C-1 Subcommittee Update on CLO C-1 Factors Modeling—Technical Follow-up

March 23, 2026

Stephen Smith, MAAA, FSA, CFA

Chairperson, Academy C-1 Subcommittee

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Introduction

- This presentation will address questions raised by regulators and interested parties in response to the Academy's [March 2 presentation to RBCIRE](#) focused on sensitivities to the choice of 4% tranche thickness as a cutoff point and on the distribution of risk within the tail

- Additional information on these points is provided

- Work is ongoing to provide thorough model documentation across the full model, in addition to the data and analytics provided herein

```
Residuals:
         Min      1Q   Median      3Q     Max
-0.70926 -0.00145 -0.00037  0.00031 0.84095

Coefficients:
                    Estimate Std. Error t value Pr(>|t|)
Aaa                6.039e-04 1.788e-03   0.338   0.7356
Aa1                3.094e-03 4.138e-03   0.748   0.4547
Aa2                4.661e-04 2.672e-03   0.174   0.8615
Aa3               -3.794e-05 8.282e-03  -0.005   0.9963
A1                 3.657e-03 4.713e-03   0.776   0.4378
A2                 6.176e-04 2.863e-03   0.216   0.8292
A3                -2.676e-03 1.069e-02  -0.250   0.8024
Baa1               9.042e-04 6.104e-03   0.148   0.8822
Baa2               9.849e-03 5.556e-03   1.773   0.0763 .
Baa3              -1.735e-02 2.705e-03  -6.416 1.45e-10 ***
Ba1                8.131e-02 6.768e-03  12.014  < 2e-16 ***
Ba2                1.647e-01 7.998e-03  20.588  < 2e-16 ***
Ba3                1.286e-01 2.845e-03  45.206  < 2e-16 ***
B1                 1.562e-01 5.507e-03  28.356  < 2e-16 ***
B2                 2.477e-01 1.342e-02  18.461  < 2e-16 ***
B3                 4.999e-01 7.064e-03  70.771  < 2e-16 ***
Caa1               5.079e-01 9.850e-03  51.564  < 2e-16 ***
Caa2               5.787e-01 9.871e-03  58.624  < 2e-16 ***
Caa3               7.349e-01 9.033e-03  81.356  < 2e-16 ***
REINV_END_DATE    -1.115e-02 2.000e-03  -5.575 2.53e-08 ***
REINV_END_DATE_1   1.102e-02 2.087e-03   5.281 1.31e-07 ***
REINV_END_DATE_2   1.097e-02 2.169e-03   5.055 4.37e-07 ***
REINV_END_DATE_3   1.132e-02 2.191e-03   5.168 2.40e-07 ***
REINV_END_DATE_4   1.832e-02 2.491e-03   7.354 2.04e-13 ***
REINV_END_DATE_5   2.977e-02 2.170e-03  13.721  < 2e-16 ***
REINV_END_DATE_6   5.467e-02 2.251e-03  24.282  < 2e-16 ***
LOW_QUAL_LOW_THICK 9.795e-02 2.780e-03  35.233  < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.06828 on 12859 degrees of freedom
Multiple R-squared:  0.8618,   Adjusted R-squared:  0.8615
F-statistic:  2970 on 27 and 12859 DF,  p-value: < 2.2e-16
```

Security rating

Reinv horizon

Interaction terms

Quality and thickness

- **Example:** Baa3 security with tranche thickness ≤ 4% has a factor:

$$-1.735\% + 2.395 \times [-1.115\% + 2.977\%] + 9.795\% = 12.52\%$$

Baa3 Coefficient — **Average Reinvestment Horizon (yrs)** — **Reinvestment Coefficient** — **Bucket 5 Reinvestment Interaction** — **Low Quality[1] / Low Thickness[2] Premium** — **MODELED C-1**

- C1 factors are regressed against

  - Security rating

  - Reinvestment horizon (number of years until reinvestments end)

  - Reinvestment horizon × rating bucket

  - Indicator for low-quality (Baa3/below) and low-thickness (≤4%)

- The rating buckets for the interaction terms—chosen to increase credibility—are:

  1. AAA
  2. Aa1 / Aa2
  3. Aa3 / A1 / A2
  4. A3 / Baa1 / Baa2
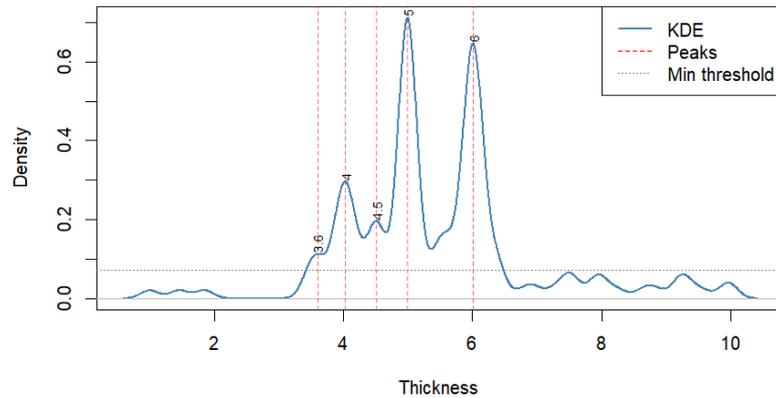 5. Baa3 / Ba1 / Ba2
  6. Ba3 / B1 / B2

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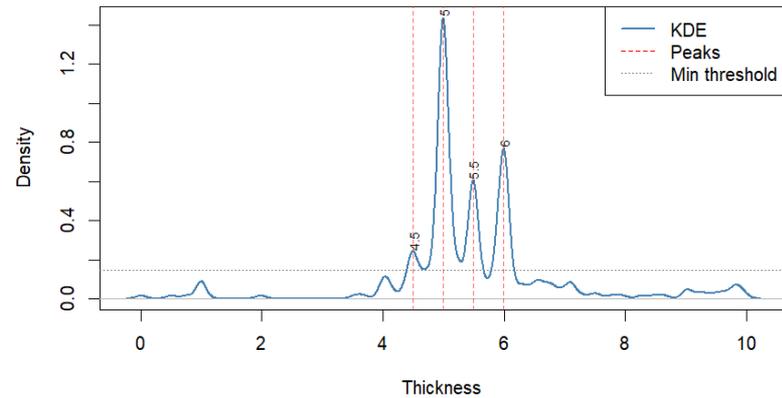
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- Baa3 concentrates around 6% thickness with a second peak at 1.9%

- Baa3 has no observations with thickness in the range [3.68%, 4.29%]

- The Academy heuristically chose 4% as the cut off between "low thickness" and "high thickness" to divide these two types of Baa3 tranches. Ba3 has peaks at 4%, 3% and 3.5% with smaller peaks at 4.5% and 2.5%

- Setting the thickness cut-off at 4% interrupts the 4% peak that's observed in ratings Ba1, Ba2, Ba3, B1 and B2

- In the following pages, kernel density estimates are shown to help visualize the distribution of tranche thicknesses for each rating—these charts translate discrete data into estimates of a smooth distribution of multiple overlapping normal distributions centered around clusters of observed tranche thickness

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Thickness Peaks — Baa1

Thickness Peaks — Baa2

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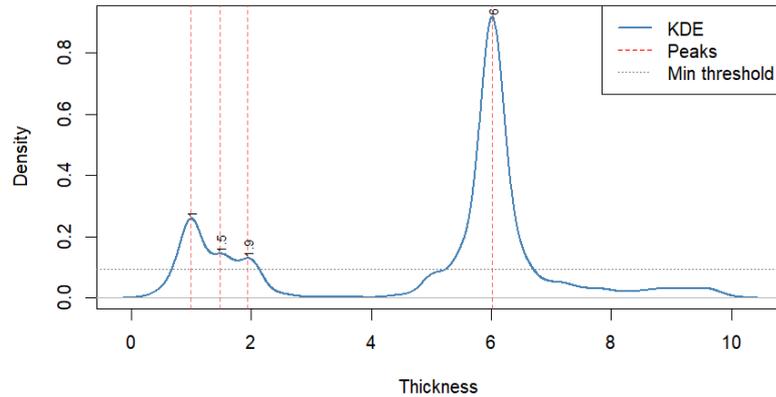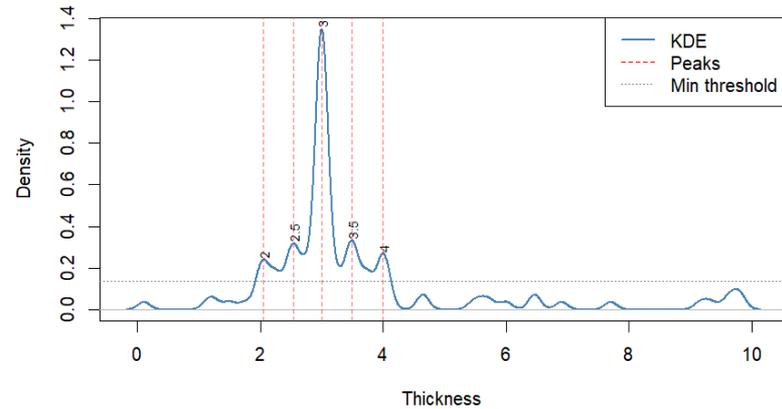
Thickness Peaks — Ba2

Thickness Peaks — Ba3
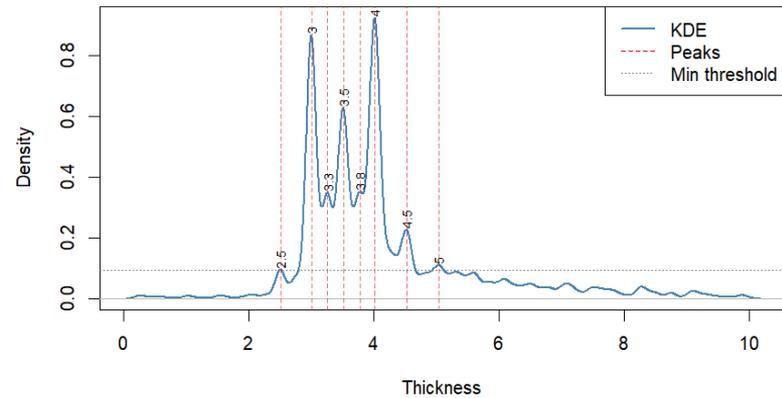
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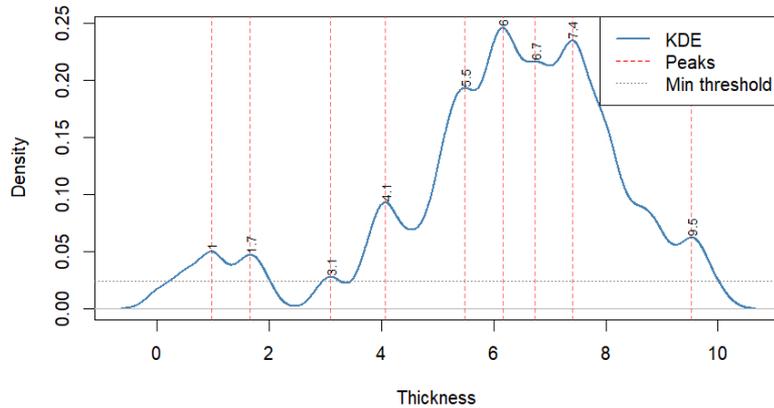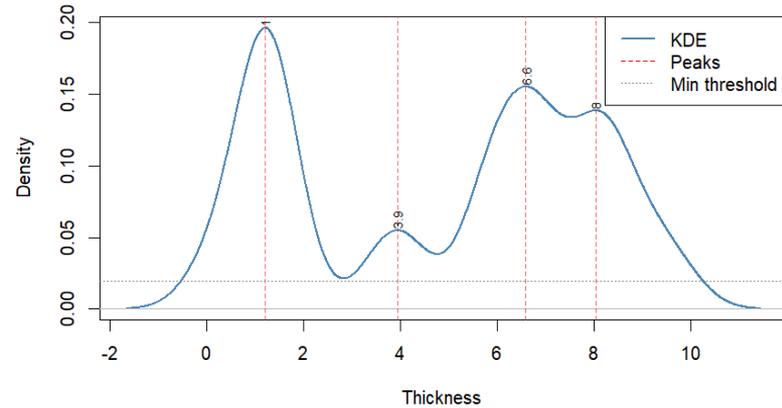
Thickness Peaks — B3

Thickness Peaks — Caa1

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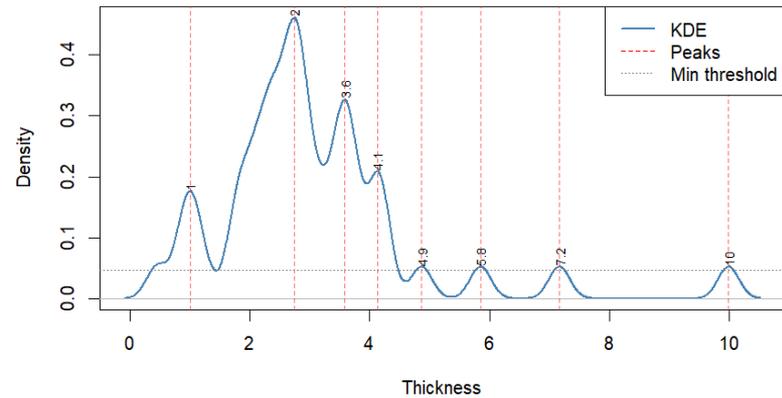
Thickness Peaks — Caa2

Thickness Peaks — Caa3

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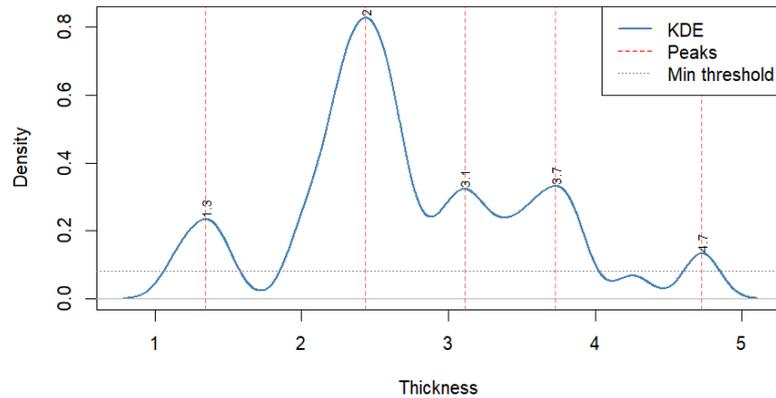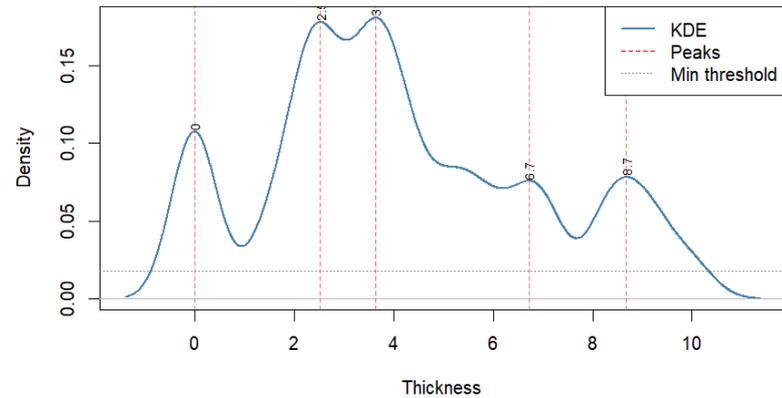
- Increasing the cut-off to >4.25% may reduce thick Baa3 charges by 39 basis points (bps) but increase the thin tranche charge by 153 bps

- The 4% cut-off has been selected based on observing the distribution of tranche thickness for Baa3 (insurance holdings of Baa3 and below are concentrated in Baa3), but a slightly higher cut-off point may be appropriate if the lower-rated tranches were also considered when choosing the cut-off

- For illustrative purposes, the Academy shows 4.25% as an alternative cutoff for thickness as it is:
    1. The mid point of 4% and 4.5% (two peaks in Ba3 tranches)
    2. In the range [3.68%, 4.29%], where there are no Baa3 observations

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```
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      Min       1Q   Median       3Q      Max
-0.70926 -0.00145 -0.00037  0.00031  0.84095

Coefficients:
                    Estimate Std. Error t value Pr(>|t|)
Aaa                6.039e-04  1.788e-03   0.338   0.7356
Aa1                3.094e-03  4.138e-03   0.748   0.4547
Aa2                4.661e-04  2.672e-03   0.174   0.8615
Aa3               -3.794e-05  8.282e-03  -0.005   0.9963
A1                 3.657e-03  4.713e-03   0.776   0.4378
A2                 6.176e-04  2.863e-03   0.216   0.8292
A3                -2.676e-03  1.069e-02  -0.250   0.8024
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REINV_END_DATE_3   1.132e-02  2.191e-03   5.168 2.40e-07 ***
REINV_END_DATE_4   1.832e-02  2.491e-03   7.354 2.04e-13 ***
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REINV_END_DATE_6   5.467e-02  2.251e-03  24.282  < 2e-16 ***
LOW_QUAL_LOW_THICK 9.795e-02  2.780e-03  35.233  < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.06828 on 12859 degrees of freedom
Multiple R-squared:  0.8618,   Adjusted R-squared:  0.8615
F-statistic:  2970 on 27 and 12859 DF,  p-value: < 2.2e-16
```

Implied Factors

Rating	Modeled C-1	
	Thickness > 4%	Thickness ≤ 4%
Aaa	0.03%	
Aa1	0.04%	
Aa2	0.04%	
Aa3	0.04%	
A1	0.14%	
A2	0.14%	
A3	1.45%	
Baa1	1.81%	
Baa2	2.70%	
Baa3	2.73%	12.52%

Rating	Modeled C-1	
	Thickness > 4%	Thickness ≤ 4%
Ba1	12.59%	22.39%
Ba2	20.93%	30.72%
Ba3	23.28%	33.08%
B1	26.04%	35.84%
B2	35.20%	44.99%
B3	47.32%	57.12%
Caa1	48.12%	57.92%
Caa2	55.20%	64.99%
Caa3	70.82%	80.61%

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```
Residuals:
     Min      1Q   Median      3Q     Max
-0.69568 -0.00138 -0.00035  0.00031  0.84095

Coefficients:
                     Estimate Std. Error t value Pr(>|t|)
Aaa                 6.039e-04  1.755e-03   0.344  0.7308
Aa1                 3.094e-03  4.061e-03   0.762  0.4462
Aa2                 4.661e-04  2.622e-03   0.178  0.8589
Aa3                -3.794e-05  8.128e-03  -0.005  0.9963
A1                  3.657e-03  4.626e-03   0.791  0.4292
A2                  6.176e-04  2.810e-03   0.220  0.8260
A3                 -2.676e-03  1.050e-02  -0.255  0.7987
Baa1                9.042e-04  5.991e-03   0.151  0.8800
Baa2                9.849e-03  5.452e-03   1.806  0.0709 .
Baa3               -1.648e-02  2.654e-03  -6.212 5.38e-10 ***
Ba1                 6.834e-02  6.667e-03  10.251  < 2e-16 ***
Ba2                 1.518e-01  7.871e-03  19.290  < 2e-16 ***
Ba3                 9.658e-02  2.971e-03  32.514  < 2e-16 ***
B1                  1.497e-01  5.410e-03  27.670  < 2e-16 ***
B2                  2.361e-01  1.318e-02  17.915  < 2e-16 ***
B3                  4.827e-01  6.948e-03  69.472  < 2e-16 ***
Caa1                4.846e-01  9.724e-03  49.838  < 2e-16 ***
Caa2                5.588e-01  9.716e-03  57.516  < 2e-16 ***
Caa3                7.230e-01  8.881e-03  81.408  < 2e-16 ***
REINV_END_DATE     -1.187e-02  1.963e-03  -6.046 1.53e-09 ***
REINV_END_DATE_1    1.174e-02  2.048e-03   5.731 1.02e-08 ***
REINV_END_DATE_2    1.169e-02  2.129e-03   5.488 4.15e-08 ***
REINV_END_DATE_3    1.204e-02  2.151e-03   5.600 2.19e-08 ***
REINV_END_DATE_4    1.904e-02  2.445e-03   7.787 7.41e-15 ***
REINV_END_DATE_5    2.823e-02  2.129e-03  13.256  < 2e-16 ***
REINV_END_DATE_6    5.571e-02  2.194e-03  25.387  < 2e-16 ***
LOW_QUAL_LOW_THICK  1.178e-01  2.793e-03  42.196  < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.06701 on 12859 degrees of freedom
Multiple R-squared:  0.8669,    Adjusted R-squared:  0.8666
F-statistic:  3102 on 27 and 12859 DF,  p-value: < 2.2e-16
```

Implied Factors

Rating	Modeled C-1	
	Thickness > 4.25%	Thickness ≤ 4.25%
Aaa	0.03%	
Aa1	0.04%	
Aa2	0.04%	
Aa3	0.04%	
A1	0.14%	
A2	0.14%	
A3	1.45%	
Baa1	1.81%	
Baa2	2.34%	
Baa3	2.34%	14.05%

Rating	Modeled C-1	
	Thickness > 4.25%	Thickness ≤ 4.25%
Ba1	10.75%	22.54%
Ba2	19.10%	30.89%
Ba3	20.16%	31.94%
B1	25.47%	37.26%
B2	34.11%	45.90%
B3	45.43%	57.21%
Caa1	45.62%	57.40%
Caa2	53.04%	64.82%
Caa3	69.45%	81.24%

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- A3 has a lower average reinvestment horizon than the full universe (0.55 years vs. 2.40 years), leading to a lower C1 factor than adjacent ratings

- When regressing against reinvestment horizon, we need interaction terms (with rating) to account for the non-linear impact of horizon (greater impact on lower ratings)

- If A3 is grouped with Baa1/Baa2 for interaction terms, its C1 factor is 1.45%

- If A3 is grouped with Aa3/A1/A2 for interaction terms, its C1 factor is 0.16%

- The outlier reinvestment horizon and poor credibility for A3 makes its C1 factor sensitive to model assumptions and setup

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```
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```

Implied Factors

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Aaa	0.03%	
Aa1	0.04%	
Aa2	0.04%	
Aa3	0.04%	
A1	0.14%	
A2	0.14%	
A3	1.45%	
Baa1	1.81%	
Baa2	2.70%	
Baa3	2.73%	12.52%

Rating	Modeled C-1	
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Ba2	20.93%	30.72%
Ba3	23.28%	33.08%
B1	26.04%	35.84%
B2	35.20%	44.99%
B3	47.32%	57.12%
Caa1	48.12%	57.92%
Caa2	55.20%	64.99%
Caa3	70.82%	80.61%

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Aa3                -3.707e-05  8.282e-03  -0.004   0.996
A1                  3.665e-03  4.711e-03   0.778   0.437
A2                  6.281e-04  2.856e-03   0.220   0.826
A3                  1.147e-03  1.067e-02   0.107   0.914
Baa1                5.879e-04  6.120e-03   0.096   0.923
Baa2                9.417e-03  5.588e-03   1.685   0.092 .
Baa3               -1.735e-02  2.704e-03  -6.416 1.45e-10 ***
Ba1                 8.131e-02  6.768e-03  12.014  < 2e-16 ***
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B3                  4.999e-01  7.064e-03  70.772  < 2e-16 ***
Caa1                5.079e-01  9.850e-03  51.565  < 2e-16 ***
Caa2                5.787e-01  9.871e-03  58.626  < 2e-16 ***
Caa3                7.349e-01  9.033e-03  81.357  < 2e-16 ***
REINV_END_DATE     -1.115e-02  2.000e-03  -5.575 2.53e-08 ***
REINV_END_DATE_1    1.102e-02  2.087e-03   5.281 1.31e-07 ***
REINV_END_DATE_2    1.097e-02  2.169e-03   5.055 4.37e-07 ***
REINV_END_DATE_3    1.132e-02  2.190e-03   5.170 2.38e-07 ***
REINV_END_DATE_4    1.847e-02  2.500e-03   7.389 1.57e-13 ***
REINV_END_DATE_5    2.977e-02  2.170e-03  13.721  < 2e-16 ***
REINV_END_DATE_6    5.467e-02  2.251e-03  24.283  < 2e-16 ***
LOW_QUAL_LOW_THICK  9.795e-02  2.780e-03  35.233  < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.06828 on 12859 degrees of freedom
Multiple R-squared:  0.8618,    Adjusted R-squared:  0.8615
F-statistic:  2970 on 27 and 12859 DF,  p-value: < 2.2e-16
```

Implied Factors

Rating	Modeled C-1	
	Thickness > 4%	Thickness ≤ 4%
Aaa	0.03%	
Aa1	0.04%	
Aa2	0.04%	
Aa3	0.04%	
A1	0.14%	
A2	0.14%	
A3	0.16%	
Baa1	1.81%	
Baa2	2.70%	
Baa3	2.73%	12.52%

Rating	Modeled C-1	
	Thickness > 4%	Thickness ≤ 4%
Ba1	12.59%	22.39%
Ba2	20.93%	30.72%
Ba3	23.28%	33.08%
B1	26.04%	35.84%
B2	35.20%	44.99%
B3	47.32%	57.12%
Caa1	48.12%	57.92%
Caa2	55.20%	64.99%
Caa3	70.82%	80.61%

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- The Academy observes that most A/above CLOs do not experience losses until past the 99th percentile

- Baa CLOs, with thickness > 4%, have average C1 factors <1% (less than Baa bond factors) until the 99th percentile

- All below-IG ratings experience losses at the 90th percentile

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Dataset Summary

Rating	Count	Total Balance	Average Balance
Aaa	3,701	536,990,530,454	145,093,361
Aa1	297	12,977,362,056	43,694,822
Aa2	1,879	87,971,730,271	46,818,377
Aa3	68	1,892,554,504	27,831,684
A1	246	6,464,462,500	26,278,303
A2	1,642	43,609,160,095	26,558,563
A3	41	1,161,995,000	28,341,341
Baa1	168	3,962,136,650	23,584,147
Baa2	356	8,114,555,000	22,793,694
Baa3	1,980	43,986,588,439	22,215,449
Ba1	118	1,940,755,600	16,447,081
Ba2	79	1,412,324,566	17,877,526
Ba3	1,642	29,832,733,348	18,168,534
B1	154	3,261,262,126	21,177,027
B2	26	422,194,200	16,238,238
B3	330	1,729,679,579	5,241,453
Caa1	50	570,093,651	11,401,873
Caa2	51	479,412,947	9,400,254
Caa3	58	860,837,767	14,842,030
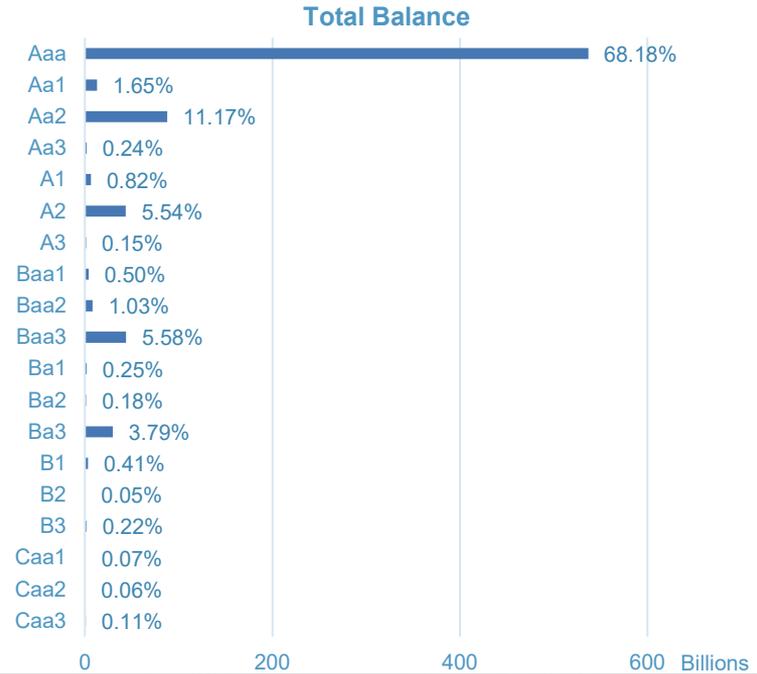
Total Balance

Rating	%
Aaa	68.18%
Aa1	1.65%
Aa2	11.17%
Aa3	0.24%
A1	0.82%
A2	5.54%
A3	0.15%
Baa1	0.50%
Baa2	1.03%
Baa3	5.58%
Ba1	0.25%
Ba2	0.18%
Ba3	3.79%
B1	0.41%
B2	0.05%
B3	0.22%
Caa1	0.07%
Caa2	0.06%
Caa3	0.11%

0   200   400   600 Billions

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Rating	CTE90	VAR_70	VAR_90	VAR_91	VAR_92	VAR_93	VAR_94	VAR_95	VAR_96	VAR_97	VAR_98	VAR_98.5	VAR_99	VAR_99.25	VAR_99.5	VAR_99.75	VAR_99.9	VAR_99.95	VAR_99.99
Aaa	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Aa1	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Aa2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Aa3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
A1	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	4.7%	0.6%	4.3%
A2	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.5%	6.2%	0.8%	9.2%
A3	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.8%	0.0%	0.6%	1.8%	1.5%	1.7%	2.1%
Baa1	1.6%	0.0%	0.3%	1.3%	0.0%	0.0%	0.1%	0.0%	0.6%	0.2%	0.9%	0.5%	3.6%	4.9%	1.4%	19.1%	34.3%	21.6%	42.9%
Baa2	3.0%	0.2%	1.2%	3.5%	0.3%	0.2%	0.4%	0.3%	2.2%	0.8%	3.6%	1.4%	7.1%	13.0%	2.7%	24.2%	46.2%	28.9%	50.8%
Baa3	5.9%	0.2%	3.8%	10.3%	0.1%	0.1%	1.3%	0.1%	7.3%	2.6%	7.5%	4.0%	15.7%	21.6%	6.0%	35.0%	50.9%	45.3%	63.0%
Ba1	20.7%	4.1%	18.1%	33.6%	1.0%	0.5%	14.8%	1.4%	28.9%	20.7%	29.6%	23.9%	47.6%	55.2%	34.2%	59.6%	63.7%	68.1%	70.4%
Ba2	27.4%	8.8%	28.4%	33.2%	3.3%	2.5%	24.9%	8.9%	40.0%	28.8%	42.8%	37.4%	52.0%	55.7%	50.7%	59.5%	59.1%	68.1%	66.0%
Ba3	28.9%	8.4%	33.0%	27.6%	6.3%	7.0%	26.0%	12.0%	33.5%	33.6%	43.1%	41.2%	56.6%	63.4%	56.1%	71.5%	70.5%	77.6%	78.2%
B1	17.3%	3.7%	11.3%	4.9%	10.8%	16.4%	12.3%	20.6%	8.9%	22.6%	20.1%	20.3%	28.0%	26.6%	44.9%	49.4%	45.4%	63.6%	61.0%
B2	30.8%	17.6%	28.5%	18.7%	20.8%	26.3%	30.2%	30.8%	23.4%	38.1%	35.8%	35.2%	44.7%	39.3%	52.7%	56.0%	54.3%	64.3%	66.7%
B3	56.4%	34.9%	61.2%	54.0%	31.5%	37.9%	61.8%	38.3%	64.3%	67.1%	70.8%	70.9%	79.0%	76.8%	77.3%	77.2%	72.3%	80.4%	80.6%
Caa1	57.6%	9.4%	43.8%	30.9%	58.6%	67.1%	58.2%	62.5%	45.7%	60.0%	64.1%	60.6%	74.2%	70.2%	75.9%	76.3%	62.8%	77.6%	78.3%
Caa2	66.5%	19.5%	50.0%	41.6%	68.8%	75.6%	67.4%	74.3%	56.3%	64.7%	74.1%	70.7%	80.0%	77.3%	80.2%	82.3%	65.8%	80.3%	81.6%
Caa3	77.3%	55.2%	67.6%	67.0%	81.9%	80.4%	78.3%	81.0%	73.7%	76.5%	78.1%	78.3%	82.3%	82.2%	83.7%	83.9%	74.9%	85.3%	86.1%

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of ACTUARIES

Value-at-Risk, by Rating and Percentile—Thickness > 4%

Rating	CTE90	VAR_70	VAR_90	VAR_91	VAR_92	VAR_93	VAR_94	VAR_95	VAR_96	VAR_97	VAR_98	VAR_98.5	VAR_99	VAR_99.25	VAR_99.5	VAR_99.75	VAR_99.9	VAR_99.95	VAR_99.99
Aaa	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Aa1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Aa2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Aa3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
A1	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	3.9%	0.3%	4.2%
A2	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.4%	5.8%	0.7%	8.9%
A3	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.8%	0.0%	0.6%	1.9%	1.5%	1.8%	1.8%
Baa1	1.3%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.5%	0.3%	2.5%	3.7%	1.3%	18.0%	33.5%	19.0%	40.8%
Baa2	2.7%	0.0%	1.0%	3.1%	0.0%	0.0%	0.1%	0.0%	1.9%	0.6%	3.5%	1.3%	6.6%	12.4%	2.5%	22.9%	45.3%	27.7%	49.7%
Baa3	2.3%	0.0%	0.6%	1.8%	0.0%	0.0%	0.2%	0.0%	1.8%	0.4%	1.7%	1.1%	5.5%	10.6%	2.6%	22.4%	42.2%	35.2%	56.6%
Ba1	3.4%	0.0%	2.6%	2.0%	0.0%	0.0%	2.9%	1.1%	2.6%	1.4%	6.0%	8.2%	4.7%	11.0%	7.4%	19.1%	20.6%	27.2%	29.4%
Ba2	8.8%	1.7%	9.2%	3.0%	3.0%	2.4%	5.3%	8.3%	7.5%	9.3%	13.8%	14.8%	15.0%	17.9%	27.8%	28.8%	28.1%	42.4%	39.3%
Ba3	19.9%	2.4%	22.0%	6.7%	6.4%	7.1%	16.9%	12.7%	15.5%	23.7%	27.6%	32.6%	38.3%	46.1%	51.3%	63.7%	62.0%	72.0%	73.0%
B1	13.7%	0.2%	6.7%	0.7%	8.6%	15.1%	8.6%	17.5%	3.9%	18.2%	15.0%	15.6%	23.5%	21.8%	41.2%	46.3%	42.1%	61.5%	58.7%
B2	12.7%	1.9%	4.9%	0.6%	9.1%	14.8%	8.1%	15.2%	2.6%	17.3%	14.7%	11.5%	25.1%	16.2%	37.0%	43.1%	43.2%	54.1%	58.3%
B3	31.1%	9.8%	18.3%	14.1%	34.9%	37.8%	29.3%	41.7%	22.4%	21.3%	36.0%	34.7%	45.0%	32.2%	51.0%	57.5%	50.1%	56.5%	60.7%
Caa1	35.5%	8.6%	21.5%	22.6%	39.0%	43.2%	30.7%	37.7%	25.4%	35.2%	36.4%	35.5%	48.7%	47.9%	57.3%	57.7%	43.0%	63.0%	64.2%
Caa2	39.1%	22.0%	24.3%	34.8%	44.0%	50.4%	29.4%	44.8%	32.4%	32.9%	41.9%	33.8%	44.1%	42.8%	44.6%	56.6%	39.6%	49.5%	57.1%
Caa3	74.6%	58.6%	64.9%	67.9%	77.6%	76.4%	76.4%	77.7%	73.5%	73.0%	75.3%	74.5%	76.8%	76.5%	79.9%	80.0%	73.4%	81.7%	83.3%

C1SC Update on CLO C-1 Factors Modeling
March 23, 2026

American Academy of Actuaries

Value-at-Risk, by Rating and Percentile—Thickness ≤ 4%

Rating	CTE90	VAR_70	VAR_90	VAR_91	VAR_92	VAR_93	VAR_94	VAR_95	VAR_96	VAR_97	VAR_98	VAR_98.5	VAR_99	VAR_99.25	VAR_99.5	VAR_99.75	VAR_99.9	VAR_99.95	VAR_99.99
Aaa	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Aa1	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%
Aa2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
A1	5.1%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	15.8%	5.0%	5.2%
A2	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	31.3%	1.8%	27.0%
A3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.8%
Baa1	4.6%	0.0%	3.2%	7.2%	0.1%	0.0%	1.1%	0.0%	3.8%	2.4%	4.6%	2.2%	14.0%	16.1%	2.9%	30.1%	41.6%	46.3%	62.8%
Baa2	10.5%	6.1%	6.3%	14.5%	6.1%	6.1%	6.1%	6.1%	11.2%	6.1%	6.1%	6.1%	19.1%	28.0%	7.3%	54.7%	68.5%	58.0%	78.8%
Baa3	16.3%	0.7%	13.1%	34.6%	0.2%	0.2%	4.5%	0.3%	23.3%	8.9%	24.1%	12.4%	45.0%	53.0%	15.7%	71.1%	75.9%	74.4%	81.4%
Ba1	26.1%	5.4%	23.0%	43.4%	1.3%	0.6%	18.4%	1.5%	37.1%	26.7%	37.0%	28.8%	60.9%	68.9%	42.5%	72.2%	77.1%	80.8%	83.2%
Ba2	38.1%	12.9%	39.6%	50.8%	3.4%	2.5%	36.3%	9.2%	58.9%	40.1%	59.6%	50.6%	73.4%	77.7%	64.0%	77.3%	77.0%	83.1%	81.5%
Ba3	35.6%	12.9%	41.1%	43.1%	6.1%	6.9%	32.7%	11.4%	46.8%	40.9%	54.5%	47.5%	70.2%	76.2%	59.7%	77.3%	76.8%	81.7%	81.9%
B1	54.0%	38.5%	57.6%	47.0%	33.3%	29.6%	49.1%	52.2%	59.7%	66.7%	71.1%	67.3%	73.3%	74.2%	81.5%	80.8%	77.6%	83.8%	83.5%
B2	65.0%	47.2%	73.2%	52.8%	42.8%	48.0%	72.1%	60.3%	62.6%	77.4%	75.8%	80.0%	81.9%	83.0%	82.2%	80.6%	75.5%	83.5%	82.8%
B3	57.3%	35.8%	62.8%	55.5%	31.4%	37.9%	63.0%	38.1%	65.9%	68.8%	72.1%	72.3%	80.3%	78.5%	78.3%	77.9%	73.1%	81.3%	81.4%
Caa1	67.1%	9.7%	53.4%	34.4%	67.0%	77.4%	70.0%	73.2%	54.4%	70.6%	76.0%	71.4%	85.1%	79.7%	83.9%	84.3%	71.3%	83.9%	84.3%
Caa2	70.2%	19.2%	53.4%	42.5%	72.2%	78.9%	72.5%	78.3%	59.5%	69.0%	78.4%	75.6%	84.8%	81.9%	85.0%	85.8%	69.2%	84.4%	84.8%
Caa3	81.5%	50.1%	71.6%	65.7%	88.3%	86.4%	81.2%	86.0%	74.1%	81.8%	82.4%	84.0%	90.5%	91.1%	89.5%	89.9%	77.2%	90.6%	90.3%
Caa3	77.3%	55.2%	67.6%	67.0%	81.9%	80.4%	78.3%	81.0%	73.7%	76.5%	78.1%	78.3%	82.3%	82.2%	83.7%	83.9%	74.9%	85.3%	86.1%

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