

Market Snapshot





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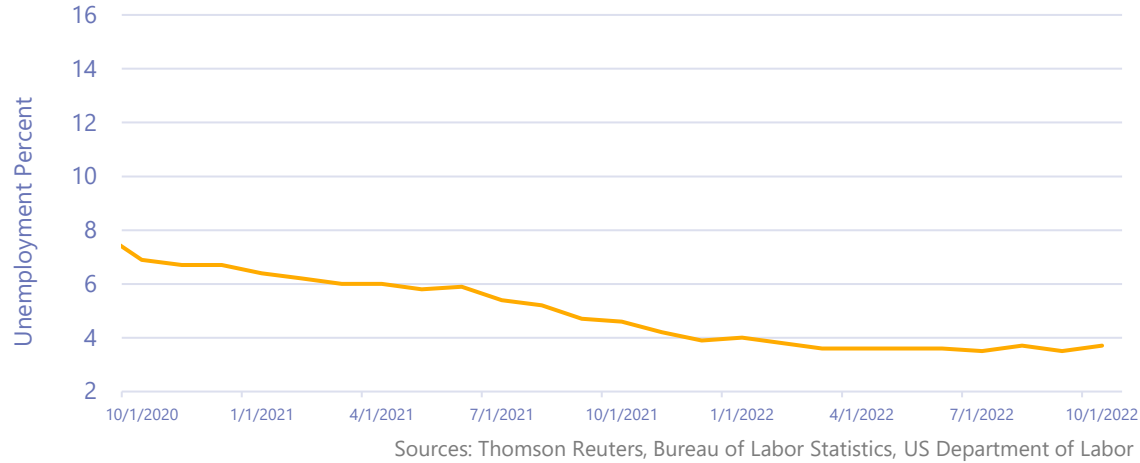
Macro- Economic Indicators

Summary

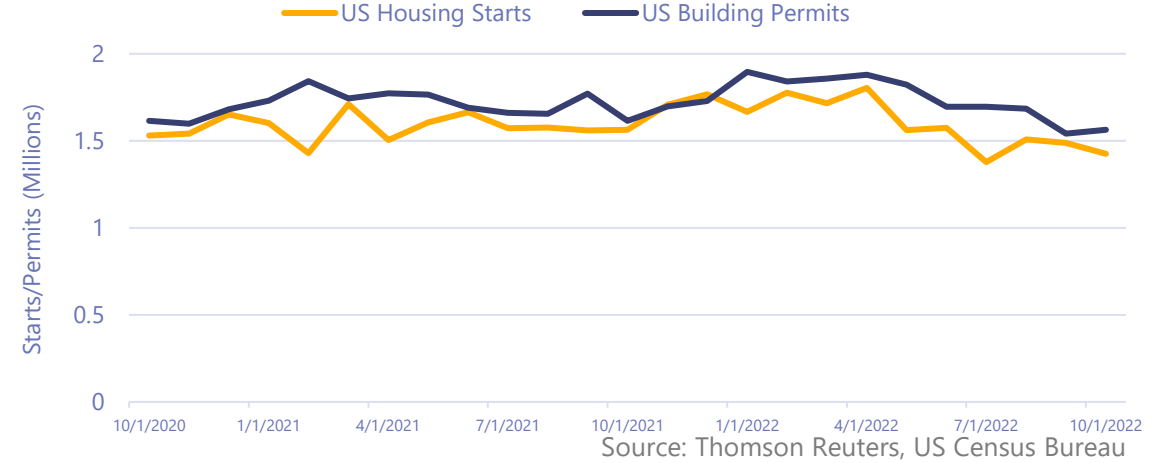
- The unemployment rate rose to 3.7% in October which represents a 0.2 percentage point increase from September
- Inflation pressures showed signs of cooling with consumer prices rising 7.7% year-over-year in October which was lower than prior month's figure of 8.2%
- The MBA Mortgage Refinance Application Index's weekly readings continued to fall in October with a reading of 373, which is down from 431 recorded in the last week of September
- Preliminary US housing starts are estimated to be lower month-over-month with 1,425,000 housing starts estimated in October
- The total number of loans in forbearance, tracked by the MBA's Monthly Loan Monitoring Survey, increased slightly in October. The total figure rose by 1 bp to 0.70% while the GNMA population in forbearance increased by 8 bps to 1.41%

Macro-Economic Indicators

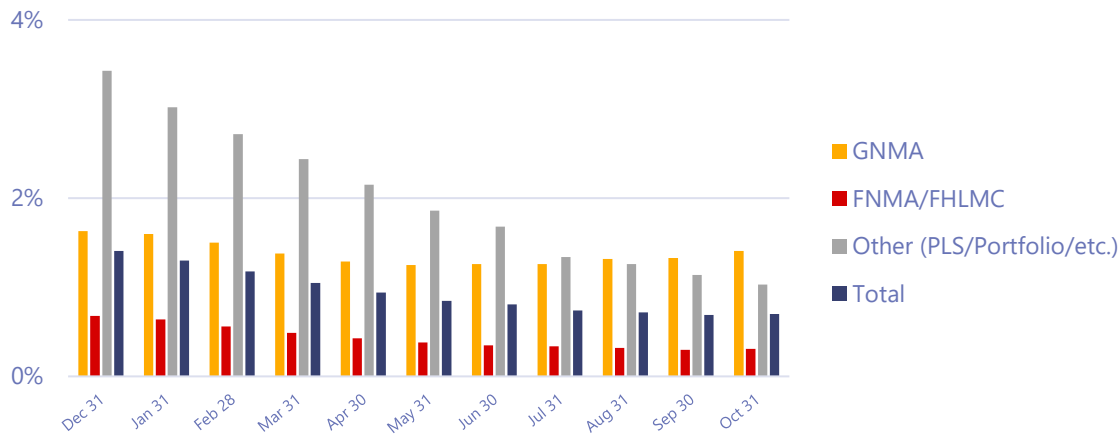
US Unemployment Rate



US Housing Starts/US Building Permits



Loans in Forbearance



MBA Mortgage Refinance Application Index



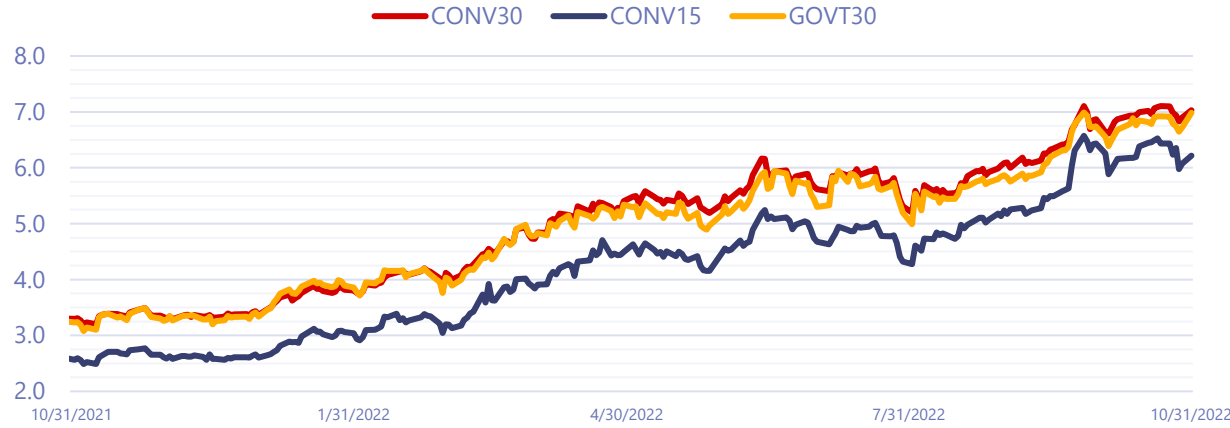
Rate History

Summary

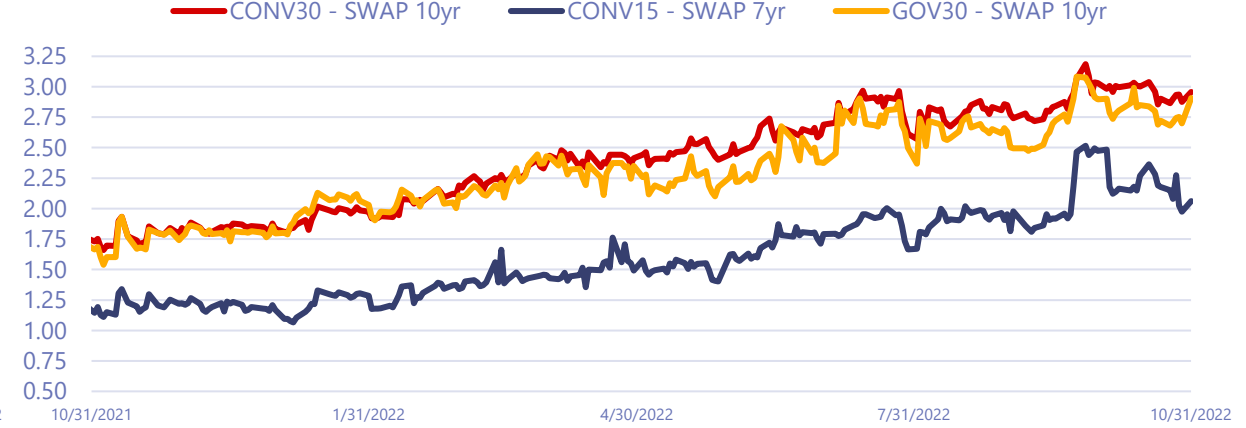
- PHOENIX par rate value increased from September to October. The fixed 30-year CONV rate is at 7.033%, and GOVT product increased to 6.982%, also 15-year rates lowered to 6.217%
- SWAP rates shot up in October with the 5-year PHOENIX SWAP up at 4.286% compared to September's 4.098% month-end
- Volatilities were mostly down month-over-month
- Both LIBOR and SOFR rates continued to trend upward

Rate History

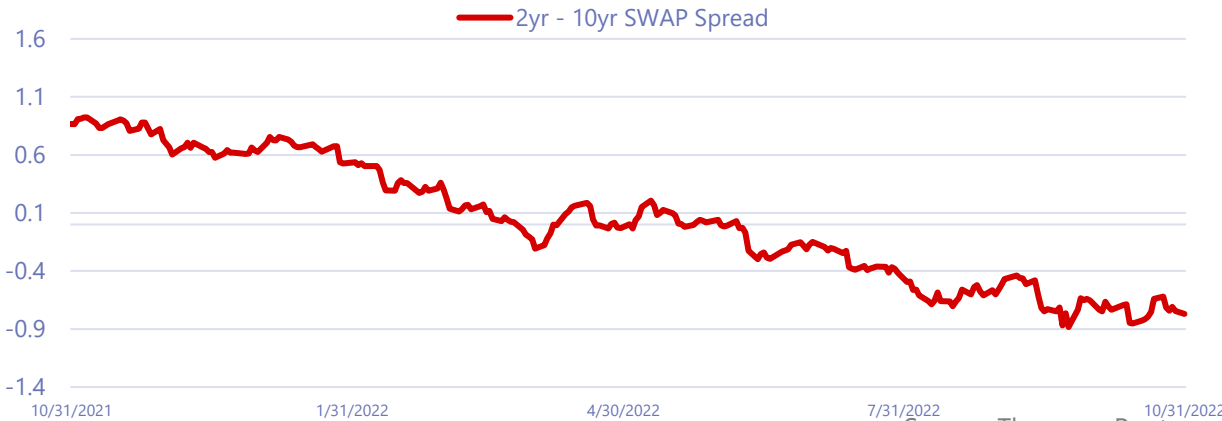
PHOENIX Mortgage Par Rates (%)



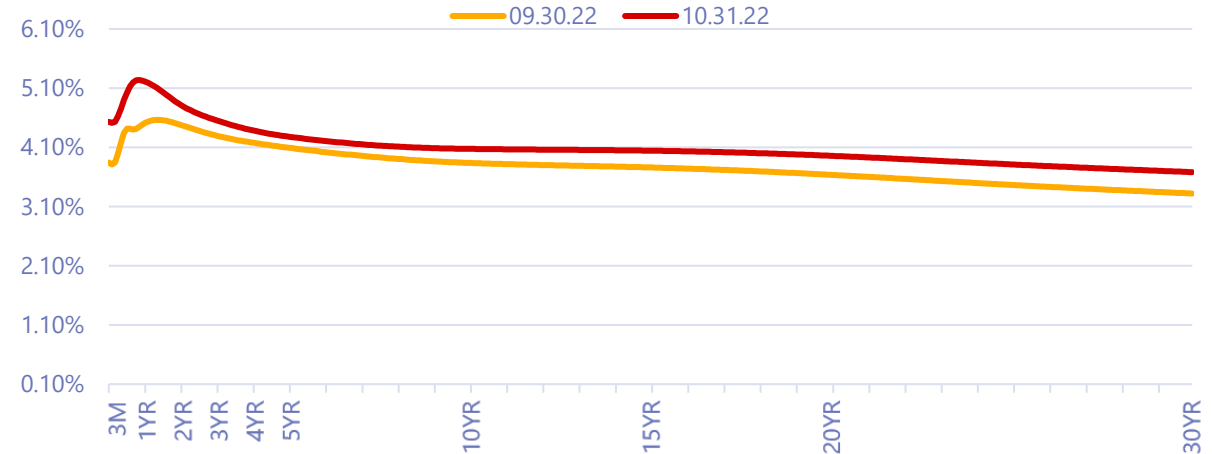
Mortgage Par Spread over SWAP Rates (%)



2yr and 10yr SWAP Spread



Yield Curve Comparison



Source: Thomson Reuters

Rate History (cont.)

Primary Rates as of 10/31/2022

Rate	10/31/2022	9/30/2022	7/29/2022	10/29/2021
CONV30	7.033	6.868	5.315	3.304
CONV15	6.217	6.436	4.325	2.597
GOV30	6.982	6.736	5.200	3.249
ARM 5/1	5.250	4.750	4.250	2.250

Secondary Rates as of 10/31/2022

Rate	10/31/2022	9/30/2022	8/31/2022	10/29/2021
FNMA 30	5.894	5.671	4.724	1.999
FNMA 15	5.199	5.118	4.159	1.260
GNMA II 30	5.715	5.656	4.524	1.791
GNMA II 15	4.770	4.519	4.229	1.337
ARM 5/1	5.520	5.220	4.420	2.760

Earnings Rates as of 10/31/2022

Rate	10/31/2022	9/30/2022	8/31/2022	7/29/2022
3 MO ED	4.533	3.844	3.201	2.794
6 MO ED	4.903	4.349	3.629	3.191
12 MO ED	5.230	4.482	3.983	3.387
2 YR SWAP	4.845	4.493	3.803	3.120
3 YR SWAP	4.569	4.308	3.611	2.892
5 YR SWAP	4.286	4.098	3.382	2.689
10 YR SWAP	4.076	3.839	3.239	2.702
15 YR SWAP	4.045	3.762	3.254	2.820
20 YR SWAP	3.959	3.638	3.198	2.838
30 YR SWAP	3.682	3.321	2.982	2.708

Source: Thomson Reuters and PHOENIX

Prepayment Speed Trends

Summary

- The average national prepayment speed for fixed-rate GNMA and GSE loans was 6.02% in October, 128 bps lower than September's rate of 7.30%
- Over the month, the CONV 30-year and 15-year CPRs decreased by 1.13% and 1.19% respectively. VA residential's CPR decreased by 1.60%, while FHA speeds decreased by 1.75%
- Quarter-over-quarter, the national CPR speed decreased from 8.30% in July to 6.02% in October
- Prepayment speeds continue to trend downward

CPR Summary

SUMMARY TABLES - October 2022

Loan Characteristics

Investor	Avg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age	CPR	1mo CPR Change%
CONV Fixed 30	\$253,360	3.64	753	74	38	5.57%	-16.83%
CONV Fixed 15	\$201,208	2.96	762	61	37	6.20%	-16.05%
GNMA Fixed 30	\$214,270	3.55	699	93	40	7.03%	-20.09%
GNMA Fixed 15	\$141,805	3.20	721	77	52	10.00%	-14.25%

Prepayments

Vintage	Avg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age	CPR	1mo CPR Change%
2006	\$137,539	5.45	682	78	159	7.88%	-12.98%
2007	\$145,337	5.34	678	79	148	7.97%	-13.01%
2008	\$142,680	5.21	681	82	144	8.24%	-13.69%
2009	\$157,217	4.85	723	79	148	8.48%	-14.13%
2010	\$163,694	4.63	733	79	139	8.61%	-15.14%
2011	\$163,067	4.41	737	78	129	8.46%	-14.94%
2012	\$187,840	3.76	748	80	120	7.71%	-15.19%
2013	\$178,755	3.79	743	79	110	7.83%	-15.63%
2014	\$162,062	4.24	728	80	95	9.09%	-15.96%
2015	\$185,891	3.93	734	79	84	8.39%	-18.07%
2016	\$203,890	3.68	737	78	72	8.07%	-18.32%
2017	\$191,841	4.08	728	80	59	9.42%	-15.87%
2018	\$184,853	4.60	721	81	47	10.05%	-16.80%
2019	\$219,282	3.98	733	81	35	8.74%	-16.83%
2020	\$274,984	3.01	755	75	25	5.76%	-19.47%

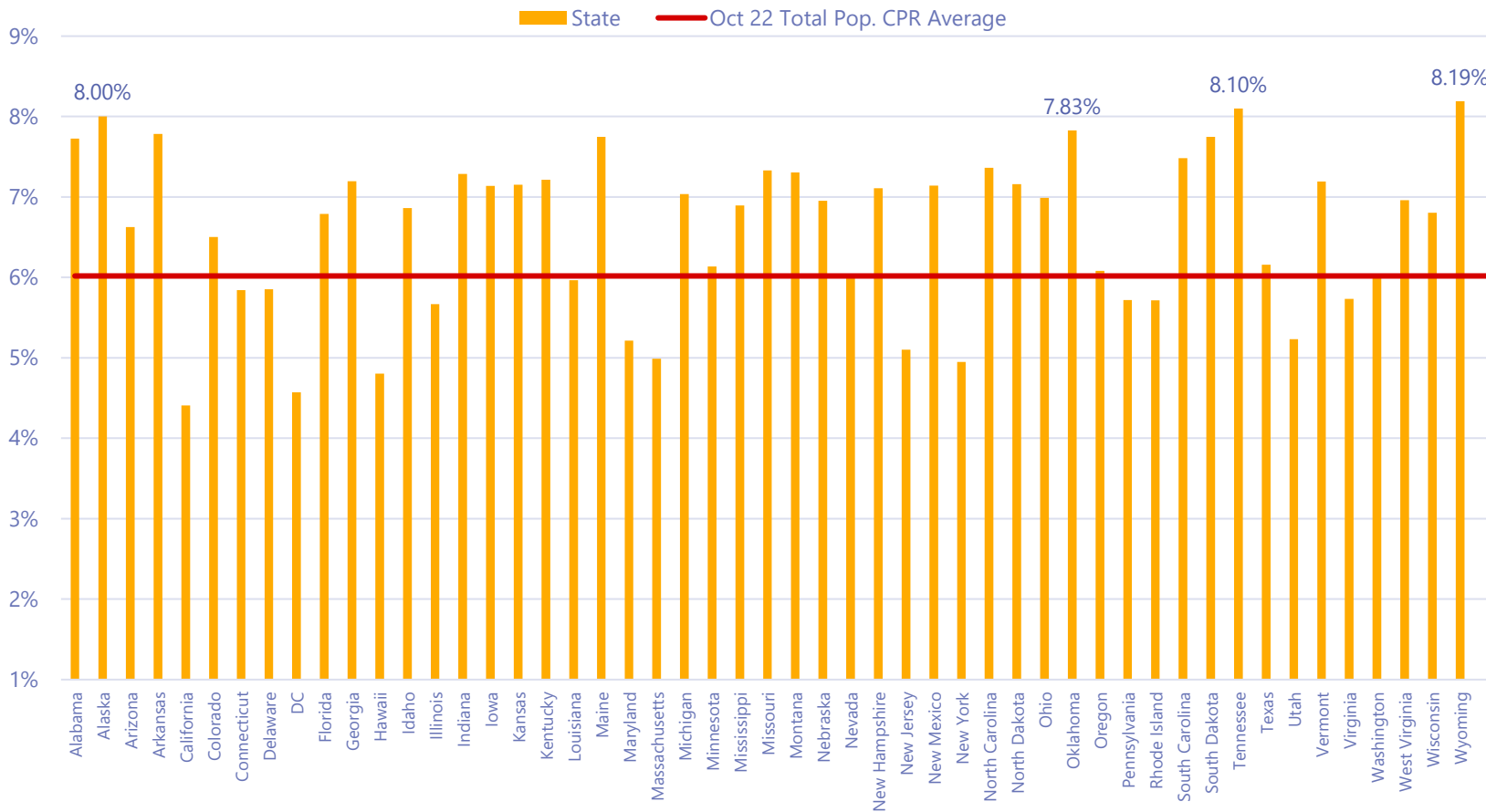
Tranche	Avg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age	CPR	1mo CPR Change%
0.0000 - 2.4999	\$292,811	2.25	761	70	18	5.08%	-19.56%
2.5000 - 2.9999	\$287,030	2.78	757	73	20	4.66%	-18.20%
3.0000 - 3.4999	\$255,262	3.21	743	77	28	5.54%	-17.88%
3.5000 - 3.9999	\$218,259	3.71	736	78	53	6.93%	-17.29%
4.0000 - 4.4999	\$193,222	4.19	730	80	66	7.86%	-16.05%
4.5000 - 4.9999	\$190,390	4.70	725	80	60	7.54%	-17.07%
5.0000 - 5.4999	\$191,654	5.19	722	82	54	6.95%	-18.90%
5.5000 - 5.9999	\$191,533	5.68	719	81	50	6.30%	-18.45%
6.0000 - 6.4999	\$152,725	6.16	709	80	87	7.06%	-23.17%
6.5000 or more	\$106,213	6.85	697	80	142	8.35%	-18.68%

GSE and GNMA fixed rate product only

Source: Black Knight McDash

Prepayment Speed Trends

Average CPR by State - October 2022



Analysis

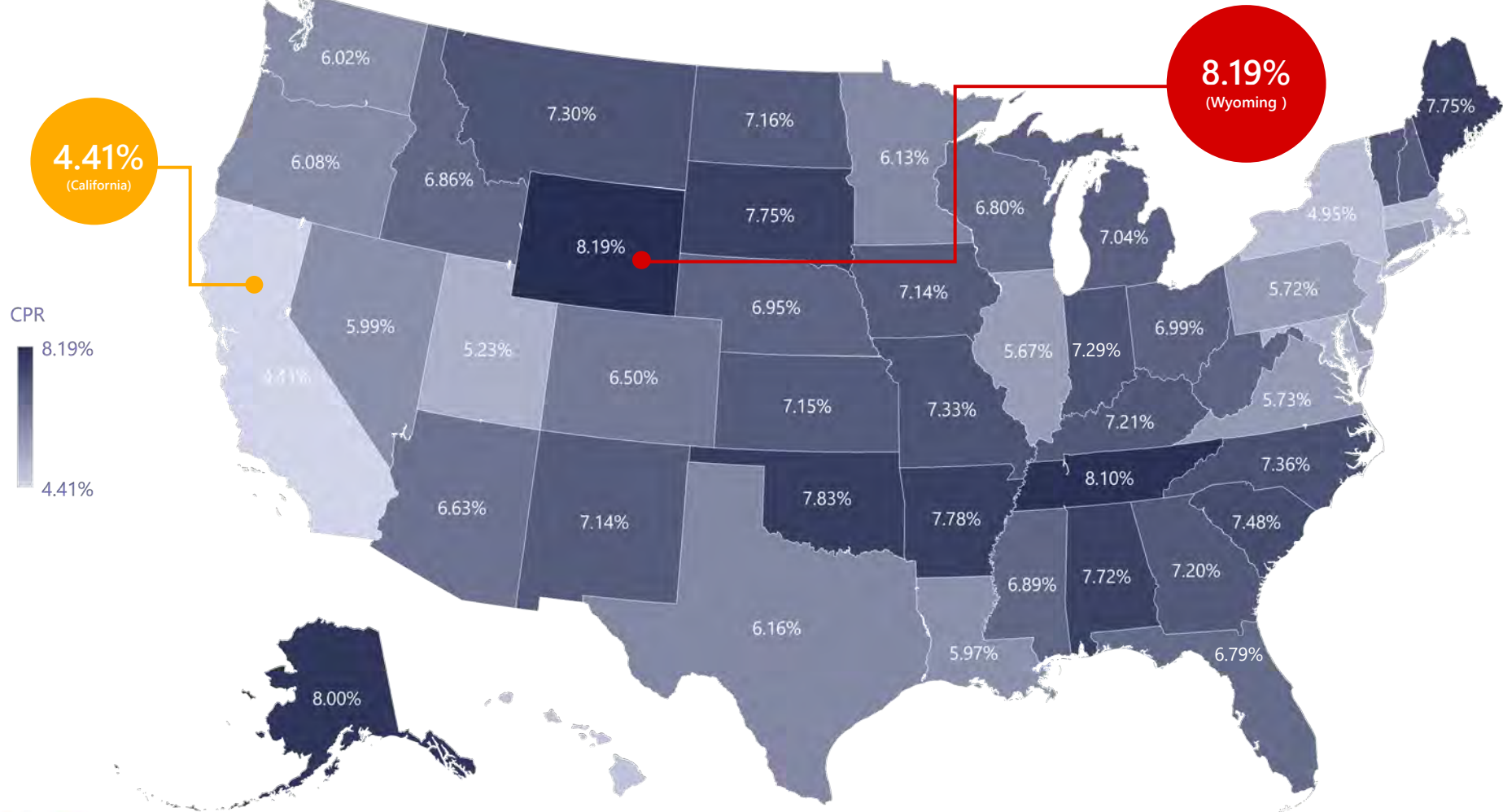
- Wyoming was the fastest prepaying state at 8.19%, followed by Tennessee (8.10%), Alaska (8.00%), and Oklahoma (7.83%)
- In October, the slowest prepaying state was California at 4.41%
- The Middle Atlantic region showed the slowest prepayment speeds on average, with a rate of 5.18% among PA, NY, and NJ. The East South-Central region had the highest prepayment speed at 7.39%

GSE and GNMA fixed rate product only

Source: Black Knight McDash

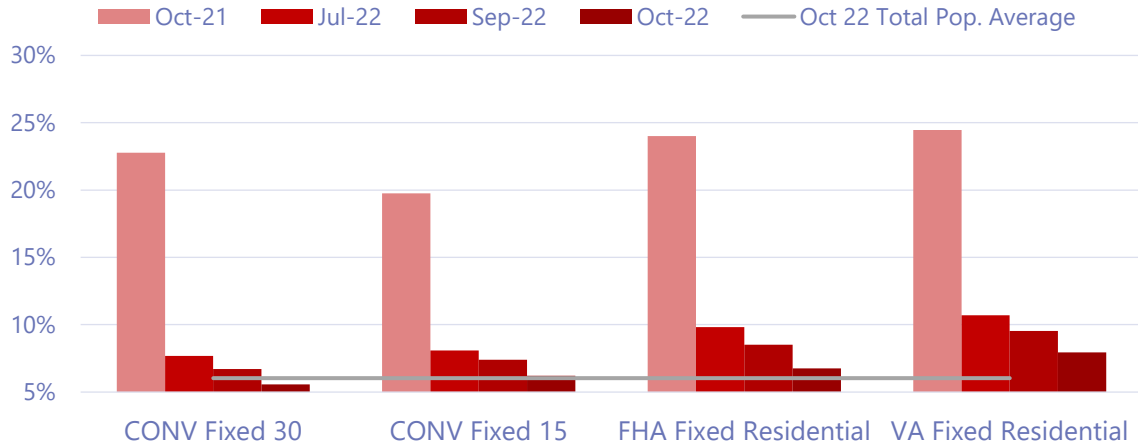
Prepayment Speed Trends (cont.)

Average CPR by State

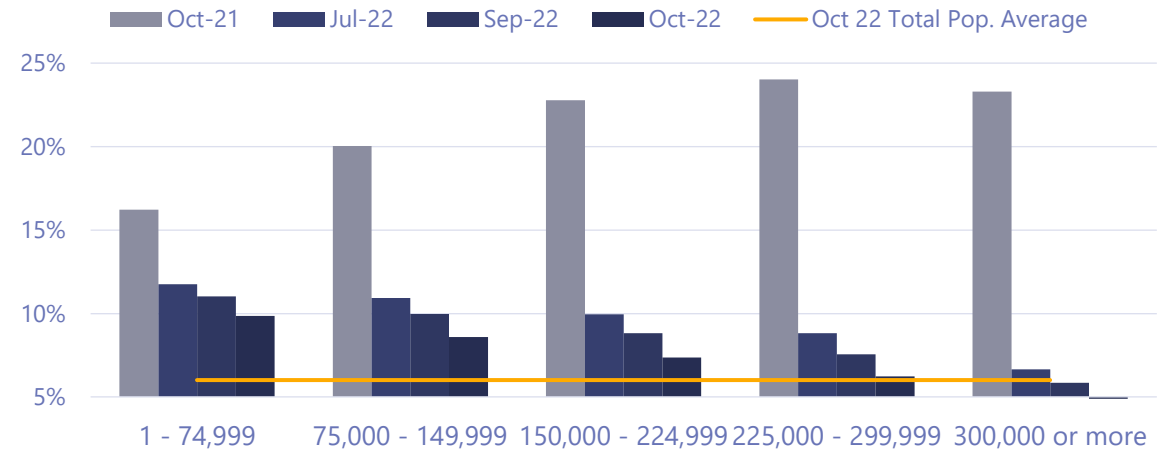


Prepayment Speed Trends (cont.)

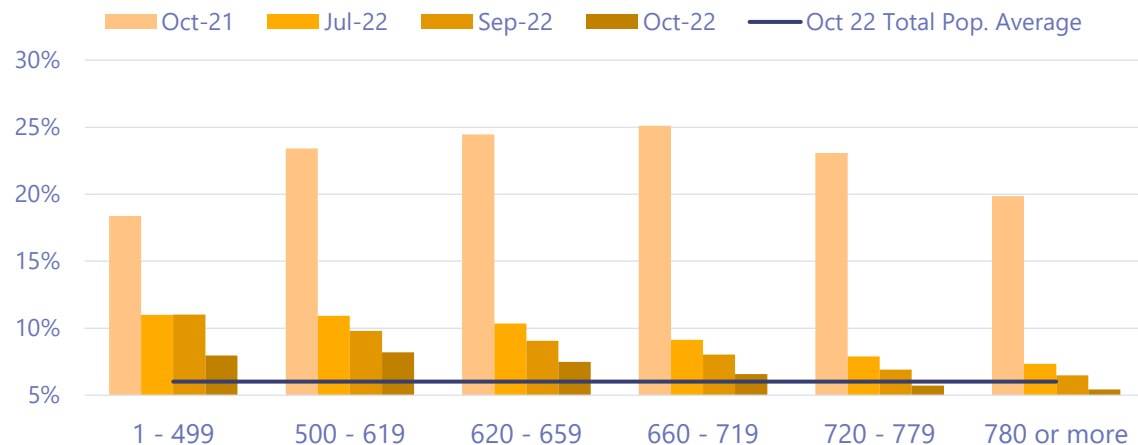
CPR by Fixed-Rate Product - October 2022



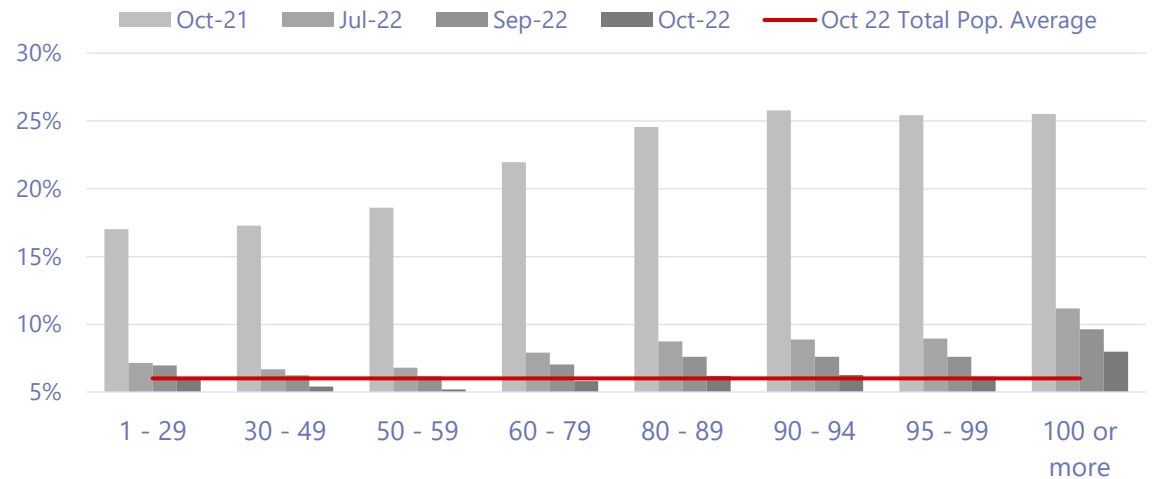
CPR by Original Loan Balance - October 2022



CPR by Original FICO - October 2022



CPR by Original LTV - October 2022



Delinquency Trends

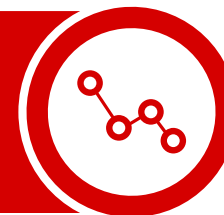
Summary

- The national delinquency and foreclosure rate went up to 2.70%, an increase of 25 bps compared to last month. This new value is 53 bps lower than the 3.23% national average delinquency and foreclosure rate from October 2021
- CONV 30-year loans' and CONV 15-year loans' delinquency and foreclosure rates increased by 14 bps and 9 bps respectively since September
- On a month-over-month basis, national average delinquency and foreclosure rates for fixed-rate FHA and VA loans increased by 69 bps and 29 bps respectively

NOTE: non-paying loans in forbearance are counted as delinquent in our data source.

Total delinquencies up

25 bps



Delinquency Summary

SUMMARY TABLES - October 2022

Loan Characteristics

Investor	Avg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age
CONV Fixed 30	\$253,360	3.64	753	74	38
CONV Fixed 15	\$201,208	2.96	762	61	37
GNMA Fixed 30	\$214,270	3.55	699	93	40
GNMA Fixed 15	\$141,805	3.20	721	77	52

Delinquencies

30d DQ	60d DQ	+90d DQ	Total FC	Total DQ & FC	1mo DQ & FC Change%
0.90%	0.19%	0.54%	0.12%	1.75%	8.77%
0.44%	0.07%	0.17%	0.03%	0.70%	14.66%
3.30%	0.98%	1.86%	0.31%	6.45%	10.42%
1.12%	0.24%	0.46%	0.12%	1.93%	10.27%

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%
2006	\$137,539	5.45	682	78	159	4.40%	1.30%	3.09%	2.15%	10.94%	2.70%
2007	\$145,337	5.34	678	79	148	4.71%	1.41%	3.57%	2.29%	11.98%	3.04%
2008	\$142,680	5.21	681	82	144	5.01%	1.34%	2.53%	1.62%	10.50%	5.65%
2009	\$157,217	4.85	723	79	148	2.83%	0.75%	1.15%	0.45%	5.18%	5.40%
2010	\$163,694	4.63	733	79	139	2.12%	0.53%	0.90%	0.35%	3.91%	6.81%
2011	\$163,067	4.41	737	78	129	1.76%	0.47%	0.77%	0.28%	3.28%	4.42%
2012	\$187,840	3.76	748	80	120	1.12%	0.25%	0.48%	0.16%	2.01%	5.75%
2013	\$178,755	3.79	743	79	110	1.32%	0.30%	0.63%	0.22%	2.47%	7.16%
2014	\$162,062	4.24	728	80	95	2.32%	0.61%	1.19%	0.39%	4.50%	7.07%
2015	\$185,891	3.93	734	79	84	2.03%	0.55%	1.06%	0.31%	3.95%	6.54%
2016	\$203,890	3.68	737	78	72	1.91%	0.51%	1.06%	0.29%	3.77%	7.29%
2017	\$191,841	4.08	728	80	59	2.61%	0.73%	1.53%	0.40%	5.27%	6.19%
2018	\$184,853	4.60	721	81	47	3.42%	1.03%	2.27%	0.55%	7.28%	5.73%
2019	\$219,282	3.98	733	81	35	2.26%	0.64%	1.48%	0.30%	4.68%	8.65%
2020	\$274,984	3.01	755	75	25	0.91%	0.21%	0.59%	0.06%	1.77%	12.42%

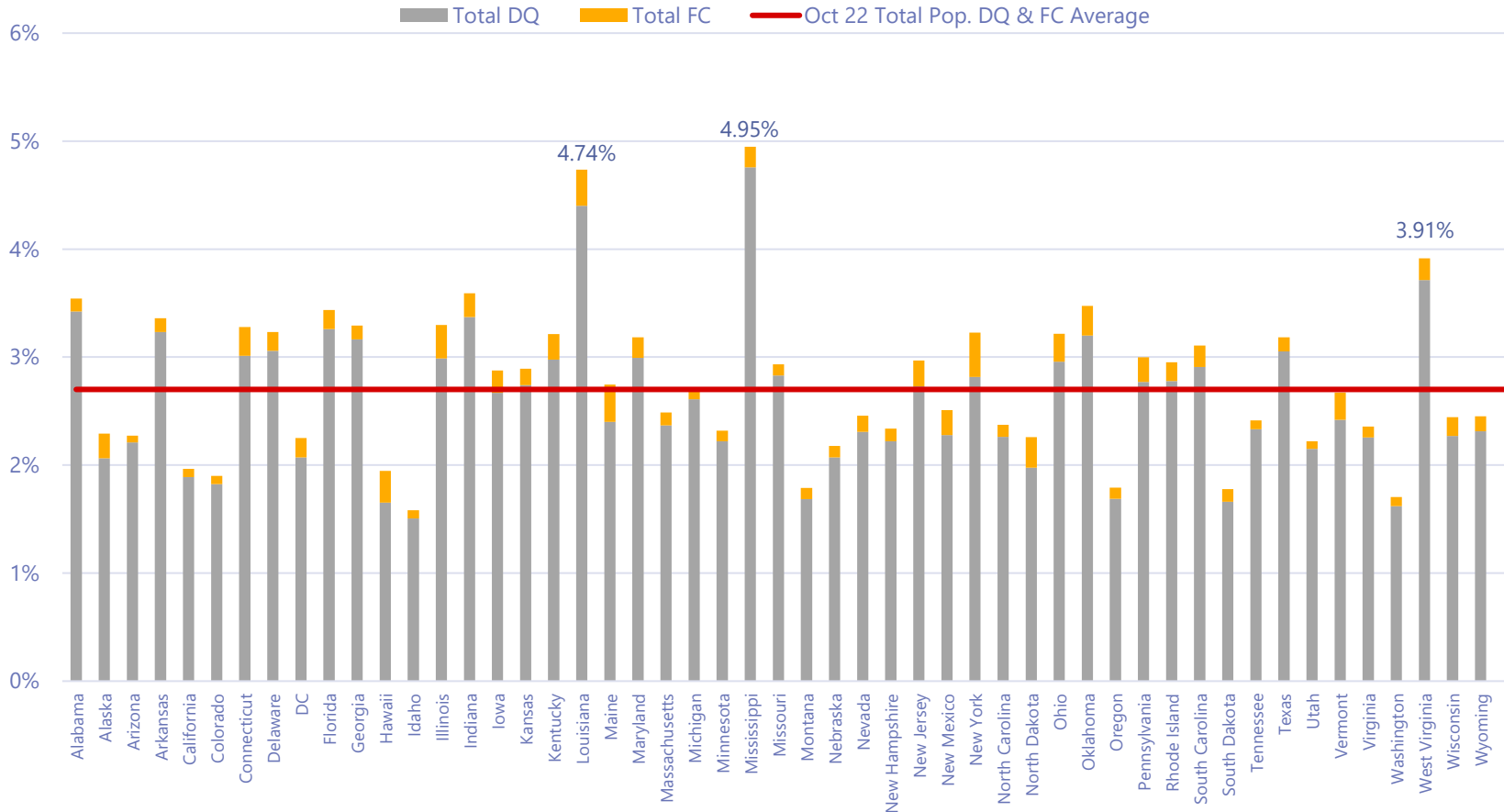
Tranche	Avg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age	30d DQ	60d DQ	+90d DQ	Total FC	Total DQ & FC	1mo DQ & FC Change%
0.0000 - 2.4999	\$292,811	2.25	761	70	18	0.57%	0.14%	0.40%	0.06%	1.16%	14.78%
2.5000 - 2.9999	\$287,030	2.78	757	73	20	0.79%	0.19%	0.48%	0.04%	1.50%	14.26%
3.0000 - 3.4999	\$255,262	3.21	743	77	28	1.45%	0.40%	0.85%	0.11%	2.81%	13.74%
3.5000 - 3.9999	\$218,259	3.71	736	78	53	1.57%	0.41%	0.92%	0.17%	3.07%	10.58%
4.0000 - 4.4999	\$193,222	4.19	730	80	66	2.02%	0.52%	1.15%	0.31%	3.99%	7.52%
4.5000 - 4.9999	\$190,390	4.70	725	80	60	2.08%	0.54%	1.19%	0.32%	4.12%	4.57%
5.0000 - 5.4999	\$191,654	5.19	722	82	54	2.21%	0.57%	1.12%	0.32%	4.22%	3.89%
5.5000 - 5.9999	\$191,533	5.68	719	81	50	1.93%	0.45%	0.74%	0.25%	3.37%	3.60%
6.0000 - 6.4999	\$152,725	6.16	709	80	87	2.37%	0.53%	0.86%	0.48%	4.24%	0.59%
6.5000 or more	\$106,213	6.85	697	80	142	3.07%	0.69%	1.30%	1.19%	6.25%	-6.38%

GSE and GNMA fixed rate product only

Source: Black Knight McDash

Delinquency Trends

Average Delinquency and Foreclosure by State - October 2022



Source: Black Knight McDash

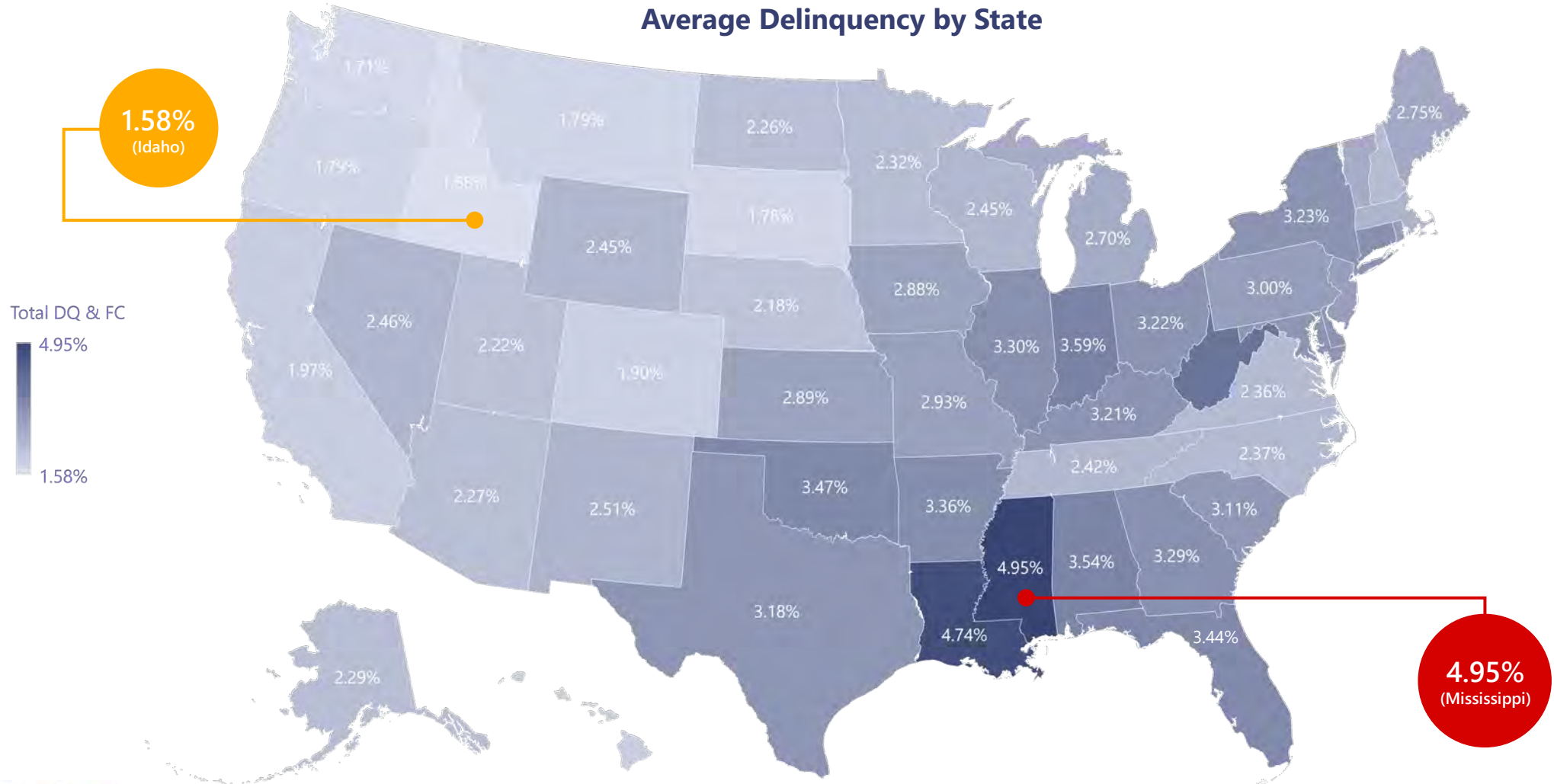
Analysis

- Idaho remains the best-performing state, where delinquency and foreclosure rates are 1.58%, 14 bps higher than September month-end
- The nation's most delinquent state is Mississippi with a 4.95% delinquency and foreclosure rate
- Compared to September 2021, all states showed at least 25 bps of improvement in delinquency and foreclosure rate. Louisiana had the nation's largest decrease, moving from 7.39% to 4.74% (-265 bps)
- Regionally, the West South Central region of TX, OK, AR, and LA have the highest delinquency rate (3.68%), and the East South Central states of KY, TN, MS, and AL are close behind at 3.47%

GSE and GNMA fixed rate product only



Delinquency Trends (cont.)



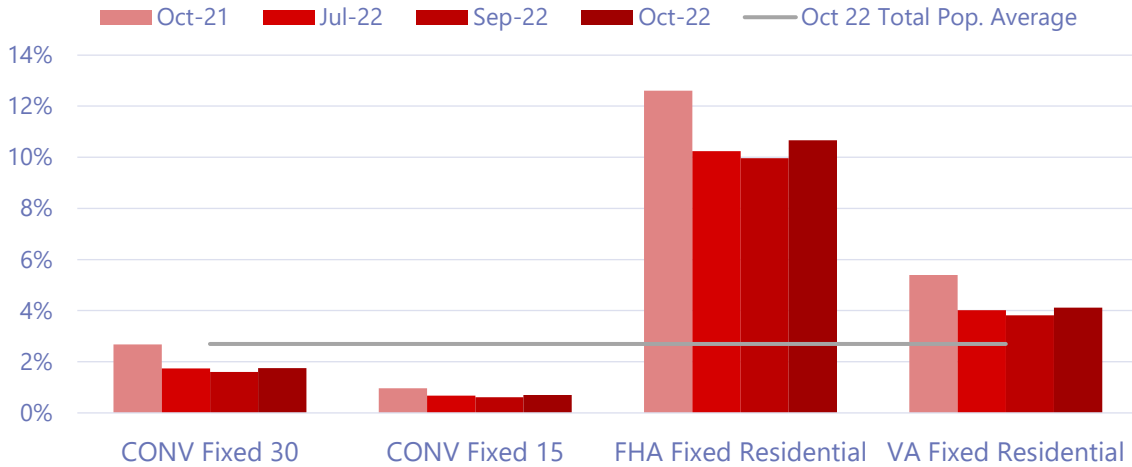
Total DQ & FC
4.95%
1.58%

GSE and GNMA fixed rate product only

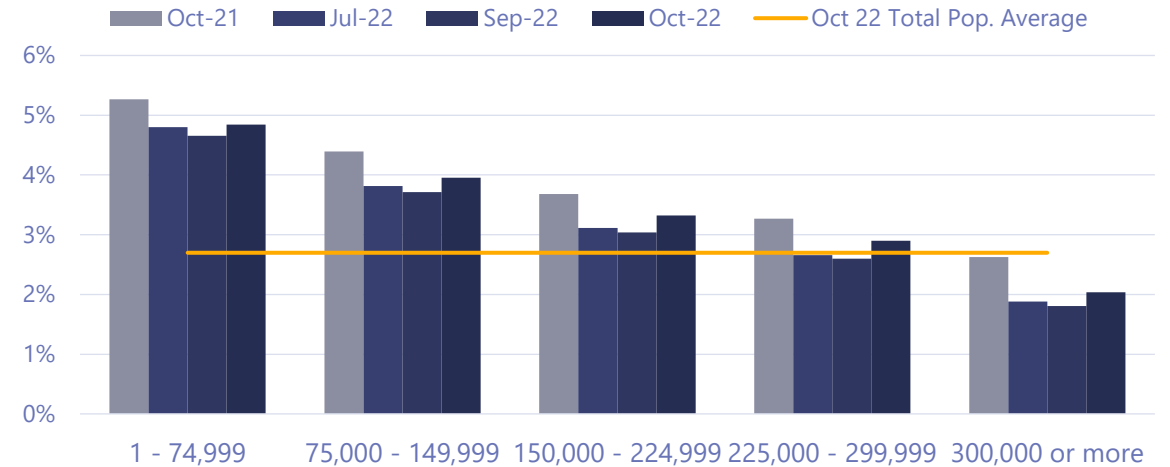
Source: Black Knight McDash

Delinquency Trends (cont.)

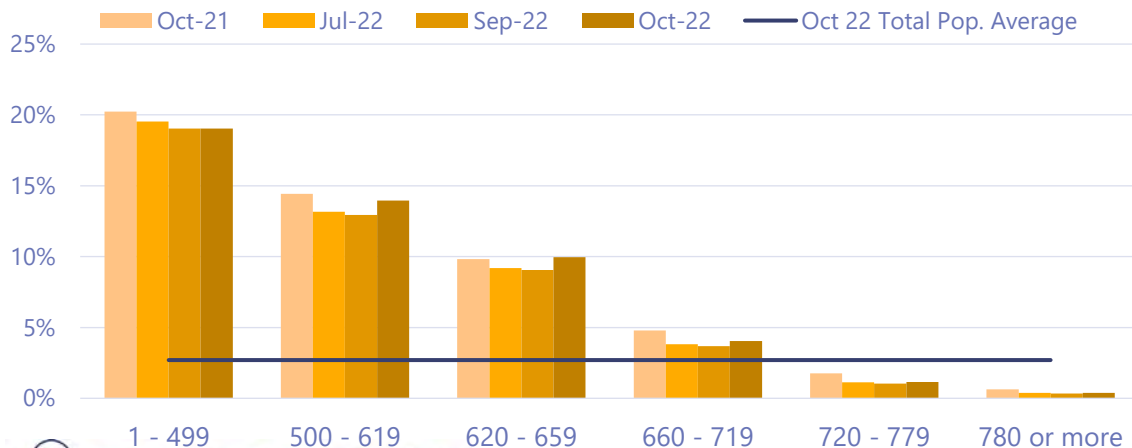
Delinquency and Foreclosure by Fixed-Rate Product - October 2022



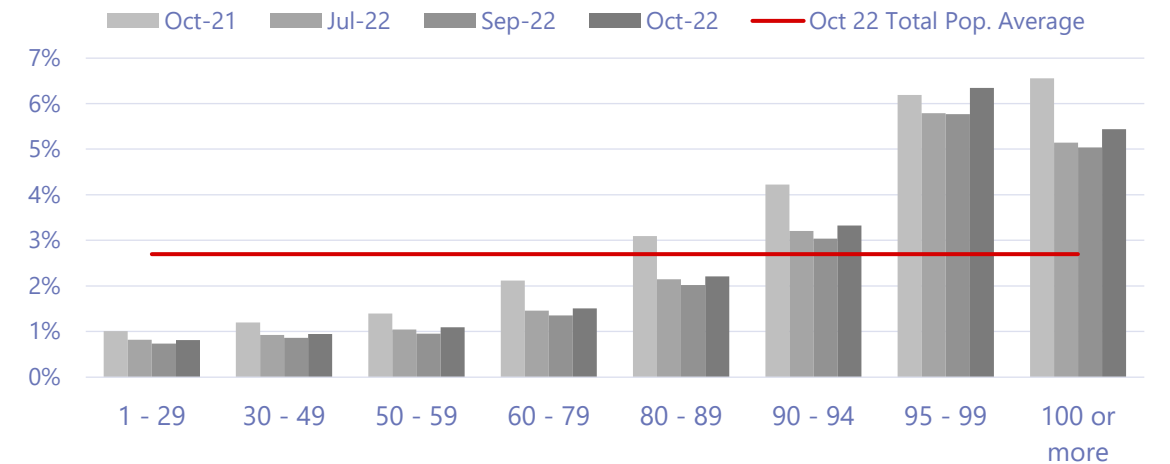
Delinquency and Foreclosure by Original Loan Balance - October 2022



Delinquency and Foreclosure by Original FICO - October 2022



Delinquency and Foreclosure by Original LTV - October 2022



Tables



State Summary

Prepayment and Delinquency

SUMMARY TABLES - October 2022

State	Loan Characteristics					Prepayments			Delinquencies						
	WAvg Orig Bal	WAC	WAvg Orig FICO	WAvg Orig LTV	WAvg Age	CPR	1mo CPR Change%	CPR Factor	30d DQ	60d DQ	+90d DQ	Total FC	Total DQ & FC	1mo DQ & FC Change%	DQ Factor
National	\$232,676	3.52	742	77	39	6.02%	-17.58%	100.00%	1.39%	0.36%	0.80%	0.16%	2.70%	10.25%	100.00%
Alabama	\$180,412	3.61	732	83	42	7.72%	-13.72%	128.33%	1.86%	0.50%	1.07%	0.12%	3.54%	8.52%	131.19%
Alaska	\$271,229	3.45	738	84	41	8.00%	-9.04%	132.96%	1.04%	0.34%	0.68%	0.23%	2.29%	5.52%	84.89%
Arizona	\$233,165	3.52	742	76	31	6.63%	-21.02%	110.10%	1.24%	0.34%	0.63%	0.06%	2.27%	13.77%	84.15%
Arkansas	\$163,009	3.58	733	83	41	7.78%	-16.38%	129.31%	1.69%	0.51%	1.04%	0.13%	3.36%	4.67%	124.48%
California	\$335,228	3.38	752	68	37	4.41%	-20.87%	73.25%	1.02%	0.25%	0.62%	0.08%	1.97%	10.45%	72.81%
Colorado	\$292,595	3.39	751	74	31	6.50%	-20.04%	108.01%	1.08%	0.23%	0.52%	0.08%	1.90%	16.14%	70.37%
Connecticut	\$233,517	3.60	740	79	47	5.84%	-14.22%	97.08%	1.63%	0.41%	0.97%	0.27%	3.28%	7.80%	121.37%
Delaware	\$227,240	3.58	738	79	42	5.85%	-18.61%	97.24%	1.66%	0.46%	0.95%	0.17%	3.23%	11.02%	119.74%
DC	\$375,244	3.41	760	72	40	4.57%	-8.51%	75.94%	0.93%	0.26%	0.88%	0.18%	2.25%	9.76%	83.33%
Florida	\$221,605	3.63	735	80	36	6.79%	-12.68%	112.79%	1.97%	0.43%	0.86%	0.18%	3.44%	27.03%	127.22%
Georgia	\$207,130	3.59	732	81	38	7.20%	-18.57%	119.54%	1.65%	0.46%	1.05%	0.13%	3.29%	9.48%	121.89%
Hawaii	\$394,352	3.41	753	72	44	4.81%	-16.93%	79.83%	0.80%	0.21%	0.64%	0.29%	1.95%	3.18%	72.04%
Idaho	\$237,501	3.44	747	72	31	6.86%	-18.46%	114.01%	0.91%	0.21%	0.39%	0.08%	1.58%	9.78%	58.59%
Illinois	\$197,088	3.58	741	80	43	5.67%	-17.15%	94.17%	1.54%	0.42%	1.03%	0.31%	3.30%	7.99%	122.07%
Indiana	\$160,384	3.67	732	82	38	7.29%	-18.24%	121.08%	1.91%	0.51%	0.95%	0.22%	3.59%	10.83%	133.00%
Iowa	\$164,674	3.44	744	81	41	7.14%	-10.30%	118.59%	1.58%	0.36%	0.74%	0.21%	2.88%	18.99%	106.52%
Kansas	\$173,537	3.54	740	81	39	7.15%	-14.27%	118.81%	1.52%	0.39%	0.84%	0.15%	2.89%	9.13%	107.11%
Kentucky	\$167,530	3.60	733	81	40	7.21%	-16.52%	119.85%	1.62%	0.44%	0.92%	0.24%	3.21%	6.82%	118.96%
Louisiana	\$185,891	3.67	725	83	44	5.97%	-14.58%	99.12%	2.29%	0.70%	1.42%	0.34%	4.74%	7.22%	175.41%
Maine	\$202,371	3.54	740	77	41	7.75%	-6.30%	128.71%	1.34%	0.31%	0.75%	0.35%	2.75%	7.18%	101.70%
Maryland	\$274,180	3.46	741	80	41	5.22%	-15.08%	86.64%	1.54%	0.43%	1.03%	0.19%	3.18%	8.30%	117.89%
Massachusetts	\$296,340	3.41	747	72	40	4.99%	-20.55%	82.85%	1.35%	0.31%	0.71%	0.12%	2.49%	10.00%	92.11%
Michigan	\$166,418	3.57	741	78	40	7.04%	-11.34%	116.88%	1.43%	0.38%	0.81%	0.09%	2.70%	8.27%	99.85%
Minnesota	\$216,887	3.50	750	79	40	6.13%	-17.34%	101.91%	1.16%	0.33%	0.73%	0.10%	2.32%	5.75%	85.85%
Mississippi	\$168,215	3.66	722	84	42	6.89%	-16.56%	114.54%	2.43%	0.73%	1.59%	0.19%	4.95%	6.41%	183.26%
Missouri	\$170,766	3.58	739	81	40	7.33%	-18.15%	121.80%	1.57%	0.42%	0.84%	0.10%	2.93%	9.44%	108.63%
Montana	\$225,773	3.51	749	75	39	7.30%	-16.29%	121.35%	0.94%	0.25%	0.50%	0.10%	1.79%	5.17%	66.26%
Nebraska	\$172,316	3.44	745	80	38	6.95%	-16.93%	115.53%	1.13%	0.32%	0.62%	0.11%	2.18%	5.57%	80.67%
Nevada	\$247,795	3.56	738	78	32	5.99%	-20.59%	99.50%	1.23%	0.33%	0.75%	0.15%	2.46%	12.14%	91.00%
New Hampshire	\$233,206	3.50	743	76	41	7.11%	-11.26%	118.09%	1.26%	0.31%	0.66%	0.12%	2.34%	9.71%	86.59%
New Jersey	\$274,318	3.49	742	76	41	5.10%	-21.49%	84.75%	1.42%	0.38%	0.94%	0.24%	2.97%	7.38%	109.93%
New Mexico	\$190,444	3.67	739	80	45	7.14%	-22.14%	118.64%	1.29%	0.31%	0.68%	0.23%	2.51%	10.43%	92.93%
New York	\$264,588	3.69	743	73	51	4.95%	-14.93%	82.24%	1.42%	0.36%	1.03%	0.41%	3.23%	3.46%	119.48%
North Carolina	\$206,133	3.52	743	79	38	7.36%	-15.87%	122.30%	1.25%	0.31%	0.71%	0.11%	2.37%	8.40%	87.93%
North Dakota	\$204,686	3.36	747	82	37	7.16%	-21.76%	118.94%	1.00%	0.28%	0.70%	0.29%	2.26%	1.94%	83.70%
Ohio	\$156,388	3.66	733	82	43	6.99%	-13.91%	116.12%	1.67%	0.45%	0.84%	0.26%	3.22%	7.92%	119.11%
Oklahoma	\$168,457	3.72	732	84	42	7.83%	-14.54%	130.02%	1.67%	0.47%	1.06%	0.27%	3.47%	7.36%	128.63%
Oregon	\$263,374	3.50	752	74	36	6.08%	-18.49%	101.05%	0.93%	0.21%	0.55%	0.11%	1.79%	12.14%	66.37%
Pennsylvania	\$189,386	3.59	741	79	45	5.72%	-16.54%	95.02%	1.53%	0.42%	0.82%	0.23%	3.00%	7.30%	111.04%
Rhode Island	\$232,492	3.55	739	77	42	5.71%	-21.36%	94.93%	1.58%	0.40%	0.80%	0.17%	2.95%	9.58%	109.33%
South Carolina	\$198,759	3.57	736	80	38	7.48%	-19.21%	124.32%	1.55%	0.44%	0.93%	0.20%	3.11%	7.96%	115.07%
South Dakota	\$192,764	3.33	750	79	36	7.75%	-11.49%	128.71%	0.95%	0.23%	0.49%	0.12%	1.78%	1.54%	65.81%
Tennessee	\$205,203	3.55	738	79	35	8.10%	-17.39%	134.57%	1.30%	0.34%	0.70%	0.08%	2.42%	6.20%	89.44%
Texas	\$217,612	3.62	735	80	36	6.16%	-20.42%	102.33%	1.67%	0.45%	0.94%	0.13%	3.18%	8.82%	117.85%
Utah	\$277,234	3.39	745	75	29	5.23%	-27.99%	86.91%	1.22%	0.32%	0.62%	0.07%	2.22%	9.78%	82.30%
Vermont	\$200,750	3.63	745	77	47	7.19%	-10.91%	119.50%	1.32%	0.30%	0.80%	0.26%	2.67%	6.92%	99.00%
Virginia	\$270,582	3.39	747	79	39	5.73%	-16.31%	95.22%	1.23%	0.31%	0.71%	0.10%	2.36%	10.76%	87.30%
Washington	\$304,806	3.42	750	73	33	6.02%	-19.72%	100.08%	0.93%	0.19%	0.51%	0.09%	1.71%	11.88%	63.15%
West Virginia	\$159,095	3.66	726	83	44	6.96%	-15.97%	115.60%	2.13%	0.58%	1.00%	0.20%	3.91%	8.48%	144.96%
Wisconsin	\$183,228	3.54	743	79	40	6.80%	-11.21%	113.04%	1.26%	0.34%	0.67%	0.17%	2.45%	8.71%	90.56%
Wyoming	\$219,650	3.45	743	79	38	8.19%	-11.97%	136.09%	1.30%	0.33%	0.68%	0.14%	2.45%	5.60%	90.78%

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