

Moody's Investors Service ("MIS")

Exhibit 1

Credit Ratings Performance Measurement Statistics

Performance Measurement Statistics, consisting of transition and default rates for each applicable asset class and subclass of credit rating over 1-year, 3-year, and 10-year time periods through December 31, 2021, are provided in the Transition/Default Matrices on the following pages, pp. 1-25 (the "Matrices").¹ Please note that all the numbers in the Matrices are in percentage.

Financial Institutions, Brokers and Dealers

Financial Institutions, Brokers and Dealers - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	40	98%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%
Aa1	28	0%	89%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%
Aa2	66	0%	0%	95%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	184	0%	0%	4%	88%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A1	257	0%	0%	0%	2%	93%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%
A2	158	0%	0%	0%	0%	11%	85%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
A3	222	0%	0%	0%	0%	1%	12%	80%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%
Baa1	200	0%	0%	0%	0%	1%	1%	9%	84%	1%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%
Baa2	128	0%	0%	0%	2%	0%	2%	0%	13%	71%	5%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	3%
Baa3	136	0%	0%	0%	0%	0%	0%	0%	1%	11%	84%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Ba1	68	0%	0%	0%	0%	0%	0%	0%	0%	4%	6%	75%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%
Ba2	76	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%	78%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	12%
Ba3	63	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	8%	83%	3%	2%	0%	0%	0%	0%	0%	0%	0%	0%	2%
B1	48	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	15%	79%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%
B2	90	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	10%	80%	1%	4%	0%	0%	0%	0%	0%	0%	3%
B3	56	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	5%	80%	5%	0%	0%	0%	0%	2%	0%	5%
Caa1	17	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	29%	47%	0%	0%	0%	0%	0%	6%	12%
Caa2	16	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%	63%	6%	0%	0%	13%	6%	0%
Caa3	7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	86%	0%	0%	0%	0%	14%	0%
Ca	-																								
C	-																								
Total	1,860																								

¹ Ratings withdrawn for reasons other than having defaulted or been paid off are accounted for in the column titled "Withdrawn (other)."

Financial Institutions, Brokers and Dealers - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																						Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)	
Aaa	38	92%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	3%	
Aa1	28	0%	79%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	4%	
Aa2	68	0%	0%	81%	9%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	3%	
Aa3	135	0%	0%	8%	70%	16%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	1%	
A1	292	0%	0%	0%	21%	70%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	2%	
A2	177	0%	0%	0%	0%	14%	62%	11%	0%	1%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	5%	
A3	192	0%	0%	0%	0%	2%	16%	67%	10%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	4%	
Baa1	168	0%	0%	0%	0%	1%	4%	16%	64%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	7%	
Baa2	135	0%	0%	0%	2%	0%	5%	3%	21%	48%	13%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	4%	
Baa3	130	0%	0%	0%	0%	0%	0%	1%	9%	13%	46%	6%	6%	4%	0%	0%	0%	0%	0%	0%	0%	0%	1%	5%	9%	
Ba1	49	0%	0%	0%	0%	0%	0%	0%	0%	10%	14%	39%	2%	12%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	20%	
Ba2	64	0%	0%	0%	0%	0%	0%	0%	0%	2%	8%	20%	47%	3%	0%	0%	0%	2%	0%	0%	0%	0%	0%	8%	11%	
Ba3	90	0%	0%	0%	0%	0%	0%	0%	1%	1%	3%	9%	16%	30%	7%	3%	0%	0%	0%	1%	0%	0%	0%	3%	26%	
B1	57	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	14%	21%	16%	2%	0%	0%	0%	0%	0%	4%	7%	30%	
B2	99	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	3%	5%	18%	42%	5%	1%	0%	3%	0%	0%	2%	3%	15%	
B3	52	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	8%	15%	21%	13%	0%	0%	0%	0%	8%	6%	27%	
Caa1	43	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	5%	9%	47%	7%	7%	2%	0%	0%	0%	12%	7%	
Caa2	15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	27%	7%	27%	0%	0%	0%	0%	7%	27%	
Caa3	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	0%	0%	25%	0%	25%	
Ca	-																									
C	-																									
Total	1,836																									

Financial Institutions, Brokers and Dealers - 10-Year Transition and Default Rates

(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	79	41%	5%	18%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	5%
Aa1	58	0%	19%	19%	12%	16%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	28%	3%
Aa2	69	0%	0%	10%	28%	7%	3%	4%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%	13%
Aa3	240	0%	0%	3%	30%	28%	10%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	7%
A1	175	0%	0%	3%	7%	30%	13%	10%	3%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	15%
A2	233	0%	0%	1%	6%	12%	15%	15%	10%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	18%
A3	173	0%	0%	0%	1%	4%	10%	20%	12%	3%	5%	2%	2%	3%	0%	0%	0%	0%	0%	0%	0%	0%	1%	16%	21%
Baa1	138	0%	0%	0%	4%	0%	7%	9%	16%	3%	9%	4%	7%	1%	0%	1%	0%	0%	0%	0%	0%	0%	4%	10%	26%
Baa2	108	0%	0%	0%	0%	0%	1%	10%	11%	8%	15%	5%	3%	0%	1%	1%	0%	0%	0%	0%	0%	0%	1%	12%	32%
Baa3	98	0%	0%	0%	0%	1%	3%	1%	12%	7%	8%	4%	5%	1%	0%	0%	0%	1%	0%	0%	0%	0%	3%	14%	39%
Ba1	76	0%	0%	0%	0%	0%	1%	0%	8%	9%	4%	3%	3%	4%	1%	8%	3%	4%	0%	1%	0%	0%	4%	16%	32%
Ba2	99	0%	0%	0%	0%	0%	1%	0%	2%	16%	8%	5%	3%	2%	1%	0%	1%	4%	0%	0%	0%	0%	7%	18%	31%
Ba3	92	0%	0%	0%	0%	0%	2%	0%	1%	2%	3%	3%	4%	7%	8%	9%	4%	0%	1%	0%	0%	0%	8%	7%	41%
B1	55	0%	0%	0%	2%	0%	0%	0%	0%	4%	5%	2%	2%	11%	7%	0%	0%	0%	0%	0%	0%	0%	15%	9%	44%
B2	89	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	1%	1%	4%	8%	11%	4%	0%	0%	2%	0%	0%	8%	10%	47%
B3	68	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	4%	13%	12%	0%	0%	0%	0%	0%	12%	0%	57%
Caa1	29	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	0%	0%	0%	0%	0%	21%	3%	62%
Caa2	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	80%	10%	10%
Caa3	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Ca	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
C	-																								
Total	1,892																								

Insurance Companies

Insurance Companies - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	5	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	12	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa2	61	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	98	0%	0%	0%	98%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
A1	122	0%	0%	0%	2%	98%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A2	196	1%	0%	0%	1%	3%	93%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
A3	136	0%	0%	0%	0%	1%	7%	88%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%
Baa1	70	0%	0%	0%	0%	0%	0%	4%	89%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Baa2	67	0%	0%	0%	0%	0%	0%	0%	6%	90%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	1%
Baa3	35	0%	0%	0%	0%	0%	0%	0%	0%	6%	94%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba1	12	0%	0%	0%	0%	0%	8%	0%	0%	0%	0%	75%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%
Ba2	9	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	89%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%
Ba3	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	75%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%
B1	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
B2	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
B3	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	67%	0%	0%	0%	0%	0%	0%	0%	0%
Caa1	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Caa2	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%
Caa3	-																								
Ca	-																								
C	-																								
Total	847																								

Insurance Companies - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																				Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)			
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	5	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	12	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa2	64	0%	0%	95%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	96	0%	0%	0%	90%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	5%
A1	141	0%	0%	0%	4%	82%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	10%
A2	195	1%	0%	0%	1%	3%	85%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
A3	107	0%	0%	0%	0%	1%	12%	79%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	5%
Baa1	76	0%	0%	0%	0%	0%	0%	13%	68%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	11%
Baa2	70	0%	0%	0%	0%	1%	0%	0%	14%	69%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	7%
Baa3	34	0%	0%	0%	0%	0%	0%	0%	0%	9%	68%	0%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%
Ba1	13	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	46%	0%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	38%
Ba2	17	0%	0%	0%	0%	0%	0%	0%	0%	0%	35%	18%	12%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%
Ba3	15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	20%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%	67%
B1	14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%
B2	7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	86%
B3	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	75%	0%	0%	0%	0%	0%	0%	0%
Caa1	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	67%	0%	0%	0%	0%	0%	0%	0%
Caa2	7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	86%	0%	0%	0%	0%	0%	0%	14%
Caa3	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%	
Ca	-																								
C	-																								
Total	882																								

Insurance Companies - 10-Year Transition and Default Rates

(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																				Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)			
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	6	83%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	13	0%	85%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%
Aa2	68	0%	0%	65%	25%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%
Aa3	98	0%	0%	1%	42%	10%	5%	13%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	19%
A1	138	0%	0%	0%	16%	32%	22%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	22%
A2	222	0%	0%	0%	4%	20%	33%	9%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	5%	27%
A3	128	0%	0%	0%	1%	7%	25%	27%	5%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	28%
Baa1	44	0%	0%	0%	0%	0%	9%	16%	30%	14%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	18%
Baa2	55	0%	0%	0%	0%	2%	0%	5%	27%	31%	4%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	20%	7%
Baa3	51	0%	0%	0%	0%	2%	0%	0%	6%	24%	14%	0%	0%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	24%	27%
Ba1	19	0%	0%	0%	0%	0%	0%	16%	5%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	63%
Ba2	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%
Ba3	18	0%	0%	0%	0%	0%	0%	0%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	72%
B1	10	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	80%
B2	19	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	89%
B3	12	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%	0%	0%	0%	0%	25%	58%
Caa1	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	40%	40%
Caa2	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Caa3	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Ca	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%	0%
C	-																								
Total	913																								

Corporate Issuers

Corporate Issuers - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																						Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)	
Aaa	8	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Aa1	10	10%	40%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Aa2	38	0%	8%	89%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Aa3	42	0%	0%	0%	83%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	
A1	154	0%	0%	0%	1%	86%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	
A2	231	0%	0%	0%	0%	3%	91%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
A3	341	0%	0%	0%	0%	1%	6%	84%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	
Baa1	484	0%	0%	0%	0%	0%	0%	3%	88%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	
Baa2	565	0%	0%	0%	0%	0%	0%	0%	4%	89%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	
Baa3	430	0%	0%	0%	0%	0%	0%	0%	0%	8%	85%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	2%	
Ba1	121	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	64%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	11%	
Ba2	160	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	11%	54%	4%	3%	0%	0%	0%	0%	0%	0%	0%	0%	9%	14%	
Ba3	162	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	12%	70%	1%	1%	0%	0%	0%	0%	0%	0%	1%	9%	4%	
B1	140	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	14%	64%	7%	2%	1%	0%	1%	1%	0%	1%	6%	2%	
B2	117	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	3%	10%	56%	8%	1%	0%	0%	0%	1%	3%	14%	3%	
B3	122	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	7%	8%	53%	6%	1%	0%	1%	0%	2%	16%	2%	
Caa1	102	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	3%	15%	56%	5%	0%	1%	0%	0%	17%	2%	
Caa2	77	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	4%	12%	57%	4%	0%	0%	4%	17%	1%	
Caa3	33	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	6%	12%	30%	0%	3%	24%	21%	0%	
Ca	15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	20%	33%	0%	7%	20%	13%	
C	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%	0%	50%	17%	17%	0%	
Total	3,358																									

Corporate Issuers - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																				Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)			
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	14	57%	0%	36%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	6	17%	67%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%
Aa2	47	0%	6%	70%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	2%
Aa3	44	0%	0%	0%	50%	34%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	5%
A1	161	0%	0%	0%	3%	60%	21%	3%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	7%
A2	248	0%	0%	0%	0%	7%	63%	16%	3%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	2%	
A3	328	0%	0%	0%	0%	1%	9%	66%	15%	1%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	4%	2%	
Baa1	473	0%	0%	0%	0%	0%	1%	6%	67%	14%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	2%	
Baa2	518	0%	0%	0%	0%	0%	0%	1%	9%	68%	9%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	4%	
Baa3	447	0%	0%	0%	0%	0%	0%	0%	1%	19%	48%	4%	2%	2%	1%	0%	0%	0%	0%	0%	0%	1%	12%	9%	
Ba1	136	0%	0%	0%	0%	0%	0%	0%	0%	1%	23%	27%	16%	2%	1%	1%	1%	1%	0%	0%	0%	0%	1%	17%	10%
Ba2	157	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	14%	27%	11%	5%	5%	0%	0%	0%	0%	0%	0%	17%	13%	
Ba3	166	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	4%	11%	34%	9%	2%	2%	1%	1%	0%	1%	0%	25%	7%	
B1	153	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	5%	12%	22%	14%	8%	3%	1%	1%	1%	0%	16%	8%	
B2	129	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	15%	25%	12%	6%	1%	2%	1%	15%	19%	1%	
B3	161	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%	6%	6%	19%	11%	3%	2%	1%	0%	23%	7%	
Caa1	97	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	2%	4%	14%	6%	3%	0%	20%	43%	3%	
Caa2	78	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	9%	19%	4%	0%	1%	35%	1%	
Caa3	25	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	8%	0%	0%	88%	0%	0%	
Ca	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	75%	25%	0%	
C	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	
Total	3,399																								

Corporate Issuers - 10-Year Transition and Default Rates

(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	20	35%	0%	30%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	10%
Aa1	26	0%	12%	27%	27%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	15%
Aa2	22	0%	0%	18%	14%	41%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	5%
Aa3	67	0%	3%	7%	12%	34%	9%	9%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	9%
A1	154	0%	0%	9%	6%	20%	21%	10%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	11%
A2	205	0%	0%	0%	0%	6%	30%	12%	11%	8%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	11%
A3	320	0%	0%	0%	0%	1%	11%	20%	24%	7%	1%	3%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	19%	12%
Baa1	356	0%	0%	0%	0%	1%	3%	15%	28%	18%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	20%	8%
Baa2	397	0%	0%	0%	0%	0%	1%	7%	16%	25%	10%	2%	2%	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	23%	11%
Baa3	345	0%	0%	0%	0%	0%	0%	3%	9%	19%	13%	2%	3%	3%	1%	0%	1%	0%	0%	0%	0%	0%	2%	30%	14%
Ba1	138	0%	0%	1%	0%	0%	0%	1%	3%	12%	13%	8%	6%	4%	0%	0%	1%	0%	0%	0%	0%	0%	3%	37%	12%
Ba2	115	0%	0%	0%	0%	0%	0%	0%	1%	10%	10%	4%	3%	5%	2%	3%	3%	1%	0%	0%	0%	0%	6%	45%	5%
Ba3	110	0%	0%	0%	0%	0%	0%	0%	1%	6%	5%	1%	5%	6%	3%	0%	4%	2%	0%	1%	0%	0%	13%	46%	8%
B1	137	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	2%	4%	6%	7%	3%	1%	1%	1%	0%	0%	0%	9%	51%	9%
B2	126	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	3%	2%	2%	6%	2%	1%	0%	2%	0%	1%	17%	50%	13%
B3	177	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%	3%	3%	5%	2%	2%	1%	0%	0%	0%	18%	51%	13%
Caa1	146	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	3%	1%	0%	0%	0%	19%	69%	4%
Caa2	44	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	5%	0%	2%	0%	0%	0%	36%	50%	5%
Caa3	23	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	9%	0%	0%	0%	0%	39%	43%	4%	
Ca	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	90%	0%	10%	
C	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	
Total	2,940																								

Residential Mortgage Backed Securities (RMBS)

RMBS - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																						Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)	
Aaa	2,272	73%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	26%	1%	
Aa1	564	24%	61%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	1%	
Aa2	345	22%	16%	48%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	1%	
Aa3	401	12%	14%	6%	50%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	1%	
A1	427	2%	11%	13%	5%	58%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	1%		
A2	441	0%	3%	7%	13%	4%	64%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	1%		
A3	270	0%	1%	3%	9%	14%	4%	57%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	1%		
Baa1	363	0%	0%	1%	2%	6%	16%	2%	58%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	7%		
Baa2	274	0%	0%	1%	2%	2%	10%	12%	7%	49%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	1%		
Baa3	347	0%	0%	0%	0%	1%	2%	7%	13%	4%	56%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	4%		
Ba1	296	0%	0%	0%	0%	0%	0%	2%	3%	4%	11%	61%	0%	2%	0%	1%	0%	0%	0%	0%	0%	0%	9%	6%		
Ba2	335	0%	0%	0%	0%	0%	0%	1%	1%	4%	9%	6%	59%	0%	1%	0%	0%	0%	0%	0%	0%	0%	13%	6%		
Ba3	262	0%	0%	0%	1%	1%	0%	1%	0%	1%	4%	10%	5%	61%	0%	1%	0%	1%	0%	0%	0%	0%	8%	6%		
B1	1,045	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	81%	0%	0%	0%	0%	0%	0%	0%	12%	3%		
B2	290	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	4%	10%	1%	72%	0%	0%	0%	0%	0%	0%	8%	1%		
B3	294	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%	9%	2%	73%	0%	0%	0%	0%	0%	5%	5%		
Caa1	475	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	2%	0%	77%	0%	0%	0%	0%	2%	12%	4%	
Caa2	436	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	86%	0%	1%	0%	3%	6%		
Caa3	535	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	89%	2%	0%	1%	2%	3%		
Ca	1,162	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%	0%	1%	2%	2%		
C	585	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	92%	1%	4%	3%	3%		
Total	11,419																									

RMBS - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	2,179	49%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	48%	3%
Aa1	616	22%	42%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	3%
Aa2	344	25%	14%	21%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	34%	5%
Aa3	412	15%	8%	6%	28%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	37%	4%
A1	446	7%	10%	11%	5%	37%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	26%	4%
A2	442	3%	7%	5%	8%	2%	45%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	23%	4%
A3	432	1%	3%	3%	7%	7%	3%	21%	6%	2%	0%	0%	1%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	32%	11%
Baa1	409	1%	2%	4%	3%	5%	11%	3%	25%	1%	0%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	22%	21%
Baa2	336	0%	1%	1%	2%	5%	9%	7%	4%	24%	1%	1%	1%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	33%	8%
Baa3	535	0%	0%	0%	1%	1%	5%	4%	7%	1%	21%	2%	6%	1%	7%	0%	0%	0%	0%	0%	0%	0%	0%	30%	14%
Ba1	528	0%	1%	0%	1%	0%	2%	1%	3%	3%	5%	16%	5%	3%	14%	1%	0%	0%	0%	0%	0%	0%	1%	30%	14%
Ba2	388	0%	0%	0%	0%	1%	0%	2%	2%	3%	7%	5%	21%	1%	20%	1%	0%	0%	0%	0%	0%	0%	1%	23%	13%
Ba3	430	0%	0%	0%	0%	0%	0%	1%	2%	1%	2%	10%	3%	19%	22%	4%	0%	0%	0%	0%	0%	0%	1%	19%	13%
B1	821	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	3%	1%	56%	0%	2%	0%	0%	0%	0%	0%	6%	17%	11%
B2	351	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	4%	5%	10%	5%	38%	0%	5%	0%	0%	0%	0%	4%	17%	10%
B3	336	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%	10%	1%	43%	7%	1%	0%	0%	0%	4%	16%	13%
Caa1	639	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	4%	2%	43%	0%	1%	0%	0%	8%	20%	16%
Caa2	608	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%	3%	0%	55%	0%	1%	0%	11%	8%	18%
Caa3	698	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	4%	1%	62%	2%	0%	13%	4%	10%
Ca	1,358	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	1%	78%	0%	9%	5%	4%
C	883	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	2%	60%	20%	6%	8%
Total	13,191																								

RMBS - 10-Year Transition and Default Rates
(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	3,176	10%	2%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	73%	13%
Aa1	676	2%	4%	0%	1%	1%	0%	0%	0%	2%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	73%	15%
Aa2	778	2%	4%	1%	1%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	68%	20%
Aa3	1,038	1%	4%	1%	1%	4%	10%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	55%	19%
A1	979	1%	2%	1%	1%	1%	1%	1%	2%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	64%	25%
A2	823	1%	2%	1%	1%	1%	2%	0%	1%	1%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	1%	62%	23%
A3	662	1%	1%	1%	1%	1%	0%	0%	2%	1%	0%	1%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	53%	33%
Baa1	878	0%	1%	0%	0%	1%	1%	1%	1%	0%	0%	0%	1%	0%	1%	0%	1%	0%	0%	0%	0%	0%	1%	53%	35%
Baa2	946	0%	1%	1%	1%	1%	1%	1%	0%	0%	1%	1%	1%	0%	1%	1%	0%	0%	0%	0%	0%	0%	2%	51%	34%
Baa3	924	1%	1%	1%	1%	0%	1%	0%	1%	0%	1%	1%	1%	1%	1%	0%	1%	1%	0%	0%	0%	0%	2%	44%	41%
Ba1	827	1%	1%	0%	0%	0%	0%	1%	0%	0%	0%	1%	1%	1%	2%	0%	0%	1%	0%	0%	0%	0%	5%	48%	36%
Ba2	736	1%	1%	0%	1%	0%	1%	0%	1%	1%	1%	1%	0%	0%	2%	1%	0%	0%	1%	0%	0%	0%	3%	51%	34%
Ba3	851	1%	0%	0%	0%	1%	0%	0%	1%	0%	0%	1%	1%	1%	3%	1%	1%	1%	0%	0%	1%	0%	4%	39%	43%
B1	985	1%	1%	0%	0%	1%	0%	1%	0%	1%	0%	0%	1%	1%	4%	0%	1%	1%	1%	0%	0%	0%	8%	42%	35%
B2	1,246	1%	0%	0%	0%	1%	0%	0%	1%	1%	0%	1%	1%	0%	2%	0%	1%	1%	1%	1%	1%	0%	10%	43%	33%
B3	1,606	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%	1%	1%	1%	3%	1%	1%	4%	2%	0%	1%	0%	18%	33%	31%
Caa1	1,954	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	2%	0%	0%	3%	1%	1%	1%	0%	43%	18%	24%
Caa2	2,675	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	2%	0%	1%	1%	4%	1%	2%	0%	55%	11%	16%
Caa3	2,771	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	3%	1%	1%	2%	2%	10%	4%	1%	53%	9%	10%
Ca	3,938	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%	1%	1%	1%	2%	1%	20%	2%	37%	15%	13%
C	7,022	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	1%	1%	1%	1%	1%	1%	6%	69%	6%	6%
Total	35,491																								

Commercial Mortgage Backed Securities (CMBS)

CMBS - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																						Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)	
Aaa	1,895	87%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	0%	
Aa1	79	3%	80%	1%	6%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	
Aa2	185	1%	1%	89%	1%	1%	2%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	
Aa3	255	0%	2%	2%	82%	2%	3%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	
A1	64	0%	0%	2%	0%	72%	2%	8%	2%	0%	0%	3%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	11%	0%	
A2	64	0%	0%	0%	3%	5%	72%	2%	5%	2%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	
A3	174	0%	0%	0%	0%	2%	2%	74%	5%	3%	3%	2%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	
Baa1	58	2%	0%	0%	0%	2%	5%	0%	62%	7%	5%	0%	3%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	
Baa2	53	0%	0%	0%	0%	0%	0%	0%	2%	75%	4%	6%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	0%	
Baa3	121	0%	0%	0%	0%	0%	0%	0%	3%	1%	76%	5%	2%	2%	2%	1%	0%	1%	0%	0%	0%	0%	0%	7%	1%	
Ba1	45	0%	0%	0%	0%	2%	0%	0%	2%	2%	4%	40%	0%	13%	0%	4%	7%	4%	2%	2%	0%	0%	0%	13%	2%	
Ba2	40	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	48%	5%	5%	3%	10%	8%	0%	0%	0%	0%	0%	10%	13%	
Ba3	55	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	73%	2%	7%	2%	2%	2%	0%	0%	0%	0%	11%	0%	
B1	44	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%	36%	7%	2%	18%	5%	7%	0%	0%	0%	20%	0%	
B2	33	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	61%	3%	12%	6%	6%	0%	0%	0%	12%	0%	
B3	61	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	66%	0%	10%	7%	0%	3%	0%	11%	0%	
Caa1	50	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	32%	12%	18%	4%	4%	4%	22%	0%	
Caa2	30	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	43%	23%	0%	10%	13%	0%	0%	
Caa3	44	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	75%	0%	18%	0%	7%	0%	0%	
Ca	25	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	16%	12%	8%	4%	0%	
C	53	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	68%	28%	4%	0%	0%	
Total	3,428																									

CMBS - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	1,895	69%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	72	6%	67%	1%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	24%	0%
Aa2	165	0%	3%	74%	4%	1%	1%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%
Aa3	230	2%	2%	6%	63%	3%	4%	2%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%
A1	71	0%	1%	1%	1%	51%	1%	7%	8%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%	25%	0%
A2	71	0%	0%	0%	0%	6%	44%	6%	4%	1%	0%	1%	3%	0%	0%	0%	0%	4%	0%	0%	0%	0%	31%	0%	
A3	156	0%	0%	0%	1%	3%	5%	43%	6%	6%	3%	5%	2%	1%	1%	1%	1%	1%	0%	1%	0%	0%	19%	0%	
Baa1	77	0%	0%	0%	0%	3%	4%	8%	31%	4%	1%	0%	1%	1%	3%	0%	1%	1%	1%	1%	0%	1%	38%	0%	
Baa2	61	0%	0%	0%	0%	0%	0%	0%	0%	46%	5%	0%	0%	0%	2%	0%	3%	0%	0%	0%	0%	0%	2%	43%	0%
Baa3	108	0%	0%	0%	0%	0%	0%	0%	1%	3%	32%	11%	5%	2%	2%	3%	5%	6%	2%	3%	1%	0%	2%	23%	1%
Ba1	58	0%	0%	0%	0%	0%	0%	0%	3%	2%	12%	16%	0%	2%	2%	3%	0%	3%	0%	7%	0%	3%	3%	41%	2%
Ba2	67	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	16%	6%	7%	6%	1%	4%	15%	4%	0%	3%	1%	24%	9%
Ba3	56	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%	18%	5%	9%	0%	4%	2%	9%	0%	9%	2%	39%	0%
B1	54	2%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	2%	0%	9%	2%	6%	2%	0%	2%	2%	6%	6%	59%	0%
B2	57	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	11%	4%	9%	16%	2%	16%	2%	28%	0%
B3	56	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	25%	5%	9%	7%	0%	11%	13%	27%	0%
Caa1	41	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	5%	24%	0%	7%	0%	5%	15%	39%	0%
Caa2	36	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	8%	0%	3%	36%	36%	0%
Caa3	68	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	28%	0%	0%	28%	44%	0%
Ca	28	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	32%	14%	4%
C	88	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	28%	58%	13%	0%
Total	3,515																			1%	0%	28%	58%	13%	

CMBS - 10-Year Transition and Default Rates
(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	1,727	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	99%	0%
Aa1	126	1%	0%	1%	0%	0%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	96%	0%
Aa2	287	0%	0%	1%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	96%	0%
Aa3	215	0%	0%	0%	0%	0%	2%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	92%	1%
A1	194	0%	1%	0%	4%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	2%	90%	1%
A2	223	0%	1%	0%	0%	0%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	91%	0%
A3	203	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	94%	1%
Baa1	221	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	92%	1%
Baa2	259	0%	0%	0%	0%	0%	0%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	87%	1%
Baa3	302	0%	0%	0%	0%	0%	0%	0%	1%	2%	1%	1%	0%	0%	0%	1%	0%	1%	0%	2%	0%	0%	7%	83%	0%
Ba1	237	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	8%	89%	0%
Ba2	203	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	1%	1%	0%	0%	11%	82%	0%
Ba3	196	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	1%	15%	81%	2%
B1	210	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	19%	78%	0%
B2	226	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	21%	73%	2%
B3	264	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	28%	67%	0%
Caa1	274	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	1%	0%	0%	33%	60%	3%
Caa2	268	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	1%	1%	43%	51%	1%
Caa3	465	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	1%	49%	43%	3%
Ca	318	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	1%	72%	23%	0%
C	662	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	83%	14%	0%	
Total	7,080																								

CMBS: Commercial real estate (CRE) CDOs, where 70% or more of the collateral is comprised of CRE loans, are classified as CMBS. If the collateral backing the transaction contains less than 70% CRE loans, then the deal is classified as a CDO.

Collateralized Loan Obligations (CLOs)

CLOs - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																						Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)	
Aaa	1,921	52%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	48%	0%	
Aa1	129	30%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	45%	0%	
Aa2	1,148	2%	7%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	
Aa3	31	6%	0%	10%	23%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	61%	0%	
A1	46	7%	13%	7%	7%	26%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	41%	0%	
A2	932	1%	1%	1%	1%	4%	55%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	37%	0%	
A3	56	0%	2%	0%	0%	4%	18%	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	45%	0%	
Baa1	28	0%	0%	4%	0%	4%	18%	11%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	54%	0%	
Baa2	195	0%	0%	0%	0%	1%	1%	2%	2%	7%	55%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	
Baa3	665	0%	0%	0%	0%	0%	1%	1%	1%	3%	57%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	37%	0%	
Ba1	93	0%	0%	0%	0%	0%	0%	1%	1%	2%	23%	52%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	
Ba2	235	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	71%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	26%	0%	
Ba3	590	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	69%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%	0%	
B1	176	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	11%	66%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	
B2	191	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	69%	1%	0%	0%	0%	0%	0%	0%	25%	0%	
B3	164	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%	73%	1%	0%	0%	0%	0%	0%	22%	0%	
Caa1	58	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	9%	67%	0%	3%	0%	0%	0%	19%	0%	
Caa2	55	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	9%	69%	0%	0%	0%	0%	18%	0%	
Caa3	24	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	58%	0%	0%	0%	33%	0%	
Ca	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	67%	0%	0%	0%	0%	
C	-																									
Total	6,740																									

CLOs - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																						Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)	
Aaa	1,694	44%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	0%	
Aa1	122	14%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	74%	0%	
Aa2	959	6%	7%	46%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	41%	0%	
Aa3	20	10%	0%	10%	35%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	45%	0%	
A1	39	15%	5%	5%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	69%	0%	
A2	850	1%	1%	1%	2%	4%	49%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	
A3	23	0%	0%	0%	0%	4%	0%	39%	0%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	48%	0%	
Baa1	13	0%	0%	8%	0%	8%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	77%	0%	
Baa2	210	0%	0%	0%	0%	0%	1%	1%	7%	49%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	39%	0%	
Baa3	616	0%	0%	0%	0%	0%	1%	1%	1%	4%	50%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	35%	0%	
Ba1	4	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	
Ba2	238	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	61%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	
Ba3	606	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	51%	14%	0%	0%	1%	0%	0%	0%	0%	2%	29%	0%	
B1	38	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	50%	11%	3%	3%	0%	0%	0%	0%	0%	29%	0%	
B2	227	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	51%	6%	1%	2%	2%	0%	0%	1%	33%	0%	
B3	173	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	36%	20%	18%	5%	1%	0%	1%	18%	0%	
Caa1	11	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	0%	0%	36%	55%	0%	
Caa2	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%	33%	0%	
Caa3	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%	33%	0%	
Ca	-																									
C	-																									
Total	5,852																									

CLOs - 10-Year Transition and Default Rates
(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	1,200	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Aa1	359	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Aa2	152	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Aa3	222	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
A1	151	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
A2	167	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
A3	183	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Baa1	162	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Baa2	169	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	99%	1%
Baa3	159	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Ba1	304	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Ba2	260	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	99%	0%
Ba3	222	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
B1	194	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	98%	0%
B2	34	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	91%	0%
B3	19	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	95%	0%
Caa1	22	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	95%	5%
Caa2	20	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	90%	0%
Caa3	21	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%	81%	0%
Ca	14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	79%	7%
C	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	83%	0%
Total	4,040																								

Collateralized Debt Obligations (CDOs)

CDOs - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																						Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)	
Aaa	159	73%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	26%	1%	
Aa1	58	5%	81%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	2%	
Aa2	64	3%	5%	64%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	28%	0%	
Aa3	52	4%	8%	8%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	21%	0%	
A1	20	0%	0%	15%	10%	65%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	
A2	38	0%	0%	3%	0%	5%	61%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	32%	0%	
A3	51	0%	0%	0%	4%	8%	2%	57%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%	0%	
Baa1	11	0%	0%	0%	0%	0%	27%	0%	55%	0%	0%	0%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	0%	
Baa2	16	0%	0%	0%	0%	6%	0%	19%	0%	38%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	38%	0%	
Baa3	60	0%	0%	0%	0%	0%	0%	2%	8%	7%	48%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	35%	0%	
Ba1	20	0%	0%	0%	0%	0%	0%	0%	0%	5%	5%	85%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	
Ba2	12	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	17%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%	
Ba3	45	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	2%	73%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	0%	
B1	12	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	75%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%	
B2	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
B3	9	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	0%	78%	0%	0%	0%	0%	0%	0%	11%	0%	
Caa1	16	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	19%	69%	0%	0%	0%	0%	0%	0%	0%	
Caa2	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	90%	0%	0%	0%	0%	10%	0%	
Caa3	13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	69%	0%	0%	15%	15%	0%	
Ca	73	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	90%	0%	8%	0%	1%	
C	176	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	90%	10%	0%	1%	
Total	918																									

CDOs - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																						Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)	
Aaa	141	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	4%	
Aa1	57	40%	39%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%	2%	
Aa2	60	5%	28%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	
Aa3	42	0%	21%	26%	24%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%	0%	
A1	31	6%	3%	29%	32%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	0%	
A2	44	0%	0%	2%	5%	18%	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	43%	0%	
A3	29	0%	0%	3%	7%	7%	14%	21%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	45%	3%	
Baa1	8	0%	0%	13%	0%	13%	25%	13%	13%	0%	0%	0%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%	
Baa2	19	0%	0%	0%	0%	0%	11%	5%	5%	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	63%	0%	
Baa3	41	0%	0%	0%	0%	7%	0%	15%	7%	10%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	41%	0%	
Ba1	21	0%	0%	0%	0%	0%	0%	0%	19%	5%	19%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	24%	0%	
Ba2	15	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	40%	13%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	
Ba3	24	0%	0%	0%	0%	0%	0%	0%	4%	0%	4%	13%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%	0%	
B1	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	20%	30%	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	
B2	13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	46%	31%	23%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
B3	16	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	6%	0%	31%	13%	0%	0%	0%	0%	0%	13%	13%	
Caa1	19	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	16%	47%	0%	0%	0%	0%	5%	16%	11%	
Caa2	12	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	17%	0%	8%	17%	0%	0%	8%	25%	17%	
Caa3	26	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	15%	27%	0%	0%	8%	12%	35%	
Ca	126	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	52%	0%	10%	3%	33%	
C	279	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	57%	15%	0%	28%	
Total	1,033																									

CDOs - 10-Year Transition and Default Rates
(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	340	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	94%	3%
Aa1	91	1%	3%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	91%	2%
Aa2	54	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%	6%
Aa3	106	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	96%	3%
A1	87	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	99%	1%
A2	52	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	94%	4%
A3	68	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	91%	4%
Baa1	62	5%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	89%	0%
Baa2	71	7%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	82%	1%
Baa3	69	3%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	90%	0%
Ba1	125	9%	2%	1%	3%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	82%	2%
Ba2	99	2%	5%	5%	3%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	81%	2%
Ba3	72	1%	6%	1%	4%	3%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	79%	3%
B1	69	1%	7%	4%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	78%	6%
B2	72	0%	4%	3%	3%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	86%	1%
B3	82	1%	0%	4%	5%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	5%	1%	0%	0%	0%	0%	70%	10%
Caa1	69	0%	1%	0%	0%	0%	0%	3%	0%	0%	0%	4%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	6%	80%	4%
Caa2	100	0%	3%	3%	0%	2%	1%	0%	1%	0%	1%	4%	0%	1%	0%	0%	0%	0%	0%	2%	1%	0%	0%	75%	6%
Caa3	280	0%	0%	1%	1%	1%	1%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	7%	75%	10%
Ca	650	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%	1%	0%	0%	1%	0%	0%	1%	9%	3%	26%	44%	11%
C	1,008	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	62%	14%	7%	
Total	3,626																								

CDO: Derivative securities such as structured notes and repackaged securities are not considered as part of this sector. Commercial real estate (CRE) CDOs are also excluded (see the definition of CMBS).

Asset-Backed Commercial Paper (ABCP)

ABCP - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)				Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	115	98%	0%	0%	0%	0%	1%	1%
P-2	2	0%	100%	0%	0%	0%	0%	0%
P-3	-							
NP	1	0%	0%	0%	100%	0%	0%	0%
Total	118							

ABCP - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)				Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	115	85%	0%	0%	0%	0%	13%	2%
P-2	3	0%	67%	0%	0%	0%	0%	33%
P-3	1	0%	0%	0%	100%	0%	0%	0%
NP	-							
Total	119							

ABCP - 10-Year Transition and Default Rates

(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)				Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	155	45%	1%	0%	0%	0%	45%	8%
P-2	7	14%	0%	0%	0%	0%	57%	29%
P-3	-							
NP	-							
Total	162							

ABCP: Please note that ABCP is reported on program level instead of on tranche level. Most ABCP programs only have one tranche rating. A few programs have short-term tranches denominated in different currencies but their ratings are invariably the same. Therefore, we report only one rating for each program to avoid redundancy.

Other Asset Backed Securities (Other ABS)

Other ABS - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																						Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)	
Aaa	2,323	72%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	28%	0%	
Aa1	287	25%	56%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	0%	
Aa2	183	20%	12%	48%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	21%	0%	
Aa3	199	7%	3%	5%	63%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	0%	
A1	155	12%	3%	5%	6%	56%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	
A2	137	7%	3%	4%	6%	6%	53%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	21%	0%	
A3	83	1%	2%	1%	2%	11%	7%	51%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%	0%	
Baa1	102	5%	6%	5%	0%	3%	7%	8%	36%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	0%	
Baa2	126	3%	2%	1%	3%	5%	3%	4%	12%	48%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%	0%	
Baa3	160	1%	1%	3%	1%	1%	1%	3%	5%	7%	57%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	6%	
Ba1	71	0%	0%	0%	0%	3%	0%	6%	10%	3%	6%	37%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	3%	18%	13%	
Ba2	59	0%	0%	0%	0%	2%	0%	0%	3%	7%	7%	22%	41%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	12%	5%	
Ba3	47	0%	0%	0%	0%	0%	0%	6%	0%	4%	4%	11%	4%	45%	2%	0%	0%	0%	0%	0%	0%	0%	0%	21%	2%	
B1	51	0%	0%	0%	0%	4%	4%	2%	0%	2%	0%	6%	10%	2%	57%	0%	0%	0%	0%	0%	0%	0%	4%	10%	0%	
B2	52	0%	0%	2%	2%	2%	0%	4%	0%	4%	0%	4%	8%	8%	2%	42%	0%	0%	0%	0%	0%	0%	0%	17%	6%	
B3	37	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	5%	65%	0%	0%	0%	0%	0%	0%	27%	0%	
Caa1	20	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	75%	0%	0%	0%	0%	5%	15%	0%	
Caa2	26	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	77%	0%	0%	0%	0%	15%	4%	
Caa3	32	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	91%	0%	0%	0%	3%	3%	
Ca	18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	
C	63	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	87%	11%	0%	2%		
Total	4,231																									

Other ABS - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																						Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)	
Aaa	2,607	37%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	62%	0%	
Aa1	178	11%	30%	1%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	2%	
Aa2	185	9%	5%	16%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	63%	4%	
Aa3	258	9%	3%	2%	26%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	58%	1%	
A1	189	9%	2%	3%	7%	24%	1%	2%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	47%	3%	
A2	170	6%	2%	1%	4%	7%	15%	1%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	58%	2%	
A3	107	5%	5%	3%	1%	1%	7%	20%	4%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	46%	8%	
Baa1	100	7%	0%	2%	1%	2%	1%	3%	18%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	58%	4%	
Baa2	131	7%	2%	1%	1%	1%	2%	2%	3%	24%	3%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	47%	7%	
Baa3	171	5%	1%	0%	3%	2%	1%	1%	1%	2%	40%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	1%	33%	5%	
Ba1	66	0%	0%	0%	0%	5%	5%	2%	2%	0%	2%	21%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	2%	39%	20%	
Ba2	68	4%	0%	0%	1%	3%	1%	0%	4%	0%	3%	9%	18%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	47%	4%	
Ba3	48	0%	0%	0%	0%	2%	0%	2%	0%	0%	2%	10%	0%	29%	0%	2%	0%	0%	0%	0%	0%	0%	0%	42%	10%	
B1	51	0%	0%	0%	0%	4%	0%	2%	2%	0%	0%	0%	0%	0%	37%	0%	2%	0%	0%	0%	0%	0%	6%	35%	12%	
B2	59	0%	2%	2%	0%	0%	0%	2%	2%	2%	2%	0%	2%	3%	0%	22%	2%	2%	2%	0%	0%	0%	0%	44%	14%	
B3	42	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	36%	0%	10%	0%	0%	0%	0%	40%	12%	
Caa1	33	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	36%	6%	21%	0%	0%	6%	12%	12%	
Caa2	25	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	44%	8%	0%	4%	0%	36%	0%	
Caa3	39	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	3%	0%	0%	49%	0%	0%	3%	36%	8%	
Ca	28	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	54%	4%	0%	36%	7%	
C	85	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	62%	13%	9%	15%	
Total	4,640																									

Other ABS - 10-Year Transition and Default Rates

(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																				Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)			
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	2,712	8%	1%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	87%	1%
Aa1	252	9%	1%	1%	0%	6%	0%	2%	2%	3%	6%	1%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%	1%
Aa2	305	3%	0%	3%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	88%	3%
Aa3	296	6%	0%	0%	1%	1%	1%	0%	0%	0%	4%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	83%	1%
A1	341	3%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	93%	1%
A2	437	5%	2%	0%	2%	1%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	81%	2%
A3	308	2%	1%	0%	0%	1%	1%	1%	1%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	88%	2%
Baa1	211	2%	0%	0%	1%	0%	1%	0%	2%	3%	1%	0%	0%	0%	1%	1%	0%	0%	2%	0%	0%	0%	0%	81%	2%
Baa2	314	2%	0%	1%	1%	0%	0%	0%	1%	1%	1%	2%	0%	0%	0%	1%	0%	1%	0%	1%	0%	0%	0%	84%	4%
Baa3	206	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	1%	0%	1%	0%	1%	0%	0%	0%	1%	85%	5%
Ba1	189	0%	0%	0%	0%	0%	0%	0%	1%	0%	3%	1%	1%	1%	2%	1%	1%	2%	1%	1%	0%	1%	2%	84%	2%
Ba2	139	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	1%	0%	0%	2%	2%	7%	1%	1%	2%	78%	3%
Ba3	94	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	1%	2%	0%	0%	2%	4%	1%	0%	11%	70%	5%
B1	78	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	4%	0%	1%	10%	72%	8%
B2	148	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	3%	0%	0%	1%	0%	1%	5%	83%	4%
B3	109	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	6%	81%	11%
Caa1	76	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	4%	0%	1%	5%	3%	13%	64%	5%
Caa2	42	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	2%	5%	17%	64%	7%
Caa3	66	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	3%	6%	17%	64%	8%
Ca	86	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	38%	6%	48%	5%
C	103	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	8%	31%	46%	15%
Total	6,512																								

Other Structured Finance Products (Other SFPs)

Other SFPs - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	3,773	79%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	1%
Aa1	381	30%	64%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	1%
Aa2	175	9%	7%	64%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	1%	
Aa3	181	6%	10%	6%	59%	2%	5%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	0%	
A1	208	2%	5%	8%	2%	71%	1%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	
A2	151	0%	1%	1%	9%	6%	70%	1%	3%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	
A3	111	5%	9%	5%	9%	5%	5%	50%	5%	0%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	
Baa1	82	0%	0%	0%	5%	4%	6%	7%	63%	2%	2%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	6%	0%	
Baa2	59	0%	0%	0%	27%	2%	0%	12%	2%	39%	0%	2%	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	12%	0%	
Baa3	166	0%	0%	0%	0%	11%	11%	19%	7%	1%	37%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	11%	2%	
Ba1	88	0%	0%	0%	0%	0%	0%	20%	15%	11%	3%	41%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	2%	
Ba2	62	0%	0%	0%	0%	0%	0%	8%	0%	15%	19%	10%	42%	2%	0%	0%	0%	0%	0%	0%	0%	0%	2%	3%	
Ba3	39	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	64%	0%	0%	0%	0%	3%	0%	0%	0%	23%	3%	
B1	33	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	30%	3%	58%	0%	3%	6%	0%	0%	0%	0%	0%	0%	
B2	54	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	76%	4%	0%	2%	0%	2%	0%	4%	9%	
B3	70	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	7%	0%	69%	3%	1%	1%	0%	0%	4%	7%	
Caa1	92	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	74%	4%	0%	1%	0%	12%	9%	
Caa2	193	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	81%	3%	7%	1%	4%	5%	
Caa3	301	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	85%	5%	0%	1%	8%	
Ca	352	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%	1%	1%	5%	
C	313	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	89%	1%	7%	3%	
Total	6,884																								

Other SFPs - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																				Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)			
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	2,728	70%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	28%	2%
Aa1	389	51%	41%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	1%
Aa2	184	12%	16%	25%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	35%	2%	
Aa3	100	8%	3%	13%	43%	2%	8%	2%	1%	0%	0%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	17%	0%	
A1	216	3%	5%	3%	18%	36%	2%	3%	3%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	1%	
A2	153	2%	1%	6%	3%	14%	43%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	1%	
A3	106	8%	0%	5%	2%	25%	12%	17%	8%	3%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	15%	1%	
Baa1	58	0%	7%	0%	0%	9%	7%	5%	29%	0%	0%	2%	2%	0%	0%	0%	0%	0%	2%	0%	0%	0%	22%	16%	
Baa2	58	0%	0%	0%	2%	5%	17%	17%	9%	5%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	36%	7%	
Baa3	44	0%	0%	0%	2%	0%	5%	0%	20%	2%	36%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	11%	20%	
Ba1	87	0%	11%	0%	21%	2%	0%	0%	0%	1%	23%	26%	2%	6%	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%	
Ba2	54	0%	0%	0%	0%	9%	11%	4%	9%	7%	13%	0%	4%	0%	4%	0%	0%	2%	0%	0%	0%	0%	20%	17%	
Ba3	61	0%	0%	0%	0%	20%	7%	13%	5%	0%	2%	5%	0%	15%	2%	5%	0%	5%	2%	2%	0%	2%	13%	5%	
B1	62	0%	0%	0%	0%	0%	10%	11%	3%	2%	3%	2%	8%	0%	11%	0%	23%	5%	5%	5%	6%	0%	6%	0%	
B2	78	0%	0%	0%	0%	0%	0%	6%	0%	0%	10%	5%	0%	5%	0%	27%	3%	4%	1%	1%	3%	3%	8%	24%	
B3	59	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	5%	36%	19%	2%	0%	2%	0%	14%	22%	
Caa1	100	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	45%	2%	0%	0%	3%	30%	19%	
Caa2	258	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	58%	2%	5%	0%	10%	21%	
Caa3	370	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	66%	4%	3%	3%	22%	
Ca	377	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	77%	2%	3%	15%	
C	466	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	56%	2%	17%	18%
Total	6,008																								

Other SFPs - 10-Year Transition and Default Rates

(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																				Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)			
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	1,736	9%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	71%	18%
Aa1	137	8%	5%	3%	2%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	2%	56%	21%
Aa2	139	2%	4%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	63%	29%
Aa3	361	3%	1%	0%	4%	8%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	58%	16%
A1	198	1%	3%	3%	2%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	66%	25%
A2	234	0%	0%	0%	0%	9%	5%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	70%	13%
A3	196	2%	0%	1%	1%	0%	0%	2%	3%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	63%	28%
Baa1	185	0%	0%	0%	0%	1%	2%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	56%	38%
Baa2	201	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	40%
Baa3	186	1%	0%	2%	1%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	54%	38%
Ba1	171	0%	1%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%	0%	1%	1%	0%	0%	0%	0%	4%	56%	35%
Ba2	122	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	63%	35%
Ba3	149	0%	1%	0%	0%	0%	0%	1%	0%	0%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	40%	44%
B1	148	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%	41%	55%
B2	212	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	39%	58%
B3	292	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	13%	31%	54%
Caa1	480	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	26%	15%	56%
Caa2	738	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	14%	52%	
Caa3	915	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	2%	2%	0%	15%	15%	65%
Ca	821	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%	1%	11%	44%	41%
C	710	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	22%	45%	28%	
Total	8,331																								

Other SFPs includes the following Moody's rated long-term product lines:*

- » ABCP - Fully Supported
- » ABCP - Other
- » ABS - Leases - Aircraft - Repacs
- » ABS - Repackaged Securities
- » CDO - Repackaged Securities
- » CDO - Repackaged Securities - CBO
- » CDO - Repackaged Securities - CLO
- » CDO - Resecuritization
- » CDO - Resecuritization - Cash Flow
- » CDO - Resecuritization - Synthetic
- » CMBS - Conduit / Fusion
- » CMBS - Large Loan
- » CMBS - Single Borrower
- » CRE CDO and Re-REMIC
- » CRE Non-Pooled Re-REMIC
- » Covered Bonds**
- » MBS - Agency Risk Transfer
- » MBS - Alt-A
- » MBS - FHA VA
- » MBS - Option ARM
- » MBS - Prime Jumbo
- » MBS - Repperforming/Non-performing
- » MBS - Resecuritized Agency Guaranteed
- » MBS - Resecuritized MBS
- » MBS - Reverse Mortgage
- » MBS - Synthetic
- » Other - CAPCO
- » Other - Insurance Linked
- » Other - Repackaged Securities
- » Other - Structured Covered Bonds
- » Other - Structured Notes
- » Other - Tax Credit Linked Structured Notes
- » Structured Investment Vehicles – CDO

* Starting from November 1, 2016, nonconventional securities like Interest-Only (IO) tranches and combination securities (combo notes) are reclassified as other structured finance products.

** Please note that single-issuer covered bonds are reported on deal level instead of on series level. The rationale is that ratings of a covered bond deal are almost always unambiguously the same as ratings of such deal's underlying series. Given a covered bond deal could have as many as 300 series issued under it, reporting on series level would introduce great amount of redundancy. In the rare cases where a covered bond deal has different ratings on its concurrently outstanding series, the rating for a covered bond deal is generally taken as the rating of the highest rated series.

Sovereign Issuers

Sovereign Issuers - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	12	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	2	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa2	4	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	9	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A1	7	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A2	7	0%	0%	0%	0%	0%	86%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A3	5	0%	0%	0%	0%	0%	20%	60%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa1	6	0%	0%	0%	0%	0%	0%	0%	67%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa2	5	0%	0%	0%	0%	0%	0%	0%	0%	80%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa3	8	0%	0%	0%	0%	0%	0%	0%	0%	38%	50%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba1	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	80%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba2	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	67%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba3	11	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	82%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
B1	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
B2	18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	83%	0%	6%	6%	0%	0%	0%	0%	0%	0%
B3	16	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	81%	19%	0%	0%	0%	0%	0%	0%	0%
Caa1	7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	71%	14%	0%	0%	0%	0%	0%	0%
Caa2	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	75%	0%	25%	0%	0%	0%	0%
Caa3	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Ca	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%
C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	139																								

Sovereign Issuers - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																				Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)			
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	12	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	2	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa2	8	0%	0%	50%	38%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	5	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A1	7	0%	0%	0%	14%	86%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A2	5	0%	0%	0%	0%	0%	80%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A3	8	0%	0%	0%	0%	0%	38%	25%	25%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa1	4	0%	0%	0%	0%	0%	0%	25%	50%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa2	8	0%	0%	0%	0%	0%	0%	0%	13%	63%	13%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa3	8	0%	0%	0%	0%	0%	0%	0%	0%	38%	25%	0%	13%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba1	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	50%	17%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba2	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba3	9	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	56%	11%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%
B1	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	50%	25%	0%	0%	13%	0%	0%	0%	0%	0%	0%	0%
B2	16	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	13%	13%	6%	0%	0%	0%	13%	0%	0%
B3	18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	11%	50%	17%	0%	0%	0%	0%	17%	0%	0%
Caa1	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	50%	0%	0%	0%	0%	25%	0%	0%
Caa2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	50%	0%	0%	0%	0%
Caa3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sovereign Issuers - 10-Year Transition and Default Rates

(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	17	71%	12%	6%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	1	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa2	5	0%	0%	40%	20%	20%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	8	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A1	8	0%	0%	13%	13%	25%	13%	13%	13%	0%	0%	0%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A2	4	0%	0%	0%	0%	0%	50%	25%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A3	3	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	33%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa1	6	0%	0%	0%	0%	0%	17%	0%	33%	0%	17%	0%	17%	0%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa2	4	0%	0%	0%	0%	0%	0%	0%	25%	50%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa3	13	0%	0%	0%	0%	0%	8%	8%	8%	15%	15%	8%	0%	8%	0%	8%	0%	8%	0%	0%	0%	0%	15%	0%	0%
Ba1	7	0%	0%	0%	0%	0%	14%	0%	0%	43%	0%	29%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba2	6	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	17%	17%	17%	0%	17%	0%	0%	0%	0%	0%	0%
Ba3	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%	25%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%
B1	13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	23%	15%	15%	15%	0%	8%	0%	0%	0%	15%	0%	0%
B2	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	33%	17%	0%	0%	0%	0%	0%	33%	0%	0%
B3	7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	57%	0%	0%	0%	0%	0%	43%	0%	0%
Caa1	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%
Caa2	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Caa3	-																								
Ca	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
C	-																								
Total	115																								

United States Public Finance

United States Public Finance - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																				Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)			
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	713	95%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Aa1	1,029	2%	89%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%
Aa2	2,345	0%	2%	88%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%
Aa3	2,209	0%	0%	4%	86%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%
A1	1,994	0%	0%	1%	8%	82%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%
A2	1,125	0%	0%	0%	2%	11%	81%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%
A3	650	0%	0%	0%	0%	4%	9%	79%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%
Baa1	309	0%	0%	0%	1%	2%	3%	10%	78%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
Baa2	268	0%	0%	0%	0%	0%	1%	4%	7%	81%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%
Baa3	253	0%	0%	0%	0%	0%	0%	0%	0%	9%	85%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%
Ba1	75	0%	0%	0%	0%	0%	0%	0%	0%	4%	7%	77%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%
Ba2	43	0%	0%	0%	0%	0%	0%	0%	0%	2%	7%	5%	74%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	7%
Ba3	32	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	16%	56%	9%	3%	0%	0%	0%	0%	0%	0%	0%	0%	13%
B1	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%
B2	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	50%
B3	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	20%	0%	40%	20%	0%	0%	0%	0%	0%	0%	0%
Caa1	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Caa2	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%
Caa3	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Ca	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
C	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	75%
Total	11,079																								

United States Public Finance - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																				Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)			
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	688	90%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%
Aa1	991	5%	78%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	5%
Aa2	2,474	0%	6%	75%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	6%
Aa3	2,219	0%	0%	8%	73%	7%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	7%
A1	2,108	0%	0%	0%	1%	12%	66%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	8%
A2	1,145	0%	0%	0%	3%	15%	62%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	9%
A3	675	0%	0%	0%	0%	5%	17%	57%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	10%
Baa1	321	0%	0%	0%	1%	2%	4%	14%	50%	11%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	12%
Baa2	257	0%	0%	0%	0%	2%	1%	9%	9%	53%	6%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	14%
Baa3	213	0%	0%	0%	0%	1%	1%	3%	3%	14%	56%	5%	3%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	11%
Ba1	63	0%	0%	0%	0%	0%	0%	6%	3%	6%	8%	44%	6%	8%	2%	3%	0%	0%	0%	0%	0%	0%	0%	0%	13%
Ba2	35	0%	0%	0%	0%	0%	0%	0%	0%	3%	14%	9%	43%	3%	3%	0%	0%	0%	0%	0%	0%	0%	0%	3%	23%
Ba3	27	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	4%	19%	33%	4%	0%	0%	0%	0%	0%	0%	0%	0%	4%	26%
B1	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	13%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	63%
B2	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	30%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	40%
B3	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	13%	0%	0%	25%	38%	13%	0%	0%	0%	0%	0%	0%
Caa1	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	0%	0%	0%	50%
Caa2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%
Caa3	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Ca	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
C	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	75%
Total	11,254																								

United States Public Finance - 10-Year Transition and Default Rates

(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	954	46%	7%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	30%
Aa1	901	12%	49%	13%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	16%
Aa2	3,218	2%	10%	41%	11%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	21%
Aa3	2,621	0%	2%	13%	33%	9%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	27%
A1	3,141	0%	0%	3%	12%	26%	7%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	33%
A2	1,178	0%	0%	1%	5%	14%	21%	7%	2%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	31%
A3	509	0%	0%	1%	2%	7%	12%	19%	4%	3%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	42%
Baa1	342	0%	0%	0%	1%	2%	6%	10%	12%	6%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	13%	44%
Baa2	204	0%	0%	0%	1%	1%	2%	4%	6%	12%	3%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	61%
Baa3	163	0%	0%	1%	0%	1%	1%	2%	2%	10%	12%	4%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	6%	61%
Ba1	56	0%	0%	0%	0%	0%	0%	0%	4%	9%	14%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	64%
Ba2	22	0%	0%	0%	0%	0%	0%	5%	0%	5%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	9%	73%
Ba3	28	0%	0%	0%	0%	4%	0%	7%	0%	0%	0%	0%	7%	4%	0%	0%	0%	0%	0%	0%	0%	0%	4%	7%	68%
B1	13	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%	8%	8%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	54%
B2	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	50%
B3	12	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	83%
Caa1	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	0%	0%	0%	25%	0%	63%
Caa2	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	50%
Caa3	-																								
Ca	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
C	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%	50%	0%
Total	13,383																								

International Public Finance

International Public Finance - 1-Year Transition and Default Rates

(December 31, 2020 through December 31, 2021)

Credit Ratings as of 12/31/2020		Credit Ratings as of 12/31/2021 (Percent)																				Other Outcomes During 12/31/2020 - 12/31/2021 (Percent)			
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	17	88%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	11	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa2	21	0%	0%	95%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	19	0%	0%	0%	95%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%
A1	28	0%	0%	0%	0%	96%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A2	9	0%	0%	0%	0%	0%	89%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A3	6	0%	0%	0%	0%	0%	17%	83%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa1	15	0%	0%	0%	0%	0%	0%	0%	93%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa2	6	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa3	15	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba1	22	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	95%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba2	18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	50%	22%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%
Ba3	22	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	23%	50%	9%	0%	5%	0%	5%	0%	0%	0%	0%	0%	9%
B1	15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	87%	0%	7%	0%	0%	0%	0%	0%	0%	0%	0%
B2	7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	71%	0%	0%	0%	0%	0%	0%	0%	0%	14%
B3	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
Caa1	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Caa2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caa3	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Ca	7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	86%	0%	14%	0%	0%
C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	246	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

International Public Finance - 3-Year Transition and Default Rates

(December 31, 2018 through December 31, 2021)

Credit Ratings as of 12/31/2018		Credit Ratings as of 12/31/2021 (Percent)																					Other Outcomes During 12/31/2018 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)
Aaa	17	88%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	11	0%	91%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa2	21	0%	5%	76%	19%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	14	0%	0%	14%	43%	29%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%
A1	23	0%	0%	0%	17%	74%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
A2	15	0%	0%	0%	0%	27%	40%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%
A3	6	0%	0%	0%	0%	0%	17%	83%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa1	15	0%	0%	0%	0%	0%	7%	0%	87%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa2	8	0%	0%	0%	0%	0%	0%	0%	0%	75%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Baa3	17	0%	0%	0%	0%	0%	0%	0%	0%	0%	76%	0%	0%	12%	6%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%
Ba1	24	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	58%	8%	4%	0%	0%	4%	0%	4%	0%	0%	0%	0%	0%	13%
Ba2	22	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	36%	18%	14%	9%	0%	0%	5%	0%	0%	0%	0%	0%	0%	18%
Ba3	25	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	24%	24%	8%	8%	0%	4%	0%	0%	0%	0%	0%	0%	28%
B1	17	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	18%	53%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%
B2	17	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	18%	0%	0%	0%	6%	6%	0%	35%	0%	24%
B3	7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	0%	0%	29%	0%	0%	0%	14%	0%	14%	0%	29%
Caa1	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	20%	40%	0%	0%	0%	0%	0%	0%	20%
Caa2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caa3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

International Public Finance - 10-Year Transition and Default Rates

(December 31, 2011 through December 31, 2021)

Credit Ratings as of 12/31/2011		Credit Ratings as of 12/31/2021 (Percent)																						Other Outcomes During 12/31/2011 - 12/31/2021 (Percent)		
Credit Ratings	Number of Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)	
Aaa	28	50%	18%	4%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	
Aa1	14	7%	50%	14%	14%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	
Aa2	11	0%	9%	64%	9%	18%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Aa3	25	0%	0%	4%	4%	52%	20%	8%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	
A1	9	0%	0%	0%	11%	0%	11%	11%	22%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	
A2	18	0%	0%	0%	11%	6%	6%	0%	6%	6%	28%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	
A3	8	0%	0%	0%	0%	0%	13%	0%	0%	0%	25%	13%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	38%	
Baa1	11	0%	0%	0%	0%	0%	0%	9%	27%	0%	18%	18%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	
Baa2	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	33%	
Baa3	15	0%	0%	0%	0%	0%	0%	0%	7%	13%	27%	20%	7%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	
Ba1	21	0%	0%	0%	0%	0%	0%	0%	0%	5%	5%	19%	14%	10%	5%	5%	5%	0%	0%	0%	0%	0%	0%	0%	33%	
Ba2	32	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	9%	16%	3%	6%	0%	6%	0%	0%	0%	0%	0%	0%	47%	
Ba3	21	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	10%	5%	33%	5%	5%	0%	0%	0%	0%	0%	0%	5%	29%	
B1	20	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	5%	10%	15%	0%	0%	0%	0%	5%	0%	0%	0%	0%	60%	
B2	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	0%	40%	
B3	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	67%	0%	17%	
Caa1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Caa2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Caa3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	250																									

Definition of Symbols

Moody's definitions of the symbols, numbers and scores in the rating scales used by Moody's to denote credit rating categories and notches within those categories for the classes and subclasses of credit ratings shown in the Matrices, are as follows:

Moody's Global Rating Scales

Ratings assigned on Moody's global long-term and short-term rating scales are forward-looking opinions of the relative credit risks of financial obligations issued by non-financial corporates, financial institutions, structured finance vehicles, project finance vehicles, and public sector entities. Moody's defines credit risk as the risk that an entity may not meet its contractual financial obligations as they become due and any estimated financial loss in the event of default or impairment. The contractual financial obligations² addressed by Moody's ratings are those that call for, without regard to enforceability, the payment of an ascertainable amount, which may vary based upon standard sources of variation (e.g., floating interest rates), by an ascertainable date. Moody's rating addresses the issuer's ability to obtain cash sufficient to service the obligation, and its willingness to pay.³ Moody's ratings do not address non-standard sources of variation in the amount of the principal obligation (e.g., equity indexed), absent an express statement to the contrary in a press release accompanying an initial rating.⁴ Long-term ratings are assigned to issuers or obligations with an original maturity of eleven months or more and reflect both on the likelihood of a default or impairment on contractually promised payments and the expected financial loss suffered in the event of default or impairment. Short-term ratings are assigned to obligations with an original maturity of thirteen months or less and reflect both on the likelihood of a default or impairment on contractually promised payments and the expected financial loss suffered in the event of default or impairment.^{5,6} Moody's issues ratings at the issuer level and instrument level on both the long-term scale and the short-term scale. Typically, ratings are made publicly available, although private and unpublished ratings may also be assigned.

Moody's differentiates structured finance ratings from fundamental ratings (i.e., ratings on nonfinancial corporate, financial institution, and public sector entities) on the global long-term scale by adding (sf) to all structured finance ratings.⁷ The addition of (sf) to structured finance ratings should eliminate any presumption that such ratings and fundamental ratings at the same letter grade level will behave the same. The (sf) indicator for structured finance security ratings indicates that otherwise similarly rated structured finance and fundamental securities may have different risk characteristics. Through its current methodologies, however, Moody's aspires to achieve broad expected equivalence in structured finance and fundamental rating performance when measured over a long period of time.

² In the case of impairments, there can be a financial loss even when contractual obligations are met.

³ For issuer level ratings, see the definition of Issuer Ratings in this Exhibit. In some cases the relevant credit risk relates to a third party, in addition to, or instead of the issuer. Examples include credit-linked notes and guaranteed obligations.

⁴ Because the number of possible features or structures is limited only by the creativity of issuers, Moody's cannot comprehensively catalogue all the types of non-standard variation affecting financial obligations, but examples include indexed values, equity values and cash flows, prepayment penalties, and an obligation to pay an amount that is not ascertainable at the inception of the transaction.

⁵ For certain preferred stock and hybrid securities in which payment default events are either not defined or do not match investors' expectations for timely payment, long-term and short-term ratings reflect the likelihood of impairment and financial loss in the event of impairment.

⁶ Debts held on the balance sheets of official sector institutions – which include supranational institutions, central banks and certain government-owned or controlled banks – may not always be treated the same as debts held by private investors and lenders. When it is known that an obligation is held by official sector institutions as well as other investors, a rating (short-term or long-term) assigned to that obligation reflects only the credit risks faced by non-official sector investors.

⁷ Like other global scale ratings, (sf) ratings reflect both the likelihood of a default and the expected loss suffered in the event of default. Ratings are assigned based on a rating committee's assessment of a security's expected loss rate (default probability multiplied by expected loss severity), and may be subject to the constraint that the final expected loss rating assigned would not be more than a certain number of notches, typically three to five notches, above the rating that would be assigned based on an assessment of default probability alone. The magnitude of this constraint may vary with the level of the rating, the seasoning of the transaction, and the uncertainty around the assessments of expected loss and probability of default.

Global Long-Term Rating Scale

Aaa	Obligations rated Aaa are judged to be of the highest quality, subject to the lowest level of credit risk.
Aa	Obligations rated Aa are judged to be of high quality and are subject to very low credit risk.
A	Obligations rated A are judged to be upper-medium grade and are subject to low credit risk.
Baa	Obligations rated Baa are judged to be medium-grade and subject to moderate credit risk and as such may possess certain speculative characteristics.
Ba	Obligations rated Ba are judged to be speculative and are subject to substantial credit risk.
B	Obligations rated B are considered speculative and are subject to high credit risk.
Caa	Obligations rated Caa are judged to be speculative of poor standing and are subject to very high credit risk.
Ca	Obligations rated Ca are highly speculative and are likely in, or very near, default, with some prospect of recovery of principal and interest.
C	Obligations rated C are the lowest rated and are typically in default, with little prospect for recovery of principal or interest.

Note: Moody's appends numerical modifiers 1, 2, and 3 to each generic rating classification from Aa through Caa. The modifier 1 indicates that the obligation ranks in the higher end of its generic rating category; the modifier 2 indicates a mid-range ranking; and the modifier 3 indicates a ranking in the lower end of that generic rating category. Additionally, a "(hyb)" indicator is appended to all ratings of hybrid securities issued by banks, insurers, finance companies, and securities firms.*

* By their terms, hybrid securities allow for the omission of scheduled dividends, interest, or principal payments, which can potentially result in impairment if such an omission occurs. Hybrid securities may also be subject to contractually allowable write-downs of principal that could result in impairment. Together with the hybrid indicator, the long-term obligation rating assigned to a hybrid security is an expression of the relative credit risk associated with that security.

Global Short-Term Rating Scale

P-1	Ratings of Prime-1 reflect a superior ability to repay short-term obligations.
P-2	Ratings of Prime-2 reflect a strong ability to repay short-term obligations.
P-3	Ratings of Prime-3 reflect an acceptable ability to repay short-term obligations.
NP	Issuers (or supporting institutions) rated Not Prime do not fall within any of the Prime rating categories.

Standard Linkage Between the Global Long-Term and Short-Term Rating Scales

The following table indicates the long-term ratings consistent with different short-term ratings when such long-term ratings exist.⁸

LONG-TERM RATING	SHORT-TERM RATING
Aaa	Prime-1
Aa1	
Aa2	
Aa3	
A1	
A2	Prime-2
A3	
Baa1	Prime-3
Baa2	
Baa3	
Ba1, Ba2, Ba3	Not Prime
B1, B2, B3	
Caa1, Caa2, Caa3	
Ca, C	

Issuer Ratings

Issuer Ratings are opinions of the ability of entities to honor senior unsecured debt and debt like obligations.^{9,10} As such, Issuer Ratings incorporate any external support that is expected to apply to all current and future issuance of senior unsecured financial obligations and contracts, such as explicit support stemming from a guarantee of all senior unsecured financial obligations and contracts, and/or implicit support for issuers subject to joint default analysis (e.g. banks and government-related issuers). Issuer Ratings do not incorporate support arrangements, such as guarantees, that apply only to specific (but not to all) senior unsecured financial obligations and contracts.

While Issuer Ratings reflect the risk that debt and debt-like claims are not serviced on a timely basis, they do not reflect the risk that a contract or other non-debt obligation will be subjected to commercial disputes. Additionally, while an issuer may have senior unsecured obligations held by both supranational institutions and central banks (e.g., IMF, European Central Bank), as well as other investors, Issuer Ratings reflect only the risks faced by other investors.

Long-Term and Short-Term Obligation Ratings

Moody's assigns ratings to long-term and short-term financial obligations. Long-term ratings are assigned to issuers or obligations with an original maturity of eleven months or more and reflect both on the likelihood of a default on contractually promised payments and the expected financial loss suffered in the event of default. Short-term ratings are assigned to obligations with an original maturity of thirteen months or less and reflect both on the likelihood of a default on contractually promised payments and the expected financial loss suffered in the event of default.

⁸ Structured finance short-term ratings are usually based either on the short-term rating of a support provider or on an assessment of cash flows available to retire the financial obligation.

⁹ Issuer Ratings as applied to US local governments, excluding US K-12 public school districts, typically reflect an unlimited general obligation pledge which may have security and structural features in some states that improve credit quality for general obligation bondholders but not necessarily for other counterparties holding obligations that may lack such features. An Issuer Rating as applied to a US K-12 public school district reflects its ability to repay debt and debt-like obligations without consideration of any pledge, security or structural features.

¹⁰ These opinions exclude debt known to be held by official sector investors because in practice such debt could effectively be treated as either senior or junior to senior unsecured debt held by private sector investors.

Definition of Default

Moody's definition of default is applicable only to debt or debt-like obligations (e.g., swap agreements). Four events constitute a debt default under Moody's definition:

- a. a missed or delayed disbursement of a contractually-obligated interest or principal payment (excluding missed payments cured within a contractually allowed grace period¹¹), as defined in credit agreements and indentures;
- b. a bankruptcy filing or legal receivership by the debt issuer or obligor that will likely cause a miss or delay in future contractually-obligated debt service payments;
- c. a distressed exchange whereby 1) an issuer offers creditors a new or restructured debt, or a new package of securities, cash or assets that amount to a diminished value relative to the debt obligation's original promise and 2) the exchange has the effect of allowing the issuer to avoid a likely eventual default; or
- d. a change in the payment terms of a credit agreement or indenture imposed by the sovereign that results in a diminished financial obligation, such as a forced currency re-denomination (imposed by the debtor, or the debtor's sovereign) or a forced change in some other aspect of the original promise, such as indexation or maturity.¹²

We include distressed exchanges in our definition of default in order to capture credit events whereby issuers effectively fail to meet their debt service obligations but do not actually file for bankruptcy or miss an interest or principal payment. Moody's employs fundamental analysis in assessing the likelihood of future default and considers various indicators in assessing loss relative to the original promise, which may include the yield to maturity of the debt being exchanged.

Moody's definition of default does not include so-called "technical defaults," such as maximum leverage or minimum debt coverage violations, unless the obligor fails to cure the violation and fails to honor the resulting debt acceleration which may be required. For structured finance securities, technical defaults (such as breach of an overcollateralization test or certain other events of default as per the legal documentation of the issuer), or a temporary (i.e. less than twelve months) missed interest payment on a security whose terms allow for the deferral of such payments together with corresponding interest (such as PIKable securities) prior to its legal final maturity date do not constitute defaults.

Also excluded are payments owed on long-term debt obligations which are missed due to purely technical or administrative reasons which are 1) not related to the ability or willingness to make the payments and 2) are cured in very short order (typically, 1-2 business days after the technical/administrative issue is recognized).

Finally, in select instances based on the facts and circumstances, missed payments on financial contracts or claims may be excluded if they are the result of legal disputes regarding the validity of those claims.

Credit Rating Histories

The credit rating histories required to be disclosed pursuant to 17 CFR 17g-7(b) are located on Moody's website, www.moody.com, at the following URL: <https://www.moody.com/Pages/reg001004.aspx>.

¹¹ Among some structured finance asset classes, missed scheduled payments impose meaningful investor losses even though such payments are not contractually obligated. Therefore, for structured finance securities, Moody's practice is to recognize that a default has occurred if a material interest payment has been missed for 12 months or longer or if there has been a material principal loss (or writedown) to the security. If such an interest or principal shortfall is subsequently reduced below the materiality threshold of 50 basis points of the original balance of the security, then the default is cured. Note that when a structured finance default is completely cured, we consider retrospectively that no default has taken place.

¹² Moreover, unlike a general tax on financial wealth, the imposition of a tax by a sovereign on the coupon or principal payment on a specific class of government debt instruments (even if retroactive) would represent a default. Targeted taxation on government securities would represent a default even if the government's action were motivated by fairness or other considerations, rather than inability or unwillingness to pay.