Investment Bonds and Securities Loss Rates for Credit Risk Under CECL

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Introduction

The intention of this document is to provide clarity on how ARCSys determines monthly loss rates for investment portfolios when estimating a reasonable expectation of credit losses. ARCSys' models utilize monthly loss rates in the Discounted Cash Flow (DCF) calculations. These rates are derived from long-term loss rates from the ARCSys data set or external default and recovery rates by asset type.

For Corporate Bonds and Municipals, ARCSys determines monthly loss rates for each investment segment by obtaining historical annual default rates and recovery rates from third-party reports, such as S&P and Moody's. Loss rates are derived by deriving estimated loss rates by multiplying the long-term default rates times (1 minus the recovery rate) or the non-recovery rate.

ARCSys applies the monthly loss rates by the following rate tiers:

- **A Tier:** includes AAA, AA and A rated securities.
- **B Tier:** includes BBB, BB, and B rated securities
- **C Tier:** includes all C rated securities
- **Non-Rated:** includes all securities that do not have a risk rating.

Clients have the option of using a range of rates for certain pools based on the loss data derived. The schedule below displays the risk rating scale by each of the main credit rating agencies. Clients can break the pools down by individual risk rating as well. ARCSys utilizes the following ratings scale for investment pooling assessment.

<table>
<tr><th colspan="2">Moody's</th><th colspan="2">S&P</th><th colspan="2">Fitch</th><th>Equivalent to SVO Designations</th><th colspan="2" rowspan="2">Rating Descriptions</th></tr>
<tr><th>Long-term</th><th>Short-term</th><th>Long-term</th><th>Short-term</th><th>Long-term</th><th>Short-term</th><th>NAIC</th></tr>
<tr><td>Aaa</td><td rowspan="6">P-1</td><td>AAA</td><td rowspan="4">A-1+</td><td>AAA</td><td rowspan="4">F1+</td><td rowspan="7">1</td><td>Prime</td><td rowspan="10">Investment-grade</td></tr>
<tr><td>Aa1</td><td>AA+</td><td>AA+</td><td rowspan="3">High grade</td></tr>
<tr><td>Aa2</td><td>AA</td><td>AA</td></tr>
<tr><td>Aa3</td><td>AA-</td><td>AA-</td></tr>
<tr><td>A1</td><td>A+</td><td rowspan="2">A-1</td><td>A+</td><td rowspan="2">F1</td><td rowspan="3">Upper medium grade</td></tr>
<tr><td>A2</td><td>A</td><td>A</td></tr>
<tr><td>A3</td><td rowspan="2">P-2</td><td>A-</td><td rowspan="2">A-2</td><td>A-</td><td rowspan="2">F2</td></tr>
<tr><td>Baa1</td><td>BBB+</td><td>BBB+</td><td rowspan="3">2</td><td rowspan="3">Lower medium grade</td></tr>
<tr><td>Baa2</td><td rowspan="2">P-3</td><td>BBB</td><td rowspan="2">A-3</td><td>BBB</td><td rowspan="2">F3</td></tr>
<tr><td>Baa3</td><td>BBB-</td><td>BBB-</td></tr>
<tr><td>Ba1</td><td rowspan="14">Not Prime</td><td>BB+</td><td rowspan="6">B</td><td>BB+</td><td rowspan="6">B</td><td rowspan="3">3</td><td rowspan="3">Non-investment grade speculative</td><td rowspan="14">Non-investment grade AKA high-yield bonds AKA junk bonds</td></tr>
<tr><td>Ba2</td><td>BB</td><td>BB</td></tr>
<tr><td>Ba3</td><td>BB-</td><td>BB-</td></tr>
<tr><td>B1</td><td>B+</td><td>B+</td><td rowspan="3">4</td><td rowspan="3">Highly speculative</td></tr>
<tr><td>B2</td><td>B</td><td>B</td></tr>
<tr><td>B3</td><td>B-</td><td>B-</td></tr>
<tr><td>Caa1</td><td>CCC+</td><td rowspan="5">C</td><td rowspan="5">CCC</td><td rowspan="5">C</td><td rowspan="3">5</td><td>Substantial risks</td></tr>
<tr><td>Caa2</td><td>CCC</td><td>Extremely speculative</td></tr>
<tr><td>Caa3</td><td>CCC-</td><td rowspan="3">Default imminent with little prospect for recovery</td></tr>
<tr><td rowspan="2">Ca</td><td>CC</td><td rowspan="5">6</td></tr>
<tr><td>C</td></tr>
<tr><td>C</td><td rowspan="3">D</td><td rowspan="3">/</td><td>DDD</td><td rowspan="3">/</td><td rowspan="3">In default</td></tr>
<tr><td rowspan="2">/</td><td>DD</td></tr>
<tr><td>D</td></tr>
</table>

Corporate Bonds

ARCSys utilized the historical 2022 U.S. Corporate default rates supplied by S&P. The following chart displays the default rate for corporate bonds from 1981 to 2022, by risk rating. ARCSys utilized the long-term global default rates to derive loss rates for a Discounted Cash Flow model. The chart below delineates the historical data:

Year	One-year U.S. corporate default rates by rating modifier (%)																
	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC/C
1981	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.28	0	0
1982	0	0	0	0	0	0.34	0	0	0.71	0	0	2.86	7.14	2.22	2.33	8.33	21.43
1983	0	0	0	0	0	0	0	0	0	1.39	2.27	0	1.64	1.25	10	5.26	6.67
1984	0	0	0	0	0	0	0	0	1.46	0	0	1.72	1.56	2.17	3.57	8.33	25
1985	0	0	0	0	0	0	0	0	0	0	1.72	1.56	1.43	2.65	13.11	8.33	15.38
1986	0	0	0	0	0	0	0.78	0	0.79	0	1.85	1.23	1.18	4.79	12.16	17.5	23.08
1987	0	0	0	0	0	0	0	0	0	0	0	0	0.85	1.35	6.02	6.98	12.28
1988	0	0	0	0	0	0	0	0	0	0	0	0	2.34	2.05	4.55	10	20.37
1989	0	0	0	0	0	0	0	0.91	0.83	0	0	0	2.04	0.44	7.86	5	31.37
1990	0	0	0	0	0	0	0	0.77	0	1.11	1.45	3.06	4.5	4.95	12.38	22.58	31.82
1991	0	0	0	0	0	0	0	0.84	0.77	0	3.85	1.12	1.05	8.72	16.88	31.43	32.76
1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0.73	15.87	21.74	31.37
1993	0	0	0	0	0	0	0	0	0	0	0	1.98	0	1.31	4.26	4.55	14.29
1994	0	0	0	0	0	0	0	0	0	0	0	0.9	0	1.87	6.94	3.33	17.39
1995	0	0	0	0	0	0	0	0	0	0.74	0	1.69	1.25	2.9	7.29	7.89	30.43
1996	0	0	0	0	0	0	0	0	0	0	0	0	0.63	2.51	3.88	4.17	8.7
1997	0	0	0	0	0	0	0	0.48	0	0	0	0	0.47	0.8	5.74	15.91	8.33
1998	0	0	0	0	0	0	0	0	0.36	0	0	0.71	0.46	1.67	6.72	8.2	42.86
1999	0	0	0	0.65	0	0.38	0.43	0	0.38	0.46	0.85	1.31	0.81	4.04	9.09	15.38	37.5
2000	0	0	0	0	0	0.38	0.93	0	0.38	0.92	0	1.26	2.92	6.61	10.31	14.67	42.19
2001	0	0	0	0	0.93	0	0	0.4	0.72	0.45	0.81	1.32	4.24	4.88	18.03	27.55	50.62
2002	0	0	0	0	0	0	0	1.2	1.03	1.75	1.75	1.17	4.06	2.3	6.96	19.28	34.62
2003	0	0	0	0	0	0	0	0	0	0	0.91	1.63	0.4	1.03	5.41	13.89	36.11
2004	0	0	0	0	0	0.44	0	0	0	0	0	1.18	0.4	0	3.45	3.8	20.48
2005	0	0	0	0	0	0	0	0	0.31	0	0.8	0	0.4	1.09	3.35	4.85	11.11
2006	0	0	0	0	0	0	0	0	0	0	0.86	0	0.41	0.52	0.74	0.93	16.22
2007	0	0	0	0	0	0	0	0	0	0	0	0.53	0.39	0	0	0.69	16.9
2008	0	0	1.16	0.99	0.82	0.48	1.02	0.46	0.78	0.95	2.59	0.62	0.8	3.19	3.25	8.02	31.43
2009	0	0	0	0	0	0.49	0	0.5	0.38	0.88	0	1.41	0.92	5.4	10.33	20.81	50.35
2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.03	3.3	23.23
2011	0	0	0	0	0	0	0	0	0	0.41	0	0	0	0.7	0.77	6.06	17.05
2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0.33	1.42	1.9	30.85
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0.62	0.61	2.23	29.41
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.87	26.25
2015	0	0	0	0	0	0	0	0	0	0	0	0	0.43	0.7	1.95	5.88	30.99
2016	0	0	0	0	0	0	0	0	0	0	0	0	1.43	1.09	2.34	10.37	41.96
2017	0	0	0	0	0	0	0	0	0	0	0	0.62	0	0.42	0.52	3.4	27.89
2018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.36	1.37	29.37
2019	0	0	0	0	0	0	0	0	0	0.97	0	0	0	0.39	0.68	3.13	32.09
2020	0	0	0	0	0	0	0	0	0	0	0.68	0	2.96	2.13	1.93	6.57	48.7
2021	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	0.47	0.21	8.76
2022	0	0	0	0	0	0	0	0	0	0	0	0	0.51	0.41	0.21	1.38	12.79
Average	0	0	0.03	0.04	0.04	0.06	0.08	0.13	0.21	0.24	0.49	0.66	1.13	1.88	5.38	8.76	25.72
Median	0	0	0	0	0	0	0	0	0	0	0	0	0.49	1.17	3.73	6.31	27.07
Standard deviation	0	0	0.18	0.18	0.19	0.15	0.25	0.3	0.37	0.45	0.89	0.84	1.54	1.99	4.95	7.78	12.44
Minimum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	0	0	1.16	0.99	0.93	0.49	1.02	1.2	1.46	1.75	3.85	3.06	7.14	8.72	18.03	31.43	50.62
	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC/C

ARCSys compared the Global Corporate default rates to the U.S. Corporate default rates to determine if any adjustments should be made for Global Corporate bonds.

Comparison US Versus Global Corporate Default Rates:

Global Corporte averages	AAA	AA	A	BBB	BB	B	CCC/C
	0.00	0.01	0.05	0.19	0.82	4.02	24.32
Average of US Corporates							
	0.00	0.023	0.06	0.19	0.76	5.34	25.72
Variance	0.00	-0.01	-0.01	-0.01	0.06	-1.32	-1.40

ARCSys™

ARCSys has concluded that based on the information in the S&P Global Ratings article "Default, *Transition, and Recovery: 2022 Annual U.S. Corporate Default And Rating Transition Study,"* global corporate bond default rates are similar to the U.S. corporate bond default rates except for BB and lower risk ratings. Clients with global bonds can determine if they would like to adjust rates accordingly.

ARCSys calculated the loss rates by each main rating class to determine the average long-term loss rate. ARCSys utilized the U.S. corporate bond recovery rate from S&P in making this determination.

Calculation of Loss Rates By Rate Group (%)

Rating	AAA	AA	A	BBB	BB	B	CCC/C
Long-term Average Default	0.00	0.02	0.06	0.19	0.76	5.34	25.72
Long-termMonthly default rate	0.00776	0.00194	0.00500	0.01611	0.06333	0.44500	2.14333
Non- Recovery Rate	54%	54%	54%	54%	54%	54%	54%
Long-term Monthly Loss rate	***0.00000***	***0.00105***	***0.00270***	***0.00870***	***0.03420***	***0.24030***	***1.15740***

ARCSys also calculated the loss rates by each sub-rating class to determine the average long-term loss rate. ARCSys utilized the corporate bond recovery rate from S&P in making this determination.

Loss Rate by Individual Risk Rating (%)

Rating	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC/C
Long-term Average Default	0.000	0.000	0.030	0.040	0.040	0.060	0.080	0.130	0.210	0.240	0.490	0.660	1.130	1.880	5.380	8.760	25.720
Long-term Monthly default rate	0.00000	0.00000	0.00250	0.00333	0.00333	0.00500	0.00667	0.01083	0.01750	0.02000	0.04083	0.05500	0.09417	0.15667	0.44833	0.73000	2.14333
Non- Recovery Rate	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
Long-term Monthly Loss rate	***0***	***0***	***0.00135***	***0.0018***	***0.0018***	***0.0027***	***0.0036***	***0.00585***	***0.00945***	***0.0108***	***0.02205***	***0.0297***	***0.05085***	***0.0846***	***0.2421***	***0.3942***	***1.1574***

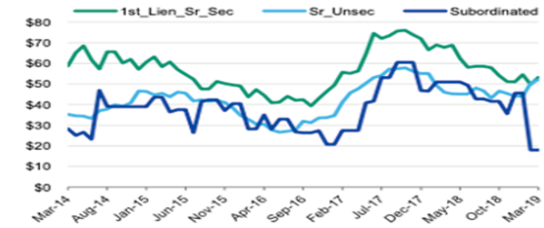
ARCSys generally pools segments by risk rating A, B, C and non-rated. Clients have the option to utilize either these segments or subclass into lower rating pools.

Corporate Bonds Recovery Rates:

Part IV: Recovery data

Exhibit 35

Trailing 12-month global defaulted bond recovery rates (per $100 par)*



Source: Moody's Investors Service

Exhibit 36

Trailing 12-month global defaulted bond recovery rates summary*

	1st Lien Sr. Secured	Sr. Unsecured	Subordinated
Last 12 Month	$53.2	$52.1	$18.0
Count	23	84	1
5-yr Average	$57.0	$42.5	$38.2
5-yr Stdev	$10.0	$8.3	$10.6

*Measured by debt prices which are taken immediately before distressed exchanges or 30 days after non-distressed exchange defaults.
Source: Moody's Investors Service

	1st Lien Sr. Secured	Sr. Unsecured	Subordinated
5-yr Average	100-57=43	100-42.5=57.5	100-38.2=61.8
	43% non-recovery rate	57.5% non-recovery rate	61.8% non-recovery rate

Avg. non-recovery rate	54.10%

Agency Bonds

Agency bonds are issued by either agencies of the U.S. government or government-sponsored enterprises (GSEs), which are federally chartered corporations, but publicly owned by stockholders. Bonds that are publicly owned by shareholders are deemed to be similar to corporate bonds and are treated as such by FINRA.

FINRA Defined Agency Securities:

"Agency securities are bonds issued by U.S. federal government agencies (other than the U.S. Treasury) or by GSEs. Most agency bonds pay a semiannual fixed coupon and are sold in a variety of increments, generally requiring a minimum initial investment of $10,000. With the exception of bonds issued by Ginnie Mae, agency securities are not fully guaranteed by the U.S. government. The issuing agency will affect the strength of any guarantee provided on the agency bond. Evaluating an agency's credit rating before you invest should be standard procedure."

ARCSys' Conclusion on Agency Bonds is as Follows:

All agency bonds carry the credit risk that the issuer will default or will be unable to make timely payments of interest and principal. GSE debt is solely the obligation of the issuer and carries greater credit risk than U.S. Treasury securities. Therefore, ARCSys treats agency securities the same as corporate bond debt. Please see the corporate bond discussion for loss rates.

Municipal Bonds

ARCSys calculated the loss rates in a manner similar to the corporate bond debt. The chart below from Moody's displays the cumulative 10-year horizon long-term default rate from 1970 to 2021, and current 2012 to 2021. This cumulative default rate was averaged and was utilized to calculate the loss rate including recovery rates in the charts below. ARCSys also compared the long-term default rate to the current default rate from 2012 to 2021.

Long-Term Horizon:

Municipal Bond Long-term Cumulative Default Rate (%) w/10 Year Horizon (1970-2021)												
Rating	Average Cohort Count	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Long-term Average Default Rate
AAA	996	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	6954	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01
A	4856	0.00	0.01	0.02	0.02	0.03	0.04	0.06	0.07	0.09	0.10	0.04
Baa	685	0.03	0.11	0.21	0.34	0.46	0.59	0.72	0.84	0.96	1.06	0.53
Ba	113	0.23	0.64	1.04	1.49	1.88	2.16	2.50	2.84	3.13	3.40	1.93
B	23	2.67	5.27	7.76	9.71	11.67	13.08	14.05	14.76	15.57	16.70	11.12
Caa-C	11	8.38	13.14	16.20	17.89	19.04	20.25	21.15	22.15	23.11	23.71	18.50
Investment Grade	13492	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.05
Speculative Grade	148	1.22	2.29	3.21	3.98	4.67	5.20	5.67	6.11	6.52	6.94	4.58
All Rated	13640	0.02	0.03	0.05	0.07	0.08	0.10	0.11	0.13	0.14	0.15	0.09
Chart sourced from Moody's Investor Service Data Report, "*US municipal bond defaults and recoveries 1970-2021*", April 21, 2022												

Current Horizon:

Municipal Bond Current Cumulative Default Rate (%) w/10 Year Horizon (2012-2021)												
Rating	Average Cohort Count	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Long-term Average Default Rate
AAA	864	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	7382	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
A	5144	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Baa	861	0.04	0.07	0.16	0.38	0.59	0.70	0.70	0.70	0.70	0.70	0.47
Ba	167	0.05	0.34	0.77	1.09	1.09	1.09	1.09	1.09	1.09	1.09	0.88
B	32	1.68	3.52	5.24	5.24	5.24	5.24	5.24	5.24	5.24	5.24	4.71
Caa-C	21	11.06	19.97	25.98	28.92	31.05	31.76	31.76	31.76	31.76	31.76	27.58
Investment Grade	14250	0.00	0.01	0.01	0.03	0.04	0.05	0.05	0.05	0.05	0.05	0.03
Speculative Grade	221	1.31	2.59	3.68	4.17	4.34	4.39	4.39	4.39	4.39	4.39	3.80
All Rated	14471	0.02	0.04	0.06	0.08	0.10	0.11	0.11	0.11	0.11	0.11	0.09

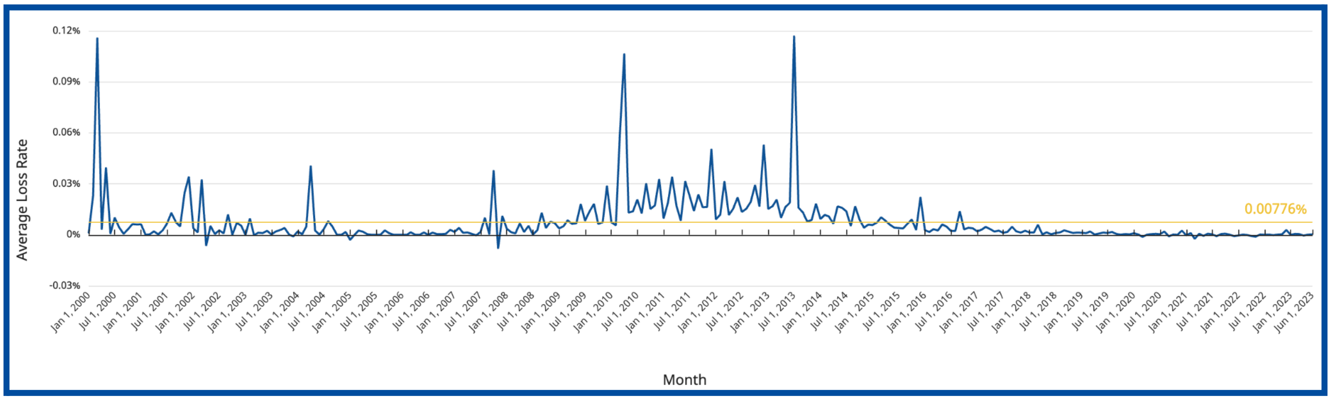
ARCSys also compared the long-term default rate to the current default and calculated the loss rates for each scenario.

Comparisson of Long-term vs. Current Time Horizon											
Rating	Long-term Cumulative Default Rate (%) w/10 Year Horizon (1970-2021)	Long-term Annualized Default Rate	Monthly Loss Rate Percentage	Non-Recovery Rate*	Long-term Cumulative Monthly Loss Rate (%) w/10 Year Horizon (1970-2021)	Current Cumulative Default Rate (%) w/10 Year Horizon (2012-2021)	Long-term Annualized Default Rate	Monthly %	Non-Recovery Rate*	Current Cumulative Monthly Loss Rate (%) w/10 Year Horizon (2012-2021)	Variance
AAA	0.00	0.00	0.00	42%	0.00000	0.00	0.00	0.00	42%	0.00000	0.00000
AA	0.02	0.00	0.00	42%	0.00007	0.01	0.00	0.00	42%	0.00002	0.00005
A	0.10	0.01	0.00	42%	0.00035	0.02	0.00	0.00	42%	0.00005	0.00030
Baa	1.06	0.11	0.01	42%	0.00371	0.47	0.05	0.00	42%	0.00166	0.00205
Ba	3.40	0.34	0.03	42%	0.01190	0.88	0.09	0.01	42%	0.00308	0.00882
B	16.70	1.67	0.14	42%	0.05845	4.71	0.47	0.04	42%	0.01649	0.04196
Caa-C	23.71	2.37	0.20	42%	0.08299	27.58	2.76	0.23	42%	0.09652	-0.01354

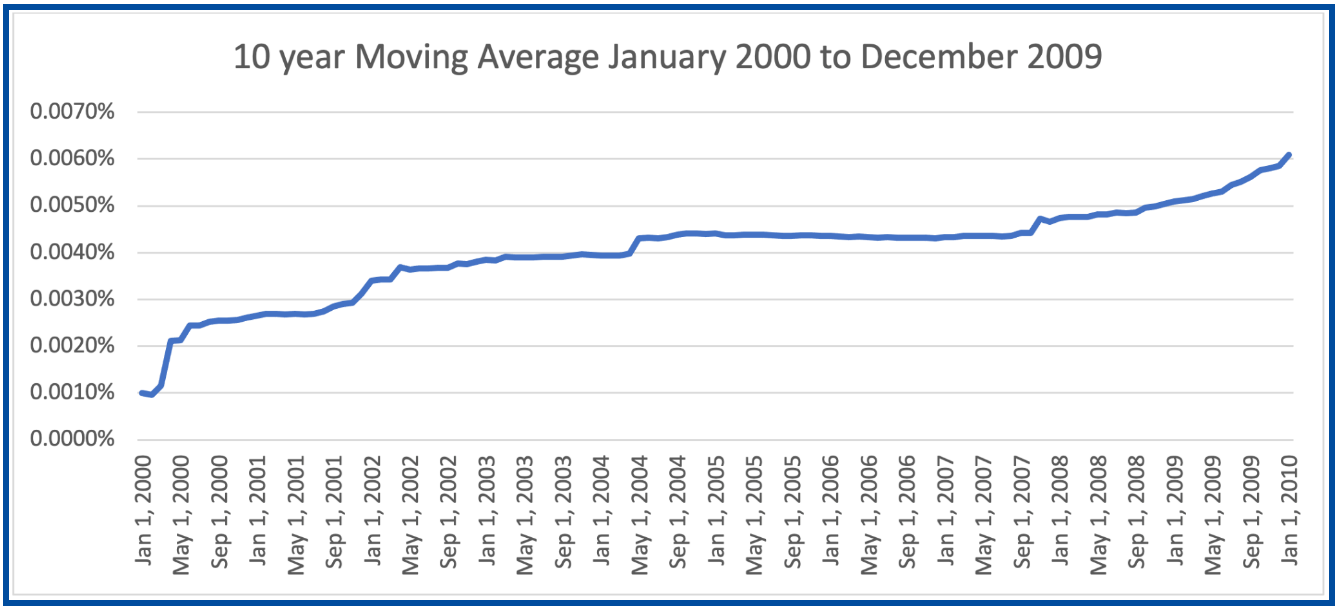
*Source for non-recovery rate is Moodys Investors Service - Exhibit 21 *Recovery rate* s for defaulted municipal issuers, 1970-2020

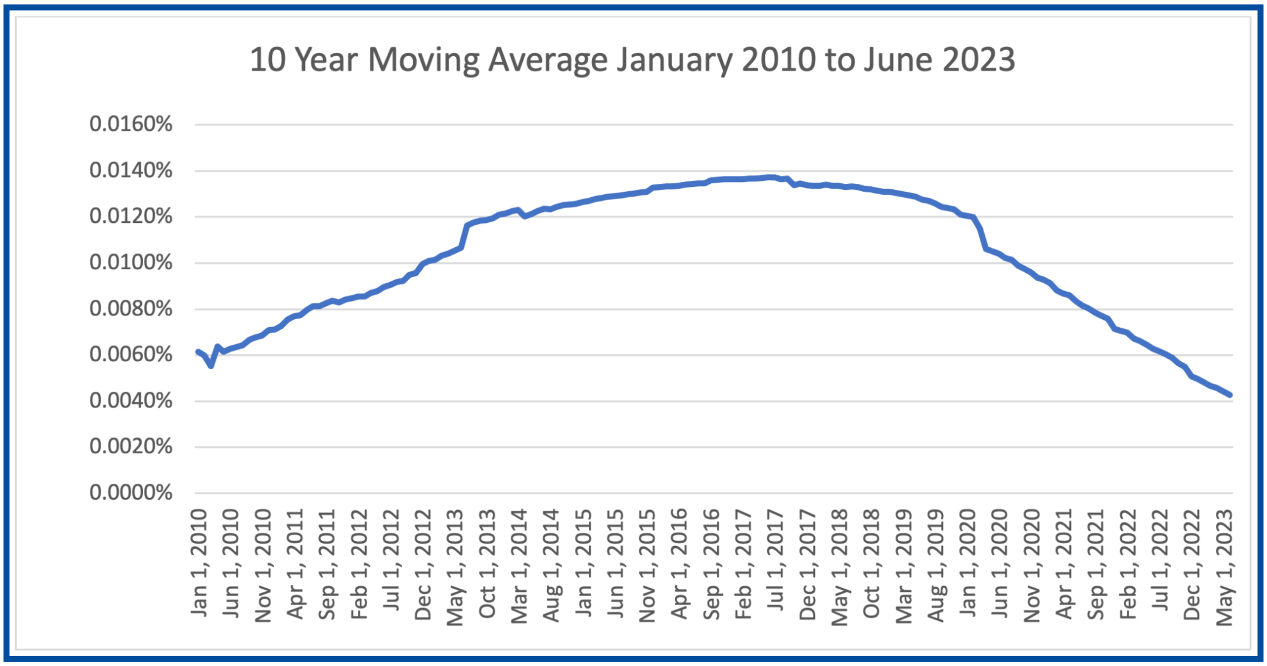
Private Mortgage-Backed Securities

First Mortgage Monthly Loss Rates - ARCSys Data Warehouse:



The charts below display the 10-year moving average loss rates for mortgage-backed assets from 2000 to 2009, and 2010 to 2023.

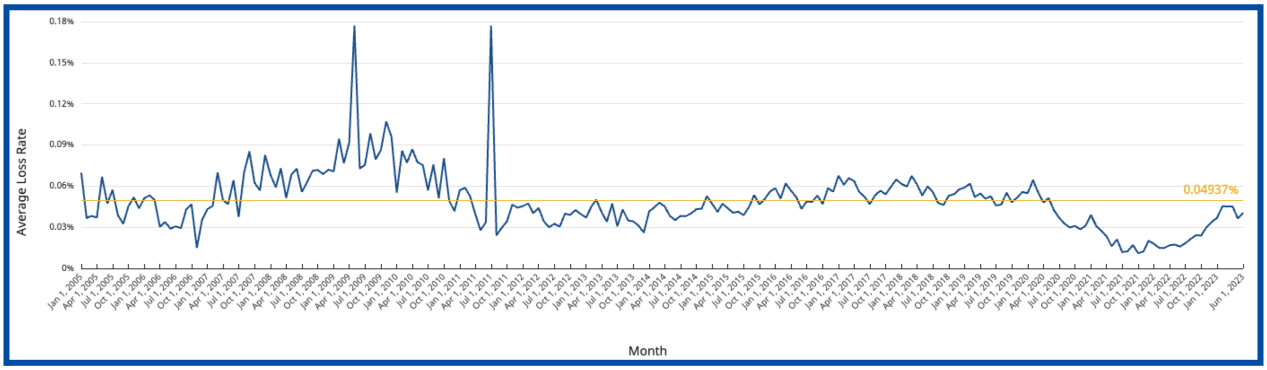




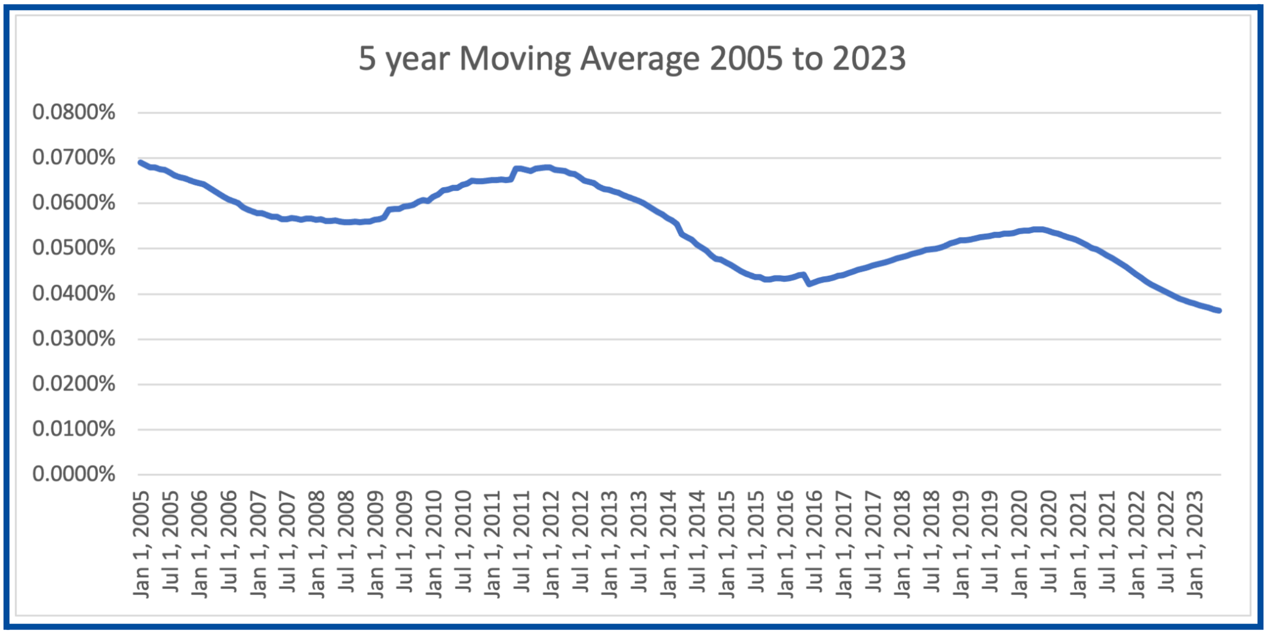
Private Asset-Backed Securities

These securities are generally consumer in nature and include secured auto and other collateral. ARCSys utilizes the ARCSys Data Warehouse to create a loss rate for these loan pools based on historical consumer loss rates.

Secured Monthly Loss Rates:



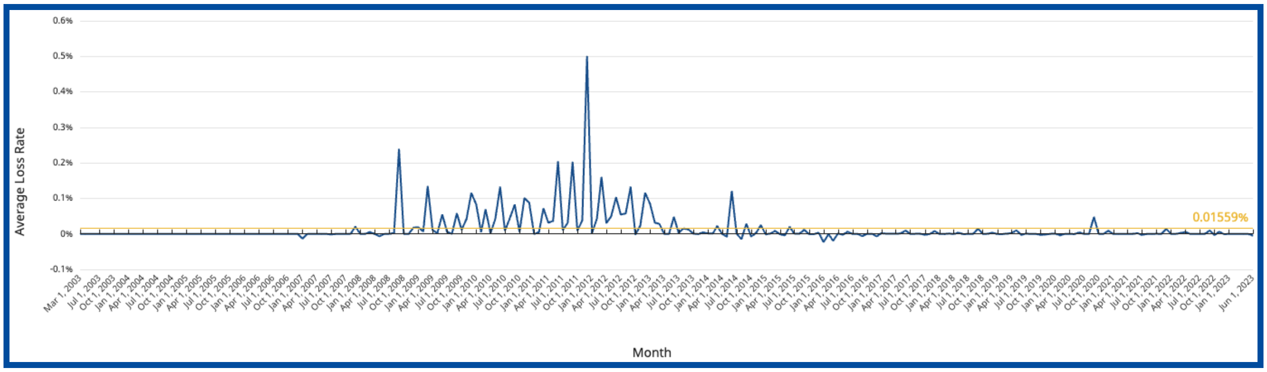
ARCSys utilizes a 5 year moving average based on a 60 month loan term for these types of assets.



Private Commercial Mortgage-Backed Securities

These securities are commercial real estate in nature and include secured owner occupied and non-owner occupied assets and other collateral. ARCSys utilizes the ARCSys Data Warehouse to create a loss rate for these loan pools based on historical commercial real estate loss rates.

CRE Monthly Loss Rates:



Comparison of ARCSys Applied Loss Rates to Historical data

The analysis below displays ARCSys' custom loss rates that are generally recommended in the CECL model. Clients, however, can utilize higher or lower rates for the pools. Clients should review the loss rates to determine if they are in agreement with the loss rates applied.

Debt Security Pools	ARCSys Custom Monthly Reversion/Forecast Rates	ARCSys Custorm Rate Annualized	Loss Range Minimum Annualized Rate	Loss Range Maximum Annualized Rate	Loss Rate Average Annualized	Loss Rate Average Monthly	Comments
Private MBS Asset Backed Securities in a Loss Position > Risk Rating A	0.00200%	0.02400%	0.0000562%	0.11709%	0.058572%	0.0049%	MBS Securities Loss Rates as a whole.
Private MBS Asset Backed Securities in a Loss Position > Risk Rating B	0.10000%	1.20000%	0.0000562%	0.11709%	0.058572%	0.0049%	MBS Securities Loss Rates as a whole.
Private MBS Asset Backed Securities in a Loss Position > Risk Rating C	0.15000%	1.80000%	0.0000562%	0.11709%	0.058572%	0.0049%	MBS Securities Loss Rates as a whole.
Private MBS Asset Backed Securities in a Loss Position > Risk Rating Non-Rated	Treated like C Rated Securities		0.0000562%	0.11709%	0.058572%	0.0049%	MBS Securities Loss Rates as a whole.
US Corporate Securities in Loss Position > Risk Rating A (includes GSE Agency Bonds)	0.00250%	0.03000%	0.0000000%	0.00270%	0.001350%	0.0001%	Accessed By Risk Rating
US Corporate Securities in Loss Position > Risk Rating B (includes GSE Agency Bonds)	0.05000%	0.60000%	0.0087000%	0.24030%	0.124500%	0.0104%	Accessed By Risk Rating
US Corporate Securities in Loss Position > Risk Rating C (includes GSE Agency Bonds)	0.10000%	1.20000%		1.15740%	1.157400%	0.0965%	Accessed By Risk Rating
US Corporate Securities in Loss Position > Risk Rating Non-Rated	Treated like C Rated Securities						Accessed By Risk Rating
Global Corporate Securities in Loss Position > Global Corporate Securities - Risk Rating A	0.00250%	0.03000%	0.0000000%	0.00270%	0.001350%	0.0001%	Accessed By Risk Rating
Global Corporate Securities in Loss Position > Global Corporate Securities - Risk Rating B	0.05000%	0.60000%	0.0087000%	0.24030%	0.124500%	0.0104%	Accessed By Risk Rating
Global Corporate Securities in Loss Position > Global Corporate Securities - Risk Rating C	0.20000%	2.40000%		1.15740%	1.157400%	0.0965%	Accessed By Risk Rating
Global Corporate Securities in Loss Position > Global Corporate Securities - Risk Rating Non-Rated	Treated like C Rated Securities						Accessed By Risk Rating
Municipal Bonds in Loss Position > Municipal Bonds - Risk Rating A	0.00010%	0.00120%	0.0000000%	0.00035%	0.000175%	0.00001%	Accessed By Risk Rating
Municipal Bonds in Loss Position > Municipal Bonds - Risk Rating B	0.00100%	0.01200%	0.0037%	0.05845%	0.031080%	0.0026%	Accessed By Risk Rating
Municipal Bonds in Loss Position > Municipal Bonds - Risk Rating C	0.01000%	0.12000%		0.08299%	0.041495%	0.0035%	Accessed By Risk Rating
Municipal Bonds in Loss Position > Municipal Bonds - Risk Rating Non-Rated	Treated like C Rated Securities						Accessed By Risk Rating
CMBS Asset Backed Securities in a Loss Position > All Ratings	0.01500%	0.18000%	0.0001598%	0.50057%	0.250363%	0.0209%	CMBS Securities Loss Rates as a whole.
ABS Asset Backed Securities in a Loss Position > All Ratings	0.00800%	0.09600%	0.0111%	0.1771%	0.094086%	0.007840%	ABS Securities Loss Rates as a whole.