

UMBS Prepayment Speeds

March 2022

UMBS 10yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 10yr 2	10,662	0.463	699	2.6	101	15	221,063	↓ 10.9	12.5	-1.6	-13%	12.51	14.70	15.68	0.04	0.04	0.05	0.05	0.36	0.03	0.01	0.00	0.00	99.40	0.53	0.07
2022	365	0.991	8	2.7	117	1	202,750	↓ 1.9	-	n.a.	n.a.	-	-	-	0.00	-	-	-	0.03	0.00	0.00	-	-	99.97	0.00	-
2020	4,495	0.662	121	2.6	97	18	245,743	↓ 12.5	15.4	-3.0	-19%	15.49	18.30	18.66	0.00	0.03	0.02	0.05	0.28	0.03	0.02	-	-	99.47	0.44	0.09
2019	50	0.449	16	2.8	87	28	272,618	↑ 15.5	7.3	8.2	112%	18.04	19.45	23.99	0.00	0.00	0.00	0.00	0.39	0.00	0.00	-	-	99.10	0.00	-
2016	204	0.205	67	2.6	50	66	250,681	↑ 20.3	17.1	3.2	19%	18.39	21.23	23.06	1.06	0.54	0.27	0.20	0.22	0.00	0.00	-	-	99.71	0.29	0
2015	29	0.122	43	2.7	37	80	226,484	↓ 17.3	19.4	-2.1	-11%	17.53	20.61	23.49	0.00	0.00	0.00	0.00	0.83	0.00	0.00	-	-	98.97	0.83	0.2
2014	16	0.089	22	2.9	29	88	229,657	↓ 18.9	22.2	-3.4	-15%	19.64	17.68	24.66	0.00	0.00	0.00	0.00	0.59	0.00	0.00	-	-	99.30	0.00	-
2013	195	0.030	209	2.7	14	105	214,488	↓ 29.5	31.1	-1.6	-5%	29.91	29.48	29.10	0.34	0.13	0.09	0.06	0.33	0.06	0.01	0.04	0.02	99.11	0.73	0.12
2012	25	0.014	58	2.7	8	111	200,390	↓ 26.2	35.7	-9.5	-27%	33.19	33.35	32.07	0.30	0.10	0.05	0.03	0.14	0.01	0.03	-	0.02	99.37	0.38	0.23
FNMA 10yr 2.5	4,716	0.106	1,583	3.0	63	52	217,553	↓ 18.5	20.5	-2.0	-10%	20.75	22.71	24.44	0.35	0.21	0.17	0.13	0.39	0.04	0.01	0.02	0.02	99.27	0.56	0.13
2022	34	0.988	3	3.2	116	1	178,085	↓ 5.6	-	n.a.	n.a.	-	-	-	0.00	-	-	-	0.47	0.00	0.00	-	-	99.53	0.00	-
2021	131	0.903	37	3.2	110	7	139,743	↑ 8.2	6.5	1.7	25%	8.33	11.16	8.37	0.00	0.00	0.00	0.00	0.45	0.04	0.00	-	-	99.43	0.52	0.04
2020	1,291	0.551	76	3.0	94	21	225,765	↓ 17.0	17.1	-0.1	-1%	18.53	21.86	23.69	0.35	0.19	0.15	0.13	0.32	0.02	0.01	-	0.02	99.47	0.41	0.1
2019	588	0.413	41	3.1	86	28	236,042	↓ 16.3	19.8	-3.5	-17%	20.31	24.21	26.44	0.83	0.50	0.25	0.15	0.24	0.00	0.00	-	0.04	99.29	0.51	0.16
2017	304	0.247	71	3.0	60	55	230,649	↓ 16.8	19.0	-2.2	-11%	17.81	20.68	24.25	0.06	0.17	0.18	0.21	0.40	0.00	0.00	0.06	-	99.58	0.30	0.06
2016	1,171	0.198	165	2.9	49	66	220,437	↓ 16.3	19.3	-3.1	-16%	19.07	20.46	21.85	0.28	0.15	0.15	0.11	0.44	0.07	0.02	0.05	0.02	99.16	0.63	0.14
2015	562	0.114	193	3.0	37	80	209,533	↓ 21.0	22.4	-1.4	-6%	23.05	23.21	24.12	0.26	0.15	0.23	0.13	0.42	0.04	0.02	0.01	0.01	99.21	0.67	0.1
2014	263	0.065	183	3.2	27	91	203,326	↓ 21.4	24.4	-3.0	-12%	22.77	22.79	24.36	0.48	0.16	0.11	0.08	0.58	0.05	0.05	0.02	0.07	98.85	0.81	0.24
2013	254	0.028	358	3.0	14	104	183,209	↓ 29.4	29.8	-0.4	-1%	30.19	28.97	28.91	0.20	0.25	0.17	0.17	0.59	0.06	0.03	0.05	0.01	98.74	0.95	0.26
2012	108	0.007	445	2.9	7	113	212,486	↓ 39.2	41.8	-2.6	-6%	39.97	37.66	35.95	0.45	0.24	0.20	0.16	0.34	0.03	0.01	0.05	0.02	99.23	0.59	0.11
FNMA 10yr 3	2,141	0.113	1,039	3.5	58	57	179,464	↓ 19.9	22.6	-2.6	-12%	22.38	23.70	25.51	0.52	0.39	0.24	0.17	0.55	0.07	0.04	0.06	0.01	98.69	0.90	0.34
2020	139	0.517	30	3.6	92	23	170,183	↓ 22.1	28.4	-6.3	-22%	23.09	23.37	25.21	3.07	1.03	0.52	0.48	0.28	0.02	0.00	-	-	98.75	0.77	0.49
2019	422	0.366	48	3.6	84	30	206,523	↓ 18.5	23.3	-4.8	-21%	24.28	27.02	29.87	0.00	0.46	0.23	0.12	0.48	0.07	0.10	0.08	-	98.92	0.64	0.36
2018	149	0.276	36	3.5	67	47	207,672	↓ 15.2	19.3	-4.1	-21%	19.53	20.93	24.53	0.00	0.00	0.00	0.01	0.73	0.13	0.00	-	-	98.48	1.27	0.25
2017	637	0.243	96	3.4	59	55	186,829	↓ 19.1	19.1	-0.1	0%	19.89	21.46	23.66	0.29	0.25	0.18	0.16	0.39	0.04	0.03	0.03	-	98.99	0.64	0.34
2016	269	0.177	91	3.5	47	67	162,263	↓ 18.2	20.9	-2.7	-13%	19.87	20.91	22.27	0.15	0.27	0.22	0.20	0.72	0.10	0.01	0.07	0.02	98.35	1.23	0.33
2015	225	0.117	125	3.5	37	78	159,303	↓ 21.0	24.8	-3.8	-15%	23.09	22.47	22.82	0.53	0.39	0.29	0.14	0.66	0.02	0.09	0.11	-	98.26	1.28	0.35
2014	165	0.061	157	3.6	26	91	145,618	↓ 24.1	24.9	-0.8	-3%	24.75	25.07	25.70	1.33	0.65	0.40	0.28	0.73	0.15	0.00	0.10	0.03	98.50	1.03	0.34
2013	108	0.033	240	3.6	17	101	147,289	↓ 26.8	27.7	-0.9	-3%	28.28	28.64	27.64	0.97	0.52	0.32	0.19	0.91	0.07	0.05	0.12	0.06	98.24	1.29	0.28
2012	14	0.003	212	3.6	5	114	148,281	↑ 47.2	44.8	2.5	5%	48.45	45.92	41.84	0.65	0.31	0.24	0.18	0.86	0.18	0.01	0.07	-	98.10	1.47	0.37
FNMA 10yr 3.5	887	0.187	428	4.0	66	48	155,703	↓ 22.2	22.3	-0.1	0%	23.20	24.84	26.92	0.91	0.47	0.28	0.25	0.81	0.08	0.07	0.10	0.02	98.23	1.18	0.47
2020	17	0.537	10	4.2	92	24	121,834	↑ 23.6	5.4	18.3	341%	19.07	27.81	25.23	0.00	0.00	0.00	0.00	0.31	0.00	0.00	-	-	99.69	0.00	-
2019	227	0.298	49	4.1	80	33	170,385	↑ 24.4	23.1	1.3	5%	25.96	27.21	30.42	1.39	0.64	0.32	0.33	0.38	0.08	0.09	0.11	-	98.40	0.86	0.63
2018	326	0.258	73	4.0	69	44	173,747	↓ 21.6	22.5	-0.9	-4%	23.18	24.64	27.67	0.38	0.33	0.17	0.20	0.86	0.00	0.07	0.06	-	98.47	1.09	0.38
2017	220	0.243	53	3.9	60	55	135,334	↓ 19.5	20.6	-1.2	-6%	19.75	21.62	22.53	1.46	0.49	0.24	0.19	0.91	0.15	0.07	0.12	0.07	98.04	1.35	0.42
2016	28	0.174	29	4.1	47	68	117,918	↑ 21.2	15.4	5.8	37%	17.47	21.38	21.13	0.00	0.07	0.82	0.41	2.21	0.56	0.10	-	-	95.29	3.10	1.61
2015	18	0.112	31	4.2	37	79	100,112	↓ 19.2	24.2	-5.0	-21%	20.29	23.09	23.43	0.00	1.76	1.48	0.94	1.52	0.00	0.00	0.33	-	97.61	1.36	0.69
2014	30	0.053	66	4.2	25	92	116,695	↓ 28.0	30.8	-2.8	-9%	29.46	29.65	27.86	1.25	0.60	0.43	0.28	1.30	0.13	0.08	0.21	-	97.98	1.73	0.08
2013	20	0.033	74	4.1	18	101	111,386	↓ 28.9	31.2	-2.3	-7%	29.10	28.05	28.79	0.35	0.16	0.30	0.23	0.65	0.02	0.02	0.20	-	98.40	1.39	0.02
FNMA 10yr 4	186	0.264	124	4.6	73	41	118,972	↑ 21.1	20.7	0.4	2%	23.06	23.18	26.24	0.61	0.20	0.18	0.18	0.68	0.14	0.01	0.12	-	97.88	1.49	0.51
2019	30	0.418	18	4.7	81	34	93,610	↓ 23.0	25.3	-2.3	-9%	26.97	21.64	22.78	0.00	0.00	0.00	0.12	0.55	0.17	0.09	-	-	98.59	0.96	0.45
2018	150	0.274	62	4.6	72	42	125,143	↑ 20.8	19.8	1.0	5%	22.34	23.54	27.05	0.70	0.23	0.21	0.20	0.70	0.13	0.00	0.14	-	97.71	1.62	0.53
FNMA 10yr 4.5	6	0.473	6	5.2	83	33	85,092	↑ 26.0	13.6	12.4	91%	21.08	16.48	19.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	95.92	1.19	2.9

*n.m. - Not Meaningful

Source: Bloomberg

UMBS Prepayment Speeds
March 2022
UMBS 15yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 15yr 1	7,901	0.910	66	1.9	168	11	379,571	↑ 4.2	4.2	0.0	*n.m.	4.46	5.20	4.62	0.03	0.03	0.03	0.02	0.51	0.03	0.01	0.00	-	99.30	0.60	0.09
2021	6,279	0.921	47	1.9	169	9	384,057	↑ 4.4	3.8	0.6	*n.m.	4.39	4.64	4.09	0.04	0.04	0.03	0.02	0.61	0.03	0.01	-	-	99.23	0.70	0.07
2020	1,622	0.869	19	1.9	163	14	362,201	↓ 3.6	5.7	-2.2	-38%	4.74	7.11	6.18	0.00	0.00	0.04	0.02	0.13	0.03	0.01	0.02	-	99.58	0.23	0.17
FNMA 15yr 1.5	209,205	0.875	2,870	2.2	167	10	342,382	↓ 5.6	6.3	-0.7	-10%	6.49	9.01	9.27	0.05	0.04	0.05	0.04	0.49	0.03	0.01	0.00	0.00	99.25	0.66	0.09
2022	4,176	0.994	24	2.2	178	1	363,072	↓ 1.3	-	n.a.	n.a.	-	-	-	0.00	-	-	-	0.26	0.00	0.00	-	-	99.74	0.00	-
2021	138,061	0.925	1,837	2.2	170	8	348,732	↓ 4.7	5.2	-0.5	-9%	5.22	6.41	5.42	0.06	0.04	0.04	0.03	0.61	0.04	0.01	-	0.00	99.12	0.81	0.07
2020	66,965	0.782	1,005	2.3	161	16	328,011	↓ 7.7	8.5	-0.8	-9%	9.06	13.17	13.36	0.04	0.04	0.05	0.05	0.27	0.03	0.01	0.00	0.00	99.47	0.39	0.13
FNMA 15yr 2	322,284	0.756	11,787	2.6	162	14	275,233	↓ 8.1	9.6	-1.5	-16%	9.82	12.69	13.69	0.07	0.06	0.08	0.07	0.37	0.03	0.02	0.01	0.00	99.35	0.53	0.12
2022	6,595	0.994	151	2.6	178	1	313,812	↑ 1.6	-4.1	5.7	*n.m.	-	-	-	0.00	-	-	-	0.24	0.00	0.00	-	-	99.76	0.00	-
2021	168,003	0.918	5,776	2.5	169	8	268,884	↓ 6.3	6.9	-0.6	-9%	7.01	7.85	6.15	0.08	0.07	0.08	0.05	0.42	0.04	0.01	0.00	0.00	99.32	0.59	0.08
2020	138,254	0.702	3,721	2.7	157	18	281,250	↓ 10.2	12.3	-2.1	-17%	12.71	16.90	17.60	0.06	0.05	0.07	0.07	0.31	0.03	0.02	0.01	0.00	99.37	0.46	0.16
2019	1,303	0.461	62	2.8	146	28	308,656	↓ 11.8	16.7	-4.9	-29%	16.46	23.93	27.89	0.62	0.34	0.20	0.14	0.36	0.01	0.01	0.14	0.02	99.04	0.53	0.28
2017	49	0.432	31	2.6	117	56	282,788	↓ 6.9	29.2	-22.3	-76%	18.83	22.75	23.85	0.00	0.00	0.00	0.00	0.53	0.65	0.00	0.59	-	96.83	2.01	0.57
2016	3,078	0.347	343	2.6	108	66	279,325	↓ 12.8	14.6	-1.7	-12%	14.48	18.08	20.94	0.02	0.10	0.11	0.09	0.23	0.03	0.00	0.03	-	99.33	0.47	0.17
2015	338	0.256	172	2.7	92	81	278,603	↓ 9.2	17.2	-7.9	-46%	16.67	20.10	22.72	0.00	0.21	0.10	0.23	0.62	0.05	0.00	0.10	-	99.17	0.68	0.05
2014	68	0.312	38	2.7	84	89	275,449	↑ 21.2	7.0	14.2	203%	14.12	16.99	18.60	0.00	0.00	0.50	0.25	0.49	0.25	0.00	0.00	-	99.17	0.70	0.13
2013	3,017	0.185	1,013	2.6	68	106	264,389	↓ 13.1	15.6	-2.5	-16%	15.38	16.38	17.94	0.11	0.15	0.12	0.07	0.30	0.03	0.02	0.04	0.02	99.20	0.64	0.1
2012	1,576	0.162	474	2.6	63	111	247,212	↓ 12.4	13.6	-1.2	-9%	14.74	16.14	17.66	0.03	0.02	0.05	0.03	0.29	0.04	0.02	0.01	0.01	99.30	0.62	0.06
FNMA 15yr 2.5	141,024	0.321	22,273	3.0	127	48	245,721	↓ 13.9	16.4	-2.4	-15%	16.62	20.07	22.81	0.22	0.20	0.16	0.13	0.42	0.05	0.03	0.04	0.01	99.01	0.71	0.22
2022	2,136	0.994	150	3.0	177	1	267,598	↑ 2.1	-3.8	5.9	*n.m.	-	-	-	0.00	-	-	-	0.34	0.00	0.00	-	-	99.66	0.00	-
2021	19,712	0.921	1,630	3.0	169	8	220,694	↓ 7.9	8.2	-0.3	-4%	8.71	8.98	6.68	0.07	0.06	0.07	0.05	0.64	0.05	0.02	0.00	0.00	98.90	0.97	0.12
2020	41,080	0.599	2,792	3.1	154	21	236,299	↓ 14.3	16.4	-2.1	-13%	17.04	21.38	23.38	0.12	0.12	0.10	0.11	0.40	0.06	0.03	0.03	0.00	99.03	0.65	0.28
2019	18,050	0.375	1,052	3.2	145	28	271,005	↓ 18.0	22.6	-4.6	-20%	22.13	28.20	32.32	0.35	0.35	0.28	0.21	0.33	0.05	0.03	0.07	0.02	99.07	0.53	0.32
2018	261	0.319	77	3.2	125	48	284,336	↑ 16.9	15.9	0.9	6%	20.81	23.79	28.58	0.00	0.00	0.66	0.36	0.50	0.14	0.03	0.07	-	98.97	0.89	0.06
2017	3,565	0.328	697	3.0	118	55	264,939	↓ 15.2	19.0	-3.7	-20%	19.28	23.57	27.00	0.45	0.38	0.28	0.21	0.44	0.04	0.05	0.08	0.03	98.83	0.75	0.31
2016	20,991	0.308	3,137	2.9	107	66	255,294	↓ 14.6	16.6	-2.0	-12%	17.11	20.12	22.70	0.35	0.30	0.24	0.16	0.39	0.06	0.04	0.06	0.02	98.98	0.73	0.21
2015	8,101	0.232	2,034	3.0	93	80	256,247	↓ 15.6	17.4	-1.8	-10%	17.76	20.39	22.78	0.32	0.31	0.23	0.16	0.38	0.03	0.02	0.06	0.02	99.08	0.65	0.19
2014	1,774	0.181	1,026	3.1	85	89	258,005	↓ 15.9	17.4	-1.5	-9%	17.61	20.32	22.83	0.23	0.20	0.22	0.15	0.36	0.04	0.03	0.07	0.04	98.96	0.76	0.18
2013	11,234	0.172	4,055	2.9	68	106	236,154	↓ 14.0	16.0	-2.0	-12%	15.97	16.77	18.32	0.39	0.27	0.19	0.13	0.46	0.05	0.04	0.07	0.03	98.88	0.82	0.2
2012	13,862	0.130	5,437	3.0	61	114	252,992	↓ 14.8	16.8	-2.0	-12%	16.55	17.72	19.27	0.19	0.16	0.12	0.08	0.36	0.05	0.02	0.04	0.02	99.12	0.68	0.14
2011	256	0.091	182	3.1	52	123	236,012	↓ 13.0	17.9	-4.9	-27%	18.49	19.27	19.98	0.00	0.03	0.02	0.06	0.24	0.07	0.00	0.08	-	99.25	0.54	0.14
FNMA 15yr 3	72,692	0.204	27,887	3.5	107	67	212,706	↓ 17.7	19.7	-2.1	-10%	20.20	22.81	25.65	0.64	0.48	0.36	0.27	0.59	0.11	0.06	0.11	0.02	98.40	1.06	0.41
2022	113	0.993	25	3.6	174	1	206,904	↑ 2.7	-2.8	5.5	*n.m.	-	-	-	0.00	-	-	-	0.75	0.00	0.00	-	-	99.25	0.00	-
2021	1,571	0.921	345	3.6	169	7	181,406	↓ 10.6	11.0	-0.4	-3%	10.81	11.34	8.89	0.00	0.17	0.19	0.09	0.86	0.09	0.08	-	-	98.47	1.39	0.14
2020	5,402	0.549	885	3.7	152	22	195,139	↓ 18.8	21.2	-2.4	-11%	21.96	25.66	28.21	0.63	0.53	0.42	0.33	0.63	0.12	0.08	0.12	0.01	98.21	1.00	0.66
2019	11,675	0.338	1,446	3.6	143	30	226,792	↓ 20.9	23.8	-3.0	-13%	24.62	29.44	33.67	0.70	0.52	0.40	0.29	0.55	0.11	0.05	0.15	0.02	98.41	0.90	0.52
2018	2,750	0.251	599	3.7	126	46	243,003	↓ 22.3	25.5	-3.2	-13%	25.30	28.58	33.41	1.06	0.91	0.53	0.42	0.58	0.11	0.09	0.15	0.02	98.29	1.00	0.53
2017	14,229	0.301	2,983	3.5	118	55	222,768	↓ 18.2	19.7	-1.5	-8%	20.72	23.83	27.28	0.71	0.54	0.43	0.33	0.55	0.12	0.07	0.13	0.03	98.36	1.04	0.45
2016	6,557	0.285	2,917	3.5	105	68	188,183	↓ 17.5	19.1	-1.6	-8%	19.20	20.80	22.40	0.90	0.62	0.49	0.36	0.76	0.15	0.06	0.12	0.05	98.02	1.31	0.5
2015	8,742	0.227	3,615	3.5	94	79	206,290	↓ 15.5	18.7	-3.2	-17%	18.25	20.32	22.41	0.66	0.45	0.31	0.22	0.65	0.13	0.06	0.12	0.02	98.27	1.19	0.4
2014	6,532	0.172	3,312	3.5	82	91	210,357	↓ 15.6	16.8	-1.2	-7%	17.40	18.95	21.18	0.67	0.45	0.35	0.26	0.68	0.10	0.04	0.08	0.03	98.43	1.17	0.3
2013	5,261	0.152	3,789	3.5	71	102	197,819	↓ 16.1	17.6	-1.5	-9%	17.97	18.83	20.08	0.53	0.41	0.30	0.19	0.68	0.10	0.05	0.12	0.01	98.36	1.19	0.31
2012	5,430	0.102	5,394	3.5	57	117	206,374	↓ 16.7	17.9	-1.2	-7%	18.14	18.75	20.17	0.35	0.22	0.15	0.10	0.45	0.07	0.02	0.08	0.01	98.78	0.95	0.19
2011	3,994	0.073	2,181	3.5	51	124	236,602	↓																		

UMBS Prepayment Speeds

March 2022

UMBS 15yr

	Indicative Data						Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan						
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2014	2,411	0.173	2,565	4.1	81	92	151,088	↓17.4	17.8	-0.4	-2%	18.26	19.14	20.25	1.02	0.89	0.60	0.40	1.08	0.21	0.09	0.16	0.02	97.55	1.79	0.48
2013	1,881	0.148	2,004	4.0	73	101	161,115	↓17.5	19.0	-1.5	-8%	18.99	19.45	20.21	0.40	0.42	0.35	0.26	0.95	0.17	0.09	0.15	0.04	97.81	1.55	0.45
2012	723	0.095	1,971	4.0	57	118	150,734	↑19.9	19.5	0.4	2%	20.07	19.86	20.55	0.74	0.42	0.29	0.22	0.77	0.16	0.05	0.05	0.00	98.27	1.34	0.33
2011	2,440	0.060	3,338	3.9	48	127	194,879	↓17.1	19.7	-2.6	-13%	19.35	19.66	20.64	0.48	0.39	0.25	0.18	0.61	0.11	0.03	0.07	0.04	98.50	1.14	0.24
2010	2,318	0.036	2,359	3.9	40	136	208,943	↓18.9	20.8	-1.9	-9%	20.68	20.54	21.87	0.19	0.19	0.13	0.10	0.44	0.05	0.02	0.04	0.01	99.02	0.77	0.17
2009	24	0.020	148	4.0	28	151	196,611	↓18.1	22.6	-4.5	-20%	18.88	20.37	22.30	1.82	0.61	0.52	0.44	0.27	0.00	0.00	-	-	98.68	1.22	0.1
FNMA 15yr 4	8,196	0.050	10,713	4.5	94	79	157,803	↓22.3	23.4	-1.1	-5%	24.29	25.20	27.36	0.94	0.89	0.66	0.48	1.05	0.18	0.11	0.20	0.04	97.28	1.77	0.71
2020	62	0.597	40	4.5	148	23	113,584	↓14.2	28.5	-14.4	-50%	21.04	22.02	24.35	0.00	0.58	0.29	0.29	0.84	0.11	0.16	-	-	97.95	1.42	0.63
2019	1,016	0.411	473	4.7	138	33	135,165	↑22.6	21.2	1.3	6%	24.28	26.05	28.65	1.67	1.21	0.95	0.72	1.42	0.24	0.12	0.25	0.09	96.69	2.09	0.86
2018	3,538	0.277	1,267	4.6	129	43	150,395	↓24.3	25.6	-1.4	-5%	26.97	28.60	31.97	1.04	1.24	0.89	0.64	1.26	0.24	0.18	0.27	0.04	96.65	2.03	1.01
2017	265	0.298	186	4.5	116	56	137,527	↓18.7	23.8	-5.2	-22%	22.28	24.25	25.76	0.41	0.68	0.87	0.85	1.43	0.27	0.03	0.27	0.04	96.19	2.69	0.82
2016	14	0.275	30	4.4	103	69	110,305	↓20.3	21.3	-1.0	-5%	15.63	19.67	24.30	0.00	0.00	0.00	0.00	0.74	0.54	0.50	-	-	97.09	1.25	1.66
2014	64	0.163	223	4.7	78	94	86,973	↓15.6	23.7	-8.2	-34%	19.22	20.65	21.71	0.24	1.54	1.02	0.51	1.59	0.13	0.10	0.35	-	96.97	2.01	0.67
2013	107	0.157	299	4.6	73	100	100,624	↑17.9	15.9	2.0	13%	18.21	19.39	20.01	0.33	0.31	0.63	0.48	1.06	0.18	0.09	0.39	0.06	97.18	1.86	0.51
2012	58	0.089	342	4.5	56	119	122,026	↑19.3	17.1	2.2	13%	18.43	19.31	20.47	1.57	0.80	0.58	0.43	0.56	0.18	0.14	0.00	0.11	97.69	1.76	0.44
2011	1,160	0.047	2,647	4.4	45	130	170,858	↓19.1	20.5	-1.3	-7%	20.57	20.18	20.86	0.85	0.45	0.27	0.20	0.78	0.11	0.05	0.12	0.02	97.99	1.52	0.35
2010	1,185	0.023	2,742	4.4	36	140	183,459	↓20.0	21.4	-1.4	-7%	21.26	21.32	22.23	0.49	0.36	0.27	0.18	0.57	0.10	0.04	0.09	0.01	98.46	1.15	0.29
2009	710	0.011	2,253	4.5	27	151	193,283	↓24.1	24.1	0.0	0%	24.74	23.86	24.22	0.75	0.48	0.31	0.20	0.57	0.05	0.04	0.06	0.03	98.53	1.12	0.25
2008	9	0.004	187	4.6	15	164	194,257	↑21.6	20.8	0.8	4%	23.83	22.98	22.95	0.00	0.43	0.21	0.11	1.74	0.06	0.00	-	-	97.71	2.22	0.07
FNMA 15yr 4.5	1,119	0.016	5,426	5.0	60	116	151,264	↑23.7	22.9	0.8	3%	23.80	24.35	24.58	1.71	1.12	0.80	0.53	1.14	0.27	0.17	0.14	0.06	97.07	2.16	0.57
2020	10	0.531	9	5.2	150	24	133,771	↓47.7	23.0	24.8	108%	31.24	36.52	33.30	0.00	0.00	0.00	0.44	0.00	0.00	0.00	-	-	97.56	1.20	1.24
2019	159	0.418	124	5.1	139	33	125,344	↓22.3	27.3	-5.0	-18%	24.49	30.20	29.98	1.65	1.76	1.64	1.03	1.80	0.25	0.53	0.25	-	95.55	2.93	1.27
2018	125	0.335	64	5.1	133	40	132,003	↑33.3	19.8	13.5	68%	29.65	30.04	30.49	3.47	3.26	1.89	1.11	1.81	0.70	0.32	0.11	0.18	95.34	3.56	0.81
2011	160	0.050	880	4.8	45	130	139,773	↓20.1	23.4	-3.4	-14%	21.61	20.68	21.20	0.90	0.66	0.47	0.36	1.11	0.33	0.13	0.10	0.09	97.47	1.79	0.54
2010	261	0.024	1,251	4.9	35	141	148,674	↑22.0	20.7	1.4	7%	22.53	22.59	22.36	2.18	0.93	0.58	0.42	0.84	0.15	0.06	0.17	0.08	97.49	1.87	0.38
2009	346	0.012	2,031	4.9	27	151	171,315	↑21.9	21.9	0.0	0%	22.07	21.70	22.40	1.17	0.49	0.36	0.25	0.87	0.19	0.09	0.09	0.01	97.80	1.73	0.36
2008	52	0.002	864	5.1	13	166	196,085	↓27.8	31.8	-4.0	-13%	29.24	26.93	27.22	1.94	0.92	0.92	0.64	1.27	0.38	0.10	0.06	0.06	97.39	2.21	0.29
FNMA 15yr 5	114	0.004	2,539	5.5	23	156	151,894	↑30.5	28.1	2.5	9%	27.89	25.56	24.49	2.12	2.17	1.29	0.81	1.48	0.35	0.24	0.11	0.03	96.51	2.78	0.57
2010	11	0.032	168	5.4	35	142	120,878	↑36.4	16.7	19.7	118%	25.52	20.64	21.16	4.46	1.97	0.99	0.65	0.99	0.02	0.01	0.21	-	98.02	0.82	0.96
2009	30	0.018	546	5.5	27	151	123,803	↑26.2	19.1	7.1	37%	22.18	19.72	19.79	0.00	0.53	0.28	0.18	1.83	0.41	0.24	0.18	-	96.30	2.56	0.96
2008	61	0.003	1,218	5.6	14	165	171,717	↑29.8	29.0	0.8	3%	28.31	26.94	25.73	2.64	3.11	1.84	1.10	1.34	0.42	0.29	0.07	0.06	96.50	2.98	0.39

*n.m. - Not Meaningful

Source: Bloomberg

INTENDED FOR INSTITUTIONAL INVESTORS ONLY. The information included herein has been obtained from sources deemed reliable, but it is not in any way guaranteed, and it, together with any opinions expressed, is subject to change at any time. Any and all details offered in this publication are preliminary and are therefore subject to change at any time. This has been prepared for general information purposes only and does not consider the specific investment objectives, financial situation and particular needs of any individual or institution. This information is, by its very nature, incomplete and specifically lacks information critical to making final investment decisions. Investors should seek financial advice as to the appropriateness of investing in any securities or investment strategies mentioned or recommended. The accuracy of the financial projections is dependent on the occurrence of future events which cannot be assured; therefore, the actual results achieved during the projection period may vary from the projections. Interest rate swaps and derivatives are offered and sold via Vining Sparks Interest Rate Products, LLC (VSIRP). VSIRP is an independent operating entity and is not a subsidiary of Vining Sparks IBG, LP. VSIRP is not a broker/dealer registered with the SEC. The firm may have positions, long or short, in any or all securities mentioned. Vining Sparks is a member FINRA/SIPC.

UMBS Prepayment Speeds

March 2022

UMBS 20yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 20yr 2	123,480	0.877	1,420	2.8	227	11	302,654	6.0	7.1	-1.1	-15%	7.42	9.88	9.94	0.05	0.06	0.04	0.04	0.33	0.03	0.01	0.00	-	99.41	0.47	0.12
2021	75,422	0.946	879	2.8	231	8	303,218	4.7	5.0	-0.3	-6%	5.13	5.63	4.07	0.05	0.06	0.05	0.03	0.38	0.04	0.01	0.00	-	99.37	0.53	0.09
2020	45,454	0.776	503	2.9	220	17	300,122	8.5	10.4	-2.0	-19%	11.01	15.05	14.52	0.05	0.05	0.04	0.05	0.26	0.03	0.01	0.00	-	99.45	0.38	0.17
FNMA 20yr 2.5	47,227	0.622	1,543	3.3	220	18	263,635	10.8	14.2	-3.4	-24%	14.14	19.55	23.34	0.24	0.16	0.13	0.11	0.40	0.06	0.02	0.03	0.00	99.12	0.60	0.25
2022	2,935	0.997	47	3.1	238	1	294,473	0.3	-	n.a.	*n.m.	-	-	-	0.00	-	-	-	0.07	0.00	0.00	-	-	99.93	0.00	-
2021	17,842	0.943	610	3.2	231	7	244,998	6.5	6.4	0.1	2%	6.67	6.86	4.72	0.23	0.14	0.10	0.06	0.53	0.07	0.02	0.00	0.00	99.08	0.78	0.15
2020	21,254	0.589	503	3.3	217	20	271,189	13.9	18.2	-4.3	-23%	18.09	24.65	26.36	0.13	0.10	0.10	0.10	0.35	0.07	0.03	0.04	0.01	99.06	0.54	0.36
2019	2,673	0.316	37	3.4	208	28	299,419	20.3	25.8	-5.5	-21%	25.76	34.01	39.91	1.16	0.74	0.48	0.30	0.39	0.07	0.01	0.12	0.01	98.89	0.53	0.46
2017	28	0.319	16	3.4	179	55	260,855	34.7	3.6	31.1	*n.m.	17.83	25.51	29.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	1.00	-	-
2016	1,519	0.285	83	3.2	167	65	273,743	13.7	17.8	-4.0	-23%	18.22	24.92	30.30	0.45	0.39	0.29	0.19	0.24	0.00	0.03	0.11	-	99.29	0.45	0.15
2015	36	0.259	19	3.4	146	83	274,349	20.9	12.4	8.5	69%	19.87	25.73	28.74	0.00	0.00	0.00	0.00	0.30	0.00	0.00	-	-	98.92	1.00	-
2013	375	0.245	83	3.3	124	107	240,129	17.4	16.4	1.0	6%	16.97	18.21	20.88	1.03	0.42	0.21	0.10	0.37	0.02	0.03	0.09	-	99.30	0.57	0.04
2012	556	0.230	136	3.2	119	111	225,937	10.8	17.1	-6.3	-37%	13.38	15.25	19.00	0.18	0.06	0.06	0.03	0.41	0.04	0.03	0.03	-	99.10	0.82	0.05
FNMA 20yr 3	35,222	0.268	3,829	3.7	166	68	231,223	17.0	20.4	-3.5	-17%	20.81	25.13	29.60	0.56	0.43	0.31	0.23	0.53	0.09	0.05	0.12	0.03	98.53	0.94	0.39
2022	226	0.996	12	3.7	239	1	229,524	1.8	-	n.a.	n.a.	-	-	-	0.00	-	-	-	0.23	0.00	0.00	-	-	99.77	0.00	-
2021	1,209	0.943	199	3.6	232	7	187,930	7.3	4.4	2.9	*n.m.	7.18	7.69	5.19	0.29	0.10	0.12	0.06	0.98	0.11	0.05	-	-	98.40	1.37	0.23
2020	3,178	0.498	264	3.8	215	22	232,389	20.5	26.2	-5.7	-22%	26.56	30.97	33.87	0.27	0.32	0.21	0.24	0.57	0.11	0.06	0.12	0.01	98.27	1.00	0.59
2019	5,435	0.303	213	3.8	207	29	252,817	21.8	27.4	-5.6	-20%	28.12	35.40	40.84	0.92	0.73	0.46	0.36	0.40	0.07	0.05	0.17	0.04	98.50	0.64	0.65
2018	120	0.269	36	3.7	185	48	256,231	20.4	23.1	-2.7	-12%	26.40	30.58	36.24	0.00	0.62	0.31	0.16	0.47	0.17	0.00	-	-	98.49	0.98	0.53
2017	2,042	0.273	163	3.7	178	55	239,912	17.2	22.0	-4.8	-22%	22.70	27.00	33.31	0.98	0.65	0.47	0.33	0.64	0.13	0.07	0.14	0.02	98.31	1.05	0.47
2016	8,640	0.285	514	3.6	167	66	234,440	17.3	20.0	-2.7	-14%	20.53	25.07	29.44	0.68	0.50	0.38	0.25	0.54	0.09	0.06	0.15	0.03	98.45	0.97	0.41
2015	3,685	0.226	362	3.7	152	80	235,058	18.5	22.0	-3.5	-16%	21.35	24.51	29.43	0.60	0.40	0.32	0.24	0.47	0.09	0.03	0.10	0.02	98.59	1.00	0.29
2014	588	0.175	105	3.8	143	88	226,882	19.4	17.9	1.5	8%	20.50	24.05	27.98	0.12	0.10	0.07	0.11	0.50	0.23	0.05	0.13	0.01	98.53	1.19	0.15
2013	4,890	0.239	922	3.6	125	106	208,667	13.1	14.4	-1.3	-9%	15.34	17.46	19.91	0.46	0.38	0.26	0.20	0.62	0.09	0.08	0.09	0.03	98.53	1.05	0.3
2012	5,150	0.191	1,009	3.6	117	114	227,731	13.7	16.9	-3.2	-19%	15.96	18.39	21.31	0.20	0.18	0.14	0.11	0.46	0.07	0.05	0.06	0.03	98.84	0.89	0.18
2011	53	0.155	24	3.7	107	124	230,502	13.0	9.0	4.0	44%	15.16	17.84	18.38	0.00	0.00	0.00	0.00	0.28	0.05	0.00	-	-	99.11	0.76	0.13
FNMA 20yr 3.5	17,211	0.190	4,722	4.1	152	81	205,037	19.1	21.1	-2.0	-10%	21.90	24.82	29.03	0.73	0.69	0.53	0.38	0.81	0.15	0.09	0.16	0.03	97.90	1.39	0.52
2022	6	0.998	2	4.3	239	1	258,732	-0.3	-	n.a.	*n.m.	-	-	-	0.00	-	-	-	0.00	0.00	0.00	-	-	1.00	-	-
2021	82	0.957	46	4.2	232	7	230,650	6.4	3.7	2.6	*n.m.	5.40	8.35	6.10	0.00	0.00	0.00	0.00	0.63	0.00	0.14	-	-	97.77	1.95	0.28
2020	442	0.485	90	4.2	214	23	204,264	24.8	22.9	1.9	8%	26.73	30.99	35.50	0.75	0.54	0.32	0.39	1.06	0.07	0.10	0.12	-	97.58	1.27	1.03
2019	1,701	0.261	215	4.3	204	31	221,240	28.0	29.8	-1.8	-6%	31.29	36.28	41.66	1.25	0.93	0.83	0.61	0.83	0.20	0.19	0.37	0.02	97.13	1.44	1.05
2018	1,060	0.237	160	4.0	186	47	227,979	23.3	27.1	-3.8	-14%	27.12	32.41	37.95	0.99	1.07	0.66	0.52	0.58	0.23	0.05	0.09	0.03	97.91	1.47	0.5
2017	3,165	0.265	478	4.0	178	55	213,633	20.8	25.1	-4.3	-17%	24.84	28.00	33.75	0.85	1.06	0.77	0.55	0.81	0.19	0.12	0.24	0.03	97.61	1.42	0.69
2016	995	0.291	270	4.0	168	66	191,599	18.9	20.2	-1.4	-7%	21.88	24.29	27.70	0.74	0.84	0.72	0.46	1.07	0.17	0.11	0.13	0.05	97.30	1.81	0.71
2015	1,679	0.239	651	4.1	153	80	178,950	17.3	19.8	-2.5	-13%	20.14	22.84	26.20	0.77	0.66	0.49	0.40	1.06	0.18	0.09	0.21	0.06	97.56	1.63	0.54
2014	1,326	0.174	367	4.2	141	90	194,999	17.7	18.9	-1.2	-6%	21.15	23.07	25.77	0.37	0.61	0.54	0.33	0.95	0.20	0.06	0.10	0.02	97.71	1.72	0.45
2013	1,854	0.202	837	4.1	129	103	183,167	16.4	15.4	0.9	6%	17.74	19.47	21.22	0.42	0.41	0.36	0.27	0.91	0.15	0.11	0.15	0.05	97.87	1.54	0.39
2012	2,776	0.152	1,189	4.0	113	117	207,394	14.7	17.3	-2.6	-15%	17.04	18.72	21.83	0.88	0.52	0.36	0.22	0.78	0.08	0.06	0.07	0.02	98.46	1.20	0.25
2011	1,697	0.107	333	4.0	107	124	216,463	17.3	17.1	0.2	1%	17.76	19.41	22.31	0.41	0.38	0.23	0.15	0.38	0.06	0.01	0.08	-	98.92	0.84	0.16
2010	426	0.080	81	4.0	96	135	214,350	12.2	16.5	-4.3	-26%	16.10	18.13	21.47	0.00	0.06	0.17	0.10	0.40	0.08	0.03	0.02	-	99.08	0.75	0.15
FNMA 20yr 4	10,657	0.151	3,813	4.5	155	78	186,974	21.1	22.4	-1.3	-6%	23.41	25.86	29.55	1.31	1.15	0.82	0.59	1.21	0.25	0.12	0.26	0.02	97.04	1.93	0.76
2021	49	0.893	31	4.6	232	7	131,798	22.2	15.3	6.9	45%	20.04	21.16	13.72	0.00	0.00	0.00	0.00	1.09	0.43	0.00	-	-	97.87	1.63	0.5
2020	107	0.547	64	4.7	216	22	168,342	22.4	28.4	-6.1	-21%	25.59	26.86	29.40	0.84	0.28	0.29	0.44	0.89	0.07	0.17	-	-	97.02	1.74	1.24
2019	587	0.338	206	4.7	203	33	187,141	27.9	32.5	-4.6	-14%	31.20	32.55	35.78	1.14	1.50	1.00	0.93	1.17	0.44	0.23	0.46	-	96.02	2.22	

UMBS Prepayment Speeds

March 2022

UMBS 20yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2020	20	0.561	16	5.1	215	22	138,406	↑ 41.3	35.7	5.7	16%	34.10	35.29	32.07	0.00	0.00	0.00	0.00	0.00	0.33	0.00	-	-	97.76	0.68	1.56
2019	246	0.404	148	5.1	201	34	134,509	↓ 26.0	26.5	-0.6	-2%	27.95	28.44	31.09	2.29	1.40	1.20	0.74	1.82	0.54	0.21	0.57	-	95.10	2.85	1.49
2018	745	0.321	247	5.2	191	42	154,371	↑ 26.4	22.6	3.8	17%	26.59	28.65	31.20	2.65	1.87	1.20	0.85	1.64	0.41	0.30	0.49	0.07	95.18	2.97	1.29
2017	69	0.334	53	5.0	180	54	150,454	↑ 39.9	29.8	10.2	34%	30.79	26.48	28.43	2.69	1.83	1.19	0.85	2.66	0.16	0.54	0.91	-	92.43	4.84	1.82
2014	41	0.201	51	5.2	138	95	144,173	↓ 20.0	28.3	-8.3	-29%	26.45	25.43	24.35	1.27	1.69	1.07	0.80	2.28	0.25	0.00	0.11	-	96.19	3.30	0.4
2013	34	0.186	42	5.1	133	100	140,033	↑ 18.8	15.7	3.2	20%	13.80	19.08	21.67	0.00	0.00	0.00	0.27	1.13	0.70	0.16	0.04	0.21	96.17	2.36	1.22
2011	525	0.086	152	4.9	102	130	181,555	↓ 14.9	16.8	-1.9	-11%	16.82	18.75	20.33	0.03	0.91	0.69	0.52	0.95	0.09	0.14	0.25	0.07	97.18	1.83	0.68
2010	557	0.051	152	4.9	91	140	187,056	↓ 16.5	16.8	-0.4	-2%	17.37	18.99	21.06	1.79	1.08	0.71	0.46	0.76	0.12	0.05	0.09	0.03	97.66	1.63	0.59
2009	446	0.032	187	4.9	81	151	177,576	↓ 14.0	16.6	-2.6	-16%	15.95	16.89	18.45	0.31	0.51	0.36	0.36	0.56	0.19	0.14	0.09	-	98.39	1.24	0.27
2004	17	0.007	60	5.1	24	213	157,038	↓ 21.8	26.7	-4.9	-18%	22.57	22.43	21.33	0.00	1.24	0.62	0.31	1.76	0.09	0.00	0.25	-	97.69	1.71	0.34
2003	25	0.004	118	5.0	17	222	153,203	↓ 24.5	28.3	-3.8	-13%	25.50	25.11	25.22	1.08	0.56	0.50	0.27	1.88	0.24	0.00	0.14	-	96.77	2.89	0.19
FNMA 20yr 5	584	0.011	1,160	5.5	70	164	159,384	↑ 19.7	18.2	1.5	8%	19.98	20.12	21.25	1.27	1.13	0.90	0.69	1.61	0.36	0.16	0.30	0.00	96.25	2.74	0.7
2019	14	0.434	17	5.8	201	34	146,930	↑ 38.8	1.0	37.8	*n.m.	20.93	24.40	31.96	0.00	0.00	0.00	0.00	2.83	0.00	0.00	-	-	95.24	4.23	0.53
2018	32	0.306	39	5.7	194	41	144,294	↑ 31.1	9.3	21.8	235%	20.96	25.56	34.21	0.46	0.15	0.84	1.94	3.44	0.89	0.00	1.90	-	90.28	5.90	1.91
2011	48	0.083	45	5.4	101	130	174,689	↑ 23.6	15.4	8.2	53%	19.27	24.79	25.81	4.58	1.68	1.53	0.77	0.70	0.00	0.17	-	-	97.18	2.56	0.26
2010	89	0.050	55	5.4	90	142	167,409	↓ 15.8	17.3	-1.5	-9%	22.30	19.84	20.24	1.12	2.76	1.43	0.97	1.31	0.23	0.14	0.26	-	96.33	2.49	0.92
2009	81	0.042	84	5.4	83	150	164,113	↓ 16.2	20.3	-4.1	-20%	16.72	17.65	19.13	0.00	0.52	1.10	0.66	0.99	0.48	0.40	0.18	-	96.64	2.46	0.72
2008	67	0.010	120	5.6	68	166	165,063	↑ 17.6	13.5	4.1	30%	15.93	16.85	15.40	4.53	2.91	1.74	0.99	2.19	0.50	0.08	0.26	-	95.80	3.28	0.65
2007	11	0.011	47	5.7	59	176	167,081	↑ 12.2	8.0	4.2	52%	14.70	16.16	19.37	0.00	0.00	0.83	1.50	2.34	0.57	0.10	-	-	94.81	4.39	0.8
2005	86	0.010	110	5.6	36	200	155,575	↓ 16.8	19.3	-2.5	-13%	18.80	17.68	17.80	0.22	0.07	0.28	0.24	1.48	0.42	0.16	0.24	0.01	96.78	2.33	0.64
2004	69	0.007	159	5.5	26	212	151,038	↓ 18.1	18.9	-0.8	-4%	19.65	18.37	19.22	0.77	0.84	0.66	0.42	1.51	0.37	0.13	0.31	0.00	97.15	2.16	0.39
2003	72	0.003	391	5.5	15	223	148,906	↓ 23.2	27.0	-3.8	-14%	25.18	24.04	23.33	0.34	0.40	0.30	0.29	1.77	0.28	0.15	0.20	0.02	96.97	2.29	0.53

*n.m. - Not Meaningful

Source: Bloomberg

INTENDED FOR INSTITUTIONAL INVESTORS ONLY. The information included herein has been obtained from sources deemed reliable, but it is not in any way guaranteed, and it, together with any opinions expressed, is subject to change at any time. Any and all details offered in this publication are preliminary and are therefore subject to change at any time. This has been prepared for general information purposes only and does not consider the specific investment objectives, financial situation and particular needs of any individual or institution. This information is, by its very nature, incomplete and specifically lacks information critical to making final investment decisions. Investors should seek financial advice as to the appropriateness of investing in any securities or investment strategies mentioned or recommended. The accuracy of the financial projections is dependent on the occurrence of future events which cannot be assured; therefore, the actual results achieved during the projection period may vary from the projections. Interest rate swaps and derivatives are offered and sold by Vining Sparks Interest Rate Products, LLC (VSIRP). VSIRP is an independent operating entity and is not a subsidiary of Vining Sparks IBG, LP. VSIRP is not a broker/dealer registered with the SEC. The firm may have positions, long or short, in any or all securities mentioned. Vining Sparks is a member FINRA/SIPC.

UMBS Prepayment Speeds
March 2022
UMBS 30yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 30yr 1.5	211,438	0.916	1,472	2.5	342	14	404,217	↓ 4.8	5.3	-0.5	-9%	5.51	6.35	5.58	0.07	0.08	0.07	0.06	0.31	0.04	0.02	0.00	0.00	99.27	0.49	0.23
2021	87,809	0.938	678	2.5	345	11	411,190	↓ 4.3	4.7	-0.5	*n.m.	4.76	5.30	4.32	0.06	0.09	0.08	0.05	0.32	0.04	0.02	0.00	0.00	99.36	0.44	0.2
2020	123,624	0.901	773	2.5	340	16	399,275	↓ 5.3	5.7	-0.5	-8%	6.02	7.07	6.37	0.09	0.07	0.07	0.07	0.30	0.05	0.02	0.00	0.00	99.21	0.52	0.26
FNMA 30yr 2	1,656,725	0.896	18,941	2.9	344	12	376,081	↓ 6.5	7.3	-0.8	-11%	7.63	9.30	8.83	0.09	0.08	0.08	0.07	0.53	0.06	0.03	0.01	0.00	98.98	0.74	0.27
2022	27,537	0.997	220	3.0	358	1	435,389	↑ 1.5	-1.6	3.1	*n.m.	-	-	-	0.00	-	-	-	0.27	0.00	0.00	-	-	99.73	0.00	-
2021	917,146	0.949	10,883	2.9	349	8	387,074	↓ 5.2	5.4	-0.2	-4%	5.68	6.17	4.93	0.09	0.08	0.08	0.05	0.61	0.06	0.03	0.00	0.00	99.00	0.82	0.19
2020	711,827	0.833	7,611	2.9	338	17	359,671	↓ 8.2	9.6	-1.4	-14%	10.05	12.57	11.68	0.09	0.08	0.09	0.08	0.43	0.07	0.04	0.01	0.00	98.93	0.67	0.38
2019	43	0.691	19	3.0	325	29	315,008	↓ 12.9	15.5	-2.6	-17%	15.00	14.69	16.64	0.00	0.00	0.00	0.00	0.69	0.60	0.00	-	0.32	97.67	2.00	-
2017	28	0.747	38	2.8	300	55	194,746	↓ 10.5	12.8	-2.3	-18%	12.51	12.61	13.01	0.00	0.00	0.00	0.00	1.80	0.46	0.63	-	0.46	95.77	3.13	0.63
2016	114	0.670	102	3.0	289	66	192,216	↓ 4.0	7.5	-3.6	-48%	8.00	9.07	9.09	0.00	0.49	0.25	0.12	2.10	0.57	0.16	0.36	0.12	96.91	1.99	0.63
2015	13	0.498	30	3.1	277	78	183,956	↓ 0.2	0.2	0.0	*n.m.	11.66	19.09	17.33	0.00	0.00	0.00	0.00	0.00	0.00	1.54	-	-	98.00	1.54	0.46
FNMA 30yr 2.5	1,215,239	0.780	29,528	3.3	344	12	342,176	↓ 9.4	11.3	-1.8	-16%	11.75	15.48	18.06	0.21	0.19	0.16	0.14	0.65	0.10	0.05	0.03	0.00	98.64	0.92	0.4
2022	39,974	0.997	689	3.3	358	1	410,257	↑ 1.6	-1.4	3.0	*n.m.	-	-	-	0.00	-	-	-	0.42	0.00	0.00	-	-	99.58	0.00	-
2021	693,189	0.948	15,507	3.2	351	7	349,762	↓ 6.9	7.4	-0.5	-7%	7.61	7.93	5.75	0.14	0.13	0.10	0.06	0.72	0.10	0.05	0.00	0.00	98.77	0.98	0.24
2020	440,170	0.654	10,865	3.4	335	19	324,262	↓ 13.3	16.1	-2.8	-17%	16.81	22.27	23.17	0.23	0.21	0.18	0.17	0.58	0.12	0.07	0.07	0.01	98.39	0.87	0.66
2019	34,633	0.372	708	3.5	326	28	348,430	↓ 17.8	21.4	-3.6	-17%	22.58	30.14	34.89	1.39	1.04	0.76	0.53	0.50	0.10	0.08	0.19	0.01	98.17	0.85	0.78
2018	32	0.652	50	3.5	307	47	196,806	↑ 30.5	5.9	24.6	414%	18.07	16.39	14.11	0.00	0.00	0.83	0.42	0.62	1.74	0.00	-	-	96.03	2.33	1.65
2017	235	0.562	130	3.4	296	56	253,009	↑ 13.2	5.3	7.9	150%	12.39	15.62	18.43	0.00	0.19	0.91	0.64	1.93	0.35	0.16	0.37	0.05	96.50	2.63	0.45
2016	3,006	0.375	380	3.3	283	67	313,436	↓ 12.6	15.6	-3.0	-19%	16.89	22.21	27.05	1.03	1.25	0.75	0.45	0.39	0.07	0.05	0.11	0.01	98.89	0.67	0.33
2015	217	0.395	178	3.4	268	81	253,829	↓ 13.2	16.3	-3.1	-19%	15.32	18.28	22.33	2.08	0.70	0.64	0.38	0.69	0.22	0.00	0.34	-	98.21	1.15	0.3
2014	22	0.460	39	3.2	261	90	220,993	↓ 12.3	16.0	-3.7	-23%	13.47	10.66	17.39	0.00	0.00	0.00	0.00	0.20	0.00	1.27	-	-	95.99	2.73	1.27
2013	921	0.327	338	3.1	236	108	300,270	↓ 12.4	14.8	-2.3	-16%	15.31	18.33	21.17	1.45	0.62	0.38	0.24	0.35	0.08	0.00	0.05	0.02	98.76	0.92	0.24
2012	2,830	0.290	596	3.2	233	111	293,544	↓ 10.6	11.9	-1.3	-11%	13.25	17.81	21.83	0.56	0.27	0.17	0.12	0.32	0.05	0.01	0.06	0.03	98.98	0.77	0.16
FNMA 30yr 3	565,853	0.372	46,646	3.7	310	43	288,978	↓ 16.8	19.7	-3.0	-15%	20.64	25.91	31.30	0.97	0.80	0.59	0.45	0.76	0.15	0.08	0.18	0.02	97.83	1.26	0.71
2022	19,794	0.997	867	3.7	358	1	356,089	↑ 1.6	-1.3	2.9	*n.m.	-	-	-	0.03	-	-	-	0.23	0.00	0.00	-	-	99.77	0.00	-
2021	112,837	0.951	8,676	3.7	351	6	296,414	↑ 7.7	7.7	0.0	0%	8.44	8.96	6.74	0.15	0.13	0.11	0.07	1.01	0.15	0.06	0.00	0.01	98.29	1.38	0.33
2020	103,950	0.530	6,678	3.8	333	21	276,717	↓ 20.0	22.7	-2.7	-12%	23.59	28.52	31.31	0.81	0.72	0.53	0.43	0.86	0.21	0.12	0.20	0.01	97.25	1.38	1.16
2019	127,288	0.330	5,678	3.9	325	29	294,585	↓ 23.1	26.5	-3.4	-13%	27.84	34.19	38.87	1.93	1.53	1.09	0.79	0.76	0.18	0.11	0.37	0.03	97.15	1.29	1.16
2018	916	0.280	303	3.9	305	46	281,775	↓ 20.2	28.7	-8.5	-30%	26.40	31.11	36.42	0.31	1.08	0.64	0.49	0.75	0.21	0.23	0.23	0.08	97.21	1.23	1.25
2017	4,584	0.284	803	3.8	297	54	294,465	↓ 20.4	24.1	-3.8	-16%	25.39	30.15	35.79	1.20	1.65	1.10	0.71	0.81	0.19	0.11	0.23	0.02	97.68	1.29	0.79
2016	86,508	0.282	6,600	3.6	283	66	285,034	↓ 18.8	21.6	-2.8	-13%	22.21	26.92	32.35	1.36	0.98	0.68	0.47	0.68	0.14	0.08	0.23	0.03	97.77	1.36	0.6
2015	18,797	0.230	3,167	3.8	266	81	291,709	↓ 18.9	21.7	-2.8	-13%	22.53	27.00	33.61	0.79	0.61	0.43	0.28	0.55	0.10	0.06	0.13	0.03	98.40	1.03	0.41
2014	1,245	0.182	544	3.9	259	87	276,992	↓ 16.9	18.4	-1.4	-8%	20.25	26.25	33.21	0.87	0.75	0.55	0.38	0.62	0.16	0.11	0.08	0.03	98.32	1.13	0.43
2013	43,895	0.246	5,961	3.6	239	107	270,962	↓ 15.0	17.1	-2.1	-12%	17.73	21.14	25.77	0.72	0.54	0.39	0.27	0.58	0.10	0.04	0.12	0.03	98.29	1.20	0.37
2012	45,877	0.222	7,239	3.6	232	112	277,560	↓ 14.2	16.8	-2.6	-15%	17.38	21.33	26.19	0.56	0.41	0.30	0.21	0.53	0.08	0.04	0.09	0.03	98.52	1.09	0.27
2011	129	0.183	88	3.6	212	123	263,144	↓ 16.1	23.5	-7.4	-32%	19.33	21.85	25.85	0.00	0.96	0.48	0.24	0.20	0.00	0.00	-	-	99.41	0.42	0.17
2010	27	0.285	30	3.5	210	136	216,392	↑ 9.7	7.7	2.0	25%	8.37	13.17	18.22	0.00	0.00	0.00	0.00	0.00	0.22	0.00	-	-	98.10	1.57	0.33
FNMA 30yr 3.5	336,170	0.222	70,943	4.1	285	65	256,247	↓ 22.9	24.6	-1.7	-7%	25.90	29.83	35.28	1.99	1.57	1.13	0.79	1.03	0.24	0.13	0.37	0.04	96.69	1.92	0.99
2022	4,626	0.997	404	4.1	358	1	323,770	↑ 1.5	-1.4	2.9	*n.m.	-	-	-	0.00	-	-	-	0.14	0.00	0.00	-	-	99.86	0.00	-
2021	15,597	0.930	2,830	4.3	353	5	289,690	↑ 14.2	13.2	1.0	8%	15.18	15.75	12.00	0.15	0.14	0.12	0.07	1.16	0.18	0.09	0.00	0.01	98.07	1.55	0.37
2020	18,556	0.516	2,555	4.2	332	22	244,188	↓ 24.4	26.2	-1.8	-7%	27.56	30.96	33.59	1.33	1.29	0.99	0.81	1.29	0.33	0.17	0.41	0.03	95.76	2.17	1.63
2019	61,240	0.265	5,870	4.3	323	31	265,423	↓ 30.1	31.0	-0.9	-3%	33.03	37.35	42.49	3.50	2.76	2.00	1.42	1.22	0.36	0.22	0.68	0.04	95.21	2.19	1.88
2018	11,361	0.199	2,045	4.2	305	47	287,654	↓ 26.7	29.3	-2.6	-9%	30.55	34.89	41.77	2.74	2.15	1.55	1.06	0.96	0.25	0.12	0.48	0.04	96.56	1.78	1.14
2017	52,836	0.243	7,617	4.0	296	54	267,024	↓ 23.7	25.4																	

UMBS Prepayment Speeds
March 2022
UMBS 30yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2019	30,445	0.279	5,077	4.8	321	32	240,405	↓ 32.1	32.6	-0.5	-1%	34.50	37.56	41.45	3.96	3.62	2.62	1.93	1.77	0.47	0.28	0.91	0.04	93.66	3.02	2.37
2018	43,381	0.171	7,028	4.7	308	44	264,004	↓ 32.8	32.8	0.0	0%	34.62	38.26	44.40	4.37	3.28	2.35	1.67	1.45	0.40	0.21	0.77	0.06	94.77	2.65	1.75
2017	40,507	0.241	8,948	4.5	296	56	234,634	↓ 28.0	28.5	-0.5	-2%	30.14	33.15	37.56	3.55	2.89	2.06	1.45	1.73	0.45	0.24	0.68	0.06	94.46	3.10	1.71
2016	12,622	0.251	6,113	4.5	283	67	209,817	↓ 26.5	27.0	-0.5	-2%	28.32	30.01	32.94	3.60	2.64	1.92	1.33	1.94	0.47	0.24	0.72	0.05	94.12	3.61	1.5
2015	14,836	0.204	7,693	4.6	271	79	206,664	↓ 23.7	25.6	-1.9	-7%	25.84	28.11	31.45	2.68	2.04	1.49	1.04	1.88	0.47	0.22	0.53	0.05	94.72	3.44	1.26
2014	21,271	0.144	9,157	4.6	256	92	215,122	↓ 22.5	23.8	-1.3	-6%	24.43	26.84	31.30	2.33	1.83	1.26	0.86	1.64	0.34	0.16	0.43	0.04	95.57	2.94	1.01
2013	17,125	0.141	7,537	4.6	245	102	206,754	↑ 21.7	21.5	0.3	1%	23.29	25.68	29.36	1.94	1.34	0.96	0.65	1.39	0.30	0.13	0.31	0.05	96.24	2.65	0.75
2012	10,675	0.162	7,436	4.5	227	117	196,674	↑ 19.9	19.4	0.4	2%	21.48	23.25	26.12	1.60	1.17	0.81	0.58	1.17	0.23	0.12	0.26	0.05	96.59	2.38	0.72
2011	12,336	0.106	5,926	4.5	219	126	224,228	↓ 19.6	21.5	-1.9	-9%	21.71	24.27	27.99	1.49	0.90	0.54	0.37	0.94	0.17	0.10	0.21	0.03	97.24	1.96	0.55
2010	12,396	0.079	4,873	4.5	207	136	234,415	↓ 19.9	20.9	-1.0	-5%	21.91	24.44	28.84	1.40	0.86	0.56	0.38	0.81	0.15	0.08	0.19	0.03	97.74	1.61	0.43
2009	5,683	0.047	2,654	4.5	190	153	240,937	↑ 20.5	18.5	2.0	11%	20.91	23.05	27.32	1.70	1.01	0.64	0.42	0.75	0.12	0.08	0.19	0.01	97.80	1.56	0.44
2008	94	0.047	76	4.6	183	159	229,634	↑ 16.8	12.8	4.0	31%	16.01	18.67	23.59	0.00	0.00	0.00	0.12	0.65	0.00	0.19	0.14	-	98.17	1.24	0.45
2007	32	0.052	14	4.7	168	177	186,931	↑ 19.0	12.1	6.9	57%	18.06	17.97	22.76	3.65	2.76	1.39	0.97	1.56	0.00	0.14	0.77	-	91.76	6.60	0.86
2005	46	0.091	34	4.6	147	201	201,034	↓ 13.5	20.3	-6.8	-33%	13.35	13.57	16.79	0.00	0.00	0.51	0.70	1.66	0.32	0.34	0.49	-	95.72	2.74	1.05
2004	19	0.049	34	4.9	138	212	164,399	↓ 2.8	11.7	-8.9	-76%	13.13	11.72	16.08	0.00	0.00	0.00	0.09	0.24	0.96	0.00	-	-	97.34	2.23	0.43
2003	43	0.053	147	4.7	123	222	162,258	↓ 10.5	16.1	-5.6	-35%	17.73	17.22	16.66	3.52	1.19	0.60	0.30	1.19	0.00	0.01	0.16	-	98.15	1.43	0.27
FNMA 30yr 4.5	103,684	0.112	52,986	5.0	270	79	211,150	↑ 28.7	28.2	0.5	2%	29.95	31.65	34.95	4.23	3.33	2.36	1.67	1.88	0.51	0.26	0.79	0.05	93.78	3.55	1.84
2022	1	0.999	1	4.9	359	1	68,629	-0.1	-	n.a.	*n.m.	-	-	-	0.00	-	-	-	0.00	0.00	0.00	-	-	1.00	-	-
2021	105	0.805	78	5.1	349	8	250,994	↓ 27.5	31.4	-3.9	-13%	31.87	31.40	25.89	0.00	0.00	0.18	0.09	0.66	0.65	0.15	-	-	96.54	2.61	0.85
2020	2,378	0.477	837	5.2	333	22	217,137	↓ 30.5	34.7	-4.3	-12%	33.93	35.05	38.00	0.88	1.39	1.05	0.99	1.75	0.49	0.27	0.56	0.02	93.59	3.26	2.57
2019	12,677	0.337	3,469	5.2	320	32	213,162	↓ 33.5	33.7	-0.3	-1%	35.63	37.02	39.54	5.76	4.67	3.28	2.32	2.08	0.59	0.32	1.14	0.04	92.19	3.90	2.72
2018	32,881	0.225	6,774	5.1	310	43	220,712	↑ 34.6	33.2	1.4	4%	35.58	37.60	41.39	6.21	4.92	3.50	2.50	2.18	0.66	0.38	1.17	0.07	92.16	4.03	2.57
2017	11,364	0.259	4,773	5.0	297	55	210,875	↑ 30.5	30.3	0.2	1%	32.15	33.61	36.05	5.20	4.29	3.00	2.03	2.42	0.69	0.33	1.03	0.08	91.96	4.52	2.4
2016	2,180	0.231	1,563	4.9	283	67	198,355	↓ 28.6	29.9	-1.3	-4%	29.74	30.45	32.82	4.59	3.52	2.63	1.77	2.27	0.77	0.35	1.10	0.06	91.80	4.92	2.13
2015	1,514	0.250	1,393	4.9	269	79	144,487	↑ 24.0	22.2	1.8	8%	24.50	26.04	27.38	3.36	2.54	1.88	1.26	2.28	0.58	0.27	0.57	0.02	93.46	4.48	1.47
2014	4,391	0.170	4,392	5.0	255	93	168,254	↑ 23.1	23.0	0.1	1%	23.56	24.89	27.34	2.23	2.08	1.53	1.06	2.43	0.55	0.23	0.63	0.05	93.90	4.06	1.36
2013	3,630	0.152	3,193	5.0	246	101	172,180	↓ 21.5	21.8	-0.3	-2%	23.32	25.11	27.47	2.05	1.57	1.24	0.87	2.04	0.41	0.18	0.48	0.05	94.45	3.95	1.07
2012	977	0.155	1,696	5.0	226	119	166,154	↑ 22.9	22.6	0.2	1%	23.60	24.67	26.06	2.04	1.48	1.06	0.73	1.45	0.36	0.07	0.31	0.02	95.60	3.21	0.85
2011	9,464	0.092	7,702	4.9	215	129	205,974	↑ 22.8	21.2	1.5	7%	22.65	23.80	26.58	2.40	1.48	0.90	0.59	1.23	0.26	0.13	0.26	0.03	96.55	2.49	0.67
2010	8,556	0.063	6,417	4.9	205	139	220,586	↑ 21.0	20.2	0.8	4%	22.06	23.85	27.29	2.08	1.27	0.88	0.59	1.12	0.25	0.10	0.23	0.04	96.80	2.29	0.65
2009	11,591	0.038	6,370	4.9	193	152	224,580	↓ 19.8	20.0	-0.2	-1%	21.32	22.92	26.66	1.63	1.17	0.81	0.55	1.18	0.25	0.10	0.24	0.02	96.93	2.20	0.61
2008	346	0.019	657	5.2	185	162	220,208	↑ 20.6	20.4	0.2	1%	21.49	21.57	23.22	2.30	2.57	1.46	1.10	1.59	0.27	0.05	0.28	0.03	97.01	2.24	0.44
2007	58	0.038	177	5.2	171	175	183,154	↑ 18.7	14.5	4.2	29%	16.43	20.95	22.28	0.86	1.30	0.65	0.62	1.41	0.42	0.14	0.12	-	95.48	3.82	0.58
2006	47	0.044	102	5.3	154	189	196,727	↑ 10.6	9.3	1.3	14%	14.57	17.39	18.90	0.00	1.45	0.73	0.56	2.09	0.40	0.00	-	-	96.15	2.94	0.91
2005	266	0.022	832	5.2	148	200	192,478	↑ 16.4	15.2	1.2	8%	17.20	17.83	20.30	2.56	1.63	0.98	0.73	1.35	0.30	0.11	0.10	-	96.07	3.09	0.74
2004	277	0.034	674	5.1	136	212	186,373	↓ 16.3	18.9	-2.6	-14%	17.89	17.29	18.12	1.68	2.47	1.92	1.17	1.36	0.19	0.16	0.18	-	96.29	2.68	0.84
2003	970	0.025	1,827	5.1	125	223	182,067	↑ 15.9	15.9	0.1	0%	17.58	18.31	19.48	1.15	0.74	0.70	0.45	1.27	0.21	0.09	0.15	0.01	96.97	2.41	0.46
FNMA 30yr 5	37,118	0.045	44,216	5.6	231	118	193,320	↑ 26.8	25.3	1.5	6%	27.43	28.53	30.73	4.10	3.42	2.48	1.81	2.21	0.53	0.30	0.81	0.05	93.35	3.97	1.81
2021	22	0.829	14	5.4	350	8	269,621	↑ 27.4	0.1	27.2	*n.m.	24.93	26.69	22.33	0.00	0.00	0.00	0.00	3.60	0.00	0.00	-	-	97.55	2.00	-
2020	262	0.411	166	5.7	330	23	217,806	↑ 39.3	25.3	14.0	55%	33.85	37.03	41.85	0.61	1.69	1.55	1.60	2.11	0.46	0.07	0.70	-	90.79	4.07	4.45
2019	4,789	0.339	2,106	5.7	320	33	205,163	↑ 36.9	35.1	1.8	5%	37.17	38.33	40.06	6.17	5.11	3.56	2.69	2.60	0.71	0.43	1.22	0.10	90.74	4.45	3.49
2018	9,571	0.276	3,011	5.7	310	42	192,491	↑ 35.5	32.8	2.7	8%	36.18	37.06	39.19	7.15	6.26	4.54	3.29	2.87	0.79	0.52	1.58	0.08	90.06	5.08	3.2
2017	326	0.218	263	5.5	296	57	213,214	↑ 43.1	29.7	13.4	45%	39.20	37.64	38.67	13.69	7.75	5.39	3.64	3.29	1.26	0.52	1.30	0.35	89.36	5.53	3.47
2016	15	0.246	16	5.4	281	66	160,933	↓ 0.5	41.3	-40.8	*n.m.	24.69	30.42	35.07	0.00	0.00	0.00	0.56	6.11	0.00	1.61	2.73	-	90.23	5.78	1.26
2014	354	0.186	515	5.4	254	94	139,901	↑ 24.8	24.7	0.1	0%	25.33	24.92	27.08	2.22	1.46	1.50	1.18	2.97	0.57	0.45	0.78	0.04	92.92	4.52	1.74
2013	345	0.149	418	5.4	247	100	169,791	↑ 22.9	24.1	-1.2	-5%	24.92	23.35	26.07	2.07	1.79	1.28	0.88	1.97	0.51	0.13	0.68	-	93.87	4.17	1.28
2012	46	0.167	158	5.5	225	120	146,168	↑ 30.0	16.4	13.6	83%	22.70	23.40	23.84	7.12	2.43	1.22	0.91	1.91	0.00	0.30	0.24	-	95.58	3.49	0.7
2011	2,737	0.093	3,995	5.4	216	130	197,483	↑ 24.0	22.3	1.7	8%	24.47	25.67	27.24	2.69	1.76	1.21	0.87	1.65	0.35	0.21	0.36	0.05	95.23	3.44	0.92
2010	4,1																									

UMBS Prepayment Speeds
March 2022
UMBS 30yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2002	81	0.023	383	5.7	115	232	147,399	↓ 16.0	19.5	-3.5	-18%	17.47	17.58	16.37	0.00	0.18	0.18	0.57	1.11	0.27	0.00	0.14	-	96.24	2.79	0.84
FNMA 30yr 5.5	18,077	0.016	54,627	6.0	158	190	169,142	↑ 19.4	19.0	0.4	2%	19.36	19.77	21.04	2.28	2.05	1.58	1.16	2.42	0.53	0.21	0.42	0.04	94.41	4.15	0.98
2020	8	0.411	9	6.0	328	24	141,902	↑ 55.4	28.7	26.7	93%	37.78	35.00	42.45	0.00	0.00	0.00	0.00	3.72	0.00	3.45	-	-	88.66	4.88	6.46
2019	313	0.341	311	6.2	317	34	165,656	↓ 37.8	42.2	-4.4	-10%	41.08	39.93	40.96	7.41	6.52	4.73	3.62	2.74	1.03	0.69	1.38	0.24	88.70	5.61	4.07
2018	743	0.259	495	6.2	311	41	182,522	↑ 44.9	40.8	4.1	10%	43.84	45.19	44.48	9.83	8.34	7.42	5.52	2.97	0.89	0.52	2.07	0.14	87.62	5.77	4.4
2011	135	0.104	495	5.9	214	130	142,121	↓ 22.5	26.2	-3.8	-14%	24.35	23.51	24.44	0.18	3.12	2.72	1.55	2.53	0.48	0.05	0.24	0.25	93.79	4.58	1.14
2010	337	0.083	916	5.9	204	142	172,509	↑ 23.9	21.4	2.5	12%	22.36	24.70	26.51	1.43	1.58	1.13	0.89	2.39	0.38	0.29	0.91	0.05	93.22	4.38	1.44
2009	633	0.064	1,595	5.9	195	150	166,657	↓ 22.0	22.1	-0.1	0%	22.02	22.05	23.31	3.33	2.03	1.38	1.05	2.52	0.70	0.26	0.50	0.04	93.79	4.49	1.18
2008	1,899	0.014	5,159	6.0	182	165	189,968	↓ 18.3	21.8	-3.4	-16%	20.03	19.46	20.75	1.86	3.24	2.27	1.61	2.37	0.54	0.25	0.21	0.04	94.42	4.68	0.65
2007	1,976	0.012	5,362	6.1	173	176	201,474	↓ 19.6	19.8	-0.1	-1%	19.50	20.00	20.94	2.59	2.84	2.13	1.43	2.62	0.61	0.15	0.45	0.04	94.59	4.19	0.74
2006	1,069	0.013	3,822	6.1	162	187	193,336	↑ 19.6	16.0	3.6	22%	18.01	18.45	19.82	1.54	1.46	1.14	0.83	2.49	0.59	0.20	0.38	0.01	94.37	4.21	1.03
2005	2,664	0.021	9,802	6.0	149	199	167,032	↑ 18.0	17.5	0.4	3%	17.62	17.87	19.38	1.85	1.50	1.12	0.81	2.57	0.54	0.22	0.35	0.03	94.71	4.11	0.81
2004	2,635	0.021	9,526	5.9	137	211	160,244	↑ 16.1	15.3	0.8	5%	15.81	16.26	17.28	1.79	1.12	0.86	0.68	2.36	0.49	0.19	0.33	0.05	94.69	4.06	0.86
2003	4,388	0.014	11,934	5.9	124	224	150,511	↑ 15.8	14.7	1.0	7%	15.57	15.95	17.20	1.56	1.10	0.79	0.59	2.26	0.43	0.17	0.25	0.03	95.44	3.66	0.62
2002	1,171	0.008	4,193	6.0	116	232	151,508	↑ 15.6	14.7	1.0	7%	15.50	15.96	17.35	1.26	0.73	0.51	0.42	2.00	0.36	0.13	0.22	0.01	95.70	3.45	0.61
2001	55	0.008	519	6.1	104	245	135,514	↑ 15.6	13.0	2.6	20%	13.99	14.42	14.17	2.31	0.78	0.39	0.41	2.04	0.25	0.30	0.32	-	94.67	4.33	0.68
1999	10	0.013	154	6.1	79	273	119,078	↓ 14.5	24.8	-10.3	-42%	13.21	14.00	16.01	5.67	1.93	1.54	1.45	2.03	0.00	0.00	-	-	95.91	3.47	0.62
1998	17	0.006	229	6.2	71	280	115,659	↑ 16.1	9.7	6.4	66%	12.93	13.15	13.14	0.00	1.49	0.75	0.38	2.87	0.27	0.00	0.12	-	95.76	3.78	0.34
FNMA 30yr 6	11,099	0.013	53,057	6.5	152	196	154,584	↓ 17.2	18.5	-1.2	-7%	17.71	17.80	18.23	2.06	2.14	1.64	1.19	2.91	0.62	0.25	0.38	0.04	93.85	4.89	0.84
2019	37	0.274	44	6.5	319	34	211,814	↓ 28.1	33.6	-5.5	-16%	36.48	44.27	43.62	0.00	1.28	0.64	1.70	0.87	1.62	1.29	2.09	-	89.57	4.87	3.47
2018	51	0.200	51	6.5	315	40	209,556	↑ 51.3	48.9	2.5	5%	55.56	54.41	54.19	20.21	12.92	8.11	7.95	3.31	2.05	1.30	3.12	0.61	79.40	9.52	7.36
2010	11	0.105	71	6.5	201	142	135,634	↓ 17.8	39.9	-22.1	-55%	21.33	23.11	24.43	5.68	4.77	2.41	2.76	1.49	0.00	0.00	-	-	97.50	0.79	1.71
2009	94	0.060	510	6.5	193	152	156,356	↓ 16.6	18.4	-1.9	-10%	17.43	19.49	20.59	0.00	0.77	0.70	0.64	2.85	0.81	0.04	0.70	-	93.70	4.25	1.36
2008	1,064	0.016	4,669	6.5	183	164	170,363	↓ 20.5	22.5	-2.0	-9%	19.98	19.37	19.33	2.44	3.76	2.76	1.82	2.96	0.59	0.33	0.26	0.07	93.75	5.23	0.69
2007	2,675	0.014	8,090	6.6	173	175	172,934	↓ 18.2	23.9	-5.7	-24%	20.41	20.17	20.10	3.24	3.84	2.91	2.03	3.18	0.66	0.29	0.35	0.02	93.67	5.18	0.78
2006	2,116	0.014	7,961	6.6	161	188	169,034	↑ 17.9	15.8	2.1	13%	17.54	18.05	19.03	1.40	1.37	1.14	0.90	3.16	0.60	0.22	0.42	0.03	93.41	5.20	0.93
2005	1,053	0.024	5,163	6.5	150	198	145,949	↑ 17.4	17.1	0.4	2%	17.18	17.30	17.51	1.59	1.62	1.19	0.83	3.06	0.85	0.31	0.43	0.04	93.27	5.42	0.85
2004	1,295	0.023	5,144	6.5	136	212	131,577	↓ 14.2	15.3	-1.1	-7%	14.59	15.04	15.86	1.69	1.17	0.83	0.61	2.72	0.56	0.22	0.34	0.03	94.21	4.52	0.89
2003	994	0.015	5,063	6.5	125	223	134,503	↑ 13.7	13.7	0.0	0%	14.16	14.71	15.13	1.45	0.91	0.95	0.69	2.87	0.61	0.16	0.34	0.06	94.16	4.68	0.76
2002	1,084	0.007	6,698	6.5	115	234	135,016	↑ 16.5	13.9	2.6	19%	15.08	14.77	15.02	1.49	1.01	0.77	0.50	2.27	0.48	0.13	0.31	0.02	95.29	3.78	0.6
2001	362	0.005	3,579	6.6	104	245	120,522	↓ 14.1	15.1	-1.0	-7%	13.85	13.23	13.69	0.81	0.60	0.56	0.39	2.26	0.39	0.16	0.28	0.02	94.79	4.15	0.76
1999	77	0.004	1,531	6.6	76	275	121,732	↓ 12.1	12.5	-0.4	-3%	12.33	12.37	12.85	0.25	0.49	0.30	0.35	1.99	0.43	0.04	0.15	-	95.89	2.97	1
1998	146	0.003	3,287	6.6	71	281	116,995	↓ 12.8	16.0	-3.2	-20%	12.86	12.17	12.49	0.53	0.71	0.45	0.23	2.34	0.27	0.15	0.30	0.05	95.25	3.83	0.56

*n.m. - Not Meaningful

Source: Bloomberg

INTENDED FOR INSTITUTIONAL INVESTORS ONLY. The information included herein has been obtained from sources deemed reliable, but it is not in any way guaranteed, and it, together with any opinions expressed, is subject to change at any time. Any and all details offered in this publication are preliminary and are therefore subject to change at any time. This has been prepared for general information purposes only and does not consider the specific investment objectives, financial situation and particular needs of any individual or institution. This information is, by its very nature, incomplete and specifically lacks information critical to making final investment decisions. Investors should seek financial advice as to the appropriateness of investing in any securities or investment strategies mentioned or recommended. The accuracy of the financial projections

UMBS Prepayment Speeds

March 2022

UMBS Jumbos

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
15yr Jumbo 2	381	0.435	61	2.5	155	22	649,014	↓12.0	20.3	-8.3	-41%	17.12	30.54	40.40	0.00	0.26	0.13	0.21	0.49	0.00	0.00	-	-	99.51	0.00	-
2013	23	0.187	16	2.6	71	105	549,165	↓6.6	33.8	-27.2	-80%	15.24	17.42	23.72	0.00	4.14	2.09	1.05	0.00	0.00	0.00	-	-	1.00	-	-
15yr Jumbo 2.5	632	0.176	209	3.0	91	83	544,034	↑20.4	19.9	0.5	2%	20.22	23.80	29.77	1.51	0.73	0.45	0.31	0.40	0.00	0.00	-	0.08	99.12	0.63	0.16
2020	15	0.484	11	3.1	155	18	640,517	↑64.3	56.8	7.6	13%	47.03	40.48	37.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	1.00	-	-
2019	26	0.125	9	3.1	143	29	582,621	↑61.9	17.1	44.9	262%	40.12	34.16	49.66	19.91	7.13	3.63	1.83	0.00	0.00	0.00	-	-	1.00	-	-
2017	25	0.221	18	3.0	118	54	530,563	↓19.6	51.2	-31.6	-62%	27.30	24.56	39.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	98.45	-	1.55
2016	194	0.234	25	2.9	109	65	524,136	↓12.0	21.0	-9.0	-43%	18.87	25.33	33.79	1.78	1.30	0.65	0.46	0.72	0.00	0.00	-	-	98.95	0.88	0.17
2015	70	0.156	31	3.0	92	81	534,717	↑42.6	18.8	23.8	127%	28.48	29.42	34.72	0.00	0.00	0.00	0.37	0.01	0.02	0.00	-	-	99.08	0.47	0.45
2013	168	0.185	55	2.9	69	105	546,588	↑9.2	15.4	-6.2	-40%	15.16	20.22	20.73	0.00	0.00	0.32	0.16	0.34	0.00	0.00	-	0.30	98.96	0.00	-
2012	109	0.118	37	3.0	62	112	553,533	↑13.3	11.9	1.4	12%	15.33	18.93	21.64	0.00	0.01	0.00	0.00	0.48	0.00	0.00	-	-	99.35	0.00	-
15yr Jumbo 3	128	0.070	155	3.5	72	103	565,405	↓12.5	21.5	-8.9	-42%	15.03	19.61	25.70	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.37	-	99.08	0.00	-
2017	22	0.230	16	3.6	116	56	582,424	↓5.7	10.2	-4.5	-44%	7.10	23.67	39.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.14	-	97.00	-	-
2012	32	0.064	41	3.5	56	118	548,488	↓11.4	15.6	-4.2	-27%	12.87	15.50	16.84	0.00	0.00	0.00	0.00	1.35	0.00	0.00	-	-	99.45	0.00	-
2011	48	0.045	39	3.4	52	124	576,116	↓17.6	29.6	-12.0	-40%	19.82	21.66	24.27	0.00	0.00	0.00	0.00	0.54	0.00	0.00	-	-	99.46	0.00	-
15yr Jumbo 3.5	50	0.030	109	3.9	63	112	588,717	↑17.4	13.1	4.3	33%	15.43	16.73	22.56	0.00	0.00	0.00	0.00	2.73	0.00	0.00	-	-	97.41	2.00	-
2011	27	0.025	53	3.8	49	127	568,303	↑22.8	14.3	8.5	59%	19.79	20.27	23.26	0.00	0.00	0.00	0.00	1.21	0.00	0.00	-	-	99.06	0.00	-
30yr Jumbo 2.5	28,805	0.656	700	3.3	345	13	677,669	↓10.8	17.5	-6.7	-38%	16.54	21.41	27.58	0.27	0.24	0.19	0.15	0.85	0.09	0.08	0.03	0.01	98.30	1.03	0.63
2016	203	0.405	29	3.3	285	64	554,501	↓9.4	24.3	-14.9	-61%	18.46	22.22	29.09	5.95	2.92	1.47	0.74	0.02	0.15	0.30	0.22	-	97.94	0.44	1.4
2012	40	0.156	17	3.5	234	111	546,651	↑34.2	2.7	31.5	*n.m.	24.66	31.07	40.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	98.89	-	1.11
30yr Jumbo 3	12,013	0.175	1,128	3.8	290	62	579,791	↓26.6	32.2	-5.6	-17%	31.01	36.94	46.21	2.95	2.44	1.66	1.11	0.60	0.15	0.12	0.41	0.02	97.22	1.32	1.03
2022	3	0.998	2	3.4	359	1	819,112	0.0	-	n.a.	*n.m.	-	-	-	0.00	-	-	-	0.00	0.00	0.00	-	-	1.00	-	-
2021	262	0.853	68	3.8	352	7	755,742	↓21.9	29.0	-7.1	-24%	30.74	30.11	17.28	0.00	1.21	0.61	0.30	1.88	0.25	0.76	-	-	95.92	2.40	1.67
2020	1,920	0.270	139	3.9	335	22	653,641	↓31.9	36.5	-4.6	-12%	36.02	42.28	51.75	3.02	1.84	1.06	0.74	0.54	0.09	0.27	0.47	0.03	95.91	1.23	2.36
2019	2,459	0.157	132	3.9	328	29	615,227	↓33.9	42.2	-8.3	-20%	38.45	45.15	54.63	6.10	4.91	3.58	2.41	0.92	0.25	0.16	0.65	-	95.86	1.96	1.53
2018	71	0.293	14	3.9	310	44	604,071	↑29.2	5.2	24.0	466%	19.65	27.28	37.04	9.34	5.59	3.96	2.56	0.00	2.00	0.00	0.72	-	95.05	1.02	3.21
2017	402	0.178	68	3.8	296	55	551,429	↓29.6	32.0	-2.4	-7%	32.39	36.83	46.24	2.53	2.64	1.71	1.22	0.25	0.11	0.00	0.36	-	96.84	1.94	0.85
2016	2,760	0.181	161	3.7	284	67	538,326	↓24.8	25.4	-0.5	-2%	27.47	33.29	42.17	2.32	2.11	1.48	1.00	0.56	0.15	0.10	0.47	0.02	97.63	1.31	0.57
2015	966	0.167	140	3.7	268	81	541,899	↓23.6	34.1	-10.6	-31%	27.98	34.24	42.48	0.63	0.90	0.63	0.41	0.74	0.09	0.09	0.24	-	98.47	1.01	0.28
2014	186	0.207	23	3.7	259	88	532,963	↓18.3	19.1	-0.8	-4%	18.25	28.46	34.21	0.00	0.00	0.00	0.17	0.22	0.22	0.00	-	-	99.34	0.44	0.22
2013	1,393	0.149	164	3.7	241	107	543,425	↓18.4	30.0	-11.5	-38%	26.05	30.52	38.69	2.61	1.75	0.98	0.60	0.32	0.12	0.00	0.14	0.11	98.68	0.90	0.16
2012	1,590	0.134	215	3.7	235	112	544,664	↓20.0	24.0	-4.0	-17%	25.57	30.45	39.36	1.27	1.60	1.05	0.60	0.39	0.00	0.00	0.27	-	98.33	0.83	0.57
30yr Jumbo 3.5	5,974	0.104	1,226	4.2	284	69	574,452	↓33.0	36.4	-3.3	-9%	36.01	39.33	47.94	4.87	4.67	3.50	2.35	1.22	0.27	0.16	1.02	0.02	95.06	2.41	1.49
2022	2	1.000	1	4.3	360	0	811,635	-1.7	-	n.a.	*n.m.	-	-	-	0.00	-	-	-	0.00	0.00	0.00	-	-	1.00	-	-
2021	30	0.816	13	4.3	350	8	739,000	↓39.0	44.0	-5.0	-11%	36.84	32.55	24.00	0.00	0.00	0.00	0.00	2.69	0.00	0.00	-	-	90.18	7.20	2.62
2020	273	0.221	44	4.4	333	24	673,865	↓35.1	35.9	-0.8	-2%	38.95	45.92	55.22	8.28	3.74	3.02	2.16	1.84	0.23	0.22	1.83	-	92.17	3.26	2.75
2019	1,004	0.128	147	4.4	326	31	639,093	↓44.7	48.4	-3.7	-8%	47.06	48.26	56.18	9.47	9.45	6.53	4.58	1.76	0.60	0.34	1.88	0.05	90.98	3.76	3.32
2018	290	0.124	66	4.3	307	46	593,796	↓33.8	35.2	-1.4	-4%	39.49	42.95	50.69	5.67	4.48	3.38	2.42	1.40	0.00	0.00	1.43	-	93.61	2.52	2.44
2017	1,322	0.120	135	4.2	298	55	555,074	↓31.4	36.4	-5.0	-14%	35.20	40.00	48.92	3.85	4.81	3.89	2.56	1.41	0.26	0.11	0.98	0.03	95.21	2.53	1.24
2016	767	0.130	105	4.2	288	66	565,869	↓31.4	37.6	-6.3	-17%	36.86	39.62	46.02	4.75	5.93	4.55	2.84	1.34	0.36	0.33	1.20	-	94.93	2.56	1.32
2015	526	0.098	138	4.1	274	79	545,065	↑36.1	35.8	0.4	1%	35.12	37.86	46.22	4.24	2.84	2.64	1.86	1.38	0.14	0.10	0.81	-	96.35	2.08	0.76
2014	253	0.074	73	4.2	258	90	529,193	↑24.8	18.6	6.2	33%	26.69	32.97	43.32	5.75	3.90	3.16	2.07	0.33	0.35	0.00	0.18	-	97.95	1.57	0.31
2013	338	0.101	100	4.0	246	104	547,258	↓21.9	25.4	-3.5	-14%	25.04	29.35	38.86	0.00	2.01	1.24	0.71	0.23	0.13	0.15	0.50	-	97.22	1.11	1.17
2012	1,052	0.074	316	4.0	231	116	543,023	↓27.2	28.3	-1.2	-4%	28.40	30.90	39.93	2.78	1.47	0.88	0.47	0.60	0.08	0.07	0.43	0.02	97.72	1.32	0.5
2011	103	0.042	73	4.1	222	124	557,119	↓26.6	44.3	-17.7	-40%	32.47	31.16	40.84	0.00	0.00	0.00	0.00	1.15	0.53	0.00	-	-	98.23	1.00	-
30yr Jumbo 4	2,855	0.054	1,100	4.7	275	78	598,801	↑40.7	37.0	3.7																

UMBS Prepayment Speeds

March 2022

UMBS Jumbos

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2012	89	0.047	92	4.5	225	119	551,447	↑ 37.8	29.5	8.3	28%	41.42	35.49	37.93	12.70	7.79	4.80	2.43	1.13	0.00	0.00	0.55	-	96.42	2.12	0.91
2011	449	0.029	268	4.5	223	126	587,343	↑ 28.0	19.6	8.4	43%	22.98	26.20	34.04	0.00	0.85	0.90	0.52	0.66	0.00	0.00	0.64	0.30	96.56	1.50	1.01
2010	381	0.023	148	4.5	212	136	591,382	↓ 22.6	30.3	-7.7	-25%	29.73	30.69	36.05	5.61	5.16	2.84	1.58	1.15	0.00	0.00	0.51	-	97.22	1.65	0.62
30yr Jumbo 4.5	849	0.024	584	5.1	257	94	611,823	↑ 39.8	36.4	3.3	9%	37.84	36.40	40.84	10.38	7.71	5.18	3.88	2.22	0.64	0.20	1.81	-	89.71	5.59	2.89
2020	10	0.390	7	5.2	335	23	776,867	↑ 44.1	8.9	35.2	395%	35.14	26.33	39.28	0.00	21.29	11.28	5.81	0.00	0.00	0.00	-	-	1.00	-	-
2019	137	0.173	45	5.4	325	33	661,880	↑ 54.1	37.8	16.3	43%	48.64	44.87	51.65	19.90	11.59	5.98	5.86	4.53	1.32	0.45	2.86	-	81.85	9.50	5.78
2018	199	0.126	39	5.4	315	41	631,627	↑ 53.3	49.3	4.0	8%	50.28	48.93	50.31	19.90	11.59	5.98	5.86	4.53	1.32	0.45	2.86	-	81.85	9.50	5.78
2017	30	0.128	20	5.2	297	57	641,392	↑ 62.0	38.3	23.7	62%	52.09	41.38	45.63	6.16	12.80	9.80	6.74	2.63	0.81	0.52	4.36	-	82.34	8.04	5.26
2011	126	0.018	167	4.9	219	129	592,115	↓ 31.8	36.4	-4.6	-13%	32.49	29.98	31.58	49.67	20.46	14.23	8.36	3.88	0.00	0.00	1.48	-	76.55	17.09	4.88
2010	222	0.014	160	4.9	207	139	582,536	↓ 20.0	22.7	-2.7	-12%	22.69	24.78	30.07	8.67	3.85	1.95	1.67	1.42	0.00	0.00	-	-	97.35	1.95	0.7
2009	101	0.011	58	5.0	197	150	577,094	↓ 26.9	35.9	-9.0	-25%	28.12	27.11	31.72	1.97	1.36	1.42	1.03	1.37	0.35	0.00	0.25	-	95.39	3.18	1.18
30yr Jumbo 5	204	0.012	199	5.5	215	135	578,394	↓ 25.5	27.7	-2.1	-8%	22.98	24.85	29.69	11.82	5.25	3.56	2.31	1.36	1.22	0.00	0.98	-	95.72	2.53	0.77
2011	20	0.039	36	5.3	218	131	629,757	↑ 5.6	0.2	5.5	*n.m.	2.04	9.09	12.44	4.84	6.19	3.14	2.20	2.63	0.47	0.29	2.15	0.08	89.40	5.43	2.94
2010	49	0.012	59	5.4	208	141	566,246	↑ 38.0	18.0	20.0	111%	26.24	23.98	26.39	0.00	0.00	0.00	0.00	5.34	0.00	0.00	-	-	93.65	6.00	-
2009	71	0.009	42	5.4	200	149	567,405	↓ 13.7	17.5	-3.8	-22%	16.91	19.34	27.18	18.51	10.16	5.22	2.64	0.70	0.00	0.00	-	0.35	93.80	2.27	3.58

*n.m. - Not Meaningful

Source: Bloomberg

INTENDED FOR INSTITUTIONAL INVESTORS ONLY. The information included herein has been obtained from sources deemed reliable, but it is not in any way guaranteed, and it, together with any opinions expressed, is subject to change at any time. Any and all details offered in this publication are preliminary and are therefore subject to change at any time. This has been prepared for general information purposes only and does not consider the specific investment objectives, financial situation and particular needs of any individual or institution. This information is, by its very nature, incomplete and specifically lacks information critical to making final investment decisions. Investors should seek financial advice as to the appropriateness of investing in any securities or investment strategies mentioned or recommended. The accuracy of the financial projections is dependent on the occurrence of future events which cannot be assured; therefore, the actual results achieved during the projection period may vary from the projections. Interest rate swaps and derivatives are offered and sold via Vining Sparks Interest Rate Products, LLC (VSIRP). VSIRP is an independent operating entity and is not a subsidiary of Vining Sparks IBG, LP. VSIRP is not a broker/dealer registered with the SEC. The firm may have positions, long or short, in any or all securities mentioned. Vining Sparks is a member FINRA/SIPC.

UMBS Prepayment Speeds

March 2022

UMBS 105-125 LTV

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
15yr 105-125 LTV 2.5	221	0.175	415	3.0	70	105	200,762	↓17.0	17.4	-0.3	-2%	16.85	17.37	18.68	0.00	0.00	0.00	0.06	1.03	0.11	0.00	0.05	0.09	97.82	1.80	0.25
2013	121	0.184	207	3.0	68	106	196,740	↓18.6	19.0	-0.4	-2%	17.99	17.20	17.74	0.00	0.00	0.00	0.07	0.99	0.16	0.00	0.08	0.11	97.51	1.89	0.41
2012	75	0.139	165	3.0	61	113	214,689	↓11.7	17.2	-5.5	-32%	16.08	18.19	20.70	0.00	0.00	0.00	0.06	0.88	0.06	0.00	-	0.09	98.64	1.00	-
15yr 105-125 LTV 3	415	0.180	759	3.6	78	97	185,817	↑18.2	14.6	3.5	24%	17.09	18.56	19.99	0.00	0.36	0.32	0.31	1.02	0.37	0.10	0.09	0.04	97.65	1.72	0.5
2016	41	0.371	62	3.7	106	68	166,263	↓18.0	23.3	-5.3	-23%	17.84	22.44	20.25	0.00	0.59	0.69	0.34	0.22	1.24	0.26	-	-	97.22	1.56	1.22
2015	58	0.324	83	3.7	96	80	175,601	↑9.5	4.0	5.5	n.m.	10.29	14.93	15.69	0.00	0.00	0.17	0.19	1.28	1.20	0.00	-	-	96.42	2.51	1.06
2014	40	0.246	91	3.7	83	91	180,978	↑17.9	9.3	8.6	92%	13.57	16.20	18.50	0.00	0.00	0.36	0.18	1.44	0.11	0.00	0.01	0.30	96.98	2.47	0.24
2013	147	0.166	233	3.5	70	105	185,893	↑18.7	18.0	0.6	3%	18.35	17.92	20.57	0.00	0.49	0.37	0.36	1.45	0.16	0.20	0.20	-	97.66	1.81	0.33
2012	109	0.119	253	3.5	61	114	203,572	↑19.7	13.7	6.0	44%	18.83	20.26	21.98	0.00	0.09	0.05	0.22	0.30	0.06	0.00	0.06	0.04	98.98	0.73	0.19
15yr 105-125 LTV 3.5	172	0.190	497	4.1	81	93	166,612	↓15.4	18.2	-2.7	-15%	18.68	20.59	21.65	0.46	0.94	0.81	0.68	1.30	0.29	0.03	0.26	0.05	96.29	2.26	1.14
2014	60	0.215	117	4.2	81	92	167,161	↓13.6	21.9	-8.3	-38%	21.14	20.60	22.11	0.98	1.16	1.18	1.10	1.41	0.60	0.08	-	-	96.47	2.03	1.49
2013	61	0.172	155	4.1	73	101	170,177	↑21.2	15.8	5.4	34%	16.08	21.66	22.54	0.00	0.00	0.36	0.33	0.39	0.12	0.00	0.21	0.14	97.31	1.72	0.61
2012	16	0.103	111	4.0	59	115	187,287	↑16.3	11.0	5.3	48%	22.02	23.13	22.63	0.00	1.76	0.88	0.66	0.69	0.38	0.00	0.50	-	96.22	1.61	1.67
30yr 105-125 LTV 2.5	21	0.320	31	3.3	170	101	208,978	↓9.1	11.5	-2.5	-21%	9.05	11.14	14.65	0.00	0.93	0.46	1.20	0.54	0.00	0.00	1.61	-	97.43	0.42	0.54
30yr 105-125 LTV 3	1,504	0.277	947	3.7	213	105	226,780	↓15.3	19.4	-4.1	-21%	18.73	20.72	23.58	1.28	0.74	0.50	0.43	1.12	0.26	0.10	0.20	0.05	96.75	2.21	0.79
2016	104	0.456	92	3.8	251	67	220,587	↓26.0	33.8	-7.8	-23%	27.45	24.30	23.19	2.31	1.69	1.20	0.78	1.60	0.19	0.00	0.07	-	95.66	2.71	1.56
2015	37	0.405	54	3.9	187	80	209,243	↑26.1	7.4	18.7	252%	19.10	17.13	21.30	0.00	0.00	0.00	0.00	1.04	0.37	0.29	-	-	95.72	3.21	1.07
2013	862	0.281	416	3.7	216	107	225,691	↓13.8	15.5	-1.8	-11%	16.99	19.48	22.88	1.86	0.91	0.55	0.51	1.27	0.30	0.10	0.23	0.07	96.59	2.32	0.78
2012	489	0.241	366	3.7	203	112	231,510	↓14.2	23.3	-9.0	-39%	19.73	22.39	25.18	0.14	0.32	0.25	0.21	0.78	0.19	0.10	0.19	0.02	97.31	1.90	0.59
30yr 105-125 LTV 3.5	5,571	0.218	2,472	4.1	229	107	225,570	↓21.1	21.3	-0.2	-1%	23.07	25.55	28.63	1.50	1.51	1.11	0.86	1.34	0.29	0.13	0.35	0.04	96.26	2.57	0.78
2017	47	0.477	62	4.1	256	56	220,195	↑27.4	24.8	2.6	10%	32.93	28.27	26.82	0.00	3.63	2.35	2.01	0.69	0.60	0.00	1.41	-	95.07	1.50	2.02
2016	185	0.425	133	4.2	272	68	220,050	↑21.6	18.8	2.8	15%	21.05	23.06	25.52	1.95	4.15	2.82	2.54	2.73	0.15	0.17	0.68	-	94.76	3.19	1.37
2015	206	0.351	233	4.2	240	80	210,426	↓21.1	28.4	-7.3	-26%	25.51	26.24	28.04	0.74	0.97	1.18	1.07	1.16	0.18	0.28	0.12	0.03	96.24	3.17	0.44
2014	81	0.301	138	4.3	201	90	208,810	↑27.9	20.7	7.2	35%	25.70	26.32	25.73	4.26	1.44	0.72	0.70	2.13	0.00	0.10	0.42	0.22	94.28	3.48	1.59
2013	2,124	0.242	836	4.1	233	106	220,568	↑22.1	21.3	0.8	4%	23.64	25.63	28.18	1.94	1.71	1.25	0.90	1.49	0.35	0.13	0.36	0.03	96.14	2.73	0.75
2012	2,912	0.190	1,025	4.1	223	113	231,200	↓19.9	21.1	-1.2	-6%	22.37	25.53	29.28	1.16	1.20	0.89	0.70	1.14	0.27	0.12	0.33	0.04	96.50	2.37	0.76
30yr 105-125 LTV 4	3,598	0.191	2,529	4.6	237	103	217,458	↓23.4	24.4	-0.9	-4%	25.94	28.28	30.84	1.47	1.47	1.32	1.05	1.64	0.36	0.22	0.50	0.01	95.40	3.02	1.06
2018	27	0.549	28	4.7	283	46	197,234	↓26.6	36.5	-9.9	-27%	29.46	27.48	24.51	0.00	3.14	3.37	2.13	1.86	0.00	0.57	3.74	-	92.10	1.93	2.23
2017	163	0.466	108	4.6	288	56	219,722	↑25.3	18.8	6.6	35%	26.50	26.65	28.98	2.42	2.85	2.28	1.85	2.64	0.41	0.67	1.38	-	92.11	3.95	2.56
2016	130	0.389	102	4.6	280	70	215,773	↓24.9	27.6	-2.7	-10%	29.09	28.90	29.92	2.85	0.96	1.51	1.42	2.77	0.57	0.20	1.05	-	94.10	3.27	1.59
2015	273	0.332	216	4.6	266	80	203,834	↓24.7	25.0	-0.3	-1%	26.81	28.27	30.27	0.59	1.91	1.92	1.37	1.87	0.49	0.21	0.69	0.02	94.45	3.37	1.47
2014	385	0.279	378	4.7	241	92	208,374	↓23.5	28.6	-5.1	-18%	26.25	29.17	29.35	0.38	1.20	1.43	1.09	2.13	0.37	0.32	0.66	-	94.05	4.17	1.12
2013	850	0.231	656	4.6	238	103	208,478	↓21.8	24.5	-2.7	-11%	25.29	26.91	29.37	1.78	1.99	1.67	1.36	1.89	0.42	0.26	0.39	0.03	95.31	3.28	0.99
2012	1,600	0.149	825	4.5	224	116	225,731	↑23.7	23.2	0.5	2%	25.79	28.99	32.17	1.55	1.12	0.94	0.79	1.23	0.29	0.12	0.32	-	96.24	2.56	0.87
2011	137	0.117	150	4.6	206	124	229,037	↑24.4	23.6	0.8	3%	24.80	26.99	33.00	1.64	0.55	0.40	0.20	1.11	0.43	0.31	0.28	0.15	97.29	1.99	0.29
2010	32	0.090	63	4.5	194	136	231,255	↓21.6	27.6	-5.9	-22%	25.46	28.70	32.06	0.00	1.52	0.76	0.38	0.00	0.00	0.00	0.25	-	97.22	2.28	0.25
30yr 105-125 LTV 4.5	1,244	0.141	1,356	5.0	233	109	218,387	↓24.5	24.7	-0.1	-1%	26.65	30.68	33.07	2.10	1.78	1.74	1.36	1.81	0.48	0.20	0.58	0.01	94.89	3.27	1.25
2015	15	0.303	60	4.9	266	83	180,265	↑11.3	6.8	4.5	65%	28.11	29.19	32.49	0.00	0.00	1.54	0.77	1.42	0.00	0.00	0.67	-	93.80	3.92	1.6
2014	301	0.248	271	5.1	253	93	202,146	↑28.4	23.6	4.8	20%	28.34	31.12	31.45	1.83	2.47	2.66	1.90	1.99	0.72	0.45	0.65	-	93.43	4.07	1.84
2013	323	0.206	281	5.1	243	100	203,282	↓23.8	24.2	-0.3	-1%	26.14	30.38	32.03	2.93	2.18	2.27	1.78	2.51	0.62	0.14	0.20	-	94.54	3.97	1.29
2012	119	0.123	153	4.9	223	119	222,122	↑26.7	21.9	4.7	22%	27.05	32.17	34.71	0.00	0.88	0.94	0.59	1.30	0.30	0.00	0.65	-	96.14	3.04	0.16
2011	343	0.098	328	5.0	212	127	240,800	↓24.3	26.2	-1.9	-7%	27.54	31.72	34.93	3.21	1.61	1.01	0.93	1.47	0.35	0.18	0.71	0.03	95.32	2.80	1.14
2010	101	0.074	168	5.0	205	136	245,113	↓16.6	33.2	-16.6	-50%	23.91	27.02	34.26	0.00	1.05	0.53	0.49	1.20	0.11	0.04	0.66	-	97.13	1.34	0.87
30yr 105-125 LTV 5	344</																									

UMBS Prepayment Speeds

March 2022

UMBS 125+ LTV

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
15yr 125+ LTV 2.5	137	0.176	300	3.1	68	107	198,700	↓ 11.1	13.6	-2.5	-18%	13.29	15.75	17.26	0.00	0.22	0.11	0.19	0.53	0.18	0.04	0.07	-	98.24	1.09	0.6
2013	77	0.186	157	3.1	68	106	189,232	↓ 12.0	13.4	-1.4	-10%	14.60	16.62	17.60	0.00	0.40	0.20	0.31	0.42	0.10	0.07	0.12	-	98.13	1.15	0.6
2012	53	0.152	127	3.0	62	112	214,875	↓ 10.3	15.2	-4.9	-32%	12.52	14.92	16.84	0.00	0.00	0.00	0.04	0.44	0.00	0.00	-	-	98.82	0.51	0.67
15yr 125+ LTV 3	317	0.163	520	3.5	72	102	187,255	↓ 17.4	20.1	-2.7	-13%	18.74	19.37	20.56	0.89	0.60	0.37	0.30	1.07	0.13	0.06	0.18	0.03	97.72	1.80	0.27
2015	25	0.317	51	3.7	95	80	157,134	↑ 17.3	15.3	2.0	13%	15.06	16.68	19.07	2.25	0.76	0.38	0.43	1.34	0.22	0.00	0.19	-	97.00	2.31	0.49
2014	18	0.277	45	3.7	83	91	159,868	↓ 15.6	38.4	-22.8	-59%	24.56	19.08	18.85	0.00	1.53	0.77	0.38	2.71	0.00	0.00	0.21	-	97.33	2.25	0.21
2013	125	0.170	197	3.5	69	105	187,427	↓ 18.6	18.9	-0.3	-2%	18.31	19.12	20.37	0.85	0.58	0.33	0.32	1.18	0.19	0.10	0.15	0.00	97.61	2.12	0.12
2012	125	0.124	188	3.5	61	113	204,476	↓ 17.5	17.8	-0.4	-2%	18.77	20.67	22.05	0.97	0.57	0.42	0.30	0.54	0.10	0.00	0.17	0.07	98.20	1.16	0.4
15yr 125+ LTV 3.5	161	0.179	365	4.1	77	97	160,211	↓ 19.5	21.7	-2.2	-10%	20.73	21.40	22.60	0.00	0.00	0.07	0.12	0.99	0.26	0.00	0.19	-	97.78	1.44	0.6
2014	45	0.220	92	4.2	81	93	147,000	↓ 13.7	15.1	-1.4	-9%	15.87	19.81	22.40	0.00	0.00	0.00	0.00	1.22	0.15	0.00	0.21	-	97.41	1.49	0.89
2013	71	0.178	133	4.1	72	102	169,223	↓ 18.9	25.2	-6.3	-25%	22.04	21.38	22.55	0.00	0.00	0.16	0.21	0.74	0.40	0.00	0.21	-	97.94	1.38	0.46
2012	23	0.099	90	4.0	59	115	188,510	↑ 36.0	21.5	14.5	67%	26.67	26.21	25.79	0.00	0.00	0.00	0.00	0.52	0.00	0.00	-	-	99.41	0.00	-
15yr 125+ LTV 4	27	0.185	76	4.6	81	93	146,279	↓ 14.2	14.6	-0.3	-2%	21.07	22.50	22.86	0.00	1.12	0.76	0.46	0.65	0.65	0.14	1.48	-	96.54	1.17	0.81
2013	12	0.171	37	4.7	75	100	152,517	↑ 15.1	8.6	6.5	75%	20.64	20.46	23.13	0.00	0.00	0.46	0.41	0.93	0.00	0.00	2.95	-	95.62	1.00	-
30yr 125+ LTV 2.5	9	0.365	19	3.3	203	108	217,791	↓ 0.7	21.0	-20.3	*n.m.	31.50	22.05	19.04	0.00	0.00	0.00	0.00	0.00	1.28	0.00	-	-	95.52	4.00	-
30yr 125+ LTV 3	1,251	0.284	670	3.8	223	107	224,585	↑ 18.2	17.4	0.8	5%	19.15	22.20	25.17	1.34	1.11	0.88	0.76	1.07	0.28	0.14	0.17	0.02	97.06	1.98	0.78
2013	710	0.294	338	3.8	225	107	221,785	↑ 18.0	17.2	0.8	5%	19.77	22.10	25.00	1.67	1.39	1.06	0.83	1.09	0.32	0.12	0.21	0.03	96.82	2.16	0.77
2012	496	0.262	279	3.7	218	111	229,739	↑ 19.1	18.7	0.3	2%	19.10	22.54	25.73	1.00	0.80	0.50	0.52	1.09	0.16	0.18	0.03	-	97.60	1.66	0.71
30yr 125+ LTV 3.5	6,287	0.229	1,799	4.1	230	109	221,912	↓ 22.6	22.8	-0.2	-1%	24.26	26.44	29.49	1.75	1.09	0.90	0.71	1.31	0.25	0.14	0.33	0.03	96.69	2.15	0.8
2016	84	0.481	73	4.2	272	68	200,965	↑ 26.0	16.1	10.0	62%	22.07	26.87	25.62	5.16	2.62	1.65	1.03	2.96	0.81	0.00	0.70	0.34	93.98	3.15	1.84
2015	99	0.376	124	4.2	242	80	196,627	↓ 15.2	20.6	-5.3	-26%	17.75	21.78	25.79	4.06	1.37	1.65	0.90	1.37	0.30	0.11	0.07	-	96.28	3.08	0.57
2014	35	0.354	63	4.3	197	90	187,832	↓ 17.0	18.0	-1.1	-6%	23.99	22.56	23.38	5.49	6.93	4.37	2.21	1.41	0.19	0.00	0.99	-	93.80	4.04	1.17
2013	2,446	0.261	725	4.1	235	106	214,794	↑ 22.8	21.0	1.8	8%	23.43	25.83	28.40	1.74	1.20	1.01	0.82	1.47	0.31	0.15	0.36	0.03	96.45	2.31	0.85
2012	3,593	0.205	779	4.1	225	113	228,498	↓ 22.8	24.0	-1.2	-5%	25.07	27.02	30.50	1.59	0.92	0.76	0.60	1.15	0.20	0.13	0.30	0.02	96.97	1.97	0.74
30yr 125+ LTV 4	3,296	0.206	1,749	4.6	235	107	210,527	↓ 24.1	25.8	-1.7	-7%	26.79	29.30	31.39	1.02	1.34	1.26	1.00	1.33	0.29	0.14	0.38	0.02	96.32	2.31	0.98
2017	71	0.546	57	4.6	286	56	189,112	↓ 17.3	24.1	-6.9	-29%	24.19	23.02	22.34	0.00	4.26	2.77	1.75	0.57	0.27	0.38	0.83	-	92.91	4.65	1.61
2016	52	0.440	69	4.6	277	69	184,898	↑ 35.6	24.6	10.9	44%	34.51	35.01	29.37	0.00	4.20	2.82	2.39	1.42	0.41	0.20	-	0.41	95.75	2.12	1.72
2015	146	0.384	154	4.6	263	80	184,242	↓ 23.6	28.8	-5.2	-18%	26.06	28.06	28.00	4.25	2.80	2.75	1.98	3.07	0.28	0.41	0.48	-	95.31	2.81	1.41
2014	221	0.311	238	4.7	238	92	193,807	↓ 20.4	24.7	-4.3	-17%	22.64	27.55	28.41	2.46	1.47	1.48	1.21	1.89	0.52	0.19	0.70	0.05	94.39	3.94	0.92
2013	824	0.258	588	4.6	238	104	202,683	↑ 25.9	23.6	2.3	10%	25.34	27.70	29.54	0.97	1.28	1.42	1.19	1.58	0.29	0.11	0.33	-	96.36	2.33	0.98
2012	1,970	0.172	629	4.5	227	115	219,211	↓ 23.6	26.5	-2.9	-11%	27.72	30.26	33.00	0.62	1.02	0.93	0.73	1.06	0.27	0.12	0.36	0.02	96.71	2.00	0.91
30yr 125+ LTV 4.5	832	0.231	789	5.1	244	101	200,690	↑ 31.1	24.1	7.0	29%	28.71	29.36	31.05	2.43	1.85	1.63	1.35	1.63	0.29	0.32	0.47	0.03	95.35	3.12	1.03
2014	244	0.301	237	5.1	252	94	191,543	↑ 30.6	17.4	13.2	76%	27.33	28.24	29.61	5.87	2.94	2.00	1.84	1.97	0.35	0.52	0.70	0.04	94.49	3.36	1.41
2013	383	0.255	287	5.1	243	101	199,177	↑ 28.6	24.5	4.1	17%	28.65	29.56	30.76	1.49	1.61	1.62	1.15	1.61	0.33	0.24	0.47	-	95.31	3.41	0.82
2012	177	0.145	160	5.0	230	117	219,558	↑ 35.7	32.5	3.1	10%	31.33	31.36	34.37	0.00	1.17	1.32	1.11	1.09	0.16	0.19	0.13	-	96.47	2.40	1
30yr 125+ LTV 5	67	0.270	76	5.5	254	94	174,474	↑ 23.4	14.8	8.5	57%	25.63	26.78	28.36	2.16	3.73	3.43	2.19	1.50	0.25	0.39	0.81	-	94.84	2.84	1.51

*n.m. - Not Meaningful

Source: Bloomberg

INTENDED FOR INSTITUTIONAL INVESTORS ONLY. The information included herein has been obtained from sources deemed reliable, but it is not in any way guaranteed, and it, together with any opinions expressed, is subject to change at any time. Any and all details offered in this publication are preliminary and are therefore subject to change at any time. This has been prepared for general information purposes only and does not consider the specific investment objectives, financial situation and particular needs of any individual or institution. This information is, by its very nature, incomplete and specifically lacks information critical to making final investment decisions. Investors should seek financial advice as to the appropriateness of investing in any securities or investment strategies mentioned or recommended. The accuracy of the financial projections is dependent on the occurrence of future events which cannot be assured; therefore, the actual results achieved during the projection period may vary from the projections. Interest rate swaps and derivatives are offered and sold via Vining Sparks Interest Rate Products, LLC (VSIRP). VSIRP is an independent operating entity and is not a subsidiary of Vining Sparks IBG, LP. VSIRP is not a broker/dealer registered with the SEC. The firm may have positions, long or short, in any or all securities mentioned. Vining Sparks is a member FINRA/SIPC.

UMBS Prepayment Speeds

March 2022

UMBS Relocation

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
15yr RELO 2	15	0.198	18	2.5	92	81	305,232	↓ 2.8	9.0	-6.3	-69%	5.13	10.46	18.52	0.00	0.00	0.00	0.00	0.00	0.00	0.43	-	-	99.57	0.00	-
15yr RELO 2.5	70	0.129	83	3.0	84	88	279,211	↓ 10.0	13.1	-3.1	-23%	13.65	16.77	23.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.24	99.42	0.16	0.18
2014	32	0.142	42	3.0	82	91	277,850	↑ 8.5	8.4	0.1	1%	14.47	15.49	20.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	1.00	-	-
30yr RELO 2.5	224	0.335	58	3.3	287	63	346,478	↓ 12.9	14.0	-1.1	-8%	16.80	21.43	23.83	0.00	0.59	0.29	0.15	0.57	0.00	0.00	-	0.14	98.79	1.00	-
2016	31	0.346	10	3.1	285	65	325,472	↓ 0.6	12.3	-11.7	*n.m.	11.07	19.09	27.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	98.81	1.00	-
2013	60	0.222	23	3.1	238	107	316,314	↑ 9.0	5.1	3.9	77%	13.85	14.10	19.57	0.00	0.00	0.00	0.00	0.27	0.00	0.00	-	0.53	99.13	0.00	-
30yr RELO 3	1,351	0.204	343	3.7	278	69	321,069	↓ 20.5	24.1	-3.7	-15%	25.72	31.08	37.87	0.54	0.18	0.25	0.13	0.48	0.00	0.00	0.10	0.06	98.92	0.74	0.18
2019	87	0.394	21	3.8	323	30	372,965	↓ 10.1	31.9	-21.9	-68%	28.96	32.05	37.81	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.91	-	98.29	0.00	-
2018	110	0.206	33	4.1	304	45	327,626	↑ 38.7	35.2	3.6	10%	36.61	35.56	45.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	99.42	0.41	0.17
2017	398	0.246	92	3.8	295	53	318,723	↓ 19.0	27.1	-8.1	-30%	27.49	33.61	39.75	1.84	0.62	0.62	0.31	0.77	0.00	0.00	-	0.09	99.10	0.72	0.08
2016	182	0.241	24	3.5	281	66	316,886	↓ 16.5	23.7	-7.2	-30%	23.72	30.92	34.34	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.20	-	99.00	0.48	0.31
2015	286	0.190	57	3.7	266	80	312,134	↑ 19.7	18.6	1.2	6%	21.95	29.99	37.52	0.00	0.01	0.01	0.00	0.44	0.00	0.00	0.08	0.16	98.88	0.73	0.15
2014	80	0.132	44	3.9	253	89	318,296	↓ 19.5	23.5	-4.1	-17%	23.76	29.82	41.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	98.64	1.00	-
2013	105	0.156	33	3.5	238	105	316,710	↑ 13.2	6.8	6.4	94%	17.21	23.61	31.53	0.00	0.00	0.30	0.15	0.33	0.00	0.00	-	-	98.28	0.96	0.76
2012	92	0.147	31	3.5	230	116	318,700	↑ 27.6	25.6	2.0	8%	26.05	26.39	30.48	0.00	0.00	0.63	0.46	0.33	0.00	0.00	-	-	99.18	0.73	0.09
30yr RELO 3.5	401	0.104	185	4.1	253	92	301,026	↓ 19.2	32.1	-12.8	-40%	26.48	32.88	41.14	0.00	0.51	0.52	0.30	0.76	0.15	0.11	0.28	-	97.86	1.12	0.73
2017	37	0.151	13	4.0	293	58	304,222	↓ 16.8	59.5	-42.7	-72%	33.96	47.67	48.92	0.00	0.00	0.00	0.41	0.47	0.00	0.00	1.33	-	97.26	0.60	0.8
2014	131	0.095	61	4.2	252	92	287,336	↓ 22.3	24.9	-2.6	-10%	24.17	29.14	41.31	0.00	1.58	1.10	0.55	0.61	0.27	0.14	0.27	-	97.58	1.63	0.51
2013	45	0.092	24	4.1	245	101	292,789	↓ 11.7	17.7	-6.0	-34%	22.98	31.01	37.69	0.00	0.00	0.00	0.00	0.79	0.00	0.00	-	-	98.24	1.18	0.58
2012	33	0.098	16	3.9	221	120	300,586	↓ 13.3	34.7	-21.4	-62%	27.95	24.00	35.69	0.00	0.00	0.00	0.00	0.68	0.00	0.00	-	-	99.32	-	0.68
2011	44	0.091	26	3.9	215	125	306,755	↓ 20.4	42.4	-22.1	-52%	29.05	28.45	35.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	99.67	0.00	-
2010	40	0.083	13	3.9	204	135	303,985	↓ 14.5	23.5	-9.0	-38%	26.29	24.46	30.73	0.00	0.00	0.00	0.00	1.10	0.00	0.00	-	-	98.55	0.78	0.67
30yr RELO 4	125	0.046	117	4.5	223	120	297,150	↓ 20.2	25.7	-5.6	-22%	24.57	31.14	38.28	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.18	-	98.21	1.49	0.13
2014	23	0.066	34	4.5	251	95	270,401	↑ 45.4	32.3	13.1	41%	37.78	37.78	39.53	0.00	0.00	0.00	0.00	1.04	0.00	0.00	-	-	95.91	4.00	-
2011	46	0.043	36	4.4	212	129	290,357	↓ 18.5	29.0	-10.5	-36%	18.27	23.54	33.82	0.00	0.00	0.00	0.00	0.24	0.00	0.00	-	-	97.68	1.98	0.34
2010	41	0.038	23	4.4	203	139	316,093	↓ 7.0	20.1	-13.1	-65%	23.65	31.88	35.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	-	99.00	-	-
30yr RELO 4.5	31	0.019	219	5.0	171	174	240,833	↑ 27.8	17.0	10.8	63%	19.33	13.99	24.49	0.00	0.07	0.04	0.63	0.58	0.00	0.00	-	-	97.25	1.99	0.76

*n.m. - Not Meaningful

Source: Bloomberg

INTENDED FOR INSTITUTIONAL INVESTORS ONLY. The information included herein has been obtained from sources deemed reliable, but it is not in any way guaranteed, and it, together with any opinions expressed, is subject to change at any time. Any and all details offered in this publication are preliminary and are therefore subject to change at any time. This has been prepared for general information purposes only and does not consider the specific investment objectives, financial situation and particular needs of any individual or institution. This information is, by its very nature, incomplete and specifically lacks information critical to making final investment decisions. Investors should seek financial advice as to the appropriateness of investing in any securities or investment strategies mentioned or recommended. The accuracy of the financial projections is dependent on the occurrence of future events which cannot be assured; therefore, the actual results achieved during the projection period may vary from the projections. Interest rate swaps and derivatives are offered and sold via Vining Sparks Interest Rate Products, LLC (VSIRP). VSIRP is an independent operating entity and is not a subsidiary of Vining Sparks IBG, LP. VSIRP is not a broker/dealer registered with the SEC. The firm may have positions, long or short, in any or all securities mentioned. Vining Sparks is a member FINRA/SIPC.