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Impairment Review October 16, 2024

No AM Best-rated companies became impaired in 2023

Best's Impairment Rate and Rating Transition Study – 1977 to 2023

This report is the 21st annual update on the long-term impairment rates of US-domiciled insurance companies rated by AM Best. It relies on AM Best ratings and observations of financially impaired companies through December 31, 2023, except where noted, and reflects AM Best's definition of impairments at the time.

The term "impairments" refers to insurers that became impaired and had a Best's Financial Strength Rating (FSR) or Issuer Credit Rating (ICR) at the time of impairment. In 2023, there were again no impairments. See *Financially Impaired Companies Defined* on page 7 for more detail on these definitions.

This report differs substantively from previous versions. We have eliminated what we previously referred to as gross impairments, which included impairments that occurred after ratings withdrawals. A full explanation of the changes to this study can be found in *Modifications to this Study* on page 4.

The risk-adjusted capitalization of the life/health insurance segment remains strong, with most insurers in the segment reporting favorable earnings in 2023. The segment benefitted from robust annuity sales and improved new money yields. However, there were some declines in capitalization stemming from unrealized losses and higher allocations to high-risk assets.

The property/casualty industry is contending with the growing frequency and severity of weather events, rising loss costs due to social and economic inflation, and uncertainty about loss reserve adequacy, particularly in long-tailed casualty lines. In addition, reinsurers' behavior has changed, which has forced primary carriers to retain more risk due to higher attachment points and pricing. However, most of the P/C companies AM Best rates maintain strong levels of risk-adjusted capitalization.

This report covers a period of 46 years and quantifies trends that have developed over that time. Some results tend to be intuitive. For example, companies with higher issuer credit ratings (ICRs) are expected to have lower impairment rates. For an insurer, a rating such as a Best's ICR of "a-" in one year tends to be a good predictor of a similar rating in the following year, suggesting a high degree of stability.

As one might expect, a financially weak company is more likely than a financially strong company to become impaired. Moreover, for companies with higher initial ratings, the time to impairment tends to be longer. Due to the scarcity of insurance companies with low FSRs or ICRs, there may be some inconsistencies in the ordinal relationships among ratings, impairment rates, and times to impairment for companies at the lower end of the rating scale.

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Comparing Ratings Performance Statistics Across NRSROs

The corporate default studies by other major NRSROs primarily reflect the defaults associated with senior unsecured debt obligations or their proxies. Therefore, any comparisons between AM Best's impairment studies and the corporate default studies of those NRSROs should be based on AM Best's holding company issuer credit ratings (ICRs) or their proxies, which are effectively equivalent to AM Best's senior unsecured debt ratings. (See *Converting Operating Company Impairment Rates to Holding Company Impairment Rates* on page 10.) AM Best began assigning ICRs in 2001, based on a 21-point scale of rating symbols and notches (most familiar to users of debt market ratings).

Exhibit 9, *AM Best's Implied Average Cumulative Net Impairment Rates of Holding Company ICRs*, on page 10, is comparable to the data published in the corporate default studies of other major NRSROs.

The comparisons of default/impairment studies across NRSROs should be based on similar obligations (whether one is comparing defaults on senior unsecured debt obligations or defaults/impairments associated with policy/contract obligations) and similar industries. AM Best's ratings are exclusively in the insurance industry. Although credit rating agencies endeavor to normalize ratings across various industries, ratings performance statistics can reveal significant differences in default rates in industries rated by NRSROs.

NRSROs generally include ratings performance statistics associated with three of the five classes of credit ratings (as identified by the Securities and Exchange Commission) in corporate default studies: financial institutions, insurance companies, and corporate issuers. These studies generally exclude two other classes of credit ratings identified by the SEC: issuers of government securities and issuers of asset-backed securities. The proportion of insurance companies in the corporate default studies of major NRSROs is generally very small. AM Best, on the other hand, includes only insurance-related ratings performance statistics in its impairment studies. Therefore, it is more appropriate to compare AM Best's ratings performance statistics to those of other NRSROs when the insurance data in those default studies from other NRSROs are isolated.

Exhibit 1

Insurance Companies – 10-Year Transition and Default Rates by FSRs

(Recreation of Form NRSRO Exhibit 1 – Table 3)

December 31, 2013 through December 31, 2023.

	Ratings as of 2/31/2013				Cr	edit R	ating	as of 1	2/31/2	2023 (%	%)				Other Outcomes During 12/31/2013-12/31/2023 (%)	
Credit Rating	Number of Ratings Outstanding	A++	A+	A	A-	B++	B+	в	B-	C++	C+	с	C-	D	Default	Withdrawn (other)
A++	121	80.2	5.8													14.0
A+	605	13.1	56.7	17.2	1.2	0.3										11.6
А	1,311	1.6	16.8	58.4	7.1	0.5			0.1	0.2					0.1	15.3
A-	859		4.0	34.7	32.2	4.9	0.3	1.0		0.3					0.6	21.9
B++	295	0.3	2.4	17.3	23.4	21.0	3.7	3.7	0.7	0.3					0.3	26.8
B+	163	0.6	1.2	3.7	12.3	17.2	11.0	4.9	0.6			2.5			1.8	44.2
В	96		5.2	2.1	10.4	7.3	4.2	8.3	3.1	3.1					2.1	54.2
B-	21		9.5			9.5	9.5	19.0								52.4
C++	5									20.0		20.0				60.0
C+	5							20.0		40.0		20.0				20.0
С	3															100.0
C-	2									50.0			50.0			
D	2															100.0
Total	3,488															

This exhibit reflects worldwide ratings.

FSR = financial strength rating

Comparisons of AM Best's ratings performance statistics to those of other NRSROs could still be problematic because some NRSROs rate very few insurance companies. Thus, the number of insurance company defaults that other NRSROs record may limit the statistical significance of their ratings performance data. This is especially true if the published data is presented at granular rating levels.

Other considerations that may affect the comparability of default/impairment studies across NRSROs include, but are not limited to, the following: the definition of defaults/impairments, the treatment of rating withdrawals, the number of economic cycles that are covered by the study period, and the catalog of natural catastrophe events over the study period. One way to compare performance statistics across credit rating agencies (disregarding the various ratings scales and methodologies) is through the Insurance Companies 10-Year Transition and Default Rates provided in Exhibit 1 of Form NRSRO annually. However, the tables in Exhibit 1 of Form NRSRO reflect point-in-time calculations of impairment rates worldwide (or "default rates" as they are characterized in the exhibit). This differs markedly from the calculation method for the impairment rates in this study, which derives the averages of impairment rates over decades—specifically, nearly five decades for AM Best and only includes US-domiciled companies. Nevertheless, all rating agencies must produce the Exhibit 1 of Form NRSRO under the same guidelines. Links to this exhibit can generally be found in the regulatory section of NRSROs' websites. The link for AM Best's data on insurance-company defaults is here: *AM Best Rating Services* | *Form NRSRO Exhibit 1*. Please see Exhibit 1 on page 2 of this report for a re-creation of this exhibit.

Because weather conditions in recent years have contributed to heightened impairments in the US P/C industry, we have included information in this report about natural catastrophes that have caused impairments since 2012. (See *Impairments Caused by Natural Catastrophes* on page 11.)

Scope of the Impairment Study

This study covers P/C and L/H insurance companies domiciled in the 50 states and the District of Columbia that have traditionally filed statutory statements; managed care and health insurance-only companies are generally excluded from the L/H pool. The study covers the 46 one-year periods from December 31, 1977, to December 31, 2023, and includes only US companies that had at least one FSR or an ICR during the period, except where otherwise specified.

As in previous studies, impairment counts are based on individual operating companies, not on groups or rating units. As such, the impairment of a large group can affect annual impairment counts significantly.

AM Best will continue to improve and expand the database on which this study is based as warranted. Updates may include corrections to data or include or exclude new insurance companies. (See *A Note on Revisions* on page 12.)

Adjustments to the data or inclusion criteria may make comparison of the results of one study with its predecessors difficult. However, to provide as much consistency as possible, the study's updates and revisions are based on a starting point of December 31, 1977, for FSRs and December 31, 2001, for ICRs.

Modifications to this Study

AM Best has made extensive changes to its impairment study. We've eliminated gross impairments from the calculations so that impairments reflect what were previously referred to as net impairments. This change was made for the following reasons:

Conforming to methods used by NRSROs: Our current impairment rate calculations approach conforms to the method most often employed by other nationally recognized statistical rating organizations (NRSROs). Credit rating agencies typically do not consider impairments that occur after company ratings have been withdrawn, whether voluntarily or involuntarily. At AM Best, ratings can be withdrawn for a variety of reasons, including voluntary liquidations, M&A, company request, a lack of financial information for the evaluation of companies, substantial changes in companies that make a rating process inapplicable, or a decision to withdraw ratings according to the NRSRO's policies and procedures.

More accurate view of impairments: Previously, impairments included those that occurred both before and after AM Best ceased rating insurance companies, or "gross impairments." Sometimes the lag between when a company's rating is withdrawn and when that company becomes impaired can span several years, which tended to distort the impairment rate calculations, especially for highly rated companies that withdraw from the rating process. The focus of this report is only on impairments that occurred while insurance companies had an AM Best FSR, previously identified as "net impairments."

Conforming to the SEC's default rate calculation methodology: Our current impairment calculation aligns more closely with the method used to calculate default rates in Exhibit 1 of Form NRSRO mandated by the Securities and Exchange Commission, which all NRSROs are required to publish annually. However, that calculation focuses on point-in-time defaults over 1-, 3-, and 10-year periods, whereas this study looks at average cumulative 1- to 15-year impairment rates from 1977 to 2023.

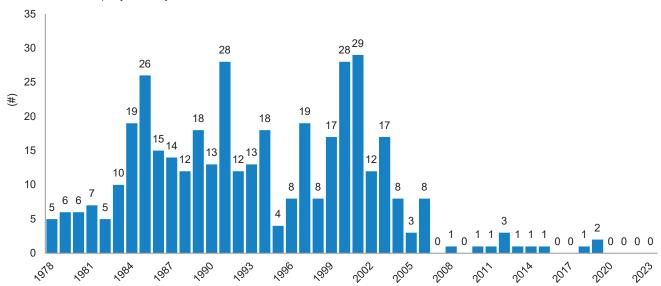


Exhibit 2 Number of Impairments by Year

US Life/Health & Property/Casualty

Static Pool Calculation Approach

This study applies the static pool approach commonly used in credit market default studies to calculate average cumulative impairment rates. An example associated with FSRs illustrates how this approach is applied in practice, to determine the one-year and two-year average cumulative impairment rates.

The 1977 static pool consists of insurance companies that had an AM Best FSR as of December 31, 1977, and were not financially impaired. Those same insurance companies were observed again at the end of 1978 to see how many had become financially impaired during the year.

A new static pool was 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 then repeated until the last static pool formed at the end of 2022 is followed to the end of 2023. The total number of impairments in the static pools—formed from year-end 1977 to year-end 2022—is added and then divided by the total number of companies in the static pools before any withdrawals. This calculation yields the one-year average cumulative impairment rates.

To calculate the two-year average impairment rate, a similar approach is applied, except that the impairment count used in this case is the number of impairments in the two-year period after the formation of each static pool. The 1977 static pool was observed two years later to see how many companies had become financially impaired by year-end 1979; the 1978 static pool was then observed two years later to see how many insurance companies had become financially impaired by year-end 1980. The process is then continued for further two-year periods.

This process is continued with three, four, and up to 15-year static pools, until the 15-year average cumulative impairment rate is calculated. The data underpinning these calculations cover the 46 one-year periods from year-end 1977 to year-end 2023 for the one-year static pool, with the two-year calculation using 45 pairs, and so on.

AM Best's Ratings Scale

Of the 5,333 companies that had an AM Best rating during the 1977-2023 period, 400 had an AM Best rating at the time of impairment (**Exhibit 2**).

In 1977, AM Best used seven FSRs (excluding the impairment designations): "A+," "A," "B+," "B," "C+," "C," and "D." By 1992, the company added rating notches to the rating symbols: "A++," "A+," "A," "A-," "B++," "B+," "B," "B-," "C++," "C+," "C," "C-," and "D." These FSRs remain in use today.

The FSR groupings in this study include the financial performance ratings (FPRs) that were introduced in 1990 and discontinued in 2002.

	Exhibit 3 FSR/ICR Translation Table											
FSR	Long-Term ICR	FSR	Long-Term ICR									
A++	aaa	В	bb+									
	aa+		bb									
A+	aa	B-	bb-									
	aa-	C++	b+									
А	a+		b									
	а	C+	b-									
A-	a-	С	ccc+									
B++	bbb+		CCC									
	bbb	C-	CCC-									
B+	bbb-		СС									
		D	С									

Source: AM Best data and research

Note that in AM Best's FSR scale, the rating symbol "D" does not designate financial impairment. The designations for impairments in the ratings database on which this study is based are "E" and "F." These impairment designations are not considered ratings but rather non-rating designations. AM Best adopted the 21-point long-term ICR symbols and notches in 2001. The ICR is the foundation for the FSR (see **Exhibit 3** for the translation from the ICR to the FSR). The ICR has been phased in over time, and every insurance operating company with an FSR currently has an ICR. In calculating impairment rates associated with ICRs, AM Best uses any assigned ICRs. However, in cases in which carriers had an FSR but had not yet been assigned an ICR, an implied ICR is derived using a 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 can be translated to either "bbb+" or "bbb" on the ICR scale, would be assigned an ICR of "bbb+" if no ICR had previously been assigned.

FSR-Related Impairment Rates

Exhibits 4a and 4b show the average cumulative impairment rates for operating companies, calculated using the static pool approach. The data show an inverse relationship between FSRs and impairment rates—the lower the FSR, the higher the rate of impairment. For example, over a one-year period, the impairment rate for companies rated "A-" was 0.11% but 1.35% for companies rated "B/B-." Impairment rates also vary across time. Exhibit 4a shows that the impairment rates for insurance companies with FSRs of "A-" ranged from 0.11% over a one-year period to 3.10% over a 15-year period. Similarly, the

Exhibit 4a

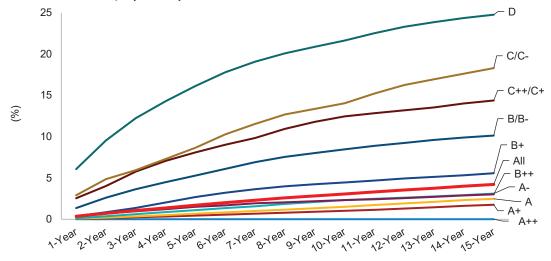
AM Best's Average Cumulative Impairment Rates (FSRs)

US Life/Health and Property/Casualty, 1977-2023 (%)

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+	0.05	0.13	0.24	0.33	0.43	0.55	0.67	0.78	0.90	1.02	1.14	1.28	1.44	1.61	1.75
А	0.08	0.19	0.34	0.49	0.66	0.82	0.99	1.16	1.33	1.51	1.72	1.91	2.11	2.31	2.47
A-	0.11	0.36	0.62	0.86	1.10	1.34	1.56	1.86	2.09	2.32	2.47	2.61	2.77	2.92	3.10
B++	0.29	0.69	0.96	1.22	1.51	1.68	1.92	2.05	2.18	2.31	2.42	2.55	2.71	2.87	3.01
B+	0.38	0.85	1.37	2.03	2.68	3.20	3.64	3.99	4.23	4.45	4.69	4.94	5.12	5.33	5.57
B/B-	1.35	2.61	3.63	4.48	5.28	6.10	6.91	7.54	8.02	8.47	8.88	9.23	9.61	9.89	10.13
C++/C+	2.54	4.02	5.77	7.06	8.09	9.02	9.83	10.94	11.80	12.46	12.84	13.18	13.53	14.02	14.38
C/C-	2.90	4.85	5.95	7.30	8.65	10.29	11.55	12.68	13.37	14.04	15.23	16.25	16.94	17.62	18.30
D	6.07	9.54	12.24	14.29	16.14	17.80	19.08	20.08	20.88	21.64	22.54	23.30	23.87	24.37	24.77
All	0.36	0.71	1.05	1.37	1.69	2.00	2.30	2.58	2.82	3.06	3.30	3.53	3.76	4.00	4.21

Exhibit 4b





Financially Impaired Companies Defined

AM Best designates an insurer as a financially impaired company (FIC) upon the public placement of the company, via public court order or other international equivalent, into conservation, rehabilitation and/or insolvent liquidation. In this report, supervisory actions undertaken by insurance department regulators without court orders are not considered impairments, unless clear direction is given by the regulator to delay or limit policy or contract payments.

A number of regulatory oversight actions may be taken with respect to troubled insurers in which court orders are not sought, such as required company action plans, various forms and levels of supervision, and licensure actions. Companies may be subject to these insurance department orders and actions on multiple occasions, particularly in certain jurisdictions. Although these regulatory actions suggest concern and impose constraints, they do not necessarily indicate an insurer's inability to meet its ongoing policy and contract obligations. Additionally, companies that enter voluntary dissolution and are not under financial duress at the time are not counted as financially impaired.

The definition of an FIC is consistent with AM Best's non-rating designations of "E" (publicly placed, via court order, into conservation or rehabilitation) and "F" (publicly placed, via court order, into liquidation) through December 31, 2023. Before 1992, AM Best used a rating of "NA-10" to indicate that a company had been placed, via court order, into conservation, rehabilitation, or liquidation.

impairment rates for insurance companies with an FSR of "B/B-" ranged from 1.35% over a one-year period to 10.13% over a 15-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 impairment rate of companies rated "A-" more than tripled from 0.11% in the first year to 0.36% in the second year. By comparison, the impairment rate in the third year of 0.62% is about 1.7 times the impairment rate of 0.36% in the second year.

Rating Transitions Associated with FSRs

Rating transition tables can reveal the extent to which ratings are stable across different periods. **Exhibit 5** shows the percentage of ratings that changed in a given period. For example, the one-year transition matrix shows that 85.40% of the companies initially rated "A-" were still rated "A-" a year later. The percentage of the "A-" companies upgraded one year later to "A" is 6.96%, while the percentage of the "A-" companies downgraded to "B++" is 3.07%. The percentage of the "A-" companies downgraded to any rating below "A-," including impairments, is 4.90%. Note that the one-year transition matrix does not simply reflect the one-year rating movement from 2022 to 2023; instead, it reflects the average one-year rating movements over the 46 one-year periods from 1977 to 2023.

Generally, the further down the rating scale, the percentage of companies maintaining the same rating over a one-year period also declines. For example, 85.40% of the companies with an initial rating of "A-" were still rated "A-" one year later, but only 76.33% of companies with an initial rating of "B++" were still rated "B++" one year later.

Time to Impairment

There is a relationship between the initial ratings of financially impaired companies (FICs) and the time to impairment. As **Exhibit 6** shows, generally, the higher the FICs' initial rating, the longer before those companies become financially impaired. For example, FICs that were rated A++ through B+ took an average of 11.8 years to become financially impaired, but FICs rated B and below, took an average of 8.6 years.

Exhibit 5

Select Ratings Transition Matrices for FSRs

US Life/Health and Property/Casualty, 1977-2023

U					-		One Year					
-	Rating	A++	A+	A	A-	B++	B+	B/B-	C++/C+	C/C-	D	Impaired
Yr Transition Matrix	A++	92.62%	5.33%	1.10%	0.04%	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ξ	A+	1.35%	90.32%	6.12%	0.34%	0.03%	0.28%	0.02%	0.00%	0.00%	0.00%	0.05%
n	A	0.17%	4.22%	87.88%	3.81%	0.32%	1.16%	0.23%	0.06%	0.02%	0.06%	0.08%
Ĕ	A-	0.07%	0.50%	6.96%	85.40%	3.07%	0.96%	0.62%	0.02%	0.03%	0.08%	0.11%
ns	B++	0.05%	0.51%	0.82%	11.41%	76.33%	5.11%	1.20%	0.18%	0.27%	0.02%	0.29%
rai	B+	0.01%	0.27%	4.77%	3.70%	5.20%	71.46%	6.50%	0.59%	0.18%	0.67%	0.38%
F	B/B-	0.03%	0.20%	0.67%	0.65%	0.65%	12.34%	69.79%	3.83%	0.87%	0.96%	1.35%
	C++/C+	0.00%	0.22%	0.38%	0.27%	0.11%	1.78%	15.94%	60.08%	5.08%	2.97%	2.54%
1	C/C-	0.00%	0.00%	0.60%	0.00%	0.00%	0.24%	3.39%	13.66%	57.80%	7.38%	2.90%
~	D	0.00%	0.09%	0.62%	0.00%	0.00%	0.95%	2.42%	2.56%	3.04%	69.91%	6.07%
	-					-	Three Year					
×	Rating	A++	A+	A	A-	B++	B+	B/B-	C++/C+	C/C-	D	Impaired
-Yr Transition Matrix	A++	79.81%	13.77%	3.17%	0.43%	0.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ĕ	A+	3.52%	74.27%	14.53%	1.38%	0.21%	0.95%	0.41%	0.04%	0.02%	0.10%	0.24%
	A	0.56%	10.08%	70.01%	8.64%	1.20%	1.88%	0.84%	0.16%	0.04%	0.29%	0.34%
	A-	0.12%	2.06%	17.07%	64.42%	5.52%	2.30%	0.92%	0.13%	0.09%	0.09%	0.62%
2	B++	0.19%	1.25%	3.76%	24.15%	47.63%	7.69%	2.46%	0.38%	0.36%	0.08%	0.96%
Ø	B+	0.09%	1.94%	8.60%	8.42%	9.59%	42.16%	9.26%	1.28%	0.32%	0.81%	1.37%
-	B/B-	0.03%	1.00%	2.95%	3.17%	3.07%	17.59%	38.82%	4.76%	1.47%	1.50%	3.63%
	C++/C+	0.00%	0.44%	1.91%	1.20%	0.65%	6.81%	21.30%	27.78%	5.72%	4.30%	5.77%
ว	C/C-	0.00%	0.24%	0.73%	0.12%	0.00%	3.65%	10.45%	14.70%	25.52%	9.96%	5.95%
	D	0.00%	0.24%	1.95%	0.71%	0.00%	3.37%	5.84%	4.41%	4.08%	38.11%	12.24%
	In the second					-	Five Years		<u> </u>	0/0		1
×	Rating	A++	A+	A	A-	B++	B+	B/B-	C++/C+	C/C-	D	Impaired
	A++ A+	69.28%	18.35%	6.23%	0.73%	0.24%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%
		5.25%	62.21%	19.30%	3.18%	0.43%	1.36%	0.46%	0.14%	0.02%	0.19%	0.43%
Ę	A A-	0.85%	12.91%	58.19%	11.59%	1.87% 6.58%	2.44%	1.24%	0.13%	0.08%	0.30%	0.66%
í		0.34%	3.45%	22.87%	50.52%		2.49%	1.18%	0.17%	0.10%	0.12%	1.10%
	B++	0.24% 0.18%	2.22%	6.38% 9.68%	28.98% 10.40%	31.71% 9.98%	8.77%	2.63% 8.76%	0.36%	0.10%	0.04%	1.51%
3	B+		3.25%	900%			28.10%		1.50%	0.53%		2.68%
											0.86%	
	B/B-	0.03%	1.90%	4.39%	4.87%	4.98%	15.68%	24.81%	3.95%	1.27%	1.79%	5.28%
	C++/C+	0.03% 0.00%	1.90% 0.88%	4.39% 2.53%	4.87% 2.81%	4.98% 1.21%	15.68% 7.87%	24.81% 18.44%	3.95% 16.35%	1.27% 4.62%	1.79% 4.62%	5.28% 8.09%
	C++/C+ C/C-	0.03% 0.00% 0.00%	1.90% 0.88% 0.24%	4.39% 2.53% 1.83%	4.87% 2.81% 1.58%	4.98% 1.21% 0.37%	15.68% 7.87% 5.85%	24.81% 18.44% 10.96%	3.95% 16.35% 11.21%	1.27% 4.62% 13.64%	1.79% 4.62% 9.14%	5.28% 8.09% 8.65%
0 - I L	C++/C+	0.03% 0.00%	1.90% 0.88%	4.39% 2.53%	4.87% 2.81%	4.98% 1.21% 0.37% 0.24%	15.68% 7.87% 5.85% 4.46%	24.81% 18.44% 10.96% 7.31%	3.95% 16.35%	1.27% 4.62%	1.79% 4.62%	5.28% 8.09% 8.65%
5 - Yr I ransition Matrix	C++/C+ C/C- D	0.03% 0.00% 0.00% 0.00%	1.90% 0.88% 0.24% 0.47%	4.39% 2.53% 1.83% 2.71%	4.87% 2.81% 1.58% 2.42%	4.98% 1.21% 0.37% 0.24% Rating	15.68% 7.87% 5.85% 4.46% Ten Years	24.81% 18.44% 10.96% 7.31% Later	3.95% 16.35% 11.21% 4.18%	1.27% 4.62% 13.64% 3.84%	1.79% 4.62% 9.14% 22.45%	5.28% 8.09% 8.65% 16.14%
o	C++/C+ C/C- D Rating	0.03% 0.00% 0.00% 0.00%	1.90% 0.88% 0.24% 0.47% A+	4.39% 2.53% 1.83% 2.71% A	4.87% 2.81% 1.58% 2.42% A-	4.98% 1.21% 0.37% 0.24% Rating B++	15.68% 7.87% 5.85% 4.46% Ten Years B+	24.81% 18.44% 10.96% 7.31% Later B/B-	3.95% 16.35% 11.21% 4.18% C++/C+	1.27% 4.62% 13.64% 3.84%	1.79% 4.62% 9.14% 22.45% D	5.28% 8.09% 8.65% 16.14% Impaired
י 	C++/C+ C/C- D Rating A++	0.03% 0.00% 0.00% 0.00% A++ 49.75%	1.90% 0.88% 0.24% 0.47% A+ 22.82%	4.39% 2.53% 1.83% 2.71% A 13.67%	4.87% 2.81% 1.58% 2.42% A- 1.71%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03%	1.27% 4.62% 13.64% 3.84% C/C- 0.00%	1.79% 4.62% 9.14% 22.45% D 0.00%	5.28% 8.09% 8.65% 16.14% Impaired 0.00%
`	C++/C+ C/C- D Rating A++ A+	0.03% 0.00% 0.00% 0.00% A++ 49.75% 8.38%	1.90% 0.88% 0.24% 0.47% A+ 22.82% 42.07%	4.39% 2.53% 1.83% 2.71% A 13.67% 24.26%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12%	1.27% 4.62% 13.64% 3.84% C/C- 0.00% 0.05%	1.79% 4.62% 9.14% 22.45% D 0.00% 0.16%	5.28% 8.09% 8.65% 16.14% Impaired 0.00% 1.02%
0	C++/C+ C/C- D Rating A++ A+ A	0.03% 0.00% 0.00% A++ 49.75% 8.38% 1.60%	1.90% 0.88% 0.24% 0.47% A+ 22.82% 42.07% 15.24%	4.39% 2.53% 1.83% 2.71% A 13.67% 24.26% 41.82%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22%	1.27% 4.62% 13.64% 3.84% C/C- 0.00% 0.05% 0.08%	1.79% 4.62% 9.14% 22.45% D 0.00% 0.16% 0.23%	5.28% 8.09% 8.65% 16.14% Impaired 0.00% 1.02% 1.51%
o	C++/C+ C/C- D A++ A++ A+ A-	0.03% 0.00% 0.00% A++ 49.75% 8.38% 1.60% 0.64%	1.90% 0.88% 0.24% 0.47% A+ 22.82% 42.07% 15.24% 6.64%	4.39% 2.53% 1.83% 2.71% A 13.67% 24.26% 41.82% 26.37%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40% 1.24%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11%	1.27% 4.62% 13.64% 3.84% C/C- 0.00% 0.05% 0.08% 0.03%	1.79% 4.62% 9.14% 22.45% D 0.00% 0.16% 0.23% 0.03%	5.28% 8.09% 8.65% 16.14% Impaired 0.00% 1.02% 1.51% 2.32%
> 	C++/C+ C/C- D A++ A++ A+ A- B++	0.03% 0.00% 0.00% A++ 49.75% 8.38% 1.60% 0.64% 0.18%	1.90% 0.88% 0.24% 0.47% A+ 22.82% 42.07% 15.24% 6.64% 2.21%	4.39% 2.53% 1.83% 2.71% A 13.67% 24.26% 41.82% 26.37% 13.04%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64% 27.72%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40% 1.24% 2.79%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37%	1.27% 4.62% 13.64% 3.84% C/C- 0.00% 0.05% 0.08% 0.03% 0.02%	1.79% 4.62% 9.14% 22.45% 0.00% 0.16% 0.23% 0.03% 0.00%	5.28% 8.09% 8.65% 16.14% Impaired 0.00% 1.02% 1.51% 2.32% 2.31%
0	C++/C+ C/C- D A++ A+ A+ A- B++ B+	0.03% 0.00% 0.00% A++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.36%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93%	4.39% 2.53% 1.83% 2.71% 13.67% 24.26% 41.82% 26.37% 13.04% 10.46%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64% 27.72% 11.57%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07%	1.27% 4.62% 13.64% 3.84% C/C- 0.00% 0.05% 0.08% 0.03% 0.02% 0.39%	1.79% 4.62% 9.14% 22.45% 0.00% 0.16% 0.23% 0.03% 0.00% 0.42%	5.28% 8.09% 8.65% 16.14% Impaired 0.00% 1.02% 1.51% 2.32% 2.31% 4.45%
> 	C++/C+ C/C- D A++ A++ A A- B++ B++ B/B-	0.03% 0.00% 0.00% 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94%	4.39% 2.53% 1.83% 2.71% 13.67% 24.26% 41.82% 26.37% 13.04% 10.46% 6.50%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58%	1.27% 4.62% 13.64% 3.84% C/C- 0.00% 0.05% 0.08% 0.03% 0.03% 0.02% 0.39% 0.38%	1.79% 4.62% 9.14% 22.45% 0.00% 0.16% 0.03% 0.03% 0.00% 0.42% 1.07%	5.28% 8.09% 8.65% 16.14% Impaired 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47%
o	C++/C+ C/C- D A++ A++ A A- B++ B++ B+ B/B- C++/C+	0.03% 0.00% 0.00% 4++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11% 0.17%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.85%	4.39% 2.53% 1.83% 2.71% 4.367% 24.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12%	1.27% 4.62% 13.64% 3.84% C/C- 0.00% 0.05% 0.08% 0.03% 0.03% 0.02% 0.39% 0.38% 3.03%	1.79% 4.62% 9.14% 22.45% 0.00% 0.23% 0.03% 0.00% 0.42% 1.07% 2.86%	5.28% 8.09% 8.65% 16.14% Impaired 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46%
י 	C++/C+ C/C- D A++ A+ A- B++ B++ B+ B/B- C++/C+ C/C-	0.03% 0.00% 0.00% A++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11% 0.17% 0.00%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.85% 1.24%	4.39% 2.53% 1.83% 2.71% A 13.67% 24.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17% 3.23%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.11%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.81% 2.81% 2.83% 7.17% 13.45% 9.87% 7.07% 6.46%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16% 10.68%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12% 4.97%	1.27% 4.62% 13.64% 3.84% C/C- 0.00% 0.05% 0.08% 0.03% 0.02% 0.39% 0.38% 3.03% 3.11%	1.79% 4.62% 9.14% 22.45% 0.00% 0.16% 0.03% 0.03% 0.00% 0.042% 1.07% 2.86% 5.71%	5.28% 8.09% 8.65% 16.14% Impaired 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 14.04%
י 	C++/C+ C/C- D A++ A++ A A- B++ B++ B+ B/B- C++/C+	0.03% 0.00% 0.00% 4++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11% 0.17%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.85%	4.39% 2.53% 1.83% 2.71% 4.367% 24.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.81% 2.11% 1.38%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07% 6.46% 5.13%	24.81% 18.44% 10.96% 7.31% B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16% 10.68% 7.74%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12%	1.27% 4.62% 13.64% 3.84% C/C- 0.00% 0.05% 0.08% 0.03% 0.03% 0.02% 0.39% 0.38% 3.03%	1.79% 4.62% 9.14% 22.45% 0.00% 0.23% 0.03% 0.00% 0.02% 1.07% 2.86%	5.28% 8.09% 8.65% 16.14% Impaired 0.00% 1.02% 2.31% 2.32% 2.31% 4.45% 8.47% 12.46% 14.04%
10 - Yr Iransition Matrix 5 - Yr Ir	C++/C+ C/C- D A++ A+ A+ A- B++ B+ B+ B+ B/B- C++/C+ C/C- D	0.03% 0.00% 0.00% A++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11% 0.11% 0.11% 0.00%	1.90% 0.88% 0.24% 0.47% A+ 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.85% 1.24% 1.19%	4.39% 2.53% 1.83% 2.71% A 13.67% 24.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48% 3.89%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17% 3.23% 3.32%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.81% 2.11% 1.38% Rating F	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07% 6.46% 5.13%	24.81% 18.44% 10.96% 7.31% B/B - 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16% 10.68% 7.74% S Later	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12% 4.97% 2.66%	1.27% 4.62% 13.64% 3.84% C/C- 0.00% 0.05% 0.08% 0.03% 0.02% 0.38% 3.03% 3.11% 2.09%	1.79% 4.62% 9.14% 22.45% 0.00% 0.16% 0.23% 0.00% 0.42% 1.07% 2.86% 5.71% 6.12%	5.28% 8.09% 8.65% 16.14% 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 12.46%
	C++/C+ C/C- D A++ A+ A+ A- B++ B++ B+ B+ B+ C++/C+ C/C- D Rating	0.03% 0.00% 0.00% A++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11% 0.17% 0.00% 0.00% A++	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.85% 1.24% 1.19% A+	4.39% 2.53% 1.83% 2.71% A 13.67% 24.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48% 3.89% A	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17% 5.17% 3.23% 3.32% A-	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.81% 2.11% 1.38% Rating F B++	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07% 6.46% 5.13% ifteen Year B+	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.68% 7.74% s Later B/B-	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12% 4.97% 2.66% C++/C+	1.27% 4.62% 13.64% 3.84% C/C- 0.00% 0.05% 0.08% 0.03% 0.02% 0.39% 0.39% 0.38% 3.03% 3.11% 2.09% C/C-	1.79% 4.62% 9.14% 22.45% D 0.00% 0.16% 0.03% 0.00% 0.42% 1.07% 2.86% 5.71% 6.12% D	5.28% 8.09% 8.65% 16.14% 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 21.64% Impaired
	C++/C+ C/C- D A++ A+ A+ A- B++ B++ B+ B+ B+ C++/C+ C/C- D B Rating A++	0.03% 0.00% 0.00% 4++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11% 0.17% 0.00% 0.00% 0.00% 0.00%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.85% 1.24% 1.24% 1.19% A+ 22.11%	4.39% 2.53% 1.83% 2.71% 4.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48% 3.89% A 18.32%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17% 3.23% 3.23% A- 2.31%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.81% 2.11% 1.38% Rating F B++ 0.24%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07% 6.46% 5.13% ifteen Year B+ 0.00%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16% 10.68% 7.74% s Later B/B- 0.00%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12% 4.97% 2.56% C++/C+ 0.00%	1.27% 4.62% 13.64% 3.84% 0.00% 0.05% 0.08% 0.03% 0.02% 0.39% 0.38% 3.03% 3.11% 2.09% C/C- 0.00%	1.79% 4.62% 9.14% 22.45% D 0.00% 0.16% 0.03% 0.00% 0.42% 1.07% 2.86% 5.71% 6.12% D 0.00%	5.28% 8.09% 8.65% 16.14% 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 12.46% 12.46% 12.64% Impaired 0.00%
	C++/C+ C/C- D A++ A+ A+ A- B++ B+ B+ B+ B+ B+ C++/C+ C/C- D Rating A++ A+	0.03% 0.00% 0.00% A++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11% 0.17% 0.00% 0.00% A++ 40.57% 9.04%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.85% 1.24% 1.19% A+ 22.11% 29.82%	4.39% 2.53% 1.83% 2.71% 13.67% 24.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48% 3.89% A 18.32% 25.60%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17% 3.23% 3.23% A- 2.31% 10.14%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.81% 2.11% 2.11% Rating F B++ 0.24% 2.40%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07% 6.46% 5.13% ifteen Year B+ 0.00% 1.57%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16% 10.68% 10.68% 7.74% S Later B/B- 0.00% 0.78%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12% 4.97% 2.66% C++/C+ 0.00% 0.21%	1.27% 4.62% 13.64% 3.84% 0.05% 0.05% 0.08% 0.03% 0.02% 0.39% 0.38% 3.03% 3.11% 2.09% C/C- 0.00% 0.07%	1.79% 4.62% 9.14% 22.45% D 0.00% 0.16% 0.03% 0.00% 0.42% 1.07% 2.86% 5.71% 6.12% D 0.00% 0.09%	5.28% 8.09% 8.65% 16.14% 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 12.46% 12.46% 12.164% 12.164% 2.164%
	C++/C+ C/C- D A++ A+ A+ A- B++ B++ B+ B+ C++/C+ C/C- D Rating A++ A+ A+ A	0.03% 0.00% 0.00% 4++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11% 0.17% 0.00% 0.00% 0.00% A++ 40.57% 9.04% 2.45%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.85% 1.24% 1.19% A+ 22.11% 29.82% 14.35%	4.39% 2.53% 1.83% 2.71% 13.67% 24.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48% 3.89% A 18.32% 25.60% 32.73%	4.87% 2.81% 1.58% 2.42% 4.30% 32.64% 27.72% 11.57% 7.04% 5.17% 3.23% 3.23% 3.32% A- 2.31% 10.14% 14.46%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.81% 2.11% 1.38% Rating F B++ 0.24% 2.40% 3.56%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07% 6.46% 5.13% 6.46% 5.13% 6.15% 6.15% 7.07% 6.26% 6.15% 7.07% 6.26% 6.15% 7.07% 6.26% 6.15% 7.07% 6.26% 7.07% 6.26% 6.15% 7.07% 6.26% 6.15% 7.07% 6.26% 7.07% 6.26% 7.07% 6.26% 7.07% 6.26% 7.07% 6.26% 7.07% 6.26% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 6.26% 7.17% 7.07% 7	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16% 10.68% 7.74% 5 Later B/B- 0.00% 0.78% 1.33%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12% 4.97% 2.66% 2.66% C++/C+ 0.00% 0.21% 0.17%	1.27% 4.62% 13.64% 3.84% 0.05% 0.05% 0.08% 0.03% 0.02% 0.39% 0.38% 3.03% 3.11% 2.09% C/C- 0.00% 0.07% 0.08%	1.79% 4.62% 9.14% 22.45% D 0.00% 0.23% 0.03% 0.03% 0.42% 1.07% 2.86% 5.71% 6.12% D 0.00% 0.09% 0.04%	5.28% 8.09% 8.65% 16.14% 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 12.46% 12.46% 12.64% 12.64% 12.64% 2.5% 2.47%
	C++/C+ C/C- D A++ A+ A A- B++ B+ B+ B+ B+ C++/C+ C/C- D Rating A++ A+ A+ A-	0.03% 0.00% 0.00% 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11% 0.17% 0.00% 0.00% 0.00% A++ 40.57% 9.04% 2.45% 0.47%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.85% 1.24% 1.19% A+ 22.11% 29.82% 14.35% 8.67%	4.39% 2.53% 1.83% 2.71% 13.67% 24.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48% 3.89% A 18.32% 25.60% 32.73% 26.29%	4.87% 2.81% 1.58% 2.42% A - 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17% 3.23% 3.32% A - 2.31% 10.14% 14.46% 23.17%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.11% 1.38% Rating Fi B++ 0.24% 2.40% 3.56% 5.58%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07% 6.46% 5.13% ifteen Year B+ 0.00% 1.57% 2.69% 1.63%	24.81% 18.44% 10.96% 7.31% Later B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16% 10.68% 7.74% s Later B/B- 0.00% 0.78% 1.33% 1.18%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12% 4.97% 2.66% C++/C+ 0.00% 0.21% 0.17% 0.13%	1.27% 4.62% 13.64% 3.84% 0.00% 0.05% 0.08% 0.03% 0.02% 0.39% 0.38% 3.03% 3.11% 2.09% C/C- 0.00% 0.07% 0.08% 0.01%	1.79% 4.62% 9.14% 22.45% 0.00% 0.16% 0.23% 0.03% 0.00% 0.42% 1.07% 2.86% 5.71% 6.12% D 0.00% 0.09% 0.04% 0.00%	5.28% 8.09% 8.65% 16.14% 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 14.04% 21.64% 14.04% 21.64% 0.00% 1.75% 2.47% 3.10%
	C++/C+ C/C- D A++ A+ A A- B++ B+ B+ B+ B+ C++/C+ C/C- D X A++ A+ A+ A+ A+ A+ A+ B++	0.03% 0.00% 0.00% A++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.18% 0.18% 0.18% 0.11% 0.17% 0.00% 0.00% A++ 40.57% 9.04% 2.45% 0.47% 0.37%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 2.94% 1.85% 1.24% 1.85% 1.24% 1.19% A+ 22.11% 29.82% 14.35% 8.67% 4.10%	4.39% 2.53% 1.83% 2.71% 4.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48% 3.89% A 18.32% 25.60% 32.73% 26.29% 15.32%	4.87% 2.81% 1.58% 2.42% 4.30% 32.64% 27.72% 11.57% 7.04% 5.17% 3.23% 3.32% A- 2.31% 10.14% 14.46% 23.17% 23.34%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.81% 2.81% Rating F B++ 0.24% 2.40% 3.56% 5.58% 8.59%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87% 9.87% 7.07% 6.46% 5.13% ifteen Year B+ 0.00% 1.57% 2.69% 1.63% 4.44%	24.81% 18.44% 10.96% 7.31% B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16% 10.68% 7.74% S Later B/B- 0.00% 0.78% 1.33% 1.18% 2.35%	3.95% 16.35% 11.21% 4.18% 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12% 4.97% 2.66% C++/C+ 0.00% 0.21% 0.17% 0.13% 0.23%	1.27% 4.62% 13.64% 3.84% 0.00% 0.05% 0.08% 0.03% 0.02% 0.38% 0.38% 3.03% 3.11% 2.09% C/C- 0.00% 0.07% 0.08% 0.01% 0.06%	1.79% 4.62% 9.14% 22.45% 0.00% 0.23% 0.03% 0.03% 0.00% 0.42% 5.71% 6.12% D 0.00% 0.04% 0.00%	5.28% 8.09% 8.65% 16.14% 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 12.46% 12.46% 12.64% 12.64% 12.64% 12.64% 12.64% 12.46% 1.75% 2.47% 3.10% 3.01%
	C++/C+ C/C- D A++ A+ A+ A- B++ B+ B+ B+ B+ B+ C++/C+ C/C- D Rating A++ A+ A A- B++ B+ B+	0.03% 0.00% 0.00% 4++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11% 0.36% 0.11% 0.00% 0.11% 0.00% 0.00% 0.00% A++ 40.57% 9.04% 2.45% 0.47% 0.37% 0.37%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.85% 1.24% 1.19% A+ 22.11% 29.82% 14.35% 14.35% 14.35%	4.39% 2.53% 1.83% 2.71% 4.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48% 3.89% A 18.32% 25.60% 32.73% 26.29% 15.32% 10.26%	4.87% 2.81% 1.58% 2.42% A - 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17% 3.23% 3.32% A - 2.31% 10.14% 14.46% 23.17% 23.34% 12.27%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.81% 2.81% 2.81% 2.40% 3.56% 5.58% 8.59% 7.47%	15.68% 7.87% 5.85% 4.46% Ten Years 8+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07% 6.46% 5.13% ifteen Year 8+ 0.00% 1.57% 2.69% 1.63% 4.44% 7.38%	24.81% 18.44% 10.96% 7.31% B/B - 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16% 10.68% 7.74% S Later B/B - 0.00% 0.78% 1.33% 1.18% 2.35% 4.38%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12% 4.97% 2.66% C++/C+ 0.00% 0.21% 0.21% 0.13% 0.13% 0.13% 0.23% 1.01%	1.27% 4.62% 13.64% 3.84% 0.00% 0.05% 0.08% 0.03% 0.32% 0.38% 0.38% 3.03% 3.11% 2.09% C/C- 0.00% 0.07% 0.08% 0.01% 0.06% 0.28%	1.79% 4.62% 9.14% 22.45% 0.00% 0.23% 0.03% 0.00% 0.42% 1.07% 2.86% 5.71% 6.12% D 0.00% 0.00% 0.00% 0.00% 0.00%	5.28% 8.09% 8.65% 16.14% 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 12.46% 14.04% 21.64% 14.04% 21.64% 14.04% 21.64% 3.10% 3.01% 5.57%
	C++/C+ C/C- D A++ A+ A- B++ B+ B+ B+ B+ C++/C+ C/C- D Rating A++ A+ A+ A+ A+ B++ B++ B++ B+ B+ B+ B+	0.03% 0.00% 0.00% 4++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.18% 0.36% 0.11% 0.17% 0.00% 0.00% 0.00% 0.00% A++ 40.57% 9.04% 2.45% 0.37% 0.37% 0.37%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.25% 1.24% 1.19% A+ 22.11% 29.82% 14.35% 14.35% 14.35% 4.10% 5.22% 3.00%	4.39% 2.53% 1.83% 2.71% 4.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48% 3.89% A 18.32% 25.60% 32.73% 26.29% 15.32% 10.26% 7.48%	4.87% 2.81% 1.58% 2.42% A - 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17% 5.17% 5.17% 3.23% 3.32% A - 2.31% 10.14% 14.46% 23.17% 23.34% 12.27% 8.48%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.81% 2.81% 2.11% 1.38% Rating F B++ 0.24% 2.40% 3.56% 5.58% 8.59% 7.47% 5.24%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07% 6.46% 5.13% ifteen Year B+ 0.00% 1.57% 2.69% 1.63% 4.44% 7.38% 6.10%	24.81% 18.44% 10.96% 7.31% B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16% 10.68% 7.74% S Later B/B- 0.00% 0.78% 1.33% 1.18% 2.35% 4.38% 5.59%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 2.58% 6.12% 4.97% 2.66% C++/C+ 0.00% 0.21% 0.17% 0.13% 0.23% 1.01% 1.51%	1.27% 4.62% 13.64% 3.84% 0.00% 0.05% 0.08% 0.03% 0.32% 0.38% 0.38% 3.03% 3.03% 3.03% 3.11% 2.09% C/C- 0.00% 0.07% 0.08% 0.01% 0.06% 0.28% 0.26%	1.79% 4.62% 9.14% 22.45% 0.00% 0.16% 0.23% 0.03% 0.00% 0.42% 1.07% 2.86% 5.71% 6.12% D 0.00% 0.09% 0.09% 0.00% 0.00% 0.00%	5.28% 8.09% 8.65% 16.14% 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 14.04% 21.64% 14.04% 21.64% 14.04% 21.64% 3.10% 3.01% 5.57% 10.13%
	C++/C+ C/C- D A++ A+ A- B++ B+ B+ B+ B+ C++/C+ C/C- D Rating A++ A+ A+ A+ A+ B++ B+ B++ B+ B+ B+ B+ C++/C+	0.03% 0.00% 0.00% 4++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.36% 0.11% 0.00% 0.17% 0.00% 0.00% A++ 40.57% 9.04% 2.45% 0.47% 0.37% 0.79% 0.79%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.85% 1.45% 1.24% 1.19% 22.11% 29.82% 14.35% 8.67% 4.10% 5.22% 3.00% 2.27%	4.39% 2.53% 1.83% 2.71% 4.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48% 3.89% A 18.32% 25.60% 32.73% 26.29% 15.32% 10.26% 7.48% 4.13%	4.87% 2.81% 1.58% 2.42% A - 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17% 3.23% 3.32% A - 2.31% 10.14% 14.46% 23.17% 23.34% 12.27% 8.48% 5.53%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.81% 2.11% 1.38% Rating F B++ 0.24% 2.40% 3.56% 8.59% 7.47% 5.24% 2.97%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07% 6.46% 5.13% ifteen Year B+ 0.00% 1.57% 2.69% 1.63% 4.44% 7.38% 6.10% 5.24%	24.81% 18.44% 10.96% 7.31% Later B/B 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.68% 7.74% s Later B/B 0.00% 0.78% 1.33% 1.18% 2.35% 4.38% 5.59% 5.76%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 1.07% 2.58% 6.12% 4.97% 2.66% C++/C+ 0.00% 0.21% 0.21% 0.13% 0.13% 0.13% 0.23% 1.01%	1.27% 4.62% 13.64% 3.84% 0.00% 0.05% 0.08% 0.03% 0.02% 0.39% 0.38% 3.03% 3.03% 3.11% 2.09% C/C- 0.00% 0.07% 0.07% 0.08% 0.01% 0.08% 0.01% 0.06% 0.28% 0.26% 1.51%	1.79% 4.62% 9.14% 22.45% D 0.00% 0.16% 0.23% 0.03% 0.00% 0.42% 1.07% 2.86% 5.71% 0.00% 0.09% 0.00% 0.00% 0.00% 0.00% 0.14% 0.21% 0.70%	5.28% 8.09% 8.65% 16.14% 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 12.46% 14.04% 21.64% 14.04% 21.64% 14.04% 3.01% 3.01% 5.57% 10.13% 14.38%
0	C++/C+ C/C- D A++ A+ A- B++ B+ B+ B+ B+ C++/C+ C/C- D Rating A++ A+ A+ A+ A+ B++ B++ B++ B+ B+ B+ B+	0.03% 0.00% 0.00% 4++ 49.75% 8.38% 1.60% 0.64% 0.18% 0.18% 0.36% 0.11% 0.17% 0.00% 0.00% 0.00% 0.00% A++ 40.57% 9.04% 2.45% 0.37% 0.37% 0.37%	1.90% 0.88% 0.24% 0.47% 22.82% 42.07% 15.24% 6.64% 2.21% 4.93% 2.94% 1.25% 1.24% 1.19% A+ 22.11% 29.82% 14.35% 14.35% 14.35% 4.10% 5.22% 3.00%	4.39% 2.53% 1.83% 2.71% 4.26% 41.82% 26.37% 13.04% 10.46% 6.50% 3.14% 2.48% 3.89% A 18.32% 25.60% 32.73% 26.29% 15.32% 10.26% 7.48%	4.87% 2.81% 1.58% 2.42% A- 1.71% 7.82% 14.30% 32.64% 27.72% 11.57% 7.04% 5.17% 5.17% 5.17% 3.23% 3.32% A- 2.31% 10.14% 14.46% 23.17% 23.34% 12.27% 8.48%	4.98% 1.21% 0.37% 0.24% Rating B++ 0.36% 1.33% 2.79% 6.06% 15.32% 8.97% 6.52% 2.81% 2.81% 2.81% 2.11% 1.38% Rating F B++ 0.24% 2.40% 3.56% 5.58% 8.59% 7.47% 5.24%	15.68% 7.87% 5.85% 4.46% Ten Years B+ 0.15% 1.49% 2.81% 2.43% 7.17% 13.45% 9.87% 7.07% 6.46% 5.13% ifteen Year B+ 0.00% 1.57% 2.69% 1.63% 4.44% 7.38% 6.10%	24.81% 18.44% 10.96% 7.31% B/B- 0.06% 0.70% 1.40% 1.24% 2.79% 6.83% 9.65% 10.16% 10.68% 7.74% S Later B/B- 0.00% 0.78% 1.33% 1.18% 2.35% 4.38% 5.59%	3.95% 16.35% 11.21% 4.18% C++/C+ 0.03% 0.12% 0.22% 0.11% 0.37% 2.58% 6.12% 4.97% 2.66% C++/C+ 0.00% 0.21% 0.17% 0.13% 0.23% 1.01% 1.51%	1.27% 4.62% 13.64% 3.84% 0.00% 0.05% 0.08% 0.03% 0.32% 0.38% 0.38% 3.03% 3.03% 3.03% 3.11% 2.09% C/C- 0.00% 0.07% 0.08% 0.01% 0.06% 0.28% 0.26%	1.79% 4.62% 9.14% 22.45% 0.00% 0.16% 0.23% 0.03% 0.00% 0.42% 1.07% 2.86% 5.71% 6.12% D 0.00% 0.09% 0.09% 0.00% 0.00% 0.00%	5.28% 8.09% 8.65% 16.14% 0.00% 1.02% 1.51% 2.32% 2.31% 4.45% 8.47% 12.46% 14.04% 21.64% 14.04% 21.64% 14.04% 21.64% 3.10% 3.01% 5.57% 10.13%

US Life/Health and Property/Casualty

ICR-Related Impairment Rates

Regarding ICRs, this study covers the 22 one-year periods from December 31, 2001, to December 31, 2023, and includes only US insurers that had at least one assigned ICR over the period. Of the 3,474 companies that had an AM Best rating at some point during the period, there were 61 impairments.

Exhibits 7a and 7b show impairment rates associated with ICRs. The exhibits show two subsets of data—one associated with ratings and notches, and one associated with just major ratings. These subsets generally show that impairment rates increase as ratings decline and as the rating observation period lengthens. For example, the one-year impairment rate associated with the "aaa" rating is 0.0%, but 3.29% for the "b" rating. In addition, in Exhibit 7b, the one-year impairment rate associated with the "a" rating symbol is 0.02%, while the 10-year impairment rate for the same rating symbol is 0.22%. Operating

Exhibit 6

Average Years to Impairment

US Life/Health and Property	/Casualty, 1977-2023 Average Years to Impairment from
Initial Rating Category	Initial Rating Date*
A++/A+	14.8
A/A-	12.6
B++/B+	8.8
A++ to B+	11.8
B/B-	9.0
C++/C+	7.6
C/C-	10.4
D/NA-7	8.4
B to NA-7	8.6
All	10.3

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

company impairment rates can be converted to holding company impairment rates, which are in effect the implied impairment rates associated with senior unsecured debt. These impairment rates can be compared to the defaults in the corporate default studies of major NRSROs. (See Converting Operating Company Impairment Rates to Holding **Company Impairment** Rates on page 10, which describes the translation from ICR-related impairment rates to implied impairment rates of senior

unsecured debt

issued by insurance entities.)

Exhibit 7a

AM Best's Average Cumulative Impairment Rates (ICRs)

US Life/Health and Property/Casualty, 2001-2023

By Rating and (%)	Notches									
Rating	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	7-Year	8-Year	9-Year	10-Year
aaa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
aa+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
аа	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
aa-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
a+	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
а	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.07	0.09	0.10
a-	0.05	0.12	0.16	0.21	0.27	0.31	0.34	0.38	0.42	0.44
bbb+	0.08	0.24	0.33	0.42	0.48	0.45	0.46	0.47	0.54	0.67
bbb	0.08	0.16	0.17	0.18	0.38	0.60	0.85	1.02	1.09	1.20
bbb-	0.28	0.52	0.73	1.16	1.47	1.55	1.59	1.70	1.83	1.92
bb+	1.07	2.06	3.52	4.15	4.67	4.98	5.46	5.94	6.23	6.54
bb	0.34	0.70	1.43	1.44	1.50	1.95	2.07	2.23	2.43	2.66
bb-	2.15	4.12	4.71	4.95	4.98	5.06	5.15	5.24	6.01	6.59
b+	5.67	9.02	9.92	10.08	10.08	10.24	10.24	10.40	10.40	10.40
b	1.19	1.20	1.27	1.33	1.47	1.61	1.75	1.92	1.96	2.08
b-	1.83	2.75	3.67	4.72	5.83	6.86	8.00	9.18	9.47	9.89
ccc and below	9.02	12.21	13.18	14.06	14.96	15.57	15.83	16.10	16.67	17.12
All	0.12	0.22	0.30	0.37	0.44	0.49	0.54	0.59	0.65	0.71

Exhibit 7b AM Best's Average Cumulative Impairment Rates (ICRs)

US Life/Health and Property/Casualty, 2001-2023

By Major Rating Groupings*

|--|

Rating	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	7-Year	8-Year	9-Year	10-Year
aaa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
aa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
а	0.02	0.05	0.07	0.09	0.12	0.14	0.16	0.18	0.20	0.22
bbb	0.16	0.34	0.46	0.68	0.87	0.93	1.00	1.08	1.17	1.28
bb	1.27	2.44	3.53	3.95	4.25	4.52	4.85	5.17	5.62	6.03
b	3.29	4.92	5.64	6.13	6.67	7.22	7.75	8.36	8.49	8.71
ccc and below	9.02	12.21	13.18	14.06	14.96	15.57	15.83	16.10	16.67	17.12
All	0.12	0.22	0.30	0.37	0.44	0.49	0.54	0.59	0.65	0.71

* In this exhibit, each rating grouping represents a combination of all ratings 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-" ratings.

Source: AM Best data and research

Converting Operating Company Impairment Rates to Holding Company Impairment Rates

The impairment rates associated with AM Best holding company ICRs are generally analogous to the default rates in the corporate default studies of other major NRSROs. When AM Best does not have a holding company ICR, a proxy holding company ICR is assigned based on the operating company ICR. Starting with the operating company, the ICR data is used to create the average cumulative impairment rates shown in Exhibits 7a and 7b. AM Best then applies a notching algorithm (**Exhibit 8**) to convert operating company ICRs to AM Best holding company ICRs.

The following example illustrates the process of assigning holding company ICRs based on an operating company ICR. In this instance, assume that the ICR of an insurance operating company is "a-" and that the holding company associated with that insurance company wants to issue senior unsecured

debt to fund its operating subsidiary. The holding company's ICR, which is effectively equivalent to the rating of the holding company's senior unsecured debt obligation, would generally be three notches down from the operating company's "a-" ICR. In this case, a holding company ICR of "bbb-" would be assigned.

Exhibit 9 shows the impairment rates of holding companies after applying the debt rating notching methodology to their ICRs. These calculations are based on a population of 3,474 insurers rated between 2001 and 2023 and 61 impaired companies.

Exhibit 8

Best's Credit Rating Methodology – 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
а	3
a-	3
bbb+	3
bbb	3
bbb-	3 to 4
bb+	4
bb	4
bb-	4 to 5

Source: Best's Credit Rating Methodology

AM Best's Implied Average Cumulative Impairment Rates of Holding Company ICRs

US Life/Health and Property/Casualty, 2001-2023 By Major Rating Groupings*

(%)

Exhibit 9

(70)										
Rating	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	7-Year	8-Year	9-Year	10-Year
aaa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
аа	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
а	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
bbb	0.02	0.05	0.07	0.09	0.12	0.14	0.16	0.18	0.20	0.22
bb	0.16	0.34	0.46	0.68	0.87	0.93	1.00	1.08	1.17	1.28
b	0.90	1.74	3.03	3.51	3.93	4.29	4.71	5.14	5.43	5.75
ccc and below	3.48	5.49	6.16	6.57	6.89	7.17	7.42	7.70	8.23	8.67
All	0.12	0.22	0.30	0.37	0.44	0.49	0.54	0.59	0.65	0.71

* In this exhibit, each rating grouping represents a combination of all ratings 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-" ratings. Source: AM Best data and research

Impairments Caused by Natural Catastrophes

The US P/C industry remains vulnerable to the growing frequency and severity of extreme weather events. With no major named hurricane event in the US in 2023, the lion's share of weather event related losses came from severe convective storms. The increase in frequency and severity of catastrophe events, especially secondary perils, has clearly pressured more insurers in recent years.

Exhibit 10 shows the US P/C impairments caused by natural catastrophes from January 2012 to August 2024. This exhibit, unlike Exhibits 2 through 9, includes companies domiciled in Puerto Rico and companies not rated by AM Best.

There were 25 weather-related impairments, due mostly to losses from hurricanes: Hurricane Matthew in 2016; Hurricanes Harvey, Irma, and Maria in 2017; Hurricane Michael in 2018; Hurricanes Laura, Sally, Delta, and Zeta in 2020; and Hurricane Ida in 2021. In 2023, the six impairments were all related to severe convective storms across the Midwest, highlighting the increased impact of secondary perils.

Exhibit 10 US P/C Insurance Company Impairments Caused by Natural Catastrophes, 2012-2023*

		State of	Year of	
Company Name	AM Best Rated	Domicile	Impairment	Cause
Millers First Ins Co	Yes; last rated in 2012	IL	2012	Midwest thunderstorms
San Antonio Indemnity Co	Yes; last rated in 2012	ΤX	2013	Frequent and severe weather events
Real Legacy Assurance Co, Inc.	Yes; last rated in 2017	PR	2018	Hurricanes Irma and Maria
Merced Property & Casualty Co	Yes; last rated in 2018	CA	2018	Wildfire (the Camp Fire)
INTEGRAND Assurance Co	Yes; last rated in 2019	PR	2019	Hurricanes Irma and Maria
State National Fire Ins Co	Yes; last rated in 1998	LA	2021	Hurricane Ida
American Capital Assurance Corp.	Yes; last rated in 2021	FL	2021	Hurricanes Laura, Sally, Delta, and Zeta
Gulfstream Select Ins Co	No**	LA	2021	Hurricanes Matthew, Irma, Michael, and Sally
Gulfstream Prop and Cas Ins Co	No**	FL	2021	Hurricanes Matthew, Irma, Michael, and Sally
Access Home Ins Co	No**	LA	2021	Hurricanes Ida, Laura, Delta, and Zeta
Americas Ins Co	Yes; last rated in 2011	LA	2022	Hurricanes Ida, Laura, Delta, and Zeta
St. Johns Ins Co, Inc.	No**	FL	2022	Hurricane losses, potential fraud, and litigation
Avatar Property & Casualty Ins Co	No**	FL	2022	Hurricane losses, potential fraud, and litigation
Lighthouse Property Ins Corp.	No**	LA	2022	Hurricanes Ida, Laura, Delta, and Zeta
Lighthouse Excalibur Ins Co	No**	LA	2022	Hurricanes Ida, Laura, Delta, and Zeta
Southern Fidelity Ins Co	No**	FL	2022	Hurricane losses, potential fraud, and litigation
Weston Property & Casualty Ins Co	No**	FL	2022	Hurricane losses, potential fraud, and litigation
FedNat Ins Co	Yes; last rated in 2004	FL	2022	Hurricane losses, potential fraud, and litigation
United Property & Casualty Ins Co	No**	FL	2023	Hurricanes and other named storms
Cameron Mutual Ins Co	Yes; last rated in 2023	MO	2023	Severe storms
Cameron National Ins Co	Yes; last rated in 2018	MO	2023	Severe storms
Wisconsin ReIns Corp.	Yes; last rated in 2022	WI	2023	Severe storms
1st Auto & Casualty Ins Co	Yes; last rated in 2022	WI	2023	Severe storms
MutualAid eXchange	Yes; last rated in 2019	KS	2023	Severe storms
United Home Ins Co	No**	AR	2023	Severe storms
* As of August 2024.				

* As of August 2024.

** "No" indicates that the Co was not rated by AM Best from December 31, 1977, through August 2024.

Source: (BESTLINK)

A Note on Revisions

AM Best's impairment database is updated continually to incorporate new data or make adjustments to existing data.

Ongoing historical research occasionally leads to the restatement of certain data, primarily a company's initial year of impairment and the timing of rating withdrawals. Also, 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. After incorporating all updates, revisions, and corrections, the results of the current study remain broadly consistent with those published in prior studies.

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