VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS 10yr

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 10yr 2	7,592	0.449	551	2.6	102	16	247,526	17.1	16.5	0.6	4%	16.00	14.46	14.40	0.04	0.09	0.08	0.18	0.41	0.03	0.03	0.00	0.00	99.30	0.49	0.21
2020	6,122	0.902	121	2.6	111	6	250,757	16.3	14.5	1.8	13%	14.16	11.55	8.20	0.02	0.08	0.06	0.03	0.45	0.03	0.03	-	-	99.38	0.52	0.1
2019	74	0.662	16	2.8	101	16	273,935	33.7	33.1	0.6	2%	29.62	29.79	24.30	0.00	0.00	0.00	0.43	0.00	0.00	0.00	-	-	98.89	-	1.11
2017	12	0.468	8	2.6	71	45	261,772	9.4	13.0	-3.6	-28%	9.01	17.45	14.63	0.00	0.00	0.00	0.00	0.56	0.00	0.00	-	-	1.00	-	-
2016	324	0.326	67	2.6	62	54	253,298	24.6	24.7	-0.1	0%	25.34	24.03	20.32	0.63	0.21	0.22	0.11	0.27	0.01	0.11	-	0.03	98.61	0.46	0.9
2015	47	0.210	41	2.7	48	68	230,203	24.8	30.4	-5.6	-18%	29.23	26.83	23.67	0.00	0.00	0.00	0.00	0.22	0.05	0.03	-	-	98.79	0.30	0.91
2014	32	0.166	24	2.9	40	76	231,422	22.7	21.8	0.9	4%	20.83	21.60	19.76	0.00	0.54	1.15	0.79	0.06	0.00	0.11	-	-	98.63	0.51	0.86
2013	510	0.080	210	2.7	25	93	213,382	24.9	25.6	-0.7	-3%	25.57	25.32	22.87	0.00	0.07	0.09	0.07	0.27	0.08	0.09	0.02	-	98.78	0.36	0.84
2012	89	0.050	61	2.7	19	99	197,722	28.3	33.2	-4.9	-15%	31.03	29.19	26.25	0.00	0.00	0.20	0.11	0.32	0.03	0.02	-	-	98.69	0.61	0.7
FNMA 10yr 2.5	7,787	0.168	1,634	3.0	68	48	221,031	24.8	25.8	-1.0	-4%	25.47	24.68	21.98	0.13	0.13	0.17	0.15	0.32	0.10	0.05	0.01	0.02	98.65	0.44	0.88
2020	1,871	0.802	75	3.1	107	9	232,771	25.9	24.3	1.6	7%	24.35	21.69	15.41	0.23	0.13	0.09	0.13	0.28	0.05	0.02	-	0.02	99.34	0.33	0.31
2019	897	0.630	41	3.1	100	16	241,825	30.9	34.3	-3.4	-10%	32.94	31.80	26.81	0.00	0.11	0.15	0.13	0.21	0.15	0.07	-	0.03	98.56	0.32	1.09
2018	12	0.386	10	3.2	80	35	234,933	37.0	38.6	-1.5	-4%	28.47	35.38	30.10	0.00	0.00	0.00	0.00	0.00	1.51	0.25	-	-	98.24	1.51	0.25
2017	475	0.385	72	3.0	72	43	234,631	23.5	22.7	0.8	3%	24.48	24.60	22.87	0.00	0.08	0.12	0.06	0.21	0.08	0.04	0.02	0.03	98.59	0.25	1.11
2016	1,836	0.311	165	2.9	61	54	221,879	21.5	22.3	-0.8	-4%	22.28	22.25	20.04	0.12	0.19	0.24	0.17	0.34	0.13	0.04	0.00	0.01	98.42	0.49	1.08
2015	957	0.197	193	3.0	48	68	211,733	22.6	22.2	0.5	2%	22.80	22.97	21.60	0.17	0.16	0.21	0.20	0.34	0.05	0.05	0.01	0.00	98.47	0.48	1.04
2014	498	0.124	189	3.2	37	79	203,263	21.3	23.2	-1.9	-8%	22.95	23.55	22.36	0.35	0.12	0.16	0.14	0.44	0.12	0.06	0.02	0.01	98.37	0.59	1.01
2013	665	0.074	361	3.0	25	93	182,410	23.8	27.6	-3.9	-14%	26.03	25.12	23.03	0.00	0.07	0.23	0.16	0.45	0.14	0.08	0.02	0.03	97.99	0.71	1.24
2012	561	0.035	489	3.0	16	102	212,007	30.1	34.2	-4.2	-12%	32.24	30.86	28.22	0.00	0.08	0.15	0.11	0.34	0.10	0.03	0.03	0.02	98.68	0.48	0.79
2011	14	0.012	38	3.1	9	111	201,175	27.2	40.2	-13.0	-32%	38.11	38.86	33.75	0.00	0.00	0.00	0.06	0.27	0.10	0.00	-	-	99.38	0.37	0.25
FNMA 10yr 3	3,712	0.102	1,347	3.5	65	51	182,054	26.4	26.5	-0.2	-1%	26.82	26.78	24.54	0.00	0.10	0.19	0.19	0.61	0.12	0.11	0.03	0.03	97.73	0.74	1.47
2020	203	0.760	29	3.6	105	11	179,772	32.4	24.2	8.3	34%	25.98	26.35	18.52	0.00	0.00	0.00	0.07	0.63	0.04	0.13	-	-	98.30	0.51	1.19
2019	673	0.585	46	3.6	97	18	214,166	35.6	30.6	4.9	16%	33.54	32.85	28.87	0.00	0.03	0.14	0.18	0.50	0.10	0.03	-	0.09	97.76	0.53	1.62
2018	224	0.423	36	3.5	79	35	212,361	19.4	25.3	-5.9	-23%	23.93	27.24	25.90	0.00	0.00	0.19	0.12	0.48	0.03	0.05	0.06	0.11	98.56	0.64	0.64
2017	985	0.377	98	3.4	71	43	189,902	23.2	25.0	-1.8	-7%	24.07	24.28	22.82	0.00	0.07	0.22	0.14	0.51	0.12	0.15	0.05	0.01	97.76	0.63	1.54
2016	426	0.282	88	3.5	59	55	164,022	21.8	19.9	1.9	10%	21.58	21.79	20.56	0.00	0.01	0.05	0.09	0.66	0.10	0.11	0.06	0.01	97.36	0.80	1.76
2015	377	0.197	128	3.5	48	66	160,967	21.5	21.2	0.4	2%	21.94	22.11	20.43	0.00	0.15	0.28	0.22	0.98	0.21	0.17	-	0.02	97.28	1.20	1.51
2014	321	0.119	161	3.6	37	79	148,097	22.5	26.5	-4.0	-15%	24.69	22.99	21.32	0.04	0.19	0.27	0.17	0.64	0.17	0.04	0.04	-	97.44	0.98	1.54
2013	252	0.077	240	3.6	28	90	147,626	23.6	28.5	-4.9	-17%	27.06	25.91	23.16	0.00	0.40	0.30	0.21	0.83	0.17	0.15	0.04	-	97.40	1.00	1.56
2012	131	0.022	293	3.5	14	105	163,971	32.3	34.5	-2.1	-6%	33.80	32.32	29.47	0.00	0.18	0.14	0.13	0.61	0.19	0.09	0.02	0.00	98.02	0.72	1.24
2011	119	0.007	228	3.4	7	112	197,966	36.8	41.5	-4.7	-11%	40.55	39.36	35.91	0.00	0.17	0.25	0.16	0.40	0.07	0.05	-	0.04	98.68	0.46	0.82
FNMA 10yr 3.5	1,450	0.147	576	4.0	76	38	160,138	27.5	27.9	-0.4	-1%	28.03	28.97	28.09	0.05	0.13	0.28	0.20	0.80	0.21	0.11	0.04	0.03	96.94	1.02	1.97
2020	28	0.775	11	4.1	105	12	147,988	16.9	21.6	-4.7	-22%	25.35	20.64	16.97	2.73	0.92	1.49	1.02	1.40	0.23	0.00	-	-	96.09	2.12	1.79
2019	366	0.482	49	4.1	92	21	177,332	31.2	33.2	-1.9	-6%	32.78	34.39	33.34	0.00	0.04	0.18	0.11	0.36	0.27	0.05	0.04	0.03	97.29	0.60	2.04
2018	518	0.410	73	4.0	82	32	180,630	29.2	26.8	2.4	9%	27.85	29.43	28.91	0.00	0.00	0.23	0.15	0.73	0.14	0.15	0.06	0.06	97.11	0.90	1.87
2017	334	0.371	53	3.9	71	43	136,665	22.1	23.4	-1.3	-6%	23.16	23.61	22.18	0.00	0.33	0.41	0.34	1.25	0.31	0.07	-	0.02	96.68	1.28	2.02
2016	46	0.274	30	4.1	59	56	119,696	25.2	26.7	-1.5	-6%	25.54	20.16	17.79	0.00	0.00	0.25	0.13	1.09	0.14	0.13	-	-	96.57	1.24	2.18
2015	30	0.191	31	4.2	48	67	105,651	19.2	13.6	5.6	41%	16.03	20.51	18.33	0.00	0.00	0.00	0.12	1.42	0.27	0.08	0.11	-	94.81	2.02	3.06
2014	61	0.108	64	4.2	35	80	117,422	22.0	27.3	-5.3	-19%	25.37	24.27	22.79	0.00	0.48	0.24	0.16	0.69	0.11	0.48	0.03	-	96.01	1.76	2.2
2013	47	0.078	76	4.1	28	89	113,137	25.0	23.0	2.0	8%	24.47	22.86	20.44	0.00	0.04	0.28	0.18	0.90	0.19	0.13	-	0.00	97.52	1.32	1.16
2012	8	0.021	50	4.1	13	106	117,778	28.4	35.1	-6.7	-19%	28.27	29.29	27.87	0.00	0.00	0.20	0.10	0.64	0.14	0.00	-	-	95.94	1.85	2.21
2011	13	0.003	139	4.0	5	114	153,100	56.2	58.8	-2.6	-4%	56.93	51.51	43.72	0.00	0.24	0.49	0.28	0.79	0.06	0.10	0.03	-	97.53	0.83	1.61
FNMA 10yr 4	290	0.174	192	4.6	84	30	124,660	28.0	25.2	2.8	11%	29.24	28.73	27.39	0.00	0.23	0.38	0.24	0.84	0.34	0.07	0.01	-	97.24	0.85	1.89
2019	45	0.604	19	4.7	94	22	101,538	24.2	18.6	5.5	30%	21.81	20.78	19.21	0.00	0.00	0.73	0.36	0.51	0.41	0.00	-	-	98.08	0.75	1.16
2018	234	0.428	61	4.6	84	30	130,816	28.2	26.0	2.2	9%	30.27	29.91	28.25	0.00	0.29	0.32	0.21	0.93	0.34	0.08	0.02	-	97.13	0.88	1.97

*n.m. - Not Meaningful

Source: Bloomberg

VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS 15yr

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	*Factor*	*# of Pools*	*WAC*	*WAM*	*WALA*	*WAOLS*	*Mar*	*Feb*	*Chg*	*% Chg*	*3mo*	*6mo*	*12mo*	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 15yr 1	3,273	0.989	24	1.9	177	2	373,920	**1.8**	1.4	0.4	***n.m.**	1.76	-	-	0.00	0.00	-	-	0.44	0.02	0.02	-	-	99.54	0.43	0.03
2020	1,838	0.985	19	1.9	177	2	363,324	**2.6**	1.4	1.1	***n.m.**	2.00	-	-	0.00	0.00	-	-	0.64	0.03	0.03	-	-	99.22	0.73	0.05
FNMA 15yr 1.5	95,157	0.964	1,137	2.3	175	4	333,534	**7.3**	6.6	0.7	**11%**	6.51	5.35	3.39	0.05	0.05	0.03	0.02	0.44	0.04	0.02	-	-	99.44	0.50	0.06
2020	82,047	0.959	991	2.3	174	4	333,748	**8.3**	6.6	1.7	**25%**	6.82	5.51	-	0.06	0.05	0.03	-	0.49	0.05	0.02	-	-	99.36	0.56	0.07
FNMA 15yr 2	203,336	0.821	6,202	2.7	167	10	288,875	**18.6**	17.4	1.2	**7%**	17.03	14.56	11.01	0.05	0.06	0.08	0.06	0.44	0.04	0.03	0.00	0.00	99.22	0.52	0.26
2020	177,598	0.905	3,688	2.7	171	6	289,102	**19.2**	16.9	2.4	**14%**	16.81	13.88	8.86	0.05	0.06	0.07	0.05	0.45	0.04	0.03	0.00	0.00	99.23	0.55	0.22
2019	1,957	0.683	64	2.8	160	16	317,010	**42.1**	36.1	6.0	**16%**	37.68	34.45	25.34	0.00	0.00	0.25	0.16	0.34	0.10	0.11	-	-	97.87	0.31	1.83
2017	66	0.624	30	2.6	131	44	284,974	**16.3**	11.6	4.7	**40%**	13.14	16.63	14.75	0.00	0.00	0.00	0.00	0.48	0.52	0.00	-	-	96.82	1.56	1.62
2016	4,255	0.482	344	2.6	120	54	284,590	**24.8**	26.0	-1.2	**-5%**	24.85	23.73	19.00	0.00	0.02	0.25	0.15	0.28	0.04	0.05	0.02	0.02	98.56	0.38	1.02
2015	476	0.370	172	2.7	105	69	285,721	**25.6**	21.0	4.6	**22%**	23.67	23.54	19.91	0.00	0.04	0.26	0.15	0.20	0.04	0.03	0.15	0.03	97.95	0.51	1.36
2014	94	0.428	40	2.7	97	77	279,573	**8.8**	14.2	-5.5	**-39%**	13.80	18.08	14.76	0.00	0.00	0.00	0.05	0.05	0.27	0.00	0.00	-	98.25	0.58	1.17
2013	4,173	0.262	1,015	2.6	80	94	267,503	**17.8**	18.6	-0.8	**-4%**	18.61	18.00	15.67	0.07	0.22	0.25	0.15	0.28	0.07	0.04	0.01	0.01	98.67	0.39	0.92
2012	2,223	0.231	477	2.6	75	99	249,105	**19.0**	18.9	0.0	**0%**	19.54	18.83	16.71	0.10	0.06	0.16	0.11	0.24	0.06	0.03	-	0.00	98.90	0.44	0.66
FNMA 15yr 2.5	171,315	0.414	20,635	3.1	132	43	257,569	**28.5**	26.2	2.3	**9%**	27.26	26.53	22.21	0.08	0.13	0.20	0.16	0.40	0.10	0.08	0.01	0.01	98.29	0.52	1.17
2020	56,885	0.830	2,772	3.1	168	9	247,633	**27.5**	23.9	3.6	**15%**	24.90	22.58	15.42	0.09	0.12	0.16	0.14	0.42	0.08	0.06	0.00	0.00	98.80	0.53	0.66
2019	28,441	0.591	1,053	3.2	159	16	282,012	**43.8**	39.6	4.2	**11%**	41.43	41.09	34.66	0.07	0.15	0.24	0.19	0.36	0.14	0.09	0.02	0.01	97.84	0.41	1.73
2018	394	0.478	85	3.2	138	36	287,258	**42.6**	41.1	1.5	**4%**	39.95	38.18	32.60	0.00	0.10	0.17	0.09	0.45	0.09	0.19	0.02	0.02	96.62	0.60	2.73
2017	5,245	0.487	695	3.0	131	43	272,012	**32.6**	30.8	1.8	**6%**	31.85	31.57	26.72	0.08	0.19	0.31	0.20	0.40	0.14	0.10	0.04	0.01	97.63	0.58	1.74
2016	29,543	0.438	3,142	2.9	119	54	261,348	**26.0**	24.1	1.9	**8%**	25.15	25.07	21.22	0.07	0.14	0.22	0.16	0.40	0.11	0.09	0.02	0.01	97.96	0.52	1.49
2015	11,529	0.334	2,035	3.0	105	68	261,836	**24.5**	23.5	1.0	**4%**	24.55	24.35	21.21	0.10	0.19	0.22	0.20	0.38	0.10	0.09	0.02	0.02	98.07	0.51	1.38
2014	2,625	0.264	1,045	3.1	97	76	262,181	**25.0**	25.3	-0.3	**-1%**	25.71	25.39	22.19	0.10	0.09	0.24	0.17	0.34	0.14	0.11	0.01	0.01	98.24	0.49	1.25
2013	15,802	0.245	4,069	2.9	80	94	239,123	**18.0**	18.3	-0.3	**-1%**	18.66	18.21	16.18	0.12	0.15	0.22	0.17	0.49	0.10	0.09	0.01	0.02	98.01	0.65	1.31
2012	20,043	0.190	5,469	3.0	72	102	254,483	**19.2**	19.9	-0.7	**-3%**	20.15	19.82	17.75	0.06	0.08	0.16	0.12	0.34	0.08	0.07	0.01	0.01	98.50	0.52	0.96
2011	390	0.138	183	3.1	63	111	237,449	**19.3**	20.3	-0.9	**-5%**	21.14	21.05	19.40	0.00	0.00	0.22	0.16	0.25	0.16	0.03	-	0.03	98.47	0.46	1.04
FNMA 15yr 3	104,768	0.299	27,670	3.5	119	55	221,064	**28.5**	27.1	1.5	**5%**	28.57	28.71	25.98	0.14	0.20	0.30	0.23	0.64	0.19	0.14	0.03	0.02	97.08	0.79	2.08
2020	7,959	0.812	874	3.7	166	10	206,274	**28.7**	24.8	4.0	**16%**	26.65	23.91	16.72	0.20	0.26	0.32	0.23	0.60	0.15	0.11	0.03	-	97.78	0.70	1.49
2019	18,751	0.543	1,451	3.6	157	18	238,352	**41.6**	38.1	3.4	**9%**	40.13	40.52	37.03	0.15	0.23	0.33	0.23	0.55	0.20	0.17	0.03	0.02	96.88	0.57	2.5
2018	4,457	0.406	614	3.7	139	34	253,330	**41.0**	37.0	4.0	**11%**	40.33	40.97	38.76	0.11	0.31	0.33	0.24	0.59	0.18	0.21	0.06	0.02	96.75	0.69	2.48
2017	20,970	0.448	2,977	3.5	131	43	231,045	**30.6**	29.0	1.7	**6%**	30.91	31.38	28.17	0.20	0.21	0.32	0.26	0.66	0.20	0.16	0.04	0.02	96.75	0.77	2.41
2016	9,012	0.402	2,932	3.5	118	56	193,980	**22.2**	21.6	0.6	**3%**	22.88	23.07	20.77	0.11	0.18	0.31	0.28	0.84	0.25	0.17	0.04	0.03	96.25	1.07	2.6
2015	12,287	0.323	3,616	3.5	106	67	212,129	**22.7**	22.2	0.5	**2%**	23.23	23.41	20.60	0.13	0.21	0.30	0.26	0.71	0.21	0.14	0.03	0.02	96.92	0.94	2.09
2014	9,117	0.245	3,337	3.5	94	79	215,486	**20.4**	21.1	-0.8	**-4%**	21.85	22.20	20.19	0.13	0.20	0.33	0.29	0.76	0.20	0.13	0.03	0.03	97.09	0.95	1.9
2013	7,466	0.218	3,816	3.5	83	90	201,615	**18.8**	19.5	-0.7	**-3%**	19.93	19.90	17.92	0.08	0.23	0.33	0.26	0.68	0.18	0.12	0.01	0.02	97.17	0.98	1.81
2012	8,025	0.152	5,460	3.5	68	105	208,109	**19.6**	19.7	-0.1	**-1%**	20.40	19.93	18.21	0.07	0.08	0.16	0.15	0.58	0.13	0.09	0.01	0.01	97.81	0.78	1.39
2011	6,007	0.112	2,185	3.5	62	112	236,919	**20.3**	20.7	-0.5	**-2%**	21.47	21.12	19.41	0.05	0.05	0.14	0.11	0.37	0.10	0.04	0.01	0.01	98.40	0.54	1.04
2010	711	0.074	404	3.6	52	123	220,511	**22.1**	26.7	-4.6	**-17%**	24.41	23.76	21.64	0.00	0.08	0.23	0.15	0.29	0.12	0.02	-	0.01	98.83	0.49	0.67
FNMA 15yr 3.5	43,597	0.214	20,562	4.0	117	56	183,140	**28.0**	27.2	0.7	**3%**	28.59	28.99	27.92	0.21	0.29	0.39	0.33	0.88	0.27	0.21	0.05	0.02	96.16	1.06	2.72
2020	1,549	0.779	315	4.1	164	11	190,545	**32.9**	26.3	6.6	**25%**	28.60	27.43	19.74	0.52	0.57	0.82	0.60	0.87	0.22	0.22	0.03	0.02	96.52	0.92	2.51
2019	10,254	0.525	1,403	4.1	154	20	196,327	**37.0**	34.2	2.8	**8%**	36.83	36.92	35.39	0.26	0.33	0.40	0.32	0.78	0.32	0.26	0.07	0.03	95.71	0.83	3.36
2018	8,160	0.387	1,736	4.1	141	32	210,594	**36.9**	36.1	0.7	**2%**	37.63	39.26	39.52	0.21	0.30	0.39	0.31	0.82	0.27	0.25	0.06	0.02	95.92	0.96	3.04
2017	5,749	0.471	1,999	4.0	129	44	155,198	**22.8**	21.7	1.1	**5%**	23.47	23.34	21.78	0.26	0.40	0.52	0.45	1.18	0.36	0.24	0.05	0.03	95.15	1.39	3.37
2016	1,386	0.405	994	4.0	116	56	129,440	**17.6**	16.6	1.0	**6%**	17.81	18.10	17.04	0.18	0.30	0.51	0.42	1.12	0.37	0.26	0.04	0.04	95.58	1.20	3.15
2015	1,851	0.331	1,523	4.0	105	67	133,280	**19.9**	19.3	0.6	**3%**	19.88	19.41	17.30	0.49	0.43	0.47	0.42	1.23	0.37	0.19	0.03	0.01	95.70	1.46	2.8
2014	3,367	0.245	2,586	4.1	93	80	152,430	**18.2**	18.9	-0.7	**-4%**	19.49	19.45	17.72	0.23	0.27	0.35	0.36	1.24	0.34	0.22	0.05	0.02	95.55	1.57	2.82
2013	2,669	0.212	2,015	4.0	85	89	163,867	**17.0**	18.0	-1.1	**-6%**	18.73	18.95	17.35	0.03	0.22	0.35	0.31	1.09	0.23	0.14	0.05	0.01	96.44	1.37	2.13
2012	1,077	0.141	2,030	4.0	68	106	150,153	**18.7**	22.0	-3.3	**-15%**	20.44	20.04	18.28	0.00	0.16	0.25	0.28	0.81	0.23	0.12	0.04	0.02	96.98	1.13	1.83
2011	3,740	0.093	3,388	3.9	59	115	195,597	**18.1**	21.2	-3.1	**-15%**	20.17	20.21	18.69	0.06	0.12	0.26	0.20	0.57	0.14	0.11	0.02	0.01	97.65	0.87	1.46
2010	3,747	0.058	2,408	3.9	51	124	209,818	**20.4**	22.0	-1.6	**-7%**	22.01	21.79	20.12	0.04	0.06	0.14	0.13	0.48	0.10	0.07	0.01	0.02	98.32	0.66	0.99
2009	43	0.036	156	4.0	38	139	196,135	**28.8**	29.0	-0.2	**-1%**	24.86	21.08	20.82	0.00	0.00	0.27	0.25	0.24	0.13	0.01	-	-	98.00	0.65	1.35
FNMA 15yr 4	12,911	0.080	11,036	4.5	104	70	163,310	**26.6**	26.8	-0.2	**-1%**	27.87	27.87	27.04	0.13	0.36	0.47	0.43	1.08	0.28	0.20	0.06	0.04	95.80	1.30	2.82
2020	91	0.834	41	4.5	162	11	122,682	**27.3**	19.5	7.8	**40%**	22.25	20.56	14.14	0.00	0.77	1.04	0.52	1.38	0.14	0.17	-	-	96.92	1.27	1.81
2019	1,495	0.615	478	4.7	151	21	140,821	**26.8**	27.5	-0.6	**-2%**	27.97	27.48	25.76	0.07	0.51	0.61	0.56	1.18	0.34	0.23	0.11	0.06	94.92	1.19	3.73
2018	5,476	0.436	1,264	4.6	142	31	158,639	**32.0**	31.1	0.8	**3%**	33.48	34.08	34.13	0.19	0.50	0.58	0.50	1.30	0.34	0.27	0.07	0.04	94.86	1.44	3.59
2017	384	0.435	186	4.5	129	44	142,029	**26.1**	25.0	1.1	**4%**	25.42	25.35	23.04	0.00	0.76	0.90	0.72	1.22	0.32	0.22	0.15	0.06	93.84	1.61	4.35

VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS 15yr

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	*Factor*	*# of Pools*	*WAC*	*WAM*	*WALA*	*WAOLS*	*Mar*	*Feb*	*Chg*	*% Chg*	*3mo*	*6mo*	*12mo*	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2016	19	0.396	29	4.4	116	57	117,425	**27.7**	21.7	6.1	**28%**	32.62	27.35	21.13	0.00	1.55	0.78	0.39	0.99	0.00	0.35	-	-	96.84	0.61	2.54
2014	92	0.235	226	4.7	89	82	89,158	**15.4**	18.7	-3.3	**-18%**	19.64	18.09	17.74	1.00	1.30	0.84	0.59	1.34	0.35	0.16	0.03	-	94.95	1.94	3.08
2013	151	0.222	302	4.6	84	88	101,742	**21.6**	19.8	1.8	**9%**	20.48	19.13	16.96	0.00	0.00	0.27	0.33	1.50	0.29	0.20	0.04	-	94.84	2.12	3.01
2012	83	0.127	348	4.5	67	107	120,411	**19.0**	20.1	-1.0	**-5%**	21.31	22.31	19.73	0.00	0.00	0.04	0.06	0.95	0.43	0.13	-	0.02	96.21	1.92	1.85
2011	1,773	0.074	2,727	4.4	56	118	170,894	**19.9**	21.2	-1.4	**-6%**	21.12	20.38	18.89	0.07	0.15	0.27	0.21	0.90	0.21	0.15	0.03	0.01	96.82	1.22	1.92
2010	1,974	0.040	2,825	4.4	47	128	183,146	**20.6**	22.0	-1.4	**-7%**	21.82	21.42	19.77	0.17	0.15	0.29	0.28	0.71	0.17	0.11	0.01	0.00	97.33	1.10	1.55
2009	1,343	0.020	2,348	4.5	37	139	192,080	**22.4**	24.2	-1.8	**-8%**	23.54	23.06	21.20	0.00	0.08	0.28	0.25	0.71	0.20	0.11	0.03	0.06	97.55	1.00	1.36
2008	23	0.010	212	4.6	25	153	199,537	**25.8**	16.2	9.6	**59%**	24.17	24.23	22.63	0.00	0.00	0.00	0.05	0.50	0.11	0.07	0.03	-	98.03	0.66	1.28
FNMA 15yr 4.5	1,913	0.027	5,895	4.9	67	108	154,294	**22.0**	23.3	-1.3	**-6%**	23.42	22.76	21.21	0.46	0.47	0.50	0.52	1.36	0.30	0.24	0.03	0.05	95.31	1.81	2.81
2020	16	0.840	9	5.2	164	12	167,688	**28.1**	21.6	6.5	**30%**	21.03	15.43	12.72	0.00	0.00	0.00	0.00	1.55	0.00	0.39	-	-	97.57	0.24	2.19
2019	229	0.646	121	5.2	152	21	126,095	**24.2**	23.9	0.2	**1%**	25.00	24.30	23.00	0.00	0.51	0.49	0.62	1.68	0.38	0.55	0.03	-	92.93	2.11	4.93
2018	198	0.514	67	5.2	146	27	141,641	**29.2**	27.4	1.8	**6%**	30.81	29.86	28.35	3.64	1.46	0.90	0.85	2.21	0.50	0.29	0.06	0.07	92.46	2.36	5.05
2011	249	0.078	924	4.8	56	118	139,965	**20.6**	20.1	0.6	**3%**	21.34	20.31	19.04	0.00	0.23	0.61	0.57	1.44	0.35	0.24	0.01	0.04	95.39	1.83	2.73
2010	432	0.042	1,295	4.8	45	130	149,335	**19.3**	22.8	-3.6	**-16%**	22.06	21.36	19.81	0.14	0.51	0.58	0.47	0.99	0.26	0.15	0.04	0.07	95.80	1.72	2.36
2009	636	0.022	2,126	4.9	38	139	168,492	**20.5**	22.5	-2.0	**-9%**	21.72	21.40	19.58	0.00	0.18	0.28	0.32	1.27	0.23	0.18	0.01	0.05	96.48	1.68	1.77
2008	136	0.006	979	5.1	24	154	194,048	**24.5**	27.5	-3.0	**-11%**	25.64	24.79	23.19	0.56	0.72	0.65	0.40	0.99	0.31	0.12	0.01	0.04	95.86	1.55	2.54
2007	10	0.005	247	5.3	17	161	176,514	**21.2**	28.2	-7.0	**-25%**	26.10	23.35	20.76	0.00	0.39	0.19	0.30	2.10	0.25	0.10	-	-	94.74	1.71	3.55
FNMA 15yr 5	265	0.008	3,325	5.6	29	148	155,736	**23.3**	22.3	0.9	**4%**	22.99	22.69	22.20	0.21	0.29	0.55	0.50	1.49	0.42	0.21	0.05	0.05	94.69	2.10	3.11
2010	18	0.052	185	5.4	46	130	118,121	**17.3**	22.4	-5.1	**-23%**	19.44	19.86	20.43	0.00	0.82	0.41	0.34	2.04	0.26	0.00	0.14	-	95.31	2.65	1.91
2009	53	0.030	586	5.5	38	139	124,551	**24.5**	25.1	-0.6	**-2%**	22.40	20.73	19.09	0.00	0.05	0.60	0.41	1.48	0.27	0.32	-	-	94.81	1.64	3.54
2008	149	0.008	1,325	5.6	25	153	167,924	**23.3**	20.6	2.7	**13%**	22.57	22.43	20.97	0.38	0.32	0.57	0.55	1.29	0.49	0.18	0.04	0.08	94.59	2.03	3.26
2007	32	0.004	748	5.7	16	162	180,568	**23.0**	25.7	-2.7	**-11%**	26.73	24.77	23.46	0.00	0.36	0.70	0.63	1.76	0.48	0.29	0.14	-	94.57	2.42	2.87
2006	5	0.001	421	5.7	8	172	196,031	**43.3**	36.5	6.8	**19%**	40.33	40.61	39.10	0.00	0.00	0.07	0.08	2.57	0.53	0.73	-	-	95.17	1.61	3.21

**n.m. - Not Meaningful*

Source: Bloomberg

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VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS 20yr

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 20yr 2	59,753	0.949	526	2.9	234	5	305,126	12.8	10.6	2.2	21%	10.76	8.23	4.73	0.04	0.04	0.04	0.02	0.30	0.05	0.03	0.00	0.00	99.49	0.36	0.15
2020	55,219	0.945	499	2.9	233	6	304,748	13.7	10.6	3.1	30%	11.08	8.39	4.81	0.04	0.04	0.04	0.02	0.30	0.05	0.04	0.00	0.00	99.46	0.38	0.16
FNMA 20yr 2.5	38,390	0.709	898	3.3	223	15	282,975	36.5	32.0	4.5	14%	33.64	32.09	24.07	0.08	0.13	0.16	0.10	0.32	0.08	0.08	0.01	0.01	98.71	0.36	0.92
2020	30,583	0.824	501	3.3	230	8	281,499	33.5	28.2	5.3	19%	29.79	27.12	17.18	0.07	0.13	0.15	0.10	0.30	0.07	0.07	0.00	0.00	98.95	0.34	0.7
2019	4,008	0.543	36	3.4	222	16	310,737	55.6	52.5	3.1	6%	54.41	53.47	42.62	0.14	0.17	0.21	0.11	0.45	0.12	0.17	0.02	0.01	97.28	0.44	2.25
2017	42	0.491	15	3.4	191	43	264,535	45.5	52.0	-6.5	-12%	45.80	42.33	37.34	0.00	0.00	0.00	0.00	0.88	0.78	0.00	-	0.36	96.59	0.29	2.76
2016	2,294	0.431	85	3.2	181	53	280,220	42.8	39.2	3.6	9%	40.68	42.25	36.50	0.15	0.11	0.20	0.12	0.39	0.08	0.04	0.02	0.01	98.21	0.36	1.41
2015	49	0.389	16	3.4	160	71	274,129	54.5	19.7	34.8	177%	43.40	39.95	35.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	98.81	-	1.19
2013	511	0.333	84	3.3	137	95	245,573	21.0	25.4	-4.3	-17%	23.40	23.45	19.37	0.00	0.00	0.15	0.10	0.40	0.13	0.18	-	-	97.94	0.58	1.49
2012	741	0.307	138	3.2	131	99	231,238	25.4	23.4	2.0	8%	25.43	25.66	20.88	0.00	0.14	0.11	0.07	0.43	0.08	0.07	0.01	0.01	98.63	0.48	0.87
FNMA 20yr 3	49,893	0.393	3,627	3.7	179	55	242,554	37.6	34.0	3.6	11%	36.47	36.72	31.67	0.13	0.16	0.26	0.21	0.56	0.17	0.13	0.03	0.02	97.13	0.67	2.14
2020	5,015	0.782	261	3.8	228	10	246,925	40.1	31.1	9.0	29%	34.66	30.11	20.20	0.39	0.29	0.49	0.36	0.42	0.19	0.15	0.00	0.01	97.70	0.49	1.8
2019	9,545	0.532	212	3.8	221	17	265,979	52.8	48.1	4.7	10%	50.97	50.81	42.66	0.13	0.21	0.30	0.22	0.52	0.21	0.19	0.04	0.03	96.50	0.52	2.91
2018	195	0.442	37	3.7	199	36	266,700	45.1	40.7	4.4	11%	42.38	43.44	41.46	0.00	0.00	0.00	0.00	0.70	0.28	0.09	-	0.06	96.88	0.70	2.35
2017	3,165	0.431	166	3.7	192	43	249,069	41.4	41.0	0.5	1%	42.69	43.63	39.45	0.01	0.13	0.18	0.19	0.58	0.17	0.12	0.02	0.04	96.61	0.72	2.62
2016	12,081	0.428	512	3.6	180	54	242,842	35.8	32.5	3.3	10%	35.12	36.16	32.18	0.13	0.15	0.23	0.20	0.58	0.19	0.13	0.03	0.03	96.89	0.67	2.39
2015	5,453	0.339	362	3.7	165	68	242,243	36.8	33.5	3.3	10%	35.77	37.10	33.32	0.18	0.16	0.28	0.22	0.56	0.14	0.10	0.06	0.02	97.29	0.70	1.93
2014	859	0.259	108	3.8	156	76	234,332	31.2	33.7	-2.5	-7%	34.23	36.29	33.13	0.00	0.04	0.14	0.11	0.66	0.20	0.18	0.01	0.04	97.44	0.74	1.77
2013	6,439	0.322	924	3.6	138	94	212,665	21.7	20.8	0.9	4%	21.66	21.76	18.66	0.06	0.11	0.26	0.21	0.73	0.15	0.12	0.02	0.02	97.20	1.00	1.77
2012	7,072	0.263	1,014	3.6	130	102	232,352	26.7	23.2	3.4	15%	25.58	25.69	22.02	0.04	0.07	0.17	0.13	0.47	0.12	0.08	0.02	0.02	98.02	0.66	1.28
2011	59	0.192	24	3.6	120	111	230,723	17.7	34.8	-17.1	-49%	30.30	28.03	25.86	0.00	0.00	0.00	0.00	0.19	0.00	0.00	-	-	99.30	0.29	0.41
2010	8	0.164	7	3.8	107	124	209,634	41.6	27.7	13.9	50%	28.58	29.08	24.42	0.00	0.00	0.00	0.00	1.02	0.00	0.00	-	-	1.00	-	-
FNMA 20yr 3.5	25,379	0.283	4,690	4.1	167	67	213,287	33.5	31.0	2.5	8%	33.60	34.21	31.65	0.14	0.23	0.31	0.29	0.88	0.24	0.18	0.05	0.02	96.12	1.07	2.75
2020	698	0.778	88	4.2	227	11	221,273	39.8	31.4	8.4	27%	35.41	30.80	20.45	0.54	0.43	0.66	0.87	0.89	0.19	0.40	-	0.02	96.36	0.84	2.78
2019	3,032	0.465	214	4.3	218	20	234,216	49.1	44.3	4.8	11%	48.23	48.78	45.34	0.06	0.27	0.32	0.25	0.88	0.37	0.27	0.10	-	94.89	0.96	4.06
2018	1,786	0.399	161	4.0	200	35	238,292	47.9	42.2	5.7	14%	46.95	47.11	44.74	0.00	0.14	0.21	0.17	0.71	0.21	0.18	0.05	0.03	96.06	0.88	2.97
2017	4,927	0.419	479	4.0	192	43	224,015	38.0	36.1	1.9	5%	39.08	40.54	37.67	0.16	0.31	0.44	0.37	0.94	0.26	0.19	0.05	0.02	95.61	1.06	3.26
2016	1,430	0.423	274	4.0	181	53	197,840	28.8	28.0	0.7	3%	29.86	31.29	28.51	0.07	0.20	0.28	0.50	1.26	0.31	0.21	0.07	0.01	94.65	1.30	3.97
2015	2,362	0.343	649	4.1	166	68	185,225	26.7	25.6	1.1	4%	27.03	27.48	25.97	0.34	0.31	0.26	0.28	1.12	0.21	0.21	0.11	0.02	95.73	1.39	2.76
2014	1,865	0.249	368	4.2	154	78	200,773	29.2	28.7	0.5	2%	29.39	29.67	27.04	0.01	0.17	0.25	0.32	1.01	0.26	0.15	0.03	0.02	96.10	1.33	2.52
2013	2,492	0.275	841	4.1	142	91	186,110	22.0	22.1	0.0	0%	23.21	22.37	19.81	0.31	0.29	0.45	0.37	0.99	0.18	0.20	0.03	0.03	96.19	1.31	2.43
2012	3,826	0.212	1,200	4.0	126	105	211,388	24.4	22.6	1.8	8%	24.19	24.57	21.61	0.09	0.14	0.22	0.19	0.77	0.21	0.13	0.01	0.02	97.03	1.00	1.95
2011	2,359	0.150	330	4.0	119	112	220,439	25.4	22.6	2.9	13%	24.94	25.09	22.93	0.11	0.16	0.20	0.25	0.44	0.10	0.10	0.02	0.02	98.05	0.64	1.28
2010	600	0.112	83	4.0	108	123	218,829	25.5	22.0	3.5	16%	23.57	24.21	22.33	0.00	0.00	0.08	0.13	0.66	0.19	0.04	0.01	-	97.77	1.14	1.09
FNMA 20yr 4	15,839	0.226	3,811	4.5	170	64	195,377	31.1	30.0	1.1	4%	31.80	32.58	31.45	0.29	0.39	0.48	0.42	1.22	0.34	0.28	0.05	0.03	94.85	1.48	3.59
2020	145	0.791	57	4.7	228	11	183,101	38.6	28.5	10.1	35%	33.16	29.44	21.34	4.50	1.52	1.66	1.46	0.88	0.30	0.17	-	-	96.04	1.34	2.62
2019	947	0.548	209	4.7	216	21	200,583	39.3	34.9	4.4	13%	36.70	37.55	35.57	0.77	0.67	0.64	0.50	1.13	0.44	0.38	0.12	-	93.92	1.16	4.8
2018	4,414	0.378	496	4.6	203	32	216,488	41.2	41.7	-0.5	-1%	43.47	44.84	44.52	0.20	0.36	0.45	0.38	0.99	0.33	0.31	0.04	0.05	94.93	1.20	3.78
2017	2,816	0.448	534	4.4	192	44	193,715	33.1	29.3	3.8	13%	32.25	32.67	30.34	0.29	0.60	0.65	0.58	1.53	0.45	0.31	0.09	0.04	93.24	1.75	4.89
2016	618	0.419	220	4.4	178	57	183,584	24.0	23.7	0.3	1%	24.70	24.47	22.16	1.13	0.59	0.50	0.38	1.77	0.48	0.50	0.04	0.00	93.88	1.67	4.4
2015	921	0.352	441	4.4	167	67	161,998	23.6	23.1	0.5	2%	24.21	23.76	22.17	0.00	0.13	0.26	0.56	1.54	0.37	0.26	0.03	0.00	94.11	1.89	3.96
2014	1,532	0.284	492	4.6	153	80	169,036	21.7	22.7	-1.0	-5%	22.89	22.93	20.94	0.20	0.33	0.50	0.47	1.87	0.44	0.28	0.06	0.00	94.17	2.11	3.66
2013	853	0.264	351	4.7	145	88	163,306	20.5	18.0	2.6	14%	21.01	21.53	19.43	0.26	0.35	0.41	0.52	1.32	0.33	0.30	0.00	-	95.09	1.72	3.18
2012	284	0.198	296	4.5	125	106	180,869	22.2	25.0	-2.8	-11%	23.52	22.55	20.20	0.51	1.00	1.08	0.64	1.09	0.24	0.27	0.03	-	95.24	1.95	2.79
2011	1,375	0.136	317	4.5	117	114	199,007	21.6	20.1	1.5	7%	21.65	22.25	19.84	0.00	0.09	0.24	0.22	1.00	0.18	0.16	0.05	0.02	96.43	1.19	2.3
2010	1,634	0.085	255	4.4	107	124	204,086	22.2	20.6	1.6	8%	22.24	22.41	20.29	0.06	0.21	0.37	0.25	0.67	0.20	0.10	0.00	0.01	97.29	1.14	1.56
2009	295	0.046	100	4.5	90	140	192,723	19.1	20.8	-1.8	-9%	20.86	20.62	19.24	0.00	0.00	0.16	0.27	0.61	0.05	0.11	0.07	0.10	97.25	1.47	1.11
FNMA 20yr 4.5	3,922	0.089	1,355	5.0	145	88	170,475	25.6	22.8	2.8	12%	25.60	25.82	24.15	0.28	0.46	0.64	0.65	1.42	0.40	0.33	0.05	0.05	94.24	1.96	3.71
2020	31	0.853	16	5.1	229	10	141,563	22.9	12.5	10.4	83%	18.30	22.12	16.46	0.00	0.00	0.00	1.37	1.67	0.13	0.00	0.16	-	97.61	1.47	0.77
2019	365	0.610	149	5.1	214	22	141,271	34.0	27.2	6.8	25%	30.20	31.08	28.49	0.20	0.26	0.42	0.55	1.72	0.66	0.27	0.02	-	93.01	2.10	4.87
2018	1,133	0.486	249	5.2	204	30	160,416	33.2	30.1	3.1	10%	33.72	33.22	31.75	0.29	0.72	0.80	0.78	1.97	0.49	0.57	0.06	0.10	91.91	2.37	5.58
2017	91	0.483	53	5.0	193	42	155,744	17.1	24.9	-7.8	-31%	26.56	25.74	22.84	0.00	1.67	1.43	0.96	3.29	1.17	0.68	0.20	0.19	89.42	2.79	7.4
2014	53	0.280	50	5.2	150	83	140,257	19.1	19.7	-0.6	-3%	26.49	21.22	19.82	4.90	1.66	1.44	0.97	1.82	0.31	0.14	-	-	90.35	2.83	6.82
2013	47	0.258	44	5.1	146	88	142,700	33.0	26.0	7.0	27%	26.99	24.44	22.77	0.30	0.10	0.19	1.00	0.85	0.17	0.11	-	-	96.18	1.46	2.36
2011	689	0.118	150	4.9	114	118	183,286	18.4	17.3	1.2	7%	20.09	20.59	18.64	0.22	0.22	0.51	0.50	1.08	0.35	0.24	0.02	0.05	95.54	1.51	2.87

VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS 20yr

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	*Factor*	*# of Pools*	*WAC*	*WAM*	*WALA*	*WAOLS*	*Mar*	*Feb*	*Chg*	*% Chg*	*3mo*	*6mo*	*12mo*	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2010	768	0.072	158	4.9	103	128	189,816	**20.4**	17.4	3.0	**17%**	19.76	21.15	19.63	0.17	0.40	0.70	0.68	1.04	0.19	0.23	0.07	0.02	95.76	1.94	2.21
2009	612	0.044	191	4.9	92	139	178,273	**21.9**	18.8	3.1	**16%**	20.51	20.69	18.90	0.23	0.23	0.37	0.35	0.80	0.36	0.17	0.04	0.01	96.45	1.49	2
2008	14	0.018	33	5.0	82	151	191,633	**2.4**	13.9	-11.4	**-83%**	8.70	14.15	18.65	0.00	0.00	3.31	1.67	1.65	0.03	0.06	-	-	97.36	1.55	1.09
2005	13	0.014	39	5.2	47	189	186,890	**21.0**	21.0	-0.1	**0%**	21.29	15.66	15.62	0.00	0.00	0.00	0.14	0.49	0.00	0.00	0.00	-	94.77	2.31	2.92
2004	32	0.014	63	5.1	34	203	157,152	**23.4**	20.5	2.9	**14%**	21.40	20.80	18.43	0.00	0.32	0.16	0.30	1.48	0.29	0.15	0.11	-	95.82	2.12	1.95
2003	57	0.010	125	5.0	27	210	152,646	**19.3**	22.1	-2.7	**-12%**	21.33	20.87	19.45	0.00	0.17	0.55	0.39	1.36	0.28	0.24	0.02	-	95.71	2.31	1.97
FNMA 20yr 5	913	0.017	1,243	5.5	77	158	159,837	**18.3**	18.7	-0.3	**-2%**	19.73	19.63	18.62	0.21	0.33	0.63	0.77	1.80	0.50	0.13	0.03	0.02	94.25	2.61	3.1
2019	21	0.604	19	5.8	215	22	154,237	**13.5**	20.1	-6.6	**-33%**	23.01	23.82	28.09	0.00	2.46	1.24	1.17	1.07	1.33	0.72	-	-	93.64	2.53	3.83
2018	53	0.485	40	5.7	206	30	170,299	**33.9**	20.2	13.7	**68%**	33.37	32.58	32.80	0.00	0.47	1.34	1.31	2.52	1.31	0.00	-	-	90.57	2.17	7.26
2011	66	0.123	47	5.4	114	119	176,242	**17.4**	24.9	-7.6	**-30%**	23.04	20.15	19.45	0.00	0.02	0.13	0.53	1.70	0.90	0.11	0.09	-	92.70	2.66	4.55
2010	117	0.070	57	5.4	102	130	169,505	**19.0**	15.4	3.6	**23%**	19.37	21.14	19.13	0.00	0.11	0.28	0.59	1.67	0.48	0.08	0.05	0.07	93.33	2.28	4.27
2009	111	0.058	86	5.4	95	138	164,635	**17.3**	17.6	-0.3	**-2%**	18.22	18.00	18.02	0.46	0.25	0.54	0.77	1.75	0.35	0.01	0.05	-	94.41	2.64	2.9
2008	87	0.014	129	5.6	79	154	165,640	**13.8**	20.6	-6.8	**-33%**	16.99	17.22	16.12	0.00	0.38	0.64	0.55	1.56	0.41	0.26	-	0.03	93.74	3.18	3.06
2007	18	0.017	52	5.7	70	164	181,347	**5.4**	12.7	-7.3	**-58%**	9.07	15.53	14.97	0.00	0.00	0.48	0.85	2.49	0.00	0.15	-	-	92.89	4.10	3.01
2006	9	0.014	34	5.7	59	176	163,630	**8.1**	14.5	-6.3	**-44%**	10.63	12.86	12.86	0.00	0.00	2.57	1.29	1.89	1.60	0.00	0.36	-	94.99	2.76	1.89
2005	133	0.015	113	5.6	47	188	155,897	**16.7**	13.3	3.3	**25%**	15.92	15.11	14.15	0.82	0.63	0.70	0.80	1.88	0.52	0.14	0.01	0.00	95.30	2.55	2.14
2004	123	0.012	174	5.5	37	200	150,247	**18.9**	20.3	-1.4	**-7%**	19.05	18.85	17.00	0.26	0.31	0.69	0.56	1.89	0.33	0.11	0.02	0.04	95.01	2.72	2.2
2003	166	0.007	426	5.5	26	212	146,693	**18.4**	19.9	-1.5	**-7%**	20.11	19.91	18.50	0.02	0.09	0.62	0.56	1.74	0.22	0.20	0.02	0.01	95.70	2.40	1.88

**n.m. - Not Meaningful*

Source: Bloomberg

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VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS 30yr

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
FNMA 30yr 1.5	161,820	0.987	905	2.5	354	3	402,189	2.7	2.7	0.0	*n.m.	2.80	2.30	1.11	0.02	0.02	0.02	0.01	0.47	0.06	0.02	-	0.00	99.38	0.53	0.09
2020	134,988	0.985	761	2.5	354	4	399,017	3.1	2.7	0.4	*n.m.	2.91	2.35	-	0.03	0.02	0.02	-	0.51	0.07	0.03	-	0.00	99.28	0.61	0.1
FNMA 30yr 2	930,026	0.968	8,869	2.9	352	4	362,920	8.1	7.7	0.5	6%	7.63	6.39	4.15	0.04	0.03	0.04	0.02	0.46	0.08	0.04	0.00	0.00	99.26	0.55	0.19
2020	822,144	0.964	7,525	2.9	351	5	362,184	9.1	7.7	1.4	18%	7.94	6.54	3.93	0.04	0.03	0.04	0.02	0.49	0.09	0.05	0.00	0.00	99.18	0.60	0.22
2019	53	0.848	19	3.0	340	17	316,054	2.8	23.5	-20.7	-88%	17.39	15.41	12.65	0.00	0.00	1.54	1.77	0.00	0.00	0.00	-	1.18	96.52	0.37	1.93
2017	33	0.883	40	2.8	313	43	195,978	5.1	0.6	4.4	*n.m.	3.73	7.85	6.07	0.00	0.00	3.70	1.87	1.04	0.25	0.57	-	-	92.58	2.19	5.22
2016	129	0.757	104	3.0	302	54	191,524	17.5	3.6	13.9	*n.m.	12.12	12.71	9.79	0.00	0.00	5.25	2.82	1.68	0.84	1.12	-	0.10	94.05	1.29	4.57
2015	16	0.622	33	3.0	289	66	191,752	7.9	12.4	-4.5	-36%	15.29	21.54	16.68	0.00	0.00	6.36	0.00	0.00	1.71	0.00	-	-	95.61	-	4.39
2013	11	0.553	16	2.8	261	93	197,292	1.0	26.5	-25.6	*n.m.	10.16	8.04	8.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	95.20	-	4.8
FNMA 30yr 2.5	661,414	0.827	13,813	3.4	347	9	335,682	30.9	28.6	2.3	8%	29.24	25.93	18.54	0.11	0.13	0.18	0.13	0.52	0.14	0.11	0.01	0.01	98.22	0.61	1.15
2020	584,074	0.870	10,769	3.4	348	8	335,122	28.7	25.8	3.0	12%	26.44	22.11	13.64	0.11	0.12	0.16	0.11	0.53	0.14	0.11	0.00	0.00	98.43	0.62	0.94
2019	54,296	0.583	708	3.5	340	16	357,779	53.3	51.2	2.2	4%	52.45	51.04	39.63	0.20	0.22	0.30	0.22	0.52	0.23	0.18	0.05	0.02	95.86	0.59	3.49
2018	39	0.782	50	3.5	321	34	199,065	19.6	8.0	11.6	145%	12.26	22.37	14.02	0.00	0.00	11.33	5.83	2.46	0.60	1.54	-	-	93.34	0.95	5.71
2017	295	0.706	130	3.4	310	43	260,212	22.4	27.0	-4.5	-17%	26.00	26.32	20.84	0.00	0.41	2.48	1.39	1.17	0.72	0.71	-	-	94.45	1.17	4.38
2016	4,127	0.528	389	3.3	296	55	319,601	40.7	34.8	5.9	17%	38.83	39.76	32.35	0.01	0.07	0.29	0.21	0.33	0.17	0.12	0.05	0.02	96.76	0.45	2.73
2015	289	0.524	182	3.4	281	68	255,508	29.6	31.6	-2.0	-6%	31.75	31.58	23.85	0.00	0.00	1.88	1.05	1.16	0.33	0.56	0.05	0.05	94.48	1.12	4.3
2014	36	0.570	41	3.2	274	77	250,048	6.1	26.1	-20.0	-77%	25.81	22.68	16.16	0.00	0.00	2.79	1.40	0.24	0.00	0.00	-	-	94.50	1.07	4.43
2013	1,272	0.426	352	3.1	250	96	304,632	27.1	27.7	-0.6	-2%	27.24	27.93	21.94	0.00	0.16	0.31	0.17	0.35	0.04	0.21	0.02	-	98.06	0.49	1.43
2012	3,684	0.384	596	3.2	246	99	300,153	33.5	31.9	1.6	5%	33.88	33.39	26.74	0.07	0.13	0.19	0.13	0.39	0.08	0.07	0.01	0.01	98.14	0.56	1.28
FNMA 30yr 3	663,000	0.481	37,520	3.8	312	41	297,785	44.0	41.3	2.7	7%	43.25	42.61	35.54	0.19	0.27	0.38	0.28	0.69	0.24	0.21	0.04	0.02	95.85	0.79	3.29
2020	156,693	0.781	6,618	3.8	347	10	296,485	39.4	35.3	4.1	12%	36.67	33.00	22.21	0.21	0.30	0.40	0.33	0.73	0.25	0.23	0.02	0.01	96.51	0.84	2.62
2019	209,973	0.551	5,729	3.9	339	17	309,796	52.1	49.1	2.9	6%	51.04	49.78	41.80	0.29	0.35	0.43	0.30	0.75	0.30	0.28	0.07	0.03	94.44	0.79	4.67
2018	1,461	0.449	302	3.9	319	34	295,310	50.7	46.3	4.5	10%	50.15	50.40	45.72	0.11	0.10	0.67	0.41	0.71	0.25	0.20	0.08	0.03	94.59	0.76	4.55
2017	6,919	0.456	816	3.8	311	42	304,324	47.7	46.2	1.5	3%	47.90	49.18	43.63	0.13	0.28	0.37	0.27	0.78	0.32	0.21	0.03	0.03	94.94	0.91	4.1
2016	130,215	0.427	6,673	3.7	297	55	294,245	42.7	41.0	1.7	4%	43.27	44.24	38.05	0.15	0.25	0.38	0.29	0.68	0.23	0.17	0.05	0.03	95.76	0.81	3.36
2015	28,910	0.356	3,226	3.8	280	69	300,328	46.3	42.7	3.6	8%	45.79	47.12	41.25	0.09	0.16	0.26	0.20	0.52	0.16	0.10	0.02	0.02	96.90	0.63	2.43
2014	1,882	0.278	556	3.9	272	75	287,160	43.9	44.8	-0.9	-2%	45.59	47.96	42.91	0.31	0.34	0.27	0.19	0.56	0.24	0.13	0.02	0.02	96.83	0.64	2.49
2013	60,935	0.342	5,997	3.6	252	95	279,104	33.9	31.7	2.2	7%	33.68	34.06	28.09	0.11	0.18	0.31	0.23	0.63	0.16	0.12	0.03	0.02	96.96	0.84	2.16
2012	64,237	0.311	7,335	3.6	245	101	286,045	36.2	33.8	2.4	7%	36.11	36.80	30.58	0.07	0.14	0.22	0.18	0.54	0.14	0.09	0.02	0.01	97.49	0.70	1.77
2011	186	0.259	93	3.7	226	111	274,063	38.8	36.7	2.1	6%	36.09	36.01	30.59	0.00	0.00	0.32	0.16	0.30	0.05	0.04	-	-	97.89	1.01	1.11
2010	33	0.369	28	3.6	221	124	223,886	27.2	22.5	4.6	20%	26.29	24.01	18.57	0.00	0.00	0.00	0.51	0.42	0.50	0.18	-	-	97.04	1.13	1.83
FNMA 30yr 3.5	500,420	0.336	68,847	4.1	297	55	266,829	42.5	40.5	1.9	5%	42.86	43.66	40.36	0.29	0.39	0.52	0.42	0.97	0.34	0.29	0.07	0.03	94.16	1.18	4.56
2020	28,438	0.791	2,539	4.3	346	11	265,003	35.5	31.3	4.2	13%	33.97	30.93	21.02	0.36	0.50	0.74	0.68	1.06	0.37	0.35	0.04	0.02	94.74	1.32	3.89
2019	108,434	0.470	5,960	4.4	336	19	282,219	47.9	46.1	1.8	4%	48.22	48.35	46.22	0.44	0.58	0.69	0.51	1.08	0.49	0.43	0.12	0.04	91.95	1.13	6.76
2018	19,642	0.348	2,099	4.2	319	34	299,493	52.5	50.7	1.8	4%	52.97	54.23	52.36	0.38	0.54	0.66	0.47	0.84	0.36	0.27	0.08	0.04	93.43	0.99	5.47
2017	86,065	0.399	7,700	4.1	310	42	278,472	47.5	45.6	1.9	4%	48.04	49.30	45.77	0.30	0.37	0.51	0.40	0.88	0.31	0.28	0.07	0.03	94.24	1.06	4.6
2016	51,915	0.390	8,933	4.0	297	55	247,263	38.8	37.1	1.6	4%	39.19	39.97	36.21	0.36	0.39	0.61	0.53	1.25	0.41	0.34	0.08	0.04	93.11	1.57	5.2
2015	74,969	0.296	10,296	4.1	283	67	265,659	41.7	39.7	2.0	5%	42.59	44.08	40.06	0.17	0.28	0.42	0.36	0.97	0.31	0.24	0.06	0.03	94.81	1.22	3.88
2014	23,978	0.227	5,407	4.2	272	77	259,607	42.2	40.9	1.3	3%	42.70	44.18	40.61	0.19	0.31	0.37	0.32	0.91	0.27	0.19	0.06	0.03	95.15	1.16	3.61
2013	33,806	0.286	8,475	4.0	255	93	240,371	31.3	29.1	2.1	7%	31.28	32.03	27.92	0.21	0.31	0.43	0.36	1.02	0.28	0.20	0.05	0.02	95.25	1.35	3.33
2012	57,072	0.237	14,050	4.0	241	104	248,042	33.6	32.0	1.6	5%	33.82	34.40	29.69	0.13	0.18	0.31	0.26	0.77	0.20	0.14	0.03	0.03	96.38	1.05	2.51
2011	11,711	0.173	2,096	4.0	233	111	266,096	39.4	36.7	2.7	7%	38.98	39.82	34.63	0.07	0.13	0.26	0.21	0.54	0.13	0.13	0.02	0.02	97.18	0.81	1.96
2010	4,076	0.140	1,077	4.1	219	124	265,954	38.4	37.5	0.9	2%	39.47	39.91	34.97	0.00	0.12	0.25	0.27	0.58	0.15	0.09	0.03	0.00	97.33	0.93	1.7
2009	218	0.168	141	4.0	201	141	246,392	22.7	20.5	2.2	11%	23.37	29.13	24.71	0.00	0.30	0.72	0.43	0.81	0.08	0.35	0.04	-	95.56	1.43	2.98
2008	9	0.232	19	4.0	202	152	301,039	0.4	29.8	-29.3	*n.m.	17.20	11.64	15.11	0.00	0.00	0.00	0.00	0.00	0.89	0.00	-	-	91.52	3.08	5.4
2004	13	0.187	9	4.0	147	203	203,980	6.0	4.3	1.7	*n.m.	8.45	11.54	11.53	0.00	0.00	0.00	0.00	3.54	0.00	1.36	-	1.10	91.00	1.82	6.08
FNMA 30yr 4	365,215	0.262	76,052	4.6	295	57	244,447	39.8	38.1	1.7	4%	40.48	41.27	39.90	0.50	0.59	0.75	0.64	1.37	0.49	0.40	0.11	0.04	92.12	1.69	6.04
2020	11,745	0.797	1,632	4.7	347	10	254,357	36.3	30.0	6.2	21%	33.05	30.33	20.84	0.48	0.65	0.94	0.90	1.35	0.40	0.43	0.03	0.01	94.06	1.52	4.38
2019	52,934	0.485	5,151	4.8	335	20	257,413	43.2	40.5	2.7	7%	43.16	42.92	41.69	0.79	0.90	1.04	0.77	1.45	0.65	0.53	0.17	0.06	89.95	1.61	8.21
2018	79,281	0.315	7,152	4.7	323	32	276,839	49.9	48.4	1.5	3%	50.88	52.33	52.41	0.64	0.71	0.84	0.66	1.19	0.51	0.45	0.16	0.05	91.19	1.43	7.18
2017	64,171	0.396	9,058	4.5	310	44	245,018	41.1	39.5	1.6	4%	41.90	42.52	40.48	0.56	0.64	0.79	0.73	1.52	0.57	0.48	0.12	0.05	90.85	1.80	7.18
2016	19,131	0.382	6,219	4.5	297	55	220,895	33.1	31.4	1.7	5%	33.82	34.18	31.65	0.40	0.55	0.86	0.79	1.86	0.60	0.44	0.13	0.06	90.63	2.18	7.01
2015	22,085	0.304	7,890	4.6	285	67	215,844	33.1	31.5	1.6	5%	33.90	34.35	31.53	0.41	0.49	0.75	0.75	1.82	0.61	0.43	0.10	0.04	91.53	2.33	6
2014	31,812	0.215	9,360	4.6	270	80	222,882	34.0	32.7	1.3	4%	34.95	36.03	33.64	0.43	0.55	0.61	0.56	1.57	0.45	0.32	0.08	0.03	93.15	2.08	4.66
2013	24,844	0.204	7,698	4.6	258	89	215,170	31.7	30.9	0.8	2%	32.77	33.64	30.74	0.33	0.37	0.52	0.52	1.36	0.36	0.25	0.06	0.03	94.12	1.79	4
2012	15,012	0.226	7,709	4.5	240	105	202,919	26.5	25.1	1.3	5%	27.31	27.59	24.19	0.20	0.27	0.50	0.46	1.24	0.33	0.24	0.07	0.03	94.45	1.65	3.81

VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS 30yr

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2011	17,679	0.152	6,085	4.5	232	114	230,929	31.0	30.1	0.9	3%	32.04	32.38	28.73	0.17	0.23	0.37	0.34	0.88	0.24	0.17	0.03	0.02	95.79	1.23	2.92
2010	17,967	0.115	4,990	4.5	220	124	241,162	34.0	31.5	2.5	8%	34.12	34.74	30.79	0.11	0.21	0.37	0.30	0.84	0.21	0.15	0.04	0.01	96.24	1.28	2.43
2009	8,196	0.067	2,747	4.5	203	141	246,789	30.8	29.9	0.9	3%	31.82	32.59	29.23	0.23	0.22	0.43	0.43	0.93	0.22	0.16	0.04	0.01	95.99	1.39	2.58
2008	98	0.062	79	4.7	195	148	232,218	12.0	26.3	-14.3	-54%	26.75	26.38	24.66	0.00	0.28	0.47	0.37	0.88	0.37	0.14	-	-	95.41	1.24	3.35
2007	45	0.072	14	4.7	179	163	192,236	42.9	33.6	9.4	28%	39.87	34.13	28.69	0.00	2.73	1.58	0.79	2.94	0.36	0.00	-	-	93.55	4.54	1.92
2006	26	0.120	16	4.6	169	178	200,508	1.6	35.0	-33.4	-95%	21.96	21.71	18.74	0.00	0.00	0.00	0.00	1.20	0.20	0.00	-	-	94.82	1.11	4.07
2005	46	0.113	38	4.6	159	190	204,420	15.7	14.7	1.0	7%	13.60	18.52	15.88	0.00	0.00	0.00	0.00	2.37	0.00	0.46	-	-	92.31	3.13	4.57
2004	23	0.061	35	4.9	148	200	167,136	22.2	26.5	-4.4	-16%	21.45	23.65	19.12	0.00	0.00	0.23	0.71	0.29	0.31	0.00	-	-	97.36	0.82	1.82
2003	56	0.068	155	4.7	134	211	166,654	16.4	26.2	-9.8	-38%	19.67	18.40	16.85	0.00	0.63	0.42	0.28	1.19	0.25	0.25	0.08	-	95.80	1.59	2.53
FNMA 30yr 4.5	161,797	0.175	54,707	5.1	288	64	223,007	34.7	33.4	1.3	4%	35.68	36.07	34.52	0.60	0.79	1.04	0.94	1.81	0.64	0.50	0.16	0.05	90.08	2.22	7.49
2020	3,822	0.777	833	5.2	347	10	239,553	36.4	35.0	1.4	4%	36.52	32.16	23.55	0.25	0.66	0.83	1.08	1.42	0.52	0.43	0.04	0.01	93.77	1.66	4.52
2019	21,897	0.552	3,557	5.2	335	21	231,780	37.7	34.7	3.0	9%	37.51	37.04	35.04	1.01	1.06	1.33	1.08	1.88	0.76	0.69	0.20	0.06	88.18	2.05	9.5
2018	55,563	0.392	6,912	5.1	324	31	235,023	40.8	40.2	0.7	2%	42.29	42.95	42.40	0.70	1.01	1.24	1.11	1.88	0.79	0.64	0.23	0.06	87.71	2.22	9.77
2017	17,931	0.412	4,882	5.0	311	43	222,774	34.8	32.5	2.3	7%	35.28	35.63	33.46	0.89	0.98	1.30	1.20	2.37	0.80	0.67	0.16	0.05	87.03	2.74	10.01
2016	3,269	0.351	1,600	4.9	297	55	206,968	29.6	30.2	-0.6	-2%	31.22	31.21	29.48	0.80	1.08	1.38	1.24	2.56	0.77	0.55	0.13	0.07	87.55	2.84	9.41
2015	2,119	0.350	1,453	4.9	282	67	148,971	24.7	22.8	1.9	8%	25.78	25.78	23.28	0.49	0.91	1.11	1.00	2.35	0.69	0.42	0.10	0.05	90.61	3.14	6.09
2014	6,213	0.238	4,567	5.0	269	81	173,180	26.2	25.5	0.7	3%	27.45	27.79	25.70	0.49	0.68	0.90	0.86	2.39	0.69	0.37	0.12	0.07	91.01	2.95	5.86
2013	5,133	0.214	3,326	5.0	260	89	177,134	25.8	25.7	0.1	0%	27.39	27.69	25.32	0.43	0.51	0.71	0.69	2.08	0.53	0.36	0.12	0.03	91.98	2.76	5.11
2012	1,361	0.214	1,775	5.0	239	107	172,160	23.0	22.8	0.1	1%	24.83	24.02	21.46	0.07	0.32	0.57	0.43	1.77	0.53	0.28	0.09	0.03	92.71	2.50	4.68
2011	13,321	0.130	8,010	4.9	228	117	210,536	27.1	26.0	1.1	4%	27.86	28.49	25.47	0.23	0.34	0.53	0.45	1.30	0.34	0.22	0.05	0.02	94.30	1.80	3.83
2010	11,883	0.092	6,656	4.9	218	127	224,232	30.1	27.0	3.1	11%	29.80	30.37	27.13	0.20	0.38	0.57	0.48	1.32	0.38	0.24	0.05	0.03	94.60	1.93	3.4
2009	16,665	0.053	6,543	4.9	206	140	230,981	28.3	27.1	1.2	5%	29.41	30.22	27.48	0.25	0.34	0.58	0.51	1.29	0.30	0.19	0.08	0.03	94.92	1.91	3.07
2008	459	0.025	706	5.2	196	150	224,638	22.2	24.6	-2.3	-9%	25.85	26.29	23.66	0.32	1.26	1.07	0.78	1.53	0.35	0.36	0.10	0.02	93.90	2.00	3.98
2007	75	0.049	192	5.2	182	163	202,822	21.0	34.2	-13.2	-39%	25.93	28.08	22.66	0.00	0.00	0.39	0.35	2.18	0.97	0.22	0.14	-	94.89	2.85	2.12
2006	65	0.058	114	5.3	166	177	199,692	24.2	21.3	2.9	14%	19.21	21.06	17.18	0.00	0.38	0.63	0.42	1.72	0.84	0.71	0.10	-	93.46	2.69	3.74
2005	343	0.029	882	5.2	160	188	196,073	20.1	19.6	0.6	3%	21.78	21.84	19.78	0.05	0.35	0.49	0.45	1.99	0.61	0.16	0.09	0.06	93.74	2.19	3.92
2004	368	0.044	715	5.1	148	200	187,133	16.7	16.1	0.6	4%	18.21	18.99	17.53	0.00	0.19	0.29	0.34	1.31	0.39	0.18	0.11	-	94.08	2.26	3.54
2003	1,289	0.033	1,916	5.1	137	211	183,601	17.5	17.7	-0.3	-1%	19.43	19.99	18.05	0.10	0.31	0.66	0.57	1.57	0.28	0.26	0.06	0.01	95.16	2.20	2.56
FNMA 30yr 5	55,394	0.066	46,183	5.6	252	98	201,833	28.8	27.8	1.0	4%	29.79	29.59	27.76	0.70	0.87	1.18	1.16	2.19	0.73	0.54	0.19	0.04	89.33	2.77	7.67
2020	480	0.708	174	5.7	345	11	244,704	42.2	34.6	7.6	22%	40.56	40.96	30.43	0.11	0.04	0.97	1.13	1.56	1.16	1.04	-	0.03	89.98	2.52	7.47
2019	8,182	0.573	2,185	5.7	334	21	221,183	36.9	32.8	4.2	13%	36.26	35.38	33.54	1.61	1.31	1.68	1.36	2.13	0.92	0.77	0.30	0.05	85.81	2.48	11.36
2018	15,886	0.461	3,075	5.7	324	30	204,369	35.0	35.3	-0.3	-1%	36.95	36.29	34.76	0.92	1.28	1.56	1.51	2.42	1.00	0.84	0.30	0.06	84.95	2.72	11.96
2017	546	0.363	271	5.5	310	44	223,591	40.2	28.5	11.6	41%	35.85	34.63	32.89	1.05	1.42	1.83	1.49	3.18	1.55	0.79	0.22	0.08	81.42	3.80	14.49
2016	17	0.361	16	5.4	292	53	159,785	33.0	53.6	-20.6	-38%	40.02	31.85	31.09	0.00	0.00	0.00	1.05	1.88	0.90	0.53	-	-	88.78	1.86	9.36
2014	506	0.260	537	5.4	268	82	148,068	23.4	23.3	0.1	0%	25.11	24.84	22.66	0.35	0.69	0.84	1.01	3.30	0.67	0.47	0.22	-	89.48	4.03	6.27
2013	469	0.202	437	5.4	260	89	171,335	26.8	23.9	2.9	12%	25.47	27.26	24.97	0.88	0.93	0.74	1.08	2.29	0.63	0.37	0.04	-	91.32	3.69	4.95
2012	63	0.207	167	5.5	239	107	154,619	20.7	25.1	-4.4	-17%	21.14	21.11	20.73	0.00	0.00	0.00	0.37	2.98	0.29	0.23	-	0.20	91.72	3.78	4.3
2011	3,916	0.131	4,251	5.4	229	118	201,283	25.9	25.2	0.6	3%	26.63	26.29	23.77	0.46	0.47	0.79	0.65	1.87	0.52	0.32	0.09	0.02	92.09	2.54	5.25
2010	5,900	0.093	4,011	5.4	218	129	212,556	25.6	26.3	-0.7	-3%	27.47	27.62	25.14	0.45	0.67	0.91	0.80	1.91	0.45	0.32	0.12	0.04	92.02	2.77	5.05
2009	5,322	0.065	4,671	5.4	209	138	202,553	23.9	22.8	1.1	5%	25.40	26.07	23.50	0.33	0.56	0.97	0.90	1.98	0.55	0.37	0.10	0.02	92.72	2.73	4.43
2008	1,838	0.019	2,882	5.6	195	153	212,277	22.8	18.9	3.9	21%	21.83	21.85	20.24	0.51	0.45	0.84	0.92	2.00	0.57	0.28	0.09	0.01	92.61	3.04	4.25
2007	511	0.023	1,408	5.7	184	165	215,965	16.3	15.0	1.4	9%	17.57	20.25	18.42	0.50	0.94	1.44	1.14	2.60	0.64	0.46	0.18	0.10	92.30	3.44	3.98
2006	530	0.029	1,162	5.8	172	175	194,775	17.4	20.2	-2.8	-14%	18.29	18.62	16.64	0.98	0.85	0.87	0.89	2.24	0.49	0.42	0.05	0.00	93.53	2.96	3.45
2005	3,365	0.024	6,242	5.6	161	188	195,875	20.4	19.4	1.0	5%	20.92	21.03	19.05	0.11	0.43	0.73	0.79	2.34	0.53	0.31	0.11	0.02	92.74	3.02	4.11
2004	2,330	0.026	5,658	5.6	147	201	182,464	18.7	18.3	0.4	2%	19.24	19.33	17.67	0.34	0.52	0.83	0.89	2.18	0.49	0.34	0.10	0.02	93.28	2.99	3.61
2003	5,403	0.023	8,523	5.5	136	211	164,575	16.6	16.9	-0.3	-2%	18.08	18.21	16.72	0.13	0.34	0.61	0.63	2.10	0.47	0.23	0.09	0.02	93.96	2.87	3.05
2002	99	0.029	401	5.7	127	220	151,982	17.0	15.3	1.7	11%	18.26	17.36	15.98	0.00	0.54	0.82	0.59	1.60	0.31	0.25	0.05	-	94.91	2.27	2.76
2001	11	0.055	48	5.6	114	231	113,495	18.2	9.2	9.1	99%	18.40	16.94	15.43	0.00	0.00	0.39	0.20	1.40	0.39	0.00	-	-	97.66	1.98	0.37
FNMA 30yr 5.5	24,014	0.022	57,586	6.0	175	174	172,330	18.8	18.1	0.7	4%	19.61	19.93	18.53	0.47	0.68	1.13	1.23	2.59	0.71	0.42	0.15	0.04	91.44	3.47	4.89
2020	15	0.728	10	6.0	344	12	176,197	37.4	54.3	-17.0	-31%	43.68	36.79	26.45	0.00	4.30	5.99	4.57	1.01	1.79	0.00	-	-	96.51	-	3.49
2019	540	0.578	320	6.2	332	22	180,930	32.1	32.4	-0.3	-1%	31.89	32.69	30.89	1.28	1.66	2.05	1.71	2.40	1.07	0.93	0.24	0.08	82.48	2.83	14.36
2018	1,345	0.472	513	6.2	326	29	198,203	34.4	34.9	-0.6	-2%	35.88	35.98	35.16	1.11	1.33	2.52	2.29	2.55	1.25	1.22	0.51	0.09	79.34	3.01	17.05
2011	188	0.138	534	5.9	227	118	148,453	19.7	24.9	-5.2	-21%	24.28	24.25	21.42	0.00	1.92	1.49	0.93	2.02	0.35	0.73	0.07	0.04	91.51	2.55	5.83
2010	479	0.115	984	5.9	217	130	178,970	23.0	23.3	-0.3	-1%	24.48	24.98	22.99	0.19	0.98	1.35	1.17	2.54	0.65	0.31	0.09	0.05	90.20	3.17	6.49
2009	857	0.087	1,701	5.9	208	138	169,602	23.0	19.1	3.8	20%	23.80	23.88	21.36	0.00	0.69	1.30	1.31	2.66	0.72	0.32	0.10	0.08	91.00	4.05	4.77
2008	2,494	0.019	5,466	6.0	195	153	192,373	19.3	17.5	1.8	10%	19.73	19.99	18.29	0.50	0.73	1.17	1.09	2.55	0.77	0.37	0.17	0.09	91.07	3.52	5.15

VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS 30yr

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	*Factor*	*# of Pools*	*WAC*	*WAM*	*WALA*	*WAOLS*	*Mar*	*Feb*	*Chg*	*% Chg*	*3mo*	*6mo*	*12mo*	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2007	2,617	0.016	5,722	6.1	185	164	203,871	**17.3**	16.8	0.5	**3%**	18.28	18.76	17.91	0.85	0.65	0.99	1.11	2.96	0.86	0.40	0.17	0.03	91.38	3.66	4.77
2006	1,396	0.016	4,037	6.1	175	175	194,748	**20.8**	18.0	2.9	**16%**	20.70	19.57	17.71	0.75	0.65	1.01	1.10	2.60	0.72	0.37	0.14	0.02	92.26	3.46	4.13
2005	3,501	0.027	10,329	6.0	161	187	169,345	**17.8**	16.7	1.1	**7%**	18.24	18.53	16.87	0.41	0.81	1.24	1.15	2.81	0.61	0.41	0.13	0.04	92.51	3.78	3.55
2004	3,367	0.026	9,989	5.9	149	199	162,491	**15.5**	15.1	0.4	**2%**	16.38	17.13	15.58	0.43	0.58	1.20	1.39	2.64	0.69	0.37	0.13	0.02	92.62	3.57	3.66
2003	5,644	0.019	12,418	5.9	136	212	150,705	**15.1**	14.8	0.4	**2%**	16.12	16.45	15.05	0.22	0.46	0.73	0.74	2.37	0.58	0.32	0.10	0.02	93.31	3.36	3.21
2002	1,434	0.011	4,457	6.0	128	220	150,653	**16.5**	16.4	0.1	**1%**	17.05	17.14	16.16	0.08	0.17	0.53	0.53	2.33	0.48	0.22	0.07	0.02	94.07	3.15	2.69
2001	65	0.010	566	6.1	116	233	134,973	**14.4**	16.7	-2.3	**-14%**	16.21	18.06	16.36	0.00	0.00	0.43	0.56	2.32	0.48	0.61	-	-	94.59	3.23	2.18
1999	15	0.017	176	6.1	90	262	122,797	**5.1**	14.7	-9.6	**-65%**	11.73	10.28	11.17	0.00	0.00	0.00	0.00	1.79	0.23	0.23	0.47	-	93.92	2.76	2.85
1998	21	0.008	244	6.2	81	268	115,977	**12.1**	11.3	0.8	**7%**	12.02	11.53	12.32	3.45	1.16	0.58	0.40	2.09	0.19	0.40	-	-	94.07	3.39	2.54
FNMA 30yr 6	14,422	0.016	56,988	6.5	165	183	156,858	**16.1**	15.8	0.3	**2%**	16.91	17.27	16.15	0.67	0.90	1.31	1.34	3.20	0.77	0.43	0.12	0.04	91.28	4.10	4.46
2019	61	0.473	44	6.5	334	23	210,685	**33.3**	32.6	0.7	**2%**	33.73	39.34	42.55	0.00	0.00	1.69	1.18	0.92	0.56	1.60	0.74	-	81.56	1.84	15.86
2018	120	0.447	56	6.5	328	28	217,991	**46.0**	46.7	-0.7	**-1%**	47.13	45.96	45.37	5.02	4.54	5.04	4.31	2.02	1.42	1.10	0.75	-	73.54	5.73	19.97
2010	15	0.142	74	6.5	216	130	134,608	**20.1**	4.3	15.8	***n.m.**	15.26	15.34	17.20	0.00	0.86	0.43	1.00	2.29	0.64	0.82	1.54	-	88.85	1.97	7.63
2009	122	0.076	553	6.5	205	140	154,033	**13.3**	17.2	-3.9	**-23%**	18.67	20.77	18.26	0.37	0.89	1.21	1.36	3.17	0.81	0.45	0.16	-	90.88	4.03	4.93
2008	1,381	0.021	5,019	6.5	195	152	173,237	**20.6**	15.4	5.1	**33%**	18.37	18.31	16.70	1.67	1.19	1.64	1.41	3.48	0.92	0.49	0.14	0.02	90.10	4.48	5.26
2007	3,474	0.018	8,547	6.6	185	163	175,782	**16.4**	15.9	0.5	**3%**	17.41	17.92	16.43	0.75	0.84	1.38	1.48	3.48	0.92	0.54	0.14	0.04	90.18	4.43	5.21
2006	2,764	0.018	8,441	6.6	173	176	171,548	**16.1**	15.7	0.3	**2%**	17.00	17.35	16.50	0.68	1.02	1.29	1.43	3.39	0.72	0.43	0.10	0.04	91.29	4.21	4.35
2005	1,367	0.030	5,564	6.5	162	186	147,577	**14.5**	16.4	-1.9	**-11%**	16.51	16.96	15.58	0.47	0.96	1.74	1.65	3.32	0.80	0.34	0.09	0.03	91.65	4.27	3.96
2004	1,644	0.029	5,441	6.5	147	200	132,794	**14.2**	14.6	-0.4	**-3%**	15.24	15.67	14.33	0.31	0.82	1.20	1.17	3.14	0.76	0.42	0.09	0.06	92.11	3.89	3.86
2003	1,253	0.018	5,342	6.5	136	211	135,064	**13.5**	13.9	-0.4	**-3%**	14.47	14.82	13.53	0.35	0.81	1.05	0.91	3.19	0.61	0.36	0.08	0.04	92.08	3.95	3.85
2002	1,393	0.009	7,145	6.5	126	222	135,560	**14.4**	13.6	0.7	**5%**	14.62	14.92	14.16	0.37	0.65	0.81	0.80	2.38	0.54	0.28	0.11	0.03	93.53	3.33	3
2001	466	0.006	3,928	6.6	115	233	121,061	**14.3**	15.7	-1.4	**-9%**	15.40	14.84	14.54	0.00	0.28	0.53	0.57	2.75	0.45	0.31	0.05	0.06	93.90	3.60	2.38
1999	99	0.005	1,710	6.6	86	263	121,270	**11.3**	15.1	-3.8	**-25%**	13.32	13.94	13.26	0.00	0.31	0.75	0.64	2.59	0.54	0.20	0.03	0.05	94.02	3.78	2.12
1998	201	0.004	3,678	6.6	81	269	117,269	**12.4**	15.7	-3.3	**-21%**	14.55	14.55	13.26	0.34	0.44	0.58	0.58	2.48	0.43	0.16	0.05	0.04	94.51	3.02	2.38
1993	15	0.003	735	6.7	30	328	114,121	**12.9**	19.3	-6.4	**-33%**	15.74	16.12	14.36	0.00	0.00	0.21	0.22	1.25	0.14	0.19	-	-	96.41	2.51	1.08

**n.m. - Not Meaningful*

Source: Bloomberg

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VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS Jumbos

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
15yr Jumbo 2	524	0.694	49	2.5	165	14	637,663	55.4	35.4	20.0	56%	42.44	31.89	21.88	0.00	0.00	0.00	0.00	1.39	0.00	0.00	-	-	98.10	1.60	0.3
2013	36	0.282	17	2.6	82	93	546,549	17.9	17.9	0.0	0%	26.81	23.51	16.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	96.93	-	3.07
15yr Jumbo 2.5	1,005	0.279	213	3.0	105	69	543,667	43.7	36.5	7.2	20%	41.59	41.77	34.89	0.34	0.53	0.47	0.28	0.38	0.18	0.05	0.04	-	97.60	0.55	1.81
2019	56	0.266	9	3.2	160	17	583,848	69.6	60.6	9.0	15%	72.27	75.18	70.85	0.00	0.00	0.00	0.00	0.00	0.85	0.00	-	-	96.00	0.85	3.15
2017	46	0.395	19	3.0	133	42	536,554	45.9	47.1	-1.3	-3%	56.97	53.97	44.19	0.00	4.03	2.03	1.02	0.00	0.00	0.00	-	-	98.04	-	1.96
2016	321	0.387	24	2.9	122	53	524,568	44.7	42.2	2.5	6%	44.79	45.15	34.72	0.00	0.00	0.62	0.38	0.49	0.33	0.00	0.13	-	98.00	0.39	1.49
2015	120	0.266	33	3.0	104	69	539,858	54.1	28.3	25.8	91%	43.44	42.94	35.22	0.00	0.00	0.00	0.21	0.02	0.00	0.00	-	-	95.74	0.70	3.56
2013	246	0.270	55	3.0	80	94	546,546	29.6	27.5	2.1	8%	26.75	24.54	19.80	0.00	0.95	0.47	0.24	0.69	0.12	0.09	-	-	97.56	0.65	1.78
2012	165	0.177	41	3.0	74	100	553,529	35.9	33.2	2.7	8%	32.92	30.13	23.44	2.10	0.71	0.35	0.18	0.33	0.00	0.01	-	-	98.50	0.43	1.07
15yr Jumbo 3	204	0.110	169	3.5	85	89	561,048	26.4	29.7	-3.2	-11%	33.51	32.36	27.49	0.00	0.00	0.00	0.26	0.48	0.24	0.10	-	-	97.15	0.83	2.02
2017	40	0.407	17	3.5	130	44	572,216	32.5	39.3	-6.8	-17%	39.80	41.15	35.16	0.00	0.00	0.00	0.00	1.89	1.24	0.00	-	-	94.03	2.30	3.67
2012	46	0.092	41	3.5	67	106	546,373	31.1	21.6	9.4	44%	25.49	24.00	19.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	98.61	0.43	0.96
2011	77	0.071	42	3.4	63	112	571,463	27.6	27.5	0.1	0%	27.96	27.31	21.81	0.00	0.00	0.00	0.00	0.29	0.00	0.26	-	-	98.52	0.31	1.17
15yr Jumbo 3.5	80	0.047	117	3.9	75	100	593,975	29.0	36.1	-7.1	-20%	34.00	29.66	25.10	0.00	0.00	0.89	0.44	0.55	0.65	0.00	-	-	95.41	1.37	3.22
2011	43	0.040	56	3.9	60	115	571,451	28.5	37.0	-8.6	-23%	33.07	27.34	21.83	0.00	0.00	1.29	0.65	0.00	1.21	0.00	-	-	97.08	1.02	1.9
30yr Jumbo 2.5	18,147	0.727	375	3.4	349	10	636,330	56.0	48.2	7.8	16%	49.65	43.37	29.42	0.04	0.10	0.12	0.12	0.62	0.14	0.15	0.02	0.01	97.78	0.69	1.51
2016	293	0.586	29	3.3	297	52	552,905	51.7	31.7	20.0	63%	45.02	42.66	32.57	0.00	0.00	0.38	0.32	0.33	0.00	0.15	-	-	94.60	0.80	4.59
2012	70	0.271	16	3.5	247	99	550,060	54.0	63.8	-9.8	-15%	58.37	54.09	47.02	0.00	0.00	0.00	0.00	0.66	0.01	0.00	-	-	96.75	0.66	2.58
30yr Jumbo 3	22,448	0.328	1,094	3.8	306	48	578,706	63.9	60.2	3.8	6%	62.60	62.76	54.12	0.12	0.22	0.35	0.29	0.68	0.25	0.21	0.07	0.01	93.97	0.73	5.22
2020	4,061	0.570	142	3.9	348	10	646,776	70.8	67.3	3.5	5%	66.82	60.89	43.09	0.00	0.35	0.58	0.76	0.92	0.32	0.22	-	-	94.43	0.92	4.65
2019	5,537	0.353	138	3.9	341	17	612,525	71.8	68.9	2.9	4%	71.36	71.37	62.41	0.25	0.21	0.41	0.25	0.89	0.41	0.34	0.14	0.03	90.74	0.94	8.15
2018	101	0.499	16	3.9	323	31	593,980	44.4	42.4	2.0	5%	44.53	51.08	44.63	0.00	0.00	0.00	0.00	0.54	0.00	0.54	0.57	-	86.98	1.59	10.86
2017	781	0.339	70	3.8	311	43	551,821	62.2	55.5	6.7	12%	61.79	64.16	58.73	0.00	0.25	0.12	0.07	0.51	0.06	0.12	0.19	-	93.74	0.64	5.43
2016	4,906	0.322	166	3.7	297	55	537,720	58.5	54.1	4.4	8%	57.91	60.72	54.10	0.10	0.28	0.41	0.31	0.68	0.22	0.20	0.05	0.02	94.29	0.71	4.92
2015	1,707	0.299	143	3.7	282	69	544,647	59.8	54.0	5.8	11%	58.17	60.09	53.03	0.00	0.00	0.13	0.08	0.32	0.21	0.25	0.06	-	95.39	0.49	4.06
2014	286	0.318	24	3.8	273	76	533,875	51.5	42.3	9.2	22%	44.87	49.09	42.77	0.00	0.00	0.00	0.00	0.64	0.17	0.00	-	-	97.13	0.47	2.4
2013	2,556	0.250	174	3.7	254	95	544,293	51.7	49.2	2.5	5%	51.88	54.07	46.43	0.17	0.11	0.16	0.13	0.40	0.11	0.06	-	0.02	96.15	0.45	3.38
2012	2,508	0.228	218	3.7	248	100	544,953	56.1	51.2	4.9	10%	54.61	56.00	49.16	0.19	0.24	0.16	0.11	0.40	0.07	0.06	0.04	0.02	96.52	0.50	2.92
30yr Jumbo 3.5	11,753	0.203	1,325	4.2	300	54	574,672	58.9	55.9	2.9	5%	58.55	59.91	56.72	1.00	0.86	0.94	0.67	1.05	0.45	0.35	0.13	0.04	89.66	1.24	8.94
2020	633	0.507	52	4.4	346	12	672,413	71.7	61.1	10.6	17%	67.01	65.38	49.49	3.29	1.11	2.51	2.10	0.99	0.65	0.18	0.10	-	91.49	1.30	7.12
2019	2,340	0.299	160	4.4	339	19	631,232	61.8	60.0	1.8	3%	62.34	63.60	63.14	1.26	1.49	1.39	0.85	1.21	0.79	0.59	0.34	-	84.27	1.33	14.06
2018	615	0.255	76	4.3	322	34	588,879	63.7	58.5	5.3	9%	61.90	62.94	62.65	1.90	0.64	0.91	0.56	0.73	0.87	0.79	0.08	0.10	86.87	1.35	11.6
2017	2,642	0.241	142	4.2	312	43	553,224	59.9	59.1	0.8	1%	62.05	63.80	61.60	1.13	1.38	1.00	0.71	1.19	0.40	0.33	0.06	0.02	89.38	1.32	9.22
2016	1,458	0.247	110	4.2	301	54	561,850	57.0	54.4	2.6	5%	56.69	57.10	52.70	0.70	0.63	0.95	0.68	1.56	0.39	0.30	0.19	0.03	87.92	1.45	10.41
2015	1,019	0.187	154	4.1	286	67	542,035	56.8	52.9	3.9	7%	54.78	57.54	52.24	0.96	0.32	0.50	0.30	1.17	0.28	0.38	0.09	0.05	90.69	1.31	7.86
2014	449	0.133	78	4.2	272	78	529,462	52.8	55.8	-2.9	-5%	52.43	53.96	50.83	0.00	0.28	0.43	0.28	1.11	0.31	0.30	0.10	0.10	92.40	1.01	6.39
2013	578	0.170	107	4.0	259	92	547,016	41.7	49.6	-7.9	-16%	47.93	49.19	44.38	0.75	0.25	0.23	0.20	0.85	0.36	0.24	-	0.07	92.86	1.08	5.99
2012	1,826	0.126	348	4.0	244	104	543,639	55.6	47.4	8.1	17%	51.74	52.99	46.43	0.00	0.17	0.30	0.21	0.46	0.12	0.07	0.03	0.08	95.68	0.92	3.3
2011	174	0.071	85	4.1	236	112	564,309	40.8	49.1	-8.3	-17%	43.52	52.10	47.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	96.40	0.32	3.27
30yr Jumbo 4	5,407	0.100	1,231	4.7	294	61	597,297	50.8	47.6	3.2	7%	51.49	52.22	50.56	0.68	0.94	0.99	0.80	1.44	0.64	0.44	0.21	-	86.13	1.69	11.97
2020	219	0.582	29	4.9	347	11	694,637	50.5	58.0	-7.5	-13%	56.53	57.59	43.00	3.09	2.17	2.31	1.53	1.68	0.60	0.25	0.24	-	88.61	2.30	8.85
2019	858	0.325	110	4.9	337	20	643,673	57.7	51.7	6.0	12%	57.17	55.50	56.84	0.69	1.67	1.48	1.14	1.80	0.93	0.84	0.06	-	80.09	2.18	17.68
2018	1,177	0.218	115	4.8	325	32	593,152	53.5	52.8	0.7	1%	57.18	58.11	58.91	2.00	1.13	1.09	0.92	1.76	0.62	0.61	0.50	-	82.13	1.88	15.49
2017	930	0.242	98	4.7	313	43	583,106	56.2	49.9	6.3	13%	52.88	52.81	50.55	0.00	0.77	1.21	0.73	1.59	0.89	0.47	0.28	-	82.87	1.70	15.16
2016	206	0.230	52	4.7	301	56	610,166	41.1	31.9	9.2	29%	41.10	40.57	40.47	0.00	1.79	1.34	1.30	2.46	1.18	0.20	-	-	83.72	2.50	13.78
2015	77	0.169	66	4.7	288	66	587,547	29.9	42.9	-13.0	-30%	38.67	40.14	42.47	0.00	0.00	0.00	0.00	1.15	0.00	0.59	-	-	83.14	1.52	15.33
2014	186	0.087	76	4.6	274	80	536,003	49.5	52.6	-3.1	-6%	48.73	47.88	42.83	0.00	0.75	0.37	0.53	2.10	0.70	0.46	0.51	-	87.57	2.19	9.73
2013	243	0.072	83	4.6	262	88	533,286	38.4	43.9	-5.5	-13%	47.27	48.01	45.20	0.00	1.85	0.93	0.83	0.52	0.65	0.00	-	-	91.94	1.31	6.75
2012	151	0.079	108	4.5	239	107	548,372	37.5	43.3	-5.8	-13%	47.07	43.01	38.48	0.00	0.00	0.00	0.00	1.58	0.33	0.00	-	-	91.44	1.65	6.9
2011	708	0.046	297	4.5	236	114	589,568	42.3	36.3	6.0	17%	41.76	45.41	39.69	0.00	0.19	0.28	0.32	0.48	0.25	0.20	0.05	-	94.29	0.57	5.09
2010	634	0.037	176	4.5	225	124	590,634	48.9	41.4	7.5	18%	45.41	48.86	42.41	0.00	0.00	0.55	0.33	0.89	0.37	0.22	0.08	-	93.41	1.54	4.96
30yr Jumbo 4.5	1,489	0.041	673	5.2	278	75	612,064	44.1	38.0	6.0	16%	43.43	45.44	43.84	2.35	1.67	1.65	1.34	1.82	1.10	0.52	0.36	0.04	83.57	2.54	13.49
2020	31	0.650	10	5.3	347	12	719,233	31.6	56.8	-25.2	-44%	42.48	42.14	38.80	0.00	0.00	0.00	4.71	2.23	0.00	0.00	-	-	89.83	1.77	8.4
2019	279	0.356	52	5.4	337	21	655,598	56.3	43.5	12.8	29%	50.15	54.94	53.64	2.67	1.74	1.53	1.06	2.05	1.92	0.71	1.05	-	75.30	3.13	20.52

VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS Jumbos

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	*Factor*	*# of Pools*	*WAC*	*WAM*	*WALA*	*WAOLS*	*Mar*	*Feb*	*Chg*	*% Chg*	*3mo*	*6mo*	*12mo*	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
2018	395	0.262	45	5.4	328	29	625,767	**52.2**	41.4	10.8	**26%**	51.48	51.10	50.02	2.67	1.74	1.53	1.06	2.05	1.92	0.71	1.05	-	75.30	3.13	20.52
2017	59	0.241	25	5.2	311	45	623,669	**40.2**	27.7	12.6	**45%**	45.30	44.33	37.06	5.20	3.22	2.86	2.21	3.05	1.38	0.91	0.36	-	77.15	2.28	20.21
2011	197	0.028	197	4.9	232	117	594,289	**46.0**	37.8	8.2	**22%**	41.20	40.59	37.20	0.00	3.09	3.07	1.55	2.56	1.90	1.02	0.91	0.89	67.27	4.48	26.45
2010	334	0.021	176	4.9	221	127	580,399	**26.8**	31.6	-4.9	**-15%**	32.10	37.19	34.42	0.00	0.65	0.66	0.47	0.63	0.92	0.00	0.06	-	93.57	1.18	5.19
2009	161	0.017	66	4.9	210	138	574,874	**26.7**	28.6	-2.0	**-7%**	30.90	33.30	32.52	1.93	0.65	0.99	0.58	1.33	0.35	0.27	0.13	-	91.37	2.49	6
30yr Jumbo 5	317	0.017	237	5.5	237	115	580,785	**39.5**	39.0	0.6	**2%**	40.14	36.82	35.69	0.00	0.00	0.95	0.00	0.37	0.88	0.45	-	-	89.94	3.34	6.72
2011	24	0.044	42	5.4	233	119	631,919	**0.2**	37.1	-36.9	***n.m.**	25.57	30.66	27.72	0.00	0.40	0.68	0.72	2.74	1.30	0.65	0.27	-	83.45	3.68	12.6
2010	73	0.017	69	5.4	221	129	560,682	**25.9**	29.3	-3.4	**-12%**	32.30	33.86	31.16	0.00	0.00	0.00	0.00	4.61	0.00	0.00	-	-	86.50	4.77	8.73
2009	102	0.013	46	5.4	213	137	567,623	**43.4**	23.8	19.6	**83%**	34.74	29.42	28.03	0.00	1.79	0.90	1.45	1.86	1.03	1.07	-	-	85.11	1.91	12.98

**n.m. - Not Meaningful*

Source: Bloomberg

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VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS 105-125 LTV

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
15yr 105-125 LTV 2.5	315	0.249	417	3.0	81	93	203,184	14.2	16.8	-2.6	-16%	16.11	16.16	14.28	0.32	0.32	0.50	0.38	1.19	0.16	0.14	0.06	0.06	95.92	1.42	2.55
2013	170	0.259	205	3.0	80	94	198,894	14.8	13.5	1.3	10%	14.11	14.94	13.44	0.58	0.33	0.52	0.44	1.34	0.27	0.04	0.10	-	95.55	1.54	2.81
2012	112	0.206	168	3.0	73	101	216,600	16.6	21.7	-5.1	-24%	20.28	19.18	16.53	0.00	0.12	0.18	0.19	0.92	0.05	0.18	-	0.07	96.96	0.86	2.11
15yr 105-125 LTV 3	590	0.256	771	3.6	89	85	188,116	14.6	15.0	-0.4	-3%	16.76	17.79	16.09	0.14	0.30	0.75	0.81	1.32	0.40	0.25	0.06	0.02	95.03	1.66	3.23
2016	54	0.504	61	3.7	119	56	169,903	10.6	6.2	4.5	73%	11.67	19.03	15.89	1.50	0.50	0.25	0.47	1.68	1.23	0.31	-	-	92.08	2.71	5.21
2015	74	0.426	81	3.7	108	68	177,876	16.1	6.1	10.1	166%	14.88	16.35	15.01	0.00	0.00	0.46	0.65	2.14	0.60	0.21	0.06	0.14	93.32	2.06	4.42
2014	58	0.338	94	3.7	96	79	181,895	9.1	23.4	-14.3	-61%	15.87	17.31	16.31	0.00	0.91	2.47	2.30	1.27	0.00	0.36	-	-	95.52	2.05	2.43
2013	215	0.240	238	3.5	82	93	187,602	15.0	15.6	-0.6	-4%	17.91	18.01	15.47	0.00	0.28	0.69	0.55	1.44	0.26	0.26	0.07	-	95.46	1.55	2.91
2012	164	0.180	257	3.5	72	101	204,499	17.6	19.1	-1.5	-8%	18.91	18.86	18.12	0.00	0.22	0.64	0.65	0.54	0.21	0.16	0.10	-	96.33	1.05	2.51
15yr 105-125 LTV 3.5	249	0.273	503	4.1	93	81	168,378	23.0	16.4	6.6	40%	21.03	19.36	17.83	0.00	0.37	0.37	0.34	1.62	0.34	0.18	0.05	0.08	94.61	1.98	3.28
2014	87	0.309	122	4.2	94	80	167,690	25.5	12.8	12.7	100%	20.71	20.14	17.71	0.00	0.00	0.03	0.21	1.79	0.73	0.13	-	-	93.48	2.37	4.15
2013	89	0.253	153	4.1	85	89	174,206	24.7	20.0	4.7	23%	22.96	20.52	18.54	0.00	0.68	0.64	0.54	1.46	0.12	0.26	0.04	-	95.67	1.60	2.69
2012	25	0.157	113	4.0	71	103	186,738	20.3	23.2	-2.9	-13%	22.85	20.49	20.32	0.00	0.00	0.00	0.00	1.04	0.17	0.00	0.36	0.78	95.57	0.98	2.32
30yr 105-125 LTV 2.5	26	0.398	31	3.3	186	89	209,556	21.2	20.6	0.6	3%	23.03	23.05	20.07	0.00	0.00	0.00	0.64	0.62	0.00	0.00	-	-	91.52	3.26	5.22
30yr 105-125 LTV 3	2,053	0.377	957	3.7	226	93	230,248	23.4	20.8	2.7	13%	23.03	22.34	19.04	0.15	0.19	0.55	0.45	1.25	0.38	0.27	0.06	0.03	94.24	1.91	3.77
2016	140	0.614	91	3.8	266	55	224,319	25.5	18.3	7.2	39%	21.34	19.86	15.55	1.75	0.59	1.47	1.55	1.46	0.39	0.48	0.23	-	90.48	2.43	6.86
2015	50	0.539	55	3.9	201	68	214,449	27.8	7.3	20.4	279%	24.36	18.36	15.54	0.00	0.85	0.43	0.21	1.40	1.61	0.94	-	-	93.18	2.03	4.79
2013	1,158	0.380	417	3.7	229	95	228,153	20.9	20.3	0.6	3%	22.08	21.78	18.54	0.06	0.17	0.55	0.43	1.38	0.47	0.28	0.06	0.03	93.83	2.15	3.94
2012	690	0.338	375	3.7	217	100	236,389	27.0	23.0	4.0	17%	24.81	24.16	20.91	0.00	0.11	0.38	0.29	1.01	0.14	0.16	0.04	0.05	95.72	1.43	2.77
30yr 105-125 LTV 3.5	8,087	0.315	2,527	4.1	243	95	230,551	27.2	27.8	-0.6	-2%	28.37	28.47	24.64	0.30	0.44	0.74	0.74	1.32	0.43	0.27	0.09	0.03	93.71	1.95	4.22
2017	65	0.667	63	4.1	266	45	226,789	6.2	17.9	-11.7	-65%	21.52	16.34	16.65	0.00	0.90	0.45	1.37	1.40	0.98	0.00	-	-	90.05	3.13	6.82
2016	255	0.584	134	4.2	285	56	223,486	27.8	17.6	10.2	58%	22.54	20.48	17.50	0.65	0.55	0.68	0.57	1.73	0.46	0.45	0.26	-	90.32	2.71	6.71
2015	299	0.505	238	4.2	254	68	215,944	19.5	30.5	-11.0	-36%	23.27	23.60	21.02	0.00	0.57	0.93	0.92	1.66	0.59	0.55	-	0.02	92.34	2.51	5.12
2014	110	0.421	137	4.3	212	78	210,991	34.6	28.9	5.7	20%	29.79	26.82	23.22	0.00	0.00	0.39	0.61	2.09	0.95	0.71	-	-	92.88	2.23	4.89
2013	3,072	0.348	849	4.1	247	94	225,022	23.8	25.7	-1.9	-8%	25.52	25.73	21.92	0.44	0.61	0.89	0.66	1.44	0.38	0.27	0.10	0.02	93.48	2.07	4.33
2012	4,260	0.278	1,057	4.1	237	102	236,603	30.1	29.8	0.3	1%	31.10	31.27	27.19	0.22	0.31	0.63	0.52	1.17	0.44	0.24	0.08	0.03	94.24	1.77	3.87
30yr 105-125 LTV 4	5,369	0.284	2,589	4.6	250	92	222,466	27.8	29.2	-1.4	-5%	29.50	29.33	25.75	0.50	0.60	0.94	0.98	1.66	0.53	0.36	0.12	0.04	92.63	2.30	4.91
2018	37	0.745	27	4.7	297	34	207,956	9.7	11.5	-1.8	-16%	11.93	16.71	14.31	1.35	1.76	3.19	2.43	2.08	0.20	0.00	-	-	87.50	2.31	10.2
2017	233	0.672	108	4.6	301	44	226,422	19.8	21.5	-1.7	-8%	18.90	17.59	14.70	0.00	0.68	1.50	1.90	2.30	0.78	1.03	0.08	0.22	88.63	2.54	8.53
2016	192	0.568	103	4.6	293	57	218,612	18.5	28.5	-10.0	-35%	24.87	22.64	16.79	2.64	2.52	2.70	1.65	2.28	0.81	0.50	0.18	0.18	90.19	2.76	6.69
2015	400	0.489	215	4.6	279	68	209,949	18.9	22.6	-3.7	-16%	21.01	23.09	19.63	0.52	0.54	1.31	1.35	2.12	0.93	0.49	0.21	0.03	91.21	2.71	5.84
2014	564	0.406	389	4.7	254	80	214,092	26.0	28.3	-2.3	-8%	26.41	25.51	22.35	0.77	1.25	1.21	1.89	2.37	0.74	0.40	0.08	-	91.50	3.14	5.28
2013	1,240	0.338	673	4.6	251	91	211,947	25.9	26.9	-1.0	-4%	27.99	27.20	23.22	0.84	0.88	1.07	0.87	1.72	0.52	0.29	0.19	0.02	92.83	2.35	4.61
2012	2,440	0.227	846	4.5	238	105	230,701	31.4	31.8	-0.5	-2%	32.88	32.98	29.28	0.18	0.22	0.59	0.48	1.33	0.41	0.31	0.09	0.03	93.44	2.03	4.41
2011	216	0.180	153	4.6	219	112	234,021	34.0	32.8	1.2	4%	35.89	34.89	32.42	0.00	0.00	0.52	0.55	1.28	0.35	0.10	-	0.14	94.63	1.69	3.55
2010	46	0.137	72	4.6	206	124	234,369	38.1	41.5	-3.4	-8%	38.22	38.85	37.52	0.00	0.00	0.00	0.00	0.53	0.00	0.26	-	-	95.39	1.55	3.06
30yr 105-125 LTV 4.5	1,921	0.217	1,423	5.0	246	98	222,953	31.9	28.9	3.1	11%	31.08	30.73	27.45	0.52	0.79	1.05	1.10	1.89	0.55	0.56	0.10	0.03	91.91	2.59	5.38
2015	23	0.459	59	4.9	280	71	188,797	25.3	18.5	6.8	37%	21.37	23.71	18.61	0.00	0.00	0.00	0.67	2.53	1.25	3.07	-	-	87.17	2.42	10.4
2014	449	0.371	275	5.1	266	81	206,056	20.4	21.4	-1.0	-5%	22.71	23.76	21.13	1.12	1.39	1.56	1.42	2.22	0.46	0.72	0.22	0.05	90.64	3.16	5.94
2013	490	0.311	291	5.1	257	88	207,360	29.9	30.4	-0.5	-2%	30.17	28.87	25.17	0.41	0.36	0.80	0.74	2.41	0.99	0.43	0.03	0.07	91.06	3.45	5.4
2012	184	0.195	170	5.0	237	107	226,191	33.3	36.2	-3.0	-8%	35.31	34.75	30.45	0.00	0.18	1.21	0.84	1.36	0.39	0.29	-	-	93.37	1.47	5.16
2011	555	0.156	347	5.0	225	115	245,215	39.4	31.5	8.0	25%	35.08	34.67	31.24	0.54	0.85	0.83	0.46	1.63	0.37	0.48	0.08	-	92.74	1.99	5.18
2010	158	0.117	181	5.0	218	125	246,328	41.2	29.7	11.5	39%	39.66	38.27	35.46	0.00	0.70	0.50	0.32	1.29	0.18	0.56	-	-	94.86	2.07	3.07
30yr 105-125 LTV 5	544	0.123	648	5.4	231	115	239,270	31.9	32.1	-0.2	-1%	33.19	34.80	31.56	0.51	1.16	1.65	1.10	2.04	0.41	0.29	0.07	0.02	91.01	2.93	5.97
2011	304	0.131	282	5.4	228	117	245,659	32.3	30.3	2.0	7%	33.54	35.73	31.88	0.00	1.04	1.71	1.05	1.31	0.36	0.14	0.10	-	91.71	2.68	5.5
2010	141	0.088	236	5.5	220	127	245,642	31.0	42.3	-11.3	-27%	36.03	37.41	35.54	0.00	0.55	0.75	0.81	2.35	0.33	0.35	0.07	0.07	91.59	2.97	5.29
2009	25	0.083	47	5.5	213	135	260,024	37.2	33.5	3.7	11%	40.87	37.45	33.35	0.00	0.00	0.00	0.00	2.49	0.00	0.00	-	-	88.36	3.69	7.95
30yr 105-125 LTV 5.5	45	0.101	138	5.9	217	132	219,333	50.3	24.5	25.8	105%	39.58	39.53	33.56	0.00	0.00	0.48	0.39	1.49	0.64	1.59	-	-	90.83	3.05	6.13

*n.m. - Not Meaningful

Source: Bloomberg

VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS 125+ LTV

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	*Factor*	*# of Pools*	*WAC*	*WAM*	*WALA*	*WAOLS*	*Mar*	*Feb*	*Chg*	*% Chg*	*3mo*	*6mo*	*12mo*	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
15yr 125+ LTV 2.5	192	0.247	303	3.1	80	95	198,586	**18.5**	20.1	-1.7	**-8%**	18.38	17.49	15.06	0.00	0.00	0.37	0.43	0.86	0.19	0.21	-	-	97.16	1.23	1.61
2013	108	0.262	158	3.1	81	94	188,512	**22.2**	20.7	1.5	**7%**	18.79	17.53	14.95	0.00	0.00	0.17	0.40	0.82	0.28	0.38	-	-	96.68	1.44	1.88
2012	75	0.216	129	3.0	74	100	215,104	**9.4**	21.4	-12.0	**-56%**	17.98	18.33	15.96	0.00	0.00	0.70	0.45	1.01	0.08	0.00	-	-	98.48	0.91	0.61
15yr 125+ LTV 3	460	0.237	526	3.5	83	91	188,754	**17.0**	18.1	-1.1	**-6%**	17.74	18.32	16.46	0.27	0.28	0.51	0.55	1.12	0.42	0.14	0.04	0.07	96.00	1.45	2.45
2015	34	0.434	51	3.7	107	68	157,464	**12.8**	11.5	1.3	**11%**	11.75	13.24	12.28	0.00	0.00	1.42	0.83	1.52	0.56	0.00	-	0.09	95.50	1.74	2.67
2014	24	0.384	45	3.7	96	79	166,823	**1.8**	18.2	-16.3	**-90%**	14.71	13.71	12.61	0.00	0.96	0.48	1.85	0.87	0.57	0.27	-	-	94.78	0.84	4.37
2013	180	0.247	195	3.5	81	93	187,584	**14.8**	18.0	-3.2	**-18%**	17.91	19.06	17.17	0.00	0.30	0.66	0.76	1.04	0.63	0.09	0.06	-	96.09	1.82	2.03
2012	190	0.187	196	3.5	72	101	204,417	**18.6**	19.9	-1.3	**-7%**	18.68	19.51	17.72	0.00	0.06	0.14	0.15	1.05	0.18	0.21	0.03	0.15	96.68	0.95	2.19
15yr 125+ LTV 3.5	238	0.263	368	4.1	89	85	162,508	**16.8**	16.0	0.8	**5%**	17.42	16.97	15.82	0.00	0.34	0.58	0.42	1.59	0.34	0.28	0.08	-	95.08	1.85	2.98
2014	65	0.323	89	4.2	93	81	147,405	**11.0**	19.8	-8.8	**-45%**	16.82	17.85	16.64	0.00	0.36	1.44	1.02	2.01	0.70	0.41	0.09	-	94.38	2.34	3.19
2013	107	0.261	139	4.1	84	90	170,447	**16.6**	15.7	0.9	**6%**	18.13	15.64	15.14	0.00	0.53	0.26	0.24	1.73	0.20	0.18	0.07	-	95.48	1.90	2.56
2012	36	0.157	90	4.0	71	103	192,983	**26.4**	16.9	9.6	**57%**	21.16	21.04	19.03	0.00	0.00	0.43	0.22	1.40	0.00	0.14	-	-	97.22	0.95	1.83
15yr 125+ LTV 4	39	0.271	78	4.6	92	82	146,057	**16.8**	17.0	-0.2	**-1%**	15.82	15.06	14.82	0.00	0.00	0.16	0.33	1.83	0.00	1.01	0.17	-	92.00	2.54	5.29
2013	17	0.252	37	4.7	87	88	149,115	**17.0**	21.3	-4.3	**-20%**	17.96	19.48	18.06	0.00	0.00	0.36	0.72	2.71	0.00	1.80	0.37	-	89.53	3.37	6.73
30yr 125+ LTV 2.5	12	0.472	19	3.3	218	96	226,245	**11.0**	0.6	10.4	***n.m.**	4.23	6.20	6.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	89.42	-	10.58
30yr 125+ LTV 3	1,730	0.395	674	3.8	237	96	229,333	**25.9**	21.7	4.2	**19%**	24.81	23.70	19.51	0.40	0.40	0.78	0.62	1.15	0.46	0.31	0.07	0.01	94.21	1.68	4.04
2013	983	0.407	340	3.8	238	95	226,405	**26.3**	19.9	6.4	**32%**	24.45	23.28	19.45	0.14	0.45	0.71	0.52	1.29	0.57	0.37	0.06	-	93.92	1.86	4.16
2012	687	0.366	281	3.7	232	99	234,964	**26.2**	24.7	1.5	**6%**	26.08	24.99	20.13	0.81	0.35	0.83	0.70	0.92	0.35	0.21	0.05	0.02	94.97	1.37	3.6
30yr 125+ LTV 3.5	9,151	0.336	1,824	4.1	243	97	227,111	**29.7**	26.9	2.7	**10%**	29.01	28.67	24.57	0.45	0.41	0.63	0.59	1.39	0.35	0.33	0.09	0.02	94.10	1.77	4.02
2016	115	0.661	73	4.2	287	56	208,799	**15.5**	9.6	5.9	**62%**	17.65	17.03	13.83	2.54	1.58	1.10	0.65	1.89	0.34	0.33	0.33	-	92.51	1.86	5.3
2015	140	0.526	125	4.2	254	68	199,199	**19.6**	24.3	-4.7	**-19%**	22.62	23.33	18.92	0.00	1.85	2.34	2.44	1.21	0.46	0.30	-	-	92.00	2.17	5.83
2014	45	0.487	59	4.4	214	78	189,048	**22.7**	14.8	8.0	**54%**	21.52	17.65	14.68	0.00	1.10	1.04	0.57	2.01	0.48	0.40	-	-	92.27	1.20	6.52
2013	3,497	0.377	736	4.1	248	94	219,339	**27.2**	23.0	4.2	**18%**	25.56	25.32	21.71	0.44	0.38	0.71	0.67	1.66	0.42	0.40	0.08	0.02	93.59	1.98	4.32
2012	5,317	0.306	796	4.1	238	101	233,846	**31.9**	30.0	1.9	**6%**	31.68	31.25	26.82	0.44	0.36	0.51	0.49	1.20	0.31	0.27	0.08	0.03	94.56	1.62	3.7
30yr 125+ LTV 4	4,958	0.310	1,789	4.6	247	95	216,201	**28.6**	28.7	-0.1	**0%**	29.73	29.44	25.78	0.52	0.75	0.94	0.78	1.42	0.42	0.31	0.08	0.03	93.41	1.84	4.65
2017	93	0.719	57	4.6	300	44	197,101	**18.2**	16.3	2.0	**12%**	15.51	14.38	10.64	0.00	2.40	2.76	2.25	2.87	1.17	1.14	0.23	-	87.68	3.39	8.7
2016	76	0.638	69	4.6	291	57	195,200	**17.8**	8.7	9.1	**105%**	12.07	14.74	11.80	0.00	0.79	2.36	1.62	1.59	0.51	0.00	-	-	92.14	2.45	5.41
2015	208	0.548	155	4.6	276	68	189,873	**14.6**	18.2	-3.6	**-20%**	17.58	19.15	15.67	1.69	1.00	1.41	1.64	2.90	0.48	0.47	-	0.04	90.67	3.11	6.18
2014	319	0.448	239	4.7	250	80	198,603	**25.9**	18.9	7.0	**37%**	23.99	22.73	19.72	0.55	0.88	1.00	1.17	2.33	0.51	0.35	0.11	-	91.53	3.01	5.35
2013	1,215	0.377	605	4.6	251	92	207,790	**25.0**	24.7	0.3	**1%**	25.89	25.53	21.93	0.80	0.85	1.08	0.95	1.51	0.48	0.34	0.18	0.02	93.31	1.85	4.64
2012	3,029	0.266	650	4.5	241	103	224,396	**31.8**	32.7	-0.8	**-3%**	33.33	32.95	29.06	0.36	0.64	0.76	0.56	1.14	0.35	0.25	0.04	0.03	94.12	1.54	4.28
30yr 125+ LTV 4.5	1,233	0.347	800	5.1	256	89	205,350	**24.3**	23.3	1.0	**4%**	26.02	25.13	22.43	0.79	1.15	1.38	1.53	1.72	0.72	0.37	0.10	0.02	91.66	2.68	5.54
2014	355	0.439	236	5.1	265	82	196,490	**23.5**	19.9	3.6	**18%**	24.50	22.89	19.39	0.95	1.31	1.39	0.99	2.05	1.00	0.32	0.09	-	91.57	2.92	5.42
2013	568	0.378	293	5.1	256	89	203,891	**21.9**	22.3	-0.4	**-2%**	25.09	24.15	21.54	0.47	1.04	1.16	1.77	1.83	0.70	0.52	0.07	0.04	91.61	2.76	5.51
2012	272	0.232	166	5.0	242	105	223,303	**31.7**	31.2	0.4	**1%**	31.78	31.15	28.70	0.85	0.91	1.67	1.55	1.17	0.44	0.18	0.10	0.02	92.04	2.16	5.68
30yr 125+ LTV 5	85	0.380	80	5.5	267	83	180,610	**26.2**	26.6	-0.4	**-2%**	31.47	28.10	22.45	0.00	4.91	3.84	3.24	1.12	0.38	0.25	0.34	-	91.24	1.79	6.63

**n.m. - Not Meaningful*

Source: Bloomberg

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VINING SPARKS

UMBS Prepayment Speeds
March 2021
UMBS Relocation

	Indicative Data							Prepayment Speeds							Buyout Prepayment Component				Delinquencies			Borrower Assistance Plan				
	Cur Bal (MM)	Factor	# of Pools	WAC	WAM	WALA	WAOLS	Mar	Feb	Chg	% Chg	3mo	6mo	12mo	1mo	3mo	6mo	12mo	30D	60D	90D	Trial	Repay.	N/A	No Workout	Forbear.
15yr RELO 2	20	0.274	18	2.5	101	70	311,462	20.6	32.6	-12.0	-37%	27.89	18.65	16.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	-	-	99.60	0.00	-
15yr RELO 2.5	104	0.192	84	3.0	96	77	279,995	22.1	26.9	-4.9	-18%	26.50	25.48	24.38	0.00	0.00	0.00	0.00	0.39	0.00	0.00	-	-	99.53	0.15	0.32
2014	45	0.202	42	3.0	93	79	277,673	17.1	15.1	2.0	13%	18.61	22.74	21.12	0.00	0.00	0.00	0.00	0.70	0.00	0.00	-	-	99.61	0.14	0.25
30yr RELO 2.5	302	0.452	59	3.3	302	50	347,299	31.6	31.2	0.5	2%	29.38	26.30	20.20	0.00	0.00	0.26	0.16	0.56	0.16	0.12	-	-	98.11	0.34	1.55
2016	44	0.491	10	3.1	298	53	326,792	30.7	36.0	-5.2	-15%	31.55	23.93	23.84	0.00	0.00	0.00	0.00	0.74	0.74	0.00	-	-	97.24	0.52	2.24
2013	78	0.286	24	3.1	252	95	318,726	10.9	17.0	-6.0	-36%	22.90	25.67	21.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	98.43	-	1.57
30yr RELO 3	2,236	0.338	350	3.7	293	56	325,738	44.5	42.4	2.1	5%	43.90	44.73	39.08	0.00	0.03	0.10	0.08	0.44	0.16	0.07	-	0.01	98.25	0.41	1.34
2019	143	0.642	22	3.9	337	18	375,072	41.3	44.6	-3.3	-7%	39.09	38.80	32.14	0.00	0.00	0.00	0.33	0.33	0.54	0.62	-	-	97.08	0.57	2.35
2018	217	0.387	39	4.1	318	33	331,395	54.0	52.2	1.8	3%	53.39	54.89	51.43	0.00	0.00	0.29	0.15	0.27	0.13	0.08	-	-	98.80	0.17	1.03
2017	658	0.415	91	3.8	309	41	324,255	48.8	46.2	2.7	6%	48.51	48.64	42.46	0.00	0.11	0.11	0.10	0.53	0.09	0.00	-	-	98.04	0.50	1.45
2016	292	0.382	24	3.6	296	54	320,134	39.2	42.6	-3.5	-8%	38.48	40.28	33.97	0.00	0.00	0.09	0.00	0.22	0.30	0.07	-	-	97.85	0.14	2
2015	470	0.313	57	3.7	280	68	317,326	43.5	39.1	4.4	11%	42.68	43.08	35.81	0.00	0.00	0.00	0.00	0.25	0.08	0.05	-	-	98.73	0.39	0.89
2014	139	0.231	44	3.9	268	78	320,897	41.8	45.1	-3.4	-7%	46.42	47.56	42.34	0.00	0.00	0.00	0.00	0.81	0.40	0.13	-	0.13	98.40	0.27	1.2
2013	160	0.236	34	3.5	253	93	321,581	42.3	28.6	13.7	48%	34.82	36.12	31.23	0.00	0.00	0.00	0.00	0.89	0.00	0.00	-	-	97.93	0.52	1.56
2012	137	0.218	31	3.5	242	104	322,665	30.5	26.1	4.4	17%	31.83	31.94	28.37	0.00	0.00	0.35	0.18	0.74	0.00	0.00	-	-	98.71	0.88	0.41
30yr RELO 3.5	705	0.182	195	4.1	270	77	308,323	46.8	47.8	-1.0	-2%	47.67	49.68	46.47	0.00	0.14	0.17	0.17	0.42	0.21	0.10	-	0.03	97.50	0.55	1.93
2019	7	0.383	5	4.4	327	23	296,437	61.0	26.5	34.5	130%	34.50	52.84	52.78	0.00	0.00	0.00	3.60	0.00	0.00	0.00	-	-	96.17	-	3.83
2017	75	0.305	15	4.1	306	46	314,431	54.8	52.4	2.4	5%	54.16	55.98	51.63	0.00	0.00	0.00	0.00	0.65	0.00	0.00	-	-	97.29	0.67	2.04
2014	230	0.166	63	4.2	267	80	291,988	38.8	47.8	-9.0	-19%	44.30	48.47	45.32	0.00	0.00	0.13	0.07	0.72	0.37	0.10	-	0.08	96.98	0.49	2.45
2013	75	0.152	24	4.1	258	89	296,922	41.7	43.5	-1.8	-4%	44.84	48.00	45.12	0.00	0.00	0.00	0.00	0.00	0.00	0.64	-	-	98.93	0.22	0.85
2012	54	0.156	19	3.9	236	108	308,160	38.8	35.7	3.2	9%	37.46	38.87	35.73	0.00	0.00	0.00	0.00	0.00	0.60	0.00	-	-	99.40	-	0.6
2011	71	0.146	27	3.9	230	113	314,425	35.4	43.4	-8.0	-18%	43.29	43.15	35.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	98.06	1.24	0.71
2010	61	0.125	14	3.9	218	123	312,985	37.6	40.6	-3.0	-7%	39.73	39.84	36.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	99.03	-	0.97
30yr RELO 4	212	0.078	130	4.5	240	105	296,777	41.3	38.6	2.8	7%	45.21	46.26	42.00	0.00	0.42	0.21	0.19	0.38	0.36	0.12	-	-	97.85	0.73	1.42
2014	40	0.112	37	4.5	264	83	270,545	49.5	36.9	12.6	34%	49.34	48.36	41.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	98.75	0.57	0.68
2011	73	0.068	43	4.4	225	117	291,749	42.7	33.1	9.6	29%	42.41	42.18	38.64	0.00	0.00	0.00	0.00	0.57	0.44	0.36	-	-	98.62	0.62	0.76
2010	67	0.062	25	4.4	219	127	314,119	34.0	35.3	-1.3	-4%	33.74	38.81	34.19	0.00	1.36	0.68	0.00	0.49	0.00	0.00	-	-	96.07	1.31	2.62
30yr RELO 4.5	46	0.026	248	5.0	186	159	245,598	21.6	32.7	-11.1	-34%	22.45	24.53	25.17	0.00	0.00	0.00	0.00	1.56	0.01	0.28	-	-	97.33	1.69	0.98

**n.m. - Not Meaningful*

Source: Bloomberg

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