

# UMBS Prepayment Speeds

## September 2019

### UMBS 10yr

	Indicative Data							Prepayment Speeds						
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo
<b>FNMA 10yr 2</b>	2,123	0.235	410	2.7	52	64	223,828	↑15.8	14.7	1.1	8%	14.47	14.61	12.62
2016	548	0.555	67	2.6	80	36	256,227	↑13.5	12.1	1.4	11%	11.30	11.79	9.69
2015	83	0.402	41	2.7	66	50	238,342	↑15.2	10.8	4.3	40%	12.43	11.81	9.72
2014	61	0.319	23	2.9	58	58	232,959	↑22.0	19.4	2.6	13%	18.12	15.93	11.75
2013	1,167	0.196	210	2.7	41	75	212,272	↑16.0	15.5	0.6	4%	15.37	15.52	13.62
2012	246	0.146	61	2.7	35	81	196,890	↑19.2	17.1	2.1	12%	17.44	17.08	15.10
<b>FNMA 10yr 2.5</b>	10,112	0.246	1535	3.0	61	54	214,772	↑16.8	15.9	0.9	6%	15.89	15.39	13.58
2019	114	0.970	12	3.2	117	2	259,332	↑11.5	3.6	7.9	*n.m.	20.22	-	-
2017	789	0.658	71	3.0	91	25	239,359	↑15.0	14.0	1.0	7%	14.60	13.33	11.05
2016	3,069	0.531	164	2.9	79	36	225,347	↑14.7	14.2	0.6	4%	13.59	12.89	11.19
2015	1,730	0.369	191	3.0	65	50	215,275	↑16.2	15.6	0.6	4%	15.88	15.15	13.12
2014	996	0.254	193	3.2	54	61	205,986	↑20.2	15.6	4.6	29%	17.26	16.90	14.88
2013	1,486	0.178	357	3.0	41	75	183,398	↑16.7	16.4	0.3	2%	16.24	16.22	14.78
2012	1,821	0.116	493	3.0	32	85	213,313	↑19.7	19.4	0.3	2%	18.92	18.59	16.53
2011	76	0.065	43	3.1	25	93	200,771	↑25.6	21.0	4.6	22%	22.18	22.08	20.23
<b>FNMA 10yr 3</b>	6,457	0.168	1372	3.5	66	50	183,514	↑18.1	17.4	0.7	4%	17.04	16.69	15.10
2019	411	0.957	20	3.6	115	3	241,495	↓13.3	13.4	-0.1	-1%	11.72	9.93	-
2018	377	0.751	36	3.5	99	17	222,003	↑17.5	16.8	0.8	5%	16.56	14.32	11.76
2017	1,650	0.650	97	3.4	90	25	196,404	↑16.6	14.7	1.8	12%	14.75	13.74	11.62
2016	732	0.490	88	3.5	77	37	168,272	↑14.9	14.7	0.2	1%	14.38	13.78	12.76
2015	691	0.363	129	3.5	66	48	162,919	↑18.1	17.6	0.4	2%	16.77	16.45	14.43
2014	626	0.242	160	3.6	53	61	150,984	↓16.1	17.5	-1.4	-8%	16.42	16.49	15.60
2013	548	0.178	241	3.6	44	72	149,130	↓18.0	18.9	-0.9	-5%	17.84	17.42	15.94
2012	501	0.085	297	3.5	29	88	167,914	↑22.0	19.6	2.4	12%	19.77	19.84	18.18
2011	850	0.050	250	3.5	23	95	197,170	↑24.3	21.8	2.5	11%	22.44	22.57	20.49
2010	70	0.023	54	3.6	14	105	200,991	↓27.6	33.6	-5.9	-18%	29.23	28.04	24.61
<b>FNMA 10yr 3.5</b>	2,948	0.132	766	4.0	84	32	173,241	↑20.1	18.7	1.3	7%	18.67	17.86	15.92
2019	623	0.926	26	4.0	112	4	201,837	↑15.7	14.8	0.9	6%	12.74	12.16	-
2018	961	0.772	74	4.0	101	14	194,375	↑20.1	19.8	0.3	2%	19.28	16.67	13.31
2017	569	0.642	51	3.9	90	25	144,767	↑19.1	14.5	4.6	32%	15.97	15.46	13.07
2016	82	0.477	31	4.0	77	38	125,201	↓17.9	23.5	-5.6	-24%	20.64	17.41	15.40
2015	53	0.341	31	4.2	65	49	110,960	↑20.2	11.6	8.6	74%	16.11	14.18	14.77
2014	126	0.228	65	4.2	51	62	118,589	↑22.8	13.7	9.1	66%	18.25	17.91	16.03
2013	101	0.174	76	4.1	44	71	113,163	↑22.8	19.1	3.7	19%	20.51	18.95	17.01
2012	30	0.080	51	4.1	29	88	114,842	↑23.0	18.5	4.6	25%	20.66	22.25	20.25
2011	221	0.036	176	4.0	19	99	165,399	↓24.1	24.7	-0.6	-3%	25.00	25.76	22.94
2010	181	0.016	180	3.9	13	106	182,985	↓28.7	30.8	-2.2	-7%	29.01	28.60	25.68
<b>FNMA 10yr 4</b>	601	0.056	392	4.6	91	25	142,577	↑22.0	21.0	1.0	5%	19.94	18.65	17.49
2011	35	0.033	87	4.5	18	100	129,546	↓24.6	25.1	-0.5	-2%	23.47	25.13	23.54
2010	43	0.008	130	4.4	9	110	155,138	↓31.8	35.7	-3.9	-11%	32.40	31.99	29.70

\*n.m. - Not Meaningful

#### Source: Bloomberg

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# UMBS Prepayment Speeds

## September 2019

### UMBS 15yr

	Indicative Data							Prepayment Speeds						
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo
<b>FNMA 15yr 2</b>	16,551	0.469	2090	2.6	114	60	274,038	9.9	10.0	-0.1	-1%	9.81	9.28	7.81
2017	71	0.834	27	2.6	151	25	286,476	1.9	7.4	-5.5	-74%	3.84	4.40	4.25
2016	6,039	0.701	342	2.6	140	36	290,135	9.1	9.6	-0.5	-5%	9.28	8.41	6.87
2015	706	0.556	175	2.7	124	51	289,923	10.2	8.9	1.4	15%	9.50	9.07	7.38
2014	112	0.566	38	2.8	114	60	275,912	7.7	8.5	-0.8	-9%	8.29	8.34	7.19
2013	6,099	0.394	1017	2.6	98	76	268,396	10.4	10.8	-0.4	-4%	10.27	9.94	8.46
2012	3,364	0.355	479	2.6	92	81	248,809	11.1	9.6	1.6	16%	10.30	9.83	8.48
<b>FNMA 15yr 2.5</b>	131,217	0.458	16883	3.0	121	54	264,961	11.7	11.6	0.1	1%	11.25	10.53	9.01
2019	7,786	0.979	131	3.3	177	2	315,674	7.8	8.7	-1.0	-11%	7.13	5.12	-
2018	629	0.839	81	3.3	158	18	305,326	13.6	12.7	0.8	6%	12.04	10.05	7.57
2017	7,893	0.779	695	3.0	151	25	285,000	10.4	11.1	-0.6	-6%	10.15	9.17	7.39
2016	41,486	0.662	3134	2.9	139	36	268,148	11.7	11.3	0.4	4%	11.02	10.08	8.40
2015	15,783	0.515	2036	3.0	124	50	266,595	12.1	11.7	0.5	4%	11.63	10.86	9.16
2014	4,101	0.419	1048	3.1	115	58	268,355	13.2	12.7	0.4	3%	12.90	12.19	10.13
2013	22,524	0.369	4077	2.9	97	76	242,938	11.7	11.5	0.2	2%	11.21	10.67	9.41
2012	30,390	0.301	5492	3.0	90	84	257,197	12.6	12.3	0.3	2%	12.02	11.32	9.85
2011	615	0.232	184	3.1	80	94	236,112	9.8	12.8	-3.0	-23%	11.50	11.34	10.39
<b>FNMA 15yr 3</b>	130,430	0.435	25864	3.5	129	46	234,027	14.2	13.7	0.5	3%	13.23	12.31	10.50
2019	13,500	0.962	472	3.7	175	3	286,132	13.0	11.8	1.1	10%	11.05	8.70	-
2018	7,861	0.821	617	3.7	160	15	274,982	21.0	20.7	0.3	1%	18.15	15.12	10.94
2017	31,125	0.745	2971	3.4	150	25	244,104	13.9	13.2	0.7	5%	12.71	11.50	9.34
2016	12,666	0.611	2913	3.5	137	37	201,767	13.5	13.8	-0.2	-2%	13.16	12.43	10.63
2015	17,685	0.497	3626	3.5	125	49	219,847	13.7	13.2	0.5	4%	13.07	12.37	10.66
2014	13,519	0.382	3345	3.5	112	61	223,551	14.5	13.8	0.7	5%	13.66	12.73	11.19
2013	10,972	0.334	3816	3.5	101	72	209,349	12.6	12.5	0.1	1%	12.38	11.99	10.82
2012	12,503	0.244	5490	3.5	86	87	209,556	13.9	13.0	0.9	7%	12.90	12.55	11.18
2011	9,336	0.188	2202	3.4	79	94	239,684	14.1	13.9	0.2	2%	13.64	13.03	11.45
2010	1,263	0.135	410	3.6	69	105	222,995	14.4	17.0	-2.6	-15%	15.19	14.63	12.62
<b>FNMA 15yr 3.5</b>	63,812	0.345	19803	4.0	133	42	197,641	16.7	15.8	0.9	6%	15.12	13.81	11.79
2019	12,619	0.948	849	4.1	173	4	225,934	13.3	12.7	0.6	4%	11.64	10.05	-
2018	15,256	0.820	1739	4.1	162	14	232,698	24.2	22.5	1.8	8%	20.62	17.05	12.28
2017	8,419	0.723	1992	4.0	148	26	164,103	15.0	13.2	1.9	14%	13.49	12.46	10.79
2016	1,920	0.587	984	4.0	134	38	130,974	14.6	14.1	0.5	4%	13.99	13.23	11.87
2015	2,612	0.488	1520	4.0	124	49	134,261	13.5	13.1	0.4	3%	13.19	12.67	11.81
2014	4,933	0.369	2589	4.1	111	62	154,951	13.3	13.5	-0.2	-1%	13.17	13.23	11.91
2013	3,849	0.321	2020	4.0	103	71	170,177	13.8	12.6	1.2	9%	12.84	12.28	11.43
2012	1,734	0.227	2075	4.0	85	88	150,613	13.9	13.7	0.2	1%	13.51	13.01	12.27
2011	6,040	0.158	3424	3.9	76	97	197,522	15.2	14.5	0.7	5%	14.35	13.87	12.46
2010	6,344	0.105	2439	3.9	67	106	210,650	14.9	14.6	0.4	2%	14.50	14.20	12.84
2009	83	0.068	159	4.0	54	121	200,507	9.9	12.5	-2.6	-21%	13.26	13.35	13.96
<b>FNMA 15yr 4</b>	21,209	0.134	11624	4.5	119	55	175,220	18.2	16.8	1.4	8%	16.53	15.16	12.78
2019	1,860	0.959	353	4.7	170	5	162,490	10.9	7.7	3.2	42%	8.16	6.98	-
2018	9,272	0.840	1260	4.6	163	12	176,977	22.1	19.6	2.6	13%	19.10	16.12	11.54
2017	577	0.687	186	4.5	147	26	145,001	17.3	15.6	1.7	11%	15.17	13.96	12.54
2016	138	0.357	228	4.7	107	64	89,342	14.0	19.1	-5.1	-27%	15.77	14.79	14.03
2015	221	0.336	303	4.6	102	70	101,979	12.2	11.3	1.0	9%	12.85	13.42	12.73
2014	131	0.204	356	4.5	83	89	119,652	12.7	19.8	-7.1	-36%	16.14	14.34	13.85
2013	2,891	0.125	2780	4.4	73	100	171,116	15.0	14.2	0.7	5%	14.53	14.12	13.05
2012	3,412	0.073	2898	4.4	64	110	183,217	16.0	15.6	0.4	2%	15.47	15.29	13.88
2011	2,602	0.040	2419	4.5	54	121	192,508	16.4	17.0	-0.6	-3%	16.21	16.19	14.84
2010	52	0.024	235	4.6	41	135	196,568	15.6	15.2	0.3	2%	14.78	16.22	15.93
<b>FNMA 15yr 4.5</b>	3,299	0.036	8315	4.9	75	100	159,855	16.2	16.6	-0.4	-2%	15.72	15.41	14.59
2011	394	0.132	958	4.8	73	100	141,607	14.3	15.1	-0.8	-5%	14.84	13.93	13.18
2010	748	0.077	1336	4.8	62	112	150,581	16.3	14.7	1.6	11%	15.08	15.05	13.89
2009	1,181	0.042	2197	4.9	54	121	168,655	14.8	15.7	-0.9	-6%	14.68	14.86	13.86
<b>FNMA 15yr 5</b>	704	0.011	7961	5.6	38	139	159,743	20.8	19.9	0.9	5%	19.78	19.59	18.77
2010	33	0.095	196	5.4	63	112	123,173	18.4	12.3	6.1	50%	14.77	13.49	13.87
2009	92	0.058	605	5.5	54	121	121,693	18.7	19.0	-0.3	-2%	17.32	16.08	15.31

\*n.m. - Not Meaningful

Source: Bloomberg

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# UMBS Prepayment Speeds

## September 2019

### UMBS 20yr

	Indicative Data							Prepayment Speeds						
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo
<b>FNMA 20yr 2.5</b>	6,336	0.655	352	3.2	189	46	283,435	↑ 9.4	8.8	0.6	7%	8.46	7.90	6.58
2016	3,955	0.770	82	3.2	201	35	295,979	↑ 9.8	8.9	0.9	10%	8.40	7.51	6.11
2015	88	0.694	16	3.4	181	53	290,818	↑ 11.0	7.9	3.1	39%	6.64	9.49	8.24
2013	732	0.477	85	3.3	156	77	249,264	↑ 9.8	9.4	0.4	4%	9.51	9.64	8.39
2012	1,069	0.453	135	3.2	151	81	240,164	↑ 10.4	8.5	2.0	23%	9.13	8.59	7.24
<b>FNMA 20yr 3</b>	59,412	0.577	3191	3.6	185	50	251,423	↑ 12.4	11.1	1.3	11%	11.12	9.83	8.08
2019	3,522	0.987	40	3.9	237	2	298,689	↑ 5.3	4.7	0.6	*n.m.	4.10	2.80	-
2018	323	0.883	34	3.7	219	17	288,244	↑ 12.7	12.7	0.1	0%	12.62	9.74	6.76
2017	5,475	0.824	165	3.7	212	24	266,510	↑ 15.4	13.0	2.5	19%	12.64	10.23	7.54
2016	19,986	0.723	510	3.6	200	36	257,360	↑ 12.8	11.5	1.4	12%	11.53	10.00	8.07
2015	9,321	0.591	362	3.7	185	50	255,657	↑ 14.7	12.1	2.7	22%	12.27	10.60	8.65
2014	1,387	0.451	110	3.9	176	58	250,016	↑ 14.6	11.5	3.1	27%	12.51	11.42	9.54
2013	8,768	0.460	919	3.6	157	76	218,576	↓ 10.7	10.8	-0.2	-1%	10.50	9.67	8.14
2012	10,520	0.396	1019	3.6	149	84	239,332	↑ 11.3	10.1	1.3	13%	10.13	9.29	8.06
2011	96	0.310	25	3.6	139	93	237,179	↑ 18.9	5.5	13.4	245%	12.04	9.70	8.20
<b>FNMA 20yr 3.5</b>	39,085	0.463	4489	4.1	186	49	228,814	↑ 14.5	12.8	1.7	13%	12.76	11.35	9.34
2019	3,985	0.969	92	4.3	235	4	271,597	↑ 12.5	7.4	5.1	69%	8.60	6.24	-
2018	3,430	0.862	156	4.0	220	17	260,398	↑ 19.9	16.2	3.7	22%	15.52	12.57	8.49
2017	9,162	0.790	478	4.0	212	25	242,806	↑ 16.3	14.4	1.9	13%	13.97	12.12	9.30
2016	2,407	0.678	274	4.0	200	36	214,667	↔ 15.2	15.2	0.0	0%	13.99	12.58	10.41
2015	3,444	0.542	651	4.1	185	50	195,589	↑ 15.3	13.3	1.9	15%	13.49	12.28	10.26
2014	2,878	0.399	370	4.2	173	61	211,961	↑ 14.5	13.6	0.9	7%	13.52	12.16	10.45
2013	3,528	0.399	840	4.1	161	73	192,001	↑ 13.6	12.5	1.1	9%	12.27	11.20	9.88
2012	5,692	0.319	1206	4.0	145	87	217,192	↑ 12.0	10.4	1.5	15%	11.10	10.37	9.05
2011	3,641	0.232	335	4.0	138	94	226,594	↓ 11.6	12.3	-0.8	-6%	11.86	10.63	9.02
2010	919	0.173	83	4.0	127	105	222,399	↑ 12.0	11.2	0.8	7%	11.43	10.33	9.09
<b>FNMA 20yr 4</b>	26,381	0.388	3672	4.5	193	43	212,341	↑ 19.1	17.1	2.1	12%	16.32	13.98	10.94
2019	1,207	0.967	113	4.8	234	5	227,919	↑ 11.9	7.6	4.2	56%	8.14	6.09	-
2018	9,479	0.852	494	4.5	223	14	239,742	↑ 26.0	23.3	2.7	11%	21.37	16.78	11.22
2017	4,693	0.757	533	4.4	211	26	209,580	↑ 18.3	15.9	2.4	15%	15.75	14.10	11.23
2016	899	0.628	222	4.4	198	38	189,889	↑ 13.0	11.6	1.4	12%	12.24	11.71	10.94
2015	1,361	0.525	442	4.4	186	49	171,100	↓ 14.5	15.6	-1.0	-7%	14.02	13.38	11.72
2014	2,195	0.418	493	4.6	172	62	173,480	↓ 12.5	13.3	-0.8	-6%	12.53	12.31	11.42
2013	1,178	0.379	351	4.7	164	70	168,345	↑ 14.6	11.6	3.1	26%	12.65	11.34	10.29
2012	406	0.293	297	4.5	144	88	185,055	↑ 17.3	11.0	6.3	58%	12.85	12.41	10.89
2011	2,021	0.202	321	4.5	136	96	201,776	↑ 13.0	11.2	1.8	16%	11.87	10.98	9.72
2010	2,479	0.129	257	4.4	126	106	207,319	↑ 14.7	13.0	1.7	13%	12.81	11.87	10.20
2009	454	0.071	99	4.5	108	122	197,411	↑ 15.2	11.5	3.7	32%	12.75	11.83	10.38
<b>FNMA 20yr 4.5</b>	5,955	0.139	1311	5.0	164	70	179,386	↑ 16.6	15.7	0.9	6%	15.12	13.74	11.24
2019	483	0.970	102	5.2	233	5	162,117	↑ 9.1	8.5	0.6	8%	7.21	5.36	-
2018	1,904	0.861	251	5.2	225	12	176,882	↑ 23.6	21.2	2.4	11%	20.48	17.38	11.56
2017	132	0.741	49	5.0	213	24	162,129	↑ 22.3	17.8	4.5	25%	21.16	17.03	12.78
2014	78	0.422	52	5.2	169	65	148,788	↓ 13.1	13.2	-0.1	-1%	11.28	13.72	12.79
2013	65	0.380	42	5.1	164	70	144,730	↓ 9.3	12.7	-3.4	-27%	12.98	15.37	13.47
2011	970	0.175	150	4.9	133	100	186,146	↓ 12.2	13.0	-0.7	-6%	12.04	11.76	10.70
2010	1,144	0.109	162	4.9	121	111	193,380	↑ 14.4	13.1	1.3	10%	13.07	12.53	10.97
2009	925	0.067	197	4.9	111	121	181,257	↓ 12.2	13.1	-0.9	-7%	12.42	11.65	10.76
<b>FNMA 20yr 5</b>	1,459	0.028	1305	5.5	89	146	159,847	↓ 14.0	15.4	-1.4	-9%	14.48	13.65	12.55
2011	93	0.181	48	5.4	132	101	180,120	↑ 17.5	12.5	5.1	41%	16.26	15.96	13.29
2010	144	0.108	58	5.4	120	112	170,595	↓ 17.1	18.6	-1.5	-8%	16.92	14.15	12.68
2009	164	0.089	89	5.4	112	120	165,001	↓ 10.5	19.2	-8.7	-45%	12.41	11.28	11.38

\*n.m. - Not Meaningful

Source: Bloomberg

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# UMBS Prepayment Speeds

## September 2019

### UMBS 30yr

	Indicative Data							Prepayment Speeds						
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo
FNMA 30yr 2	218	0.850	215	3.0	316	41	191,883	↓ 2.2	5.9	-3.6	-62%	3.51	3.33	3.27
2016	151	0.884	104	3.0	321	36	192,624	↓ 2.0	7.2	-5.2	-72%	3.60	2.69	2.74
FNMA 30yr 2.5	20,596	0.757	1876	3.4	312	41	335,146	↓ 6.3	8.6	-2.2	-26%	7.66	7.10	5.94
2019	6,471	0.997	65	3.5	358	1	375,040	↓ 1.0	1.4	-0.3	*n.m.	0.95	0.50	-
2018	45	0.951	50	3.5	341	16	206,118	↓ 0.4	0.5	-0.1	*n.m.	5.84	4.16	2.39
2016	6,092	0.842	391	3.4	316	37	330,957	↓ 8.6	8.7	-0.1	-1%	8.49	7.32	5.80
2015	391	0.741	181	3.4	301	51	268,903	↑ 11.5	9.9	1.6	16%	10.09	9.13	6.55
2014	42	0.717	42	3.2	293	59	244,795	↑ 16.6	7.1	9.5	134%	13.00	10.09	8.80
2013	1,719	0.592	366	3.1	269	78	310,425	↓ 10.0	10.5	-0.5	-5%	9.64	8.09	6.72
2012	5,455	0.573	600	3.2	266	81	311,447	↓ 8.4	8.9	-0.4	-5%	8.46	7.74	6.50
FNMA 30yr 3	544,932	0.666	26355	3.7	306	47	313,661	↓ 10.6	10.7	-0.1	-1%	10.33	9.42	7.79
2019	94,059	0.990	1212	4.0	356	2	349,766	↑ 4.6	4.2	0.4	*n.m.	3.94	2.96	-
2018	2,380	0.931	299	3.9	340	16	320,460	↑ 11.8	8.5	3.3	38%	8.58	6.48	4.55
2017	10,986	0.892	799	3.8	331	24	324,101	↑ 10.2	10.0	0.2	2%	9.13	7.65	5.75
2016	192,207	0.764	6687	3.7	317	37	309,005	↑ 12.8	12.2	0.6	5%	11.85	10.39	8.21
2015	51,775	0.674	3257	3.8	300	51	318,462	↓ 12.1	12.2	-0.1	0%	11.74	10.47	8.44
2014	3,652	0.544	562	3.9	293	57	306,633	↑ 14.5	12.1	2.5	20%	12.49	10.83	8.61
2013	89,418	0.525	6027	3.6	272	77	294,440	↑ 10.9	10.6	0.3	3%	10.47	9.51	8.04
2012	100,109	0.496	7378	3.6	265	83	302,426	↑ 10.6	10.4	0.2	2%	10.17	9.17	7.69
2011	296	0.416	94	3.7	248	93	288,403	↓ 8.7	10.3	-1.5	-15%	8.54	7.43	7.39
FNMA 30yr 3.5	767,566	0.603	63841	4.1	314	40	290,819	↑ 15.2	13.9	1.3	10%	13.42	11.67	9.39
2019	152,205	0.974	2958	4.4	355	3	325,157	↑ 11.3	8.7	2.5	29%	8.47	6.16	-
2018	43,971	0.879	2099	4.2	340	16	328,854	↑ 23.3	22.5	0.8	4%	19.45	14.83	9.46
2017	154,968	0.841	7691	4.1	331	24	300,427	↑ 16.1	14.3	1.8	13%	13.68	11.16	8.14
2016	86,976	0.693	8962	4.1	317	37	268,690	↑ 16.8	15.6	1.2	8%	15.30	13.54	10.97
2015	122,052	0.566	10340	4.1	303	49	281,082	↑ 16.8	15.3	1.5	10%	15.19	13.25	10.81
2014	42,888	0.434	5493	4.2	292	59	275,780	↑ 17.3	15.8	1.5	9%	15.47	13.53	11.04
2013	50,897	0.442	8580	4.0	275	75	254,958	↑ 13.2	12.7	0.5	4%	12.54	11.47	9.82
2012	86,933	0.376	14247	4.0	261	86	261,837	↑ 12.7	12.0	0.7	6%	11.88	10.79	9.20
2011	19,233	0.297	2152	4.0	253	94	281,009	↑ 12.7	12.0	0.7	6%	11.89	10.44	8.70
2010	7,081	0.244	1112	4.1	239	106	278,915	↑ 13.5	12.0	1.5	13%	12.35	10.75	8.99
2009	325	0.251	144	4.0	221	123	258,796	↓ 10.3	10.8	-0.5	-4%	9.88	10.34	8.63
FNMA 30yr 4	621,073	0.489	73374	4.6	316	38	269,830	↑ 23.4	21.8	1.6	7%	20.16	16.57	12.30
2019	74,151	0.955	3199	4.8	354	4	289,959	↑ 17.2	14.4	2.8	20%	13.49	9.81	-
2018	186,815	0.844	7191	4.7	344	13	306,708	↑ 34.5	32.7	1.8	5%	28.98	22.20	14.00
2017	116,062	0.778	9078	4.5	330	26	269,420	↑ 21.1	18.9	2.2	12%	18.24	15.40	11.55
2016	30,068	0.642	6238	4.5	317	37	237,807	↑ 19.8	18.2	1.6	9%	17.61	15.83	13.18
2015	33,326	0.507	7980	4.6	305	49	227,891	↑ 19.3	17.8	1.4	8%	17.38	15.70	13.37
2014	51,256	0.367	9483	4.6	290	62	239,418	↑ 18.2	17.1	1.1	7%	16.60	14.95	12.59
2013	38,857	0.334	7774	4.6	278	71	229,274	↑ 16.6	15.9	0.8	5%	15.19	13.58	11.68
2012	21,711	0.332	7878	4.5	259	87	210,266	↑ 14.1	13.8	0.3	2%	13.41	12.34	10.83
2011	26,731	0.239	6265	4.5	251	96	240,816	↑ 14.4	13.0	1.4	11%	12.96	11.79	10.19
2010	28,447	0.188	5096	4.5	240	106	250,205	↑ 14.7	13.0	1.7	13%	13.27	11.90	10.14
2009	13,235	0.109	2830	4.5	222	123	255,605	↑ 14.6	13.8	0.8	6%	13.29	11.99	10.42
FNMA 30yr 4.5	251,481	0.289	53873	5.1	308	46	241,403	↑ 23.8	22.3	1.6	7%	21.04	17.84	13.51
2019	26,192	0.953	2219	5.3	353	5	259,535	↑ 17.3	14.9	2.3	16%	14.01	10.62	-
2018	102,690	0.841	6923	5.1	345	13	260,579	↑ 31.8	29.5	2.4	8%	27.57	22.30	14.70
2017	28,193	0.726	4910	5.0	331	25	240,473	↑ 23.2	21.8	1.4	7%	20.93	18.55	14.66
2016	5,194	0.574	1618	4.9	317	37	218,941	↓ 21.1	21.1	0.0	0%	19.67	18.27	15.80
2015	3,029	0.516	1476	5.0	303	49	154,508	↓ 17.5	18.0	-0.5	-3%	16.37	15.43	13.58
2014	9,293	0.363	4708	5.0	288	63	179,562	↓ 17.4	17.4	0.0	0%	16.78	15.92	14.04
2013	7,598	0.323	3398	5.0	279	71	184,004	↓ 16.6	16.6	0.0	0%	15.79	14.67	13.17
2012	1,952	0.303	1840	5.0	258	89	175,858	↑ 18.0	13.6	4.4	32%	14.63	14.00	12.60
2011	19,660	0.198	8318	4.9	248	99	215,829	↑ 14.9	14.3	0.6	4%	14.01	12.82	11.41
2010	18,565	0.141	6893	4.9	237	109	233,966	↑ 16.0	14.5	1.5	10%	14.43	12.99	11.38
2009	25,440	0.084	6715	4.9	225	122	237,633	↑ 15.3	14.8	0.6	4%	14.24	12.83	11.26
FNMA 30yr 5	79,120	0.098	47261	5.6	272	80	211,435	↑ 19.6	19.0	0.6	3%	18.09	16.17	13.32
2019	8,515	0.960	1489	5.8	353	5	238,068	↑ 13.9	12.7	1.2	9%	12.00	9.18	-
2018	26,677	0.851	3102	5.7	345	12	221,387	↓ 26.9	26.9	-0.1	0%	24.90	21.13	14.42
2017	865	0.627	270	5.5	330	26	240,417	↑ 28.0	26.1	1.9	7%	25.50	23.15	19.00
2016	721	0.373	550	5.4	288	64	153,796	↓ 18.3	20.2	-1.8	-9%	17.88	16.11	14.50
2015	691	0.301	456	5.4	279	71	180,767	↑ 17.6	16.9	0.8	4%	15.40	15.35	13.66
2014	79	0.271	174	5.5	258	89	164,861	↓ 17.6	25.2	-7.7	-30%	18.53	18.10	15.42
2013	5,588	0.195	4482	5.4	248	100	204,740	↑ 16.2	15.3	0.9	6%	15.03	14.31	13.14
2012	8,697	0.141	4152	5.4	237	111	219,712	↑ 18.0	15.4	2.7	17%	15.72	14.51	13.00
2011	7,875	0.097	4854	5.4	228	120	209,555	↑ 16.5	15.7	0.8	5%	15.21	13.94	12.66
FNMA 30yr 5.5	32,884	0.030	60683	6.0	195	154	177,123	↑ 15.0	14.2	0.8	6%	14.17	13.41	12.59
2019	722	0.948	286	6.3	352	5	200,790	↑ 19.4	14.4	5.0	35%	16.34	12.04	-
2018	2,393	0.864	522	6.2	346	11	217,437	↑ 24.8	23.4	1.4	6%	23.25	19.95	13.47
2017	264	0.191	571	5.9	246	100	154,443	↓ 10.6	15.0	-4.4	-29%	14.15	14.90	13.41
2016	690	0.168	1022	5.9	236	112	186,418	↑ 18.4	17.5	0.9	5%	17.30	15.96	14.39
2015	1,183	0.124	1794	5.9	227	120	177,100	↑ 15.2	14.4	0.8	6%	13.92	14.40	13.09
FNMA 30yr 6	19,162	0.022	61345	6.5	183	165	158,840	↑ 13.6	13.1	0.5	4%	13.09	12.70	12.74
2009	161	0.105	581	6.5	225	122	156,749	↓ 11.6	14.8	-3.2	-22%	13.19	14.82	14.87

# UMBS Prepayment Speeds

## September 2019

### UMBS Jumbos

	Indicative Data							Prepayment Speeds						
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo
15yr Jumbo 2	72	0.469	34	2.6	109	66	546,051	↓ 3.2	15.7	-12.5	-79%	14.12	9.63	8.10
2013	53	0.425	18	2.6	101	75	548,037	↓ 4.2	15.0	-10.8	-72%	16.65	11.65	9.82
15yr Jumbo 2.5	1,594	0.485	199	2.9	121	54	540,091	↑ 10.9	10.2	0.6	6%	9.61	8.77	7.53
2017	91	0.828	18	3.0	153	24	538,412	↑ 8.4	0.9	7.4	*n.m.	7.76	5.42	4.50
2016	579	0.700	25	2.9	141	35	526,670	↓ 9.4	10.3	-1.0	-9%	9.13	8.35	6.96
2015	231	0.486	34	3.0	123	51	544,478	↓ 11.6	13.3	-1.7	-13%	9.51	9.42	7.78
2014	33	0.385	17	3.1	113	59	543,352	↑ 33.1	19.4	13.6	70%	18.97	12.97	9.31
2013	407	0.414	56	3.0	98	76	546,533	↑ 11.2	10.1	1.2	11%	10.11	8.73	8.47
2012	237	0.300	42	3.0	92	82	554,251	↑ 10.6	8.3	2.3	28%	9.24	9.70	8.04
15yr Jumbo 3	346	0.186	174	3.5	105	70	557,209	↓ 13.4	15.9	-2.6	-16%	11.87	12.06	9.99
2017	72	0.736	17	3.5	151	26	557,795	↓ 9.9	21.3	-11.4	-54%	11.00	7.17	7.17
2012	71	0.151	42	3.5	85	88	546,231	↓ 15.7	17.9	-2.1	-12%	12.20	12.43	10.19
2011	134	0.120	43	3.4	81	94	572,417	↑ 14.5	11.7	2.8	24%	10.84	13.54	11.73
15yr Jumbo 3.5	127	0.074	132	3.9	86	88	588,260	↑ 22.5	16.7	5.9	35%	15.41	12.70	11.91
2011	75	0.068	65	3.9	76	97	581,646	↑ 15.6	12.1	3.6	30%	11.89	10.75	10.50
30yr Jumbo 2.5	1,116	0.881	67	3.4	308	44	557,227	↓ 3.5	6.3	-2.8	-45%	4.74	7.18	5.46
2016	466	0.930	30	3.3	316	35	551,840	↓ 2.7	8.0	-5.3	-67%	3.83	7.53	5.18
2012	139	0.561	17	3.5	268	81	551,453	↑ 10.9	4.7	6.1	*n.m.	7.07	7.69	6.35
30yr Jumbo 3	31,849	0.669	858	3.7	302	50	545,911	↑ 10.5	10.1	0.4	4%	9.43	8.32	6.50
2019	2,545	0.988	33	4.0	357	2	602,324	↓ 5.3	8.3	-2.9	-35%	5.04	3.51	-
2018	123	0.938	17	3.8	332	18	562,947	↓ 4.8	11.9	-7.2	-60%	7.37	4.83	2.99
2017	1,693	0.913	63	3.8	330	25	547,453	↑ 13.8	12.4	1.4	11%	10.54	9.41	6.09
2016	12,063	0.788	173	3.7	316	37	535,665	↑ 12.4	10.6	1.8	17%	10.65	9.00	6.82
2015	4,064	0.717	144	3.8	301	51	543,292	↓ 10.3	11.0	-0.7	-6%	10.49	9.13	6.93
2014	575	0.623	26	3.8	292	58	534,659	↓ 9.1	11.6	-2.6	-22%	9.70	7.98	6.00
2013	5,303	0.520	179	3.7	273	77	545,124	↓ 9.7	10.3	-0.7	-6%	9.08	8.31	6.94
2012	5,480	0.500	221	3.7	267	82	545,252	↑ 8.9	8.1	0.8	10%	7.45	6.97	5.72
30yr Jumbo 3.5	26,161	0.510	1230	4.2	316	39	554,052	↑ 22.4	19.3	3.1	16%	18.49	14.70	10.38
2019	3,195	0.968	51	4.4	356	3	607,887	↑ 20.3	9.0	11.4	126%	10.97	7.13	-
2018	1,534	0.876	75	4.3	340	17	576,338	↑ 29.4	29.3	0.0	0%	25.28	19.75	12.68
2017	8,605	0.790	143	4.2	332	25	545,202	↑ 28.8	23.3	5.6	24%	23.02	17.21	11.42
2016	3,727	0.638	117	4.2	320	36	550,477	↑ 23.9	22.4	1.5	7%	20.17	16.71	11.95
2015	2,505	0.461	166	4.1	306	49	538,899	↓ 17.4	19.1	-1.7	-9%	17.16	14.12	10.35
2014	1,070	0.315	83	4.2	293	60	528,161	↓ 12.5	19.5	-7.0	-36%	14.97	12.98	9.94
2013	1,211	0.351	121	4.0	277	74	542,241	↓ 14.8	16.1	-1.3	-8%	14.03	11.94	9.37
2012	3,862	0.269	364	4.0	264	86	543,110	↑ 12.3	12.1	0.2	2%	11.32	9.85	7.69
2011	401	0.156	95	4.1	256	94	561,875	↑ 16.5	13.4	3.0	23%	15.82	11.97	8.91
2010	51	0.157	15	4.2	239	106	600,737	↑ 28.7	21.7	7.0	32%	20.51	14.40	11.47
30yr Jumbo 4	11,636	0.224	1253	4.7	312	43	580,841	↑ 32.9	32.1	0.8	2%	29.75	25.94	17.82
2019	1,235	0.946	51	4.9	355	4	641,557	↑ 28.2	15.7	12.5	79%	19.50	14.34	-
2018	3,472	0.734	123	4.8	344	14	580,333	↓ 46.6	51.7	-5.1	-10%	45.56	40.03	26.23
2017	2,449	0.641	102	4.6	332	25	566,877	↑ 35.4	33.2	2.2	7%	31.01	26.53	18.44
2016	414	0.472	54	4.7	320	38	589,320	↑ 31.2	30.5	0.8	2%	26.26	19.51	14.38
2015	155	0.339	67	4.7	308	48	570,836	↑ 21.1	3.3	17.8	*n.m.	14.11	17.03	13.32
2014	394	0.184	83	4.6	292	62	532,140	↑ 24.9	16.5	8.4	51%	16.96	16.90	13.69
2013	520	0.152	98	4.6	281	71	529,577	↑ 23.2	15.5	7.8	50%	18.48	14.85	10.92
2012	289	0.146	119	4.4	258	89	541,970	↑ 19.0	16.6	2.4	14%	13.63	12.51	10.11
2011	1,385	0.088	340	4.5	254	96	586,759	↑ 17.6	13.8	3.8	28%	14.62	11.64	9.66
2010	1,293	0.076	192	4.5	244	106	587,615	↑ 14.0	13.9	0.1	1%	13.20	12.08	9.92
30yr Jumbo 4.5	2,457	0.068	715	5.1	291	63	598,677	↓ 31.8	33.3	-1.5	-4%	30.27	27.91	20.50
2019	183	0.928	25	5.4	354	4	644,422	↓ 26.0	29.2	-3.1	-11%	21.17	20.30	-
2018	845	0.692	49	5.4	347	11	608,816	↑ 51.6	52.1	-0.4	-1%	48.89	43.98	31.48
2017	125	0.510	27	5.2	329	27	617,962	↓ 20.4	41.1	-20.7	-50%	24.78	24.99	20.44
2011	372	0.050	231	4.9	250	99	597,556	↑ 17.6	15.5	2.1	14%	15.66	15.74	11.73
2010	596	0.037	192	4.9	240	109	583,709	↑ 16.1	14.6	1.5	11%	14.56	14.44	11.38
2009	277	0.028	74	4.9	228	120	572,666	↓ 14.9	16.9	-2.1	-12%	15.57	13.20	11.95
30yr Jumbo 5	476	0.025	274	5.5	247	105	570,715	↓ 25.8	27.0	-1.1	-4%	24.80	25.16	18.92
2011	35	0.051	66	5.3	249	101	611,850	↑ 41.1	29.1	12.0	41%	25.28	20.36	16.21
2010	128	0.028	84	5.4	241	111	566,019	↓ 17.0	25.0	-8.0	-32%	20.08	20.03	16.96
2009	169	0.020	54	5.4	232	119	569,364	↑ 20.1	4.5	15.6	*n.m.	11.35	11.93	11.49

\*n.m. - Not Meaningful

Source: Bloomberg

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# UMBS Prepayment Speeds

## September 2019

### UMBS 105-125 LTV

	Indicative Data							Prepayment Speeds						
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo
<b>30yr 105-125 LTV 3</b>	2,783	0.518	959	3.7	245	76	235,051	↑ 12.3	12.0	0.3	3%	11.67	10.19	9.12
2016	162	0.790	91	3.9	286	37	228,644	↑ 15.2	10.7	4.4	41%	12.18	10.40	7.51
2015	51	0.716	56	3.9	222	50	219,114	↓ 4.4	10.0	-5.6	-56%	6.03	7.87	6.44
2013	1,584	0.520	418	3.7	248	77	232,376	↓ 12.7	13.1	-0.3	-3%	12.46	10.69	9.55
2012	974	0.480	377	3.7	236	82	241,420	↑ 11.7	10.6	1.1	10%	10.53	9.41	8.83
<b>30yr 105-125 LTV 3.5</b>	11,926	0.469	2551	4.1	261	78	236,922	↓ 13.7	14.6	-0.9	-6%	13.42	12.22	10.69
2017	59	0.877	64	4.1	290	27	236,218	↓ 8.9	13.9	-5.0	-36%	11.68	8.52	5.50
2016	308	0.769	132	4.2	307	38	226,351	↓ 8.8	11.0	-2.2	-20%	9.69	10.04	8.86
2015	390	0.707	237	4.2	278	50	225,400	↓ 7.8	9.5	-1.7	-18%	8.69	8.90	7.59
2014	151	0.615	141	4.3	234	60	220,495	↑ 9.6	7.3	2.4	32%	8.19	8.25	7.64
2013	4,363	0.499	850	4.1	266	76	229,941	↓ 14.1	15.0	-0.9	-6%	14.06	12.74	10.90
2012	6,621	0.432	1078	4.1	256	84	243,078	↓ 14.1	15.0	-0.9	-6%	13.61	12.33	10.92
<b>30yr 105-125 LTV 4</b>	7,979	0.430	2636	4.6	267	76	228,758	↑ 16.5	13.1	3.5	26%	14.66	13.58	11.60
2018	42	0.944	26	4.7	321	17	218,263	↑ 15.8	2.5	13.3	*n.m.	7.83	4.10	2.79
2017	250	0.857	107	4.6	319	26	224,080	↑ 10.7	9.5	1.2	13%	9.15	7.45	6.53
2016	183	0.736	103	4.6	311	39	214,046	↑ 10.8	10.7	0.1	1%	9.95	10.38	8.76
2015	501	0.669	216	4.6	298	50	213,719	↓ 11.9	13.4	-1.5	-11%	12.03	12.59	10.95
2014	792	0.581	393	4.7	272	62	217,504	↑ 15.2	12.0	3.2	27%	13.88	12.36	10.64
2013	1,810	0.496	681	4.6	271	73	217,756	↑ 16.6	11.7	5.0	42%	14.31	13.82	12.03
2012	3,947	0.368	859	4.5	257	87	236,891	↑ 17.6	14.2	3.4	24%	15.70	14.44	12.14
2011	356	0.309	168	4.6	238	94	245,086	↑ 20.8	12.0	8.7	73%	17.67	14.42	12.33
2010	97	0.274	79	4.5	234	105	257,298	↓ 11.7	17.5	-5.8	-33%	11.59	10.02	10.06
<b>30yr 105-125 LTV 4.5</b>	3,027	0.342	1471	5.0	264	81	230,829	↑ 18.0	17.1	0.9	5%	16.57	15.40	13.16
2015	32	0.624	59	4.9	299	53	195,776	↓ 15.7	16.9	-1.3	-7%	12.14	17.12	16.30
2014	637	0.532	276	5.1	286	63	209,900	↑ 19.5	13.8	5.7	41%	15.11	15.27	12.70
2013	738	0.472	297	5.1	277	70	213,445	↓ 14.9	16.2	-1.3	-8%	15.21	14.04	12.53
2012	311	0.323	179	4.9	256	89	231,125	↑ 18.4	18.3	0.1	0%	15.81	14.91	13.27
2011	939	0.265	354	5.0	245	97	251,751	↓ 17.6	18.2	-0.6	-4%	17.91	16.32	13.57
2010	292	0.214	205	5.0	238	106	256,831	↑ 25.7	22.7	3.1	14%	21.67	17.82	15.07
<b>30yr 105-125 LTV 5</b>	879	0.204	696	5.4	247	101	249,335	↓ 20.1	22.0	-1.9	-8%	20.27	18.72	16.34
2013	43	0.472	29	5.6	281	70	197,991	↓ 12.0	18.4	-6.4	-35%	19.06	15.13	13.23
2011	505	0.224	308	5.4	247	99	251,365	↓ 21.0	24.3	-3.3	-14%	20.24	18.72	16.08
2010	257	0.160	255	5.5	238	110	258,766	↓ 20.9	21.6	-0.7	-3%	20.70	19.69	17.52
2009	45	0.150	52	5.4	232	117	264,914	↑ 12.9	7.0	5.9	85%	23.79	21.10	17.39
<b>30yr 105-125 LTV 5.5</b>	58	0.154	159	5.9	239	110	255,702	↑ 19.8	14.2	5.6	40%	17.41	23.31	19.48
2010	41	0.152	77	5.9	237	112	257,616	↑ 15.4	11.9	3.5	29%	14.46	22.47	19.72

\*n.m. - Not Meaningful

Source: Bloomberg

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# UMBS Prepayment Speeds

## September 2019

### UMBS 125+ LTV

	Indicative Data							Prepayment Speeds						
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo
<b>30yr 125+ LTV 3</b>	2,341	0.545	676	3.8	255	78	234,481	↓ 10.8	11.5	-0.6	-5%	11.07	10.28	9.46
2013	1,339	0.560	344	3.8	257	77	231,582	↓ 11.1	11.2	0.0	0%	10.74	10.17	9.39
2012	934	0.514	279	3.7	250	81	240,104	↓ 11.1	12.6	-1.4	-11%	12.16	10.82	9.86
<b>30yr 125+ LTV 3.5</b>	12,484	0.502	1829	4.1	262	79	233,227	↓ 13.9	14.1	-0.2	-1%	13.39	12.42	10.87
2016	134	0.825	74	4.2	311	38	211,939	↓ 3.4	3.6	-0.2	*n.m.	2.81	4.69	5.54
2015	176	0.714	124	4.2	280	49	204,633	↑ 8.1	4.3	3.8	*n.m.	7.95	7.99	8.23
2014	54	0.677	59	4.4	241	60	198,194	↑ 13.3	7.8	5.5	70%	8.55	9.14	7.65
2013	4,682	0.539	736	4.1	268	76	224,893	↓ 13.6	13.6	0.0	0%	12.96	11.89	10.50
2012	7,406	0.473	802	4.1	258	83	239,871	↓ 14.5	14.8	-0.4	-2%	14.02	13.02	11.29
<b>30yr 125+ LTV 4</b>	7,001	0.474	1804	4.6	266	78	223,323	↑ 16.0	14.4	1.5	11%	15.17	13.91	11.99
2017	89	0.875	56	4.7	319	26	200,369	↓ 3.2	7.3	-4.1	-57%	5.66	5.64	4.98
2016	87	0.784	70	4.6	313	39	193,683	↑ 7.6	7.6	0.0	1%	7.49	8.37	6.87
2015	248	0.703	155	4.6	298	50	191,148	↑ 9.5	9.3	0.2	2%	10.10	9.41	9.45
2014	413	0.629	243	4.7	274	62	203,562	↑ 14.8	10.2	4.6	45%	11.64	10.05	8.81
2013	1,665	0.539	607	4.6	272	74	212,941	↑ 13.5	11.8	1.7	14%	12.98	12.87	11.51
2012	4,485	0.429	660	4.5	260	85	231,834	↑ 17.7	16.2	1.5	9%	16.86	15.13	12.81
<b>30yr 125+ LTV 4.5</b>	1,699	0.504	803	5.1	275	72	211,217	↓ 16.0	16.1	-0.1	-1%	15.16	14.25	12.36
2014	478	0.605	238	5.1	284	64	199,885	↓ 12.5	13.5	-1.0	-7%	11.83	11.59	10.48
2013	776	0.541	293	5.1	276	71	209,925	↑ 15.3	15.0	0.3	2%	15.18	13.82	11.97
2012	406	0.372	168	5.0	260	87	229,305	↓ 21.1	22.0	-0.9	-4%	19.17	18.32	15.24
<b>30yr 125+ LTV 5</b>	86	0.524	80	5.5	282	67	183,346	↓ 11.5	13.8	-2.3	-17%	13.20	13.09	12.47
2014	43	0.549	32	5.4	288	64	183,847	↓ 2.7	14.6	-12.0	-82%	8.63	10.56	10.29
2013	43	0.505	37	5.6	278	70	181,674	↑ 19.4	13.0	6.4	49%	17.55	15.59	14.63

\*n.m. - Not Meaningful

Source: Bloomberg

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# UMBS Prepayment Speeds

## September 2019

### UMBS Relocation

	Indicative Data							Prepayment Speeds						
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Sep	Aug	Chg	% Chg	3mo	6mo	12mo
15yr RELO 2	30	0.406	18	2.6	117	53	309,006	↑24.4	24.1	0.3	1%	26.44	20.86	16.02
2015	13	0.410	7	2.6	115	50	302,042	↑26.3	3.4	22.9	*n.m.	25.05	18.51	14.95
15yr RELO 2.5	171	0.321	85	3.0	114	59	280,892	↓22.1	24.7	-2.6	-10%	20.80	18.97	16.78
2014	69	0.329	41	3.0	113	61	271,938	↓20.7	25.9	-5.2	-20%	19.44	17.28	15.27
30yr RELO 2.5	225	0.465	40	3.1	285	65	323,922	↑14.4	11.3	3.1	28%	13.92	12.45	11.89
2016	66	0.738	10	3.1	319	35	328,559	↑19.6	14.1	5.5	39%	17.82	13.48	12.69
2013	112	0.409	25	3.1	272	77	321,987	↑13.7	10.0	3.8	38%	12.37	12.24	12.12
2012	44	0.385	3	3.0	266	80	312,331	↓8.0	10.8	-2.8	-26%	12.45	12.00	10.65
30yr RELO 3	3,992	0.615	345	3.8	314	39	330,826	↓17.0	18.8	-1.9	-10%	17.40	15.24	12.37
2019	95	0.984	15	3.9	355	3	376,714	↑8.1	2.0	6.1	*n.m.	5.83	3.34	-
2018	496	0.899	39	4.1	341	15	339,129	↑20.7	15.3	5.5	36%	15.49	10.70	7.81
2017	1,319	0.815	94	3.8	330	24	332,559	↓15.5	19.8	-4.3	-22%	17.52	14.93	11.21
2016	485	0.659	22	3.6	317	36	322,673	↓17.8	18.7	-0.9	-5%	20.17	18.81	16.40
2015	821	0.545	58	3.7	301	50	324,841	↓17.8	19.3	-1.5	-8%	17.80	15.78	13.47
2014	274	0.453	45	3.9	289	59	331,457	↑21.9	20.3	1.6	8%	19.25	16.81	13.66
2013	257	0.378	34	3.5	274	75	325,315	↓13.7	20.9	-7.2	-34%	16.49	16.21	13.69
2012	215	0.342	31	3.5	262	86	326,645	↓14.3	19.4	-5.1	-26%	16.24	16.18	13.01
2011	30	0.417	7	3.8	245	93	338,126	↓1.6	26.9	-25.3	-94%	10.93	12.90	12.29
30yr RELO 3.5	1,522	0.392	198	4.1	296	54	319,481	↓20.4	21.9	-1.5	-7%	19.68	16.78	13.70
2018	349	0.894	25	4.3	342	14	345,601	↑22.2	20.5	1.7	8%	17.18	12.08	8.44
2017	178	0.730	15	4.1	325	28	327,285	↓27.2	28.4	-1.2	-4%	26.76	21.75	16.74
2014	485	0.350	64	4.2	288	62	299,684	↓18.3	24.1	-5.8	-24%	21.27	18.88	16.20
2013	157	0.314	26	4.1	277	71	306,354	↑24.4	21.6	2.8	13%	21.19	19.11	16.04
2012	95	0.275	18	3.9	256	90	317,768	↑21.6	15.1	6.6	44%	17.05	14.16	11.45
2011	122	0.253	28	4.0	249	95	325,236	↓15.3	19.1	-3.8	-20%	15.06	12.88	11.21
2010	107	0.219	14	3.9	238	105	323,798	↓8.1	12.4	-4.3	-35%	9.72	13.51	11.76
30yr RELO 4	432	0.157	142	4.5	267	81	307,846	↓18.6	21.9	-3.3	-15%	20.32	16.94	13.96
2014	82	0.226	37	4.6	286	65	277,122	↓17.8	21.4	-3.6	-17%	21.51	17.95	16.16
2011	140	0.128	47	4.4	245	99	300,835	↑22.5	18.1	4.4	25%	22.91	18.48	15.02
2010	116	0.107	25	4.4	236	109	313,551	↓18.6	26.4	-7.9	-30%	21.01	18.22	13.42
30yr RELO 4.5	72	0.040	278	5.0	208	138	249,485	↓12.3	17.6	-5.3	-30%	16.04	14.96	15.92
2011	28	0.091	18	4.8	243	101	268,963	↓12.6	27.0	-14.4	-53%	23.42	15.32	18.81

\*n.m. - Not Meaningful

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