Market Snapshot





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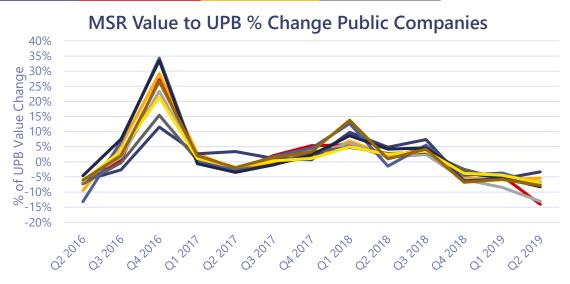


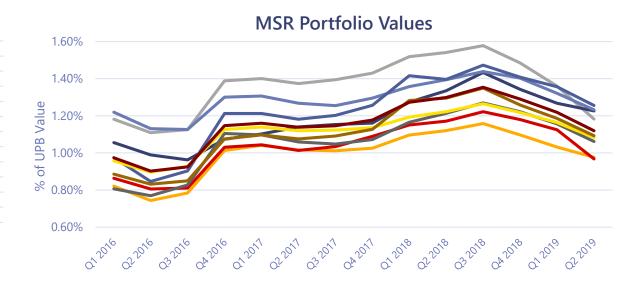
Special Topic: MSR Value Trends

Commentary

- MSR values reached peak valuations in Q3 2018, with an average value of 1.35%. Since then, values have declined for three consecutive quarters to an average of 1.12% as of Q2 2019. This corresponds to a 111 basis point drop in the 10-year US Treasury rate over the same time period.
- On average, MSR values have decreased 8.2% quarter over quarter
- On average, MSR values have decreased 13.8%, since Q2 2018.

MSR Value Trends





Commentary

- These two charts track MSR values and % change in MSR values of public companies as reported in the 10Q/10K financials. Most recent data is as of June 30, 2019.
- Portfolios for 9 major mortgage servicers with reliable data dating back to Q1 2016 are included in the analysis. It includes both bank and non-bank portfolios.

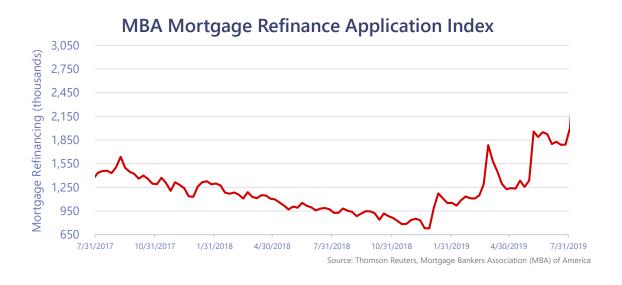


Macro-Economic Indicators

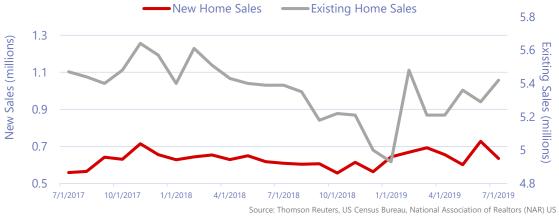
Summary

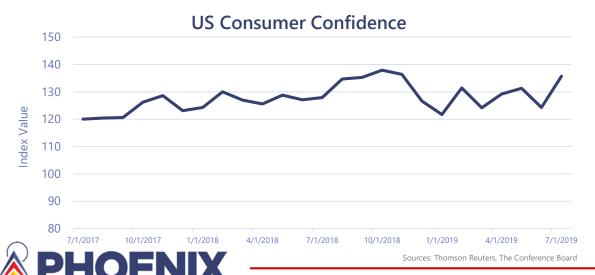
- US consumer confidence index hit 135.7 in July, slightly topping June numbers. Consumer sentiment has been remarkably stable since the start of 2017, despite ongoing trade uncertainties.
- Expectations for new home sales were revised upward after strong June results, but sales fell short in July. June new home sales were revised upward, making it the highest level since 2007
- US existing home sales rose, boosted by falling interest rates. Existing home sales rose 2.5% to a seasonally adjusted annual rate of 5.4 million units last month.
- Approximately 164,000 jobs were created in July and the national unemployment rate remained at 3.7%. June's robust 224,000 was revised downward to 193,000 jobs.

Macro-Economic Indicators



New/Existing Home Sales





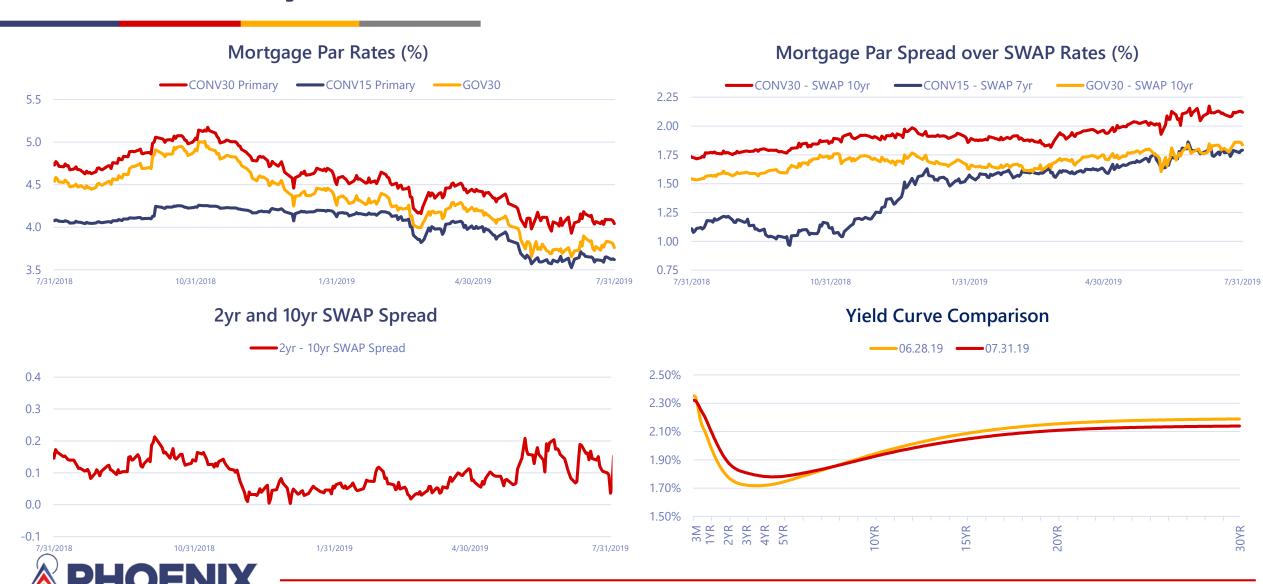


Rate History

Summary

- Despite volatility in the preceding quarter, PHOENIX primary mortgage rates were relatively flat for July month-end. Primary/secondary spreads tightened across all products due to increasing coupon yields.
- SWAP rates trended upward month over month with the 3yr increasing 8.7bps and the 5yr increasing 4.1bps; however, the 1-month Libor went down 17.3bps compared to June.
- As we fast forward into August, volatility spiked significantly, and mortgage rates fell to new lows we haven't seen since 2016.

Rate History



Rate History (cont.)

Primary	Rates	as of	7/31	/2019
---------	-------	-------	------	-------

Rate	7/31/2019	6/28/2019	4/30/2019	7/31/2018
CONV30	4.043	4.057	4.428	4.730
CONV15	3.620	3.606	3.987	4.077
GOV30	3.761	3.716	4.216	4.541
ARM 5/1	3.750	3.750	3.875	4.125

Secondary Rates as of 7/31/2019

Rate	7/31/2019	6/28/2019	4/30/2019	7/31/2018
FNMA 30	2.793	2.757	3.278	3.680
FNMA 15	2.370	2.306	2.837	3.077
GNMA II 30	2.511	2.416	3.066	3.491
GNMA II 15	2.370	2.306	2.833	3.023
ARM 5/1	3.970	3.850	3.960	4.150

Earnings Rates as of 7/31/2019

Earling Nates as 51 7/51/2015											
Rate	7/31/2019	6/28/2019	4/30/2019	7/31/2018							
3 MO ED	2.318	2.344	2.613	2.350							
6 MO ED	2.263	2.190	2.589	2.483							
12 MO ED	2.133	2.019	2.533	2.678							
2 YR SWAP	1.887	1.782	2.355	2.855							
3 YR SWAP	1.809	1.722	2.291	2.919							
5 YR SWAP	1.783	1.742	2.299	2.951							
10 YR SWAP	1.923	1.940	2.465	3.001							
15 YR SWAP	2.045	2.085	2.588	3.036							
20 YR SWAP	2.108	2.154	2.643	3.039							
30 YR SWAP	2.139	2.189	2.669	3.012							

Source: Thomson Reuters and PHOENIX



Prepayment
Speed Trends

Summary

- Par rates continued to be relatively flat over the month of July; however, we are beginning to see the rise in prepayment speeds due to the recent rate environment—total CPRs are up 26.2% since June monthend.
- VA product saw the most significant monthly increase of 29.9%,
 followed closely by Conventional 30yr product at 28.9%.
- Western states continued to lead the United States in prepayment speeds, while Northeastern and Eastern states continue to experience slower speeds in July.

CPR Summary

SUMMARY TABLES - July 2019

Loan Characteristics

Prepayments

Investor	Avg Orig Bal	Avg Orig Bal WAC WAvg Orig WAvg Orig LTV		WAvg Orig LTV	WAvg Age	CPR	1mo CPR Change%
CONV Fixed 30	\$214,410	4.38	748	77	55	15.34%	28.99%
CONV Fixed 15	\$170,573	3.65	756	66	55	12.85%	17.33%
GNMA Fixed 30	\$186,295	4.16	694	94	49	17.97%	24.37%
GNMA Fixed 15	\$141,552	3.66	710	83	57	14.16%	20.11%

Vintage	Avg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age	CPR	1mo CPR Change%
2005	\$138,987	5.35	693	77	142	11.23%	7.41%
2006	\$146,325	5.38	685	78	126	10.43%	7.97%
2007	\$156,145	5.25	681	80	114	10.04%	3.72%
2008	\$150,327	5.27	685	81	112	11.31%	10.35%
2009	\$166,374	4.92	727	79	113	13.73%	15.74%
2010	\$174,306	4.65	738	79	104	13.85%	15.07%
2011	\$173,294	4.41	742	77	93	13.47%	12.13%
2012	\$201,031	3.77	749	80	82	12.41%	14.00%
2013	\$190,515	3.81	742	80	71	12.85%	13.79%
2014	\$183,248	4.25	732	81	57	15.41%	15.02%
2015	\$209,888	3.95	734	81	46	15.38%	16.65%
2016	\$230,742	3.70	735	80	34	14.31%	17.74%
2017	\$228,122	4.12	730	82	23	16.65%	32.97%
2018	\$230,323	4.71	729	83	12	30.82%	57.43%

Tranche	Avg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age	CPR	1mo CPR Change%
0.0000 - 4.4999	\$214,740	3.83	740	80	49	13.92%	20.89%
4.5000 - 4.9999	\$196,603	4.68	727	82	44	19.84%	40.44%
5.0000 - 5.4999	\$173,088	5.16	710	84	59	21.69%	31.45%
5.5000 - 5.9999	\$145,942	5.66	697	81	92	18.03%	20.18%
6.0000 - 6.4999	\$122,083	6.16	694	78	139	13.58%	11.90%
6.5000 - 6.9999	\$106,456	6.66	687	79	157	11.97%	10.43%
7.0000 - 7.4999	\$87,423	7.14	674	81	178	11.38%	9.34%
7.5000 - 7.9999	\$78,067	7.63	659	82	195	10.90%	11.27%
8.0000 - 8.4999	\$71,067	8.14	646	82	214	10.06%	7.38%
8.5000 or more	\$64,665	8.89	638	82	222	10.68%	8.56%

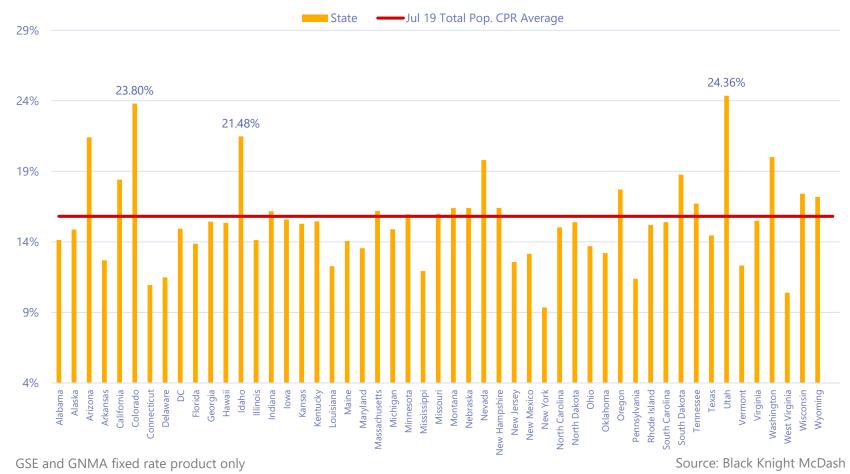
GSE and GNMA fixed rate product only

Source: Black Knight McDash



Prepayment Speed Trends

Average CPR by State - July 2019

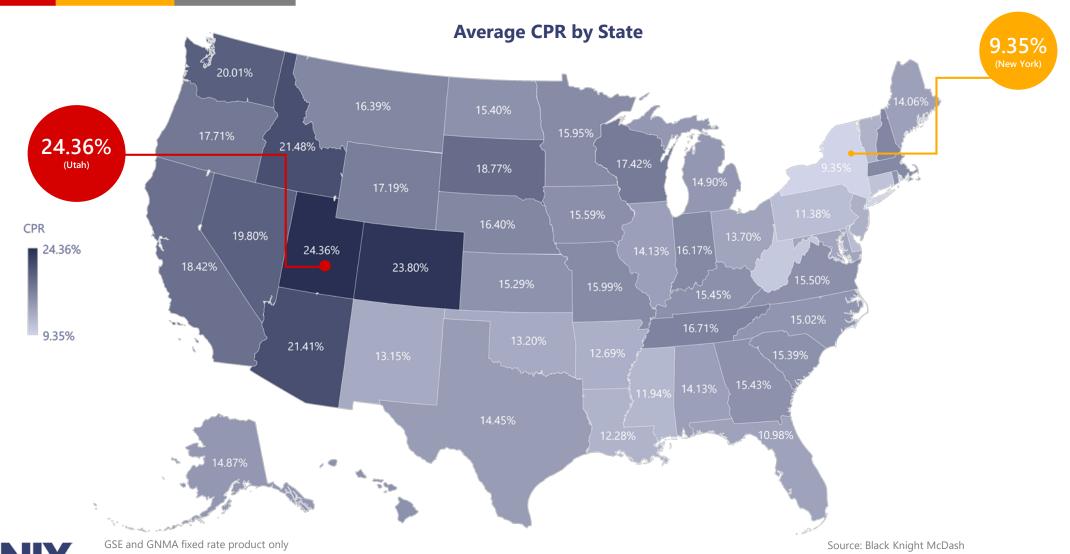


Analysis

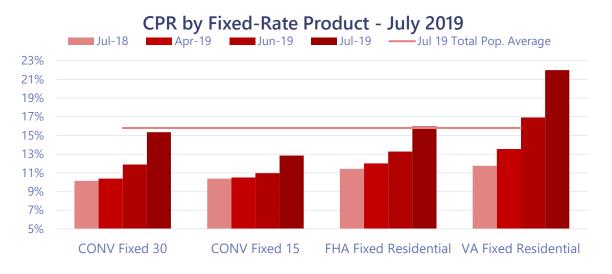
- Utah continued its fast prepayment performance and led the U.S. at 24.3% CPR, while New York prepaid the slowest at 9.3% CPR over the month of July.
- The majority of the states saw a month-over-month increase, with West Virginia seeing the only decrease at 4.5% month-over-month CPR change.
- A total of 38 states saw month-overmonth increases above 20%, with South Dakota seeing the largest increase at 41.9%.

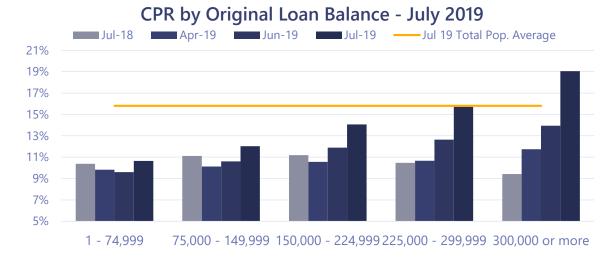


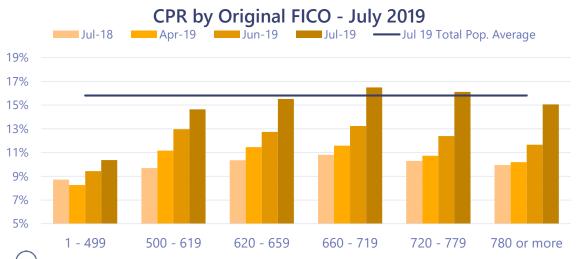
Prepayment Speed Trends (cont.)

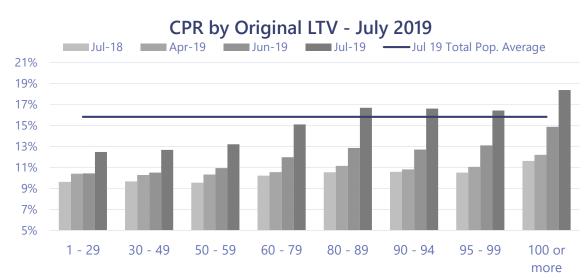


Prepayment Speed Trends (cont.)









Delinquency Trends

Summary

- The national delinquency and foreclosure rate decreased by 8.1% this month, returning to the year's overall downward trend.
- Conventional 30-year loans' delinquency and foreclosure rates decreased by 9.3% this month, while FHA delinquency and foreclosure rates decreased 6.0%.

Total delinquencies down 8.13%



Delinquency Summary

SUMMARY TABLES - July 2019

Loan Characteristics

Delinquencies

Investor	Avg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age	30d DQ	60d DQ	+90d DQ	Total FC	Total DQ & FC	1mo DQ & FC Change%
CONV Fixed 30	\$214,410	4.38	748	77	55	1.23%	0.34%	0.43%	0.27%	2.27%	-9.35%
CONV Fixed 15	\$170,573	3.65	756	66	55	0.49%	0.09%	0.09%	0.04%	0.72%	-12.88%
GNMA Fixed 30	\$186,295	4.16	694	94	49	3.74%	1.04%	0.84%	0.49%	6.10%	-7.35%
GNMA Fixed 15	\$141,552	3.66	710	83	57	1.31%	0.28%	0.21%	0.11%	1.91%	-9.31%

Vintage	Avg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age	30d DQ	60d DQ	+90d DQ	Total FC	Total DQ & FC	1mo DQ & FC Change%
2005	\$138,987	5.35	693	77	142	5.57%	1.84%	2.07%	1.62%	11.10%	-7.87%
2006	\$146,325	5.38	685	78	126	6.92%	2.35%	2.95%	2.42%	14.64%	-6.31%
2007	\$156,145	5.25	681	80	114	7.15%	2.61%	3.33%	2.70%	15.79%	-6.35%
2008	\$150,327	5.27	685	81	112	6.63%	2.12%	2.22%	1.88%	12.85%	-7.66%
2009	\$166,374	4.92	727	79	113	3.09%	0.88%	0.73%	0.49%	5.18%	-10.09%
2010	\$174,306	4.65	738	79	104	2.14%	0.58%	0.48%	0.27%	3.46%	-11.06%
2011	\$173,294	4.41	742	77	93	1.75%	0.46%	0.38%	0.21%	2.79%	-10.53%
2012	\$201,031	3.77	749	80	82	1.11%	0.27%	0.24%	0.13%	1.74%	-11.94%
2013	\$190,515	3.81	742	80	71	1.35%	0.34%	0.31%	0.17%	2.17%	-12.82%
2014	\$183,248	4.25	732	81	57	1.99%	0.54%	0.54%	0.27%	3.34%	-9.04%
2015	\$209,888	3.95	734	81	46	1.78%	0.48%	0.50%	0.26%	3.02%	-6.96%
2016	\$230,742	3.70	735	80	34	1.57%	0.41%	0.44%	0.24%	2.66%	-7.07%
2017	\$228,122	4.12	730	82	23	1.76%	0.46%	0.48%	0.24%	2.93%	-5.33%
2018	\$230,323	4.71	729	83	12	1.62%	0.43%	0.34%	0.13%	2.52%	4.31%

Tranche	Avg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age	30d DQ	60d DQ	+90d DQ	Total FC	Total DQ & FC	1mo DQ & FC Change%
0.0000 - 4.4999	\$214,740	3.83	740	80	49	1.51%	0.41%	0.43%	0.25%	2.61%	-9.01%
4.5000 - 4.9999	\$196,603	4.68	727	82	44	2.01%	0.55%	0.52%	0.26%	3.34%	-7.08%
5.0000 - 5.4999	\$173,088	5.16	710	84	59	2.88%	0.78%	0.71%	0.34%	4.70%	-4.88%
5.5000 - 5.9999	\$145,942	5.66	697	81	92	3.57%	0.97%	0.87%	0.53%	5.93%	-6.50%
6.0000 - 6.4999	\$122,083	6.16	694	78	139	4.45%	1.24%	1.23%	1.08%	8.00%	-8.85%
6.5000 - 6.9999	\$106,456	6.66	687	79	157	5.17%	1.45%	1.53%	1.60%	9.75%	-8.36%
7.0000 - 7.4999	\$87,423	7.14	674	81	178	5.77%	1.76%	1.91%	2.14%	11.57%	-7.38%
7.5000 - 7.9999	\$78,067	7.63	659	82	195	6.25%	1.85%	2.19%	2.33%	12.61%	-6.65%
8.0000 - 8.4999	\$71,067	8.14	646	82	214	6.76%	2.04%	2.30%	2.57%	13.67%	-7.26%
8.5000 or more	\$64,665	8.89	638	82	222	6.88%	2.26%	2.77%	3.00%	14.91%	-5.96%

GSE and GNMA fixed rate product only

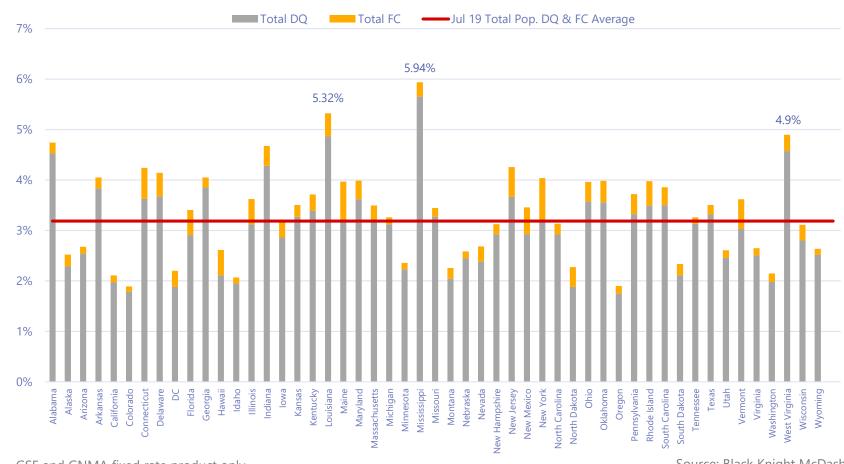
Source: Black Knight McDash



Confidential. PHOENIX use only.

Delinquency Trends

Average Delinquency and Foreclosure by State - July 2019



Analysis

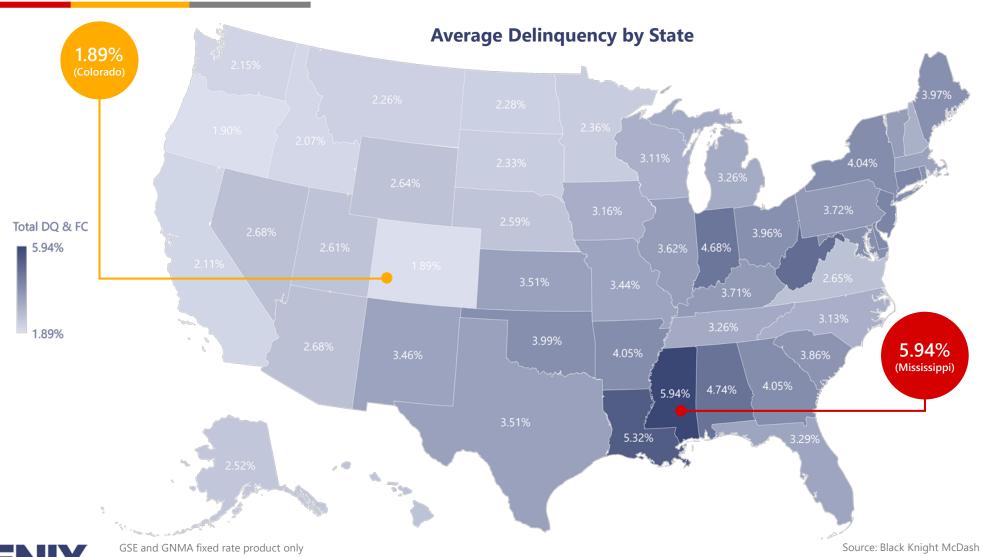
- Colorado is the best-performing state, with delinquency and foreclosure rates at 1.8%.
- The Pacific region (CA, OR, WA, HI, and AK) has the lowest overall delinquency and foreclosure rates (2.2%), but this is a small increase over last month.
- The East-South-Central region (KY, TN, MS, AL) recorded the highest regional level at 4.3%, which is a decrease since last month.
- The spread between the Pacific region and the East-South-Central states decreased from 2.3% to 2.0% over the month.

GSE and GNMA fixed rate product only

Source: Black Knight McDash

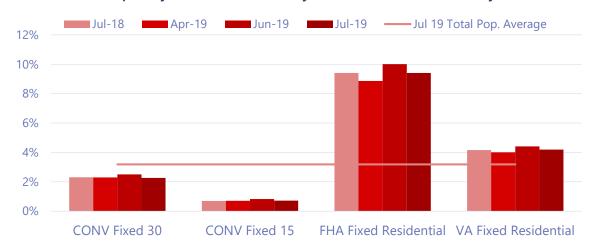


Delinquency Trends (cont.)

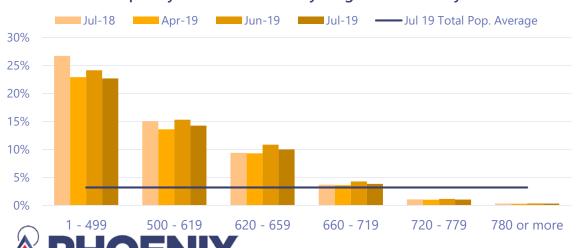


Delinquency Trends (cont.)

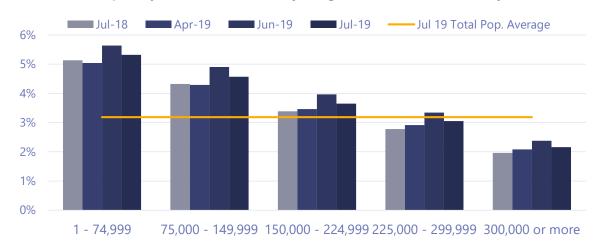
Delinquency and Foreclosure by Fixed-Rate Product - July 2019



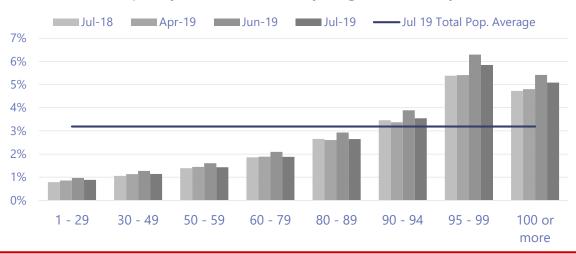
Delinquency and Foreclosure by Original FICO - July 2019



Delinquency and Foreclosure by Original Loan Balance - July 2019



Delinquency and Foreclosure by Original LTV - July 2019



Tables

State Summary

Prepayment and Delinquency

SUMMARY TABLES - July 2019

	Loan	Characte	ristics			30	JMMARY TABLES Prepayments	5 - July 2019				Delinque	ncies		
State		WAC		WAVE OrigiTTV	WAVE Ass	CPR		CPR Factor	30d DQ	60d DQ	+90d DQ	Total FC	Total DQ & FC	1mo DQ & FC Change%	DQ Factor
State	WAvg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age	CPR	1mo CPR Change%	CPR Factor	300 DQ	60d DQ	+90d DQ	Total FC	Total DQ & FC	Imo DQ & FC Change%	DQ Factor
National	\$197,547	4.22	733	81	53	15.81%	26.26%	100.00%	1.87%	0.51%	0.51%	0.30%	3.19%	-8.13%	100.00%
Alabama	\$152,201	4.27	724	86	57	14.13%	26.34%	89.41%	2.87%	0.78%	0.88%	0.22%	4.74%	-8.72%	148.76%
Alaska	\$246,804	4.01	731	86	55	14.87%	27.22%	94.08%	1.55%	0.40%	0.34%	0.24%	2.52%	-6.80%	79.13%
Arizona	\$184,315	4.32	731	84	46	21.41%	26.22%	135.46%	1.71%	0.45%	0.38%	0.14%	2.68%	-5.00%	84.00%
Arkansas California	\$137,690	4.20	727 742	85 73	56 49	12.69%	18.50% 33.02%	80.31% 116.52%	2.44%	0.67%	0.73%	0.22%	4.05%	-5.82%	127.05%
Colorado	\$282,177 \$236,030	4.15	742	78	49	18.42%	28.02%	150.59%	1.33%	0.33%	0.31%	0.14%	2.11%	-7.05% -8.69%	59.33%
Connecticut	\$230,030	4.13	734	80	62	10.93%	23.79%	69.17%	2.28%	0.70%	0.64%	0.61%	4.24%	-9.03%	133.01%
Delaware	\$200,678	4.25	731	82	57	11.48%	28.09%	72.65%	2.35%	0.65%	0.67%	0.47%	4.14%	-7.28%	129.93%
DC	\$319,007	4.14	749	73	53	14.93%	30.43%	94.49%	1.17%	0.34%	0.37%	0.32%	2.20%	-10.86%	69.03%
Florida	\$179,019	4.35	726	84	49	13.86%	17.93%	87.69%	1.88%	0.51%	0.52%	0.50%	3.41%	-6.38%	106.84%
Georgia	\$170,888	4.26	724	85	54	15.43%	19.64%	97.60%	2.48%	0.70%	0.67%	0.20%	4.05%	-7.13%	127.08%
Hawaii	\$354,628	4.11	744	77	54	15.35%	35.84%	97.10%	1.35%	0.35%	0.41%	0.50%	2.61%	-1.73%	81.99%
Idaho	\$177,888	4.24	738	82	49	21.48%	29.20%	135.88%	1.36%	0.35%	0.24%	0.12%	2.07%	-7.68%	64.92%
Illinois	\$179,641	4.22	733	83	57	14.13%	20.52%	89.38%	1.94%	0.58%	0.60%	0.50%	3.62%	-8.79%	113.65%
Indiana	\$131,958	4.34	718	86	55	16.17%	25.38%	102.31%	2.80%	0.77%	0.71%	0.40%	4.68%	-6.09%	146.72%
lowa	\$142,963	4.11	737	83	53	15.59%	25.66%	98.63%	1.87%	0.51%	0.48%	0.30%	3.16%	-7.57%	99.18%
Kansas	\$146,256	4.20	731	85	54	15.29%	12.77%	96.71%	2.19%	0.58%	0.50%	0.24%	3.51%	-6.61%	110.01%
Kentucky	\$144,769	4.23	725	84	53	15.45%	25.81%	97.77%	2.23%	0.60%	0.56%	0.33%	3.71%	-8.39%	116.54%
Louisiana	\$163,876	4.29	719	84	55	12.28%	29.51%	77.67%	3.10%	0.90%	0.87%	0.46%	5.32%	-6.71%	166.99%
Maine	\$177,766	4.23	730	82	54	14.06%	24.80%	88.93%	2.07%	0.56%	0.56%	0.78%	3.97%	-9.10%	124.47%
Maryland	\$244,013	4.15	729	83	55	13.54%	28.79%	85.68%	2.27%	0.66%	0.69%	0.37%	3.99%	-10.69%	125.07%
Massachusetts	\$255,027	4.12	737	76	53	16.19%	30.04%	102.44%	2.04%	0.54%	0.59%	0.33%	3.49%	-10.59%	109.63%
Michigan	\$142,498	4.29	731	84	57	14.90%	19.69%	94.24%	2.08%	0.57%	0.48%	0.14%	3.26%	-8.22%	102.26%
Minnesota	\$187,832	4.14	743	83	53	15.95%	26.74%	100.94%	1.48%	0.40%	0.35%	0.13%	2.36%	-9.27%	73.99%
Mississippi	\$145,394	4.29	714	86	55	11.94%	11.33%	75.51%	3.55%	1.02%	1.09%	0.29%	5.94%	-7.60%	186.29%
Missouri	\$145,751	4.22	731	84	53	15.99%	25.49%	101.17%	2.14%	0.58%	0.56%	0.17%	3.44%	-9.61%	108.06%
Montana	\$187,194	4.12	743	79	50	16.39%	25.74%	103.70%	1.36%	0.33%	0.35%	0.22%	2.26%	-6.31%	70.79%
Nebraska	\$147,072	4.07	739	84	50	16.40%	30.81%	103.75%	1.59%	0.43%	0.42%	0.14%	2.59%	-9.96%	81.11%
Nevada	\$200,854	4.38	728	86	44	19.80%	28.85%	125.27%	1.49%	0.41%	0.48%	0.30%	2.68%	-7.00%	84.15%
New Hampshire	\$204,656	4.19	734	82	54	16.41%	33.45%	103.80%	1.95%	0.47%	0.50%	0.20%	3.12%	-11.85%	97.99%
New Jersey	\$238,291	4.22	734	79	59	12.57%	28.64%	79.53%	2.17%	0.67%	0.83%	0.59%	4.26%	-8.46%	133.51%
New Mexico	\$162,493	4.34	729	83	62	13.15%	14.70%	83.18%	2.01%	0.50%	0.42%	0.53%	3.46%	-6.75%	108.44%
New York	\$232,345	4.31	737	75	63	9.35%	28.28%	59.15%	2.00%	0.57%	0.65%	0.82%	4.04%	-10.43%	126.67%
North Carolina	\$172,316	4.22	732	83	52	15.02%	19.42%	95.01%	1.86%	0.53%	0.53%	0.21%	3.13%	-9.29%	98.31%
North Dakota	\$181,419	3.98	741	82	48	15.40%	18.49%	97.41%	1.20%	0.34%	0.34%	0.39%	2.28%	-13.83%	71.38%
Ohio	\$135,617	4.31	723	86	57	13.70%	22.26%	86.67%	2.32%	0.64%	0.61%	0.39%	3.96%	-8.08%	124.29%
Oklahoma	\$142,538	4.30	723	86	56	13.20%	22.50%	83.54%	2.32%	0.65%	0.59%	0.43%	3.99%	-9.68%	125.04%
Oregon	\$215,639	4.24	743	79	49	17.71%	26.97%	112.04%	1.17%	0.28%	0.29%	0.16%	1.90%	-6.49%	59.65%
Pennsylvania	\$168,222	4.22	733	82	58	11.38%	17.31%	71.98%	2.14%	0.62%	0.57%	0.40%	3.72%	-8.57%	116.76%
Rhode Island	\$202,904	4.24	732	82	55	15.19%	25.74%	96.12%	2.15%	0.65%	0.70%	0.49%	3.98%	-9.30%	124.79%
South Carolina	\$167,442	4.27	726	84	51	15.39%	19.69%	97.37%	2.28%	0.62%	0.61%	0.36%	3.86%	-9.73%	121.05%
South Dakota	\$164,546	4.00	743	83	48	18.77%	41.90%	118.75%	1.41%	0.34%	0.35%	0.23%	2.33%	-7.27%	73.20%
Tennessee	\$166,207	4.21	728	84	49	16.71%	22.80%	105.75%	2.00%	0.56%	0.57%	0.13%	3.26%	-7.75%	102.35%
Texas	\$175,623	4.29	724	83	49	14.45%	22.37%	91.42%	2.21%	0.60%	0.51%	0.19%	3.51%	-8.98%	110.01%
Utah	\$219,737	4.20	734	83	42	24.36%	30.99%	154.11%	1.61%	0.42%	0.43%	0.15%	2.61%	-10.99%	81.80%
Vermont	\$179,326	4.24	738	78	61	12.33%	22.87%	77.98%	1.98%	0.53%	0.52%	0.59%	3.62%	-9.32%	113.56%
Virginia	\$238,819	4.10	736	83	52	15.50%	28.77%	98.06%		0.46%	0.45%	0.14%	2.65%	-9.96%	83.09%
Washington West Virginia	\$238,621 \$143,692	4.21	738	80	48 58	20.01%	28.04%	126.61%	1.37%	0.29%	0.32%	0.17%	2.15%	-1.33%	67.34% 153.66%
West Virginia	\$143,692 \$159,879	4.31	717	86	58			110.21%	3.17%	0.75%	0.66%		4.90% 3.11%	-9.62%	97.62%
Wisconsin	\$159,879	4.20	734	83	50	17.42% 17.19%	29.85% 15.97%	108.73%	1.81%	0.52%	0.47%	0.31%	2.64%	-6.49% -7.93%	97.62% 82.71%
GSE and GNMA fixed rate		4.10	.34	- 03		17:1370	13.3176	100.1370		U.4270	0.5576	0.1270	2.0470	Source: Black Kn	

GSE and GNMA fixed rate product only

Source: Black Knight McDash



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