

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, 2016, are provided in the Transition/Default Matrices on the following pages, pp. 1-28 (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, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2015 - 12/31/2016 (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Ratings Outstanding	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	Default	Paid Off	Withdrawn (other)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	46	87%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	7%
Aa1	23	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	83	0%	0%	81%	10%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	1%
Aa3	95	0%	0%	1%	89%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%
A1	198	0%	0%	0%	5%	81%	10%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%
A2	268	0%	0%	0%	0%	30%	59%	5%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%
A3	223	0%	0%	0%	0%	1%	4%	80%	9%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%
Baa1	198	0%	0%	0%	0%	0%	0%	6%	78%	11%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	1%
Baa2	166	0%	0%	0%	0%	0%	0%	1%	8%	76%	4%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	7%
Baa3	201	0%	0%	0%	0%	0%	0%	0%	2%	8%	66%	8%	8%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Ba1	92	0%	0%	0%	0%	0%	0%	0%	0%	3%	11%	51%	15%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%	8%	3%
Ba2	65	0%	0%	0%	0%	0%	0%	0%	0%	6%	18%	48%	12%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	5%
Ba3	57	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	2%	5%	60%	12%	0%	2%	2%	0%	0%	0%	0%	0%	9%	4%
B1	79	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	70%	8%	3%	0%	0%	0%	0%	0%	0%	1%	5%
B2	87	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	10%	64%	3%	7%	0%	0%	0%	0%	1%	1%	9%
B3	57	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	19%	53%	9%	5%	0%	0%	0%	4%	0%	9%
Caa1	38	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	5%	24%	55%	0%	0%	0%	0%	0%	0%	13%
Caa2	29	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	41%	34%	3%	7%	0%	0%	0%	10%
Caa3	7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	71%	14%	0%	0%	0%	14%
Ca	3	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	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%
Total	2,016																								

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, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2013 - 12/31/2016 (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	45	87%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	2%
Aa1	29	0%	72%	14%	3%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%
Aa2	52	0%	2%	63%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	23%	0%
Aa3	126	0%	0%	20%	50%	17%	4%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	2%
A1	119	0%	0%	3%	13%	58%	13%	3%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	5%	3%
A2	312	0%	0%	0%	2%	34%	36%	8%	3%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	2%
A3	206	0%	0%	0%	1%	8%	15%	40%	17%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	3%
Baa1	143	0%	0%	0%	0%	2%	4%	22%	35%	10%	4%	3%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	12%
Baa2	205	0%	0%	0%	0%	0%	0%	14%	20%	25%	13%	6%	6%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	6%
Baa3	209	0%	0%	0%	0%	0%	1%	2%	10%	19%	35%	8%	6%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	8%	7%
Ba1	79	0%	0%	0%	0%	0%	0%	0%	3%	9%	15%	30%	10%	3%	4%	0%	0%	0%	0%	0%	0%	0%	0%	11%	15%
Ba2	47	0%	0%	0%	0%	0%	0%	0%	0%	2%	13%	15%	26%	23%	4%	0%	2%	0%	0%	0%	0%	0%	0%	4%	11%
Ba3	100	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	6%	7%	28%	15%	4%	1%	4%	0%	0%	0%	0%	2%	10%	19%
B1	82	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%	4%	4%	6%	44%	10%	4%	5%	0%	0%	0%	0%	1%	7%	11%
B2	81	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	1%	0%	10%	47%	11%	1%	0%	0%	0%	0%	9%	2%	16%
B3	80	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	14%	33%	9%	1%	1%	0%	0%	6%	4%	31%
Caa1	41	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%	20%	17%	0%	5%	0%	22%	7%	24%
Caa2	26	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	4%	8%	38%	4%	0%	8%	0%	8%	8%	19%
Caa3	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	33%	0%	33%	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%	0%	0%	100%
C	-																								
Total	1,987																								

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

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2006 - 12/31/2016 (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	105	34%	1%	11%	1%	10%	2%	1%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	21%	14%
Aa1	82	0%	9%	2%	1%	15%	5%	5%	6%	0%	2%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	29%
Aa2	180	0%	1%	5%	7%	28%	8%	2%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	17%	25%
Aa3	301	0%	2%	5%	13%	7%	12%	8%	4%	4%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	14%	28%
A1	216	0%	0%	0%	1%	13%	7%	6%	5%	6%	2%	4%	2%	0%	1%	0%	1%	0%	0%	0%	0%	0%	6%	14%	32%
A2	258	0%	0%	0%	5%	8%	9%	7%	9%	3%	3%	2%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	5%	14%	31%
A3	207	0%	0%	1%	1%	5%	14%	14%	10%	5%	5%	0%	3%	1%	0%	1%	0%	0%	0%	0%	0%	0%	3%	9%	28%
Baa1	118	0%	0%	0%	0%	0%	1%	15%	14%	8%	5%	1%	1%	1%	0%	0%	0%	0%	1%	0%	0%	0%	9%	10%	34%
Baa2	109	0%	0%	0%	0%	1%	5%	5%	8%	7%	13%	5%	6%	1%	5%	1%	0%	0%	0%	0%	0%	0%	4%	6%	36%
Baa3	76	0%	0%	0%	0%	0%	0%	0%	14%	17%	7%	3%	7%	3%	1%	0%	1%	0%	0%	0%	0%	0%	8%	3%	37%
Ba1	40	0%	0%	0%	0%	0%	0%	0%	3%	13%	5%	3%	3%	3%	5%	3%	0%	0%	3%	0%	0%	0%	20%	10%	33%
Ba2	51	0%	0%	0%	0%	0%	0%	0%	2%	0%	18%	4%	6%	4%	4%	4%	0%	14%	0%	0%	0%	0%	16%	12%	18%
Ba3	73	0%	0%	0%	0%	0%	0%	0%	1%	4%	4%	8%	4%	8%	5%	7%	0%	0%	0%	0%	0%	0%	5%	1%	51%
B1	71	0%	0%	0%	0%	0%	0%	0%	1%	10%	3%	13%	3%	3%	11%	4%	4%	0%	0%	0%	0%	0%	8%	3%	37%
B2	57	0%	0%	0%	0%	0%	0%	0%	0%	4%	16%	0%	0%	0%	0%	5%	5%	7%	0%	0%	0%	0%	30%	2%	32%
B3	26	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	4%	12%	15%	4%	0%	0%	0%	0%	23%	4%	35%
Caa1	30	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	13%	0%	10%	10%	0%	0%	0%	0%	0%	3%	43%
Caa2	2	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	-																								
Ca	-																								
C	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%
Total	2,003																								

Insurance Companies

Insurance Companies - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2015 - 12/31/2016 (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	76	0%	0%	83%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	68	0%	0%	0%	94%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
A1	167	0%	0%	0%	14%	74%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
A2	173	0%	0%	0%	0%	2%	92%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%
A3	112	0%	0%	0%	0%	0%	8%	90%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Baa1	71	0%	0%	0%	0%	1%	0%	4%	82%	6%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%
Baa2	73	0%	0%	0%	0%	0%	0%	0%	8%	82%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%
Baa3	37	0%	0%	0%	0%	0%	0%	0%	3%	11%	78%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%
Ba1	25	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	44%	0%	4%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	28%
Ba2	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	63%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	13%
Ba3	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
B1	13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	38%	46%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%
B2	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	13%	50%	0%	25%	0%	0%	0%	0%	0%	0%	0%
B3	11	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	36%	45%	0%	0%	0%	0%	0%	0%	0%	18%
Caa1	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	33%	33%	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%	83%	17%	0%	0%	0%	0%	0%
Caa3	-																								
Ca	-																								
C	-																								
Total	876																								

Insurance Companies - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2013 - 12/31/2016 (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	66	0%	0%	73%	24%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Aa3	64	0%	0%	0%	84%	3%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	8%
A1	141	0%	0%	0%	18%	67%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	5%
A2	199	0%	0%	0%	0%	11%	72%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	13%
A3	121	0%	0%	0%	0%	2%	14%	66%	5%	1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	8%
Baa1	56	0%	0%	0%	0%	0%	0%	7%	68%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	21%
Baa2	77	0%	0%	0%	0%	1%	0%	4%	16%	61%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	6%
Baa3	42	0%	0%	0%	0%	0%	0%	0%	10%	31%	38%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	10%
Ba1	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	63%
Ba2	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	30%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	30%
Ba3	14	0%	0%	0%	0%	0%	0%	0%	0%	0%	21%	7%	0%	36%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	29%
B1	15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	7%	40%	13%	0%	0%	0%	0%	0%	0%	0%	0%	7%	27%
B2	17	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%	35%	0%	0%	0%	0%	0%	0%	0%	6%	29%
B3	11	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	45%	18%	0%	0%	0%	0%	0%	0%	9%	18%
Caa1	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%	0%	20%	20%	0%	0%	0%	0%	0%	40%
Caa2	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	0%	0%	0%	20%	20%	0%
Caa3	-																								
Ca	-																								
C	-																								
Total	870																								

Insurance Companies - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2006 - 12/31/2016 (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	37	14%	14%	8%	0%	0%	5%	3%	0%	0%	0%	0%	3%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	5%	46%
Aa1	26	0%	19%	12%	15%	0%	12%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%	15%
Aa2	121	0%	0%	15%	26%	4%	12%	2%	4%	1%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	5%	27%
Aa3	204	0%	0%	12%	13%	26%	9%	0%	0%	3%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	31%
A1	82	0%	0%	0%	1%	15%	23%	9%	1%	6%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	5%	35%
A2	154	0%	0%	0%	8%	6%	31%	8%	2%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%	39%
A3	173	0%	0%	0%	3%	14%	20%	17%	6%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%	33%
Baa1	54	0%	0%	0%	2%	2%	19%	4%	22%	6%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	35%
Baa2	30	0%	0%	0%	0%	7%	0%	0%	17%	33%	10%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	27%
Baa3	41	0%	0%	0%	0%	0%	7%	0%	17%	15%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	39%
Ba1	13	0%	0%	0%	0%	0%	0%	8%	0%	23%	8%	0%	0%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	38%
Ba2	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Ba3	16	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	13%	6%	0%	0%	0%	0%	0%	0%	0%	6%	13%	56%
B1	11	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	73%
B2	17	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	6%	24%	6%	0%	0%	0%	0%	0%	0%	0%	53%
B3	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Caa1	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	33%	0%	0%	0%	0%	0%	33%
Caa2	-																								
Caa3	-																								
Ca	-																								
C	-																								
Total	988																								

Corporate Issuers

Corporate Issuers - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2015 - 12/31/2016 (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	93%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	24	0%	38%	33%	29%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa2	36	0%	0%	83%	11%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%
Aa3	78	0%	0%	4%	83%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%
A1	140	0%	0%	0%	0%	84%	8%	6%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
A2	212	0%	0%	0%	0%	0%	77%	11%	4%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%
A3	305	0%	0%	0%	0%	0%	2%	80%	11%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%
Baa1	371	0%	0%	0%	0%	0%	0%	4%	80%	11%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%
Baa2	401	0%	0%	0%	0%	0%	0%	0%	4%	77%	9%	3%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	3%	1%
Baa3	400	0%	0%	0%	0%	0%	0%	0%	0%	7%	70%	5%	7%	2%	2%	1%	0%	1%	0%	0%	0%	0%	0%	5%	1%
Ba1	149	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	64%	6%	8%	4%	2%	1%	1%	0%	0%	0%	0%	0%	7%	1%
Ba2	140	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	11%	60%	9%	4%	2%	1%	1%	0%	0%	0%	0%	0%	6%	2%
Ba3	141	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	8%	62%	11%	6%	1%	1%	1%	0%	0%	0%	0%	4%	4%
B1	141	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%	64%	6%	6%	4%	1%	1%	0%	0%	2%	9%	3%
B2	136	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	13%	52%	14%	6%	3%	1%	0%	0%	1%	7%	1%
B3	158	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	4%	58%	12%	4%	1%	1%	0%	4%	10%	3%
Caa1	185	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	11%	46%	13%	2%	2%	0%	5%	17%	2%
Caa2	91	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	5%	40%	15%	1%	0%	16%	16%	2%
Caa3	41	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	5%	27%	12%	2%	49%	0%	2%
Ca	22	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	23%	5%	64%	9%	0%
C	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	75%	0%	0%
Total	3,189																								

Corporate Issuers - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2013 - 12/31/2016 (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	15	87%	7%	0%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	27	0%	33%	37%	26%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
Aa2	20	0%	0%	50%	30%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	5%
Aa3	75	0%	0%	9%	67%	16%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	1%
A1	145	0%	0%	9%	2%	56%	9%	9%	1%	6%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	3%
A2	158	0%	0%	0%	0%	11%	63%	13%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%
A3	289	0%	0%	0%	0%	0%	14%	53%	14%	4%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	2%
Baa1	374	0%	0%	0%	0%	0%	2%	17%	47%	13%	6%	3%	1%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	9%	1%
Baa2	417	0%	0%	0%	0%	0%	0%	2%	17%	47%	15%	3%	3%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	8%	2%
Baa3	375	0%	0%	0%	0%	0%	0%	1%	5%	18%	38%	8%	6%	2%	2%	1%	1%	1%	0%	0%	0%	0%	1%	12%	4%
Ba1	136	0%	0%	0%	0%	0%	0%	0%	0%	2%	19%	32%	8%	10%	6%	1%	1%	1%	1%	0%	0%	0%	0%	16%	3%
Ba2	114	0%	0%	0%	0%	0%	0%	1%	0%	1%	9%	13%	29%	11%	6%	4%	1%	2%	1%	0%	0%	0%	4%	19%	1%
Ba3	140	0%	0%	1%	0%	0%	0%	0%	0%	0%	2%	5%	16%	26%	12%	4%	1%	2%	1%	1%	1%	0%	1%	18%	9%
B1	157	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	5%	11%	23%	8%	6%	8%	1%	1%	1%	0%	5%	24%	5%
B2	134	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	2%	2%	16%	23%	11%	4%	3%	1%	1%	0%	7%	19%	7%
B3	200	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	5%	7%	24%	9%	4%	3%	1%	0%	11%	30%	4%
Caa1	177	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	10%	19%	5%	6%	2%	0%	15%	38%	2%	
Caa2	89	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	3%	7%	2%	10%	6%	2%	1%	24%	40%	3%
Caa3	21	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	10%	10%	5%	0%	57%	5%	5%
Ca	14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	50%	29%	14%
C	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%
Total	3,081																								

Corporate Issuers - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2006 - 12/31/2016 (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	52	19%	6%	8%	21%	6%	2%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	29%
Aa1	48	0%	4%	15%	15%	13%	21%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	27%
Aa2	43	0%	2%	16%	19%	5%	7%	12%	5%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	16%
Aa3	75	0%	4%	3%	8%	23%	8%	7%	9%	7%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	20%
A1	146	0%	0%	5%	2%	17%	13%	17%	5%	3%	4%	3%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	12%	18%
A2	229	0%	0%	1%	2%	6%	13%	21%	14%	7%	2%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	22%
A3	291	0%	0%	1%	0%	2%	10%	14%	13%	10%	5%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	29%
Baa1	310	0%	0%	0%	0%	1%	6%	12%	21%	10%	8%	1%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	15%	25%
Baa2	356	0%	0%	0%	0%	1%	2%	5%	13%	18%	9%	6%	3%	1%	1%	1%	1%	0%	0%	0%	0%	0%	1%	14%	24%
Baa3	282	0%	0%	0%	0%	0%	1%	3%	4%	16%	15%	6%	2%	3%	1%	1%	1%	1%	0%	0%	0%	0%	1%	14%	32%
Ba1	113	0%	0%	0%	0%	0%	0%	0%	2%	9%	11%	10%	4%	1%	0%	3%	1%	2%	0%	0%	0%	0%	11%	12%	36%
Ba2	109	0%	0%	0%	0%	0%	0%	1%	1%	4%	6%	3%	6%	2%	5%	3%	5%	2%	1%	0%	0%	0%	8%	18%	36%
Ba3	107	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%	2%	7%	2%	7%	1%	4%	2%	1%	0%	0%	0%	7%	25%	36%
B1	108	0%	0%	0%	0%	0%	0%	0%	2%	2%	2%	0%	0%	5%	5%	2%	6%	0%	0%	0%	1%	0%	16%	21%	40%
B2	149	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%	0%	1%	2%	5%	3%	1%	3%	1%	0%	1%	0%	19%	23%	38%
B3	156	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	0%	2%	3%	1%	1%	1%	1%	0%	22%	25%	40%
Caa1	99	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	2%	2%	1%	0%	1%	0%	0%	30%	15%	45%
Caa2	37	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%	0%	3%	0%	0%	0%	0%	0%	49%	16%	27%
Caa3	16	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	69%	13%	19%
Ca	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	67%
C	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%
Total	2,733																								

Residential Mortgage Backed Securities (RMBS)

RMBS - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																						Other Outcomes During 12/31/2015 - 12/31/2016 (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	1,854	81%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	0%	
Aa1	366	7%	68%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	24%	1%	
Aa2	673	2%	4%	78%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	1%	
Aa3	318	1%	11%	20%	45%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	0%	
A1	607	1%	5%	15%	8%	51%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	0%	
A2	553	0%	1%	8%	11%	8%	59%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	1%	
A3	776	0%	0%	2%	5%	11%	2%	58%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	2%	
Baa1	1,070	0%	0%	1%	1%	6%	5%	5%	63%	1%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	4%	
Baa2	632	1%	0%	1%	1%	2%	5%	9%	8%	61%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	1%	
Baa3	1,084	0%	0%	0%	0%	1%	0%	6%	10%	3%	65%	1%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	8%	2%	
Ba1	1,000	1%	0%	0%	0%	1%	0%	1%	6%	8%	8%	60%	1%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	9%	2%	
Ba2	800	0%	0%	1%	0%	0%	0%	1%	2%	4%	10%	12%	57%	1%	4%	0%	1%	0%	0%	0%	0%	0%	0%	5%	3%	
Ba3	885	0%	0%	0%	0%	0%	0%	0%	1%	1%	6%	14%	4%	58%	3%	3%	1%	0%	0%	0%	0%	0%	0%	7%	1%	
B1	981	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	7%	6%	66%	0%	4%	1%	0%	0%	0%	0%	0%	1%	6%	1%	
B2	956	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	5%	8%	9%	50%	3%	17%	1%	0%	0%	0%	0%	2%	0%	
B3	876	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	2%	7%	13%	5%	60%	3%	2%	1%	0%	0%	0%	3%	1%	
Caa1	1,414	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	5%	5%	4%	72%	3%	1%	0%	0%	3%	3%	0%	
Caa2	1,606	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	2%	4%	5%	4%	73%	2%	1%	0%	5%	2%	0%	
Caa3	1,421	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	4%	6%	5%	74%	1%	0%	4%	1%	1%	
Ca	2,440	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	2%	3%	3%	83%	0%	4%	2%	0%	
C	2,461	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	2%	2%	4%	78%	7%	2%	0%	
Total	22,773																									

RMBS - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2013 - 12/31/2016 (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	1,740	56%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	42%	1%
Aa1	279	12%	35%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	51%	1%
Aa2	314	6%	6%	41%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	41%	4%
Aa3	354	4%	9%	10%	20%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	44%	0%
A1	444	2%	5%	11%	5%	25%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	49%	0%
A2	676	1%	4%	21%	4%	2%	35%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	30%	1%
A3	902	1%	2%	13%	4%	5%	1%	31%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	6%
Baa1	1,407	0%	1%	5%	3%	3%	2%	6%	40%	1%	6%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	21%	9%
Baa2	779	0%	2%	8%	3%	3%	2%	4%	6%	33%	4%	4%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	2%
Baa3	967	0%	1%	4%	2%	5%	2%	5%	6%	2%	36%	5%	5%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	20%	3%
Ba1	943	0%	1%	2%	2%	4%	3%	3%	3%	3%	12%	31%	1%	5%	3%	1%	1%	1%	0%	0%	0%	0%	0%	20%	3%
Ba2	823	0%	0%	1%	1%	4%	2%	3%	4%	4%	12%	11%	24%	2%	7%	1%	2%	0%	1%	0%	0%	0%	0%	13%	4%
Ba3	981	1%	0%	1%	1%	2%	1%	2%	3%	4%	6%	15%	4%	30%	5%	7%	1%	1%	1%	0%	0%	0%	1%	12%	5%
B1	957	0%	0%	1%	0%	2%	1%	3%	3%	4%	5%	8%	10%	6%	31%	1%	6%	2%	1%	0%	0%	0%	1%	13%	2%
B2	928	0%	0%	1%	0%	1%	1%	2%	1%	3%	6%	7%	6%	8%	6%	29%	5%	7%	1%	0%	0%	0%	1%	13%	2%
B3	1,279	0%	0%	0%	0%	1%	1%	1%	2%	1%	3%	5%	6%	5%	11%	2%	26%	18%	3%	1%	0%	0%	3%	9%	2%
Caa1	1,928	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	2%	1%	4%	5%	4%	3%	41%	9%	2%	1%	0%	16%	6%	1%
Caa2	2,009	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	2%	5%	3%	5%	3%	45%	4%	2%	0%	22%	3%	1%
Caa3	1,789	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	1%	2%	4%	3%	3%	6%	4%	48%	3%	0%	19%	2%	1%
Ca	2,974	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	2%	3%	3%	3%	4%	62%	2%	12%	3%	1%
C	3,881	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	2%	2%	2%	2%	2%	3%	5%	48%	25%	4%	2%
Total	26,354																								

RMBS - 10-Year Transition and Default Rates
(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2006 - 12/31/2016 (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	27,008	2%	1%	1%	1%	1%	1%	1%	3%	1%	2%	2%	1%	2%	2%	1%	2%	3%	3%	2%	3%	1%	22%	18%	25%
Aa1	2,531	0%	0%	1%	0%	0%	0%	2%	1%	1%	3%	2%	2%	2%	3%	1%	2%	1%	1%	1%	3%	4%	52%	10%	5%
Aa2	3,618	0%	0%	1%	0%	1%	0%	2%	2%	1%	3%	4%	2%	3%	5%	2%	2%	2%	2%	2%	3%	4%	38%	10%	10%
Aa3	1,816	0%	1%	2%	1%	1%	0%	1%	1%	1%	2%	2%	2%	2%	4%	1%	1%	2%	1%	2%	2%	5%	50%	9%	8%
A1	1,473	0%	0%	1%	0%	1%	1%	1%	1%	0%	2%	1%	1%	2%	4%	1%	1%	2%	1%	1%	3%	6%	58%	5%	7%
A2	3,566	0%	0%	1%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	3%	1%	2%	2%	2%	3%	5%	6%	52%	8%	9%
A3	2,035	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%	1%	1%	1%	2%	5%	10%	64%	4%	5%
Baa1	2,023	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	4%	9%	68%	6%	5%
Baa2	3,359	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	1%	2%	7%	68%	8%	9%
Baa3	2,164	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%	0%	0%	1%	5%	78%	5%	5%
Ba1	882	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	84%	6%	5%
Ba2	1,088	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	2%	79%	5%	9%
Ba3	186	0%	0%	0%	1%	0%	0%	0%	1%	1%	0%	2%	1%	1%	1%	1%	1%	1%	0%	1%	5%	6%	58%	7%	16%
B1	85	0%	0%	0%	0%	2%	1%	1%	0%	0%	0%	0%	8%	0%	5%	0%	1%	1%	1%	2%	1%	1%	49%	11%	14%
B2	304	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	2%	2%	77%	3%	13%
B3	70	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	1%	1%	0%	3%	0%	6%	1%	9%	6%	1%	0%	50%	4%	11%
Caa1	49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	22%	6%	37%	6%	27%
Caa2	33	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	3%	12%	3%	48%	3%	18%
Caa3	19	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	26%	0%	63%	5%	5%
Ca	74	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	1%	0%	0%	0%	0%	0%	19%	11%	41%	9%	16%
C	26	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	8%	69%	8%	8%
Total	52,409																								

Commercial Mortgage Backed Securities (CMBS)

CMBS - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2015 - 12/31/2016 (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	1,721	81%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%	0%
Aa1	114	16%	68%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	0%
Aa2	204	17%	8%	56%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%
Aa3	193	5%	6%	5%	70%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	13%	0%
A1	175	6%	1%	5%	7%	64%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%
A2	134	4%	1%	3%	7%	7%	62%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%
A3	191	1%	1%	2%	3%	5%	5%	73%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	10%	0%
Baa1	107	4%	0%	7%	2%	0%	3%	6%	55%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	0%
Baa2	109	3%	0%	3%	0%	5%	1%	3%	8%	61%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	0%
Baa3	203	1%	0%	0%	1%	1%	3%	3%	6%	6%	62%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	0%
Ba1	118	3%	0%	3%	0%	3%	0%	3%	3%	11%	7%	40%	3%	1%	1%	2%	1%	0%	0%	0%	0%	0%	2%	19%	0%
Ba2	126	2%	0%	1%	1%	0%	2%	2%	3%	0%	2%	8%	71%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	8%	0%
Ba3	95	2%	0%	2%	1%	1%	0%	0%	1%	1%	3%	6%	8%	47%	1%	5%	2%	1%	0%	0%	0%	1%	0%	16%	0%
B1	93	1%	0%	1%	0%	0%	1%	0%	0%	2%	1%	5%	8%	8%	43%	1%	1%	1%	0%	1%	0%	0%	1%	25%	0%
B2	123	1%	0%	0%	0%	1%	0%	0%	0%	0%	1%	2%	2%	2%	6%	70%	1%	3%	0%	2%	0%	0%	0%	11%	0%
B3	117	3%	0%	0%	0%	0%	1%	0%	2%	0%	1%	4%	1%	3%	10%	6%	44%	2%	4%	1%	0%	2%	3%	15%	1%
Caa1	115	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	1%	1%	3%	3%	1%	50%	5%	4%	0%	3%	10%	15%	0%
Caa2	123	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	3%	0%	7%	7%	48%	4%	0%	3%	16%	8%	1%
Caa3	188	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%	1%	2%	5%	2%	56%	4%	4%	13%	9%	2%
Ca	64	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	3%	0%	3%	5%	47%	19%	8%	13%	2%
C	141	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	50%	41%	5%	2%
Total	4,454																								

CMBS - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																						Other Outcomes During 12/31/2013 - 12/31/2016 (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	1,492	43%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	0%	
Aa1	94	9%	21%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	68%	0%	
Aa2	185	16%	11%	21%	2%	1%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	48%	0%	
Aa3	194	10%	6%	6%	31%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	45%	0%	
A1	178	10%	3%	3%	6%	26%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	49%	0%	
A2	193	4%	1%	5%	5%	8%	28%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	45%	0%	
A3	216	6%	1%	2%	4%	5%	4%	31%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	44%	0%	
Baa1	160	5%	3%	3%	4%	3%	1%	2%	22%	0%	1%	4%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	53%	0%	
Baa2	173	3%	0%	3%	1%	3%	2%	5%	5%	21%	2%	1%	0%	1%	2%	0%	0%	0%	0%	0%	0%	0%	1%	51%	0%	
Baa3	294	3%	0%	0%	0%	1%	3%	6%	6%	6%	29%	0%	1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	1%	41%	0%	
Ba1	177	5%	0%	5%	2%	1%	2%	2%	2%	7%	3%	13%	2%	2%	0%	1%	1%	0%	0%	0%	0%	1%	2%	50%	0%	
Ba2	186	3%	0%	2%	1%	0%	0%	1%	2%	3%	5%	9%	38%	2%	1%	0%	1%	1%	0%	0%	0%	0%	2%	31%	1%	
Ba3	128	4%	0%	0%	0%	2%	2%	0%	2%	1%	2%	4%	4%	22%	4%	2%	2%	1%	1%	0%	0%	0%	1%	49%	0%	
B1	161	4%	1%	1%	2%	1%	1%	1%	1%	1%	2%	3%	5%	4%	12%	2%	1%	1%	1%	1%	0%	0%	4%	52%	1%	
B2	191	3%	1%	1%	0%	2%	0%	1%	1%	2%	1%	4%	2%	1%	4%	39%	1%	3%	1%	1%	0%	0%	2%	35%	0%	
B3	179	1%	0%	2%	1%	1%	1%	1%	2%	1%	1%	3%	1%	3%	6%	3%	21%	3%	4%	1%	0%	2%	7%	35%	1%	
Caa1	193	0%	0%	1%	1%	2%	0%	1%	1%	0%	0%	2%	0%	1%	4%	2%	2%	27%	3%	5%	0%	2%	15%	34%	1%	
Caa2	223	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	1%	2%	0%	4%	1%	3%	3%	23%	5%	0%	3%	23%	26%	1%	
Caa3	335	1%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	1%	0%	1%	1%	1%	3%	1%	27%	3%	5%	28%	24%	1%	
Ca	159	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	2%	1%	2%	1%	2%	3%	17%	11%	42%	16%	1%	
C	379	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	14%	74%	8%	1%	
Total	5,490																									

CMBS - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2006 - 12/31/2016 (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	2,729	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	56%	37%
Aa1	208	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	2%	1%	0%	1%	1%	0%	5%	54%	27%
Aa2	564	2%	0%	2%	1%	1%	1%	1%	1%	0%	1%	1%	0%	0%	1%	0%	0%	1%	0%	2%	0%	2%	9%	51%	24%
Aa3	321	2%	1%	0%	2%	2%	0%	0%	0%	0%	1%	1%	1%	0%	1%	1%	0%	1%	1%	1%	0%	1%	10%	55%	17%
A1	218	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%	0%	2%	2%	1%	0%	2%	9%	54%	23%
A2	504	2%	0%	0%	0%	1%	1%	0%	1%	0%	0%	1%	0%	1%	0%	1%	1%	0%	0%	2%	0%	2%	15%	48%	23%
A3	397	3%	0%	1%	1%	1%	1%	1%	0%	1%	0%	1%	1%	1%	1%	0%	1%	1%	1%	2%	1%	2%	21%	49%	12%
Baa1	393	2%	0%	1%	1%	1%	0%	1%	1%	1%	0%	0%	0%	0%	2%	0%	1%	2%	1%	1%	0%	1%	26%	44%	15%
Baa2	560	1%	0%	1%	0%	0%	1%	0%	1%	2%	0%	1%	0%	0%	1%	0%	1%	1%	0%	1%	1%	1%	24%	43%	19%
Baa3	523	1%	0%	1%	0%	1%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	33%	42%	16%
Ba1	334	3%	1%	0%	0%	0%	0%	0%	1%	1%	0%	1%	0%	1%	1%	0%	0%	1%	0%	1%	0%	1%	43%	37%	10%
Ba2	397	3%	0%	0%	1%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	1%	0%	1%	1%	0%	1%	45%	34%	12%
Ba3	316	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	1%	1%	0%	0%	2%	0%	0%	51%	29%	8%
B1	250	1%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	0%	0%	1%	1%	0%	0%	61%	25%	5%
B2	273	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%	1%	62%	26%	5%
B3	251	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	0%	1%	0%	0%	0%	1%	70%	22%	2%
Caa1	30	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	3%	3%	0%	0%	0%	0%	70%	17%	0%
Caa2	41	0%	0%	0%	0%	2%	2%	0%	0%	0%	2%	0%	0%	0%	2%	0%	0%	0%	0%	2%	0%	0%	76%	10%	2%
Caa3	23	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	87%	9%	4%
Ca	16	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	81%	0%	19%
C	33	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	76%	0%	24%
Total	8,381																								

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, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2015 - 12/31/2016 (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	2,014	67%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%
Aa1	109	52%	31%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%
Aa2	527	2%	3%	84%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	0%
Aa3	48	25%	21%	0%	23%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	31%	0%
A1	68	4%	22%	10%	16%	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	31%	0%
A2	428	1%	2%	2%	2%	3%	79%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	0%
A3	55	4%	9%	4%	4%	13%	9%	31%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
Baa1	60	0%	7%	3%	13%	8%	7%	15%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
Baa2	113	0%	1%	0%	3%	4%	5%	6%	4%	64%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%
Baa3	363	0%	0%	0%	0%	0%	1%	2%	2%	4%	82%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%
Ba1	78	0%	0%	0%	1%	1%	0%	1%	4%	8%	15%	36%	3%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	28%	0%
Ba2	169	0%	1%	0%	0%	0%	0%	2%	0%	1%	3%	12%	66%	2%	3%	0%	0%	0%	0%	0%	0%	0%	0%	11%	0%
Ba3	343	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	4%	88%	1%	1%	0%	0%	0%	0%	0%	0%	0%	3%	0%
B1	46	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	24%	52%	2%	4%	4%	0%	0%	0%	0%	0%	9%	0%
B2	160	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	91%	1%	1%	1%	0%	0%	0%	0%	4%	0%
B3	94	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	87%	2%	0%	1%	0%	0%	0%	6%	0%
Caa1	2	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%	17%	0%	50%	17%	0%	0%	0%	17%	0%
Caa3	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%	17%	50%	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	4,690																								

CLOs - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2013 - 12/31/2016 (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	1,500	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	70%	0%
Aa1	245	43%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	55%	0%
Aa2	177	21%	2%	21%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	0%
Aa3	114	48%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	49%	0%
A1	102	36%	5%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	0%
A2	160	26%	3%	1%	2%	1%	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	51%	0%
A3	123	30%	7%	3%	4%	0%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	53%	0%
Baa1	100	18%	12%	3%	6%	6%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	52%	0%
Baa2	119	12%	5%	4%	3%	8%	2%	3%	2%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	55%	0%
Baa3	153	3%	9%	5%	5%	4%	5%	3%	3%	1%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	52%	0%
Ba1	197	2%	4%	1%	7%	3%	4%	6%	6%	9%	4%	4%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	52%	0%
Ba2	207	2%	0%	1%	0%	3%	2%	6%	2%	3%	4%	10%	7%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	54%	0%
Ba3	170	1%	1%	0%	0%	0%	0%	2%	1%	2%	9%	12%	9%	18%	2%	1%	0%	0%	0%	0%	0%	0%	1%	42%	0%
B1	112	0%	1%	0%	0%	1%	0%	1%	2%	0%	3%	4%	10%	21%	13%	1%	5%	4%	1%	0%	0%	0%	0%	33%	0%
B2	30	0%	0%	0%	0%	3%	0%	0%	0%	3%	0%	0%	0%	10%	7%	40%	0%	3%	0%	3%	0%	0%	0%	30%	0%
B3	26	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	4%	0%	12%	12%	4%	0%	0%	0%	0%	0%	0%	0%	65%	0%
Caa1	15	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	7%	0%	0%	0%	0%	0%	13%	0%	0%	0%	60%	0%
Caa2	12	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	0%	17%	8%	0%	0%	0%	67%	0%
Caa3	15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	13%	0%	7%	0%	0%	0%	0%	0%	27%	47%	0%
Ca	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	25%	50%	0%
C	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Total	3,584																								

CLOs - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2006 - 12/31/2016 (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	929	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	79%	13%
Aa1	81	20%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	78%	1%
Aa2	383	14%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	81%	4%
Aa3	16	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	38%
A1	49	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	69%	29%
A2	454	9%	3%	1%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	77%	6%
A3	55	5%	4%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	33%
Baa1	14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%
Baa2	483	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	78%	9%
Baa3	117	0%	4%	1%	1%	3%	3%	5%	2%	3%	2%	2%	1%	2%	0%	0%	1%	0%	1%	1%	0%	0%	3%	57%	10%
Ba1	19	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	79%	11%
Ba2	295	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	4%	1%	3%	2%	0%	0%	1%	0%	0%	0%	0%	2%	76%	6%
Ba3	92	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	1%	3%	4%	2%	0%	0%	0%	1%	2%	0%	0%	15%	39%	27%
B1	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
B2	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	60%	0%
B3	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	50%
Caa1	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Caa2	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	20%	40%
Caa3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ca	10	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	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	75%	0%	25%
Total	3,021																								

Collateralized Debt Obligations (CDOs)

CDOs - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2015 - 12/31/2016 (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	226	74%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	26%	0%
Aa1	56	9%	75%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	0%
Aa2	62	5%	0%	92%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%
Aa3	49	4%	14%	8%	51%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	0%
A1	45	0%	2%	9%	13%	62%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	0%
A2	78	1%	1%	3%	0%	18%	62%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%
A3	37	0%	0%	5%	3%	0%	11%	59%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	0%
Baa1	23	0%	0%	0%	0%	13%	4%	9%	52%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	0%
Baa2	12	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	53	0%	2%	0%	0%	4%	0%	4%	2%	4%	79%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%
Ba1	44	2%	0%	0%	0%	0%	0%	0%	7%	9%	2%	57%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	18%	0%
Ba2	28	0%	0%	0%	0%	0%	4%	4%	0%	0%	0%	7%	7%	71%	4%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%
Ba3	26	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	4%	0%	77%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	0%
B1	30	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	7%	20%	0%	53%	3%	0%	0%	0%	0%	0%	0%	0%	13%	0%
B2	34	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	62%	0%	26%	3%	0%	0%	0%	0%	9%	0%
B3	27	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	7%	78%	0%	0%	0%	0%	0%	0%	4%	0%
Caa1	33	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	9%	6%	6%	0%	45%	0%	0%	0%	0%	0%	30%	0%
Caa2	36	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	72%	0%	0%	0%	0%	22%	0%
Caa3	95	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%	6%	1%	1%	69%	0%	0%	0%	19%	0%
Ca	267	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	90%	0%	1%	7%	0%
C	412	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%	1%	5%	0%
Total	1,673																								

CDOs - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2013 - 12/31/2016 (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	254	26%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	73%	2%
Aa1	46	22%	20%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	54%	0%
Aa2	56	30%	7%	27%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	34%	2%
Aa3	36	11%	6%	6%	19%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	58%	0%
A1	58	7%	22%	9%	2%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	48%	3%
A2	74	5%	4%	7%	12%	18%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	43%	1%
A3	72	7%	1%	3%	10%	10%	7%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	3%
Baa1	43	5%	5%	5%	0%	9%	7%	5%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	5%
Baa2	51	4%	0%	4%	6%	4%	0%	12%	8%	8%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	53%	0%
Baa3	57	2%	2%	0%	4%	7%	16%	5%	4%	4%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	49%	2%
Ba1	57	5%	0%	4%	4%	5%	4%	11%	2%	0%	2%	9%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	49%	5%
Ba2	53	0%	9%	0%	0%	0%	2%	6%	8%	6%	0%	2%	11%	2%	0%	4%	0%	0%	0%	0%	0%	0%	0%	49%	2%
Ba3	35	3%	0%	0%	0%	6%	0%	0%	0%	0%	3%	6%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	80%	0%
B1	30	0%	3%	0%	0%	0%	3%	0%	3%	0%	17%	3%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	67%	0%
B2	39	0%	0%	0%	0%	0%	0%	0%	0%	3%	10%	8%	3%	8%	0%	10%	5%	0%	3%	0%	0%	0%	0%	51%	0%
B3	44	2%	0%	7%	0%	2%	0%	0%	0%	0%	2%	0%	11%	2%	0%	0%	7%	25%	0%	0%	0%	0%	2%	27%	11%
Caa1	59	0%	0%	2%	0%	5%	0%	0%	0%	0%	8%	10%	0%	0%	12%	14%	0%	8%	0%	0%	0%	0%	0%	41%	0%
Caa2	70	1%	0%	0%	0%	1%	0%	0%	0%	3%	6%	6%	1%	1%	1%	3%	7%	1%	23%	4%	0%	0%	3%	37%	0%
Caa3	182	0%	0%	0%	1%	0%	1%	1%	1%	2%	2%	3%	1%	2%	3%	3%	5%	3%	4%	25%	0%	1%	1%	42%	3%
Ca	435	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	2%	1%	1%	1%	1%	3%	54%	2%	5%	20%	6%
C	613	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	61%	16%	10%	10%
Total	2,364																								

CDOs - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2006 - 12/31/2016 (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	2,866	2%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	6%	5%	16%	28%	37%
Aa1	272	0%	1%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	4%	11%	33%	46%
Aa2	1,014	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	8%	25%	26%	35%
Aa3	360	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	2%	3%	15%	36%	42%
A1	185	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	1%	0%	1%	1%	1%	12%	34%	49%
A2	822	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	1%	36%	23%	36%
A3	395	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	1%	0%	1%	0%	0%	1%	38%	23%	33%
Baa1	133	0%	1%	2%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	14%	26%	56%
Baa2	837	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	46%	21%	31%
Baa3	226	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	27%	21%	49%	
Ba1	173	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%	45%	18%	32%
Ba2	226	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	2%	23%	37%	35%
Ba3	80	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	1%	23%	16%	18%	40%
B1	35	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	46%	43%
B2	31	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	10%	32%	55%
B3	24	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	25%	25%	46%	
Caa1	19	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	32%	26%	37%	
Caa2	24	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	29%	21%	46%	
Caa3	25	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	8%	36%	40%	12%
Ca	74	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	7%	54%	19%	20%	
C	72	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	65%	11%	19%	
Total	7,893																								

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, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2015 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	180	62%	1%	0%	0%	0%	36%	1%
P-2	7	14%	86%	0%	0%	0%	0%	0%
P-3	1	0%	0%	100%	0%	0%	0%	0%
NP	-							
Total	188							

ABCP - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2013 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	179	52%	1%	0%	0%	0%	46%	2%
P-2	15	27%	40%	0%	0%	0%	20%	13%
P-3	2	0%	0%	50%	0%	0%	0%	50%
NP	-							
Total	196							

ABCP - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2006 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	493	13%	1%	0%	0%	3%	15%	68%
P-2	5	0%	0%	0%	0%	0%	20%	80%
P-3	-							
NP	-							
Total	498							

This subclass covers all Moody's rated public short-term issuances

Other Asset Backed Securities (Other ABS)

Other ABS - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2015 - 12/31/2016 (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	2,431	68%	1%	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	26%	0%
Aa1	244	30%	35%	0%	1%	9%	1%	2%	3%	2%	7%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	0%
Aa2	362	13%	4%	62%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	1%
Aa3	258	10%	6%	4%	44%	5%	0%	1%	1%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	26%	0%
A1	175	3%	7%	9%	3%	46%	3%	1%	1%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
A2	256	14%	7%	2%	6%	6%	47%	1%	0%	1%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	0%
A3	156	4%	1%	3%	3%	12%	6%	47%	1%	1%	3%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	18%	0%
Baa1	133	0%	2%	2%	2%	7%	6%	5%	60%	0%	4%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	0%
Baa2	159	1%	1%	0%	3%	2%	2%	8%	5%	58%	1%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%
Baa3	92	0%	0%	0%	0%	0%	3%	2%	11%	3%	53%	12%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	0%
Ba1	65	2%	0%	0%	0%	0%	0%	0%	5%	12%	5%	57%	6%	2%	3%	0%	2%	0%	0%	0%	0%	0%	0%	6%	2%
Ba2	72	0%	0%	0%	1%	1%	0%	3%	0%	1%	4%	8%	35%	1%	1%	0%	7%	8%	0%	1%	0%	0%	0%	26%	0%
Ba3	48	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%	17%	67%	6%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%
B1	93	0%	0%	0%	0%	1%	0%	0%	1%	0%	2%	2%	1%	4%	47%	6%	1%	0%	0%	1%	0%	0%	0%	32%	0%
B2	54	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	2%	2%	4%	2%	72%	6%	0%	0%	0%	0%	0%	0%	11%	0%
B3	57	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	4%	72%	9%	4%	2%	2%	2%	0%	5%	0%
Caa1	50	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	2%	6%	46%	12%	6%	0%	2%	0%	18%	4%
Caa2	27	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	59%	4%	4%	0%	0%	33%	0%
Caa3	49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%	53%	8%	12%	2%	16%	4%
Ca	40	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	5%	0%	0%	3%	0%	0%	0%	70%	5%	0%	10%	5%
C	97	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	84%	2%	8%	4%
Total	4,918																								

Other ABS - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2013 - 12/31/2016 (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	2,368	33%	1%	1%	1%	1%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	0%
Aa1	239	18%	10%	1%	3%	9%	1%	3%	3%	3%	9%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	39%	0%
Aa2	233	12%	2%	33%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	47%	1%
Aa3	204	8%	4%	1%	29%	2%	0%	1%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	51%	0%
A1	244	11%	5%	5%	1%	11%	2%	1%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	0%
A2	384	14%	3%	6%	4%	3%	17%	1%	0%	1%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	49%	0%
A3	347	1%	2%	6%	2%	3%	1%	8%	1%	0%	1%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	74%	0%
Baa1	188	6%	2%	3%	1%	8%	5%	6%	17%	2%	3%	2%	0%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	43%	0%
Baa2	261	6%	1%	2%	1%	1%	1%	3%	8%	15%	2%	2%	2%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%	52%	2%
Baa3	117	2%	0%	1%	2%	5%	2%	0%	6%	9%	11%	2%	4%	3%	1%	0%	1%	0%	0%	0%	0%	0%	0%	51%	1%
Ba1	127	1%	0%	5%	0%	1%	4%	2%	2%	6%	6%	13%	0%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	57%	0%
Ba2	108	2%	1%	3%	0%	5%	0%	2%	3%	3%	2%	3%	13%	1%	2%	1%	3%	8%	0%	0%	0%	1%	0%	49%	0%
Ba3	147	0%	0%	0%	0%	1%	0%	1%	1%	3%	1%	3%	3%	11%	1%	3%	0%	0%	0%	1%	0%	0%	0%	71%	0%
B1	111	0%	0%	1%	0%	1%	1%	2%	1%	2%	2%	1%	1%	7%	23%	5%	4%	0%	3%	1%	0%	0%	0%	47%	1%
B2	83	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	5%	0%	2%	30%	23%	5%	1%	0%	0%	0%	0%	28%	0%
B3	81	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	1%	5%	5%	21%	12%	10%	5%	1%	0%	0%	35%	2%
Caa1	55	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	5%	4%	11%	16%	0%	5%	5%	5%	4%	40%	2%
Caa2	57	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	4%	0%	0%	2%	0%	19%	12%	4%	4%	7%	37%	9%
Caa3	47	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%	0%	0%	2%	2%	0%	28%	19%	4%	4%	6%	32%	2%
Ca	56	0%	0%	0%	0%	2%	0%	2%	0%	0%	0%	2%	0%	4%	0%	2%	2%	0%	0%	0%	25%	9%	11%	36%	7%
C	111	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	66%	6%	19%	7%
Total	5,568																								

Other ABS - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2006 - 12/31/2016 (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	5,200	6%	1%	1%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	35%	54%
Aa1	169	7%	0%	1%	1%	7%	1%	3%	5%	4%	5%	2%	1%	2%	1%	0%	1%	0%	0%	0%	1%	0%	0%	22%	38%
Aa2	355	3%	1%	2%	1%	1%	2%	0%	1%	0%	1%	0%	1%	1%	1%	0%	1%	0%	1%	0%	0%	0%	0%	25%	61%
Aa3	128	0%	2%	1%	3%	1%	2%	1%	0%	0%	0%	1%	1%	1%	2%	2%	0%	0%	0%	2%	0%	3%	1%	24%	56%
A1	285	0%	1%	1%	0%	1%	0%	1%	1%	0%	0%	0%	0%	3%	1%	1%	1%	0%	0%	0%	0%	1%	1%	26%	61%
A2	842	2%	1%	1%	1%	1%	1%	0%	1%	0%	1%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	1%	1%	38%	47%
A3	129	2%	1%	0%	2%	3%	1%	3%	2%	1%	1%	1%	2%	0%	0%	1%	2%	2%	1%	2%	0%	6%	5%	22%	43%
Baa1	194	1%	1%	0%	0%	1%	0%	1%	0%	1%	2%	1%	1%	1%	0%	1%	2%	1%	1%	2%	0%	1%	6%	35%	47%
Baa2	521	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	0%	1%	0%	1%	1%	0%	0%	0%	0%	0%	1%	2%	36%	54%
Baa3	276	1%	0%	0%	0%	1%	0%	1%	3%	1%	2%	1%	1%	1%	1%	4%	3%	0%	1%	0%	1%	0%	4%	36%	38%
Ba1	124	0%	0%	0%	0%	1%	2%	2%	4%	1%	0%	2%	0%	0%	2%	0%	1%	0%	0%	0%	2%	0%	1%	43%	40%
Ba2	119	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	1%	1%	0%	3%	1%	0%	2%	0%	6%	35%	49%
Ba3	42	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	2%	0%	0%	10%	17%	67%
B1	30	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	3%	13%	17%	57%
B2	39	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	5%	3%	23%	18%	49%
B3	23	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	4%	0%	0%	0%	0%	9%	13%	22%	48%
Caa1	28	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	0%	7%	43%	14%	29%
Caa2	16	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%	0%	0%	31%	6%	19%	25%
Caa3	15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	47%	0%	27%	
Ca	31	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	10%	61%	10%	16%	
C	47	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	68%	11%	6%	
Total	8,613																								

Other Structured Finance Products (Other SFPs)

Other SFPs - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2015 - 12/31/2016 (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	1,029	92%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%
Aa1	139	9%	84%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%
Aa2	151	1%	2%	85%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	0%
Aa3	119	3%	3%	5%	71%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	0%
A1	149	3%	2%	5%	4%	72%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	0%
A2	186	1%	1%	0%	1%	20%	62%	2%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	1%
A3	138	0%	1%	1%	1%	5%	6%	64%	6%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	1%
Baa1	107	0%	0%	0%	0%	3%	4%	4%	64%	4%	3%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	1%
Baa2	73	0%	0%	1%	0%	0%	0%	3%	3%	52%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	4%
Baa3	114	0%	0%	0%	0%	0%	0%	2%	4%	2%	60%	4%	5%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	20%	3%
Ba1	78	0%	0%	0%	0%	0%	0%	0%	3%	10%	3%	71%	3%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%
Ba2	75	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	5%	75%	1%	4%	0%	1%	0%	0%	0%	0%	0%	0%	4%	1%
Ba3	391	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	66%	4%	3%	1%	1%	2%	1%	1%	1%	0%	12%	5%
B1	144	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	3%	2%	61%	7%	6%	4%	2%	4%	0%	0%	0%	9%	1%
B2	135	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	2%	1%	64%	11%	7%	2%	2%	1%	1%	0%	6%	1%
B3	168	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	3%	1%	72%	9%	3%	2%	1%	0%	0%	5%	1%
Caa1	321	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	1%	82%	9%	2%	1%	0%	0%	2%	0%
Caa2	578	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	86%	6%	1%	0%	0%	3%	0%
Caa3	823	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	85%	10%	1%	0%	3%	0%
Ca	553	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	95%	2%	0%	1%	0%
C	412	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	94%	0%	4%	1%
Total	5,883																								

Other SFPs - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2013 - 12/31/2016 (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	645	67%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	31%	1%
Aa1	70	30%	19%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	43%	0%
Aa2	57	23%	16%	23%	7%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%
Aa3	138	7%	1%	22%	17%	16%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	35%	0%
A1	136	3%	1%	4%	7%	18%	35%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%	0%
A2	133	4%	0%	5%	1%	29%	29%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	0%
A3	209	6%	0%	11%	6%	3%	1%	32%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	34%	5%
Baa1	199	2%	2%	1%	4%	5%	9%	4%	28%	1%	3%	2%	1%	2%	0%	0%	0%	0%	0%	1%	0%	0%	0%	30%	8%
Baa2	113	2%	2%	1%	1%	4%	1%	0%	2%	26%	4%	4%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	47%	3%
Baa3	134	1%	2%	1%	1%	1%	2%	1%	4%	4%	29%	3%	4%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	41%	1%
Ba1	94	1%	1%	3%	1%	2%	2%	3%	0%	1%	11%	28%	1%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	36%	6%
Ba2	98	1%	0%	0%	0%	0%	1%	0%	0%	2%	7%	11%	26%	3%	6%	0%	2%	0%	0%	0%	0%	0%	0%	35%	6%
Ba3	643	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	2%	3%	38%	6%	5%	3%	3%	4%	6%	2%	2%	0%	16%	7%
B1	164	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	4%	2%	37%	7%	14%	7%	2%	2%	2%	1%	0%	15%	2%
B2	156	1%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	4%	3%	40%	12%	13%	3%	3%	1%	0%	0%	15%	1%
B3	180	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	2%	3%	1%	45%	17%	13%	3%	1%	1%	0%	11%	2%
Caa1	375	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%	2%	55%	21%	9%	0%	1%	0%	9%	1%	
Caa2	577	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	69%	14%	2%	1%	0%	10%	1%
Caa3	797	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	74%	14%	1%	0%	10%	0%
Ca	561	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	86%	1%	0%	9%	0%
C	475	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	79%	1%	16%	1%
Total	5,954																								

Other SFPs - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2006 - 12/31/2016 (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	5,812	2%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	1%	3%	1%	2%	2%	4%	7%	8%	6%	4%	1%	25%	29%
Aa1	115	4%	3%	1%	0%	0%	0%	0%	0%	1%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	10%	3%	30%	47%
Aa2	210	0%	0%	1%	0%	5%	0%	0%	0%	1%	0%	3%	0%	1%	0%	0%	0%	0%	2%	0%	3%	11%	3%	25%	42%
Aa3	209	0%	1%	1%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	30%	61%
A1	165	0%	0%	1%	2%	0%	0%	4%	2%	1%	2%	2%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	1%	37%	46%
A2	302	1%	0%	0%	0%	4%	7%	9%	0%	0%	0%	3%	1%	0%	0%	0%	0%	0%	0%	0%	1%	4%	2%	25%	41%
A3	161	2%	0%	0%	1%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	3%	2%	34%	55%
Baa1	131	0%	2%	1%	0%	0%	2%	1%	3%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	1%	2%	8%	36%	44%
Baa2	196	1%	0%	0%	0%	1%	0%	1%	1%	2%	2%	0%	2%	0%	1%	1%	0%	0%	0%	1%	1%	6%	5%	30%	48%
Baa3	182	0%	1%	1%	0%	1%	0%	0%	0%	0%	1%	0%	1%	0%	0%	1%	1%	0%	0%	1%	2%	4%	6%	43%	38%
Ba1	51	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	47%	51%
Ba2	63	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	2%	2%	0%	3%	0%	2%	43%	44%
Ba3	52	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%	2%	8%	27%	60%
B1	33	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	76%
B2	29	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	14%	0%	0%	0%	31%	41%
B3	30	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	27%	70%	
Caa1	8	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	38%	38%
Caa2	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	33%	33%
Caa3	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	75%
Ca	2	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	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%	83%
Total	7,764																								

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

- » ABCP - Fully Supported
- » ABCP - Fully Supported LOC
- » ABCP - Mortgage Warehouse
- » ABCP - MTN
- » ABCP - Other
- » ABCP - Partially Supported
- » CDO - Repackaged Securities
- » CDO - Repackaged Securities - CBO
- » CDO - Repackaged Securities - CLO
- » Covered Bonds **
- » Other - CAPCO
- » Other - Collateralized GICs
- » Other - Credit Derivatives
- » Other - DPC
- » Other - DPC (FS)
- » Other - Insurance Linked
- » Other - Other
- » Other - Preferred Stock
- » Other - Repackaged Securities
- » Other - Structured Covered Bonds
- » Other - Structured Notes
- » Other - Tax Credit Linked Structured Notes
- » Structured Investment Vehicles - ABCP
- » 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 SFPs.

** 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 that a covered bond deal could have as many as 300 series issued under it, reporting on series level would introduce a great amount of redundancy. In the rare cases where a covered bond deal has different ratings on its concurrently outstanding series, the rating for the covered bond deal generally corresponds to the rating of the highest rated series.

Sovereign Issuers

Sovereign Issuers - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2015 - 12/31/2016 (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	86%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	3	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	7	0%	0%	86%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	6	0%	0%	0%	83%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A1	6	0%	0%	0%	0%	67%	17%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A2	3	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A3	7	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	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	12	0%	0%	0%	0%	0%	0%	8%	0%	67%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa3	9	0%	0%	0%	0%	0%	0%	0%	0%	56%	22%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba1	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	75%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba2	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%
Ba3	12	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	42%	42%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%
B1	13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	85%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%
B2	7	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	57%	14%	14%	0%	0%	0%	0%	14%	0%	0%
B3	11	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	82%	9%	0%	0%	0%	0%	0%	0%	0%
Caa1	1	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%	33%	0%	67%	0%	0%	0%	0%	0%	0%
Caa3	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%
Ca	-																								
C	-																								
Total	130																								

Sovereign Issuers - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2013 - 12/31/2016 (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	86%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	4	0%	75%	25%	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	10	0%	0%	10%	60%	20%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A1	4	0%	0%	0%	0%	75%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A2	3	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A3	2	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa1	9	0%	0%	0%	0%	0%	0%	22%	22%	22%	22%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa2	8	0%	0%	0%	0%	0%	0%	25%	0%	38%	13%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa3	12	0%	0%	0%	0%	0%	0%	8%	0%	33%	33%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba1	6	0%	0%	0%	0%	0%	0%	17%	0%	0%	33%	33%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba2	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%
Ba3	13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	31%	31%	0%	15%	8%	0%	0%	0%	0%	0%	0%	0%
B1	15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	53%	20%	13%	7%	0%	0%	0%	0%	7%	0%	0%
B2	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	50%	25%	0%	0%	0%	0%	0%	0%	0%	0%
B3	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	50%	17%	0%	0%	0%	0%	17%	0%	0%
Caa1	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	17%	17%	0%	0%	17%	0%	0%
Caa2	1	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	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	33%	0%	0%	33%	0%	0%	0%	0%	0%
Ca	-																								
C	-																								
Total	125																								

Sovereign Issuers - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2006 - 12/31/2016 (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	60%	20%	5%	0%	0%	0%	10%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	2	0%	0%	0%	50%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa2	3	0%	0%	0%	0%	0%	0%	0%	0%	33%	33%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	6	0%	17%	50%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A1	5	0%	0%	0%	20%	40%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%
A2	11	0%	0%	0%	18%	27%	18%	18%	0%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	0%	0%
A3	6	0%	0%	17%	0%	0%	0%	33%	17%	0%	17%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa1	4	0%	0%	0%	0%	0%	0%	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa2	5	0%	0%	0%	0%	0%	0%	0%	20%	0%	20%	20%	0%	20%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%
Baa3	4	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	25%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%
Ba1	5	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	60%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%
Ba2	7	0%	0%	0%	0%	0%	0%	0%	14%	14%	14%	14%	0%	43%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba3	3	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	33%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
B1	9	0%	0%	0%	0%	0%	0%	0%	0%	22%	11%	0%	0%	0%	11%	11%	11%	11%	0%	0%	0%	0%	22%	0%	0%
B2	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	25%	0%	0%	0%	0%	0%	25%
B3	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%	25%	0%	0%	0%	0%	0%	0%	25%	0%	0%
Caa1	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	20%	0%	0%	0%	40%	0%	20%
Caa2	-																								
Caa3	-																								
Ca	-																								
C	-																								
Total	103																								

United States Public Finance

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

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2015 - 12/31/2016 (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	623	95%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%
Aa1	931	4%	90%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Aa2	2,658	0%	3%	91%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%
Aa3	2,344	0%	0%	4%	89%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%
A1	2,490	0%	0%	0%	3%	87%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	4%
A2	1,206	0%	0%	0%	0%	4%	86%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	3%
A3	618	0%	0%	0%	0%	1%	6%	82%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%
Baa1	334	0%	0%	0%	0%	1%	1%	6%	77%	5%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	6%
Baa2	229	0%	0%	0%	0%	0%	0%	3%	6%	77%	6%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
Baa3	171	0%	0%	0%	0%	0%	1%	1%	1%	4%	77%	6%	3%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	1%	6%
Ba1	50	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	70%	8%	4%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%
Ba2	31	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	6%	71%	3%	3%	0%	0%	3%	0%	0%	0%	0%	0%	0%	10%
Ba3	23	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	57%	9%	4%	0%	4%	0%	0%	0%	0%	0%	4%	13%
B1	12	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	42%	0%	8%	0%	0%	0%	0%	0%	0%	8%	25%
B2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%
B3	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%	0%	0%	0%	0%	83%	0%	0%	0%	0%	0%	0%	0%	0%
Caa1	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	20%	0%	20%	0%	20%	0%	0%	0%	0%	20%
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	5	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	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	50%	0%	0%
C	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	50%	0%
Total	11,745																								

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

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																						Other Outcomes During 12/31/2013 - 12/31/2016 (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	705	77%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	15%	
Aa1	912	6%	77%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	6%	
Aa2	2,869	0%	6%	76%	5%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	8%	
Aa3	2,503	0%	0%	8%	69%	5%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	10%	
A1	2,900	0%	0%	1%	8%	64%	6%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	13%	
A2	1,202	0%	0%	0%	2%	10%	62%	7%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	11%	
A3	545	0%	0%	0%	1%	3%	11%	57%	9%	2%	1%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	3%	10%	
Baa1	339	1%	1%	0%	0%	1%	4%	13%	40%	9%	4%	1%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	16%	
Baa2	210	0%	0%	0%	0%	1%	3%	4%	8%	47%	9%	2%	2%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	19%	
Baa3	152	0%	0%	0%	0%	0%	3%	5%	6%	3%	44%	6%	3%	1%	1%	0%	0%	1%	0%	1%	1%	0%	2%	5%	19%	
Ba1	87	0%	0%	1%	0%	0%	3%	6%	8%	7%	7%	22%	6%	0%	3%	0%	0%	0%	0%	1%	0%	0%	0%	2%	33%	
Ba2	27	0%	0%	0%	0%	0%	0%	0%	7%	7%	7%	4%	26%	4%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	41%	
Ba3	18	0%	0%	0%	0%	0%	6%	0%	0%	6%	0%	6%	11%	39%	6%	6%	0%	0%	0%	0%	0%	0%	0%	0%	22%	
B1	18	0%	0%	0%	0%	0%	0%	11%	0%	0%	0%	6%	11%	6%	17%	0%	0%	6%	0%	0%	0%	0%	0%	0%	44%	
B2	4	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	25%	25%	0%	0%	25%	0%	0%	0%	0%	0%	
B3	10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	90%	
Caa1	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	33%	0%	33%	
Caa2	2	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%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	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%	0%	0%	100%	
C	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	33%	33%	0%	
Total	12,512																									

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

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2006 - 12/31/2016 (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	1,226	30%	5%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	23%
Aa1	792	15%	48%	14%	3%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	12%
Aa2	2,535	2%	11%	48%	9%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	15%
Aa3	2,415	0%	3%	20%	34%	9%	3%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	16%
A1	2,876	0%	0%	9%	12%	29%	6%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	21%
A2	1,512	0%	0%	4%	14%	14%	14%	5%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	24%	21%
A3	1,054	0%	0%	2%	6%	14%	8%	8%	4%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	34%	20%
Baa1	617	0%	0%	0%	2%	9%	4%	6%	6%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	41%	25%
Baa2	428	0%	0%	0%	1%	3%	6%	3%	5%	6%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	39%	32%
Baa3	310	0%	0%	0%	0%	1%	3%	2%	2%	5%	5%	3%	1%	1%	1%	0%	1%	0%	0%	0%	0%	0%	1%	41%	35%
Ba1	43	0%	0%	0%	0%	0%	2%	0%	2%	2%	7%	2%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	9%	26%	47%
Ba2	34	0%	0%	0%	0%	0%	0%	6%	0%	6%	3%	3%	3%	3%	0%	0%	0%	0%	0%	0%	0%	0%	3%	21%	53%
Ba3	28	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%	0%	14%	25%	54%
B1	12	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	33%	42%
B2	9	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	22%	56%
B3	9	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	33%	33%
Caa1	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Caa2	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	67%	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%	0%	33%
Ca	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	67%	0%
C	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Total	13,912																								

International Public Finance

International Public Finance - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)																				Other Outcomes During 12/31/2015 - 12/31/2016 (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	18	89%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	15	0%	80%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa2	20	0%	0%	90%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	2	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	16	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	4	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A3	5	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa1	9	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa2	17	0%	0%	0%	0%	0%	0%	0%	0%	82%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%
Baa3	15	0%	0%	0%	0%	0%	0%	0%	0%	7%	53%	20%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba1	21	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	71%	5%	10%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ba2	28	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	68%	18%	4%	4%	0%	0%	0%	0%	0%	0%	0%	0%	4%
Ba3	22	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	64%	18%	0%	5%	5%	0%	0%	0%	0%	0%	5%	5%
B1	14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%
B2	8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	50%	0%	13%	0%	0%	0%	0%	0%	0%	25%
B3	3	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	33%	33%	0%	0%	0%	0%	0%	0%	0%
Caa1	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	80%	20%	0%	0%	0%	0%	0%	0%	0%
Caa2	5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	40%	0%	0%	0%	0%	0%	0%	0%
Caa3	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%
Ca	-																								
C	-																								
Total	229																								

International Public Finance - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2013 - 12/31/2016 (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	19	79%	16%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa1	17	6%	65%	24%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%
Aa2	16	0%	0%	88%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aa3	16	0%	0%	6%	13%	81%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A1	4	0%	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A2	4	0%	0%	0%	0%	25%	75%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
A3	5	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa1	7	0%	0%	0%	0%	0%	0%	0%	57%	0%	14%	29%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa2	16	0%	0%	0%	0%	0%	0%	0%	13%	50%	6%	0%	19%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%
Baa3	27	0%	0%	0%	0%	0%	0%	0%	7%	22%	26%	19%	11%	7%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
Ba1	18	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	56%	6%	11%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%
Ba2	29	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%	41%	14%	17%	3%	0%	0%	0%	0%	0%	0%	0%	0%	17%
Ba3	25	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	8%	40%	20%	4%	4%	4%	0%	0%	0%	0%	0%	4%	12%
B1	14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	7%	29%	0%	0%	7%	0%	0%	0%	0%	0%	0%	43%
B2	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	33%	33%	0%	0%	0%	0%	0%	0%	0%	0%	17%
B3	9	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	0%	44%	11%	0%	0%	0%	0%	0%	0%	33%
Caa1	6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	17%	0%	0%	0%	0%	33%	0%	0%
Caa2	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%
Caa3	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Ca	-																								
C	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%
Total	241																								

International Public Finance - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)																					Other Outcomes During 12/31/2006 - 12/31/2016 (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	34	41%	18%	9%	0%	0%	0%	6%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	24%
Aa1	25	4%	24%	24%	4%	0%	0%	0%	4%	8%	4%	0%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	16%
Aa2	26	0%	0%	19%	4%	4%	0%	0%	0%	12%	8%	4%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	42%
Aa3	20	0%	0%	0%	0%	5%	0%	0%	0%	15%	0%	5%	5%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	65%
A1	13	0%	0%	0%	0%	8%	0%	0%	0%	15%	0%	15%	8%	0%	8%	0%	0%	0%	0%	0%	0%	0%	8%	8%	31%
A2	8	0%	0%	0%	0%	13%	25%	0%	13%	0%	25%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%
A3	4	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Baa1	6	0%	0%	0%	0%	0%	0%	17%	33%	0%	0%	17%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%
Baa2	4	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Baa3	13	0%	0%	0%	0%	0%	0%	0%	0%	0%	38%	31%	15%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%
Ba1	15	0%	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	20%	7%	0%	0%	0%	7%	0%	0%	0%	0%	0%	0%	60%
Ba2	22	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	14%	18%	9%	0%	0%	5%	0%	0%	0%	0%	5%	0%	41%
Ba3	18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	6%	17%	17%	0%	6%	6%	0%	0%	0%	0%	0%	0%	39%
B1	11	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	18%	0%	9%	9%	0%	0%	0%	0%	18%	0%	36%
B2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%
B3	1	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	-																								
Caa2	-																								
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	-																								
C	-																								
Total	223																								

Short Term Corporate Commercial Paper

Short Term Corporate Commercial Paper - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2015 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	638	92%	5%	0%	0%	0%	2%	0%
P-2	546	2%	89%	3%	1%	0%	3%	1%
P-3	67	0%	15%	64%	9%	0%	9%	3%
NP	108	0%	0%	6%	88%	0%	2%	5%
Total	1,359							

Short Term Corporate Commercial Paper - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2013 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	578	85%	9%	0%	0%	0%	4%	1%
P-2	532	8%	71%	5%	4%	0%	9%	3%
P-3	75	3%	39%	33%	5%	0%	15%	5%
NP	122	0%	6%	6%	60%	2%	11%	16%
Total	1,307							

Short Term Corporate Commercial Paper - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2006 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	811	43%	17%	1%	3%	0%	12%	23%
P-2	402	10%	40%	4%	3%	0%	15%	28%
P-3	37	0%	43%	8%	5%	0%	8%	35%
NP	71	0%	7%	3%	17%	3%	15%	55%
Total	1,321							

Short Term Municipal - P Scale

Short Term Municipal - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2015 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	84	90%	1%	0%	0%	0%	0%	8%
P-2	-							
P-3	-							
NP	-							
Total	84							

Short Term Municipal - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2013 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	67	87%	1%	0%	0%	0%	0%	12%
P-2	-							
P-3	-							
NP	-							
Total	67							

Short Term Municipal - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2006 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	P-1	P-2	P-3	NP	Default	Paid Off	Withdrawn (other)
P-1	39	54%	0%	0%	0%	0%	10%	36%
P-2	-							
P-3	-							
NP	-							
Total	39							

Short Term Municipal - MIG Scale

Short Term Municipal - 1-Year Transition and Default Rates

(December 31, 2015 through December 31, 2016)

Credit Ratings as of 12/31/2015		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2015 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	MIG 1	MIG 2	MIG 3	SG	Default	Paid Off	Withdrawn (other)
MIG 1	177	57%	0%	0%	0%	0%	37%	6%
MIG 2	6	0%	50%	0%	0%	0%	50%	0%
MIG 3	2	0%	0%	0%	0%	0%	50%	50%
SG	1	0%	0%	0%	100%	0%	0%	0%
Total	186							

Short Term Municipal - 3-Year Transition and Default Rates

(December 31, 2013 through December 31, 2016)

Credit Ratings as of 12/31/2013		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2013 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	MIG 1	MIG 2	MIG 3	SG	Default	Paid Off	Withdrawn (other)
MIG 1	251	24%	0%	0%	0%	0%	63%	14%
MIG 2	10	0%	0%	0%	0%	0%	80%	20%
MIG 3	4	0%	0%	0%	0%	0%	75%	25%
SG	-							
Total	265							

Short Term Municipal - 10-Year Transition and Default Rates

(December 31, 2006 through December 31, 2016)

Credit Ratings as of 12/31/2006		Credit Ratings as of 12/31/2016 (Percent)				Other Outcomes During 12/31/2006 - 12/31/2016 (Percent)		
Credit Ratings	Number of Ratings Outstanding	MIG 1	MIG 2	MIG 3	SG	Default	Paid Off	Withdrawn (other)
MIG 1	384	7%	0%	0%	0%	0%	89%	5%
MIG 2	3	0%	0%	0%	0%	33%	67%	0%
MIG 3	-							
SG	-							
Total	387							

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 period), 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.²
- e) 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 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 errors 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).

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 the corresponding issuer pages on Moody's website, www.moody.com.

² 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.

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. Long-term ratings are assigned to issuers or obligations with an original maturity of one year 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.^{3,4}

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.⁵ 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.

³ For certain structured finance, 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 (as defined below in this publication) and financial loss in the event of impairment.

⁴ Supranational institutions and central banks that hold sovereign debt or extend sovereign loans, such as the IMF or the European Central Bank, may not always be treated similarly to other investors and lenders with similar credit exposures. Long-term and short-term ratings assigned to obligations held by both supranational institutions and central banks, as well as other investors, reflect only the credit risks faced by other investors unless specifically noted otherwise.

⁵ 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.*

Note: For more information on long-term ratings assigned to obligations in default, please see the definition "Long-Term Credit Ratings for Defaulted or Impaired Securities" in the Other Definitions section of this publication.

* 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	Issuers (or supporting institutions) rated Prime-1 have a superior ability to repay short-term debt obligations.
P-2	Issuers (or supporting institutions) rated Prime-2 have a strong ability to repay short-term debt obligations.
P-3	Issuers (or supporting institutions) rated Prime-3 have 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.⁶

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

⁶ 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.

US Municipal Short-Term Debt and Demand Obligation Ratings

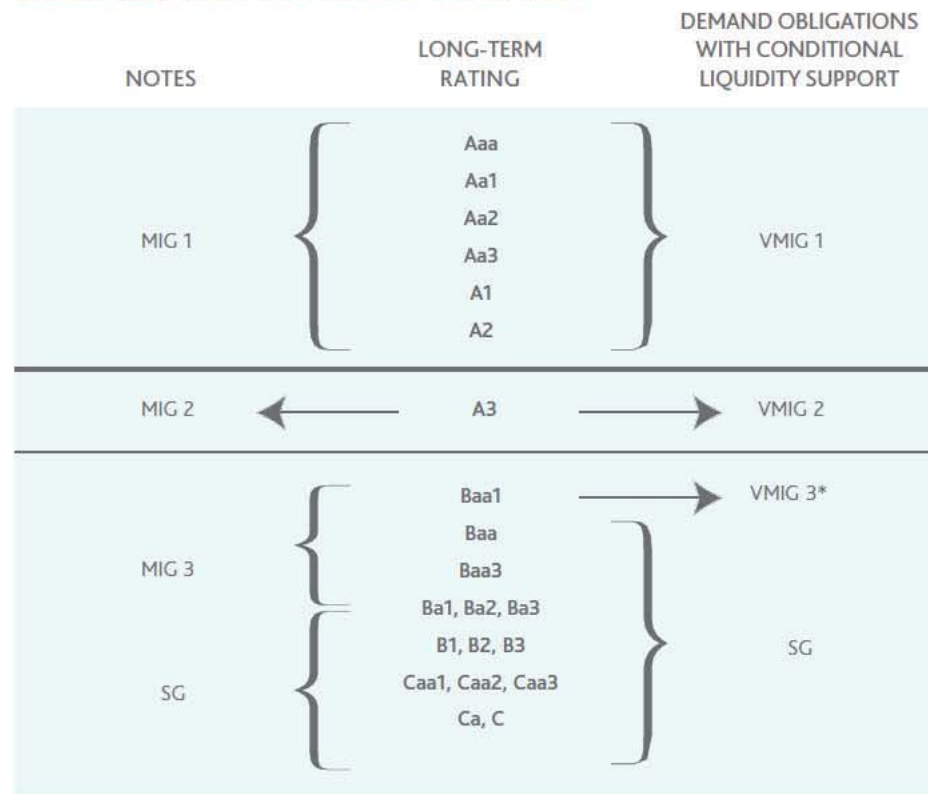
SHORT-TERM OBLIGATION RATINGS

While the global short-term 'prime' rating scale is applied to US municipal tax-exempt commercial paper, these programs are typically backed by external letters of credit or liquidity facilities and their short-term prime ratings usually map to the long-term rating of the enhancing bank or financial institution and not to the municipality's rating. Other short-term municipal obligations, which generally have different funding sources for repayment, are rated using two additional short-term rating scales (i.e., the MIG and VMIG scales).

The Municipal Investment Grade (MIG) scale is used to rate US municipal bond anticipation notes of up to three years maturity. Municipal notes rated on the MIG scale may be secured by either pledged revenues or proceeds of a take-out financing received prior to note maturity. MIG ratings expire at the maturity of the obligation, and the issuer's long-term rating is only one consideration in assigning the MIG rating. MIG ratings are divided into three levels—MIG 1 through MIG 3—while speculative grade short-term obligations are designated SG.

MIG 1	This designation denotes superior credit quality. Excellent protection is afforded by established cash flows, highly reliable liquidity support, or demonstrated broad-based access to the market for refinancing.
MIG 2	This designation denotes strong credit quality. Margins of protection are ample, although not as large as in the preceding group.
MIG 3	This designation denotes acceptable credit quality. Liquidity and cash-flow protection may be narrow, and market access for refinancing is likely to be less well-established.
SG	This designation denotes speculative-grade credit quality. Debt instruments in this category may lack sufficient margins of protection.

US MUNICIPAL SHORT-TERM VS. LONG-TERM RATINGS



* For VRDBs supported with conditional liquidity support, short-term ratings transition down at higher long-term ratings to reflect the risk of termination of liquidity support as a result of a downgrade below investment grade.

VMIG ratings of VRDBs with unconditional liquidity support reflect the short-term debt rating (or counterparty assessment) of the liquidity support provider with VMIG 1 corresponding to P-1, VMIG 2 to P-2, VMIG 3 to P-3 and SG to not prime.

For more complete discussion of these rating transitions, please see Moody's Methodology titled [Variable Rate Instruments Supported by Conditional Liquidity Facilities](#)

ISSUER RATINGS

Issuer Ratings are opinions of the ability of entities to honor senior unsecured debt and debt like obligations.⁷ 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 one year 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

⁷ Issuer Ratings as applied to US local governments 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.



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.