2.4%
1999	27	3.5%
2000	35	4.6%
2001	41	5.4%
2002	42	5.5%
2003	34	4.5%
2004	13	1.7%
2005	7	0.9%
2006	12	1.6%
2007	4	0.5%
2008	10	1.3%
2009	13	1.7%
2010	9	1.2%
2011	8	1.1%
2012	8	1.1%
2013	5	0.7%
2014	5	0.7%
2015	9	1.2%
Total	**761**	**100.0%**

* Includes companies that were not rated at the time of impairment but had a Best's FSR between December 31, 1977 and the date of impairment.

Source: A.M. Best data and research

Exhibit 3

Best's Average Cumulative Gross Impairment Rates (FSRs)

U.S. Life/Health and Property/Casualty Data from 1977 to 2015

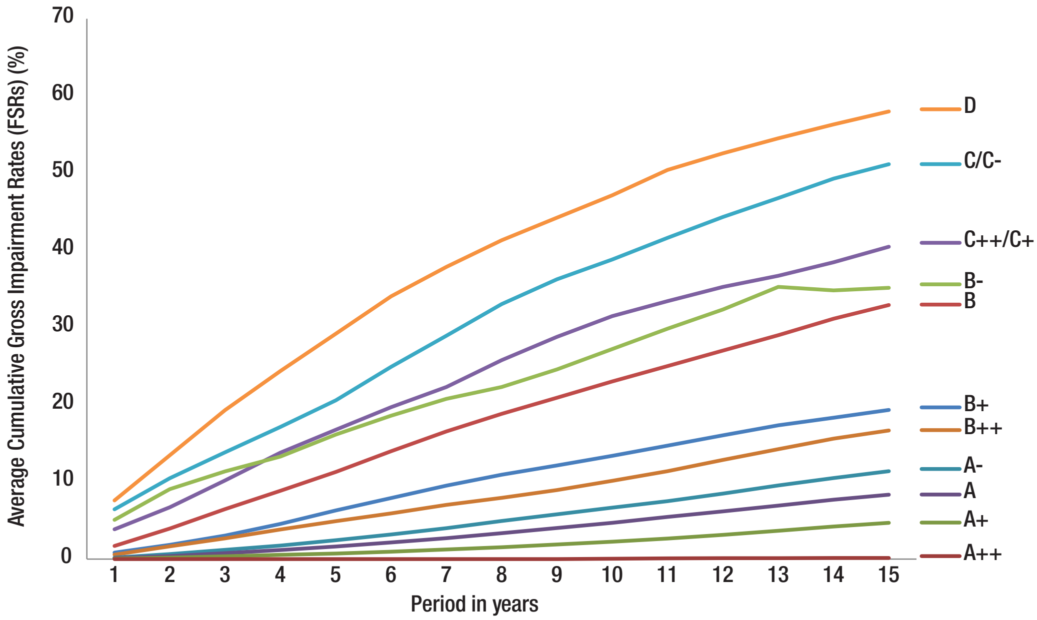
Rating	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year	11 Year	12 Year	13 Year	14 Year	15 Year
A++	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.04%	0.09%	0.10%	0.11%	0.12%	0.14%
A+	0.06	0.19	0.35	0.53	0.71	0.96	1.23	1.52	1.88	2.25	2.65	3.14	3.67	4.21	4.69
A	0.13	0.38	0.75	1.17	1.63	2.14	2.71	3.35	4.01	4.68	5.45	6.17	6.92	7.69	8.34
A-	0.19	0.63	1.19	1.75	2.43	3.18	3.99	4.93	5.78	6.65	7.50	8.48	9.52	10.50	11.38
B++	0.55	1.65	2.67	3.82	4.91	5.92	7.02	7.92	8.93	10.13	11.38	12.84	14.23	15.61	16.64
B+	0.84	1.83	3.03	4.56	6.30	7.89	9.50	10.93	12.12	13.37	14.68	16.02	17.34	18.32	19.32
B	1.69	3.95	6.47	8.83	11.28	13.98	16.54	18.80	20.90	23.01	25.01	27.02	29.01	31.14	32.92
B-	5.06	9.06	11.35	13.28	16.12	18.58	20.75	22.28	24.56	27.20	29.84	32.34	35.26	34.80	35.15
C++/C+	3.85	6.70	10.18	13.77	16.74	19.68	22.29	25.76	28.79	31.48	33.42	35.26	36.70	38.45	40.47
C/C-	6.44	10.48	13.82	17.11	20.55	24.92	28.94	33.04	36.25	38.82	41.62	44.34	46.77	49.30	51.16
D	7.60	13.45	19.28	24.36	29.19	34.03	37.85	41.29	44.22	47.14	50.42	52.57	54.51	56.32	58.00
All	**0.63%**	**1.31%**	**2.05%**	**2.84%**	**3.67%**	**4.56%**	**5.45%**	**6.36%**	**7.24%**	**8.15%**	**9.09%**	**10.05%**	**11.02%**	**11.97%**	**12.83%**

Source: A.M. Best data and research

Exhibit 4

Best's Ratings - Average Cumulative Gross Impairment Rates (FSRs)

U.S. Life/Health and Property/Casualty Data from 1977 to 2015



Source: A.M. Best data and research

A full explanation of the A.M. Best Rating Symbols and Rating Notches can be found in *Understanding Best's Credit Ratings*. Please note that in A.M. Best's FSR scale, the Rating Symbol "D" does not designate financial impairment. Impairments are not considered ratings but rather are considered non-rating designations. The designations for impairments in A.M. Best's ratings database upon which this study is based include the following: "E," "F," and "NA-10."

FSR-Related Gross Impairments Rates

Gross impairments represent the impairment data that A.M. Best has traditionally produced in its impairment studies over the past 13 years. Specifically, it represents the most conservative view of impairments, which include state actions such as involuntary liquidation because of insolvency, as well as other regulatory processes and procedures such as supervision, rehabilitation, receivership, conservatorship, a cease-and-desist order, suspension, license revocation, administrative order, and any other action that restricts a company's freedom to conduct its insurance business as normal. **Exhibit 2** shows the annual gross impairment count from 1978 through 2015.

In calculating the gross impairment rates, A.M. Best applies additional levels of conservatism, which include the following:

- Impairments that occur even after A.M. Best has ceased rating the insurers are included in the calculation of gross impairment rates, thus making gross impairment rates higher than they would be without such adjustments.
- The denominator of the starting cohorts of companies in the calculations are reduced by the number of withdrawn companies, thus making the gross impairment rates higher than they would be without such adjustments.

Exhibits 3 and **4** show the average cumulative gross impairment rates calculated using the static pool approach, as described later in the last section of this study. The data show an inverse relationship between FSRs and gross impairment rates: the lower the FSR, the higher the rate of impairment. For

Exhibit 5

Select Ratings Transition Matrices for FSRs (Associated with Gross Impairments)

U.S. Life/Health and Property/Casualty Data from 1977 to 2015

1-Year Transition Matrix

	Rating One Year Later											
Rating	**A++**	**A+**	**A**	**A-**	**B++**	**B+**	**B**	**B-**	**C++/C+**	**C/C-**	**D**	**Gross Impaired**
A++	91.24%	7.17%	1.47%	0.06%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	1.48	91.01	6.67	0.40	0.03	0.33	0.02	0.00	0.00	0.00	0.00	0.06
A	0.21	4.88	88.20	4.23	0.41	1.47	0.27	0.02	0.08	0.03	0.08	0.13
A-	0.08	0.48	7.01	86.31	3.76	1.14	0.73	0.07	0.06	0.07	0.11	0.19
B++	0.06	0.51	1.01	11.64	77.12	6.82	1.38	0.28	0.30	0.32	0.02	0.55
B+	0.00	0.26	5.46	3.39	5.67	75.47	6.51	0.87	0.68	0.24	0.61	0.84
B	0.04	0.26	0.74	0.60	0.92	14.89	71.93	3.03	3.66	0.94	1.31	1.69
B-	0.00	0.00	0.22	0.75	0.43	4.63	15.30	65.41	6.57	1.08	0.54	5.06
C++/C+	0.00	0.23	0.46	0.35	0.17	1.90	11.85	5.75	66.65	5.69	3.11	3.85
C/C-	0.00	0.00	0.62	0.00	0.00	0.25	3.59	0.37	14.37	66.42	7.93	6.44
D	0.00	0.10	0.66	0.10	0.00	1.02	2.55	0.31	2.91	3.42	81.33	7.60

3-Year Transition Matrix

	Rating Three Years Later											
Rating	**A++**	**A+**	**A**	**A-**	**B++**	**B+**	**B**	**B-**	**C++/C+**	**C/C-**	**D**	**Gross Impaired**
A++	75.85%	19.01%	4.35%	0.60%	0.19%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	3.79	75.70	16.37	1.69	0.25	1.14	0.48	0.02	0.05	0.03	0.13	0.35
A	0.71	11.76	70.65	10.24	1.63	2.49	0.98	0.16	0.26	0.06	0.31	0.75
A-	0.16	2.23	18.43	66.13	6.93	3.02	1.07	0.27	0.21	0.22	0.13	1.19
B++	0.23	1.26	4.55	24.77	50.62	10.99	2.93	0.80	0.69	0.41	0.09	2.67
B+	0.08	2.31	10.78	9.09	10.72	49.14	9.59	2.06	1.72	0.39	1.09	3.03
B	0.05	1.27	4.43	3.40	4.15	23.24	42.39	4.71	5.37	2.09	2.46	6.47
B-	0.00	0.75	0.37	4.74	2.49	14.21	24.19	31.30	8.23	1.87	0.50	11.35
C++/C+	0.00	0.54	2.55	1.74	0.94	8.77	18.08	8.98	35.30	7.77	5.16	10.18
C/C-	0.00	0.29	1.18	0.15	0.00	4.71	10.74	2.94	18.68	35.15	12.35	13.82
D	0.00	0.30	2.57	1.08	0.12	4.13	7.01	1.44	6.11	4.97	52.99	19.28

5-Year Transition Matrix

	Rating Five Years Later											
Rating	**A++**	**A+**	**A**	**A-**	**B++**	**B+**	**B**	**B-**	**C++/C+**	**C/C-**	**D**	**Gross Impaired**
A++	64.49%	25.38%	8.70%	1.06%	0.34%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	5.43	64.44	22.21	3.93	0.56	1.66	0.52	0.09	0.18	0.04	0.23	0.71
A	1.13	15.00	59.36	14.29	2.62	3.43	1.61	0.22	0.24	0.11	0.38	1.63
A-	0.47	4.05	25.85	52.85	8.04	3.65	1.30	0.54	0.35	0.25	0.21	2.43
B++	0.37	2.52	7.43	30.41	36.61	12.50	3.13	1.22	0.64	0.13	0.13	4.91
B+	0.16	4.37	13.22	12.32	11.91	35.87	8.67	2.97	2.07	0.82	1.32	6.30
B	0.05	2.60	7.30	5.68	6.72	22.78	28.70	4.59	5.02	2.15	3.13	11.28
B-	0.00	1.44	1.44	8.20	5.32	17.27	25.32	14.68	7.91	2.01	0.29	16.12
C++/C+	0.00	1.26	3.93	3.85	1.70	11.33	19.11	7.11	22.52	6.44	6.00	16.74
C/C-	0.00	0.33	2.45	2.12	0.82	8.65	11.26	4.73	15.66	20.55	12.89	20.55
D	0.00	0.64	3.89	3.44	0.51	5.93	8.22	2.93	6.44	4.91	33.91	29.19

10-Year Transition Matrix

	Rating Ten Years Later											
Rating	**A++**	**A+**	**A**	**A-**	**B++**	**B+**	**B**	**B-**	**C++/C+**	**C/C-**	**D**	**Gross Impaired**
A++	47.63%	29.73%	19.25%	2.48%	0.52%	0.22%	0.09%	0.00%	0.04%	0.00%	0.00%	0.04%
A+	8.34	45.10	29.06	10.11	1.80	1.89	0.71	0.27	0.17	0.08	0.22	2.25
A	2.18	18.15	43.76	19.59	4.21	4.35	1.85	0.40	0.38	0.13	0.32	4.68
A-	1.08	8.66	31.79	36.65	8.06	4.25	1.58	0.81	0.27	0.14	0.06	6.65
B++	0.04	3.31	16.70	31.34	20.57	12.34	2.54	1.90	0.81	0.16	0.16	10.13
B+	0.55	8.00	16.07	16.09	12.61	19.54	7.72	2.77	1.78	0.71	0.78	13.37
B	0.10	4.88	11.82	9.15	10.86	16.33	13.03	3.24	4.21	1.07	2.30	23.01
B-	0.63	1.67	5.86	14.85	10.04	16.53	13.60	4.60	4.60	0.21	0.21	27.20
C++/C+	0.26	3.04	5.65	8.09	4.35	12.09	12.61	4.52	9.57	3.83	4.52	31.48
C/C-	0.00	1.85	3.88	4.81	3.70	9.98	9.98	6.10	7.02	4.99	8.87	38.82
D	0.00	1.70	5.99	4.97	2.52	8.10	7.69	4.63	4.01	2.59	10.68	47.14

15-Year Transition Matrix

	Rating Fifteen Years Later											
Rating	**A++**	**A+**	**A**	**A-**	**B++**	**B+**	**B**	**B-**	**C++/C+**	**C/C-**	**D**	**Gross Impaired**
A++	40.19%	29.73%	26.04%	3.35%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.14%
A+	10.73	32.15	31.72	13.84	3.25	2.06	0.75	0.36	0.25	0.13	0.07	4.69
A	3.10	17.99	36.54	20.37	5.95	4.67	1.91	0.56	0.34	0.15	0.08	8.34
A-	0.66	12.43	32.21	28.43	8.45	3.43	1.58	0.71	0.48	0.18	0.05	11.38
B++	0.14	5.10	18.60	30.49	14.62	8.88	2.80	1.75	0.91	0.00	0.07	16.64
B+	1.47	9.74	16.94	18.20	11.94	11.76	6.02	2.02	1.71	0.56	0.33	19.32
B	0.72	5.47	13.05	13.09	8.78	11.37	7.54	2.87	2.83	0.76	0.60	32.92
B-	0.00	2.39	11.60	14.33	10.58	11.95	6.48	4.10	3.41	0.00	0.00	35.15
C++/C+	1.38	4.69	7.24	8.41	5.43	11.93	9.37	2.56	6.07	1.06	1.38	40.47
C/C-	1.27	2.96	4.65	7.19	2.96	11.21	6.34	3.59	3.59	1.90	3.17	51.16
D	0.21	4.14	3.93	6.43	4.36	7.86	5.71	3.71	2.29	1.29	2.07	58.00

Source: A.M. Best data and research

example, over a one-year period, the gross impairment rate for companies rated "A-" was 0.19% while the gross impairment rate for companies rated "B" was 1.69%.

Gross impairment rates also vary across time. The data in **Exhibit 3** show that the insurance companies with FSRs of "A-" had gross impairment rates that ranged from 0.19% over a one-year period to 11.38% over a fifteen-year period. Similarly, the insurance companies with an FSR of "B" had gross impairment rates that ranged from 1.69% over a one-year period to 32.92% over a fifteen-year period.

The data further show that the rate of increase in impairment rates is most significant in the early years. For example, the average cumulative gross impairment rate of companies rated "A-" increased from 0.19% in the first year to 0.63% in the second year – a more than threefold increase. By comparison, the increase in impairment rates from year two to year three (i.e., from 0.63% to 1.19%) is slightly less than a twofold increase. This is the same trend found in corporate default studies (by other Nationally Recognized Statistical Rating Organizations (NRSROs)), although with higher rates in this study because of the substantially wider concept of impairment compared with default as described earlier.

While gross impairment rates associated with insurance-company FSRs are not equivalent to issuer defaults, as previously discussed, insurance company impairment rates can be translated to the impairment rates of debt securities of insurance companies, had those companies issued debt securities. The sidebar later in this report, **Converting Insurance Company Gross Impairment Rates to Debt Impairment Rates**, describes the translation from ICR-related gross impairment rates to implied gross impairment rates of senior unsecured debt issued by insurance entities.

Rating Transition Associated With FSR-Related Gross Impairments

Rating transition tables can reveal to what extent ratings are stable across different periods. **Exhibit 5** shows the percentage of ratings that moved from one rating category to another in a given period. For example, the 1-Year Transition Matrix shows that 86.31% of the companies rated "A-" remained in the "A-" category one year later. The percentage of the "A-" companies that were upgraded one year later to "A" is 7.01%, while the percentage of the "A-" companies that were downgraded to "B++" is 3.76%. The percentage of the "A-" companies that were downgraded to any rating below "A-," including the impaired category, is approximately 6.13%. Please note that the 1-Year Transition Matrix does not simply reflect the one-year rating movement from 2014 to 2015. Instead, it reflects the average one-year rating movements over the 38 one-year periods from 1977 to 2015 that are covered in this study.

Generally, as ratings decline, the percentage of companies maintaining the same rating over a one-year period also declines. For example, 86.31% of the companies with an "A-" rating remained in that same rating category one year later, but only 77.12% of companies with a "B++" rating stayed in that category one year later.

Ratings also decline as impairment approaches. **Exhibit 6** displays the number of companies in each rating category at various times before impairment. To illustrate rating movements as impairments approach, observe the number of FICs in the "A++/A+" and the "D" rating categories before impairment. There are 35 FICs in the "A++/A+" rating category five years before impairment, but there are only 14 FICs in this category one year before impairment. By contrast, there are 67 FICs rated "D" five years before impairment, but that number increases to 147 one year before impairment. In general, the decline in the number of FICs in the higher rated categories is offset by the increase in the number of companies in the lower rated or "Not Formally Followed" categories.

Exhibit 6

Gross Impairments in Each Rating Category By Years Before Impairment

U.S. Life/Health and Property/Casualty Data from 1977 to 2015

	<--------Number of Years Before Impairment-------->					
Rating Category	**5 Years**	**4 Years**	**3 Years**	**2 Years**	**1 Year**	**In Year of Impairment**
A++/A+	35	36	35	29	14	1
A/A-	142	140	143	116	60	9
B++/B+	144	143	126	129	102	25
B/B-	89	90	110	129	132	98
C++/C+	34	43	46	41	67	63
C/C-	18	20	22	28	52	74
D	67	71	85	92	147	222
Not Formally Followed*	232	218	194	197	187	269
All	**761**	**761**	**761**	**761**	**761**	**761**

* The "Not Formally Followed" category represents companies that did not have a Best's FSR at the time period in question but had a Best's FSR at some time after Dec. 31, 1977.
Source: A.M. Best data and research

Time to Impairment Associated With FSR-Related Gross Impairments

There is a strong relationship between FICs' initial ratings – for purposes of this study, the later of December 31, 1977, or the date of a company's initial rating – and the time to impairment. As shown in **Exhibit 7**, the higher the initial rating of FICs, the longer it takes for those companies to become financially impaired. For example, it took an average of 16.40 years for FICs that initially were rated "A++/A+" to become financially impaired, but only an average of 10.50 years for FICs rated "B/B-" to become financially impaired. Data for the "C/C-" rating category and the "C++/C+" rating category probably are less reliable, since they are based on smaller impairment counts compared with those of the other rating groupings. In addition, the "C/C-" and the "C++/C+" rating categories make up only 0.9% and 1.9%, respectively, of the historical distribution of ratings between year-end 1977 and year-end 2015, as shown in **Exhibit 8**. It took an average of 9.60 years for the FICs that initially were rated "D" to become financially impaired.

Exhibit 7

Average Years to Gross Impairment For the 761 Impaired Companies

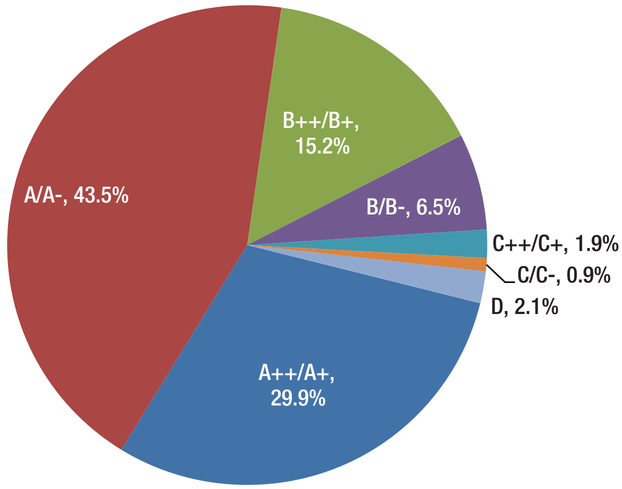
U.S. Life/Health and Property/Casualty Data from 1977 to 2015

Initial Rating Category	**No. of Impairments**	**Average Years to Impairment from Initial Rating Date***
A++/A+	106	16.40
A/A-	169	13.30
B++/B+	147	11.00
B/B-	123	10.50
C++/C+	57	7.80
C/C-	35	11.80
D	124	9.60
All	**761**	**11.74**

* Initial rating date is the later of Dec. 31,1977, or the date of the original rating.
Source: A.M. Best data and research

It is important to emphasize that **Exhibit 7** displays the initial ratings of the 761 insurance companies that became impaired from year-end 1977 to year-end 2015. For example, one of the 106 companies in the "A++/A+" category had an initial rating of "A+" in 1977. That company's rating steadily declined to "B-" five years before its impairment, and then to "C-" one year before its impairment in 2002. Therefore, that company was counted in the "A++/A+" initial rating category, even though its ratings in the years before impairment were far below its initial rating of "A+." Overall, the average number of years to impairment for all FICs with at least one Best's FSR from year-end 1977 to year-end 2015 was 11.74.

Exhibit 8
Best's Ratings - Historical Rating Distribution
U.S. Life/Health and Property/Casualty Data from 1977 to 2015



Source: A.M. Best data and research

FSR-Related Net Impairment Rates

For the first time in its impairment study, A.M. Best is producing net impairment rates with a calculation methodology that is broadly consistent with 1) the methodology prescribed by the Securities and Exchange Commission for performance statistics calculations by NRSROs in regulatory filings, and 2) the methodology used by some NRSROs for producing their corporate default studies. Specifically, net impairment is based on the broad definition of impairment as described earlier, except that in calculating net impairment rates, ratings withdrawals are handled in the following manner:

- Impairments that occur after ratings have been withdrawn and A.M. Best has ceased rating the insurers are excluded in the calculation of net impairment rates, thus generally making the net impairment rates lower than the gross impairment rates at all rating levels.
- The starting cohorts of insurance companies in the calculation of net impairment rates are not reduced by the number of withdrawn companies, thus generally making the net impairment rates lower than the gross impairment rates at all rating levels.

Exhibit 9
Best's Average Cumulative Net Impairment Rates (FSRs)
U.S. Life/Health and Property/Casualty Data from 1977 to 2015

Rating	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year	11 Year	12 Year	13 Year	14 Year	15 Year
A++	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	0.06	0.17	0.31	0.45	0.59	0.76	0.92	1.09	1.30	1.51	1.74	2.04	2.37	2.72	3.03
A	0.13	0.36	0.66	0.99	1.32	1.63	1.99	2.38	2.77	3.17	3.64	4.05	4.48	4.93	5.28
A-	0.18	0.60	1.08	1.54	2.08	2.66	3.24	3.90	4.44	4.94	5.39	5.93	6.48	7.01	7.43
B++	0.53	1.50	2.32	3.15	3.89	4.47	5.10	5.54	6.06	6.67	7.28	7.96	8.65	9.26	9.68
B+	0.79	1.62	2.51	3.48	4.47	5.32	6.14	6.81	7.36	7.88	8.39	8.83	9.23	9.45	9.78
B	1.56	3.10	4.51	5.74	6.86	8.02	9.11	9.91	10.50	11.16	11.67	12.23	12.87	13.50	13.87
B-	4.73	7.66	9.03	10.21	11.68	12.61	13.47	14.04	14.95	16.12	17.15	18.17	19.53	18.76	18.59
C++/C+	3.48	5.54	7.61	9.22	10.44	11.64	12.57	14.03	15.21	16.09	16.67	17.21	17.49	17.87	18.41
C/C-	5.78	8.52	10.32	11.95	13.74	15.74	17.58	19.13	20.07	21.07	22.36	23.73	24.56	25.57	25.29
D	6.63	10.47	13.58	16.16	18.52	20.66	22.40	23.72	24.89	26.03	27.34	28.49	29.32	30.03	30.62
All	**0.61%**	**1.19%**	**1.77%**	**2.32%**	**2.88%**	**3.42%**	**3.95%**	**4.45%**	**4.92%**	**5.39%**	**5.86%**	**6.34%**	**6.82%**	**7.27%**	**7.65%**

Source: A.M. Best data and research

Exhibit 10

Select Ratings Transition Matrices for FSRs (Associated with Net Impairments)

U.S. Life/Health and Property/Casualty Data from 1977 to 2015

1-Year Transition Matrix

	Rating One Year Later											
Rating	**A++**	**A+**	**A**	**A-**	**B++**	**B+**	**B**	**B-**	**C++/C+**	**C/C-**	**D**	**Net Impaired**
A++	90.38%	7.11%	1.46%	0.06%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	1.46	89.58	6.56	0.39	0.03	0.33	0.02	0.00	0.00	0.00	0.00	0.06
A	0.21	4.77	86.35	4.14	0.41	1.44	0.27	0.02	0.08	0.03	0.08	0.13
A-	0.08	0.47	6.86	84.54	3.68	1.12	0.72	0.07	0.06	0.06	0.11	0.18
B++	0.06	0.49	0.97	11.21	74.29	6.57	1.33	0.27	0.29	0.30	0.02	0.53
B+	0.00	0.25	5.17	3.21	5.37	71.45	6.16	0.83	0.64	0.23	0.58	0.79
B	0.04	0.24	0.68	0.55	0.84	13.73	66.32	2.79	3.38	0.86	1.21	1.56
B-	0.00	0.00	0.20	0.70	0.40	4.33	14.30	61.13	6.14	1.01	0.50	4.73
C++/C+	0.00	0.21	0.42	0.31	0.16	1.72	10.71	5.20	60.27	5.15	2.81	3.48
C/C-	0.00	0.17	0.50	0.17	0.12	1.25	9.36	2.12	12.89	59.56	7.11	5.78
D	0.00	0.09	0.58	0.09	0.00	0.89	2.22	0.27	2.54	2.98	70.91	6.63

3-Year Transition Matrix

	Rating Three Years Later											
Rating	**A++**	**A+**	**A**	**A-**	**B++**	**B+**	**B**	**B-**	**C++/C+**	**C/C-**	**D**	**Net Impaired**
A++	73.78%	18.49%	4.23%	0.58%	0.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	3.62	72.36	15.65	1.62	0.24	1.09	0.46	0.02	0.05	0.03	0.12	0.31
A	0.67	11.02	66.21	9.60	1.52	2.34	0.92	0.15	0.25	0.06	0.29	0.66
A-	0.15	2.08	17.25	61.89	6.49	2.83	1.00	0.25	0.20	0.21	0.12	1.08
B++	0.20	1.12	4.05	22.08	45.11	9.80	2.61	0.71	0.61	0.37	0.08	2.32
B+	0.07	2.00	9.32	7.86	9.27	42.49	8.29	1.78	1.48	0.34	0.95	2.51
B	0.04	1.02	3.56	2.73	3.33	18.66	34.03	3.78	4.31	1.67	1.98	4.51
B-	0.00	0.62	0.31	3.95	2.08	11.84	20.15	26.06	6.85	1.56	0.42	9.03
C++/C+	0.00	0.42	1.99	1.36	0.73	6.87	14.17	7.03	27.65	6.09	4.04	7.61
C/C-	0.00	0.42	1.80	0.88	0.55	5.83	13.17	3.57	14.40	27.10	9.52	10.32
D	0.00	0.22	1.92	0.80	0.09	3.08	5.23	1.07	4.56	3.71	39.54	13.58

5-Year Transition Matrix

	Rating Five Years Later											
Rating	**A++**	**A+**	**A**	**A-**	**B++**	**B+**	**B**	**B-**	**C++/C+**	**C/C-**	**D**	**Net Impaired**
A++	61.14%	24.06%	8.25%	1.01%	0.32%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	5.04	59.87	20.64	3.65	0.52	1.54	0.48	0.08	0.16	0.04	0.22	0.59
A	1.02	13.52	53.48	12.88	2.36	3.09	1.45	0.19	0.21	0.10	0.34	1.32
A-	0.42	3.62	23.09	47.21	7.19	3.26	1.16	0.49	0.31	0.23	0.18	2.08
B++	0.31	2.09	6.16	25.19	30.34	10.35	2.59	1.01	0.53	0.11	0.11	3.89
B+	0.12	3.50	10.57	9.86	9.53	28.68	6.94	2.38	1.65	0.66	1.05	4.47
B	0.04	1.88	5.27	4.10	4.85	16.44	20.71	3.31	3.62	1.55	2.26	6.86
B-	0.00	1.09	1.09	6.22	4.04	13.10	19.21	11.14	6.00	1.53	0.22	11.68
C++/C+	0.00	0.91	2.82	2.77	1.23	8.15	13.75	5.11	16.20	4.64	4.32	10.44
C/C-	0.00	0.81	2.63	2.33	1.10	7.51	12.39	3.48	11.09	14.55	9.12	13.74
D	0.00	0.45	2.74	2.42	0.36	4.17	5.78	2.06	4.53	3.45	23.86	18.52

10-Year Transition Matrix

	Rating Ten Years Later											
Rating	**A++**	**A+**	**A**	**A-**	**B++**	**B+**	**B**	**B-**	**C++/C+**	**C/C-**	**D**	**Net Impaired**
A++	42.50%	26.52%	17.18%	2.21%	0.47%	0.19%	0.08%	0.00%	0.04%	0.00%	0.00%	0.00%
A+	7.33	39.62	25.52	8.88	1.58	1.66	0.62	0.24	0.15	0.07	0.19	1.51
A	1.81	15.07	36.33	16.26	3.49	3.61	1.53	0.33	0.32	0.11	0.26	3.17
A-	0.85	6.78	24.90	28.71	6.31	3.33	1.24	0.63	0.21	0.11	0.04	4.94
B++	0.03	2.35	11.85	22.24	14.60	8.76	1.80	1.35	0.57	0.11	0.11	6.67
B+	0.38	5.62	11.28	11.29	8.85	13.71	5.42	1.95	1.25	0.50	0.55	7.88
B	0.06	2.97	7.20	5.57	6.61	9.94	7.93	1.97	2.56	0.65	1.40	11.16
B-	0.41	1.08	3.79	9.62	6.50	10.70	8.81	2.98	2.98	0.14	0.14	16.12
C++/C+	0.17	1.97	3.66	5.23	2.81	7.82	8.16	2.92	6.19	2.47	2.92	16.09
C/C-	0.13	1.94	3.49	4.14	2.89	7.55	7.85	3.10	4.52	3.21	5.71	21.07
D	0.00	1.13	3.98	3.30	1.67	5.39	5.12	3.08	2.67	1.72	7.11	26.03

15-Year Transition Matrix

	Rating Fifteen Years Later											
Rating	**A++**	**A+**	**A**	**A-**	**B++**	**B+**	**B**	**B-**	**C++/C+**	**C/C-**	**D**	**Net Impaired**
A++	34.11%	25.23%	22.10%	2.84%	0.46%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	8.95	26.82	26.46	11.54	2.71	1.72	0.63	0.30	0.21	0.11	0.06	3.03
A	2.39	13.89	28.20	15.72	4.59	3.60	1.47	0.43	0.26	0.12	0.06	5.28
A-	0.47	8.73	22.61	19.96	5.93	2.41	1.11	0.50	0.34	0.13	0.03	7.43
B++	0.09	3.21	11.70	19.18	9.19	5.59	1.76	1.10	0.57	0.00	0.04	9.68
B+	0.93	6.16	10.72	11.52	7.55	7.44	3.81	1.28	1.08	0.35	0.21	9.78
B	0.41	3.13	7.46	7.49	5.02	6.50	4.31	1.64	1.62	0.43	0.34	13.87
B-	0.00	1.41	6.87	8.48	6.26	7.07	3.84	2.42	2.02	0.00	0.00	18.59
C++/C+	0.81	2.75	4.24	4.93	3.18	6.99	5.49	1.50	3.56	0.62	0.81	18.41
C/C-	0.86	2.63	3.72	4.54	2.63	6.99	5.18	1.63	2.19	1.16	1.94	25.29
D	0.14	2.67	2.53	4.14	2.80	5.06	3.68	2.39	1.47	0.83	1.33	30.62

Source: A.M. Best data and research

There were 576 impaired insurers in the net impairment pool as opposed to 761 impaired insurance carriers in the gross impairment pool.

Exhibits 9 and **10** show Best's Average Cumulative Net Impairment Rates and the associated Select Ratings Transition Matrices for FSRs, respectively. These exhibits reflect the A.M. Best-rated population between 1977 and 2015. As you can see from the exhibits, the treatment of ratings withdrawals can dramatically affect impairment rates, especially for longer-dated impairment rate calculations. For example, the tabulation of the 15-year gross impairment rate for "A-" insurers (as shown in **Exhibit 3**) of 11.38% is over 50% higher than the net impairment rate of 7.43% (as shown in **Exhibit 9**) for the same rating cohort. Overall, Best's Average Cumulative Net Impairment Rates and the associated Select Ratings Transition Matrices for FSRs follow the same trends as shown in the tables related to gross impairment rates.

FSR-Related Liquidation Rates

A.M. Best believes that while impairment rates are not directly comparable to corporate default rates, a subset of impairments, liquidations, may be closer to the issuer default rates calculated by the largest NRSROs. There are many occasions where more benign regulatory supervisory protocols do not or are not expected to trigger any losses associated with policyholder and contract obligations. Liquidations, on the other hand, offer the possibility of losses to policyholders. Likewise, global corporate default rates calculated by the largest NRSROs also generally relate to the possibility of unsatisfied senior obligations, although with the case of corporates, the first dollar of loss to obligors or the restructuring of debt to avoid such losses is often certain.

Exhibits 11 and **12** show Best's Average Cumulative Liquidation Rates and the associated Select Ratings Transition Matrices for FSRs, respectively. The 375 liquidations used in producing these exhibits are related to any liquidated insurance carriers rated by A.M. Best at the time of impairment. Roughly 49% of the 761 total gross impaired companies were factored into the cumulative liquidation rates in the exhibits.

As shown in the exhibits, the liquidation rates (**Exhibit 11**) are drastically lower than the gross impairment rates or the net impairment rates at nearly all rating levels and terms. For example, the 15-year gross impairment, net impairment, and liquidation rates for "A-" insurers were 11.38% (**Exhibit 3**), 7.43% (**Exhibit 9**), and 3.44% (**Exhibit 11**), respectively. The gross impairment rate is about 230% higher than the liquidation rate. **Exhibit 13** shows the various

Exhibit 11
Best's Average Cumulative Liquidation Rates (FSRs)
U.S. Life/Health and Property/Casualty Data from 1977 to 2015

Rating	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year	11 Year	12 Year	13 Year	14 Year	15 Year
A++	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	0.03	0.10	0.19	0.29	0.37	0.49	0.57	0.66	0.78	0.89	1.01	1.15	1.31	1.48	1.62
A	0.07	0.19	0.35	0.53	0.72	0.90	1.11	1.31	1.51	1.70	1.92	2.15	2.37	2.63	2.86
A-	0.09	0.33	0.61	0.85	1.05	1.28	1.49	1.78	2.05	2.28	2.50	2.75	3.03	3.28	3.44
B++	0.36	0.87	1.28	1.73	2.18	2.52	2.89	3.11	3.40	3.69	4.01	4.37	4.76	5.01	5.24
B+	0.49	1.00	1.51	2.07	2.70	3.25	3.76	4.23	4.56	4.88	5.27	5.57	5.84	6.10	6.30
B	1.05	2.06	2.99	3.86	4.66	5.41	6.20	6.84	7.40	7.95	8.36	8.78	9.30	9.76	10.06
B-	3.12	5.41	6.33	7.13	7.64	8.18	8.58	9.11	9.92	10.84	11.53	12.27	13.13	12.95	12.53
C++/C+	2.76	4.34	5.88	6.85	7.88	8.84	9.53	10.45	11.15	11.70	12.14	12.60	12.97	13.29	13.80
C/C-	2.78	4.60	6.01	7.36	8.43	9.72	10.83	11.97	12.75	13.33	14.09	15.20	15.71	16.37	17.03
D	4.67	7.49	9.79	11.77	13.68	15.36	16.76	17.81	18.67	19.56	20.57	21.37	21.91	22.38	22.85
All	**0.40%**	**0.77%**	**1.13%**	**1.48%**	**1.82%**	**2.16%**	**2.48%**	**2.80%**	**3.09%**	**3.37%**	**3.66%**	**3.95%**	**4.24%**	**4.52%**	**4.78%**

Source: A.M. Best data and research

Exhibit 12

Select Ratings Transition Matrices for FSRs (Associated with Liquidations)

U.S. Life/Health and Property/Casualty Data from 1977 to 2015

1-Year Transition Matrix

	Rating One Year Later											
Rating	A++	A+	A	A-	B++	B+	B	B-	C++/C+	C/C-	D	Liquidation
A++	90.38%	7.11%	1.46%	0.06%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	1.46	89.58	6.56	0.39	0.03	0.33	0.02	0.00	0.00	0.00	0.00	0.03
A	0.21	4.77	86.35	4.14	0.41	1.44	0.27	0.02	0.08	0.03	0.08	0.07
A-	0.08	0.47	6.86	84.54	3.68	1.12	0.72	0.07	0.06	0.06	0.11	0.09
B++	0.06	0.49	0.97	11.21	74.29	6.57	1.33	0.27	0.29	0.30	0.02	0.36
B+	0.00	0.25	5.17	3.21	5.37	71.45	6.16	0.83	0.64	0.23	0.58	0.49
B	0.04	0.24	0.68	0.55	0.84	13.73	66.32	2.79	3.38	0.86	1.21	1.05
B-	0.00	0.00	0.20	0.70	0.40	4.33	14.30	61.13	6.14	1.01	0.50	3.12
C++/C+	0.00	0.21	0.42	0.31	0.16	1.72	10.71	5.20	60.27	5.15	2.81	2.76
C/C-	0.00	0.00	0.56	0.00	0.00	0.22	3.22	0.33	12.89	59.56	7.11	2.78
D	0.00	0.09	0.58	0.09	0.00	0.89	2.22	0.27	2.54	2.98	70.91	4.67

3-Year Transition Matrix

	Rating Three Years Later											
Rating	A++	A+	A	A-	B++	B+	B	B-	C++/C+	C/C-	D	Liquidation
A++	73.78%	18.49%	4.23%	0.58%	0.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	3.62	72.36	15.65	1.62	0.24	1.09	0.46	0.02	0.05	0.03	0.12	0.19
A	0.67	11.02	66.21	9.60	1.52	2.34	0.92	0.15	0.25	0.06	0.29	0.35
A-	0.15	2.08	17.25	61.89	6.49	2.83	1.00	0.25	0.20	0.21	0.12	0.61
B++	0.20	1.12	4.05	22.08	45.11	9.80	2.61	0.71	0.61	0.37	0.08	1.28
B+	0.07	2.00	9.32	7.86	9.27	42.49	8.29	1.78	1.48	0.34	0.95	1.51
B	0.04	1.02	3.56	2.73	3.33	18.66	34.03	3.78	4.31	1.67	1.98	2.99
B-	0.00	0.62	0.31	3.95	2.08	11.84	20.15	26.06	6.85	1.56	0.42	6.33
C++/C+	0.00	0.42	1.99	1.36	0.73	6.87	14.17	7.03	27.65	6.09	4.04	5.88
C/C-	0.00	0.23	0.91	0.11	0.00	3.63	8.28	2.27	14.40	27.10	9.52	6.01
D	0.00	0.22	1.92	0.80	0.09	3.08	5.23	1.07	4.56	3.71	39.54	9.79

5-Year Transition Matrix

	Rating Five Years Later											
Rating	A++	A+	A	A-	B++	B+	B	B-	C++/C+	C/C-	D	Liquidation
A++	61.14%	24.06%	8.25%	1.01%	0.32%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	5.04	59.87	20.64	3.65	0.52	1.54	0.48	0.08	0.16	0.04	0.22	0.37
A	1.02	13.52	53.48	12.88	2.36	3.09	1.45	0.19	0.21	0.10	0.34	0.72
A-	0.42	3.62	23.09	47.21	7.19	3.26	1.16	0.49	0.31	0.23	0.18	1.05
B++	0.31	2.09	6.16	25.19	30.34	10.35	2.59	1.01	0.53	0.11	0.11	2.18
B+	0.12	3.50	10.57	9.86	9.53	28.68	6.94	2.38	1.65	0.66	1.05	2.70
B	0.04	1.88	5.27	4.10	4.85	16.44	20.71	3.31	3.62	1.55	2.26	4.66
B-	0.00	1.09	1.09	6.22	4.04	13.10	19.21	11.14	6.00	1.53	0.22	7.64
C++/C+	0.00	0.91	2.82	2.77	1.23	8.15	13.75	5.11	16.20	4.64	4.32	7.88
C/C-	0.00	0.23	1.73	1.50	0.58	6.12	7.97	3.35	11.09	14.55	9.12	8.43
D	0.00	0.45	2.74	2.42	0.36	4.17	5.78	2.06	4.53	3.45	23.86	13.68

10-Year Transition Matrix

	Rating Ten Years Later											
Rating	A++	A+	A	A-	B++	B+	B	B-	C++/C+	C/C-	D	Liquidation
A++	42.50%	26.52%	17.18%	2.21%	0.47%	0.19%	0.08%	0.00%	0.04%	0.00%	0.00%	0.00%
A+	7.33	39.62	25.52	8.88	1.58	1.66	0.62	0.24	0.15	0.07	0.19	0.89
A	1.81	15.07	36.33	16.26	3.49	3.61	1.53	0.33	0.32	0.11	0.26	1.70
A-	0.85	6.78	24.90	28.71	6.31	3.33	1.24	0.63	0.21	0.11	0.04	2.28
B++	0.03	2.35	11.85	22.24	14.60	8.76	1.80	1.35	0.57	0.11	0.11	3.69
B+	0.38	5.62	11.28	11.29	8.85	13.71	5.42	1.95	1.25	0.50	0.55	4.88
B	0.06	2.97	7.20	5.57	6.61	9.94	7.93	1.97	2.56	0.65	1.40	7.95
B-	0.41	1.08	3.79	9.62	6.50	10.70	8.81	2.98	2.98	0.14	0.14	10.84
C++/C+	0.17	1.97	3.66	5.23	2.81	7.82	8.16	2.92	6.19	2.47	2.92	11.70
C/C-	0.00	1.19	2.50	3.10	2.38	6.43	6.43	3.93	4.52	3.21	5.71	13.33
D	0.00	1.13	3.98	3.30	1.67	5.39	5.12	3.08	2.67	1.72	7.11	19.56

15-Year Transition Matrix

	Rating Fifteen Years Later											
Rating	A++	A+	A	A-	B++	B+	B	B-	C++/C+	C/C-	D	Liquidation
A++	34.11%	25.23%	22.10%	2.84%	0.46%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A+	8.95	26.82	26.46	11.54	2.71	1.72	0.63	0.30	0.21	0.11	0.06	1.62
A	2.39	13.89	28.20	15.72	4.59	3.60	1.47	0.43	0.26	0.12	0.06	2.86
A-	0.47	8.73	22.61	19.96	5.93	2.41	1.11	0.50	0.34	0.13	0.03	3.44
B++	0.09	3.21	11.70	19.18	9.19	5.59	1.76	1.10	0.57	0.00	0.04	5.24
B+	0.93	6.16	10.72	11.52	7.55	7.44	3.81	1.28	1.08	0.35	0.21	6.30
B	0.41	3.13	7.46	7.49	5.02	6.50	4.31	1.64	1.62	0.43	0.34	10.06
B-	0.00	1.41	6.87	8.48	6.26	7.07	3.84	2.42	2.02	0.00	0.00	12.53
C++/C+	0.81	2.75	4.24	4.93	3.18	6.99	5.49	1.50	3.56	0.62	0.81	13.80
C/C-	0.77	1.81	2.84	4.39	1.81	6.84	3.87	2.19	2.19	1.16	1.94	17.03
D	0.14	2.67	2.53	4.14	2.80	5.06	3.68	2.39	1.47	0.83	1.33	22.85

Source: A.M. Best data and research

Exhibit 13
Cumulative 15-Year "A-" Impairment/Liquidation Rates
Based on Various Calculations

Calculation	Impairment/Liquidation Rates
Gross Impairments	11.38%
Net Impairments	7.43%
Liquidations	3.44%

Source: A.M. Best data and research

ratings performance statistics associated with gross impairments, net impairments, and liquidations related to “A-” rated carriers over a 15-year horizon.

It is important to note that the liquidation rates are tabulated after making the same withdrawal-related adjustments as made with the net impairment calculations. In addition, when an insurer has been designated as being in liquidation, A.M. Best assumes the liquidation date was at the time of impairment. For example, Executive Life Insurance Company of New York became impaired in 1991 when it went into rehabilitation and ultimately went into liquidation in 2013. However, in our performance statistics database, the liquidation date was entered as 1991, not 2013.

Impairments Associated With Issuer Credit Ratings

A.M. Best adopted the 21-point Long-Term Issuer Credit Rating symbols and notches in 2001. Because the ICR is the foundation for the FSR, **Exhibit 14** is used to translate from the ICR to the FSR scale. Though the ICR has been phased in over time, every insurance operating company with an FSR currently has an ICR. In calculating impairment rates associated with ICRs, A.M. Best adopts any assigned ICRs. However, in some cases where carriers had an FSR but had not yet been assigned an ICR, we have derived an implied ICR using the most conservative mapping scheme such that impairments are equal to or higher than they would otherwise be with the precise rating assignments. For example, an FSR of “B++,” which could be translated to either “bbb+” or “bbb” on the ICR scale, would be assigned an ICR of “bbb+” if no ICR had been assigned at the date of the rating observation.

Exhibit 14
FSR/ICR Translation Table

FSR	Long-Term ICR
A++	aaa aa+
A+	aa aa-
A	a+ a
A-	a-
B++	bbb+ bbb
B+	bbb-
B	bb+ bb
B-	bb-
C++	b+ b
C+	b-
C	ccc+ ccc
C-	ccc- cc
D	c

Source: A.M. Best

With regard to ICRs, this study covers the 14 one-year periods from December 31, 2001 to December 31, 2015, and includes only U.S. insurers that had at least one rating over this period.

Of the 3,322 companies that had an A.M. Best rating in this period, 153 eventually became financially impaired, although just 135 of those insurers had a rating at the time of impairment. Furthermore, of the 135 impaired companies that had an A.M. Best rating when they became impaired, approximately 74 (55%) went into liquidation – a significant fact when attempting to compare impairments to corporate defaults as described in an earlier section.

ICR-Related Impairment and Liquidation Rates

Exhibits 15, 16, and **17** show gross impairment, net impairment, and liquidation rates associated with ICRs. Each of the exhibits shows two subsets of data – one associated with ratings and notches and one associated with major ICR groupings.

We only show data associated with the ICR-related 1-year to 5-year impairment and liquidation rates because of the relatively short history of ICRs at A.M. Best. Still, the exhibit subset categorized by major rating groupings generally show that impairment and liquidation rates increase as ratings degrade and as the rating observation periods increase. For example, in **Exhibit 15b**, the 1-year gross impairment rate associated with the "a" major rating category is 0.03% and the 5-year gross impairment rate for the same category is 0.46%. In addition, the 1-year gross impairment rate associated with the "aaa" rating is 0.00% but the "b" gross impairment rate over the same period is 7.52%.

Exhibit 15a
Best's Average Cumulative Gross Impairment Rates by Rating Symbols and Notches (ICRs)
U.S. Life/Health and Property/Casualty Data from 2001 to 2015

Rating	1-Year	2-Year	3-Year	4-Year	5-Year
aaa	0.00%	0.00%	0.00%	0.00%	0.00%
aa+	0.00	0.00	0.00	0.00	0.00
aa	0.00	0.00	0.00	0.00	0.00
aa-	0.00	0.00	0.00	0.00	0.00
a+	0.00	0.26	0.28	0.30	0.32
a	0.00	0.00	0.00	0.00	0.00
a-	0.08	0.25	0.41	0.61	0.83
bbb+	0.19	0.42	0.68	0.97	1.31
bbb	0.48	1.25	1.77	2.70	3.95
bbb-	1.30	2.42	3.57	4.91	6.35
bb+	2.24	4.59	6.84	8.78	10.41
bb	1.83	3.43	8.80	10.78	10.34
bb-	4.75	7.52	9.84	11.18	14.09
b+	8.11	14.56	15.84	19.78	22.73
b	7.69	16.28	25.00	27.27	28.00
b-	6.80	9.64	13.89	24.62	31.58
ccc and below	20.81	32.14	44.44	53.33	61.76
All	**0.40%**	**0.75%**	**1.04%**	**1.35%**	**1.67%**

Source: A.M. Best data and research

Exhibit 15b
Best's Average Cumulative Gross Impairment Rates by Major Rating Groupings* (ICRs)
U.S. Life/Health and Property/Casualty Data from 2001 to 2015

Rating	1-Year	2-Year	3-Year	4-Year	5-Year
aaa	0.00%	0.00%	0.00%	0.00%	0.00%
aa	0.00	0.00	0.00	0.00	0.00
a	0.03	0.18	0.26	0.35	0.46
bbb	0.70	1.39	2.06	2.87	3.76
bb	2.98	5.38	8.05	9.79	11.61
b	7.52	13.10	16.75	22.75	26.47
ccc and below	20.81	32.14	44.44	53.33	61.76
All	**0.40%**	**0.75%**	**1.04%**	**1.35%**	**1.67%**

* For the purposes of **Exhibit 15b**, each rating grouping represents a combination of all rating symbols and notches associated with a rating category. For example, the "a" rating grouping, which is assigned a rating category of "Excellent", would include the following ratings: "a+", "a", and "a-".
Source: A.M. Best data and research

As alluded to in an earlier section, A.M. Best believes that the liquidation rate is most comparable to the corporate issuer default rate calculated in default studies by major ratings agencies because it more closely measures the likelihood of losses to obligors.

Comparability of Performance Measurement Statistics

Some users of performance statistics attempt to compare such data across ratings agencies. However, the comparisons can be flawed unless the users of such statistics understand the methodologies used by the various NRSROs and the population of obligors or securities included in the studies.

Exhibit 16a
Best's Average Cumulative Net Impairment Rates by Rating Symbols and Notches (ICRs)
U.S. Life/Health and Property/Casualty Data from 2001 to 2015

Rating	1-Year	2-Year	3-Year	4-Year	5-Year
aaa	0.00%	0.00%	0.00%	0.00%	0.00%
aa+	0.00	0.00	0.00	0.00	0.00
aa	0.00	0.00	0.00	0.00	0.00
aa-	0.00	0.00	0.00	0.00	0.00
a+	0.00	0.25	0.26	0.27	0.29
a	0.00	0.00	0.00	0.00	0.00
a-	0.08	0.25	0.38	0.56	0.75
bbb+	0.19	0.39	0.62	0.87	1.09
bbb	0.47	1.16	1.58	2.16	3.10
bbb-	1.22	2.18	3.10	4.05	5.00
bb+	2.12	4.06	5.80	7.07	7.97
bb	1.69	2.31	4.97	5.59	4.90
bb-	4.17	5.85	6.84	7.38	8.44
b+	6.92	11.54	12.31	13.85	15.38
b	6.78	12.96	17.31	18.00	17.50
b-	5.30	6.30	6.56	8.55	8.57
ccc and below	15.66	19.35	22.35	24.68	27.40
All	**0.39%**	**0.70%**	**0.94%**	**1.17%**	**1.40%**

Source: A.M. Best data and research

Exhibit 16b
Best's Average Cumulative Net Impairment Rates by Major Rating Groupings* (ICRs)
U.S. Life/Health and Property/Casualty Data from 2001 to 2015

Rating	1-Year	2-Year	3-Year	4-Year	5-Year
aaa	0.00%	0.00%	0.00%	0.00%	0.00%
aa	0.00	0.00	0.00	0.00	0.00
a	0.03	0.18	0.24	0.32	0.42
bbb	0.67	1.28	1.84	2.43	3.05
bb	2.75	4.42	6.06	7.00	7.79
b	6.23	9.65	10.86	12.46	13.09
ccc and below	15.66	19.35	22.35	24.68	27.40
All	**0.39%**	**0.70%**	**0.94%**	**1.17%**	**1.40%**

* For the purposes of **Exhibit 16b**, each rating grouping represents a combination of all rating symbols and notches associated with a rating category. For example, the "a" rating grouping, which is assigned a rating category of "Excellent", would include the following ratings: "a+", "a", and "a-".
Source: A.M. Best data and research

Exhibit 17a
Best's Average Cumulative Liquidation Rates by Rating Symbols and Notches (ICRs)
U.S. Life/Health and Property/Casualty Data from 2001 to 2015

Rating	1-Year	2-Year	3-Year	4-Year	5-Year
aaa	0.00%	0.00%	0.00%	0.00%	0.00%
aa+	0.00	0.00	0.00	0.00	0.00
aa	0.00	0.00	0.00	0.00	0.00
aa-	0.00	0.00	0.00	0.00	0.00
a+	0.00	0.06	0.06	0.06	0.07
a	0.00	0.00	0.00	0.00	0.00
a-	0.08	0.23	0.31	0.38	0.44
bbb+	0.14	0.25	0.41	0.54	0.69
bbb	0.35	0.52	0.72	1.16	2.13
bbb-	0.54	1.09	1.65	2.24	2.76
bb+	1.00	1.83	2.76	3.46	4.21
bb	1.69	1.85	3.31	3.73	2.80
bb-	2.66	4.09	4.83	5.27	5.56
b+	5.38	9.23	10.00	10.77	11.54
b	5.08	9.26	13.46	14.00	12.50
b-	3.03	3.15	2.46	2.56	2.86
ccc and below	5.56	6.99	7.65	8.44	9.59
All	**0.22%**	**0.39%**	**0.52%**	**0.65%**	**0.77%**

Source: A.M. Best data and research

Exhibit 17b
Best's Average Cumulative Liquidation Rates by Major Rating Groupings* (ICRs)
U.S. Life/Health and Property/Casualty Data from 2001 to 2015

Rating	1-Year	2-Year	3-Year	4-Year	5-Year
aaa	0.00%	0.00%	0.00%	0.00%	0.00%
aa	0.00	0.00	0.00	0.00	0.00
a	0.03	0.11	0.15	0.18	0.21
bbb	0.35	0.65	0.99	1.36	1.77
bb	1.66	2.61	3.57	4.14	4.53
b	4.36	6.75	7.57	8.08	8.36
ccc and below	5.56	6.99	7.65	8.44	9.59
All	**0.22%**	**0.39%**	**0.52%**	**0.65%**	**0.77%**

* For the purposes of **Exhibit 17b**, each rating grouping represents a combination of all rating symbols and notches associated with a rating category. For example, the "a" rating grouping, which is assigned a rating category of "Excellent", would include the following ratings: "a+", "a", and "a-".
Source: A.M. Best data and research

Methodologies
One important issue that must always be explored is how an NRSRO handles ratings withdrawals in its performance statistics. Ratings can be withdrawn for several reasons, including: voluntary liquidations, mergers and acquisitions, company request, lack of proper financial information for the evaluation of companies, substantial changes in companies that make A.M. Best's rating process inapplicable, and A.M. Best's decision to withdraw ratings according to its policies and procedures.

Converting Insurance Company Impairment Rates to Debt Impairment Rates

In the U.S. insurance industry, corporate debt generally is issued at the holding company level as opposed to the operating company level. A.M. Best uses notching criteria to convert the operating company's ICR to that of the holding company where debt securities would be issued. This notching is shown in **Exhibit 18.**

An example will help illustrate the process of assigning ratings to debt securities issued by an insurance holding company.

Assume that the ICR of an insurance operating entity is "a-" and that the holding company associated with that insurance company wants to issue senior unsecured debt to fund its operating subsidiary. The ICR of the holding company, which is equivalent to the rating of the senior obligations of the holding company – normally senior unsecured debt – generally would be three notches from the operating company's "a-" ICR, or a rating level of "bbb-."

Starting with the ICR data used to create the gross impairment rates shown in **Exhibit 15**, Best's Average Cumulative Gross Impairment Rates, A.M. Best applies a notching algorithm to convert ICRs to implied debt ratings at the holding company level. The resulting calculations are shown in **Exhibit 19**, Best's Implied Gross Impairment Rates of Holding Company Senior Unsecured Debt. We do not present the implied gross impairment debt rates associated with net impairments and liquidations but those can easily be derived as well.

Exhibit 18

Best's Issuer Credit Ratings - Notching from Operating Company ICR To Holding Company ICR

Operating Insurance Company ICR	Number of Notches from Operating ICR to Holding Company ICR (i.e., to Holding Company Senior Unsecured Debt)
aaa	0 to 2
aa+	2 to 3
aa	3
aa-	3
a+	3
a	3
a-	3
bbb+	3
bbb	3
bbb-	3 to 4
bb+	4
bb	4
bb-	4 to 5

Source: A.M. Best data and research

Exhibit 19

Best's Implied Gross Impairment Rates of Holding Company Senior Unsecured Debt Grouped By Issuer Credit Rating

U.S. Life/Health and Property/Casualty Data from 2001 to 2015

Rating	1-Year	2-Year	3-Year	4-Year	5-Year
aaa	0.00%	0.00%	0.00%	0.00%	0.00%
aa	0.00	0.00	0.00	0.00	0.00
a	0.00	0.00	0.00	0.00	0.00
bbb	0.03	0.18	0.26	0.35	0.46
bb	0.70	1.39	2.06	2.87	3.76
b	2.15	4.35	7.17	9.09	10.40
ccc and below	8.31	12.88	16.69	20.17	24.20
All	**0.40%**	**0.75%**	**1.04%**	**1.35%**	**1.67%**

Source: A.M. Best data and research

If an NRSRO adjusts for withdrawals by reducing the starting cohort of rated companies based on withdrawals over the observation period, the performance statistics simply produce the portion of rated issuers that are expected to become impaired (or default) over specific time horizons. With this method, the NRSRO is inherently drawing conclusions about the credit profile of the withdrawn ratings. Specifically, it assumes that the withdrawn ratings would have the same impairment frequency as the rated issuers that were not withdrawn. Thus, the sum of the transition rates for any given rating level (including impairments) should be 100% with this withdrawal-adjusted method. For example, in **Exhibit 5** (Select Ratings Transition Matrix for FSRs) the total sum of the "A-" 10-year transition rates is 100%[3]. In this study, we term impairment rates calculated after adjusting for ratings withdrawals as gross impairment rates.

[3] 100% is the sum of the percentages in the "A-" 10-year transition table in **Exhibit 5** from 1.08% through 6.65%.

On the other hand, if an NRSRO does not adjust the starting cohort of rated companies based on withdrawals, the performance statistics simply produce the proportion of rated issuers that experienced impairments (or defaults) over specific time horizons. In this study, we term impairment rates calculated in this manner as net impairment rates. Net impairment rates understate impairments, especially when we consider that withdrawals tend to increase with lower ratings – i.e., ratings that are closer to impairment.

Another aspect of performance statistics relates to companies that become impaired after they withdraw from the rating process. A.M. Best has traditionally included such impairments in its calculations, thus boosting defaults long after a rating has been withdrawn. For example, if an insurer is withdrawn today and defaults in 10 years, A.M. Best would count that impairment in calculating the 10-year impairment rate for that cohort. This calculation methodology is used in the gross impairment rate calculation.

Industry Segmentation

Users of performance statistics are often tempted to make comparisons of default calculations across ratings agencies. However, one must recognize that such comparisons are inherently flawed due to the fact that not all rating agencies participate in the rating process across multiple industries. For example, A.M. Best's ratings are almost exclusively in the insurance industry. While it is true that rating agencies endeavor to normalize ratings across various industries, it is undeniable that performance statistics can still reveal significant differences in default rates in the various sectors rated by NRSROs. This is perhaps one of the reasons that A.M. Best and other NRSROs are required to submit performance statistics annually to the Securities and Exchange Commission based on five main classes of credit ratings: financial institutions, insurance companies, corporate issuers, issuers of asset-backed securities (and their sub-classes), and issuers of government securities. NRSROs generally include performance statistics associated with three of the five classes of credit ratings (as reported to the SEC) in their corporate default studies: financial institutions, insurance companies, and corporate issuers. A.M. Best, on the other hand, only includes insurance-related performance statistics in its impairment studies.

Static Pool Calculation Approach

This study applies the static pool approach commonly used in credit market default studies to calculate the average cumulative impairment and liquidation rates shown in the various exhibits of this study. An example associated with FSRs will illustrate how this approach is applied in practice to determine the one-year and two-year average cumulative gross impairment rates.

The 1977 static pool consists of insurance companies that had a Best's FSR as of December 31, 1977, and were not financially impaired. Those same insurance companies are observed again at the end of 1978 to see how many had become financially impaired during 1978. A new static pool is determined at the end of 1978 and followed to the end of 1979, once again to observe the number of financial impairments. This pattern is repeated until the last static pool formed at the end of 2014 is followed to the end of 2015. The total number of impairments in the static pools – formed from year-end 1977 to year-end 2015 – are added and then divided by the total number of companies in the static pools less total rating withdrawals in the period. This calculation is used to produce the one-year average cumulative impairment rates for each of the rating categories described earlier.

To calculate the two-year average impairment rate, an approach similar to the one used for the one-year average impairment rate is applied, except that the impairment count used in this case is the number of impairments in the second year after the formation of each static pool. Specifically, the 1977 static pool is observed two years later to see how many companies had become financially impaired by year-end 1979. The 1978 static pool is observed two years later to see how many insurance companies had become financially impaired by year-end 1980, and so on. Note that the static pools used for the two-year average cumulative impairment rate calculation are the static pools formed from year-end 1977 to year-end 2013, since the last data in the study are from year-end 2015. The total number of impairments in the second year for each static pool is added and then divided by the total companies in the static pools (less total rating withdrawals in the period) to produce the two-year average cumulative gross impairment rate. This process is continued until the 15-year average cumulative gross impairment rate is calculated.

Note that although this study presents the one-year to fifteen-year average cumulative impairment rates associated with FSRs, the data underpinning these calculations cover the 38 one-year periods from year-end 1977 to year-end 2015. Thus, the one-year average cumulative gross impairment rate uses 38 data points for the calculation, the two-year average cumulative gross impairment rate uses 37 data points, the three-year average cumulative gross impairment rate uses 36 data points, and so on.

As discussed earlier, the calculations associated with gross impairment rates are adjusted for withdrawal of ratings. Ratings can be withdrawn for several reasons, including: voluntary liquidations, mergers and acquisitions, company request, lack of proper financial information for the evaluation of companies, substantial changes in companies that make A.M. Best's rating process inapplicable, and A.M. Best's decision to withdraw ratings according to its policies and procedures. In the event that a company requests that its rating be withdrawn, the study captures the last rating just before the withdrawal.

The adjustment for withdrawals is made by reducing the static-pool count – the denominator in the impairment rate calculation – by the number of withdrawals in the calculation period, while maintaining the same impairment count associated with the numerator in the impairment rate calculation. The effect is to increase the impairment rate over what it would have been without the adjustment. This generally avoids the downward bias that may be present in the calculation of transition and impairment rates given the fact that credit quality of withdrawn insurers may not be observable.

It is important to emphasize that for gross impairment rates, this study includes the effect of known impairments long after a company has ceased being rated by A.M. Best. For example, if a company rated "A-" requests that A.M. Best withdraw its rating and becomes impaired five years later, that impairment is tabulated in the five-year gross impairment rate, although A.M. Best had not rated the company for five years.

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