

UMBS Prepayment Speeds

September 2020

UMBS 10yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 10yr 2	4,324	0.344	469	2.7	92	26	248,690	↓12.2	13.9	-1.7	-12%	13.59	14.33	14.83	0.02	0.02	0.28	0.22	0.23	0.07	0.09	0.00	0.00	98.97	0.30	0.73
2020	2,848	0.971	42	2.7	116	2	258,505	↑6.9	6.2	0.7	12%	5.62	4.72	-	0.00	0.00	0.00	-	0.21	0.03	0.02	-	-	99.57	0.26	0.17
2019	91	0.832	15	2.8	108	10	282,787	↑31.9	14.0	18.0	129%	20.85	18.36	11.43	0.00	0.00	0.88	0.44	0.49	0.00	0.00	-	-	97.82	0.49	1.69
2017	14	0.555	8	2.6	78	38	261,661	↓5.9	17.6	-11.7	-66%	8.84	11.71	8.91	0.00	0.00	0.00	0.00	0.00	0.50	0.00	-	-	98.81	0.50	0.69
2016	405	0.408	67	2.6	68	48	255,640	↓18.4	19.2	-0.8	-4%	18.90	16.43	14.58	0.00	0.00	0.00	0.24	0.16	0.12	0.31	-	-	97.78	0.27	1.95
2015	60	0.279	42	2.7	54	62	234,598	↑22.9	22.3	0.6	3%	23.10	20.19	16.86	0.00	0.00	0.00	0.00	0.19	0.17	0.20	-	-	97.21	0.53	2.26
2014	40	0.209	23	2.9	46	70	232,015	↓16.5	22.6	-6.1	-27%	19.61	18.06	18.31	2.60	0.87	0.44	0.22	0.25	0.40	0.17	-	-	97.26	0.60	2.14
2013	726	0.114	210	2.7	30	87	213,232	↓21.6	23.8	-2.3	-9%	22.80	20.38	18.49	0.00	0.03	0.04	0.02	0.32	0.14	0.23	-	0.02	97.85	0.35	1.78
2012	137	0.078	61	2.7	25	93	199,453	↓23.7	27.2	-3.5	-13%	25.85	23.22	20.93	0.00	0.04	0.02	0.01	0.27	0.05	0.08	0.02	-	97.98	0.63	1.38
FNMA 10yr 2.5	9,721	0.212	1,606	3.0	70	46	224,212	↓22.5	23.1	-0.7	-3%	21.96	19.19	17.31	0.20	0.16	0.13	0.08	0.34	0.20	0.25	0.01	0.03	97.54	0.36	2.06
2020	1,934	0.940	43	3.1	114	4	245,204	↑13.3	12.6	0.7	5%	11.20	8.63	-	0.24	0.35	0.18	-	0.24	0.07	0.12	-	0.01	98.98	0.34	0.67
2019	1,142	0.802	41	3.1	107	10	250,196	↓29.7	32.3	-2.6	-8%	28.11	21.44	15.41	0.00	0.00	0.11	0.06	0.15	0.31	0.26	0.04	0.07	97.29	0.18	2.43
2018	21	0.539	11	3.2	85	29	249,104	↓32.6	37.2	-4.7	-13%	28.36	23.74	20.96	0.00	0.00	0.00	0.00	0.89	0.00	0.00	-	-	96.92	1.54	1.54
2017	582	0.476	71	3.0	78	37	237,175	↑26.2	25.9	0.3	1%	25.29	21.08	17.77	0.00	0.00	0.00	0.00	0.63	0.12	0.35	-	-	96.89	0.30	2.82
2016	2,269	0.385	166	2.9	67	48	223,573	↓20.3	20.5	-0.2	-1%	19.84	17.76	15.76	0.06	0.08	0.10	0.05	0.32	0.25	0.34	0.00	0.03	97.10	0.31	2.56
2015	1,209	0.251	192	3.0	54	62	213,191	↓22.8	23.1	-0.2	-1%	22.87	20.24	17.83	0.71	0.39	0.19	0.13	0.36	0.23	0.31	0.01	0.02	97.23	0.40	2.33
2014	656	0.164	190	3.2	43	73	204,470	↓23.5	26.1	-2.6	-10%	24.11	21.17	18.68	0.28	0.16	0.12	0.16	0.57	0.24	0.27	-	0.04	97.03	0.58	2.35
2013	951	0.106	360	3.0	30	87	183,089	↑24.3	23.2	1.1	5%	23.44	20.87	18.88	0.20	0.10	0.09	0.07	0.46	0.23	0.23	0.02	0.02	97.01	0.52	2.43
2012	928	0.057	493	3.0	22	96	212,497	↓29.6	30.1	-0.4	-1%	29.17	25.47	22.95	0.15	0.12	0.06	0.07	0.35	0.20	0.19	0.00	0.02	97.67	0.41	1.89
2011	30	0.025	39	3.1	14	105	201,900	↑34.6	26.5	8.0	30%	30.04	28.23	26.79	0.00	0.22	0.11	0.06	0.27	0.01	0.00	-	-	98.41	0.26	1.33
FNMA 10yr 3	4,908	0.123	1,409	3.5	68	48	185,334	↑26.8	24.9	2.0	8%	25.10	22.24	19.82	0.27	0.14	0.19	0.12	0.55	0.25	0.36	0.01	0.03	96.53	0.54	2.89
2020	230	0.921	20	3.6	112	6	196,497	↑22.5	11.3	11.1	98%	14.20	9.61	-	0.87	0.29	0.15	-	0.27	0.20	0.18	-	-	98.06	0.42	1.51
2019	867	0.752	47	3.6	104	12	219,962	↑33.5	29.2	4.4	15%	29.81	24.68	18.99	0.37	0.12	0.21	0.10	0.59	0.33	0.30	-	0.06	96.78	0.36	2.79
2018	280	0.529	36	3.5	85	29	216,993	↓24.1	29.0	-4.9	-17%	27.35	24.53	20.94	0.00	0.08	0.04	0.02	0.46	0.19	0.33	-	0.09	97.15	0.40	2.35
2017	1,214	0.466	96	3.4	77	37	192,323	↑24.7	23.4	1.4	6%	23.82	21.32	18.67	0.11	0.05	0.05	0.03	0.55	0.16	0.42	0.03	0.00	96.66	0.59	2.72
2016	529	0.349	92	3.5	65	49	166,046	↑23.5	20.5	3.0	15%	21.04	19.35	17.19	0.78	0.28	0.14	0.22	0.51	0.34	0.54	-	0.01	95.76	0.54	3.68
2015	475	0.249	126	3.5	54	60	162,128	↑21.5	20.1	1.4	7%	19.92	18.72	17.28	0.09	0.17	0.16	0.19	0.51	0.34	0.34	0.02	-	96.00	0.59	3.39
2014	420	0.157	160	3.6	42	73	148,881	↑22.1	20.6	1.5	7%	21.60	19.64	18.42	0.06	0.10	0.07	0.15	0.72	0.32	0.38	0.01	0.02	95.87	0.67	3.43
2013	354	0.108	242	3.6	33	84	149,577	↑25.2	21.8	3.4	16%	22.57	20.30	19.08	0.24	0.16	0.12	0.20	0.67	0.29	0.34	0.00	0.06	95.73	0.83	3.38
2012	233	0.039	295	3.5	19	99	165,994	↓29.9	31.6	-1.7	-5%	29.99	26.49	24.32	0.32	0.14	0.11	0.13	0.57	0.15	0.32	-	-	96.78	0.53	2.69
2011	298	0.017	243	3.5	12	107	197,465	↑37.8	37.7	0.1	0%	36.39	32.05	28.52	0.14	0.13	0.08	0.10	0.50	0.16	0.16	0.00	0.01	97.35	0.53	2.11
2010	8	0.003	52	3.6	3	117	206,445	↑65.8	58.0	7.8	13%	57.10	48.02	40.93	0.00	0.11	0.06	0.03	0.45	0.37	0.13	-	-	97.92	0.37	1.71
FNMA 10yr 3.5	1,893	0.096	726	4.0	80	35	164,596	↓28.3	30.6	-2.2	-7%	29.37	27.18	24.18	0.34	0.20	0.12	0.07	0.73	0.35	0.40	0.01	0.04	95.81	0.75	3.4
2020	30	0.919	10	4.2	113	6	136,981	↓14.3	31.0	-16.7	-54%	17.37	11.91	-	3.49	1.18	0.59	-	0.00	0.00	0.55	-	-	99.20	0.25	0.55
2019	480	0.628	50	4.0	99	15	184,679	↓29.0	36.8	-7.8	-21%	34.47	32.21	26.31	0.22	0.07	0.04	0.02	0.67	0.19	0.42	0.03	0.04	96.44	0.46	3.03
2018	651	0.519	73	4.0	88	26	185,257	↓31.2	31.5	-0.3	-1%	30.68	28.35	25.09	0.05	0.11	0.06	0.03	0.58	0.30	0.39	0.01	0.07	95.79	0.61	3.51
2017	409	0.455	53	3.9	77	37	139,642	↑24.2	23.3	0.9	4%	23.32	20.69	19.66	0.85	0.47	0.28	0.77	0.91	0.65	0.37	-	-	95.36	0.99	3.65
2016	56	0.335	30	4.1	64	50	121,293	↑22.6	13.2	9.4	71%	15.63	15.34	16.52	0.00	0.00	0.00	0.00	1.50	0.32	0.12	-	0.00	94.57	1.82	3.6
2015	37	0.239	31	4.2	53	61	108,865	↓18.3	23.3	-4.9	-21%	19.03	16.08	15.73	0.49	0.48	0.24	1.12	1.70	0.40	0.20	-	-	93.04	1.26	5.7
2014	81	0.144	64	4.2	40	74	118,583	↓22.7	23.5	-0.8	-3%	23.44	21.25	19.41	0.00	0.16	0.09	0.05	0.85	0.64	0.37	-	0.10	95.02	1.38	3.49
2013	64	0.107	76	4.1	33	83	113,366	↓18.9	21.2	-2.3	-11%	18.99	17.92	18.11	0.00	0.15	0.07	0.11	0.70	0.26	0.75	-	-	95.77	0.83	3.4
2012	14	0.037	49	4.1	19	100	115,851	↓27.5	28.5	-1.0	-3%	29.65	26.44	24.56	0.00	0.00	0.00	0.00	0.48	0.27	0.84	-	-	94.90	1.04	4.06
2011	59	0.010	168	4.0	9	110	163,265	↑36.4	36.1	0.3	1%	35.57	33.97	30.98	0.36	0.15	0.07	0.05	0.60	0.30	0.25	0.06	0.05	96.11	0.69	3.09
2010	12	0.001	122	3.9	3	117	182,811	↑76.7	66.5	10.2	15%	67.07	56.78	45.86	0.67	0.28	0.25	0.12	0.65	0.17	0.19	-	0.06	97.60	0.61	1.74
																										

UMBS Prepayment Speeds

September 2020

UMBS 15yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 15yr 1.5	9,689	0.989	84	2.4	178	1	346,337	↑ 2.7	2.3	0.4	*n.m.	1.31	1.39	4.57	0.00	0.04	0.02	0.00	0.75	0.01	0.00	-	-	99.16	0.84	0
2020	9,683	0.990	80	2.4	178	1	346,428	↑ 2.6	2.3	0.4	*n.m.	1.30	-	-	0.00	0.04	-	-	0.75	0.01	0.00	-	-	99.16	0.00	-
FNMA 15yr 2	110,147	0.814	3,356	2.7	167	11	304,211	↑ 9.1	7.7	1.4	18%	7.78	7.31	8.02	0.09	0.06	0.05	0.04	0.28	0.09	0.09	0.00	0.00	99.03	0.39	0.58
2020	94,294	0.976	1,202	2.7	176	3	307,899	↑ 7.1	5.0	2.1	42%	5.21	3.54	-	0.09	0.05	0.03	-	0.27	0.08	0.06	-	0.00	99.30	0.39	0.3
2019	2,491	0.869	64	2.8	167	10	326,329	↑ 28.1	20.7	7.5	36%	21.69	14.96	9.43	0.10	0.07	0.06	0.04	0.40	0.26	0.36	-	0.02	96.23	0.35	3.39
2017	75	0.710	30	2.6	137	37	285,733	↑ 17.8	12.8	4.9	39%	16.86	12.82	9.51	0.00	0.00	0.00	0.00	0.00	1.02	0.76	-	-	96.46	0.86	2.68
2016	5,070	0.576	342	2.6	127	48	289,433	↑ 20.0	17.8	2.1	12%	17.54	14.00	11.31	0.14	0.07	0.06	0.04	0.30	0.16	0.32	0.00	0.01	97.56	0.38	2.04
2015	584	0.449	177	2.7	111	63	289,849	↓ 19.7	20.7	-1.0	-5%	18.09	15.90	12.64	0.00	0.06	0.03	0.02	0.47	0.21	0.24	-	-	96.89	0.43	2.67
2014	98	0.475	38	2.8	102	72	273,686	↓ 9.6	15.6	-6.0	-39%	10.78	11.39	11.00	0.00	0.22	0.11	0.06	0.05	0.17	0.13	-	-	96.16	0.54	3.29
2013	4,889	0.310	1,016	2.6	86	88	269,169	↓ 16.4	16.7	-0.2	-1%	15.67	13.27	11.56	0.13	0.08	0.05	0.07	0.28	0.20	0.23	0.00	0.03	97.59	0.41	1.97
2012	2,638	0.275	481	2.6	81	93	249,975	↓ 17.5	18.1	-0.5	-3%	17.15	14.53	12.28	0.11	0.07	0.07	0.04	0.26	0.13	0.17	0.00	0.03	97.98	0.44	1.56
FNMA 15yr 2.5	194,743	0.487	19,689	3.1	136	39	269,730	↑ 23.7	21.9	1.8	8%	21.60	17.65	13.94	0.31	0.17	0.12	0.08	0.40	0.21	0.28	0.01	0.03	97.28	0.45	2.24
2020	53,864	0.953	1,877	3.1	174	4	269,654	↑ 15.0	10.7	4.3	40%	11.04	7.59	-	0.35	0.23	0.12	-	0.36	0.14	0.15	0.00	0.01	98.54	0.51	0.94
2019	38,192	0.792	1,056	3.2	166	10	295,045	↑ 38.4	36.9	1.4	4%	35.53	27.53	17.73	0.37	0.19	0.13	0.07	0.43	0.26	0.36	0.01	0.03	96.73	0.43	2.8
2018	501	0.633	83	3.2	145	30	296,989	↑ 31.6	27.5	4.1	15%	28.64	25.97	19.74	0.00	0.00	0.00	0.00	0.61	0.24	0.37	0.02	0.05	94.85	0.34	4.74
2017	6,532	0.612	700	3.0	138	37	279,802	↑ 29.4	27.7	1.8	6%	26.95	21.49	16.00	0.15	0.12	0.10	0.09	0.40	0.25	0.40	0.02	0.03	96.29	0.40	3.26
2016	35,533	0.527	3,143	2.9	126	48	266,710	↑ 23.3	21.3	2.0	10%	20.97	17.16	13.85	0.25	0.13	0.10	0.09	0.42	0.25	0.33	0.01	0.03	96.56	0.41	2.98
2015	13,865	0.403	2,037	3.0	112	62	266,142	↑ 23.9	21.3	2.6	12%	21.78	17.95	14.71	0.47	0.20	0.17	0.12	0.37	0.23	0.32	0.01	0.03	96.87	0.42	2.67
2014	3,183	0.321	1,051	3.1	103	70	266,940	↓ 22.4	22.6	-0.2	-1%	22.29	18.86	15.75	0.16	0.12	0.10	0.14	0.38	0.28	0.28	0.01	0.02	97.11	0.38	2.48
2013	18,605	0.289	4,073	2.9	86	88	240,845	↑ 17.5	16.9	0.6	4%	16.63	14.10	12.43	0.22	0.15	0.12	0.11	0.46	0.25	0.33	0.01	0.04	96.66	0.50	2.78
2012	23,983	0.229	5,478	3.0	78	96	256,267	↑ 19.2	18.8	0.5	2%	18.26	15.61	13.56	0.24	0.12	0.07	0.09	0.36	0.18	0.26	0.01	0.04	97.42	0.41	2.13
2011	479	0.169	187	3.1	68	106	237,380	↓ 20.0	20.4	-0.4	-2%	20.16	17.70	15.70	0.59	0.20	0.10	0.05	0.18	0.11	0.24	-	0.00	97.44	0.39	2.17
FNMA 15yr 3	128,055	0.368	27,488	3.5	125	49	228,488	↑ 27.3	27.2	0.1	0%	26.65	23.14	18.60	0.37	0.22	0.17	0.13	0.62	0.35	0.42	0.02	0.04	95.66	0.66	3.62
2020	7,851	0.940	657	3.7	171	5	220,633	↑ 16.9	13.0	3.9	30%	12.81	8.87	-	0.62	0.29	0.15	-	0.54	0.25	0.30	0.00	0.01	97.18	0.65	2.15
2019	25,003	0.724	1,448	3.6	164	12	250,597	↑ 38.8	38.7	0.1	0%	37.98	33.32	24.12	0.29	0.18	0.14	0.10	0.57	0.38	0.47	0.02	0.03	95.78	0.57	3.61
2018	5,977	0.546	626	3.7	146	28	262,040	↓ 40.4	42.5	-2.1	-5%	41.71	36.41	29.40	0.23	0.13	0.14	0.14	0.60	0.37	0.41	0.03	0.04	95.36	0.61	3.96
2017	26,178	0.561	2,975	3.5	137	37	238,406	↑ 30.0	29.8	0.3	1%	29.01	24.83	19.54	0.38	0.24	0.19	0.19	0.62	0.38	0.48	0.02	0.05	95.08	0.63	4.21
2016	10,665	0.478	2,921	3.5	124	50	198,194	↑ 21.7	21.0	0.7	3%	20.73	18.40	15.91	0.56	0.32	0.25	0.25	0.83	0.47	0.53	0.01	0.05	94.35	0.88	4.71
2015	14,683	0.388	3,625	3.5	113	61	215,758	↑ 20.7	20.7	0.0	0%	20.39	17.67	15.26	0.42	0.22	0.22	0.18	0.67	0.36	0.42	0.01	0.04	95.33	0.74	3.88
2014	10,927	0.293	3,347	3.5	100	73	218,962	↑ 22.4	21.7	0.7	3%	21.40	18.13	15.55	0.43	0.30	0.24	0.22	0.73	0.32	0.44	0.01	0.04	95.57	0.78	3.59
2013	8,851	0.259	3,814	3.5	89	84	203,768	↓ 18.6	18.8	-0.2	-1%	18.31	15.89	14.17	0.39	0.22	0.19	0.17	0.69	0.32	0.39	0.02	0.03	95.80	0.75	3.41
2012	9,665	0.183	5,477	3.5	74	99	209,636	↓ 19.1	19.6	-0.5	-3%	18.98	16.45	14.69	0.22	0.18	0.14	0.10	0.50	0.26	0.27	0.01	0.03	96.46	0.62	2.88
2011	7,355	0.137	2,190	3.5	68	106	237,959	↓ 20.7	21.1	-0.4	-2%	20.13	17.66	15.50	0.17	0.11	0.08	0.07	0.41	0.20	0.22	0.01	0.05	97.23	0.45	2.27
2010	900	0.094	406	3.6	57	117	222,229	↓ 22.4	24.4	-2.0	-8%	23.04	19.51	17.36	0.08	0.07	0.07	0.05	0.32	0.16	0.16	0.00	0.04	97.89	0.42	1.65
FNMA 15yr 3.5	53,918	0.266	20,555	4.0	124	50	189,627	↓ 28.4	29.5	-1.0	-3%	29.02	26.82	22.60	0.47	0.33	0.27	0.20	0.87	0.44	0.50	0.02	0.04	94.67	0.92	4.36
2020	1,614	0.924	242	4.1	170	6	212,385	↑ 21.6	15.7	6.0	38%	15.97	11.27	-	1.73	0.71	0.36	-	0.65	0.46	0.53	-	0.03	95.53	0.87	3.57
2019	13,275	0.680	1,404	4.1	161	14	204,864	↓ 35.3	37.1	-1.8	-5%	36.45	33.82	26.45	0.41	0.26	0.25	0.17	0.86	0.45	0.61	0.01	0.05	94.46	0.84	4.64
2018	10,777	0.513	1,738	4.1	148	26	219,468	↓ 39.9	42.1	-2.2	-5%	41.82	39.73	33.37	0.27	0.29	0.23	0.20	0.85	0.47	0.51	0.02	0.05	94.58	0.83	4.52
2017	6,790	0.557	1,997	4.0	136	38	159,142	↑ 23.3	22.5	0.8	3%	22.58	20.18	17.63	0.62	0.47	0.37	0.33	1.13	0.63	0.64	0.03	0.06	93.26	1.19	5.47
2016	1,600	0.467	997	4.0	122	50	130,928	↓ 18.4	18.5	0.0	0%	18.26	16.01	15.00	0.55	0.48	0.33	0.21	1.11	0.50	0.56	0.01	0.06	93.47	1.22	5.24
2015	2,158	0.386	1,523	4.0	112	61	133,673	↓ 16.5	17.8	-1.4	-8%	16.91	15.07	14.24	0.76	0.52	0.37	0.36	1.22	0.57	0.43	0.01	0.04	93.86	1.22	4.87
2014	3,943	0.287	2,587	4.1	99	74	153,595	↑ 18.4	18.2	0.2	1%	18.02	15.94	14.52	0.49	0.38	0.37	0.37	1.16	0.52	0.54	0.02	0.03	93.73	1.34	4.88
2013	3,140	0.249	2,015	4.0	91	83	164,999	↓ 17.8	18.7	-0.9	-5%	17.63	15.74	14.38	0.62	0.41	0.26	0.28	0.86	0.39	0.47	0.01	0.05	94.56	1.10	

UMBS Prepayment Speeds

September 2020

UMBS 15yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2009	1,756	0.026	2,383	4.5	43	133	192,525	↑22.0	21.3	0.7	3%	21.49	19.30	17.73	0.33	0.32	0.22	0.19	0.64	0.31	0.38	0.01	0.04	96.11	0.76	3.08
2008	32	0.014	218	4.6	31	147	199,287	↑29.0	20.0	9.0	45%	23.56	21.05	18.59	0.66	0.22	0.11	0.06	1.28	0.49	0.90	-	-	94.07	1.31	4.61
FNMA 15yr 4.5	2,420	0.033	6,327	4.9	71	104	156,025	↑21.9	21.7	0.2	1%	21.20	19.62	18.07	0.83	0.58	0.55	0.43	1.09	0.47	0.59	0.03	0.04	93.80	1.22	4.92
2020	18	0.936	9	5.2	171	6	164,372	↑10.5	8.0	2.5	30%	17.38	9.93	-	0.00	0.00	0.00	-	0.00	0.00	1.09	-	-	95.18	0.43	4.39
2019	270	0.761	119	5.2	159	15	126,440	↓21.1	25.0	-4.0	-16%	22.63	21.31	18.01	1.81	0.89	0.57	0.33	1.19	0.70	0.55	0.04	0.03	91.69	1.49	6.75
2018	243	0.632	68	5.1	152	21	148,867	↑28.1	24.5	3.6	14%	25.73	27.17	23.80	1.64	1.23	1.01	0.79	1.47	0.95	0.89	-	0.08	90.69	1.70	7.54
2011	304	0.095	940	4.8	62	112	140,061	↑21.2	19.8	1.4	7%	20.11	17.80	16.39	1.00	0.51	0.54	0.39	1.09	0.35	0.60	0.05	0.03	93.81	1.24	4.88
2010	543	0.053	1,309	4.8	51	124	150,388	↑22.2	20.8	1.4	7%	20.36	18.22	16.83	0.59	0.47	0.43	0.40	1.11	0.44	0.53	0.01	0.11	94.25	1.13	4.5
2009	819	0.028	2,152	4.9	43	133	168,378	↑20.3	19.9	0.4	2%	19.61	17.69	16.72	0.60	0.44	0.28	0.29	0.90	0.35	0.49	0.03	0.01	95.30	1.01	3.66
2008	195	0.008	1,017	5.1	29	148	193,182	↓21.5	26.3	-4.9	-18%	23.30	21.60	20.20	0.02	0.26	0.15	0.26	1.14	0.45	0.85	0.02	0.03	93.03	1.33	5.59
2007	15	0.008	260	5.3	23	156	176,027	↑27.9	16.6	11.3	68%	21.69	18.04	18.90	0.00	0.00	0.47	0.24	2.55	0.33	0.63	-	-	90.94	2.01	7.04
FNMA 15yr 5	375	0.009	4,310	5.6	33	144	157,223	↓23.1	24.7	-1.6	-6%	23.57	21.71	20.25	1.28	0.68	0.45	0.32	1.48	0.74	0.74	0.01	0.05	92.56	1.65	5.73
2010	23	0.065	188	5.4	52	124	118,418	↓18.2	31.0	-12.8	-41%	24.22	21.33	20.16	1.53	0.51	0.26	0.28	1.40	1.30	0.27	-	-	94.73	1.35	3.92
2009	68	0.039	602	5.5	43	133	123,611	↓18.8	22.9	-4.0	-18%	19.06	17.29	16.26	0.06	0.38	0.22	0.22	1.58	0.55	0.65	-	0.07	93.11	2.03	4.79
2008	208	0.011	1,364	5.6	30	147	167,359	↓21.1	21.5	-0.4	-2%	21.38	19.49	17.46	1.62	0.68	0.52	0.35	1.29	0.63	0.86	0.02	0.06	92.22	1.42	6.29
2007	49	0.006	787	5.7	22	157	179,828	↑28.8	21.5	7.3	34%	24.12	22.27	19.88	2.07	1.06	0.57	0.33	1.99	1.35	0.50	-	0.06	92.09	2.06	5.78
2006	14	0.003	624	5.7	11	168	189,201	↑44.2	42.4	1.8	4%	42.11	36.49	31.39	0.00	0.09	0.09	0.10	1.69	0.61	0.66	0.01	-	92.69	1.84	5.46

*n.m. - Not Meaningful

Source: Bloomberg

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UMBS Prepayment Speeds

September 2020

UMBS 20yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 20yr 2	20,874	0.989	144	3.0	237	2	314,148	↑ 3.0	2.2	0.8	*n.m.	2.18	1.09	0.71	0.01	0.00	0.00	0.00	0.18	0.05	0.02	-	0.00	99.60	0.30	0.09
2020	20,872	0.989	140	3.0	237	2	314,158	↑ 3.0	2.2	0.8	*n.m.	2.18	1.09	-	0.01	0.00	0.00	-	0.18	0.05	0.02	-	0.00	99.60	0.30	0.09
FNMA 20yr 2.5	38,876	0.844	651	3.3	227	12	302,457	↑ 23.9	18.8	5.1	27%	19.05	15.10	11.20	0.16	0.08	0.05	0.03	0.36	0.18	0.19	0.00	0.01	98.16	0.42	1.41
2020	28,178	0.964	266	3.3	235	4	302,665	↑ 15.1	9.0	6.0	67%	9.56	5.89	-	0.21	0.10	0.05	-	0.33	0.15	0.13	0.00	0.01	98.71	0.43	0.85
2019	5,989	0.812	36	3.4	229	10	323,588	↑ 48.2	40.9	7.3	18%	40.40	29.24	16.79	0.00	0.01	0.01	0.02	0.46	0.29	0.39	0.01	0.02	96.32	0.38	3.28
2017	59	0.668	15	3.4	199	37	274,967	↑ 32.4	30.1	2.3	8%	33.19	31.46	21.05	0.00	0.00	0.00	0.00	1.39	0.79	0.77	-	0.24	93.19	0.98	5.59
2016	3,079	0.581	85	3.2	188	47	289,572	↑ 40.8	37.4	3.4	9%	36.86	30.17	20.90	0.08	0.10	0.05	0.03	0.33	0.21	0.31	-	0.00	97.30	0.32	2.38
2015	68	0.524	17	3.4	167	65	284,076	↓ 30.8	39.6	-8.8	-22%	33.63	29.39	20.97	0.00	0.00	0.00	0.00	0.00	0.48	0.41	-	-	96.85	-	3.15
2013	605	0.395	83	3.3	143	89	249,596	↑ 18.8	13.9	4.9	35%	16.26	15.07	12.08	0.00	0.00	0.04	0.02	0.56	0.18	0.33	-	-	96.92	0.47	2.61
2012	883	0.370	138	3.2	138	93	237,615	↑ 19.5	17.2	2.3	14%	18.02	15.73	12.71	0.07	0.05	0.02	0.01	0.30	0.17	0.19	-	0.00	97.46	0.52	2.02
FNMA 20yr 3	63,718	0.505	3,553	3.7	187	48	252,100	↑ 33.5	31.6	1.9	6%	31.13	26.21	19.11	0.40	0.22	0.15	0.11	0.57	0.33	0.41	0.01	0.03	95.87	0.60	3.49
2020	5,626	0.945	183	3.8	234	5	259,888	↑ 20.5	15.3	5.1	34%	14.52	8.87	-	0.80	0.46	0.23	-	0.51	0.32	0.34	0.00	0.00	97.14	0.60	2.26
2019	13,858	0.773	212	3.8	227	11	279,610	↑ 45.0	41.0	4.0	10%	40.45	33.15	20.95	0.44	0.20	0.15	0.09	0.59	0.37	0.48	0.01	0.04	95.58	0.53	3.83
2018	264	0.600	37	3.7	205	30	275,322	↓ 44.1	44.5	-0.4	-1%	43.07	39.40	29.32	0.00	0.00	0.00	0.00	0.57	0.18	0.11	-	-	95.55	0.69	3.75
2017	4,281	0.587	167	3.7	199	36	257,977	↑ 41.5	40.1	1.5	4%	39.39	34.93	25.74	0.38	0.24	0.20	0.16	0.62	0.37	0.48	0.00	0.05	95.14	0.58	4.23
2016	15,488	0.548	511	3.6	187	48	250,302	↑ 34.8	32.9	2.0	6%	32.58	27.95	20.61	0.37	0.17	0.16	0.14	0.62	0.36	0.44	0.01	0.04	95.30	0.63	4.02
2015	7,005	0.440	362	3.7	172	62	249,518	↓ 34.4	35.2	-0.9	-2%	34.44	29.34	21.84	0.35	0.27	0.17	0.13	0.50	0.34	0.40	0.01	0.03	95.85	0.56	3.55
2014	1,098	0.335	108	3.8	162	70	241,199	↓ 32.9	34.8	-2.0	-6%	33.72	29.75	22.56	0.20	0.09	0.07	0.06	0.55	0.31	0.46	-	0.02	96.76	0.52	2.7
2013	7,523	0.377	926	3.6	144	88	216,530	↑ 19.5	18.8	0.7	4%	18.69	15.42	12.75	0.28	0.20	0.15	0.13	0.69	0.32	0.38	0.01	0.02	95.79	0.80	3.37
2012	8,489	0.316	1,015	3.6	136	96	236,871	↑ 23.3	22.2	1.1	5%	21.92	18.17	14.48	0.30	0.15	0.09	0.09	0.44	0.24	0.29	0.01	0.04	96.82	0.55	2.59
2011	74	0.237	25	3.6	126	105	236,724	↓ 16.3	24.2	-7.9	-33%	23.17	23.33	17.71	0.00	0.00	0.00	0.00	0.01	0.14	0.01	0.01	-	99.29	0.44	0.27
2010	10	0.204	7	3.8	113	118	210,675	↓ 32.5	32.5	0.0	0%	27.74	19.44	15.08	0.00	0.00	0.00	0.00	0.66	0.00	0.00	-	-	1.00	-	-
FNMA 20yr 3.5	31,974	0.358	4,676	4.1	175	59	221,041	↑ 32.1	32.0	0.2	0%	31.93	28.94	22.62	0.61	0.33	0.27	0.18	0.80	0.41	0.50	0.01	0.03	94.63	0.84	4.49
2020	810	0.945	67	4.2	233	6	238,934	↑ 20.4	13.9	6.5	47%	14.42	8.57	-	4.70	2.16	1.09	-	0.56	0.28	0.68	-	-	95.63	0.94	3.43
2019	4,292	0.661	214	4.3	224	14	246,935	↑ 44.0	43.0	1.0	2%	43.63	41.60	31.19	0.19	0.15	0.18	0.10	0.84	0.52	0.54	0.01	0.03	94.10	0.79	5.07
2018	2,474	0.562	161	4.0	207	29	247,975	↓ 43.7	47.8	-4.1	-9%	46.27	42.14	32.10	0.50	0.21	0.13	0.08	0.70	0.41	0.57	0.01	0.04	94.69	0.58	4.67
2017	6,512	0.555	479	4.0	198	37	231,897	↑ 39.8	37.6	2.2	6%	38.10	34.64	26.74	0.69	0.34	0.32	0.26	0.84	0.46	0.56	0.02	0.03	94.07	0.85	5.02
2016	1,753	0.523	275	4.0	188	47	204,384	↑ 29.2	28.1	1.1	4%	28.55	25.59	20.69	0.92	0.51	0.77	0.48	1.02	0.64	0.57	0.01	0.06	92.84	1.26	5.83
2015	2,826	0.413	647	4.1	172	62	190,114	↑ 28.8	28.2	0.6	2%	28.67	24.46	20.21	0.60	0.35	0.30	0.27	1.07	0.47	0.55	0.00	0.05	93.84	1.08	5.03
2014	2,279	0.305	371	4.2	161	72	205,914	↓ 27.4	27.6	-0.2	-1%	27.80	24.30	19.74	0.78	0.49	0.40	0.34	1.00	0.39	0.45	0.01	0.04	94.32	1.09	4.53
2013	2,913	0.321	842	4.1	148	85	189,666	↑ 19.8	19.8	0.0	0%	19.16	17.17	14.72	0.49	0.32	0.29	0.23	0.87	0.36	0.50	0.02	0.03	94.31	1.00	4.64
2012	4,526	0.253	1,199	4.0	132	99	214,862	↓ 21.9	22.0	-0.1	0%	21.60	18.51	15.11	0.27	0.16	0.17	0.19	0.69	0.31	0.41	0.02	0.02	95.39	0.71	3.86
2011	2,873	0.181	336	4.0	126	106	223,605	↓ 22.0	25.8	-3.8	-15%	23.60	20.71	16.62	0.37	0.17	0.25	0.13	0.44	0.26	0.32	0.01	0.01	96.94	0.49	2.55
2010	715	0.134	82	4.0	114	117	221,295	↑ 24.7	20.6	4.1	20%	23.53	20.35	15.88	0.63	0.21	0.17	0.09	0.45	0.13	0.47	-	0.01	97.26	0.37	2.36
FNMA 20yr 4	19,691	0.282	3,805	4.5	178	56	201,401	↑ 31.9	31.5	0.4	1%	32.32	30.25	25.41	0.71	0.46	0.35	0.30	1.15	0.55	0.64	0.02	0.05	93.01	1.16	5.75
2020	140	0.936	39	4.7	233	6	206,889	↑ 15.8	12.9	2.9	22%	13.40	12.32	-	5.41	2.57	1.29	-	0.97	0.83	0.61	-	-	95.02	1.03	3.95
2019	1,225	0.707	211	4.7	223	15	207,212	↑ 35.3	33.4	1.9	6%	35.22	33.34	26.07	1.04	0.47	0.37	0.31	1.10	0.52	0.86	0.02	0.07	92.48	1.14	6.29
2018	6,006	0.519	495	4.6	210	26	223,971	↑ 46.0	44.8	1.2	3%	46.35	44.19	36.90	0.52	0.40	0.30	0.26	1.06	0.55	0.68	0.02	0.06	93.28	0.92	5.72
2017	3,495	0.557	534	4.4	198	37	200,699	↓ 29.9	30.5	-0.6	-2%	30.47	27.94	23.47	0.99	0.51	0.51	0.44	1.46	0.68	0.81	0.02	0.07	90.99	1.44	7.47
2016	719	0.493	218	4.4	185	51	186,426	↑ 22.9	19.7	3.2	16%	22.31	19.78	17.89	0.29	0.45	0.25	0.15	1.38	1.06	0.71	0.00	0.06	90.66	1.60	7.68
2015	1,084	0.415	444	4.4	173	61	165,753	↓ 21.2	23.1	-1.9	-8%	22.39	20.51	17.28	1.48	0.87	0.86	0.80	1.42	0.71	0.74	0.01	0.10	91.65	1.42	6.83
2014	1,784	0.332	489	4.6	159	74	170,745	↑ 21.6	20.5	1.2	6%	21.66	18.89	16.39	0.66	0.57	0.45	0.38	1.58	0.68	0.60	0.00	0.03	92.22	1.76	5.98
2013	992	0.307	356	4.7	151	82	165,322	↓ 18.2	19.9	-1.7	-9%	18.89	17.31	14.87	1.29	0.76	0.64	0.50	1.37	0.38	0.47	0.05	0.04	93.42	1.38	5.11
2012	332	0.232	295	4.																						

UMBS Prepayment Speeds

September 2020

UMBS 20yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2004	29	0.016	63	5.1	41	195	166,951	↓ 15.5	17.5	-2.1	-12%	17.66	15.81	16.70	0.00	0.28	0.17	0.42	1.95	0.25	0.47	-	-	94.81	1.67	3.52
2003	91	0.015	129	5.0	34	204	151,774	↑ 19.9	19.5	0.5	2%	18.41	17.78	16.92	0.37	0.48	0.30	0.29	1.03	0.43	0.24	-	0.01	94.91	1.32	3.76
FNMA 20yr 5	1,115	0.021	1,267	5.5	81	154	159,789	↓ 18.7	20.5	-1.7	-8%	19.41	17.59	15.90	1.17	0.79	0.92	0.62	1.74	0.62	0.69	0.05	0.06	91.88	2.04	5.97
2019	23	0.697	19	5.8	223	16	155,631	↓ 23.5	31.8	-8.3	-26%	33.72	32.64	27.28	4.37	1.48	1.16	0.58	0.33	1.60	0.90	0.52	-	93.69	1.96	3.83
2018	64	0.601	40	5.7	213	23	175,472	↑ 35.0	31.0	4.0	13%	30.82	33.03	28.17	0.00	0.28	1.31	0.74	1.71	1.03	1.27	0.35	0.28	84.04	2.86	12.48
2011	77	0.142	48	5.4	120	113	178,250	↑ 23.0	23.0	0.0	0%	21.32	18.76	15.24	3.57	1.35	0.94	0.52	2.07	0.18	1.53	-	0.16	88.28	1.89	9.67
2010	137	0.082	57	5.4	108	124	169,383	↓ 13.8	24.1	-10.3	-43%	20.53	17.11	15.00	1.02	0.91	0.91	0.65	1.85	0.79	0.45	0.06	0.02	90.77	1.93	7.21
2009	129	0.068	87	5.4	101	132	164,749	↓ 17.8	24.0	-6.2	-26%	21.00	17.99	15.99	0.96	1.16	0.95	0.58	1.71	0.36	0.47	-	0.08	93.34	2.13	4.45
2008	101	0.016	130	5.6	86	148	166,711	↑ 16.7	14.0	2.7	19%	15.45	15.02	13.97	0.95	0.47	0.46	0.24	1.82	0.75	1.01	-	0.01	91.05	1.64	7.3
2007	19	0.018	53	5.7	76	158	174,218	↑ 22.2	18.0	4.2	24%	21.15	15.66	16.78	7.76	2.66	1.34	0.83	2.61	1.91	0.35	0.17	-	88.73	3.40	7.7
2006	12	0.017	34	5.6	66	169	174,577	↓ 19.4	20.9	-1.5	-7%	16.16	11.38	13.48	0.00	0.00	0.00	0.67	2.60	1.91	0.20	-	-	91.18	3.50	5.32
2005	159	0.018	115	5.6	53	182	155,725	↑ 15.9	14.2	1.7	12%	13.99	13.15	12.60	1.09	0.84	0.91	0.74	1.66	0.50	0.89	0.04	0.07	93.33	1.82	4.75
2004	157	0.016	175	5.5	42	194	150,380	↑ 17.0	16.6	0.4	2%	16.74	15.08	14.01	0.78	0.79	0.44	0.63	1.88	0.49	0.54	0.03	0.02	92.96	1.93	5.06
2003	225	0.010	439	5.5	32	206	146,220	↓ 19.0	19.8	-0.8	-4%	19.18	17.07	15.81	0.54	0.41	0.50	0.35	1.52	0.50	0.38	0.02	0.03	94.33	1.85	3.77

*n.m. - Not Meaningful

Source: Bloomberg

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UMBS Prepayment Speeds September 2020

UMBS 30yr

	Indicative Data							Prepayment Speeds					Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan						
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 30yr 1.5	2,984	0.998	46	2.6	357	1	381,197	↓-0.4	-0.2	-0.2	*n.m.	-0.41	-0.11	0.04	0.00	0.00	0.00	0.00	0.06	0.00	0.00	-	-	99.92	0.00	-
2020	2,977	0.998	24	2.6	357	1	381,662	↓-0.4	-0.2	-0.2	*n.m.	-0.47	-	-	0.00	0.00	-	-	0.06	0.00	0.00	-	-	99.92	0.00	-
FNMA 30yr 2	219,155	0.992	1,891	3.0	355	2	369,922	↑3.4	2.2	1.2	*n.m.	2.34	1.85	2.32	0.02	0.01	0.01	0.00	0.28	0.05	0.03	-	0.00	99.51	0.37	0.12
2020	218,881	0.992	1,656	3.0	355	2	370,109	↑3.4	2.2	1.2	*n.m.	2.32	1.24	-	0.02	0.01	0.00	-	0.28	0.05	0.03	-	0.00	99.51	0.37	0.12
2019	59	0.933	19	3.0	348	10	318,709	↑40.1	0.4	39.7	*n.m.	15.89	9.80	5.17	11.46	3.98	2.01	1.01	0.00	1.09	0.40	-	-	97.57	-	2.43
2017	35	0.932	40	2.8	320	37	194,975	↑9.0	4.3	4.7	*n.m.	5.59	4.25	2.32	0.00	0.00	0.00	0.00	2.22	2.20	1.21	-	-	95.73	1.46	2.81
2016	140	0.821	104	3.0	308	48	193,369	↑12.6	5.9	6.7	113%	10.18	6.76	4.74	0.82	0.65	0.32	0.16	1.99	1.36	1.08	-	-	99.28	0.00	-
2015	18	0.712	33	3.1	295	60	192,602	↓0.2	18.4	-18.2	*n.m.	13.21	11.53	10.50	0.00	0.00	0.00	0.00	2.09	0.94	1.11	-	-	98.48	1.00	-
2013	12	0.582	17	2.8	267	87	196,772	↑19.7	0.2	19.5	*n.m.	10.93	9.32	7.73	0.00	0.00	0.00	0.00	0.00	0.00	2.93	-	-	97.07	-	2.93
FNMA 30yr 2.5	558,067	0.942	7,749	3.4	351	6	355,818	↑15.9	12.3	3.7	30%	12.69	10.42	7.07	0.26	0.13	0.08	0.05	0.45	0.22	0.25	0.00	0.01	97.95	0.55	1.49
2020	467,466	0.979	5,231	3.4	353	3	354,509	↑9.7	6.0	3.6	60%	6.50	4.26	-	0.24	0.11	0.06	-	0.43	0.19	0.19	0.00	0.00	98.49	0.56	0.94
2019	78,324	0.842	706	3.5	347	10	370,201	↑43.1	34.9	8.3	24%	35.24	25.58	14.76	0.31	0.20	0.13	0.07	0.54	0.41	0.55	0.00	0.03	94.90	0.51	4.56
2018	44	0.898	49	3.5	327	28	201,103	↓6.0	6.7	-0.7	-11%	7.27	4.81	3.92	0.00	0.00	0.00	0.00	0.85	1.88	0.25	-	-	99.02	0.00	-
2017	339	0.834	128	3.4	318	37	267,133	↑20.6	16.3	4.3	26%	18.50	15.08	10.16	0.00	0.27	0.29	0.15	1.68	0.87	1.48	-	-	96.36	1.00	2.64
2016	5,385	0.690	396	3.4	303	49	327,515	↑35.4	31.6	3.8	12%	30.83	24.00	16.11	0.43	0.23	0.14	0.09	0.44	0.29	0.47	0.01	0.01	95.82	0.56	3.61
2015	340	0.635	182	3.4	288	63	265,165	↑20.6	17.1	3.5	20%	18.84	15.03	11.88	0.00	0.00	0.00	0.00	1.35	0.81	1.12	-	0.05	96.28	0.41	3.26
2014	42	0.654	43	3.2	279	71	252,341	↓7.9	15.3	-7.5	-49%	12.14	8.88	8.59	0.00	0.00	0.00	0.00	0.69	0.00	0.59	-	-	91.81	0.28	7.91
2013	1,460	0.512	358	3.1	256	90	310,383	↑22.1	21.7	0.4	2%	19.35	15.22	10.96	0.00	0.03	0.04	0.02	0.37	0.18	0.28	-	0.02	96.81	0.59	2.59
2012	4,651	0.478	601	3.2	253	93	308,103	↑29.8	26.1	3.6	14%	25.50	19.45	13.94	0.22	0.12	0.07	0.05	0.41	0.16	0.26	0.00	0.04	97.20	0.40	2.36
FNMA 30yr 3	851,653	0.633	35,577	3.8	318	35	312,990	↑36.7	33.1	3.7	11%	33.14	27.56	19.27	0.54	0.27	0.18	0.12	0.68	0.43	0.55	0.01	0.04	94.65	0.68	4.62
2020	167,065	0.950	4,696	3.8	352	5	321,285	↑21.1	14.1	7.0	50%	14.69	9.70	-	1.21	0.52	0.26	-	0.68	0.39	0.48	0.00	0.02	96.04	0.76	3.18
2019	299,104	0.786	5,730	3.9	346	11	325,116	↑43.3	39.3	3.9	10%	39.10	32.53	20.79	0.37	0.23	0.17	0.10	0.78	0.55	0.68	0.01	0.04	93.28	0.67	5.99
2018	2,069	0.643	312	3.9	326	28	309,263	↑47.0	44.9	2.2	5%	46.28	40.69	29.66	0.15	0.12	0.15	0.16	0.71	0.62	0.75	-	0.04	92.80	0.72	6.44
2017	9,749	0.648	817	3.8	317	36	316,389	↓44.6	44.7	-0.1	0%	43.80	37.34	26.04	0.36	0.18	0.18	0.13	0.72	0.42	0.62	0.02	0.02	94.14	0.66	5.16
2016	172,766	0.579	6,688	3.7	304	49	303,943	↑40.6	37.3	3.3	9%	37.38	31.13	22.28	0.43	0.23	0.20	0.20	0.68	0.44	0.57	0.01	0.05	94.27	0.74	4.93
2015	40,077	0.496	3,258	3.8	287	63	310,149	↑44.1	41.2	2.9	7%	41.28	34.75	24.56	0.35	0.21	0.15	0.11	0.49	0.29	0.42	0.01	0.04	95.67	0.52	3.77
2014	2,680	0.390	563	3.9	279	69	296,168	↑45.7	42.1	3.6	9%	43.13	37.25	26.81	0.12	0.14	0.10	0.07	0.51	0.32	0.39	0.01	0.03	95.68	0.52	3.75
2013	75,829	0.428	6,020	3.6	259	89	288,091	↑29.0	26.8	2.2	8%	26.55	21.60	16.07	0.34	0.19	0.15	0.14	0.57	0.33	0.42	0.01	0.05	95.54	0.64	3.76
2012	82,033	0.398	7,360	3.6	252	95	295,712	↑32.5	29.4	3.0	10%	29.36	23.77	17.22	0.32	0.17	0.14	0.18	0.48	0.25	0.33	0.01	0.04	96.39	0.58	2.98
2011	238	0.331	94	3.7	234	105	283,207	↑32.0	31.5	0.5	2%	31.77	24.54	18.11	0.00	0.23	0.11	0.06	0.53	0.17	0.34	-	-	97.08	0.57	2.36
2010	34	0.429	26	3.6	227	118	233,103	↓12.3	14.7	-2.4	-16%	12.81	13.49	9.54	0.00	0.64	0.32	0.16	0.28	0.18	0.62	-	-	93.17	0.90	5.93
FNMA 30yr 3.5	666,396	0.451	68,620	4.1	304	48	277,863	↑40.6	40.3	0.3	1%	40.35	36.88	27.90	0.70	0.40	0.32	0.23	0.97	0.58	0.72	0.01	0.05	92.57	1.01	6.35
2020	30,624	0.948	1,938	4.3	352	5	283,160	↑19.7	14.3	5.4	38%	14.49	9.70	-	2.72	1.25	0.63	-	0.97	0.56	0.72	0.00	0.02	94.12	1.18	4.67
2019	151,976	0.659	5,962	4.4	343	13	294,404	↓45.0	45.4	-0.4	-1%	45.64	44.01	32.53	0.68	0.40	0.32	0.21	1.16	0.78	0.92	0.01	0.06	90.48	1.07	8.38
2018	28,931	0.520	2,101	4.2	326	28	310,086	↓52.2	53.4	-1.3	-2%	53.57	50.43	39.78	0.57	0.32	0.28	0.21	0.93	0.61	0.83	0.02	0.05	91.95	0.84	7.14
2017	120,753	0.566	7,717	4.1	317	36	288,870	↑47.0	46.5	0.4	1%	46.60	42.03	31.25	0.61	0.35	0.29	0.25	0.91	0.58	0.71	0.02	0.06	92.61	0.90	6.41
2016	67,253	0.509	8,955	4.0	304	49	256,887	↓36.4	36.5	-0.1	0%	36.01	32.20	25.10	0.79	0.48	0.45	0.43	1.24	0.71	0.83	0.01	0.07	91.11	1.30	7.51
2015	101,045	0.401	10,348	4.1	290	61	274,828	↑41.3	40.7	0.6	2%	40.67	35.82	27.15	0.65	0.37	0.30	0.26	0.90	0.51	0.65	0.02	0.05	93.22	1.05	5.66
2014	32,255	0.306	5,462	4.2	278	71	268,155	↑42.1	41.4	0.7	2%	41.54	36.88	28.20	0.53	0.34	0.28	0.27	0.83	0.46	0.56	0.01	0.04	93.74	0.95	5.25
2013	41,319	0.351	8,525	4.0	261	87	248,327	↑28.6	27.3	1.3	5%	27.64	23.60	18.54	0.40	0.33	0.28	0.34	0.89	0.48	0.60	0.01	0.05	93.44	1.07	5.42
2012	71,396	0.297	14,182	4.0	248	98	255,486	↑30.6	29.4	1.2	4%	29.29	24.64	18.82	0.42	0.25	0.21	0.21	0.72	0.34	0.47	0.01	0.04	94.89	0.88	4.18
2011	15,208	0.226	2,141	4.0	240	105	274,253	↓34.8	35.0	-0.2	-1%	34.10	29.05	21.45	0.30	0.19	0.16	0.15	0.53	0.29	0.36	0.01	0.04	96.12	0.68	3.15
2010	5,341	0.184	1,090	4.1	226	118	272,937	↑36.3	35.0	1.3	4%	34.40	29.60	22.35	0.33	0.20	0.31	0.20	0.44	0.15	0.39	0.01	0.02	96.30	0.51	3.16
2009	262	0.202	140	4.0	208	135	252,517	↓24.2	26.0	-1.8	-7%	25.11														

UMBS Prepayment Speeds September 2020

UMBS 30yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2007	41	0.092	12	4.8	186	158	193,069	↓14.0	21.2	-7.3	-34%	22.67	19.12	16.80	0.00	0.00	0.00	0.00	2.16	1.24	0.81	-	0.42	90.50	4.16	4.92
2006	29	0.138	16	4.6	176	171	204,786	↑39.3	5.3	34.0	*n.m.	20.52	14.99	13.87	0.00	0.00	0.00	0.00	0.19	0.26	1.40	-	-	93.15	1.08	5.77
2005	52	0.127	39	4.6	165	184	206,548	↓12.0	15.8	-3.8	-24%	10.92	13.43	11.78	0.00	0.00	0.00	1.71	2.86	1.16	0.92	-	-	87.03	2.48	10.49
2004	27	0.072	37	4.9	154	194	176,873	↓14.7	19.2	-4.5	-24%	15.71	14.00	13.66	0.00	0.00	1.09	0.55	1.36	0.80	0.64	0.04	-	92.19	2.61	5.15
2003	63	0.078	158	4.7	140	205	168,579	↓22.5	23.3	-0.8	-3%	20.28	15.05	15.22	0.00	0.27	0.14	0.07	1.19	1.02	0.65	-	-	93.97	1.69	4.35
FNMA 30yr 4.5	202,002	0.219	55,181	5.1	296	57	229,234	↓33.2	34.8	-1.5	-4%	34.64	32.86	28.77	1.34	0.91	0.84	0.71	1.78	1.02	1.18	0.04	0.06	87.96	1.88	10.05
2020	3,912	0.933	659	5.2	353	5	249,750	↓19.8	24.5	-4.7	-19%	19.87	13.96	-	2.13	2.57	1.31	-	1.20	0.77	0.91	0.00	0.01	93.38	1.46	5.15
2019	27,767	0.700	3,570	5.2	342	15	239,679	↓34.0	34.4	-0.4	-1%	34.63	32.99	27.59	1.56	0.94	0.84	0.63	1.91	1.22	1.42	0.03	0.06	86.42	1.87	11.62
2018	73,235	0.523	6,927	5.1	331	25	242,470	↓40.6	42.8	-2.3	-5%	42.93	41.83	37.03	1.71	1.06	0.98	0.81	1.93	1.23	1.42	0.05	0.08	85.74	1.96	12.17
2017	21,812	0.523	4,913	5.0	317	37	227,362	↓32.3	32.7	-0.4	-1%	32.95	30.86	26.93	1.44	1.12	1.09	1.02	2.23	1.36	1.52	0.04	0.08	84.32	2.47	13.08
2016	4,017	0.427	1,609	4.9	304	49	211,448	↓27.9	32.6	-4.8	-15%	30.12	27.63	24.13	1.29	1.14	1.10	1.00	2.37	1.53	1.38	0.07	0.06	84.02	2.78	13.07
2015	2,440	0.409	1,467	5.0	289	61	152,158	↑23.1	22.8	0.4	2%	22.70	20.67	18.96	1.63	1.20	0.89	0.89	2.17	1.04	1.04	0.03	0.07	87.84	2.73	9.33
2014	7,384	0.283	4,632	5.0	275	75	176,355	↑26.1	25.4	0.8	3%	25.79	23.51	20.50	1.23	0.87	0.82	0.75	2.10	1.05	1.06	0.03	0.06	88.75	2.49	8.67
2013	6,079	0.254	3,363	5.0	266	83	180,205	↑24.8	26.1	-1.2	-5%	25.24	22.90	19.75	1.23	0.78	0.69	0.62	1.81	0.83	0.90	0.02	0.07	89.97	2.18	7.76
2012	1,595	0.248	1,815	5.0	246	101	173,717	↓22.2	23.5	-1.3	-5%	22.34	18.89	16.72	0.94	0.51	0.29	0.42	1.76	0.67	0.83	0.00	0.06	90.28	1.86	7.8
2011	16,003	0.155	8,158	4.9	235	111	213,874	↓25.1	25.9	-0.8	-3%	25.46	22.33	19.04	0.48	0.36	0.37	0.43	1.31	0.56	0.73	0.02	0.04	91.99	1.41	6.54
2010	14,709	0.110	6,767	4.9	225	121	229,790	↓26.2	27.6	-1.4	-5%	27.25	23.79	19.98	0.66	0.46	0.37	0.42	1.24	0.51	0.70	0.02	0.04	92.74	1.34	5.85
2009	20,038	0.065	6,624	4.9	212	134	233,107	↓27.4	28.4	-1.1	-4%	27.98	24.59	20.53	0.74	0.55	0.45	0.42	1.18	0.47	0.60	0.02	0.03	93.35	1.28	5.31
2008	542	0.031	714	5.1	203	145	225,192	↓23.1	23.4	-0.3	-1%	23.82	20.98	17.86	0.03	0.44	0.46	0.43	1.35	0.59	0.53	0.03	0.03	91.77	1.33	6.83
2007	79	0.054	196	5.2	189	158	210,820	↑30.6	23.7	7.0	29%	23.84	17.34	15.85	0.00	0.71	0.36	0.18	1.55	1.00	0.73	-	-	92.55	2.40	5.04
2006	75	0.067	120	5.3	173	171	200,956	↓15.2	19.0	-3.8	-20%	13.91	13.34	12.97	0.00	0.00	0.21	0.10	1.60	0.77	0.40	-	-	92.38	1.99	5.62
2005	412	0.034	902	5.2	166	182	202,045	↑22.3	21.0	1.4	6%	20.85	17.73	15.62	0.00	0.17	0.40	0.65	1.64	0.85	0.74	-	0.05	90.99	1.91	7.04
2004	406	0.049	735	5.2	154	194	184,504	↓16.8	19.4	-2.6	-14%	17.96	15.89	13.67	1.12	0.58	0.40	0.50	1.23	0.52	0.76	0.02	-	93.17	1.54	5.27
2003	1,485	0.038	1,949	5.1	143	205	184,736	↑19.4	18.0	1.3	7%	18.73	16.06	14.67	0.64	0.57	0.49	0.30	1.37	0.41	0.44	0.04	0.02	94.15	1.59	4.19
FNMA 30yr 5	66,711	0.080	47,019	5.6	262	90	206,392	↓27.1	28.1	-0.9	-3%	27.71	25.87	23.29	1.26	0.99	1.14	1.02	2.13	1.08	1.23	0.04	0.05	87.07	2.26	10.58
2020	551	0.910	145	5.7	351	6	257,683	↑34.7	28.2	6.5	23%	28.41	18.22	-	6.10	2.67	1.35	-	1.56	1.21	1.33	-	-	90.66	2.06	7.28
2019	10,255	0.717	2,198	5.7	341	15	229,504	↓32.4	33.0	-0.6	-2%	33.20	31.62	26.24	1.21	0.95	1.04	0.81	2.28	1.39	1.70	0.03	0.04	83.77	2.25	13.91
2018	19,946	0.581	3,088	5.7	331	24	209,845	↓33.3	35.1	-1.8	-5%	34.66	33.21	30.63	1.79	1.32	1.46	1.32	2.46	1.47	1.68	0.06	0.08	82.92	2.46	14.49
2017	653	0.450	275	5.5	317	39	225,856	↓31.9	32.8	-0.9	-3%	32.20	30.65	28.18	2.25	1.60	1.09	1.05	2.86	1.91	1.65	0.04	0.19	76.94	2.90	19.93
2016	20	0.425	16	5.4	302	46	175,040	↑36.8	16.9	20.0	118%	31.09	29.64	29.49	10.39	3.59	2.17	1.09	2.81	0.92	0.87	-	-	85.64	1.82	12.54
2014	589	0.301	542	5.4	275	76	150,091	↑25.0	22.6	2.4	11%	22.63	20.42	19.26	1.32	1.01	1.20	1.41	2.27	1.17	0.93	0.01	0.04	88.13	2.80	9.02
2013	552	0.238	447	5.4	266	83	174,369	↑26.2	25.8	0.4	2%	25.59	22.70	20.59	0.40	0.88	1.50	1.70	2.54	0.78	0.81	0.07	0.06	89.15	2.97	7.76
2012	70	0.236	172	5.5	245	101	152,725	↑25.7	24.9	0.8	3%	24.20	20.75	19.59	1.54	1.51	0.76	0.38	2.02	2.09	0.59	-	0.25	89.32	2.76	7.67
2011	4,595	0.155	4,355	5.4	235	112	203,413	↓22.2	24.5	-2.3	-10%	23.13	21.17	19.07	0.45	0.53	0.52	0.76	1.89	0.79	0.89	0.03	0.05	88.88	2.12	8.93
2010	7,029	0.111	4,089	5.4	224	123	215,632	↓24.8	25.7	-0.9	-4%	25.14	22.57	19.73	0.94	0.74	0.70	0.65	1.79	0.80	0.99	0.02	0.04	89.22	1.93	8.78
2009	6,306	0.076	4,766	5.4	215	132	205,775	↑23.5	23.1	0.5	2%	23.24	20.80	18.77	1.24	0.91	0.82	0.66	1.75	0.75	0.93	0.04	0.04	90.52	1.96	7.43
2008	2,120	0.022	2,949	5.6	201	147	214,420	↑22.0	21.4	0.6	3%	21.33	18.65	16.67	0.98	1.16	0.99	0.87	2.18	0.78	0.94	0.02	0.02	90.15	2.32	7.49
2007	569	0.026	1,432	5.7	191	158	217,775	↓16.4	19.2	-2.8	-15%	18.55	16.75	15.92	1.19	0.72	0.93	0.81	2.46	0.78	0.84	0.02	0.04	90.65	2.51	6.78
2006	609	0.032	1,197	5.8	178	169	196,402	↓13.3	18.9	-5.5	-29%	15.78	14.39	14.34	0.26	0.60	0.81	0.85	1.93	0.78	0.90	0.04	0.07	91.22	2.13	6.53
2005	3,892	0.028	6,365	5.6	167	182	197,469	↑19.6	18.9	0.7	4%	19.00	17.06	15.55	0.74	0.70	0.86	0.75	2.01	0.69	0.75	0.03	0.03	91.04	2.34	6.57
2004	2,633	0.030	5,767	5.6	153	195	183,539	↑19.5	17.9	1.6	9%	18.21	15.90	14.56	0.81	0.81	0.92	0.58	1.88	0.77	0.80	0.05	0.05	92.02	2.04	5.84
2003	6,174	0.026	8,683	5.5	142	205	165,552	↓16.4	18.0	-1.6	-9%	17.06	15.21	14.14	0.76	0.74	0.66	0.48	1.86	0.62	0.56	0.03	0.02	92.54	2.29	5.12
2002	114	0.032	415	5.7	133	214	152,817	↑20.0	16.5	3.4	21%	16.63	14.64	13.47	0.25	0.73	0.36	0.32	1.69	0.35	0.65	-	-	92.68	2.45	4.87
2001	13	0.058	53	5.6	119	226	113,001	↑21.3	13.2	8.1	61%	14.32	13.89	12.85	0.00	0.00	0.00	0.00	0.50	1.14	0.49	-	-	93.55	2.08	4.37
FNMA 30yr 5.5	27,401	0.025	58,901	6.0	182	167	174,013	↓18.1	18.8	-0.7	-4%	18.51	17.10	15.82	1.31	1.15	1.33	1.29	2.41	0.95	0.88	0.04	0.05	89.52	2.76	7.63
2020	20	0.898	11	6.0	352	6	193,385	↓24.7	29.2	-4.5	-15%	21.61	18.99	-	16.91	5.99	3.04	-	0.00	0.65	0.94	-	-	90.45	1.43	8.12
2019	653	0.709	317	6.2	339	16	187,774	↓28.2	30.0	-1.8	-6%	29.71	28.90	25.18	0.87	1.26	1.40	1.07	2.58	1.82	1.82	-	0.08	81.10	2.74	16.08
2018	1,696	0.592	524	6.2	333	23	203,100	↓28.9	34.9	-6.1	-17%	34.58	34.32	30.65	2.20	2.10	2.05	1.92	2.99	2.20	1.88	0.12	0.20	78.34	2.72	18.63
2011	220	0.158																								

UMBS Prepayment Speeds September 2020 UMBS 30yr

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
1998	23	0.009	253	6.2	87	262	115,122	↓13.8	18.4	-4.6	-25%	16.30	12.93	13.37	0.00	0.46	0.23	0.23	2.08	0.57	0.22	-	-	93.90	2.18	3.93
FNMA 30yr 6	16,228	0.018	58,690	6.5	171	177	157,838	↓16.4	17.2	-0.8	-5%	16.45	15.00	14.09	1.50	1.34	1.37	1.33	2.87	1.02	0.89	0.04	0.04	89.09	3.35	7.48
2019	81	0.614	45	6.5	341	17	224,384	↓48.9	53.1	-4.2	-8%	44.37	45.32	38.84	2.08	1.30	0.65	0.82	3.07	1.96	1.81	-	-	82.46	2.83	14.71
2018	162	0.610	55	6.5	335	22	222,947	↓40.1	51.2	-11.1	-22%	47.39	44.90	35.27	0.00	2.28	3.61	2.84	3.22	1.76	2.41	0.29	-	75.80	4.13	19.78
2010	16	0.149	78	6.5	222	124	131,940	↓29.4	33.9	-4.5	-13%	27.80	19.01	16.58	0.00	3.09	1.56	2.33	2.18	1.02	0.00	-	-	83.68	3.03	13.29
2009	137	0.086	564	6.5	212	134	155,469	↑20.9	18.4	2.5	13%	19.08	15.84	15.65	7.32	2.92	1.52	1.33	2.12	1.13	1.61	-	-	88.14	3.25	8.61
2008	1,546	0.023	5,153	6.5	201	146	173,613	↓16.1	18.0	-1.9	-11%	16.79	15.10	14.49	1.49	1.53	1.20	1.14	3.00	1.16	1.05	0.07	0.07	87.62	3.95	8.3
2007	3,925	0.021	8,754	6.6	192	157	176,845	↓16.2	17.4	-1.2	-7%	16.07	14.88	14.10	1.90	1.63	1.59	1.65	3.12	1.17	1.07	0.03	0.04	87.79	3.49	8.66
2006	3,092	0.020	8,605	6.6	179	170	173,210	↓17.9	18.3	-0.3	-2%	17.31	15.62	14.51	1.48	1.39	1.56	1.18	3.12	1.05	0.86	0.04	0.04	89.15	3.42	7.35
2005	1,528	0.033	5,694	6.5	168	180	146,552	↓14.7	16.9	-2.2	-13%	15.75	14.21	13.59	1.25	1.31	1.61	1.50	2.90	1.04	0.76	0.07	0.06	88.75	3.43	7.68
2004	1,837	0.032	5,592	6.5	153	194	133,427	↑14.4	14.0	0.4	3%	14.39	13.01	12.64	1.64	1.24	1.14	0.97	2.82	0.91	0.81	0.04	0.05	90.00	3.30	6.61
2003	1,391	0.020	5,445	6.5	142	205	135,399	↑14.9	12.7	2.2	17%	13.49	12.22	12.07	1.18	0.98	0.76	0.96	2.88	0.89	0.86	0.04	0.04	89.83	3.10	6.98
2002	1,566	0.010	7,362	6.5	132	216	135,824	↑15.3	14.8	0.6	4%	14.89	13.38	12.41	0.94	0.85	0.80	0.89	2.29	0.81	0.52	0.02	0.02	91.71	2.86	5.4
2001	524	0.007	4,085	6.6	120	227	121,456	↓14.6	16.9	-2.3	-14%	16.15	14.21	13.29	0.65	0.74	0.60	0.42	2.03	0.49	0.51	0.04	0.03	92.82	2.82	4.29
1999	117	0.006	1,815	6.6	92	257	120,654	↑17.3	11.8	5.5	47%	13.03	12.71	11.68	1.15	0.72	0.51	1.03	2.27	0.35	0.61	-	0.04	93.56	2.86	3.54
1998	225	0.004	3,879	6.6	87	263	117,165	↓12.3	12.4	-0.2	-1%	13.12	11.88	11.93	0.82	0.60	0.61	0.70	1.54	0.50	0.46	0.00	0.02	94.19	2.31	3.49
1993	20	0.004	801	6.7	35	322	113,900	↓14.7	16.3	-1.6	-10%	14.26	12.53	11.95	0.00	0.45	0.23	0.11	0.88	0.29	0.14	-	-	96.94	1.23	1.83

*n.m. - Not Meaningful

Source: Bloomberg

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UMBS Prepayment Speeds

September 2020

UMBS Jumbos

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
15yr Jumbo 2	315	0.743	45	2.6	162	17	618,682	↑21.4	16.2	5.3	32%	15.39	10.44	9.86	0.00	0.00	0.00	0.00	0.00	0.00	0.20	-	-	98.83	-	1.17
2013	43	0.341	17	2.6	89	87	546,075	↑23.3	3.4	19.9	*n.m.	10.48	9.96	10.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	96.34	-	3.66
15yr Jumbo 2.5	1,360	0.383	211	3.0	114	61	545,674	↑41.4	34.6	6.8	20%	34.69	27.30	18.78	0.00	0.20	0.10	0.05	0.24	0.15	0.38	-	0.05	96.13	0.21	3.62
2019	116	0.544	10	3.1	167	11	596,435	↓81.9	83.0	-1.1	-1%	76.83	65.77	42.63	0.00	0.00	0.00	0.00	0.00	0.00	0.90	-	-	97.18	0.42	2.39
2017	68	0.602	18	3.0	140	36	533,717	↓26.1	32.8	-6.7	-20%	36.91	32.98	21.91	0.00	0.00	0.00	0.00	0.58	0.64	0.00	-	-	95.39	0.70	3.9
2016	452	0.545	25	2.9	128	47	525,983	↑41.9	26.1	15.9	61%	29.17	22.32	15.99	0.00	0.30	0.15	0.07	0.28	0.07	0.39	-	-	96.14	0.09	3.77
2015	173	0.363	34	3.0	110	63	545,411	↑46.0	33.0	13.0	39%	37.59	27.01	18.43	0.00	0.80	0.40	0.20	0.22	0.00	0.35	-	-	94.80	0.66	4.54
2013	302	0.332	55	3.0	87	88	546,983	↑22.4	16.8	5.6	33%	18.51	14.63	12.07	0.00	0.00	0.00	0.00	0.19	0.29	0.38	-	0.21	95.45	-	4.35
2012	200	0.223	42	3.0	80	94	554,552	↓20.8	21.2	-0.4	-2%	21.08	16.35	14.43	0.00	0.00	0.00	0.00	0.36	0.01	0.15	-	-	97.37	0.17	2.47
15yr Jumbo 3	261	0.140	173	3.5	93	82	559,863	↓21.9	25.2	-3.3	-13%	24.12	22.41	17.46	0.00	1.06	0.53	0.27	1.00	0.25	0.49	-	-	95.56	0.28	4.15
2017	54	0.550	17	3.5	138	38	563,729	↓29.6	38.0	-8.4	-22%	33.59	28.56	20.08	0.00	0.00	0.00	0.00	4.22	0.93	1.70	-	-	87.43	0.71	11.86
2012	53	0.112	40	3.5	74	100	545,085	↓14.4	21.4	-7.1	-33%	19.39	15.09	14.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	97.14	0.44	2.42
2011	102	0.091	43	3.4	69	106	572,440	↑22.7	13.8	9.0	65%	16.92	15.58	12.22	0.00	0.00	0.00	0.00	0.34	0.14	0.00	-	-	98.67	0.12	1.2
15yr Jumbo 3.5	100	0.058	127	3.9	80	94	595,462	↑20.6	9.9	10.7	109%	20.36	19.71	16.80	0.00	0.00	0.00	0.00	0.65	0.71	1.59	-	-	91.91	0.93	7.16
2011	55	0.051	60	3.8	65	109	579,182	↓15.1	15.1	0.0	0%	17.59	15.91	14.36	0.00	0.00	0.00	0.00	0.80	0.00	1.52	-	-	94.75	-	5.25
30yr Jumbo 2.5	16,427	0.938	212	3.4	352	7	629,012	↑23.3	15.4	7.9	52%	15.92	12.02	8.66	0.35	0.24	0.12	0.06	0.45	0.24	0.27	-	-	97.71	0.52	1.77
2016	393	0.784	29	3.3	304	47	553,938	↑40.6	26.1	14.5	55%	28.42	20.71	13.56	0.00	0.52	0.26	0.13	0.25	0.26	0.24	-	-	92.55	0.24	7.21
2012	103	0.407	17	3.5	254	93	553,938	↓41.6	55.2	-13.6	-25%	48.27	38.45	25.23	0.00	0.00	0.00	0.00	0.51	0.00	0.00	-	-	94.62	1.38	4
30yr Jumbo 3	36,713	0.540	1,073	3.8	314	40	578,365	↑59.4	50.8	8.6	17%	51.61	43.47	29.81	0.97	0.46	0.24	0.13	0.65	0.53	0.70	0.01	0.02	93.11	0.52	6.33
2020	6,052	0.911	102	3.9	354	5	640,351	↑45.4	23.7	21.7	92%	27.45	17.21	-	4.17	1.88	0.94	-	0.65	0.52	0.74	-	-	95.02	0.59	4.39
2019	10,499	0.665	146	3.9	348	11	611,852	↑68.8	60.0	8.8	15%	59.10	50.58	33.32	0.30	0.15	0.08	0.05	0.81	0.76	0.88	0.01	0.01	90.86	0.55	8.57
2018	135	0.758	15	3.9	328	27	582,554	↑41.5	33.5	8.0	24%	38.80	32.33	20.97	0.00	0.00	0.00	0.00	1.68	1.16	3.73	-	0.67	83.90	0.81	14.62
2017	1,304	0.571	69	3.8	317	37	551,649	↑65.5	56.7	8.8	16%	59.59	52.69	36.79	0.06	0.02	0.01	0.01	0.60	0.35	0.79	0.04	0.01	91.68	0.38	7.89
2016	7,935	0.519	171	3.7	304	49	536,973	↑60.5	53.8	6.7	12%	55.23	46.34	32.48	0.64	0.37	0.20	0.10	0.66	0.51	0.83	0.03	0.01	92.83	0.65	6.48
2015	2,722	0.480	144	3.7	289	63	544,737	↑56.3	52.0	4.3	8%	52.76	44.78	31.40	0.00	0.06	0.03	0.01	0.58	0.31	0.27	-	-	93.89	0.41	5.7
2014	416	0.450	26	3.8	279	70	535,075	↑44.6	35.2	9.4	27%	39.36	35.26	25.80	0.00	0.00	0.00	0.00	0.22	0.33	0.36	-	-	95.58	0.21	4.22
2013	3,810	0.374	177	3.7	261	89	544,958	↑51.6	43.4	8.2	19%	45.73	37.53	25.93	0.38	0.21	0.11	0.05	0.55	0.37	0.42	-	0.10	94.52	0.37	5
2012	3,839	0.349	221	3.7	254	94	545,200	↑54.2	51.0	3.1	6%	50.77	41.25	28.03	0.24	0.08	0.06	0.03	0.37	0.31	0.41	-	0.04	95.45	0.38	4.13
30yr Jumbo 3.5	18,720	0.324	1,363	4.2	308	46	572,419	↓56.6	57.0	-0.4	-1%	56.59	53.27	42.68	1.24	0.57	0.41	0.24	1.13	0.80	1.07	0.01	0.03	88.42	0.92	10.62
2020	1,069	0.863	44	4.4	352	6	661,861	↑50.2	37.4	12.9	34%	38.54	26.23	-	9.62	3.31	1.67	-	0.96	0.50	1.21	-	-	90.37	1.54	8.09
2019	3,906	0.499	161	4.4	345	13	625,929	↓63.2	66.2	-2.9	-4%	63.07	62.70	50.36	0.63	0.37	0.31	0.19	1.40	1.20	1.39	-	0.02	83.93	0.89	15.17
2018	1,054	0.424	81	4.3	327	28	582,436	↓62.2	63.2	-1.1	-2%	63.03	62.26	52.69	1.18	0.39	0.20	0.10	1.04	0.77	1.10	0.06	-	86.97	0.64	12.33
2017	4,403	0.404	143	4.2	319	37	549,839	↓61.9	62.7	-0.9	-1%	63.43	59.28	47.96	1.00	0.63	0.42	0.28	1.05	0.84	1.09	0.02	0.05	88.07	0.75	11.11
2016	2,219	0.381	112	4.1	308	48	557,475	↑51.0	49.8	1.3	3%	51.81	47.82	39.02	1.26	0.58	0.42	0.27	1.57	0.88	1.23	-	0.02	86.73	0.97	12.28
2015	1,583	0.289	166	4.1	293	61	540,840	↑50.5	48.6	2.0	4%	51.00	46.27	36.14	0.35	0.22	0.11	0.06	1.21	0.60	0.74	-	-	89.18	1.24	9.58
2014	670	0.199	81	4.2	279	72	528,859	↓53.9	54.3	-0.3	-1%	53.97	47.50	35.35	0.00	0.00	0.13	0.07	1.33	0.93	0.66	-	0.07	92.38	0.95	6.6
2013	831	0.242	112	4.0	265	86	543,327	↑49.5	45.2	4.3	10%	45.87	39.13	29.50	0.61	0.20	0.18	0.09	0.65	0.79	1.37	-	0.07	91.38	0.68	7.87
2012	2,694	0.186	359	4.0	251	98	543,630	↓47.0	47.4	-0.4	-1%	45.62	38.93	28.56	0.22	0.22	0.13	0.07	0.69	0.37	0.61	-	0.07	93.80	0.92	5.21
2011	257	0.104	91	4.1	243	106	561,484	↓49.3	56.5	-7.2	-13%	53.51	42.05	30.97	0.00	0.00	0.00	0.00	0.76	0.17	0.71	-	-	92.90	1.01	6.09
30yr Jumbo 4	7,889	0.146	1,290	4.7	302	53	592,727	↓49.6	50.2	-0.6	-1%	50.19	48.84	43.92	1.52	0.81	0.60	0.39	1.59	1.07	1.43	0.03	0.04	83.83	1.21	14.9
2020	325	0.887	25	4.9	353	6	678,576	↑41.7	35.6	6.1	17%	35.66	23.38	-	4.38	1.48	0.74	-	1.37	2.00	2.43	-	0.20	87.94	1.65	10.21
2019	1,300	0.488	118	4.9	344	14	635,925	↑58.3	53.4	4.9	9%	55.31	57.98	50.82	2.09	1.02	0.79	0.51	2.17	1.71	1.42	0.04	0.04	78.25	1.37	20.3
2018	1,855	0.342	122	4.8	332	26	588,226	↓56.9	61.6	-4.7	-8%	60.55	59.75	55.32	2.52	1.14	0.75	0.41	1.44	1.26	2.05	0.06	-	80.56	1.08	18.31
2017	1,346	0.351	100	4.7	320	37	577,631	↓49.0	51.7	-2.7	-5%	50.53	48.14	44.32	0.00	0.25	0.25	0.12	2.07	1.16	1.56	0.03	0.03	79.94		

UMBS Prepayment Speeds

September 2020

UMBS Jumbos

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2009	198	0.020	68	4.9	215	132	574,629	↑37.9	29.3	8.6	29%	34.36	32.01	26.26	0.00	0.00	0.16	0.08	1.52	0.72	0.76	-	-	89.24	1.63	9.13
30yr Jumbo 5	405	0.022	259	5.5	248	104	586,265	↓34.8	41.3	-6.5	-16%	39.61	34.54	30.93	2.78	0.94	0.00	0.00	1.35	1.86	1.30	-	-	88.84	1.01	10.15
2011	27	0.046	51	5.3	238	113	622,611	↑48.6	0.4	48.2	*n.m.	29.83	26.92	26.27	1.66	1.50	0.75	0.76	1.81	0.98	1.72	-	0.09	81.76	1.66	16.49
2010	94	0.021	75	5.3	228	123	564,488	↑44.0	26.9	17.1	64%	34.90	27.62	23.73	0.00	0.00	0.00	0.00	0.00	0.00	2.27	-	-	81.46	1.81	16.73
2009	123	0.015	50	5.4	220	131	568,696	↓29.3	32.2	-2.9	-9%	29.15	26.63	24.95	6.87	3.84	1.94	0.97	1.02	1.09	3.50	-	0.41	82.80	1.35	15.44

*n.m. - Not Meaningful

Source: Bloomberg

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UMBS Prepayment Speeds

September 2020

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	Sep	Aug	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	352	0.286	418	3.0	86	88	204,561	↑17.8	13.4	4.4	33%	14.80	12.32	11.61	1.18	0.39	0.27	0.14	0.78	0.47	0.67	0.04	0.07	93.79	1.04	5.06
2013	192	0.299	207	3.0	86	88	198,656	↑20.5	13.4	7.2	54%	14.97	12.03	11.82	2.14	0.72	0.36	0.18	0.94	0.40	0.95	-	0.08	92.88	1.21	5.83
2012	133	0.247	167	3.0	79	95	217,777	↑16.8	14.4	2.4	17%	16.25	13.82	12.34	0.00	0.00	0.19	0.10	0.43	0.59	0.17	0.10	0.08	95.45	0.55	3.83
15yr 105-125 LTV 3	633	0.290	775	3.6	93	81	189,887	↑19.8	14.9	4.9	33%	16.97	14.40	13.56	2.15	1.17	0.64	0.32	1.39	0.64	0.64	0.05	0.05	92.28	1.37	6.25
2016	51	0.573	62	3.7	125	50	167,974	↑18.3	14.4	3.9	27%	16.99	14.38	11.83	4.86	1.65	0.83	0.41	1.89	1.44	0.74	-	-	91.57	0.81	7.61
2015	67	0.489	82	3.7	114	61	178,610	↓20.2	21.0	-0.8	-4%	16.34	13.34	13.11	4.76	2.06	1.03	0.52	1.49	1.11	1.05	-	-	88.88	2.15	8.97
2014	55	0.388	93	3.7	101	74	187,951	↑17.6	9.4	8.3	88%	16.23	13.18	11.30	3.76	1.27	0.64	0.32	1.36	1.42	0.38	-	0.27	90.24	2.69	6.8
2013	246	0.283	239	3.5	88	87	187,861	↑17.6	11.1	6.5	59%	15.40	12.75	13.21	1.51	0.83	0.41	0.21	1.50	0.41	0.50	0.01	0.03	92.28	1.71	5.97
2012	196	0.214	260	3.5	79	96	204,892	↑23.5	19.4	4.0	21%	19.55	17.39	15.42	1.04	1.15	0.66	0.33	1.11	0.25	0.69	0.15	0.05	94.09	0.47	5.24
15yr 105-125 LTV 3.5	237	0.321	508	4.1	98	76	168,074	↑23.8	15.5	8.3	53%	19.13	16.41	14.33	1.19	0.40	0.33	0.16	1.22	0.69	0.51	-	0.03	92.44	1.50	6.03
2014	78	0.355	122	4.2	100	74	164,856	↑21.3	12.4	8.9	72%	15.86	15.51	13.42	0.00	0.00	0.39	0.20	1.53	0.84	0.53	-	-	92.89	1.33	5.78
2013	97	0.302	155	4.1	91	83	174,583	↑26.9	12.8	14.1	110%	19.58	16.57	14.44	2.86	0.96	0.48	0.24	1.04	0.68	0.73	-	0.08	91.70	1.62	6.6
2012	25	0.191	115	4.0	77	97	181,498	↑30.8	16.1	14.8	92%	22.11	20.13	18.16	0.00	0.00	0.00	0.00	1.12	0.00	0.17	-	-	94.89	0.79	4.31
30yr 105-125 LTV 2.5	28	0.481	31	3.3	191	83	216,573	↑33.4	4.4	29.0	*n.m.	17.09	15.66	10.16	8.09	2.77	1.40	0.70	0.00	0.90	1.30	-	-	90.83	0.34	8.83
30yr 105-125 LTV 3	2,338	0.435	958	3.7	234	87	233,306	↑20.7	18.3	2.4	13%	18.72	15.59	13.07	0.87	0.53	0.36	1.76	1.09	0.82	0.80	0.02	0.03	91.98	1.44	6.54
2016	144	0.691	92	3.9	274	49	227,795	↑18.9	6.3	12.6	200%	12.98	10.32	10.00	3.37	2.80	1.56	2.96	1.78	2.89	0.57	-	-	86.54	2.28	11.17
2015	46	0.630	55	3.9	212	62	218,010	↑14.6	10.2	4.4	43%	12.23	11.48	8.86	0.00	0.00	0.00	0.00	1.03	2.62	0.45	-	-	91.39	1.57	7.04
2013	1,333	0.438	416	3.7	236	89	231,095	↑20.4	18.4	2.0	11%	18.43	15.19	12.75	0.57	0.38	0.44	0.42	1.14	0.78	0.94	0.02	0.02	91.64	1.47	6.85
2012	802	0.395	377	3.7	224	94	239,082	↑22.0	20.5	1.5	7%	20.66	17.45	14.40	0.98	0.38	0.21	0.10	0.91	0.45	0.63	0.01	0.05	93.50	1.24	5.19
30yr 105-125 LTV 3.5	9,631	0.378	2,541	4.1	249	90	234,101	↓24.7	25.2	-0.6	-2%	24.42	20.67	16.95	1.10	0.63	1.52	1.50	1.43	0.69	0.74	0.02	0.04	91.15	1.46	7.33
2017	56	0.729	64	4.1	278	39	229,110	↓3.8	34.9	-31.1	-89%	20.86	18.50	14.14	0.00	1.23	4.40	4.39	2.58	1.99	0.28	-	-	84.80	1.39	13.8
2016	271	0.662	134	4.2	296	50	225,814	↑17.4	10.7	6.8	64%	15.00	14.54	12.12	1.17	0.93	0.50	0.25	2.22	1.13	0.56	-	-	86.16	1.85	12
2015	323	0.587	234	4.2	266	62	221,850	↓19.1	23.3	-4.2	-18%	21.89	18.73	14.63	1.82	0.91	0.98	0.49	2.64	0.82	1.01	-	0.03	89.44	2.19	8.34
2014	122	0.498	140	4.3	223	72	215,908	↑27.7	20.8	6.9	33%	22.46	20.11	16.05	2.97	1.77	0.89	0.45	2.19	0.85	1.10	-	0.18	89.50	1.44	8.88
2013	3,585	0.411	848	4.1	254	88	228,068	↓21.6	22.5	-0.9	-4%	21.44	17.93	15.19	0.81	0.52	1.71	0.86	1.58	0.62	0.87	0.01	0.05	90.76	1.65	7.53
2012	5,248	0.341	1,072	4.1	243	96	239,930	↓27.3	27.7	-0.4	-1%	26.94	22.84	18.48	1.21	0.64	0.40	0.20	1.19	0.69	0.65	0.02	0.04	91.86	1.28	6.8
30yr 105-125 LTV 4	6,464	0.343	2,618	4.6	256	86	225,339	↑25.9	24.7	1.2	5%	24.57	22.00	18.68	1.42	0.91	1.07	1.94	1.67	0.77	0.79	0.04	0.03	89.99	1.78	8.16
2018	39	0.824	28	4.7	305	28	211,433	↓21.2	24.2	-3.0	-12%	16.94	12.42	11.14	3.47	1.17	2.21	16.85	0.94	1.86	1.10	-	-	84.47	1.66	13.87
2017	258	0.749	107	4.6	308	38	226,925	↑16.3	8.0	8.3	104%	11.89	11.64	10.63	2.65	1.68	2.32	3.48	2.49	1.39	1.13	0.18	0.11	84.52	2.24	12.96
2016	219	0.655	103	4.6	300	51	220,500	↓16.4	19.3	-2.8	-15%	14.67	10.52	9.91	0.89	1.06	0.59	0.85	2.15	0.60	1.37	0.05	-	88.07	1.73	10.14
2015	461	0.564	216	4.6	286	62	211,907	↑20.5	14.7	5.8	40%	18.13	16.01	14.04	3.51	1.63	1.39	1.23	2.28	1.17	1.19	0.07	0.03	87.21	2.21	10.48
2014	662	0.476	392	4.7	260	74	215,343	↑21.3	21.2	0.1	0%	21.54	19.07	15.96	2.02	1.39	2.57	2.75	2.41	0.80	0.85	0.03	0.07	88.59	2.49	8.81
2013	1,469	0.402	680	4.6	258	85	215,016	↑22.4	21.6	0.8	4%	20.72	19.00	16.80	1.90	1.23	0.67	0.33	1.48	0.86	0.82	0.02	0.06	89.86	1.98	8.08
2012	3,018	0.282	853	4.5	244	99	233,389	↑29.6	28.7	1.0	3%	28.41	25.33	21.16	0.76	0.49	0.36	0.18	1.47	0.61	0.64	0.03	0.01	91.18	1.50	7.29
2011	276	0.227	162	4.6	226	106	239,154	↑34.4	32.9	1.5	4%	33.32	30.06	24.57	0.51	0.74	0.57	3.88	1.31	0.70	0.43	0.07	0.05	92.14	1.11	6.63
2010	61	0.181	74	4.5	220	118	243,172	↓37.8	41.2	-3.5	-8%	38.22	35.72	30.66	0.00	0.00	0.00	0.00	0.24	1.25	1.61	-	-	94.21	0.97	4.83
30yr 105-125 LTV 4.5	2,324	0.263	1,445	5.0	252	92	227,001	↑27.0	25.6	1.5	6%	26.99	24.08	21.18	0.49	0.83	1.85	1.58	1.81	0.88	0.83	0.05	0.04	89.23	1.75	8.93
2015	27	0.532	59	4.9	286	65	192,612	↑27.8	23.1	4.7	20%	17.87	13.16	12.93	7.76	2.66	1.34	0.67	4.58	0.78	1.62	-	-	87.19	3.50	9.31
2014	515	0.431	276	5.1	273	75	207,632	↓19.1	20.6	-1.5	-7%	21.41	18.44	17.24	0.80	1.81	1.29	0.65	2.44	1.18	1.01	0.02	0.03	87.20	2.29	10.46
2013	585	0.374	294	5.1	265	82	210,751	↑24.7	21.6	3.1	14%	22.60	21.36	18.84	0.77	0.79	1.75	0.88	2.27	0.83	0.80	0.03	0.03	89.09	2.35	8.5
2012	227	0.244	175	4.9	243	101	227,725	↓28.5	29.9	-1.3	-4%	29.44	25.86	22.40	0.00	0.42	0.48	0.24	1.81	0.65	0.95	0.13	-	90.11	1.57	8.19
2011	698	0.196	348	5.0	232	109	249,629	↑30.6	27.6	3.0	11%	31.27	27.57	23.93	0.08	0.15	0.09	0.04	1.21	0.95	0.82	0.07	0.06	89.49	1.16	9.22
2010	204	0.150	191	5.0	226	118	250,111	↑39.9	38.1	1.8	5%	37.17	32.82	28.14	0.00	0.30	0.15	0.08	0.93	0.34	0.23	-	0.06	93.91	1.13	4.91
30yr 105-125 LTV 5 </																										

UMBS Prepayment Speeds

September 2020

UMBS 125+ LTV

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
15yr 125+ LTV 2.5	198	0.288	304	3.1	85	90	199,771	↓13.3	16.2	-2.9	-18%	15.34	12.91	11.63	0.39	0.13	0.07	0.03	0.90	0.28	0.26	-	-	95.61	0.67	3.72
2013	110	0.307	158	3.1	86	88	188,307	↑17.3	16.2	1.2	7%	16.20	12.81	11.74	0.70	0.23	0.12	0.06	0.90	0.43	0.27	-	-	95.26	0.50	4.25
2012	82	0.255	130	3.1	79	95	217,379	↓8.3	15.9	-7.7	-48%	14.43	13.33	11.97	0.00	0.00	0.00	0.00	0.97	0.09	0.27	-	-	96.18	0.97	2.86
15yr 125+ LTV 3	472	0.278	526	3.5	88	86	189,999	↑18.1	16.4	1.7	11%	17.21	14.76	13.53	0.83	0.36	0.34	0.17	1.28	0.35	0.52	0.02	0.06	94.02	1.02	4.88
2015	29	0.505	51	3.7	113	62	160,423	↓6.5	21.6	-15.1	-70%	13.97	12.28	10.52	0.00	0.61	0.31	0.15	2.04	0.85	0.68	-	-	92.90	1.75	5.35
2014	23	0.436	47	3.7	102	73	169,561	↑23.1	22.0	1.1	5%	17.05	11.72	9.48	4.91	1.67	1.34	0.67	0.52	0.64	0.84	-	-	93.20	0.57	6.24
2013	195	0.293	195	3.5	87	87	187,688	↑17.6	16.6	1.0	6%	17.87	15.19	13.78	0.33	0.24	0.43	0.22	1.45	0.30	0.39	0.05	0.06	93.75	1.18	4.96
2012	199	0.226	194	3.5	79	95	203,724	↑19.5	16.3	3.2	20%	17.87	15.98	14.87	1.05	0.35	0.18	0.09	0.98	0.32	0.60	-	0.08	94.95	0.72	4.25
15yr 125+ LTV 3.5	210	0.304	369	4.1	93	81	163,072	↓15.3	17.3	-2.0	-12%	15.13	14.07	13.83	0.77	0.26	0.13	0.26	1.03	0.79	0.78	-	0.06	93.01	1.52	5.4
2014	46	0.372	89	4.2	99	75	142,434	↓9.8	13.2	-3.4	-26%	10.60	12.92	11.93	0.00	0.00	0.00	0.00	2.10	1.54	0.70	-	0.14	91.38	2.78	5.7
2013	109	0.306	139	4.1	90	84	169,613	↓16.5	21.9	-5.4	-25%	17.37	14.48	14.47	1.48	0.50	0.25	0.32	0.78	0.40	0.93	-	0.06	93.11	1.50	5.33
2012	35	0.202	91	4.0	77	96	188,794	↑18.5	6.2	12.3	199%	13.13	15.96	16.00	0.00	0.00	0.00	0.00	0.75	0.44	0.69	-	-	94.35	0.78	4.87
15yr 125+ LTV 4	27	0.317	79	4.7	96	78	143,470	↓8.9	19.1	-10.2	-54%	14.61	15.78	15.50	0.00	0.00	0.83	0.42	0.36	0.61	0.60	-	-	92.02	0.59	7.38
2013	14	0.296	38	4.7	93	82	142,863	↓14.4	18.2	-3.9	-21%	19.83	18.05	17.65	0.00	0.00	1.57	0.79	0.00	0.88	1.15	-	-	91.94	0.63	7.43
30yr 125+ LTV 2.5	11	0.507	19	3.3	225	91	227,906	↑21.2	0.3	20.9	*n.m.	7.96	8.70	8.45	0.00	0.00	0.00	0.00	1.31	2.17	0.00	-	-	81.62	1.31	17.07
30yr 125+ LTV 3	2,007	0.459	676	3.8	243	90	233,139	↑19.4	18.0	1.5	8%	17.84	15.10	12.87	1.27	0.61	0.44	1.09	1.08	0.57	0.77	0.01	0.03	92.05	1.41	6.49
2013	1,140	0.474	341	3.8	245	89	230,191	↑20.2	18.1	2.1	12%	17.88	15.43	12.61	1.33	0.57	0.33	0.24	1.10	0.57	0.76	0.01	0.05	91.95	1.33	6.65
2012	807	0.430	282	3.7	238	93	238,839	↑18.5	18.3	0.2	1%	18.04	14.94	13.44	1.02	0.61	0.53	1.66	1.03	0.57	0.71	-	0.02	92.48	1.52	5.98
30yr 125+ LTV 3.5	10,883	0.405	1,828	4.1	251	91	230,749	↑25.0	23.5	1.5	6%	23.88	20.24	16.92	0.99	0.69	0.56	0.50	1.32	0.67	0.78	0.02	0.03	91.53	1.49	6.92
2016	121	0.735	73	4.2	298	50	209,676	↓10.3	12.2	-1.9	-16%	11.82	10.80	8.96	0.99	0.33	0.20	1.51	2.09	0.85	0.79	-	-	88.56	2.16	9.28
2015	151	0.612	125	4.2	268	61	203,530	↓18.5	21.2	-2.8	-13%	18.28	13.40	11.92	1.90	2.16	1.57	0.79	1.76	0.81	1.44	-	0.08	88.27	2.44	9.21
2014	45	0.561	59	4.4	227	72	192,452	↑20.4	11.2	9.1	81%	14.16	12.36	14.03	0.00	0.23	0.11	0.06	2.10	1.36	0.32	0.28	-	88.83	1.21	9.69
2013	4,088	0.444	737	4.1	255	88	222,419	↑22.8	20.4	2.4	12%	21.35	17.88	15.30	0.95	0.82	0.63	0.57	1.61	0.74	0.91	0.02	0.04	90.79	1.66	7.48
2012	6,443	0.377	799	4.1	246	95	237,417	↑26.8	25.9	1.0	4%	25.90	22.11	18.23	1.00	0.58	0.48	0.40	1.08	0.60	0.68	0.02	0.03	92.19	1.34	6.42
30yr 125+ LTV 4	5,922	0.375	1,798	4.6	255	90	220,092	↓25.3	25.6	-0.3	-1%	25.04	21.94	18.69	1.09	0.78	0.61	0.70	1.37	0.67	0.79	0.02	0.05	90.72	1.44	7.77
2017	103	0.783	58	4.6	307	38	199,706	↓7.9	8.2	-0.3	-4%	5.85	7.72	8.47	0.75	0.77	1.77	2.77	1.05	0.83	2.03	0.16	-	85.86	2.09	11.89
2016	80	0.691	70	4.6	300	51	193,798	↑11.2	7.0	4.1	59%	9.10	9.35	9.22	2.20	1.17	0.91	0.45	1.89	0.54	1.70	-	-	85.52	2.02	12.46
2015	225	0.620	153	4.6	286	62	191,877	↑16.9	13.9	3.1	22%	14.70	11.78	10.32	6.34	3.26	1.95	1.98	2.56	0.92	1.09	-	-	87.72	2.10	10.18
2014	351	0.520	243	4.7	262	74	201,209	↓17.6	18.6	-1.0	-5%	17.45	16.56	14.84	2.63	0.97	1.00	0.50	2.09	0.70	0.84	-	0.03	88.33	2.30	9.34
2013	1,406	0.443	607	4.6	259	86	210,437	↑23.5	21.0	2.5	12%	21.11	18.21	15.50	1.52	1.21	0.74	0.42	1.73	0.54	0.84	-	0.06	90.00	1.84	8.1
2012	3,741	0.330	654	4.5	248	97	228,334	↓28.0	29.3	-1.3	-4%	28.46	24.91	21.06	0.45	0.45	0.36	0.53	1.10	0.69	0.69	0.02	0.05	91.67	1.15	7.11
30yr 125+ LTV 4.5	1,428	0.406	803	5.1	263	84	207,698	↑24.6	21.8	2.8	13%	21.80	19.60	17.07	1.73	1.31	1.92	2.27	1.77	0.75	0.78	0.03	0.04	88.96	1.97	9.01
2014	405	0.505	239	5.1	271	76	197,707	↑22.4	17.5	4.9	28%	17.75	15.86	14.50	1.59	1.01	0.61	0.32	2.30	0.94	0.66	0.02	-	89.18	2.39	8.4
2013	655	0.440	292	5.1	263	83	205,954	↑23.1	22.3	0.7	3%	21.04	18.83	16.64	2.60	1.89	2.60	2.00	1.65	0.76	0.92	0.02	0.05	88.82	1.89	9.21
2012	332	0.283	167	5.0	248	99	225,987	↑31.9	27.1	4.8	18%	28.94	26.21	21.57	0.38	0.65	1.46	2.33	1.37	0.48	0.53	0.06	0.06	89.46	1.64	8.78
30yr 125+ LTV 5	73	0.437	81	5.5	271	79	180,678	↑18.6	17.9	0.7	4%	16.63	16.20	15.14	0.00	1.71	39.93	22.49	0.79	0.68	0.83	0.14	-	88.73	1.06	10.07

*n.m. - Not Meaningful

Source: Bloomberg

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UMBS Prepayment Speeds

September 2020

UMBS Relocation

	Indicative Data							Prepayment Speeds						Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan					
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
15yr RELO 2	24	0.320	18	2.6	106	64	312,440	↑26.1	12.3	13.8	112%	17.72	13.27	13.02	0.00	0.00	0.00	0.00	0.37	0.00	0.00	-	-	98.30	-	1.7
15yr RELO 2.5	127	0.237	84	3.0	103	70	278,990	↑35.8	24.8	10.9	44%	29.20	23.37	19.17	0.00	0.00	0.00	0.00	0.75	0.00	0.14	-	0.17	98.22	0.35	1.26
2014	51	0.242	41	3.0	100	73	272,779	↑33.9	26.2	7.7	29%	27.28	20.16	18.65	0.00	0.00	0.00	0.00	1.21	0.00	0.00	-	-	98.52	0.56	0.92
30yr RELO 2.5	356	0.533	59	3.3	309	44	351,798	↑25.7	12.3	13.5	110%	17.91	13.60	12.44	0.38	0.13	0.06	0.03	0.57	0.07	0.31	-	0.09	97.35	0.27	2.28
2016	51	0.570	10	3.1	305	47	327,848	↑57.8	16.5	41.3	251%	34.31	23.76	20.79	0.00	0.00	0.00	0.00	0.64	0.00	0.00	-	-	98.71	-	1.29
2013	90	0.339	23	3.1	258	88	323,727	↑26.3	17.7	8.5	48%	22.75	16.43	14.57	1.49	0.50	0.00	0.00	1.20	0.00	0.15	-	0.38	96.63	0.51	2.48
30yr RELO 3	3,044	0.460	352	3.7	301	50	330,323	↑43.7	38.4	5.4	14%	39.77	32.85	24.44	0.30	0.10	0.07	0.04	0.52	0.20	0.24	0.01	0.05	97.37	0.35	2.22
2019	184	0.829	22	3.9	345	12	380,918	↑46.5	19.6	26.9	137%	32.94	24.75	15.51	3.88	1.31	0.66	0.33	0.58	0.39	0.36	-	-	96.47	0.18	3.35
2018	325	0.583	39	4.1	326	27	334,200	↓46.8	56.4	-9.6	-17%	52.67	47.67	33.86	0.00	0.00	0.00	0.00	0.35	0.17	0.50	0.08	-	96.96	0.24	2.73
2017	933	0.585	92	3.8	316	36	330,363	↑49.4	39.0	10.4	27%	42.76	35.54	26.72	0.19	0.06	0.10	0.05	0.51	0.27	0.33	-	0.04	96.99	0.30	2.66
2016	378	0.501	23	3.6	303	48	321,453	↓32.9	37.9	-5.1	-13%	33.39	26.89	22.42	0.00	0.00	0.00	0.00	0.32	0.16	0.34	-	-	97.32	0.17	2.5
2015	632	0.419	58	3.7	287	62	321,954	↑37.9	35.1	2.8	8%	35.19	27.60	21.12	0.00	0.00	0.00	0.00	0.45	0.15	0.04	-	0.10	98.05	0.34	1.51
2014	195	0.323	45	3.9	275	72	328,967	↑51.7	37.4	14.3	38%	43.94	36.61	26.79	0.00	0.00	0.00	0.00	1.10	0.00	0.00	-	0.14	97.88	0.97	1.02
2013	203	0.300	34	3.5	260	87	325,764	↑39.4	29.5	9.9	33%	33.83	25.97	18.44	0.00	0.00	0.00	0.00	0.80	0.17	0.17	-	0.07	97.37	0.34	2.22
2012	169	0.269	31	3.5	248	98	324,641	↑38.6	31.8	6.8	21%	31.69	24.62	18.84	0.00	0.00	0.00	0.00	0.67	0.17	0.00	-	-	97.87	0.81	1.31
30yr RELO 3.5	1,006	0.260	196	4.1	279	69	314,056	↓50.7	52.1	-1.3	-3%	49.45	43.10	32.20	0.77	0.26	0.17	0.08	0.59	0.21	0.14	0.03	0.01	96.93	0.60	2.44
2019	10	0.563	5	4.4	337	17	310,428	↑72.2	0.5	71.7	*n.m.	44.86	52.72	36.35	35.61	13.65	7.07	3.60	0.00	0.00	0.00	-	-	1.00	-	-
2017	112	0.462	15	4.1	311	40	316,742	↑60.3	56.9	3.4	6%	55.85	47.27	35.38	0.00	0.00	0.00	0.00	0.61	0.53	0.61	-	0.10	94.39	0.75	4.76
2014	324	0.234	63	4.2	274	74	296,988	↑50.0	48.6	1.4	3%	48.55	41.99	31.48	0.00	0.00	0.00	0.00	0.70	0.15	0.08	-	-	97.34	0.53	2.14
2013	106	0.213	24	4.1	264	83	301,739	↓51.0	56.5	-5.5	-10%	49.21	42.07	30.21	0.00	0.00	0.00	0.00	0.65	0.00	0.00	-	-	98.83	0.81	0.36
2012	71	0.203	19	3.9	242	102	313,224	↓43.2	50.5	-7.3	-14%	41.93	32.42	24.29	0.00	0.00	0.00	0.00	0.64	0.00	0.00	-	-	97.01	1.38	1.6
2011	95	0.197	28	3.9	236	107	324,050	↓23.9	38.0	-14.2	-37%	31.94	27.58	19.53	0.00	0.00	0.00	0.00	0.46	0.00	0.25	-	-	98.06	0.39	1.55
2010	81	0.164	14	3.9	225	117	318,137	↑44.7	42.9	1.8	4%	43.38	32.86	22.40	4.12	1.39	0.00	0.00	0.28	0.51	0.00	-	-	97.90	-	2.1
30yr RELO 4	294	0.107	136	4.5	250	96	302,557	↓39.8	46.3	-6.5	-14%	42.14	37.40	30.02	0.97	0.32	0.16	0.08	0.49	0.25	0.61	-	0.20	96.64	1.02	2.14
2014	57	0.158	37	4.5	272	77	277,649	↓37.8	44.9	-7.1	-16%	37.50	34.75	28.60	0.00	0.00	0.00	0.00	0.48	0.00	0.72	-	-	97.07	1.46	1.47
2011	98	0.090	44	4.4	231	111	296,510	↓37.2	49.1	-11.9	-24%	40.93	34.88	27.91	0.00	0.00	0.00	0.00	0.63	0.13	0.17	-	-	97.98	0.89	1.13
2010	87	0.080	25	4.4	224	121	313,770	↓33.7	42.9	-9.2	-21%	34.72	29.23	22.59	0.00	0.00	0.00	0.00	0.45	0.00	0.38	-	-	95.89	0.80	3.3
30yr RELO 4.5	54	0.030	261	5.0	194	152	245,134	↑36.6	33.5	3.1	9%	32.90	25.80	22.26	0.00	0.00	0.00	0.00	1.16	0.04	0.24	-	-	97.33	0.81	1.87

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