Global Markets Analysis Report

A MONTHLY PUBLICATION OF GINNIE MAE'S OFFICE OF CAPITAL MARKETS

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Ginnie Mae
Our Guaranty Matters

PREPARED FOR GINNIE MAE
BY STATE STREET GLOBAL ADVISORS
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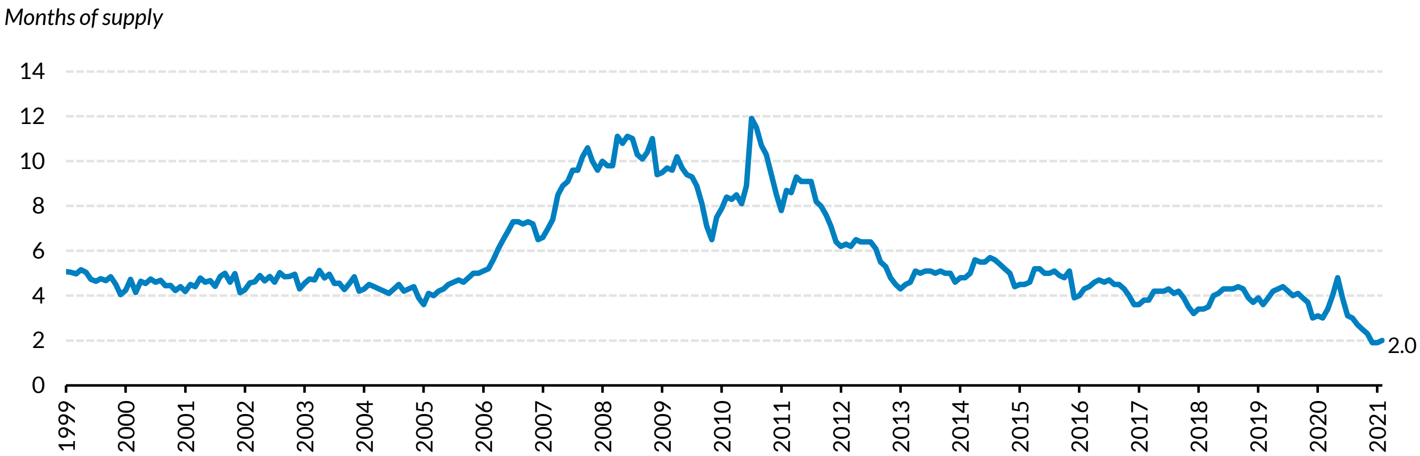
HIGHLIGHTS

Low prices, rising home prices, and tight credit all limit access to homeownership

House prices have been appreciating rapidly for the last several years given the continued shortage of homes available for sale. Despite the severe economic shock triggered by the pandemic a year ago, house price growth escalated over the course of 2020, driven in large part by the sharp decline in mortgage rates. As a result, the months supply of available homes on the market reached a record low, standing at 2 months as of February 2021 (Figure 1).

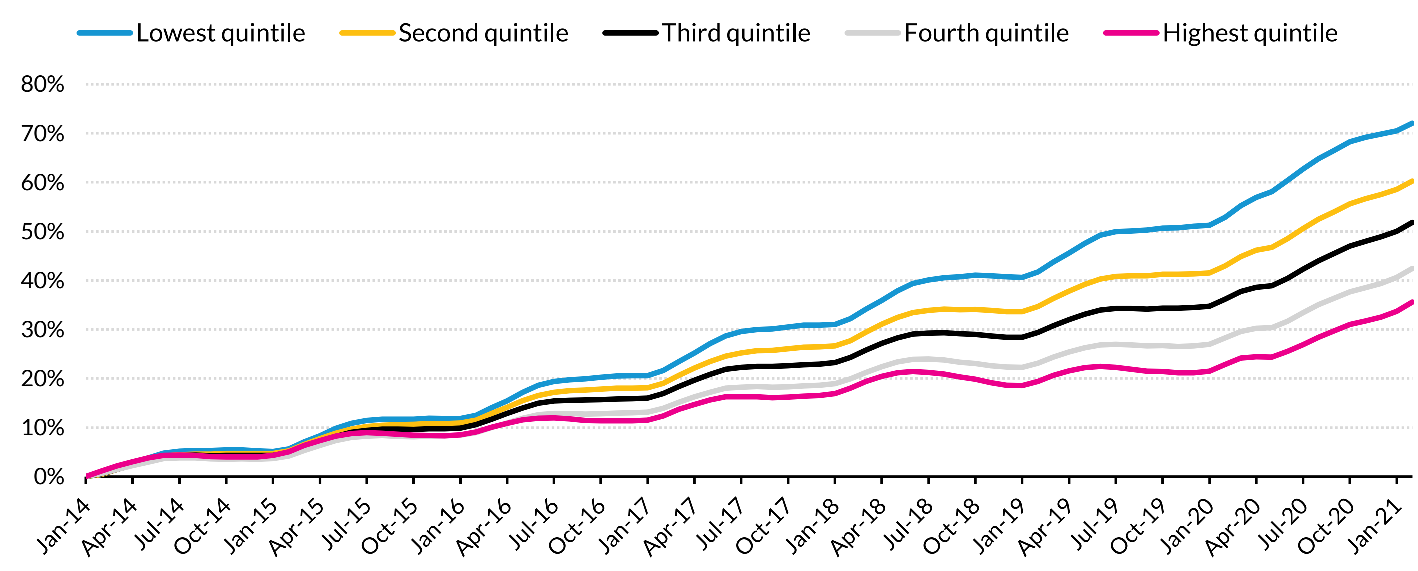
Figure 1: Months of Supply



Source: National Association of Realtors. Data as of February 2021.

While rising house prices allow existing homeowners to build wealth, they severely limit affordability for future buyers, who are disproportionally younger households and people of color. As Figure 2 shows, cumulative home price growth since January 2014 has been strongest for the lowest priced homes. Prices for homes valued in the bottom quintile (blue line) are up 72.1 percent since Jan 2014 compared to 35.6 percent for the top quintile homes (pink line). The pattern of lower priced homes appreciating at a much faster rate than higher priced homes persisted even during the pandemic.

Figure 2: Cumulative House Price Growth by Price Tier since January 2014

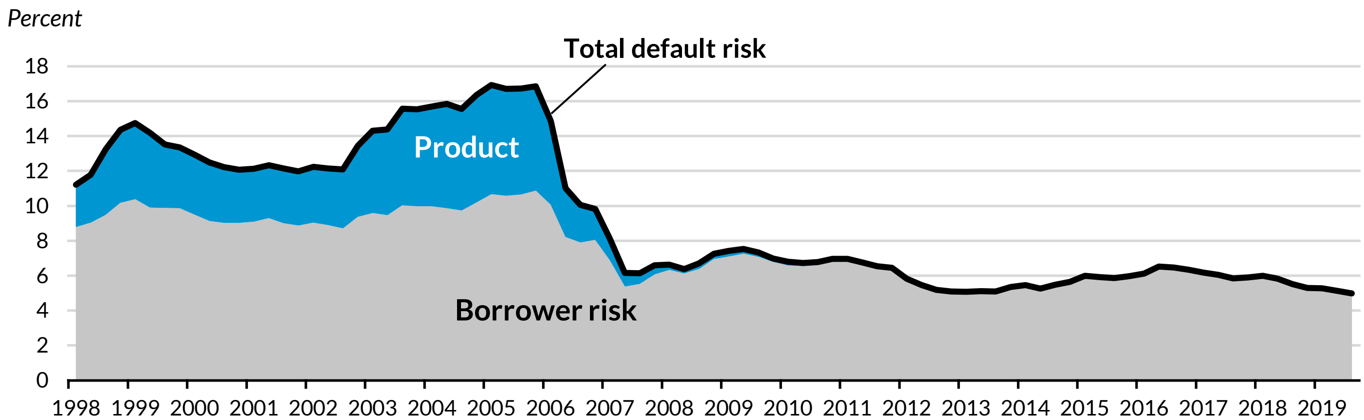


Sources: Black Knight and Urban Institute. Data as of February 2021.

HIGHLIGHTS

While the dwindling available supply of homes is the main driver of lack of affordability, the structural problem of tight credit post-2008 has kept many responsible households, disproportionately households of color, from being able to qualify for mortgages. Credit standards were tight even before the pandemic began and have tightened even more since. The Urban Institute's housing credit availability index (HCAI), which measures the amount of risk the mortgage market is taking at a given point, stood at just under 5.0 percent in the third quarter of 2020. This is down from 5.1 percent in Q2 2020 and less than half of the 12 percent range prior to the excesses of the housing bubble.

Figure 3: Housing Credit Availability Index (HCAI)



Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute. **Note:** Default is defined as 90 days or more delinquent at any point. Last updated January 2021.

Despite these challenges of housing affordability and access to credit, Ginnie Mae, along with FHA, VA and USDA, has successfully enabled homeownership for low- and moderate-income households. In fact, as page 17 shows, the Ginnie Mae market has grown substantially in terms of its mortgage-backed securities outstanding, which currently total over $2 trillion. Additionally, in 2020, both FHA and VA reached new purchase lending records at $187 billion and $131.5 billion respectively. As page 23 shows, this trend has continued to persist so far 2021.

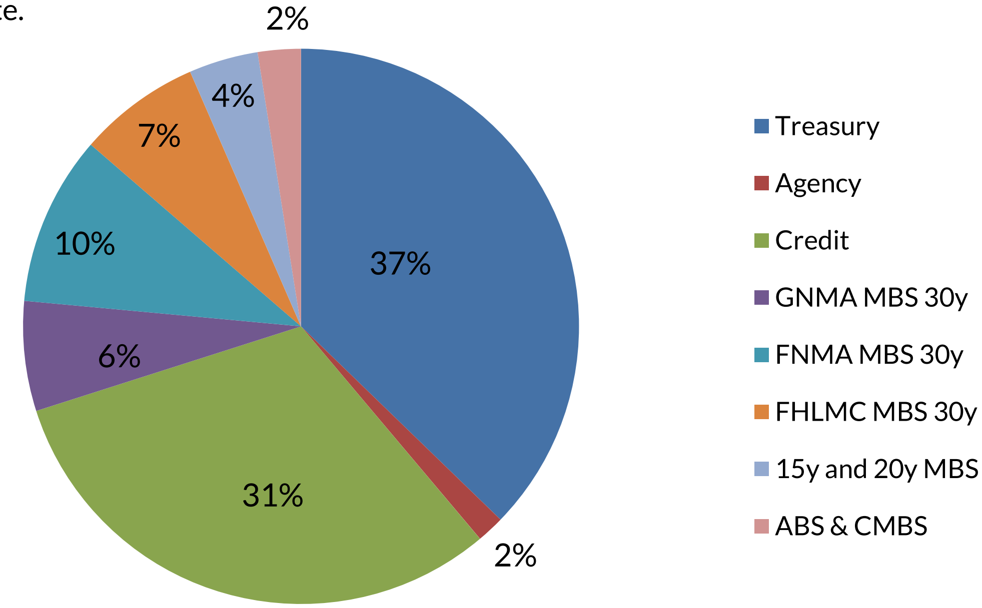
***Highlights this month*:**

- In Q4 2020, mortgage debt outstanding increased slightly to $11.7 trillion, and total household equity increased to $22.4 trillion (Page 16).
- The largest holders of agency debt in Q4 2020 include the Federal Reserve (21 percent), commercial banks (24 percent), foreign investors (12 percent), and money market & pension funds (10 percent) (Page 51).

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

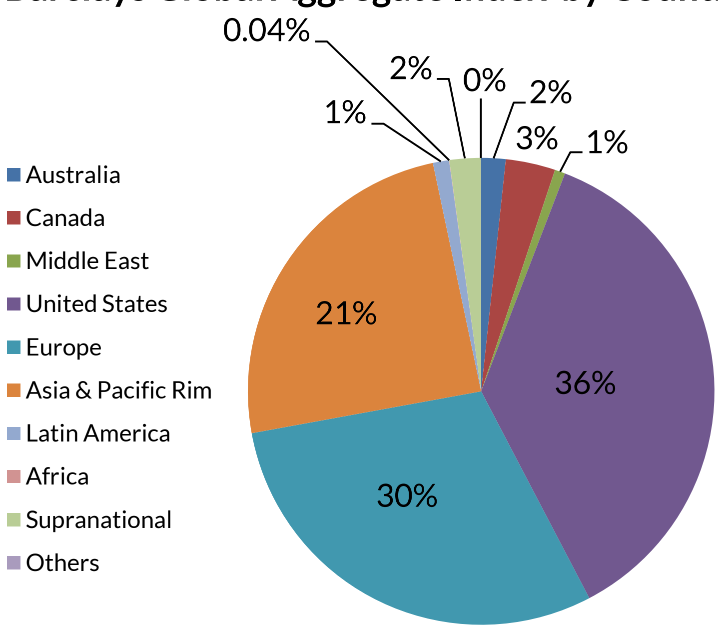
US MBS (Ginnie Mae, Fannie Mae, and Freddie Mac) comprise 27 percent of the Barclays US Aggregate Index—less than either the US Treasury share (37 percent) or the US Credit share (31 percent). Fannie Mae 30-year MBS accounts for 10 percent of the overall index, the largest MBS component, while Freddie Mac 30-year MBS and Ginnie Mae 30-year MBS comprise 7 and 6 percent of the market, respectively. Mortgages with terms of 15 and 20 years comprise the remaining balance (4 percent) of the Barclays US Aggregate Index. US securities are the single largest contributor to the Barclays Global Aggregate, accounting for 36 percent of the global total. US MBS comprises 10 percent of the global aggregate.

Barclays US Aggregate Index



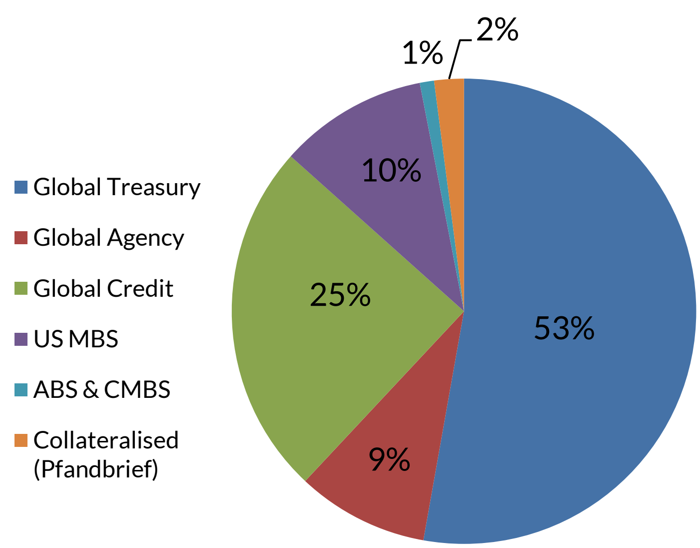
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of March 2021.*
Note*: Numbers in chart may not add to 100 percent due to rounding.*

Barclays Global Aggregate Index by Country



Sources: *Bloomberg and State Street Global Advisors.*
Note: *Data as of March 2021.*

Barclays Global Aggregate Index by Sector

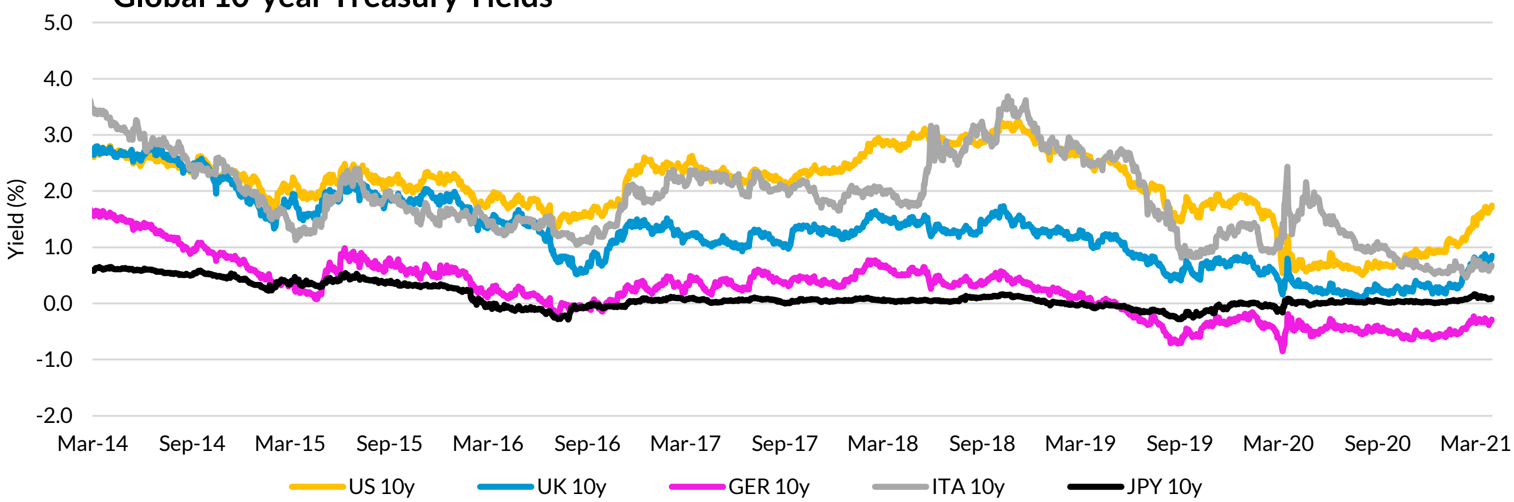


Sources: *Bloomberg and State Street Global Advisors*
Note: *Data as of March 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

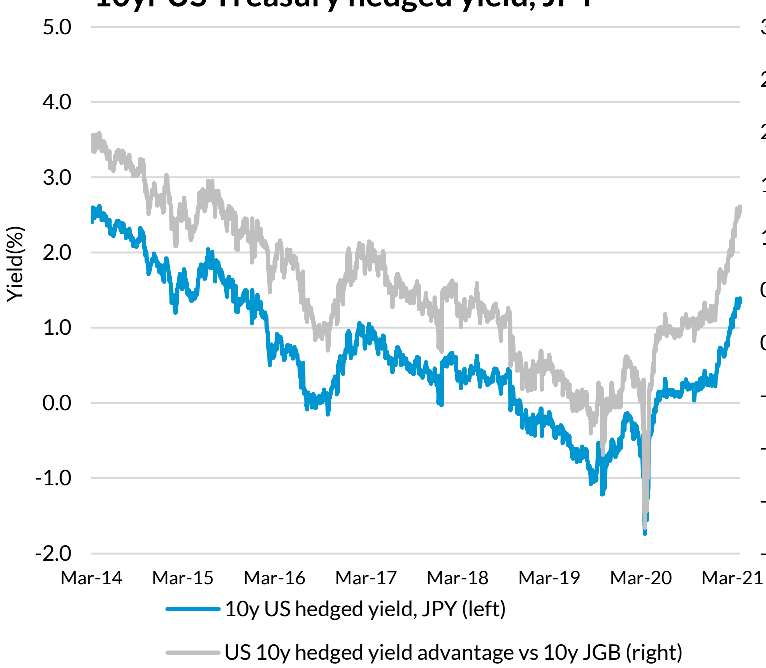
After experiencing COVID-19 related volatility in March and April of 2020, government bond yields across the globe gradually stabilized and have started trending up meaningfully in 2021. Yields on the 10-year treasury increased by 34 bps to 1.74 percent in March 2021, remaining the highest of the developed world. The yield on the Italian 10-year note, which was higher than the 10-year sovereign debt of the US, Japan, and Europe for much of 2020, decreased by 9 bps to 0.67 percent. The yield on the UK 10-year bond rose slightly by 3 bps to 0.85 percent, while the Japanese 10-year government bond decreased by 7 bps to 0.10 percent in March. The German 10-year yield decreased slightly by 3 bps to negative 0.29 percent in March. At the end of March 2021, the hedged yield differential between the 10-year Treasury and the 10-year JGB stood at 129 bps, a widening of 46 bps from the previous month. The hedged yield differential between the 10-year Treasury and the 10-year Bund stood at 125 bps, an expansion of 41 bps since the end of February 2021.

Global 10-year Treasury Yields



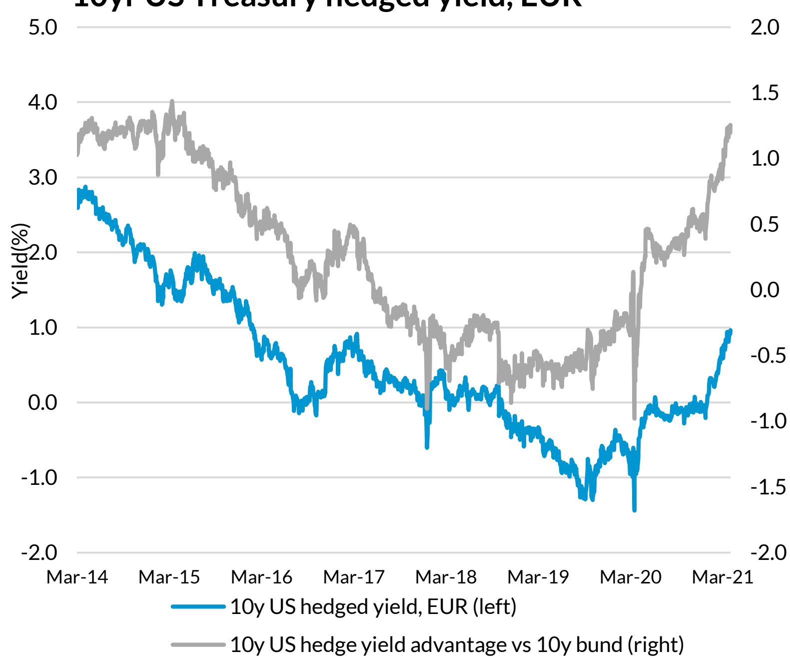
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of March 2021.*

10yr US Treasury hedged yield, JPY



Sources: *Bloomberg and State Street Global Advisors.*
Note: *Data as of March 2021.*

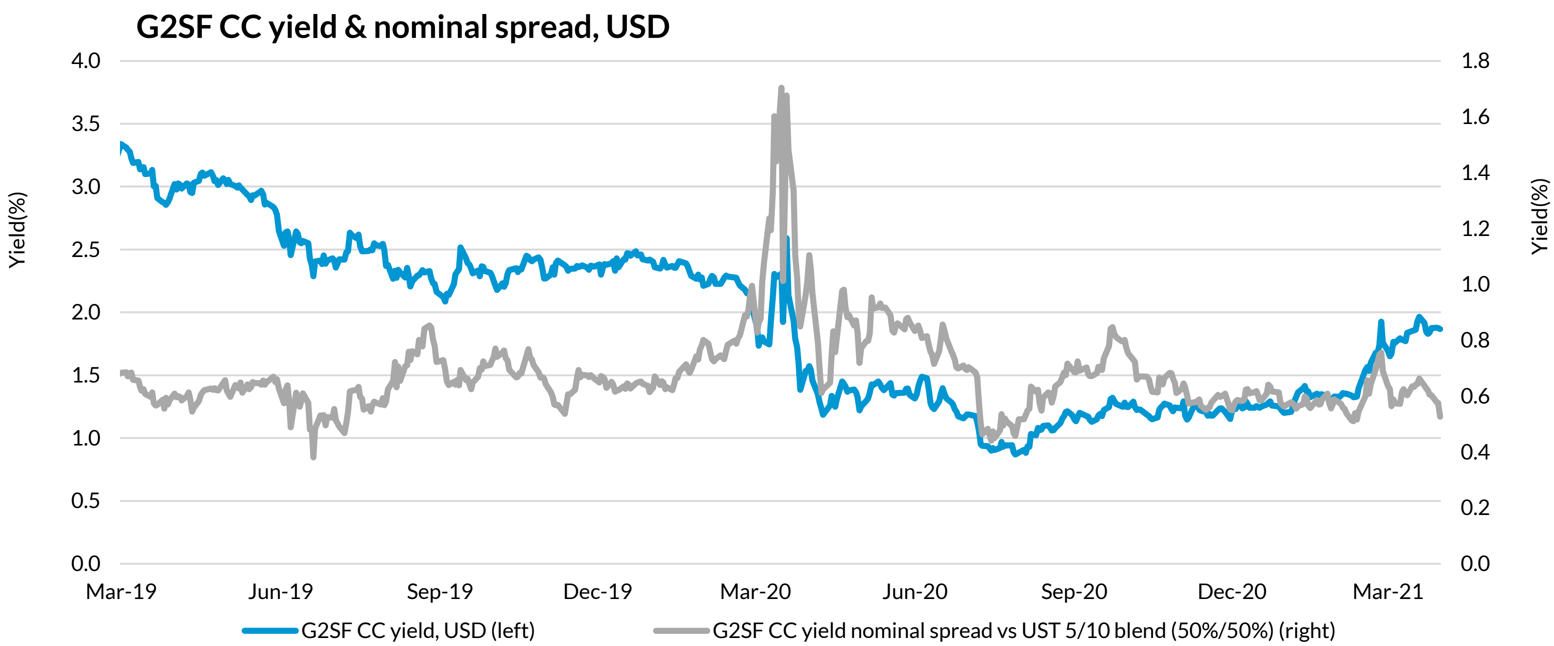
10yr US Treasury hedged yield, EUR



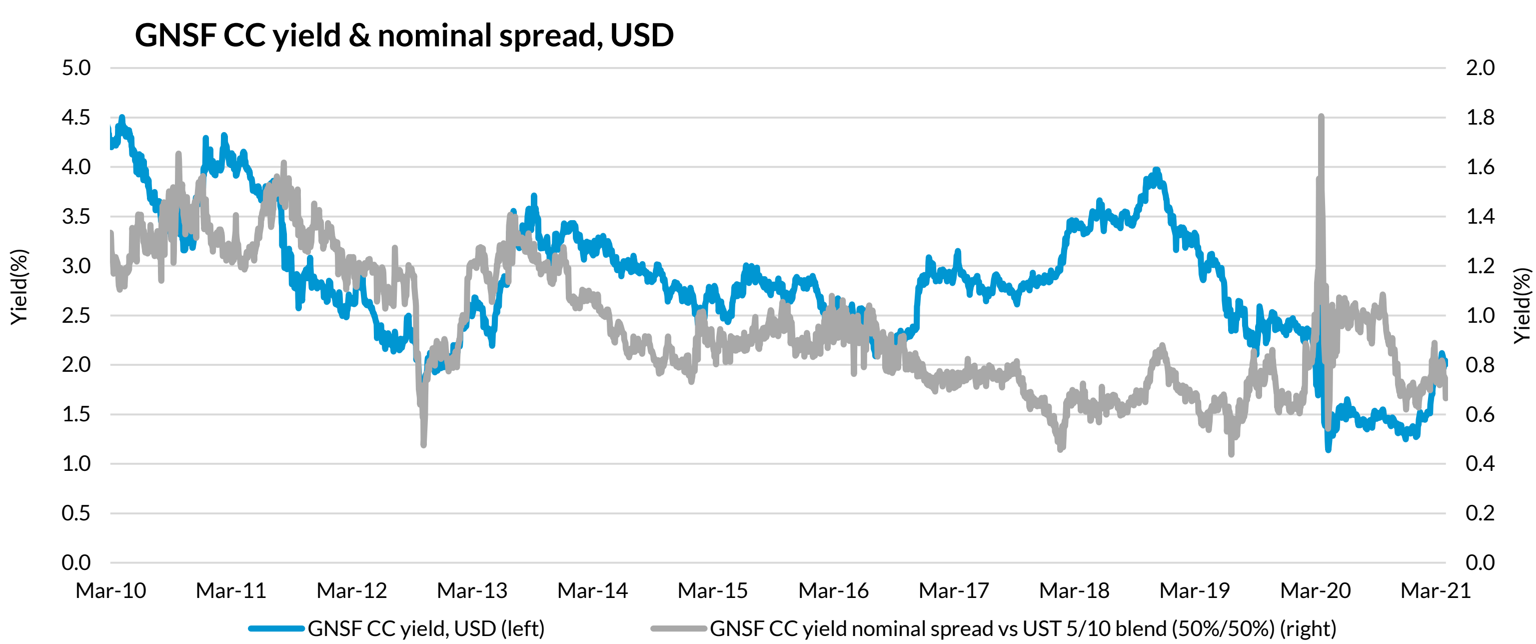
Sources: *Bloomberg and State Street Global Advisors*
Note*: Data as of March 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

Nominal yields were up in March 2021, with GNMA II yields rising 11 bps to 1.87 percent and GNMA I yields up 10 bps to 2.01 percent. At the end of March, current coupon Ginnie Mae securities outyield their Treasury counterparts (relative to the average of 5- and 10-year Treasury yields) by 53 bps on the G2SF and 67 bps on the GNSF, a tightening of 16 and 17 bps on the G2SF and GNSF, respectively, since last month.



Sources: *Bloomberg and State Street Global Advisors.* ***Note****: Data as of March 2021.*

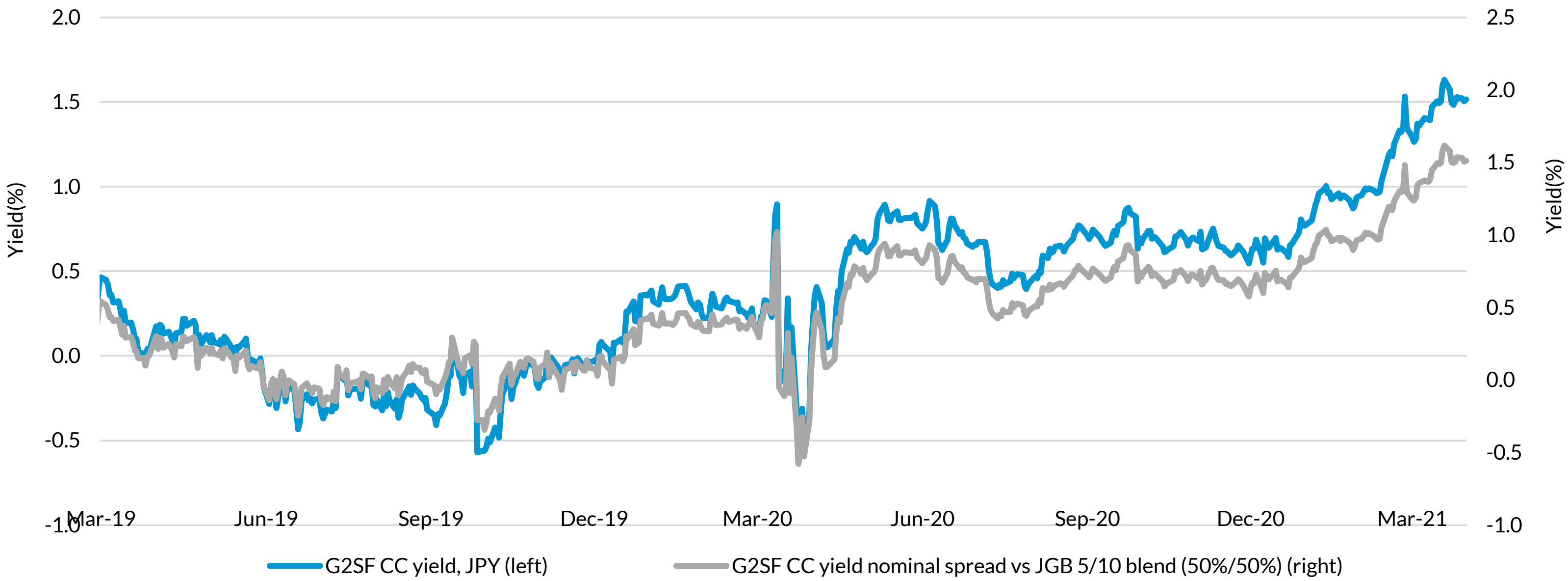


Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of March 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

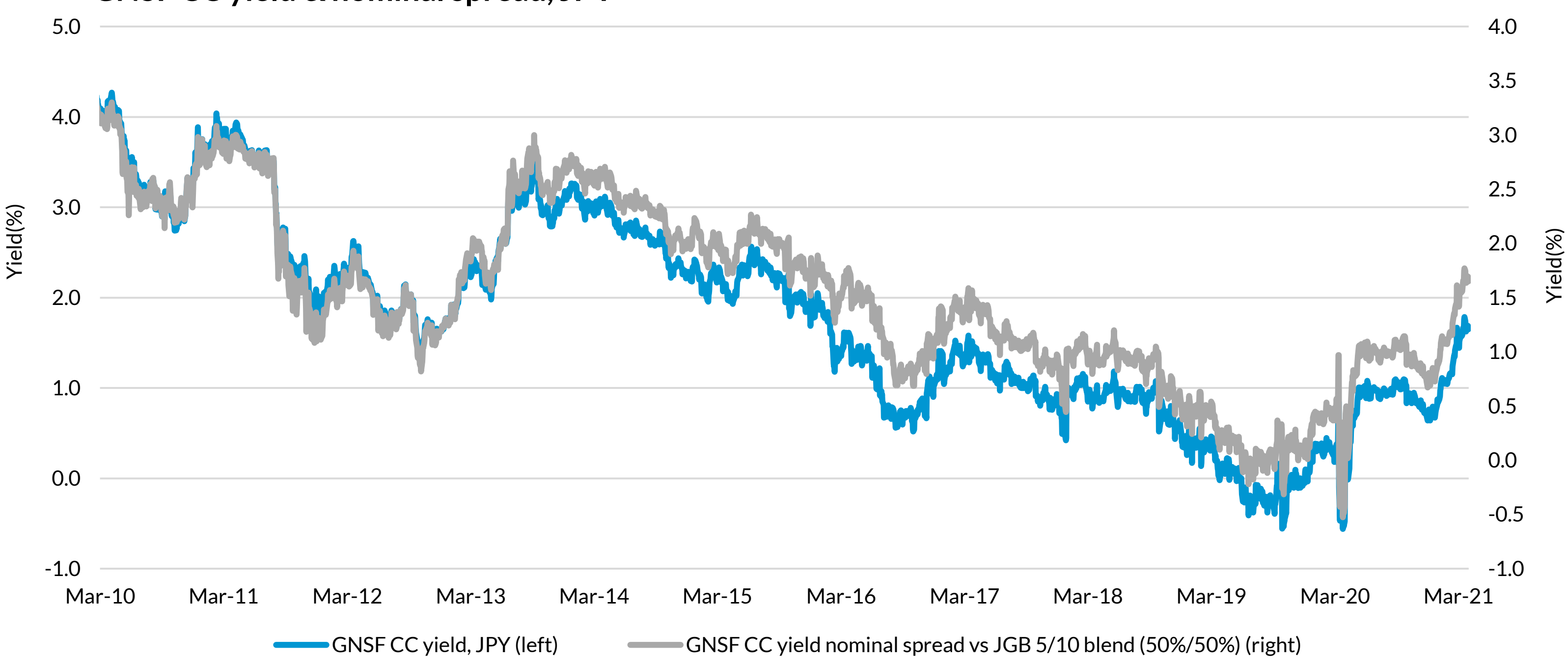
If Ginnie Mae securities are hedged into Japanese Yen, they look favorable on a yield basis versus the JGB 5/10 blend at the end of March 2021. More precisely, hedged into Japanese yen, the G2SF and GNSF have a 151 and 165 bp yield, respectively, versus the JGB 5/10 blend. This represents a 22 bp widening for G2SF and a 21 bp widening for GNSF since the end of February 2021.

G2SF CC yield & nominal spread, JPY



Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of March 2021.*

GNSF CC yield & nominal spread, JPY

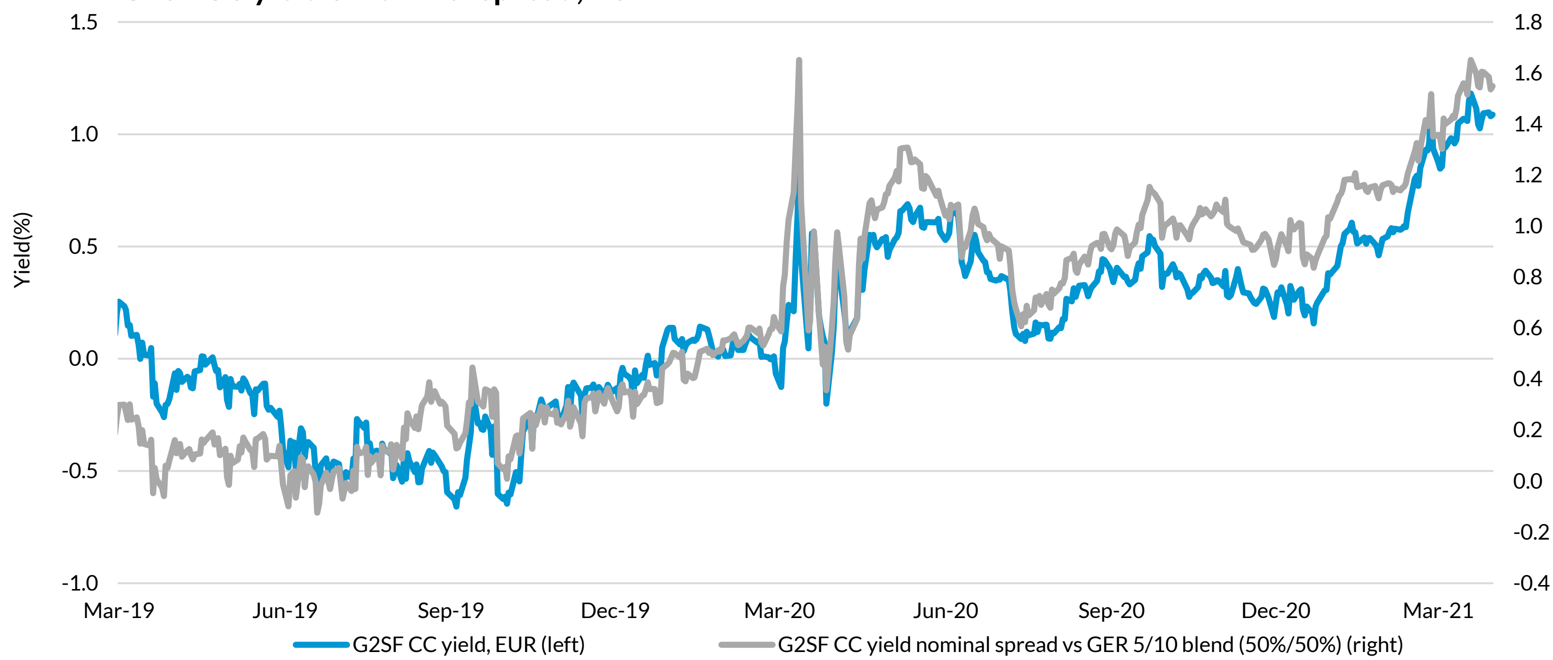


Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of March 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

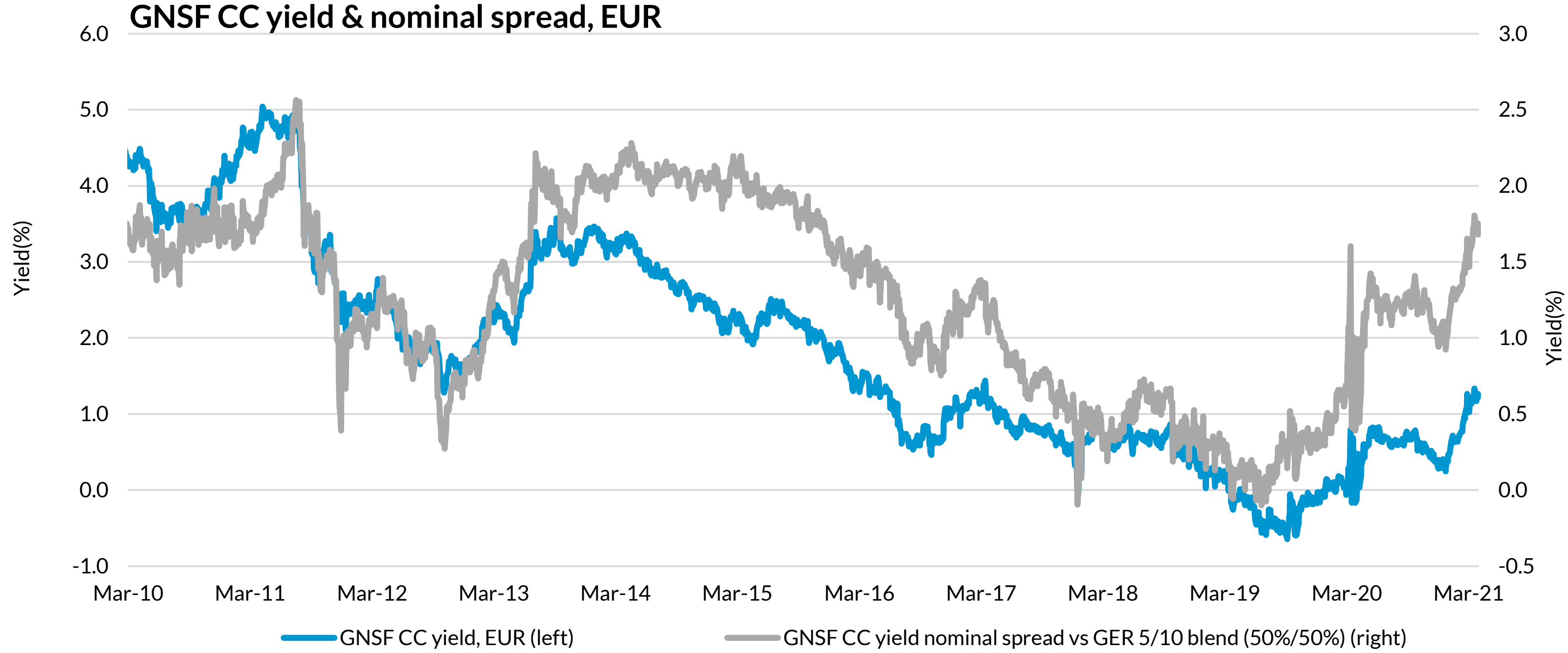
If Ginnie Mae securities are hedged into Euros, they look favorable on a yield basis versus the German 5/10 Blend. The figures below show that at the end of March 2021, the current coupon G2SF and GNSF hedged into euros have a 155 and 169 bp higher yield than the average of the German 5/10, respectively. This represents a 20 and 19 bp expansion for the G2SF and GNSF, respectively, since the end of February 2021.

G2SF CC yield & nominal spread, EUR



Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of March 2021.*

GNSF CC yield & nominal spread, EUR

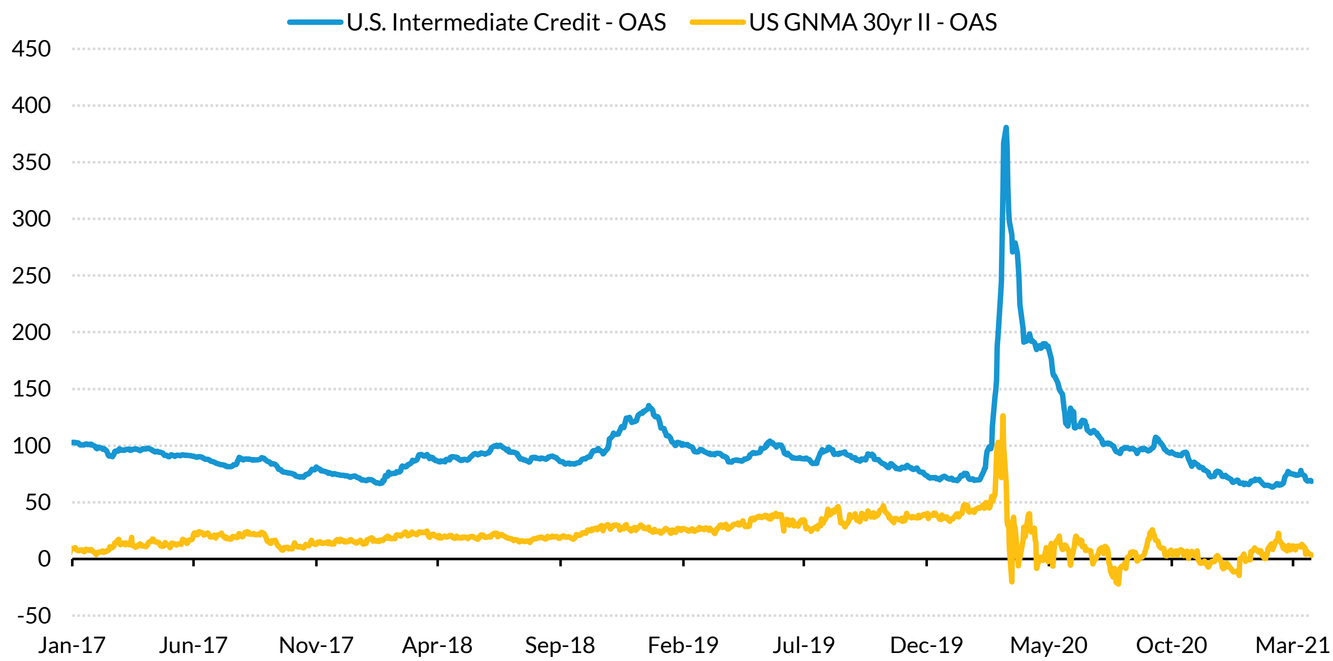


Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of March 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

The spread between US Intermediate Credit and GNMA II 30 year OAS skyrocketed in February 2020 in response to the COVID-19 panic. This was followed by substantial tightening over the remainder of 2020 and into March of 2021. The OAS on intermediate credit fully recovered from its enormous widening in early 2020, while the Ginnie Mae II 30-year fell to multi-year lows. The spread between the two remains much elevated, ending March 2021 at 65 bps, higher than the 21 bps in January 2020, but similar to levels in mid 2019.

G2 30 MBS versus Intermediate Credit



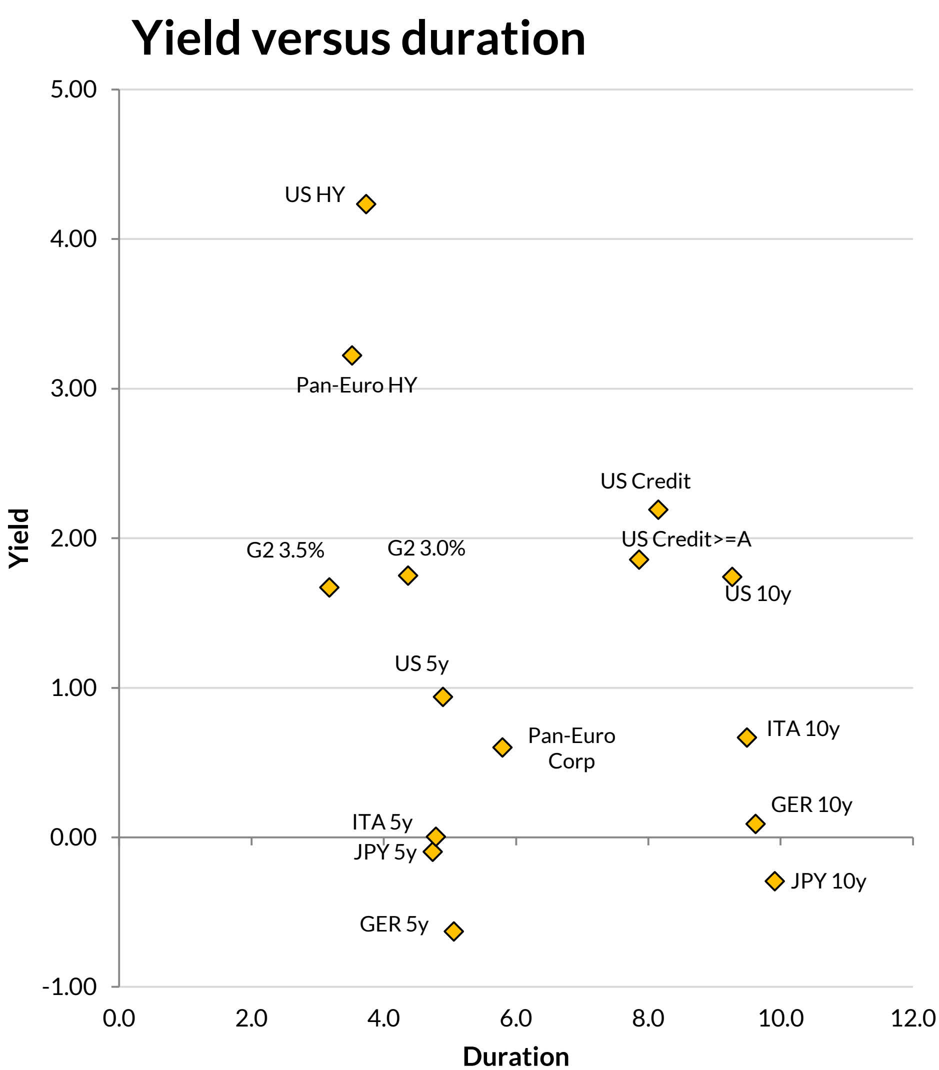
Sources: *State Street Global Advisors.* ***Note:*** *Data as of March 2021.*

Spread between Intermediate credit and 30-year GNMA MBS OAS

Sources: *State Street Global Advisors.* ***Note:*** *Data as of March 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

US MBS yields are about the same or higher than most government securities with the same or longer durations. The only asset classes with significantly more yield are the US and Pan-Euro high yield and credit indices. Duration, a measure of sensitivity to interest rate changes, does not fully capture the volatility of the high yield asset classes, as there is a large credit component, which has moved front and center in light of COVID-19.



Security	Duration	Yield
US 5y	4.9	0.94
US 10y	9.3	1.74
GNMA II 3.0%	4.4	1.75
GNMA II 3.5%	3.2	1.67
JPY 5y	4.7	-0.10
JPY 10y	9.6	0.09
GER 5y	5.1	-0.63
GER 10y	9.9	-0.29
ITA 5y	4.8	0.01
ITA 10y	9.5	0.67
US credit	8.1	2.19
US credit >= A	7.9	1.86
US HY	3.7	4.23
Pan-Euro Corp	5.8	0.60
Pan-Euro HY	3.5	3.22

***Sources:** Bloomberg and State Street Global Advisors. **Note**: Yields are in base currency of security and unhedged. Data as of March 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

The average return on the Ginnie Mae index over the past decade is less than other indices. However, the standard deviation of the Ginnie Mae index is the lowest of any sector, as it has the least price volatility over a 1, 3, 5 and 10 year horizon. The result: The Sharpe Ratio, or excess return per unit of risk for the Ginnie Mae index is highest among all asset classes for the 3-year horizon and is higher than any of the other US indices (10-year Treasury, US Corporate Credit, US High Yield) in a 10-year horizon.

	Average Return (Per Month)					
Time Period	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield*	Pan Euro High Yield*
1 year	-0.03	-0.37	0.72	0.77	1.80	1.72
3 year	0.30	0.34	0.52	0.26	0.59	0.38
5 year	0.18	0.19	0.41	0.21	0.67	0.42
10 year	0.23	0.24	0.42	0.37	0.55	0.55

	Average Excess Return (Per Month)					
Time Period	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield*	Pan Euro High Yield*
1 year	-0.04	-0.38	0.72	0.82	1.80	1.78
3 year	0.19	0.24	0.42	0.31	0.48	0.43
5 year	0.09	0.10	0.32	0.27	0.58	0.48
10 year	0.18	0.20	0.37	0.40	0.50	0.58

	Standard Deviation					
Time Period	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield*	Pan Euro High Yield*
1 year	0.29	0.90	2.25	1.38	2.02	1.88
3 year	0.60	1.29	2.04	1.65	2.69	2.90
5 year	0.59	1.16	1.71	1.38	2.19	2.32
10 year	0.64	1.07	1.50	1.36	2.03	2.03

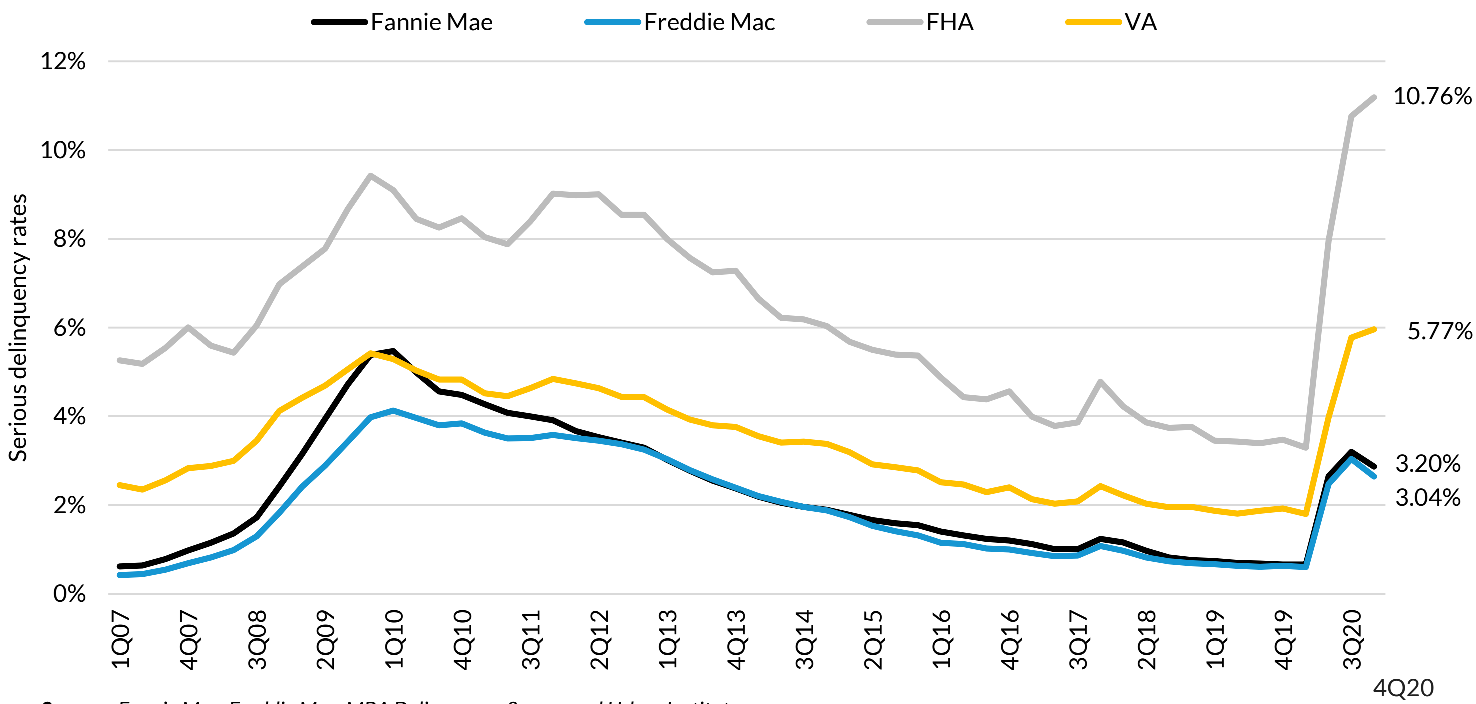
	Sharpe Ratio					
Time Period	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield	Pan Euro High Yield*
1 year	-0.13	-0.42	0.32	0.59	0.89	0.95
3 year	0.32	0.18	0.20	0.19	0.18	0.15
5 year	0.16	0.09	0.19	0.20	0.27	0.21
10 year	0.28	0.18	0.25	0.30	0.24	0.28

**Assumes 2% capitalization max per issuer on high yield indices*
Sources: *Barclays Indices, Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of March 2021.*

State of the US Housing Market

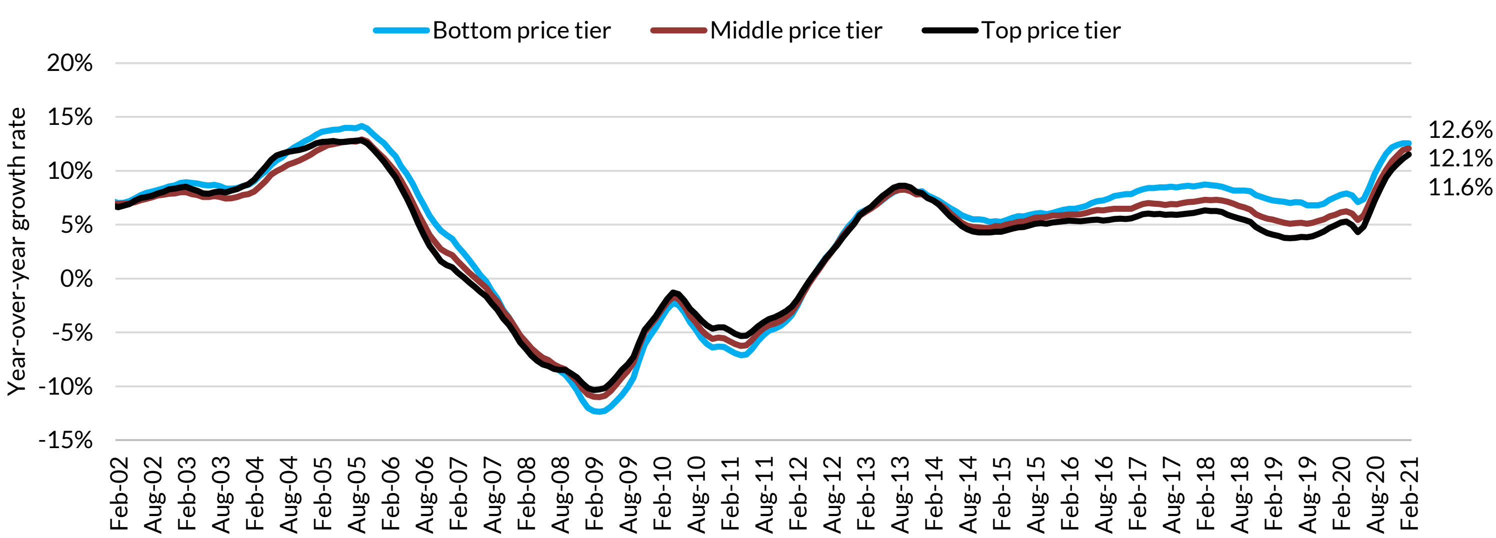
Serious delinquency rates for single-family GSE loans fell slightly in Q4 2020 while FHA and VA serious delinquency rates continued to rise but at a slower rate. The increase in delinquencies from Q2-Q4 2020 reflects the impact of the pandemic on mortgage payments. The bottom chart shows nationwide house prices for the bottom, middle and the top quintiles by price. House prices escalated significantly in the second half of 2020. Prices have risen most at the lower end of the market where Ginnie Mae plays a major role. Prices at the lower end of the market rose by 12.6 percent for 12 months ended February 2021, higher than the 11.6 percent for the top end of the market. Year-over-year price growth in February 2021 was higher than in January 2021 for all price tiers.

Serious Delinquency Rates: Single-Family Loans



Sources: *Fannie Mae, Freddie Mac, MBA Delinquency Survey and Urban Institute.*
Note: *Serious delinquency is defined as 90 days or more past due or in the foreclosure process. Data as of Q4 2020.*

National Year-Over-Year HPI Growth



Sources: *Black Knight and Urban Institute.* ***Note:*** *Black Knight modified the methodology behind their HPI in February 2021, resulting in changes to historic price estimates. Black Knight divides home prices in each region into quintiles; this figure shows the performance of the bottom, middle and top quintiles. Data as of February 2021.*

State of the US Housing Market

Nationally, nominal home prices have increased by 73.4 percent since the trough, and now exceed their pre-crisis peak valuation on a nominal basis by 29.6 percent. The picture is very different across states, with most states well in excess of the prior peak; two states remain below their 2007 peak, with Illinois, at 3.0 percent below peak level, the most underwater.

State	2000 to Peak	Peak to Trough	Trough to Current	HPI Changes YOY	Current HPI % Above Peak
National	74.9%	-25.3%	73.4%	11.6%	29.6%
Alabama	35.9%	-15.4%	45.4%	10.7%	22.9%
Alaska	68.9%	-3.0%	31.9%	7.9%	28.0%
Arizona	110.2%	-47.9%	122.0%	17.5%	15.6%
Arkansas	41.5%	-9.8%	35.7%	10.9%	22.5%
California	154.5%	-43.3%	118.6%	12.4%	23.9%
Colorado	40.4%	-12.9%	105.3%	12.5%	78.9%
Connecticut	92.1%	-24.8%	31.0%	14.0%	-1.6%
Delaware	93.9%	-23.7%	45.7%	12.6%	11.2%
District of Columbia	174.5%	-13.9%	64.4%	4.6%	41.5%
Florida	128.3%	-46.9%	92.1%	10.7%	2.1%
Georgia	38.3%	-31.5%	88.1%	13.0%	28.9%
Hawaii	163.0%	-22.6%	63.9%	7.5%	26.8%
Idaho	71.7%	-28.8%	139.4%	24.6%	70.3%
Illinois	61.6%	-34.4%	47.9%	6.8%	-3.0%
Indiana	21.6%	-8.1%	52.1%	10.9%	39.7%
Iowa	28.4%	-4.8%	35.4%	7.8%	29.0%
Kansas	34.5%	-9.3%	59.9%	12.0%	45.0%
Kentucky	29.6%	-7.7%	48.9%	11.8%	37.5%
Louisiana	48.6%	-5.4%	30.1%	6.1%	23.1%
Maine	81.9%	-12.4%	62.2%	14.6%	42.2%
Maryland	129.5%	-28.8%	44.0%	12.7%	2.5%
Massachusetts	92.3%	-22.7%	74.0%	11.1%	34.6%
Michigan	23.8%	-39.4%	98.9%	11.4%	20.6%
Minnesota	66.6%	-28.0%	71.4%	8.9%	23.4%
Mississippi	41.2%	-13.8%	41.7%	9.2%	22.2%
Missouri	42.7%	-15.5%	52.2%	10.4%	28.6%
Montana	83.1%	-11.6%	76.0%	17.0%	55.6%
Nebraska	26.5%	-6.8%	57.5%	10.0%	46.7%
Nevada	126.8%	-59.0%	149.6%	11.1%	2.3%
New Hampshire	91.0%	-23.3%	66.7%	16.7%	27.9%
New Jersey	117.8%	-28.1%	45.0%	13.8%	4.3%
New Mexico	66.6%	-16.4%	41.9%	11.7%	18.7%
New York	98.6%	-15.3%	54.6%	9.1%	31.0%
North Carolina	40.6%	-16.1%	57.8%	13.1%	32.3%
North Dakota	53.2%	-3.8%	60.9%	6.3%	54.8%
Ohio	21.2%	-18.6%	55.5%	12.4%	26.6%
Oklahoma	37.4%	-2.7%	32.4%	9.1%	28.8%
Oregon	81.9%	-28.3%	108.8%	14.3%	49.8%
Pennsylvania	70.0%	-11.8%	39.9%	11.0%	23.4%
Rhode Island	130.3%	-34.7%	76.4%	14.6%	15.2%
South Carolina	45.0%	-19.6%	51.6%	10.5%	21.8%
South Dakota	45.2%	-3.6%	59.9%	10.3%	54.2%
Tennessee	35.0%	-11.9%	67.5%	13.4%	47.5%
Texas	33.6%	-5.8%	66.1%	9.6%	56.4%
Utah	55.0%	-22.2%	110.4%	17.4%	63.7%
Vermont	81.3%	-9.2%	40.3%	17.9%	27.4%
Virginia	100.0%	-23.0%	42.2%	9.9%	9.5%
Washington	84.8%	-28.7%	123.6%	15.8%	59.4%
West Virginia	40.4%	-5.8%	37.0%	13.2%	29.1%
Wisconsin	44.8%	-16.4%	51.4%	11.2%	26.6%
Wyoming	77.9%	-7.4%	46.4%	10.1%	35.5%

Sources: *Black Knight and Urban Institute.* ***Note:*** *Black Knight modified the methodology behind their HPI in February 2021, resulting in changes to historic price estimates. HPI data as of January 2021. Negative sign indicates that state is above earlier peak. Peak refers to the month when HPI reached the highest level for each state/US during the housing boom period, ranging from 09/2005 to 09/2008. Trough represents the month when HPI fell to the lowest level for each state/US after the housing bust, ranging from 01/2009 to 03/2012. Current is 2/2021, the latest HPI data period.*

State of the US Housing Market

Ginnie Mae MBS constitute 23.6 percent of outstanding agency issuance by loan balance and 24.7 percent of new issuance over the past year. However, the Ginnie Mae share varies widely across states, with the share of outstanding (by loan balance) as low as 10.5 percent in the District of Columbia and as high as 45.1 percent in Mississippi. In general, the Ginnie Mae share is higher in states with lower home prices.

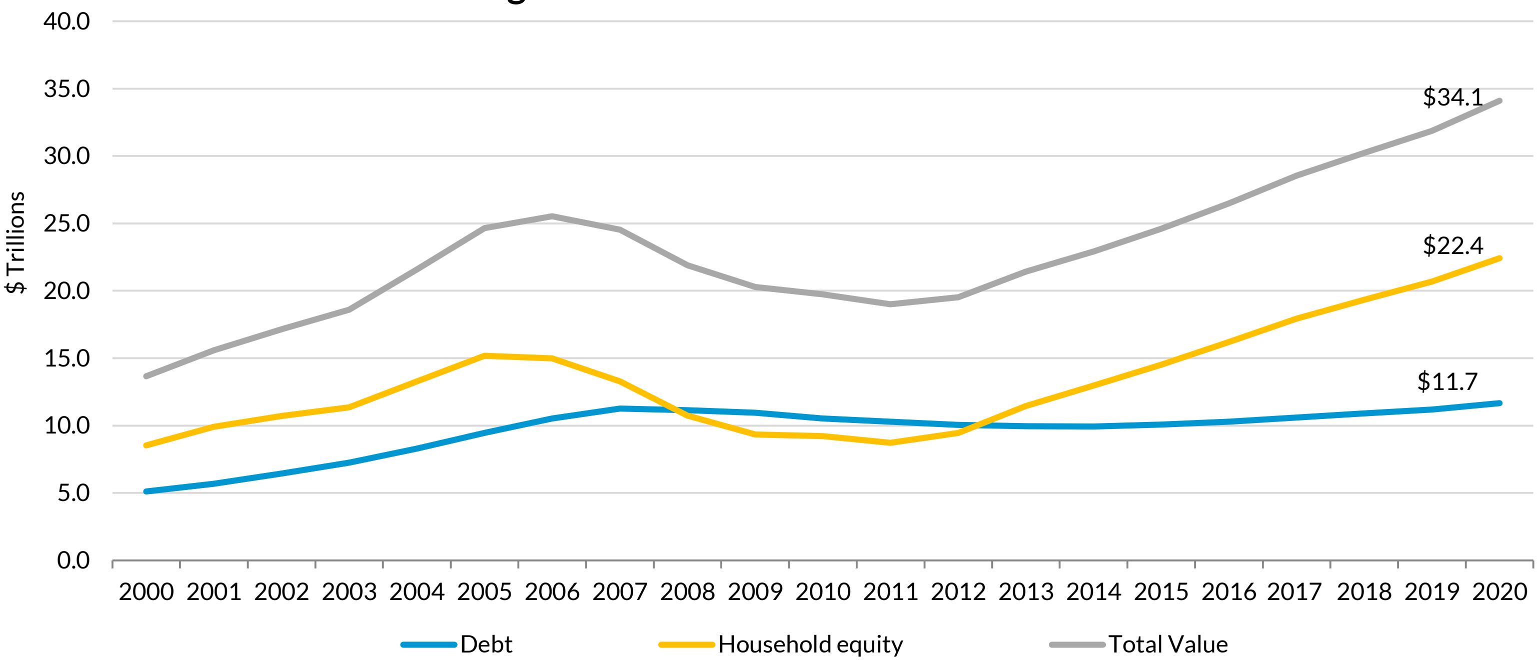
State	Agency Issuance (past 1 year)				Agency Outstanding			
	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)
National	24.7%	2,879,847	256.6	282.1	23.6%	10,988,397	165.7	206.2
Alabama	37.7%	53,291	198.1	223.0	38.1%	235,100	130.0	163.3
Alaska	46.7%	9,405	312.1	280.3	44.2%	37,397	234.1	210.6
Arizona	25.9%	107,648	251.3	257.9	22.3%	298,673	170.9	199.2
Arkansas	35.4%	28,653	169.6	202.3	37.5%	137,886	111.9	147.9
California	17.3%	261,410	395.2	391.1	14.2%	729,813	270.0	298.7
Colorado	24.5%	88,856	334.4	321.4	20.0%	228,324	232.7	252.2
Connecticut	23.7%	22,921	240.7	268.7	24.0%	106,492	180.6	198.3
Delaware	30.6%	12,638	241.9	260.7	30.0%	51,469	180.0	195.6
District of Columbia	13.2%	2,527	506.2	441.4	10.5%	9,123	300.3	333.1
Florida	35.4%	246,469	246.6	249.2	29.8%	844,654	173.8	187.0
Georgia	33.1%	132,023	219.6	252.8	31.9%	506,428	147.6	185.0
Hawaii	40.9%	13,594	555.0	442.3	23.6%	32,839	385.7	335.4
Idaho	24.3%	22,279	255.7	251.8	22.6%	73,401	165.2	193.6
Illinois	17.4%	78,787	204.6	237.4	19.7%	357,860	140.1	169.4
Indiana	26.7%	66,433	171.9	193.5	29.5%	291,417	112.5	138.1
Iowa	16.7%	17,091	174.1	197.8	20.4%	84,416	115.0	141.6
Kansas	24.8%	21,168	184.6	215.0	28.2%	100,694	120.3	151.8
Kentucky	30.3%	37,594	179.5	200.6	32.4%	165,721	122.1	143.8
Louisiana	35.0%	42,091	195.3	229.8	36.6%	189,421	138.9	168.4
Maine	24.5%	10,001	212.2	238.2	24.8%	39,524	153.2	176.4
Maryland	34.6%	83,189	325.7	316.2	30.7%	291,851	229.2	234.3
Massachusetts	14.2%	33,298	333.2	340.5	14.1%	117,917	241.7	253.3
Michigan	16.5%	62,694	174.1	205.7	19.4%	290,788	114.1	145.9
Minnesota	16.1%	40,942	232.7	249.0	17.2%	172,367	157.1	185.3
Mississippi	43.0%	23,791	179.9	206.2	45.1%	117,137	122.5	150.3
Missouri	24.6%	56,767	182.2	210.7	28.1%	255,715	121.1	150.4
Montana	24.2%	9,748	255.2	259.8	22.3%	35,241	172.8	195.4
Nebraska	23.6%	15,135	198.6	205.6	25.6%	69,313	124.3	149.4
Nevada	33.9%	49,828	287.8	269.6	26.8%	136,650	199.9	210.3
New Hampshire	22.2%	11,438	269.4	265.0	21.8%	42,180	195.0	197.8
New Jersey	19.5%	57,625	284.7	320.5	20.3%	235,778	209.6	238.2
New Mexico	36.5%	20,883	213.0	226.2	36.0%	96,840	141.5	163.5
New York	17.9%	46,458	282.5	316.8	20.1%	315,208	184.9	229.2
North Carolina	28.6%	110,811	219.4	249.5	27.2%	426,025	144.3	181.6
North Dakota	20.5%	4,308	237.3	232.7	20.7%	16,710	169.4	176.8
Ohio	25.4%	87,846	171.8	194.9	28.5%	434,824	112.6	137.4
Oklahoma	39.3%	36,977	183.8	206.1	41.3%	193,058	120.7	149.4
Oregon	20.8%	39,440	298.8	299.0	17.5%	120,245	208.0	229.4
Pennsylvania	23.2%	75,923	195.2	238.2	26.1%	402,959	134.2	169.1
Rhode Island	27.0%	9,288	266.9	261.3	27.0%	35,882	195.1	198.3
South Carolina	34.4%	64,878	221.0	236.1	31.3%	230,422	151.1	174.6
South Dakota	24.3%	7,891	211.5	219.9	27.2%	30,282	145.1	166.0
Tennessee	31.4%	73,232	221.6	245.6	31.2%	288,008	142.9	182.3
Texas	31.7%	272,964	234.0	257.7	29.6%	1,078,816	150.1	190.1
Utah	18.4%	39,103	292.6	290.1	18.1%	112,531	203.1	235.6
Vermont	18.7%	2,774	219.0	236.4	17.2%	12,566	163.4	168.5
Virginia	35.9%	129,289	323.9	322.5	31.7%	441,400	215.8	235.5
Washington	22.4%	86,704	337.5	347.0	19.1%	254,503	228.5	262.6
West Virginia	41.6%	12,168	182.5	189.2	40.8%	56,387	126.2	135.1
Wisconsin	14.7%	32,090	197.8	213.0	15.7%	130,051	134.2	152.8
Wyoming	33.6%	7,486	242.1	248.7	32.3%	26,091	179.0	189.5

Sources: *eMBS and Urban Institute.* ***Note:*** *Ginnie Mae outstanding share are based on loan balance as of January 2021. Ginnie Mae issuance is based on the last 12 months, from February 2020 to February 2021.*

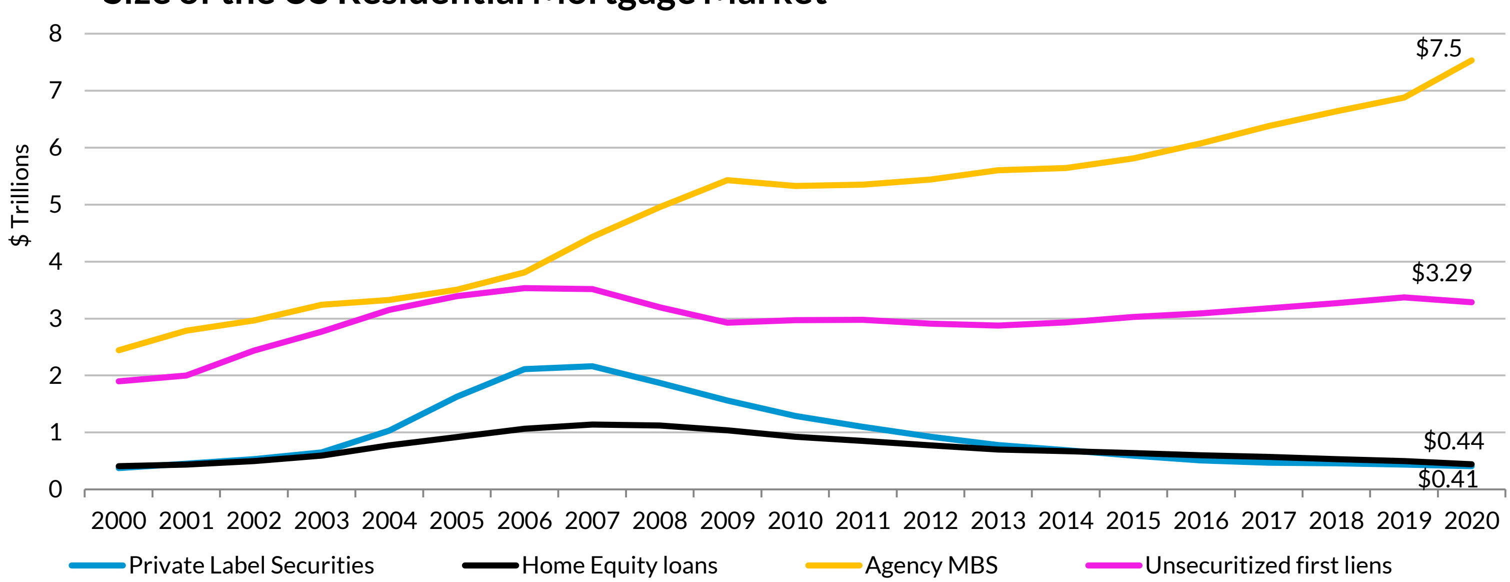
State of the US Housing Market

The Federal Reserve's Flow of Funds Report has indicated a gradually increasing total value of the housing market, driven primarily by growing home equity since 2012. Mortgage debt outstanding increased slightly from $11.5 trillion in Q3 2020 to $11.7 trillion in Q4 2020 while total household equity increased from $21.7 trillion to $22.4 trillion. The total value of the housing market reached $34.1 trillion in Q4 2020, 33.5 percent higher than the pre-crisis peak in 2006. Agency MBS account for 64.5 percent of the total mortgage debt outstanding, private-label securities make up 3.5 percent, and unsecuritized first liens make up 28.2 percent. Home equity loans comprise the remaining 3.8 percent of the total.

Value of the US Housing Market



Size of the US Residential Mortgage Market

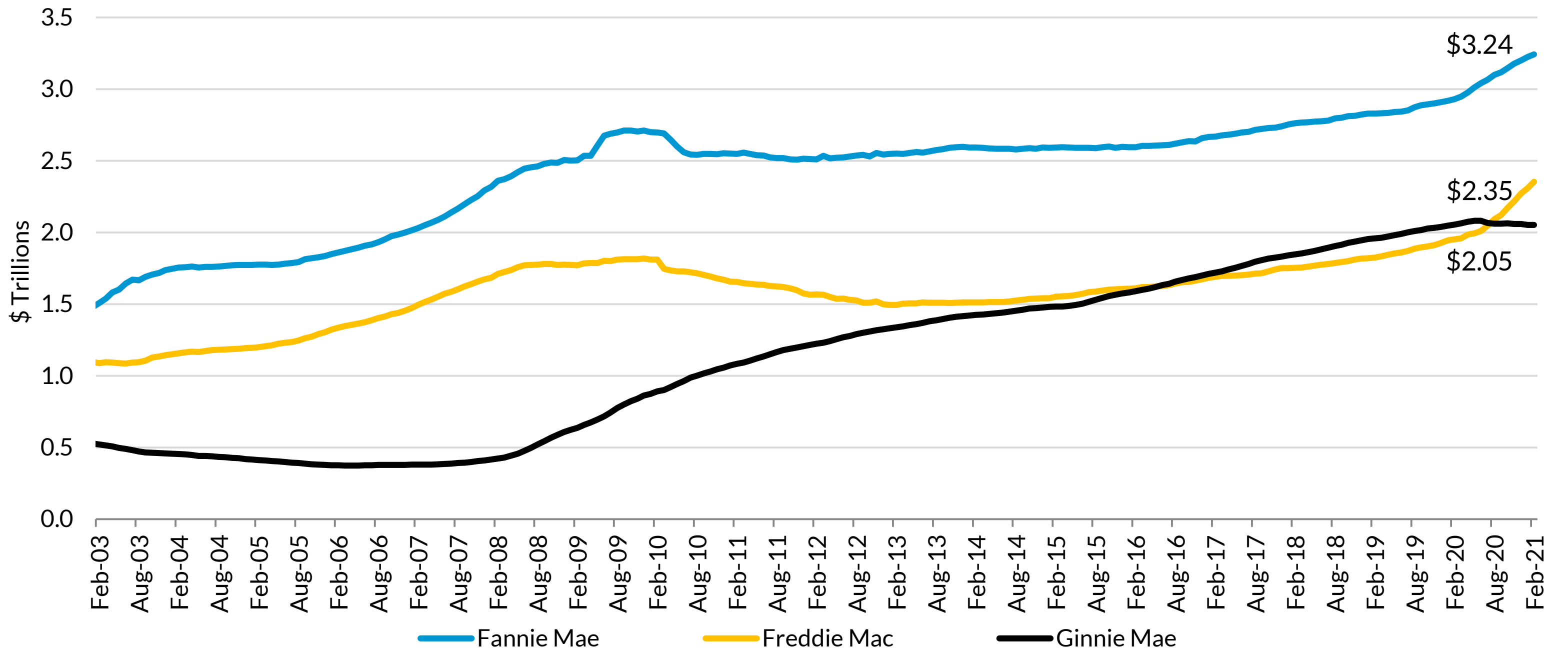


Sources: *Federal Reserve Flow of Funds, eMBS and Urban Institute. Last updated April 2020.*
Note Top*: Single family includes 1-4 family mortgages. The home equity number is grossed up from Fed totals to include the value of households and the non-financial business sector.* **Note Bottom***: Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, credit unions and other financial companies.*

State of the US Housing Market

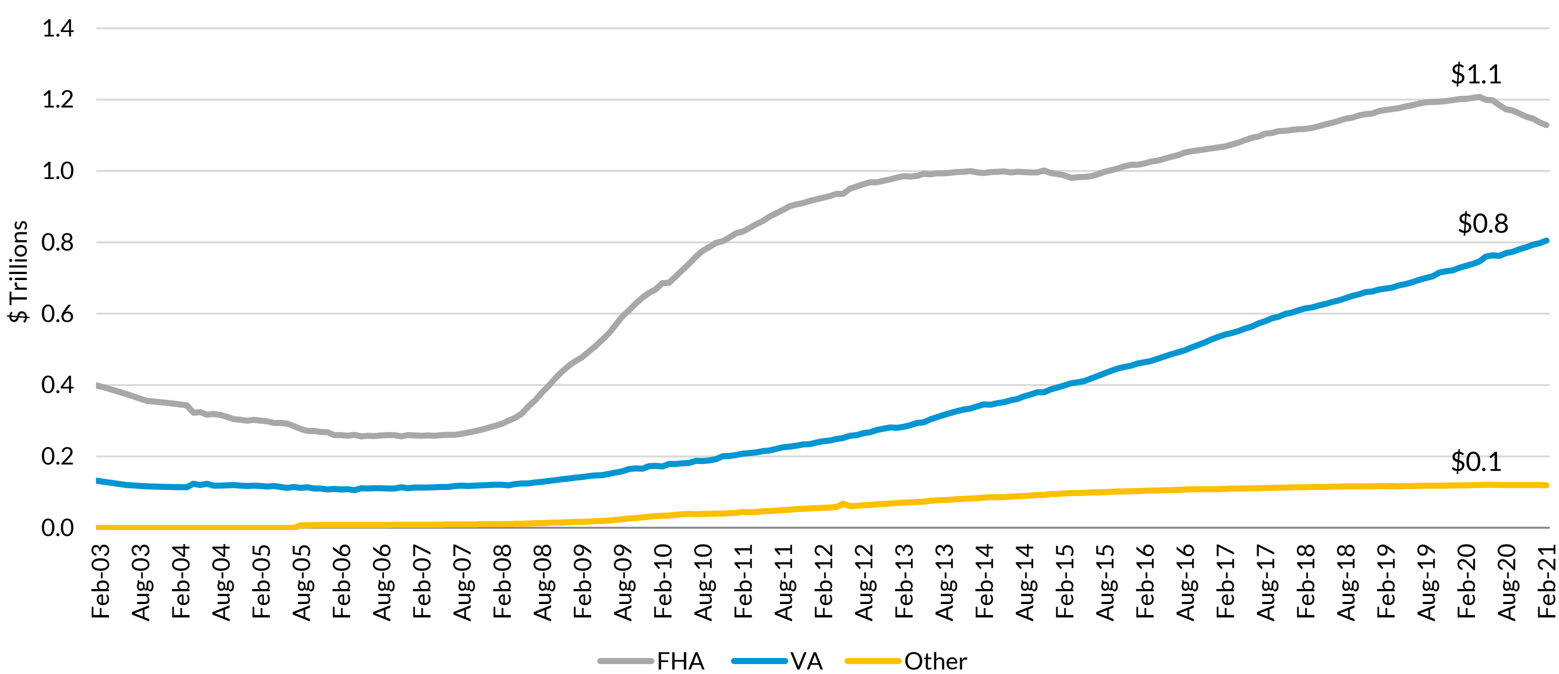
As of February 2021, outstanding securities in the agency market totaled $7.64 trillion: 42.4 percent Fannie Mae, 30.8 percent Freddie Mac, and 26.8 percent Ginnie Mae MBS. Within the Ginnie Mae market, both FHA and VA have grown very rapidly since 2009, although since May 2020, FHA has contracted. FHA comprises 55.0 percent of total Ginnie Mae MBS outstanding, while VA comprises 39.2 percent. Note that during the pandemic the GSEs have been growing faster than Ginnie Mae, courtesy of borrowers with home price appreciation moving from FHA to conventional refinances and saving on the mortgage insurance premium.

Outstanding Agency Mortgage-Backed Securities



Sources: *eMBS and Urban Institute* **Note:** *Data as of February 2021.*

Outstanding Ginnie Mae Mortgage-Backed Securities

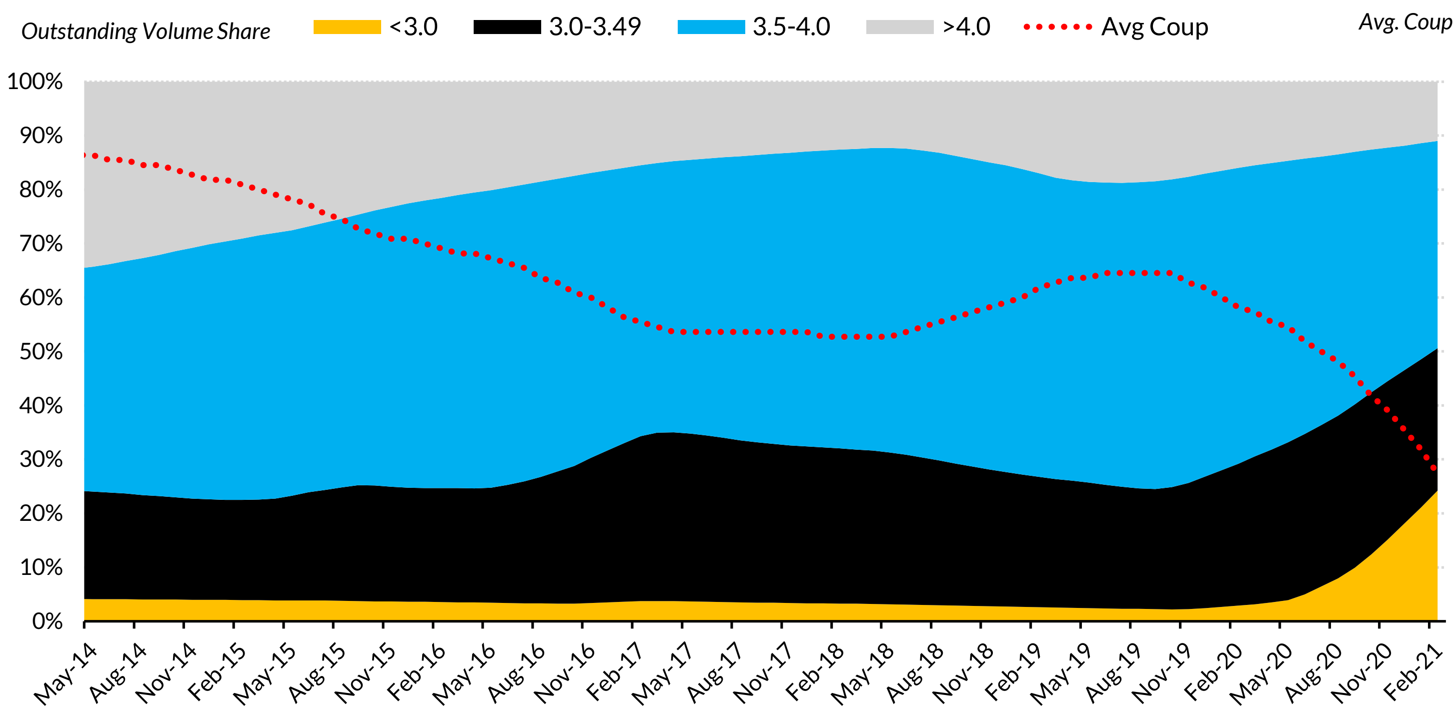


Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

State of the US Housing Market

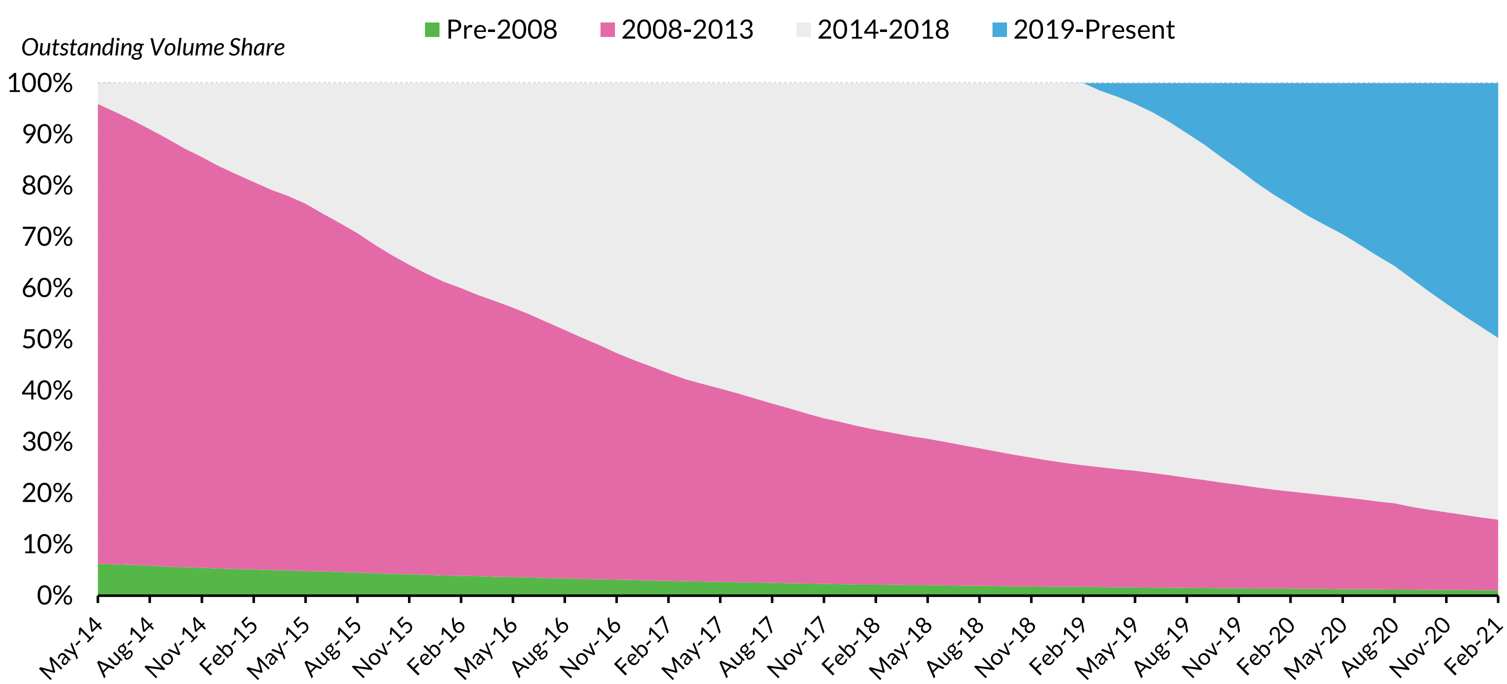
As of February 2021, the average coupon on outstanding Ginnie Mae pools was 3.30 percent, declining steadily over time. The share of outstanding MBS pools with coupons below 3.0 percent has grown exponentially in 2020 due to plummeting rates. The bottom chart shows that loans originated since 2019 now comprise almost half, 49.8 percent, of outstanding as older vintages continue to refinance in substantial numbers.

Outstanding Ginnie Balance, by Coupon



Sources: *eMBS and Urban Institute*
Note: *Data as of February 2021. Average coupon is weighted by remaining principal balance.*

Outstanding Ginnie Volume, by Vintage



Sources: *eMBS and Urban Institute.* **Note: "***Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of February 2021.*

State of the US Housing Market

In February 2021, a total of 785,393 Ginnie Mae loans were in forbearance, 28,202 of which were removed from pools (i.e. liquidated) during the month. Most liquidated loans (24,436) were FHA. Forborne loans removed from pools in February 2021 had measurably higher note rates and were more likely to be purchase loans than forborne loans that remain in pools.

All loans in forbearance – February 2021

	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	661	4.1	$172,036	77.6%	71.1%	785,393
Bank	676	4.1	$134,498	73.6%	77.0%	113,622
Nonbank	659	4.1	$178,253	78.2%	70.2%	671,771
FHA	657	4.1	$169,529	78.2%	73.2%	584,395
Bank	669	4.2	$124,301	74.7%	79.3%	83,157
Nonbank	656	4.1	$177,185	78.7%	72.3%	501,238
VA	669	3.8	$217,857	69.4%	51.4%	137,719
Bank	687	3.8	$195,232	67.3%	65.7%	23,761
Nonbank	666	3.8	$222,261	69.9%	48.4%	113,958

Loans in forbearance and removed from pools – February 2021

	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	664	4.2	$170,000	75.8%	78.0%	28,202
Bank	677	4.2	$137,581	74.4%	81.9%	11,857
Nonbank	658	4.3	$199,000	76.6%	75.7%	16,345
FHA	660	4.3	$168,000	76.4%	79.7%	24,436
Bank	674	4.3	$133,622	75.1%	84.0%	9,482
Nonbank	655	4.3	$196,000	77.2%	77.7%	14,954
VA	686	3.8	$215,000	63.9%	56.9%	2,706
Bank	690	3.9	$188,000	64.6%	64.8%	1,569
Nonbank	682	3.8	$254,000	63.0%	47.0%	1,137

Loans in forbearance that remain in pools – February 2021

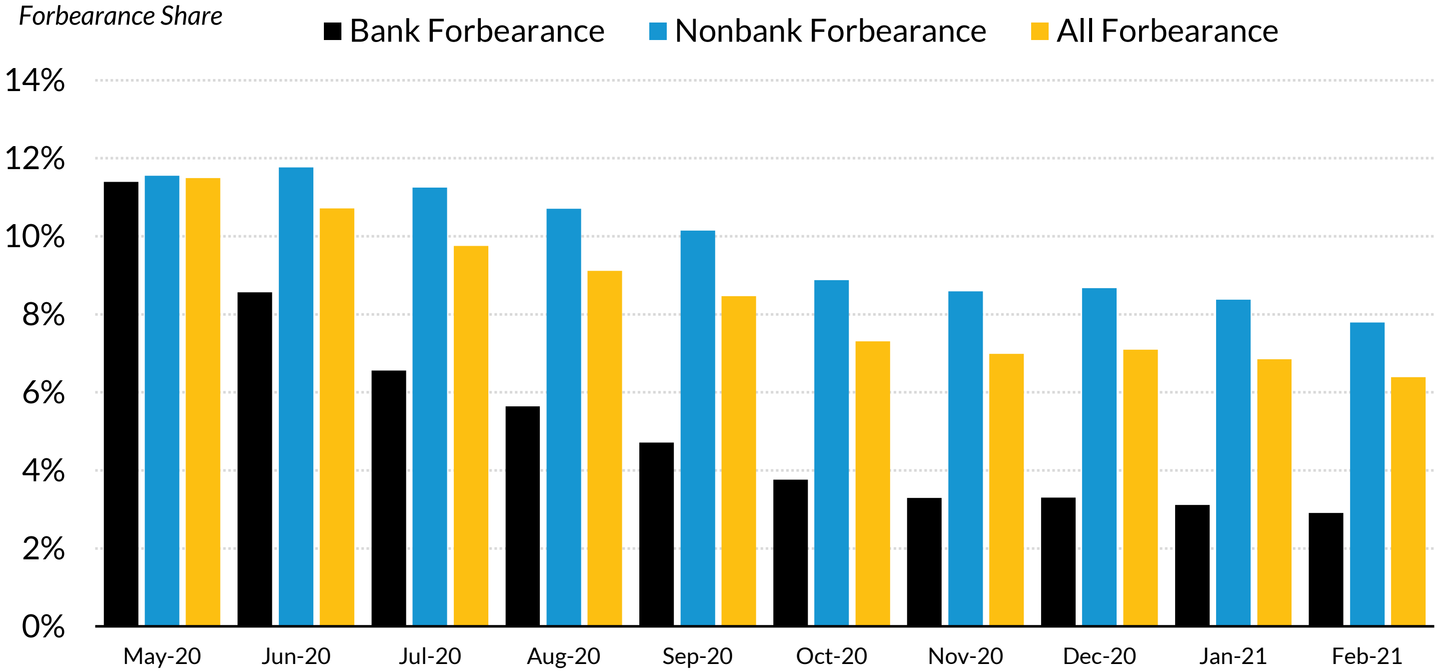
	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	661	4.1	$172,569	77.6%	70.9%	757,048
Bank	675	4.1	$135,759	73.4%	76.7%	103,321
Nonbank	659	4.1	$178,164	78.3%	70.1%	653,727
FHA	657	4.1	$170,063	78.3%	73.0%	559,830
Bank	669	4.2	$124,960	74.4%	78.9%	75,080
Nonbank	656	4.1	$177,117	78.8%	72.2%	484,750
VA	669	3.8	$218,183	69.5%	51.3%	135,000
Bank	686	3.8	$197,179	67.5%	65.8%	22,235
Nonbank	666	3.8	$222,106	70.0%	48.4%	112,765

Sources: *eMBS and Urban Institute.* **Note**: *Data as of February 2021. *Averages weighted by remaining principal balance of loans.*

State of the US Housing Market

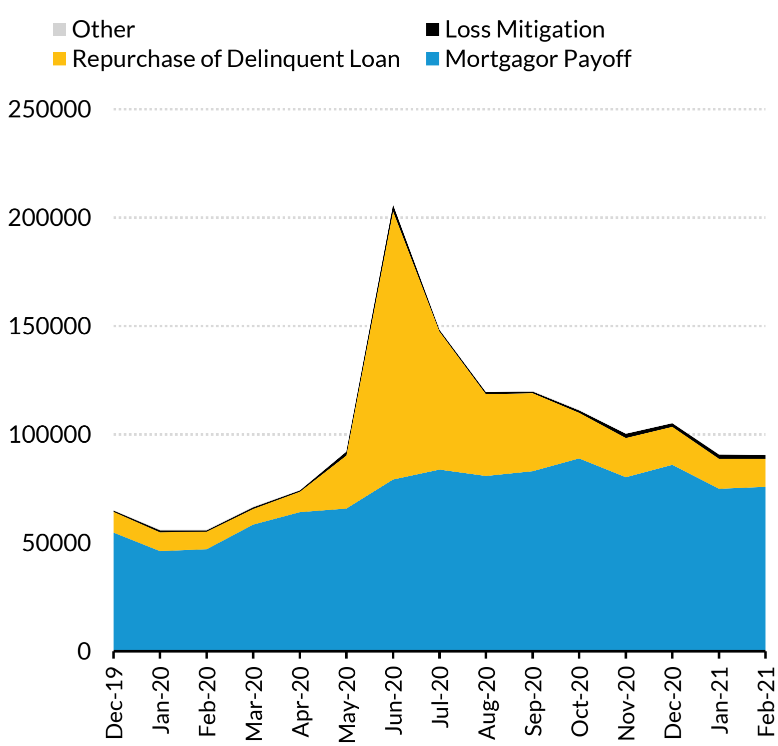
The share of Ginnie Mae loans in forbearance is higher for nonbank issuers than for bank issuers for two reasons: (1) more recent origination is more likely to be forborne and comprises a larger share of the non-bank servicing portfolio, and (2) banks have been more aggressive in buying forborne loans out of Ginnie Mae pools. Delinquent buyouts by nonbank issuers continue to remain muted relative to total nonbank loans removed from pools, but have edged up compared to delinquent buyouts by bank issuers (bottom charts, yellow areas).

Share of Ginnie Mae Loans in Forbearance



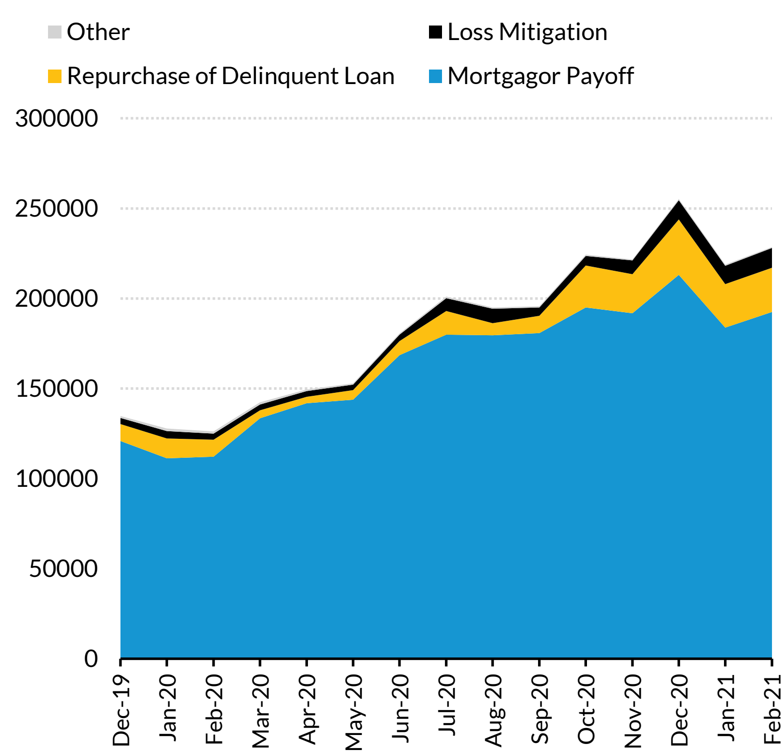
Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

Number of Loans Removed from Pools: Bank Issuers



Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

Number of Loans Removed from Pools: Nonbank Issuers

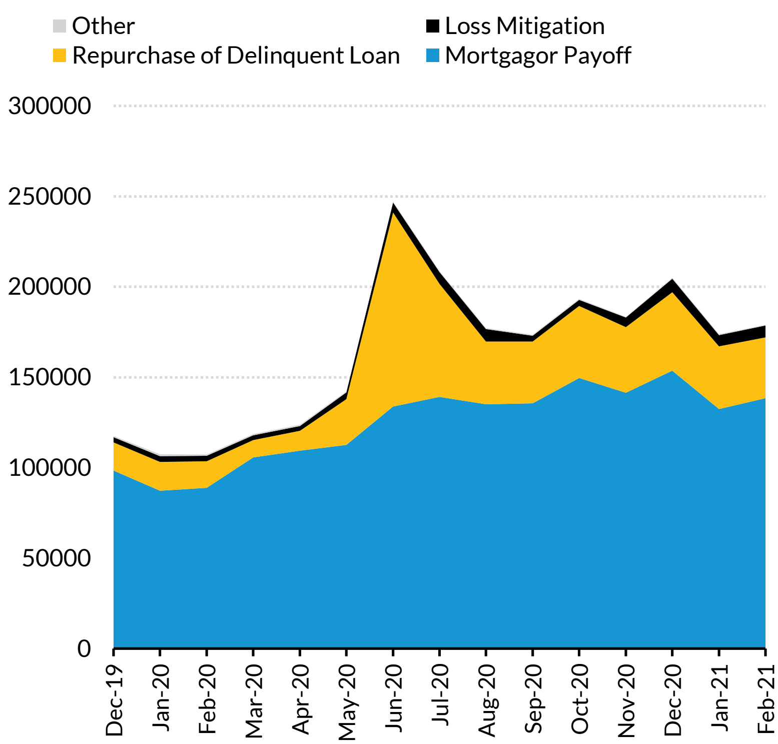


Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

State of the US Housing Market

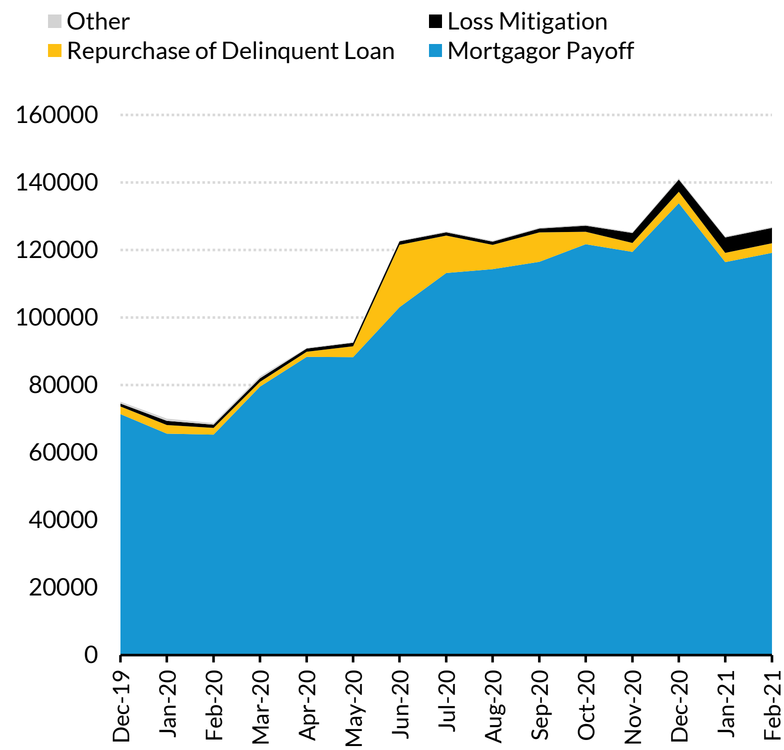
Ginnie Mae delinquent loans bought out of pools are more likely to be FHA than VA (top charts, yellow areas) and more likely to be higher coupons (bottom chart). In February 2021, 33,625 FHA and 2,849 VA loans were bought out. (These counts include all delinquent buyouts, regardless of forbearance status). Despite the increase in buyout activity during the pandemic, the vast majority of loans removed from pools have been payoffs triggered by ultra-low rates (blue areas).

Number of Loans Removed from Pools: FHA



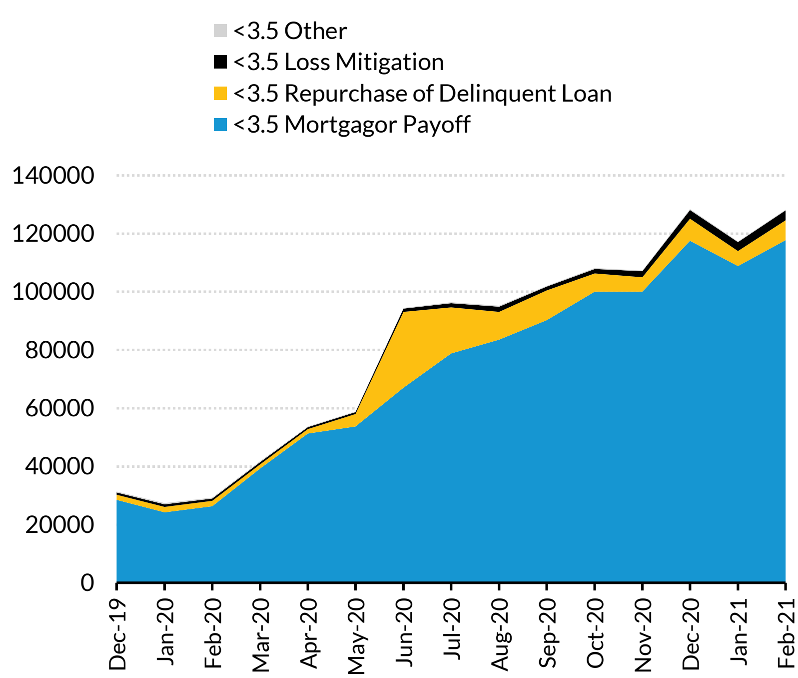
Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

Number of Loans Removed from Pools: VA

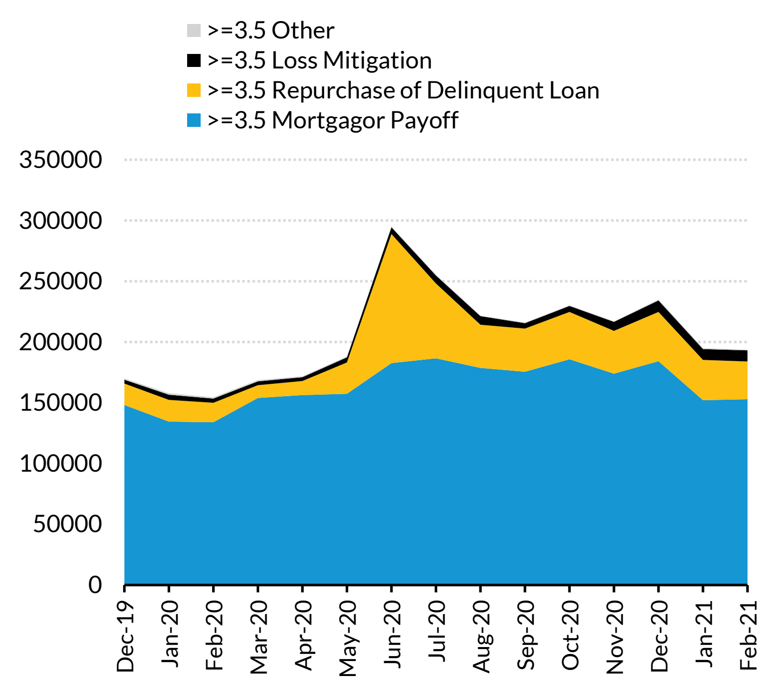


Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

Number of Loans Removed from Pools by Coupon



Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

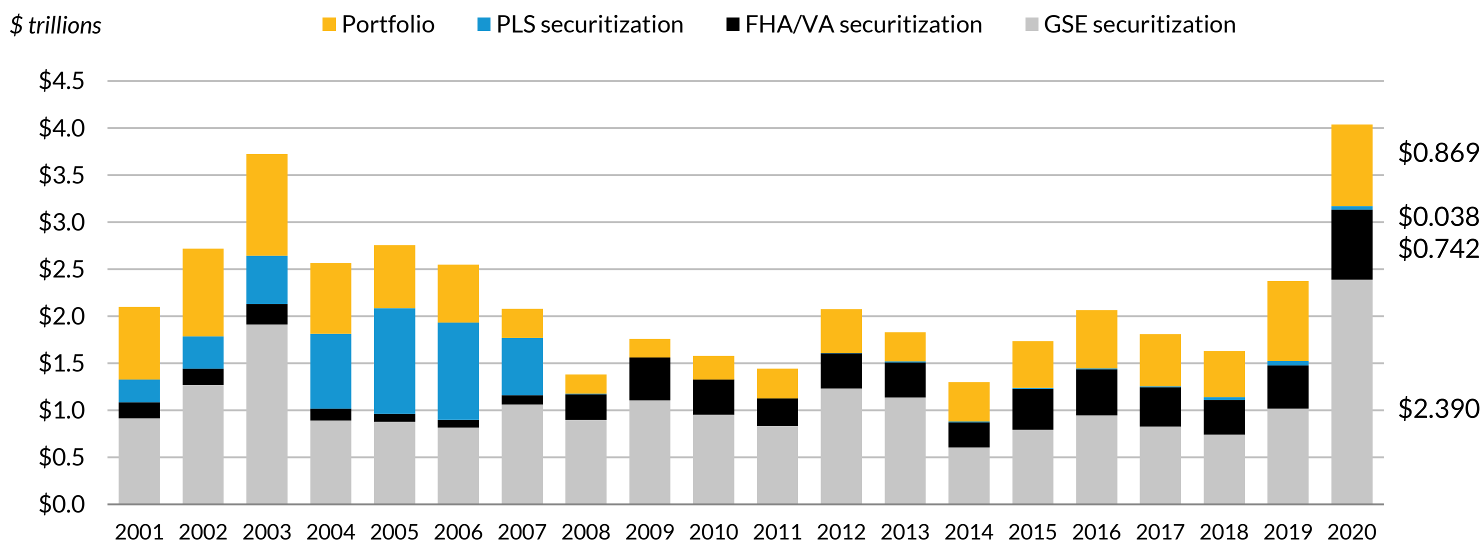


Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

State of the US Housing Market

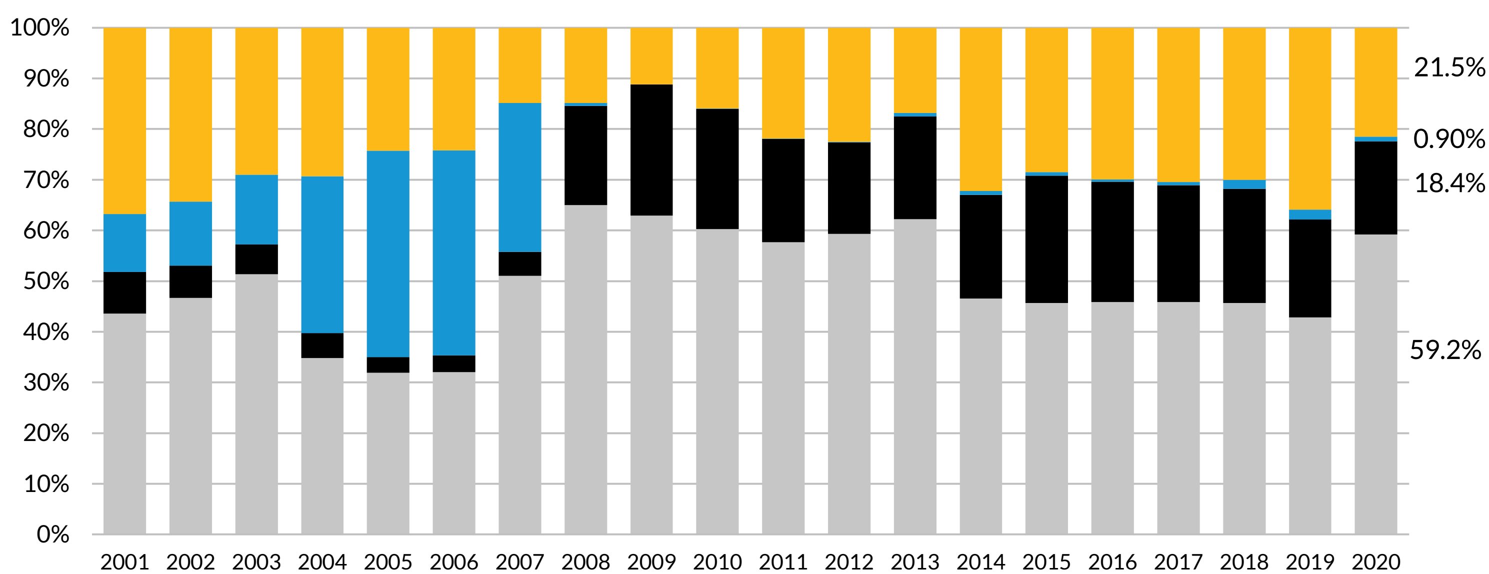
2020 was a record year for first-lien originations with $4.04 trillion in mortgages originated during the year. This number exceeds the 2003 volume of $3.73 trillion, the previous record holder, by $315 billion. The share of portfolio originations was 21.5 percent in 2020, a substantial decline from the 35.9 percent share in 2019. The 2020 GSE share was up significantly at 59.2 percent, compared to 42.9 percent in 2019. The FHA/VA share at the end of 2020 was 18.4 percent, down one percentage point compared to last year. The PLS share was 0.9 percent in 2020, down from 1.9 percent one year ago, and a fraction of its share in the pre-bubble years. The smaller share of portfolio and PLS in 2020 reflects the impact of COVID-19, which made it difficult to originate mortgages without government support. The higher GSE share reflects the large amount of refinances done through this channel.

First Lien Origination Volume



Sources: *Inside Mortgage Finance and Urban Institute.* **Note:** *Data as of Q4 2020.*

First Lien Origination Share



Sources: *Inside Mortgage Finance and Urban Institute.* **Note:** *Data as of Q4 2020.*

US Agency Market, Originations

Agency gross issuance in 2020 was historic at $3.18 trillion, surpassing every full year of agency origination in the 21st century, including the previous high of $2.09 trillion in 2003. 2020 agency issuance finished $1.63 trillion dollars higher than 2019 full year volume of $1.55 trillion, up 105.2 percent. Ginnie Mae gross issuance for the year was up by 52.5 percent and GSE gross issuance was up by 130.9 percent. Within the Ginnie Mae market, FHA was up by 22.5 percent and VA origination was up by 87.6 percent; 2020 was the first year VA production was higher than FHA production. Strong agency issuance continues in 2021, with a total of $643.7 billion issued through February, up 103.5 percent compared to the same period last year.

Agency Gross Issuance					
Issuance Year	Fannie Mae	Freddie Mac	GSE Total	Ginnie Mae	Total
2000	$202.8	$157.9	$360.6	$102.2	$462.8
2001	$506.9	$378.2	$885.1	$171.5	$1,056.6
2002	$710.0	$529.0	$1,238.9	$169.0	$1,407.9
2003	$1,174.4	$700.5	$1,874.9	$213.1	$2,088.0
2004	$517.5	$355.2	$872.6	$119.2	$991.9
2005	$514.1	$379.9	$894.0	$81.4	$975.3
2006	$500.2	$352.9	$853.0	$76.7	$929.7
2007	$633.0	$433.3	$1,066.2	$94.9	$1,161.1
2008	$562.7	$348.7	$911.4	$267.6	$1,179.0
2009	$817.1	$462.9	$1,280.0	$451.3	$1,731.3
2010	$626.6	$377.0	$1,003.5	$390.7	$1,394.3
2011	$578.2	$301.2	$879.3	$315.3	$1,194.7
2012	$847.6	$441.3	$1,288.8	$405.0	$1,693.8
2013	$749.9	$426.7	$1,176.6	$393.6	$1,570.2
2014	$392.9	$258.0	$650.9	$296.3	$947.2
2015	$493.9	$351.9	$845.7	$436.3	$1,282.0
2016	$600.5	$391.1	$991.6	$508.2	$1,499.8
2017	$531.3	$345.9	$877.3	$455.6	$1,332.9
2018	$480.9	$314.1	$795.0	$400.6	$1,195.3
2019	$597.4	$445.2	$1,042.6	$508.6	$1,551.2
2020	$1,343.4	$1,064.1	$2,407.5	$775.4	$3,182.9
2021 YTD	$260.4	$232.8	$493.2	$150.5	$643.7
2021 % Change YOY	120.3%	156.2%	135.9%	40.4%	103.5%
2021 Ann.	$1,562.3	$1,396.9	$2,959.3	$902.8	$3,862.1

Ginnie Mae Breakdown: Agency Gross Issuance				
Issuance Year	FHA	VA	Other	Total
2000	$80.2	$18.8	$3.2	$102.2
2001	$133.8	$34.7	$3.1	$171.5
2002	$128.6	$37.9	$2.5	$169.0
2003	$147.9	$62.7	$2.5	$213.1
2004	$85.0	$31.8	$2.5	$119.2
2005	$55.7	$23.5	$2.1	$81.4
2006	$51.2	$23.2	$2.3	$76.7
2007	$67.7	$24.2	$3.0	$94.9
2008	$221.7	$39.0	$6.9	$267.6
2009	$359.9	$74.6	$16.8	$451.3
2010	$304.9	$70.6	$15.3	$390.7
2011	$216.1	$82.3	$16.9	$315.3
2012	$253.4	$131.3	$20.3	$405.0
2013	$239.2	$132.2	$22.2	$393.6
2014	$163.9	$111.4	$21.0	$296.3
2015	$261.5	$155.6	$19.2	$436.3
2016	$281.8	$206.5	$19.9	$508.2
2017	$257.6	$177.8	$20.2	$455.6
2018	$222.6	$160.8	$17.2	$400.6
2019	$266.9	$225.7	$16.0	$508.6
2020	$327.0	$423.5	$24.9	$775.4
2021 YTD	$59.0	$87.3	$4.2	$150.5
2021 % Change YOY	12.1%	70.0%	31.3%	40.4%
2021 Ann.	$353.8	$523.6	$25.5	$902.8

Sources: *eMBS and Urban Institute (top and bottom).*
Note : *Dollar amounts are in billions. "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. All data is as of February 2021.*

US Agency Market, Originations

2020 proved to be very robust for agency net issuance, with $652.7 billion of net new supply, up 122.4 percent compared with the same period of 2019. 2020 Ginnie Mae net issuance in 2020 was $19.9 billion, comprising 3.0 percent of total agency net issuance. This is down substantially from 2019 levels, reflecting a contraction in FHA securities outstanding; in the first two months of 2021 Ginnie Mae net issuance was -$7.4 billion, driven by FHA contraction.

Agency Net Issuance

Issuance Year	Fannie Mae	Freddie Mac	GSE Total	Ginnie Mae	Total
2000	$92.0	$67.8	$159.8	$29.3	$189.1
2001	$216.6	$151.8	$368.4	-$9.9	$358.5
2002	$218.9	$138.3	$357.2	-$51.2	$306.1
2003	$293.7	$41.1	$334.9	-$77.6	$257.3
2004	$32.3	$50.2	$82.5	-$40.1	$42.4
2005	$62.5	$111.7	$174.2	-$42.2	$132.0
2006	$164.3	$149.3	$313.6	$0.2	$313.8
2007	$296.1	$218.8	$514.9	$30.9	$545.7
2008	$213.0	$101.8	$314.8	$196.4	$511.3
2009	$208.1	$42.5	$250.6	$257.4	$508.0
2010	-$156.4	-$146.8	-$303.2	$198.3	-$105.0
2011	-$32.6	-$95.8	-$128.4	$149.6	$21.2
2012	$32.9	-$75.3	-$42.4	$119.1	$76.8
2013	$53.5	$11.8	$65.3	$89.6	$154.9
2014	-$4.0	$30.0	$26.0	$61.6	$87.7
2015	$3.5	$65.0	$68.4	$97.3	$172.5
2016	$60.5	$66.8	$127.4	$126.1	$261.6
2017	$83.7	$77.0	$160.7	$132.3	$293.0
2018	$81.9	$67.6	$149.4	$112.0	$261.5
2019	$87.4	$110.3	$197.8	$95.7	$293.5
2020	$289.3	$343.5	$632.8	$19.9	$652.7
2021	$42.7	$82.1	$124.9	-$7.4	$117.5
2021 % Change YOY	131.1%	235.8%	190.7%	-147.1%	100.4%
2021 Ann.	$256.4	$492.8	$749.3	-$44.3	$705.0

Ginnie Mae Breakdown: Net Issuance

Issuance Year	FHA	VA	Other	Total
2000	$29.0	$0.3	$0.0	$29.3
2001	$0.7	-$10.6	$0.0	-$9.9
2002	-$22.5	-$28.7	$0.0	-$51.2
2003	-$56.5	-$21.1	$0.0	-$77.6
2004	-$45.2	$5.1	$0.0	-$40.1
2005	-$37.3	-$12.1	$7.2	-$42.2
2006	-$4.7	$3.8	$1.2	$0.2
2007	$20.2	$8.7	$2.0	$30.9
2008	$173.3	$17.7	$5.4	$196.4
2009	$206.4	$35.1	$15.8	$257.4
2010	$158.6	$29.6	$10.0	$198.3
2011	$102.8	$34.0	$12.8	$149.6
2012	$58.9	$45.9	$14.3	$119.1
2013	$20.7	$53.3	$13.9	$87.9
2014	-$4.8	$53.9	$12.5	$61.6
2015	$22.5	$66.9	$7.9	$97.3
2016	$45.6	$73.2	$6.0	$124.9
2017	$50.1	$76.1	$5.0	$131.3
2018	$49.2	$61.2	$3.5	$113.9
2019	$35.9	$58.0	$1.9	$95.7
2020	-$52.5	$71.0	$1.3	$19.9
2021	-$18.3	$11.8	-$0.9	-$7.4
2021 % Change YOY	-763.3%	-4.3%	-255.1%	-147.1%
2021 Ann.	-$109.7	$70.8	-$5.4	-$44.3

Sources: *eMBS and Urban Institute.* ***Note :*** *Dollar amounts are in billions. "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. All data is as of February 2021.*

US Agency Market, Originations

Agency gross issuance moves inversely to interest rates, generally declining as interest rates rise, increasing when interest rates fall, but the seasonal trend is also very strong. This table allows for a comparison with the same month in previous years. The February 2021 gross agency issuance of $306.6 continued the trend of historically high volume in monthly issuance. This issuance was significantly higher than the same month in 2020, as the impact of lower rates on volume was not seen until April of 2020.

Monthly Agency Issuance

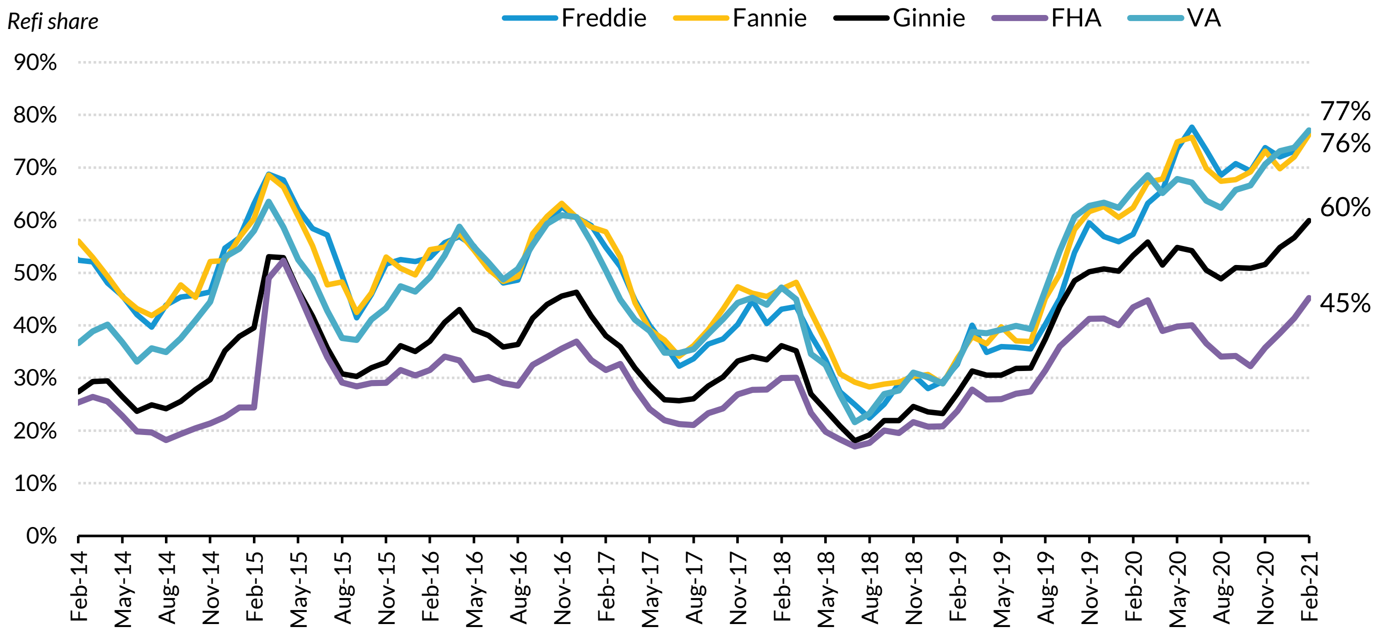
	Gross Issuance				Net Issuance			
Date	Fannie Mae	Freddie Mac	Ginnie Mae	Total	Fannie Mae	Freddie Mac	Ginnie Mae	Total
Jan-19	$33.3	$19.2	$29.0	$81.6	$5.9	$2.5	$9.2	$17.6
Feb-19	$27.3	$19.9	$23.5	$70.7	$1.4	$3.4	$4.6	$9.3
Mar-19	$29.6	$27.3	$26.6	$83.5	$1.8	$10.3	$5.6	$17.6
Apr-19	$33.1	$30.8	$32.9	$96.8	$1.3	$10.8	$8.3	$20.4
May-19	$44.5	$34.3	$38.8	$117.6	$6.7	$9.8	$9.4	$26.0
Jun-19	$44.6	$34.0	$43.3	$121.9	$1.9	$5.9	$9.0	$16.8
Jul-19	$51.7	$36.9	$45.9	$134.5	$10.9	$10.1	$11.0	$32.0
Aug-19	$71.1	$50.4	$51.2	$172.6	$20.8	$17.1	$8.7	$46.6
Sep-19	$67.1	$43.0	$52.0	$162.1	$14.1	$7.5	$6.5	$28.0
Oct-19	$65.0	$46.2	$58.4	$169.6	$7.4	$7.1	$11.9	$26.5
Nov-19	$68.1	$50.7	$54.3	$173.1	$5.2	$8.6	$4.1	$18.0
Dec-19	$62.1	$52.5	$52.7	$167.3	$10.1	$17.3	$7.4	$34.7
Jan-20	$61.7	$51.4	$56.0	$169.0	$9.1	$16.5	$8.6	$34.2
Feb-20	$56.5	$39.5	$51.2	$147.2	$9.4	$7.9	$7.1	$24.4
Mar-20	$69.5	$41.1	$53.0	$163.9	$17.9	$6.3	$8.8	$33.0
Apr-20	$101.6	$76.3	$61.4	$239.3	$30.5	$27.5	$10.2	$68.2
May-20	$124.3	$70.6	$60.8	$255.7	$35.2	$8.2	$5.7	$49.1
Jun-20	$118.9	$78.1	$58.5	$255.4	$30.0	$15.9	$1.3	$47.2
Jul-20	$125.0	$108.1	$66.5	$299.5	$23.4	$38.0	-$15.5	$45.9
Aug-20	$137.6	$113.6	$73.6	$324.8	$34.2	$43.4	-$4.1	$73.5
Sep-20	$122.9	$102.1	$72.4	$297.5	$16.5	$29.9	$1.0	$47.5
Oct-20	$142.3	$124.8	$72.6	$339.7	$28.9	$48.3	-$0.3	$76.9
Nov-20	$152.4	$131.5	$72.6	$356.5	$31.4	$48.4	-$4.5	$75.3
Dec-20	$130.8	$126.7	$76.9	$334.4	$22.8	$53.1	$1.7	$77.5
Jan-21	$141.6	$117.3	$78.2	$337.1	$25.9	$37.9	-$6.5	$57.3
Feb-21	$118.8	$115.5	$72.3	$306.6	$16.8	$44.3	-$0.9	$60.2

Sources: *eMBS and Urban Institute.*
Note : *Dollar amounts are in billions. "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. All data is as of February 2021.*

US Agency Market, Originations

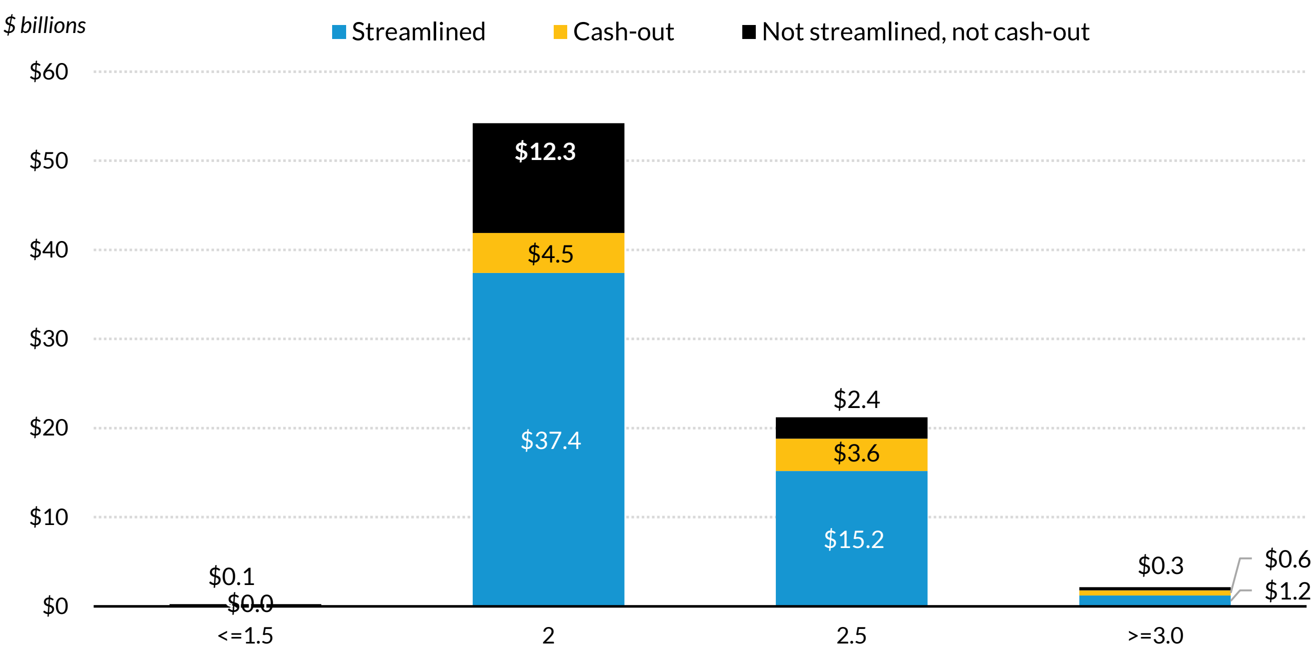
The FHA refinance share stood at 45.2 percent in February 2021, below the 76.6 percent refi share for Freddie originations, the 76.3 percent share for Fannie, and the 77.1 percent share for the VA. The total Ginnie refinance share stood at 59.9 percent in February. Refinances as a share of all originations grew during 2019 and 2020 as interest rates fell. The bottom section shows that most of 2021 Ginnie Mae refinances YTD, predominantly streamlined, were securitized in 2-2.5 coupon pools. Cash-out refinance volume remains muted due to restrictions Ginnie Mae put in place in late 2019, to combat the "churning" problem.

Percent Refi at Issuance



Sources: *eMBS and Urban Institute.* **Note**: *Based on at-issuance balance. Data as of February 2021.*

Ginnie Mae Refinance Issuance by Type: YTD 2021

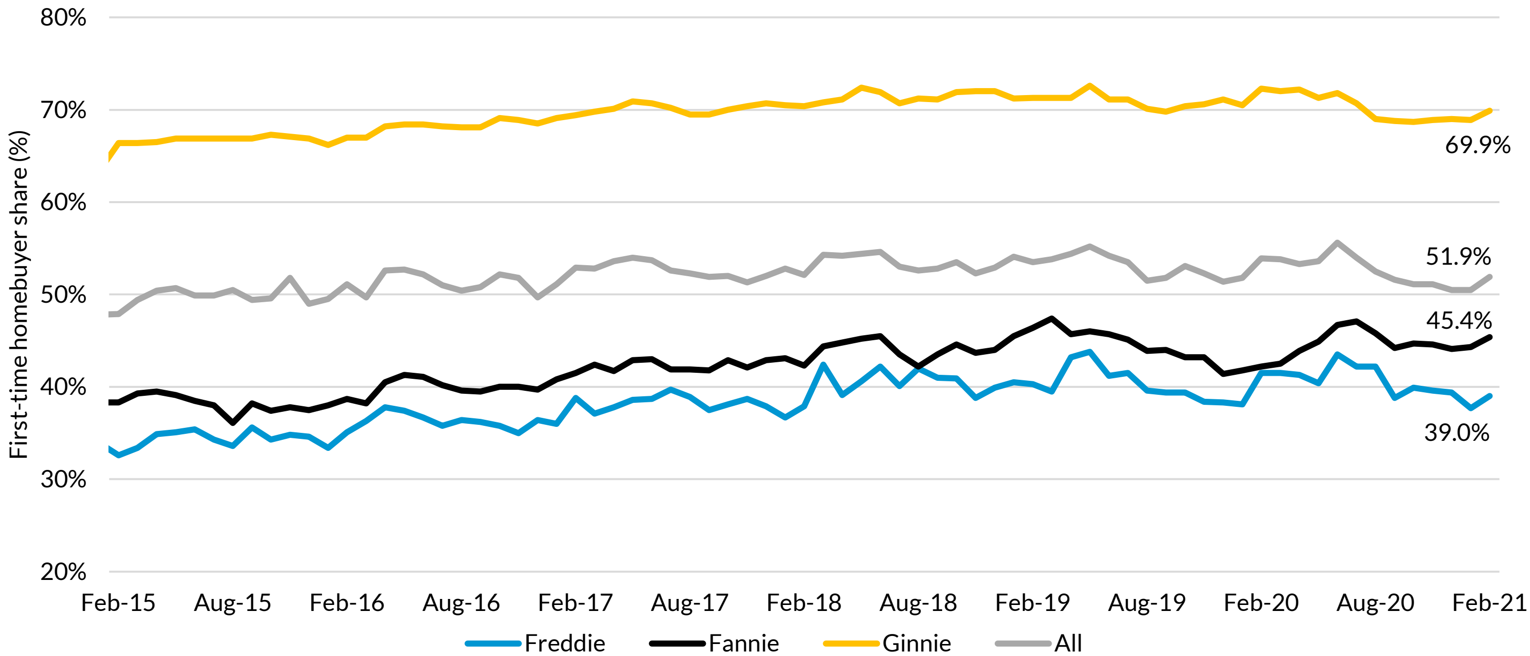


Sources: *eMBS and Urban Institute.*
Note: *Based on at-issuance balance. Data as of February 2021.*

Credit Box

The first time homebuyer share of Ginnie Mae purchase loans was 69.9 percent in February 2021, down from 72.3 percent in February 2020. First time homebuyers comprise a significantly higher share of the Ginnie Mae purchase market than of the GSE purchase market, with first time homebuyers accounting for 45.4 percent and 39.0 percent of Fannie Mae and Freddie Mac purchase originations, respectively. The bottom table shows that based on mortgages originated in February 2021, the average first-time homebuyer was more likely than an average repeat buyer to take out a smaller loan, have a lower credit score, a higher LTV, a similar DTI, and pay a similar rate.

First Time Homebuyer Share: Purchase Only Loans



Sources: *eMBS and Urban Institute.* **Note**: *Data as of February 2021.*

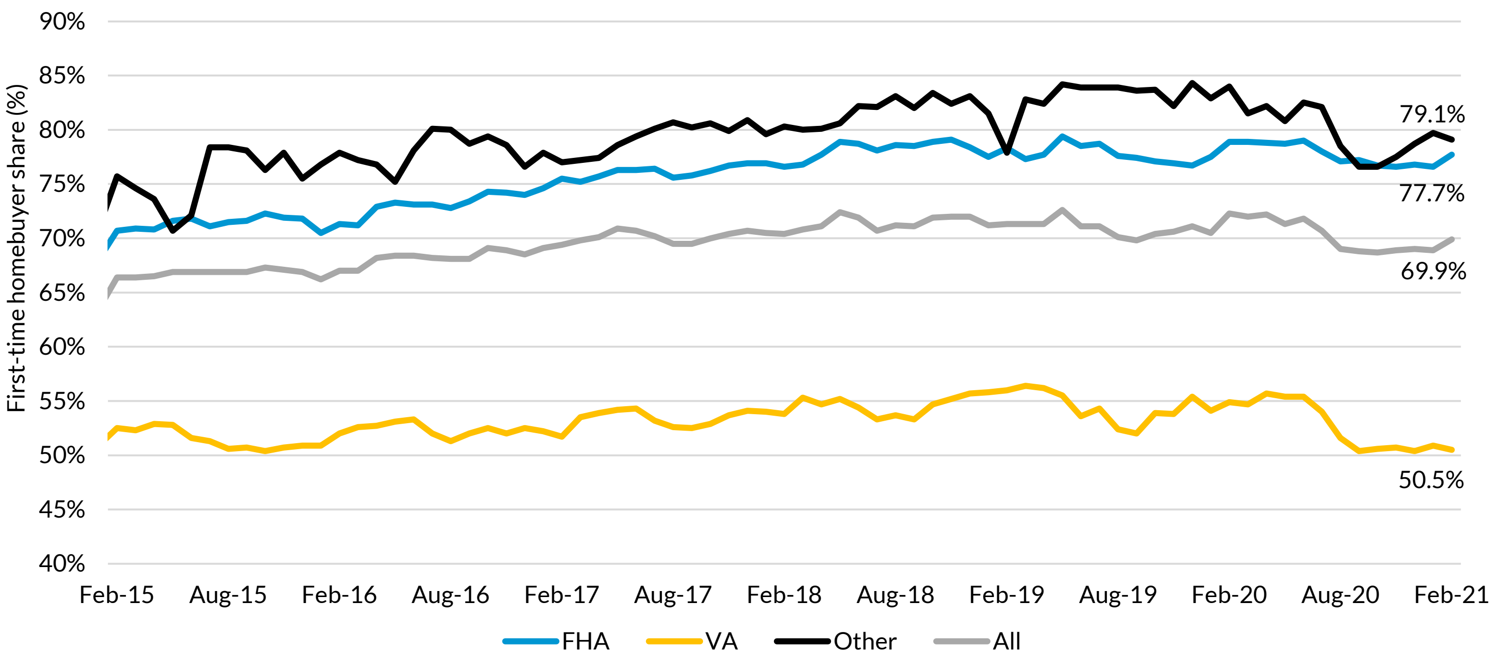
	Fannie Mae		Freddie Mac		Ginnie Mae		All	
	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat
Loan Amount ($)	264,303	282,194	305,134	322,287	245,012	299,887	265,734	301,435
Credit Score	744.7	755.1	750.4	759.3	688.5	705.1	722.0	744.4
LTV (%)	88.0	78.7	87.7	80.1	96.8	95.8	91.7	83.4
DTI (%)	34.4	35.5	34.1	34.9	41.5	42.0	37.4	36.8
Loan Rate (%)	2.9	2.9	2.9	2.8	3.0	2.9	2.9	2.9

Sources: *eMBS and Urban Institute.*
Note: *In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA loans, which includes the financed upfront mortgage insurance premium. To make it consistent with the previously reported LTV, we removed the financed upfront mortgage insurance premium by subtracting 169 bps from this new issuer-reported LTV. Data as of February 2021.*

Credit Box

Within the Ginnie Mae purchase market, 77.7 percent of FHA loans, 50.5 percent of VA loans, and 79.1 percent of other loans represent financing for first-time home buyers in February 2021. The bottom table shows that based on mortgages originated in February 2021, the average first-time homebuyer was more likely than an average repeat buyer to take out a smaller loan, have a lower credit score, a higher LTV, a similar DTI, and pay a slightly higher rate.

First Time Homebuyer Share: Ginnie Mae Breakdown



Sources: *eMBS and Urban Institute.* **Note**: *Includes only purchase loans. Data as of February 2021.*

	FHA		VA		Other		Ginnie Mae Total	
	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat
Loan Amount ($)	237,629	253,186	299,448	358,634	174,011	182,037	245,012	299,887
Credit Score	678.6	677.4	713.3	731.9	701.1	700.4	688.5	705.1
LTV (%)	95.5	94.1	99.6	97.0	99.4	99.2	96.8	95.8
DTI (%)	43.1	43.8	39.5	41.0	34.9	35.5	41.5	42.0
Loan Rate (%)	3.1	3.0	2.8	2.7	2.9	3.0	3.0	2.9

Sources: *eMBS and Urban Institute.*
Note: *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA loans, which includes the financed upfront mortgage insurance premium. To make it consistent with the previously reported LTV, we removed the financed upfront mortgage insurance premium by subtracting 169 bps from this new issuer-reported LTV. Data as of February 2021.*

February 2021 Credit Box at a Glance

In February 2021, the median Ginnie Mae FICO score was 700 versus 772 for Fannie Mae and 768 for Freddie Mac. Note that the FICO score for the 10th percentile was 638 for Ginnie Mae, versus 700 for Fannie Mae and 699 for Freddie Mac. Within the Ginnie Mae market, FHA loans have a median FICO score of 673, VA loans have a median FICO score of 739 and other loans have a median FICO score of 696.

Purchase FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	290,557	654	716	742	780	799	733
Fannie	98,327	691	736	761	794	802	753
Freddie	91,593	697	729	764	790	802	756
Ginnie	100,637	633	654	684	729	773	693
Refi FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	726,619	686	726	768	792	806	755
Fannie	317,085	702	740	774	796	808	764
Freddie	300,663	700	733	769	793	806	760
Ginnie	108,871	644	673	719	771	798	720
All FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	1,017,176	674	716	761	790	804	749
Fannie	415,412	700	736	772	794	807	761
Freddie	392,256	699	732	768	792	805	759
Ginnie	209,508	638	662	700	755	790	707

Purchase FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	100,637	633	654	684	729	773	693
FHA	61,772	628	647	672	704	743	679
VA	29,283	646	675	723	770	795	721
Other	9,582	645	663	694	734	769	700
Refi FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	108,871	644	673	719	771	798	720
FHA	31,982	628	650	675	706	747	681
VA	75,844	659	695	744	783	802	736
Other	1,045	654	677	715	754	786	716
All FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	209,508	638	662	700	755	790	707
FHA	93,754	628	648	673	705	744	680
VA	105,127	654	689	739	780	801	732
Other	10,627	645	664	696	736	771	702

Sources: *eMBS and Urban Institute.* **Note:** *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of February 2021.*

February 2021 Credit Box at a Glance

In February 2021, the median loan-to-value ratio (LTV) was 95.2 percent for Ginnie Mae, compared to 70 percent for Fannie Mae and 71 percent for Freddie Mac. The 90th percentile was 100 percent for Ginnie Mae, versus 90 percent for both Fannie and Freddie. Within the Ginnie Mae market, the median LTV was 96.3 for FHA, 91.9 for VA and 100.9 for other programs.

Purchase LTV

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	290,800	72.0	80.0	94.8	96.5	100.0	87.1
Fannie	98,389	65.0	79.0	80.0	95.0	95.0	82.4
Freddie	91,617	65.0	78.0	80.0	95.0	95.0	81.9
Ginnie	100,794	94.2	96.5	96.5	100.0	101.0	96.5

Refi LTV

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	760,084	43.0	56.0	70.0	80.0	90.0	67.4
Fannie	317,093	39.0	52.0	64.0	75.0	80.0	62.2
Freddie	300,673	42.0	55.0	68.0	75.0	80.0	64.4
Ginnie	142,318	65.8	79.1	89.2	96.3	99.5	85.4

All LTV

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	1,050,884	46.0	60.0	75.0	89.1	96.5	72.9
Fannie	415,482	42.0	55.0	70.0	80.0	90.0	67.0
Freddie	392,290	45.0	58.0	71.0	80.0	90.0	68.5
Ginnie	243,112	72.8	85.0	95.2	97.5	100.0	90.0

Purchase LTV: Ginnie Mae Breakdown By Source

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	100,794	94.2	96.5	96.5	100.0	101.0	96.5
FHA	61,881	93.9	95.0	96.5	96.5	96.5	95.2
VA	29,312	93.8	100.0	100.0	100.0	102.3	98.4
Other	9,601	96.0	99.4	101.0	101.0	101.0	99.3

Refi LTV: Ginnie Mae Breakdown By Source

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	142,318	65.8	79.1	89.2	96.3	99.5	85.4
FHA	48,187	73.3	81.4	90.5	96.2	97.7	87.2
VA	93,058	62.3	76.6	88.3	96.5	100.1	84.3
Other	1,073	77.8	87.0	95.3	99.7	101.0	91.8

All LTV: Ginnie Mae Breakdown By Source

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	243,112	72.8	85.0	95.2	97.5	100.0	90.0
FHA	110,068	80.0	90.1	96.3	96.5	96.7	91.7
VA	122,370	65.8	80.6	91.9	100.0	100.8	87.7
Other	10,674	93.5	98.8	100.9	101.0	101.0	98.6

Sources: *eMBS and Urban Institute.* **Note:** *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA loans, which includes the financed upfront mortgage insurance premium. To make it consistent with the previously reported LTV, we removed the financed upfront mortgage insurance premium by subtracting 169 bps from this new issuer-reported LTV. Data as of February 2021.*

February 2021Credit Box at a Glance

In February 2021, the median Ginnie Mae debt-to-income ratio (DTI) was 41.2 percent, considerably higher than the 34.0 percent median DTI for both Fannie Mae and Freddie Mac. The 90th percentile for Ginnie Mae was 53.5 percent, also much higher than the 46.0 percent DTI for Fannie Mae and 45.0 percent for Freddie Mac. Within the Ginnie Mae market, the median FHA DTI ratio was 43.6 percent, versus 38.5 percent for VA and 35.5 percent for other lending programs.

Purchase DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	290,225	23.0	30.0	38.0	44.2	49.0	37.1
Fannie	98,387	21.0	28.0	36.0	43.0	47.0	35.0
Freddie	91,615	21.0	28.0	36.0	42.0	46.0	34.6
Ginnie	100,223	28.4	35.1	42.2	48.6	53.8	41.5
Refi DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	656,673	19.0	25.0	33.0	41.0	46.0	32.7
Fannie	317,083	18.0	24.0	33.0	41.0	45.0	32.2
Freddie	300,661	19.0	25.0	33.0	41.0	45.0	32.5
Ginnie	38,929	22.4	30.3	37.5	46.1	52.4	37.5
All DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	946,898	20.0	26.0	35.0	42.0	47.0	34.0
Fannie	415,470	19.0	25.0	34.0	41.0	46.0	32.9
Freddie	392,276	19.0	26.0	34.0	41.0	45.0	33.0
Ginnie	139,152	26.6	33.4	41.2	48.0	53.5	40.4

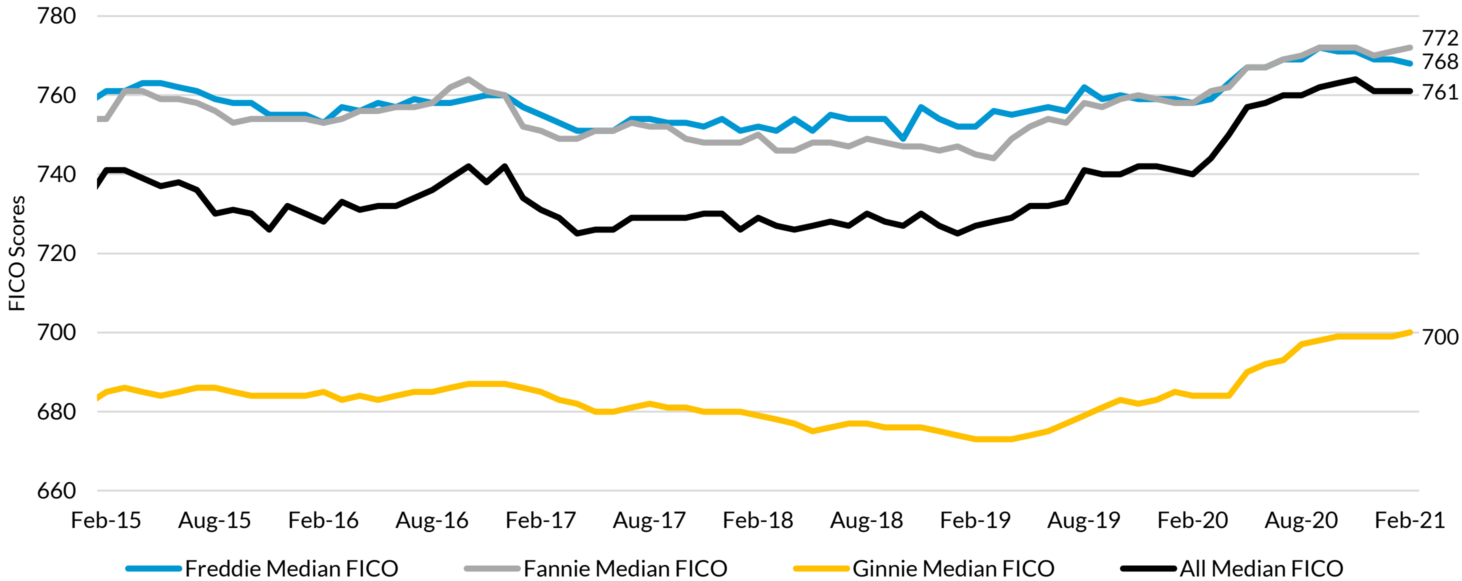
Purchase DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	100,223	28.4	35.1	42.2	48.6	53.8	41.5
FHA	61,718	30.6	37.4	44.0	49.7	54.3	43.0
VA	28,927	26.0	33.2	40.8	47.9	53.6	40.3
Other	9,578	25.4	30.4	35.8	40.2	43.3	34.9
Refi DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	38,929	22.4	30.3	37.5	46.1	52.4	37.5
FHA	16,533	26.8	33.2	41.6	48.8	53.7	40.6
VA	21,777	20.1	28.0	34.9	43.5	50.6	35.4
Other	619	16.1	21.8	29.7	36.3	41.2	29.5
All DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	139,152	26.6	33.4	41.2	48.0	53.5	40.4
FHA	78,251	29.8	36.5	43.6	49.5	54.2	42.5
VA	50,704	23.3	30.9	38.5	46.4	52.6	38.2
Other	10,197	24.4	29.9	35.5	40.1	43.3	34.6

Sources: *eMBS and Urban Institute.* **Note**: *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of February 2021.*

Credit Box: Historical

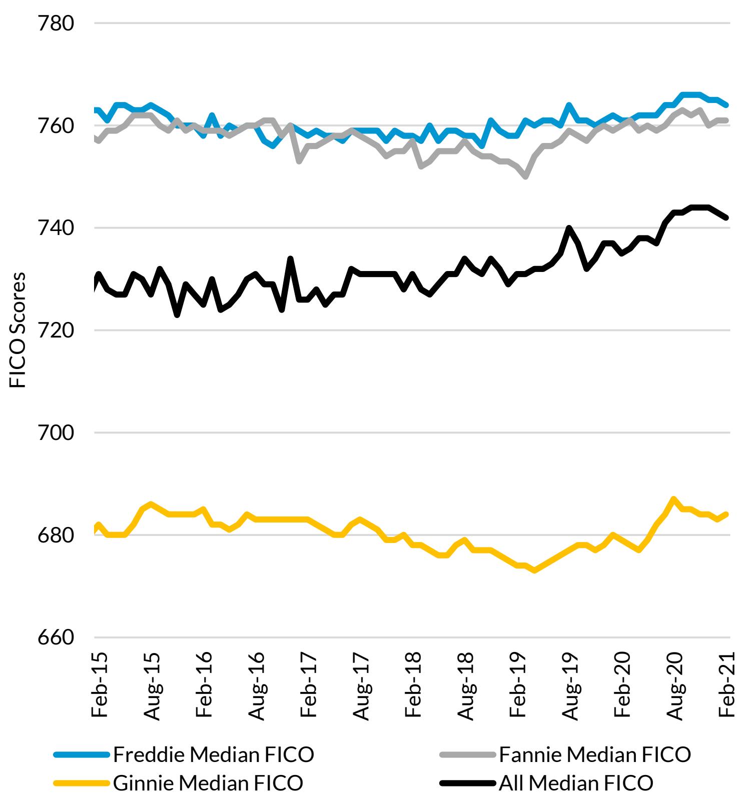
The median FICO score for all agency loans originated in February 2021 was 761, up considerably since the start of 2019, owing to the refinance wave, which higher FICO borrowers take advantage of with greater frequency. In addition, the increases in refinance activity have been much more dramatic at the GSEs than at Ginnie Mae, shifting the composition toward higher FICO score borrowers. Note since early 2019, the median FICO scores for Fannie, Freddie and Ginnie borrowers have moved up for both purchase and refinance loans, although refinance FICOs have started to dip a bit. The difference between Ginnie Mae and GSE borrower FICOs is considerably wider for purchase loans than for refi loans.

FICO Scores for All Loans



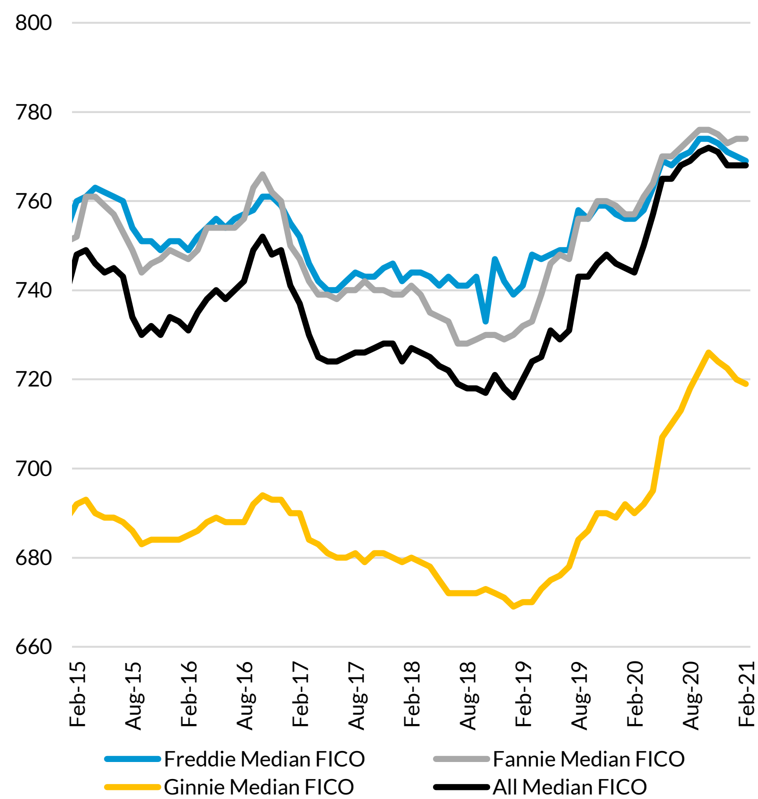
Sources: *eMBS and Urban Institute.* **Note**: *Data as of February 2021.*

FICO Scores for Purchase Loans



Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

FICO Scores for Refinance Loans

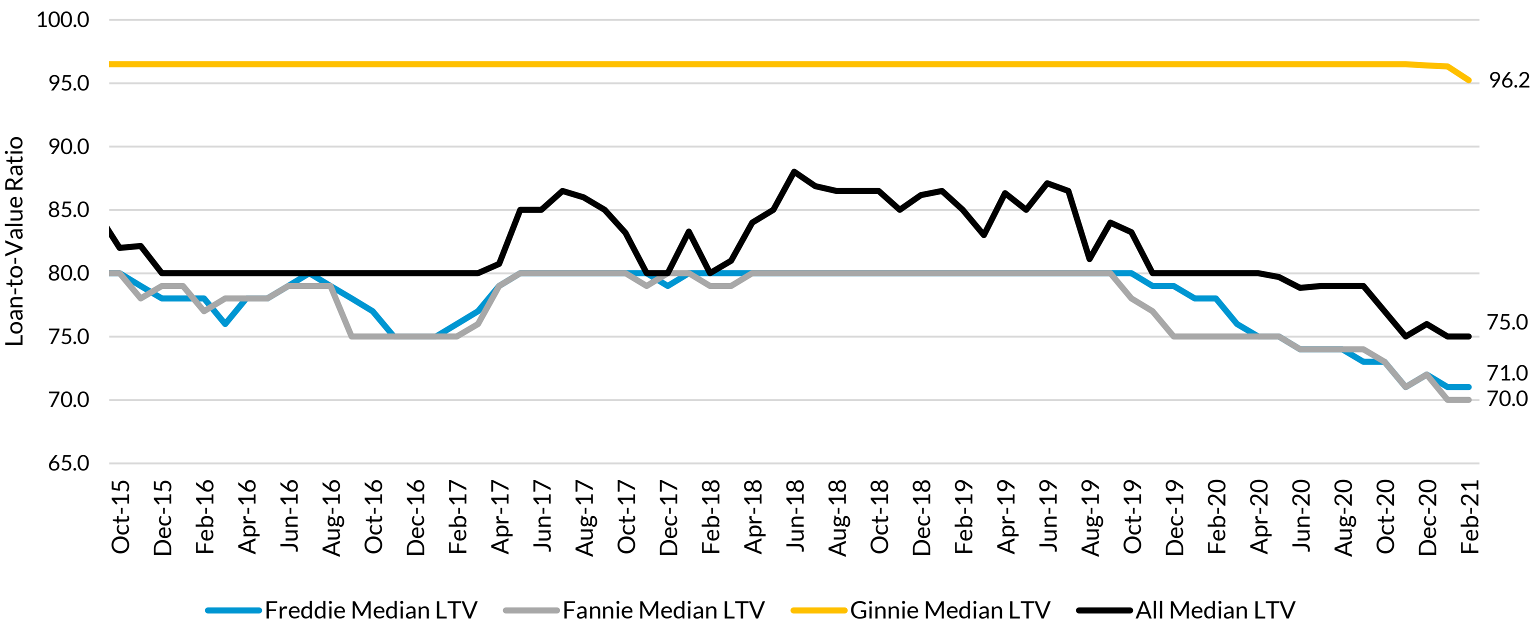


Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

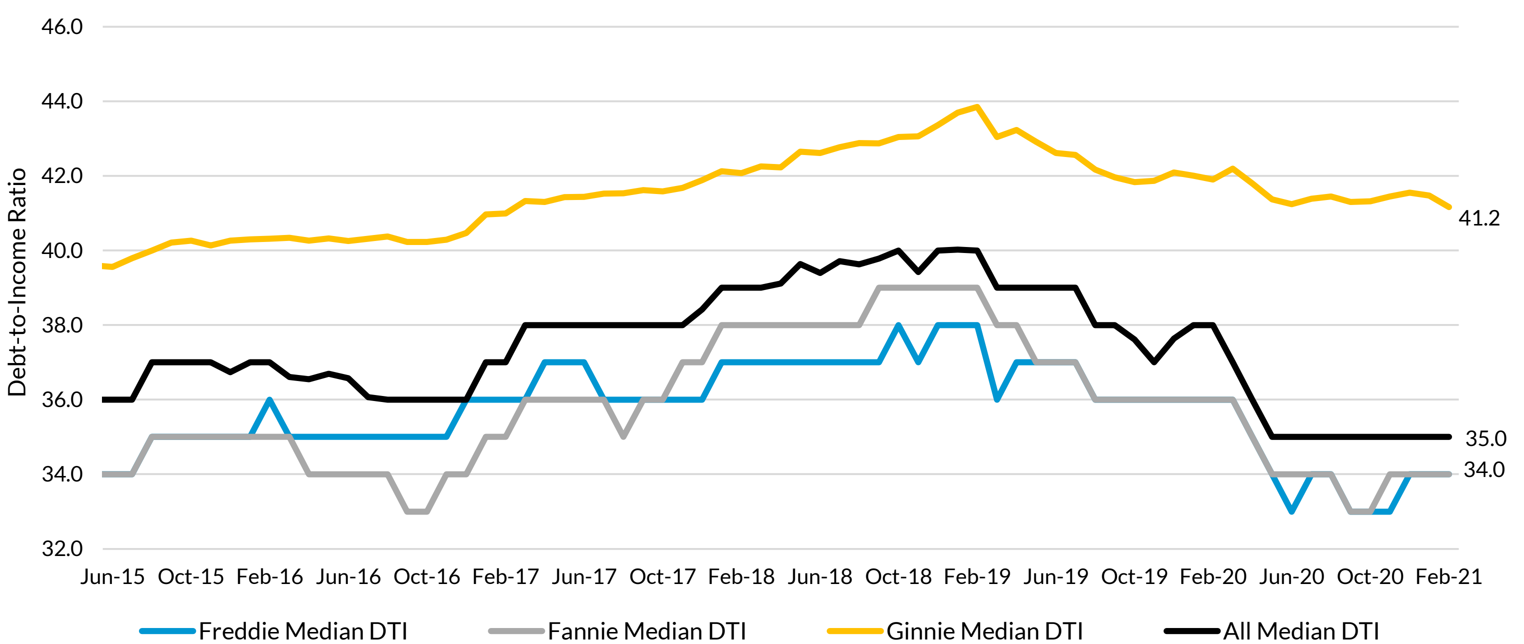
Credit Box: Historical

The median LTV for Ginnie Mae loans was 96.2 percent in February 2021, much higher than the 71 percent LTV for Freddie Mac and 70 percent for Fannie Mae. Median debt-to-income ratios for Ginnie Mae loans have historically been in the low 40s, considerably higher than for the GSEs. DTIs increased in the 2017-2018 period for both Ginnie Mae and GSE loans, with the movement more pronounced for Ginnie Mae. Increases in DTI are very typical in an environment of rising interest rates and rising home prices. All three agencies witnessed measurable declines in DTI, beginning in early 2019, driven by lower interest rates, with larger declines in GSE securities.

LTV Ratio for All Loans



DTI Ratio for All Loans

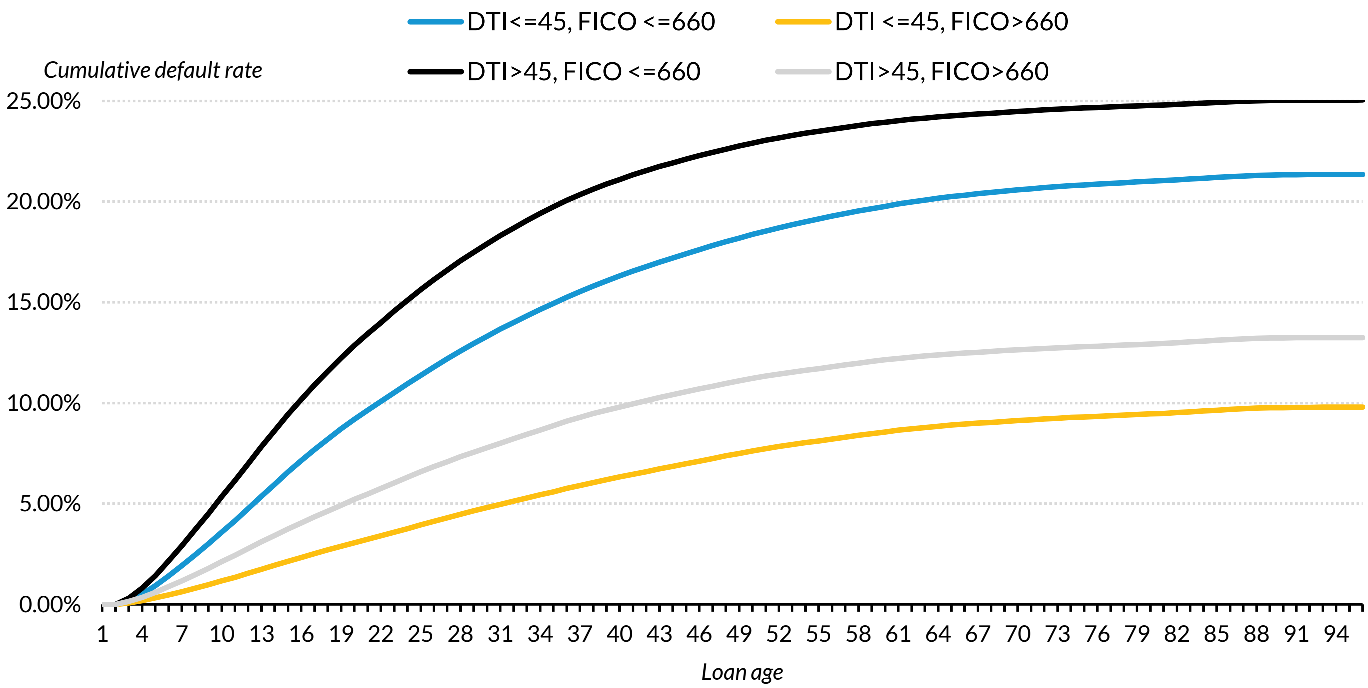


Sources: *eMBS and Urban Institute.* **Note:** *In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA loans, which includes the financed upfront mortgage insurance premium. To make it consistent with the previously reported LTV, we removed the financed upfront mortgage insurance premium by subtracting 169 bps from this new issuer-reported LTV. Sources and note apply to all three graphs. Data as of February 2021.*

Credit Box: Historical

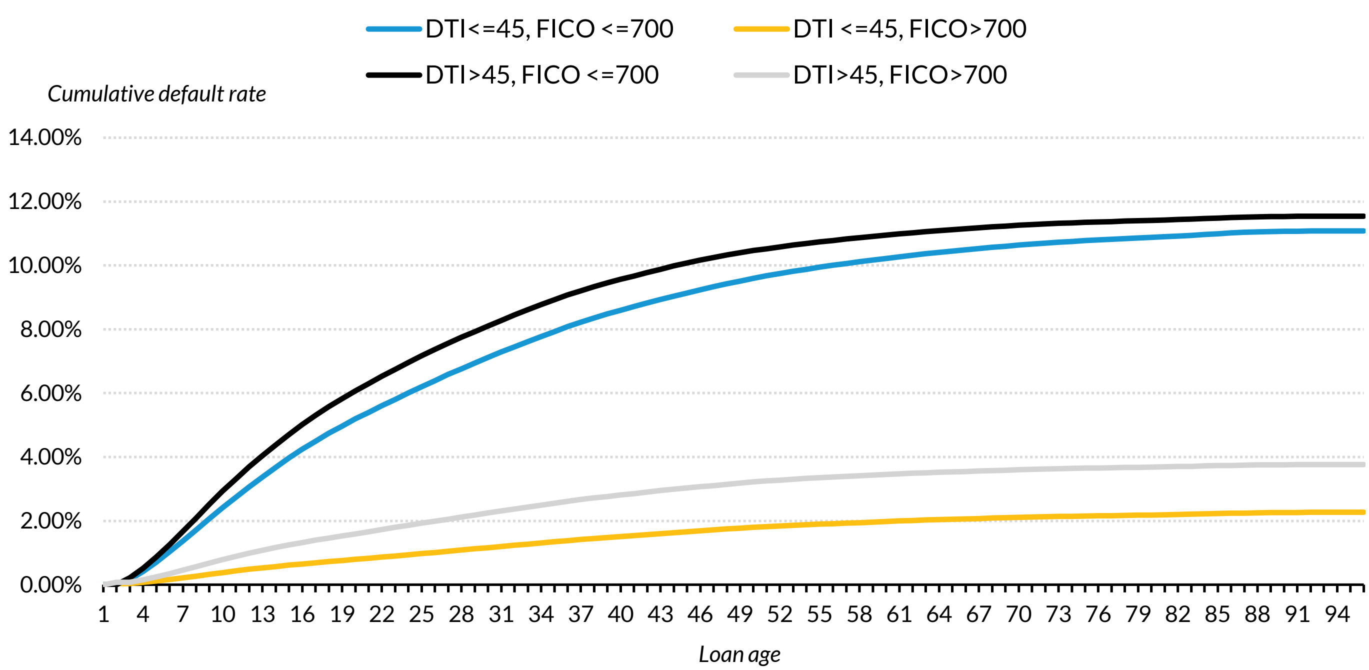
DTI is a much weaker predictor of performance than FICO score. The top chart shows FHA borrowers with higher DTIs do default more than those with lower DTIs, but the differences are modest, as evidenced by the fact that the black line is very close to the blue line and the grey line is not that much above the yellow line. By contrast, FICO makes a much larger difference, as can be seen by comparing the blue line to the yellow line or the black line to the gray line. And low DTI/low FICO borrowers default much less than high DTI/high FICO borrowers, as can be seen by comparing the blue line to the gray line. The bottom chart, for VA borrowers illustrates the same point; DTI is a much weaker predictor of loan performance than credit score.

FHA Cumulative Default Rate by DTI and FICO



Sources: *eMBS and Urban Institute.* **Note:** Defaults = 180 days delinquent. *Data as of March 2021.*

VA Cumulative Default Rate by DTI and FICO

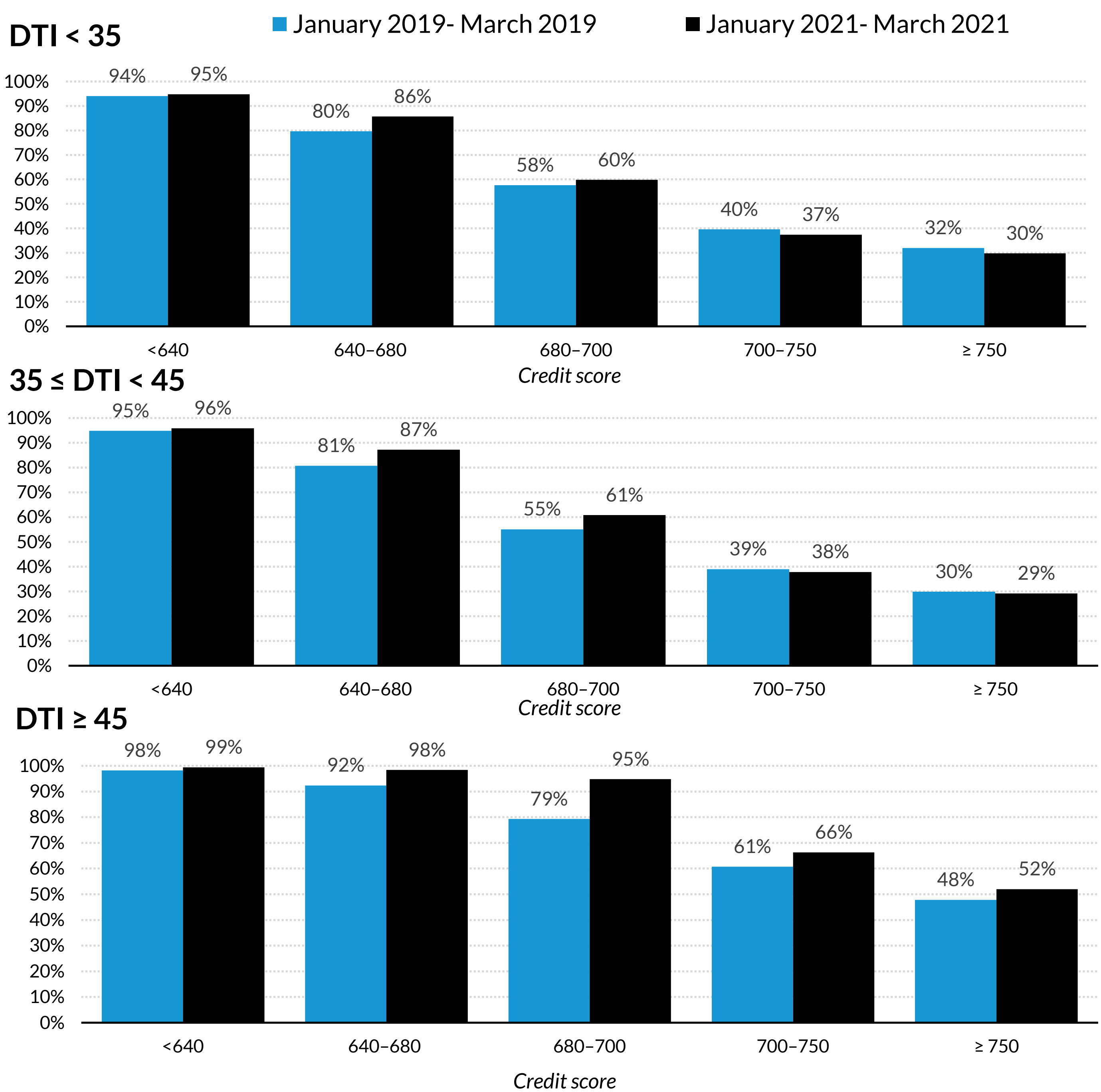


Sources: *eMBS and Urban Institute.* **Note:** Defaults = 180 days delinquent. *Data as of March 2021.*

Credit Box: Historical

This table shows Ginnie Mae's share of agency high-LTV lending by DTI and FICO. In each DTI bucket, Ginnie Mae's share is more concentrated in lower FICO scores than in higher FICO scores. In January 2021- March 2021, Ginnie Mae accounted for 95 percent of agency issuance for DTIs under 35 and FICOs below 640, compared to just 30 percent for DTIs below 35 and FICO 750 and higher. The Ginnie/GSE split in the 35-45 DTI bucket looks a lot like the below 35 percent DTI bucket. In January 2021– March 2021, Ginnie Mae's share of issuance was higher for DTIs of 45 and above, as compared with the two lower DTI buckets. Ginnie Mae share of loans with a DTI of 45 and above and a FICO of 680-700 was 95 percent; it was 60-61 percent for the same FICO in the lower DTI buckets. Comparing this period to 2 years earlier, it is clear the GSEs have stepped up their higher LTV lending for borrowers with FICOs of 700 or higher for DTIs less than 45 (the less than 35 and the 35-45 buckets).

Ginnie Mae Share of Agency Market by DTI and FICO for Loans with LTV ≥ 95



Sources: *eMBS and Urban Institute.*

High LTV Loans: Ginnie Mae vs. GSEs

Ginnie Mae dominates high-LTV lending, with 63.1 percent of its issuances in the January 2021- March 2021 period having LTVs of 95 or above, compared to 7.8 percent for the GSEs. Both the GSEs and Ginnie Mae have decreased their high-LTV lending share from January 2019– March 2019, with the GSEs falling more dramatically from 21.3 percent. The share of high-LTV agency loans going to highest FICO borrowers (i.e. above 750) has increased from the January 2019- March 2019 period to the January 2021- March 2021 period, as has the share of lower DTI borrowers (below 35).

Share of Loans with LTV ≥ 95

	Ginnie Mae	GSE	All
January 2019- March 2019	69.4%	21.3%	37.3%
January 2021- March 2021	63.1%	7.8%	15.9%

Agency Market Share by DTI and FICO for Loans with LTV ≥ 95

January 2019-March 2019

	FICO					
DTI	<640	640–680	680–700	700–750	≥ 750	All
< 35	2.7%	4.1%	2.3%	6.2%	7.8%	23.0%
35 –45	5.6%	8.8%	4.6%	11.1%	9.8%	39.9%
≥ 45	5.7%	9.8%	4.7%	10.0%	6.9%	37.0%
All	14.0%	22.7%	11.6%	27.2%	24.5%	100.0%

January 2021-March 2021

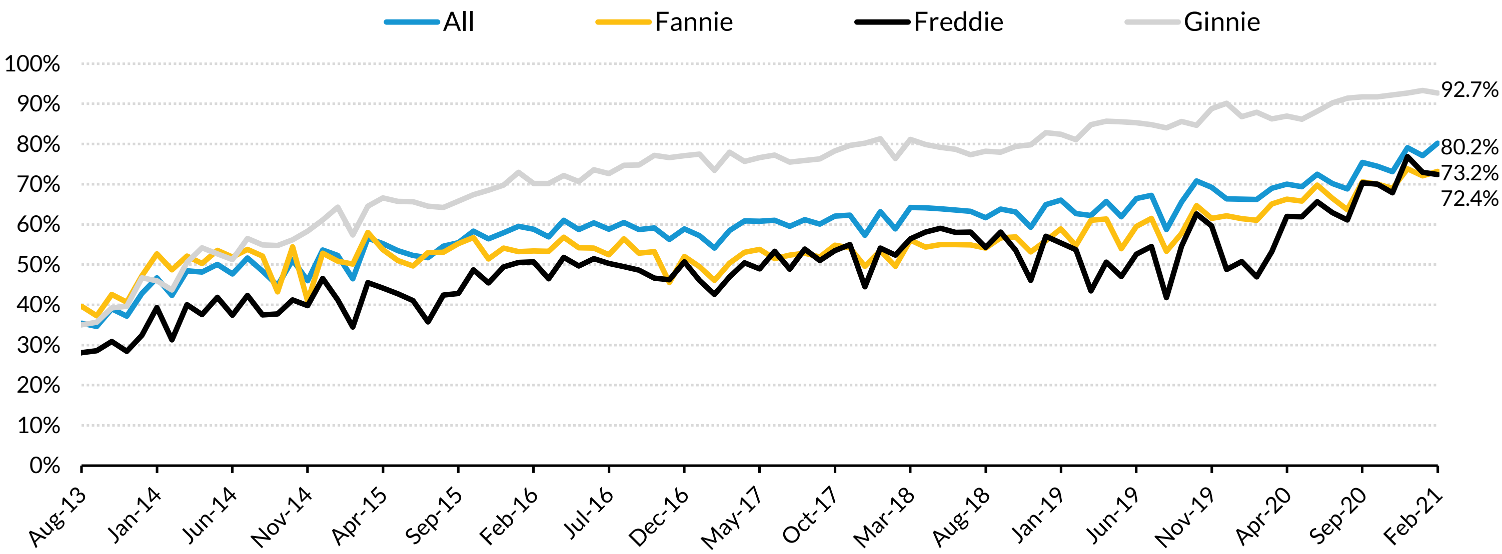
	FICO					
DTI	<640	640–680	680–700	700–750	≥ 750	All
< 35	1.7%	4.9%	3.0%	8.7%	12.5%	30.9%
35 –45	3.2%	8.9%	5.0%	12.7%	12.3%	42.1%
≥ 45	2.7%	7.2%	3.4%	7.8%	6.0%	27.0%
All	7.6%	21.0%	11.4%	29.2%	30.8%	100.0%

Sources: *eMBS and Urban Institute.*

Nonbank Originators

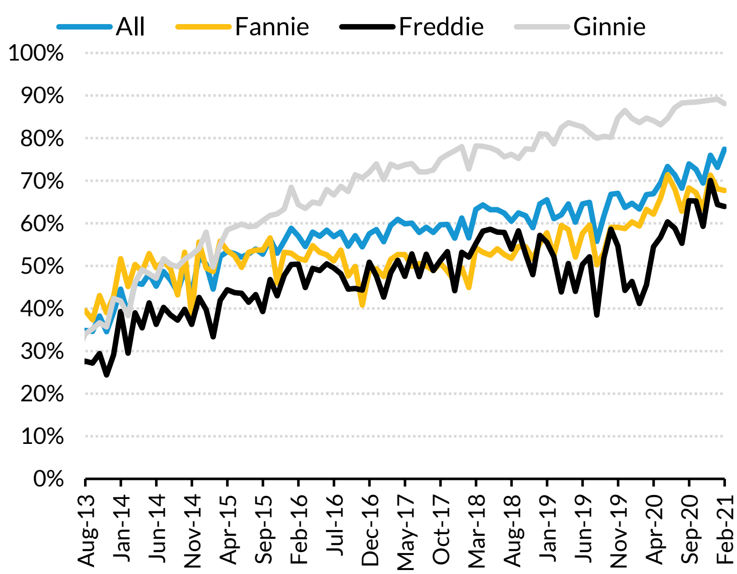
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 92.7 percent in February 2021. Fannie's nonbank share increased slightly in February, to 73.2 percent, while Freddie's declined slightly, to 72.4 percent (note that these numbers can be volatile on a month-to-month basis). Ginnie Mae, Fannie Mae, and Freddie Mac all have higher nonbank origination shares for refi activity than for purchase activity. Freddie Mac's nonbank share is the lowest among the three agencies for purchase loans, while Fannie Mae's nonbank share is the lowest for refi loans.

Nonbank Origination Share: All Loans

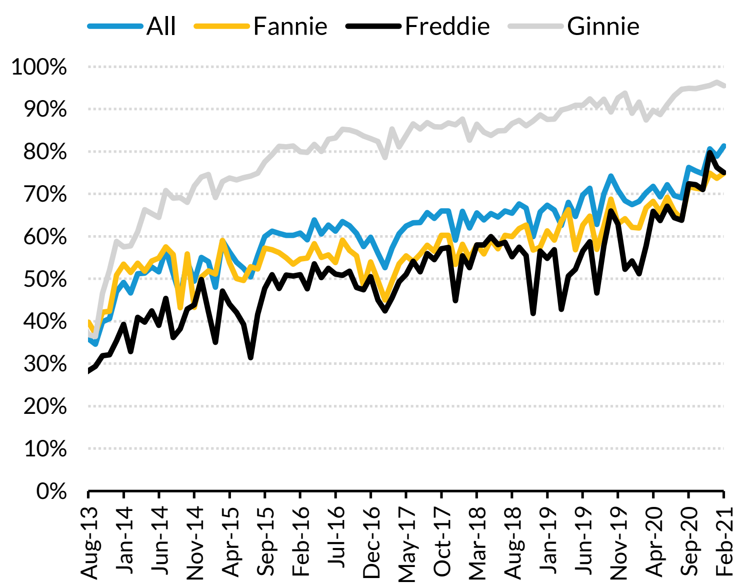


Sources: *eMBS and Urban Institute*
Note: *Data as of February 2021.*

Nonbank Origination Share: Purchase Loans



Nonbank Origination Share: Refinance Loans

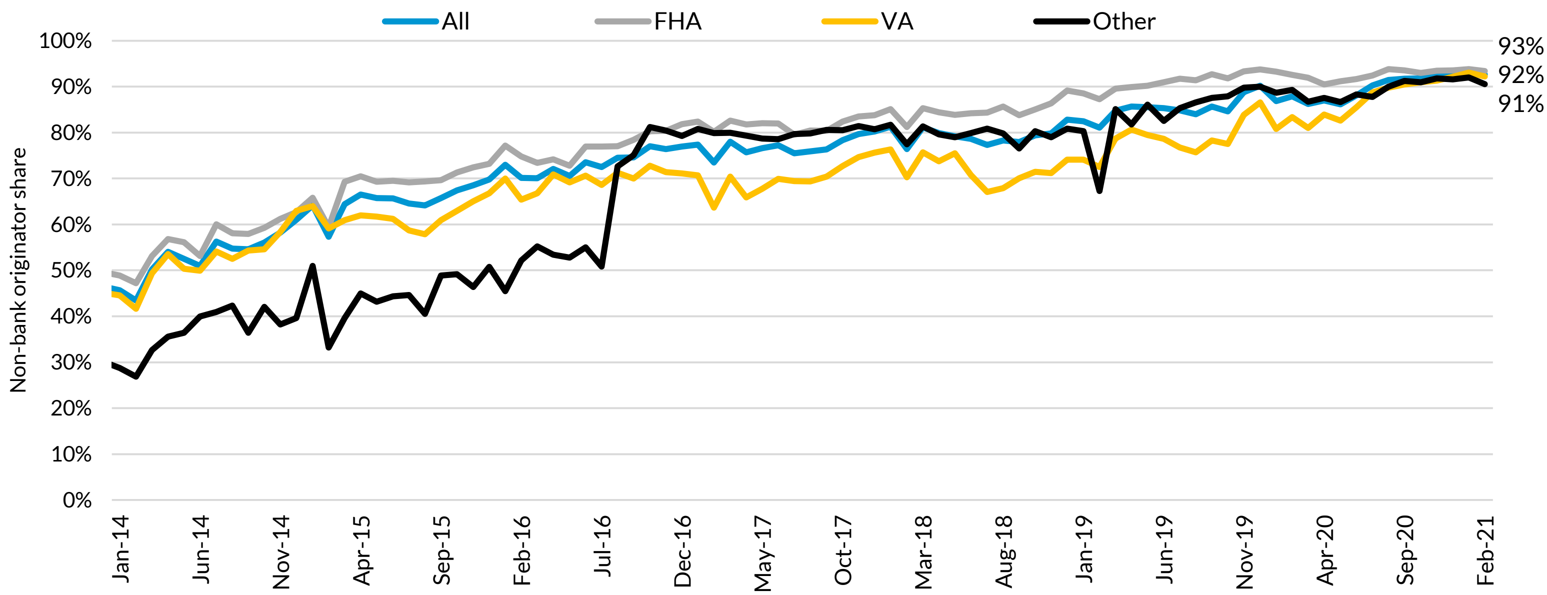


Sources: *eMBS and Urban Institute.* **Note: "***Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of February 2021.*

Ginnie Mae Nonbank Originators

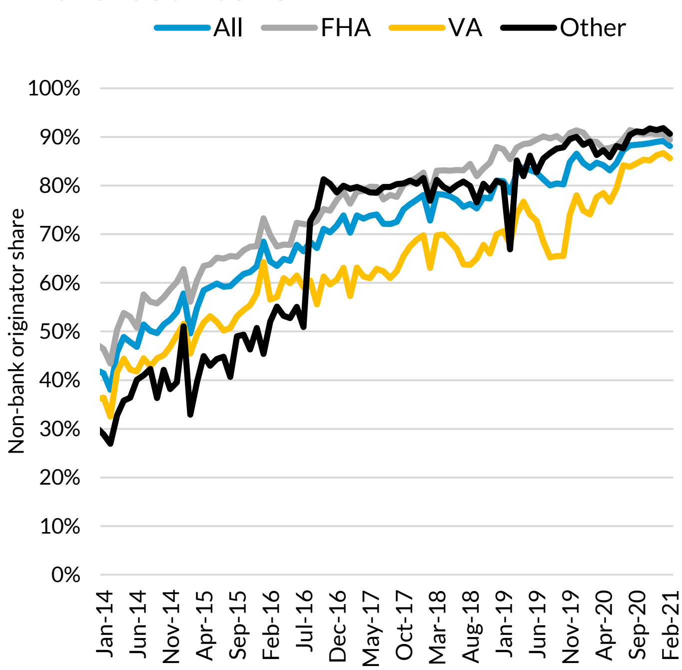
In February 2021, Ginnie Mae's nonbank share fell to 92.7 percent. The nonbank originator share for FHA also declined to 93.4 percent in February, down very marginally from the previous month. The nonbank originator share for VA was lower than last month at 92.2 percent and the nonbank originator share for other loans, which can fluctuate quite a bit month to month, fell to 90.6 percent.

Ginnie Mae Nonbank Originator Share: All Loans

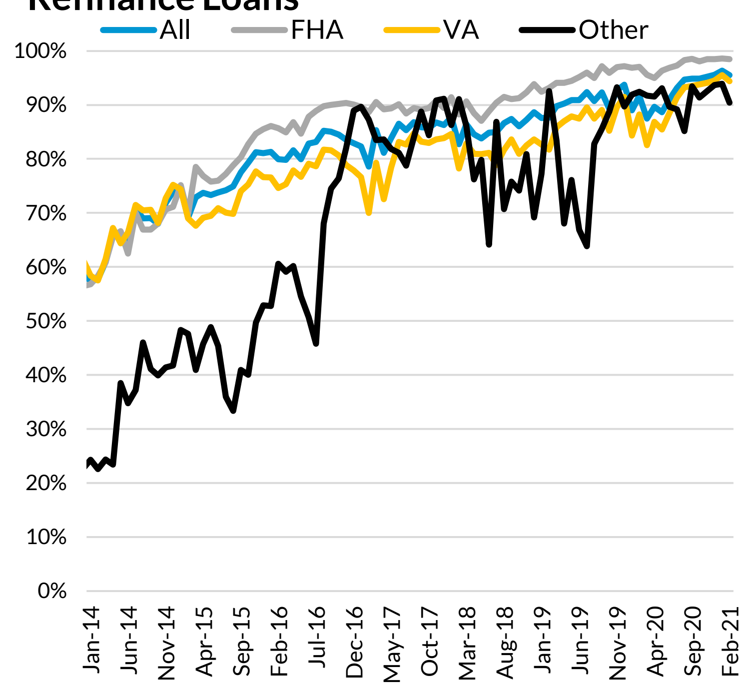


Sources: *eMBS and Urban Institute*
Note: *Data as of February 2021.*

Ginnie Mae Nonbank Share: Purchase Loans



Ginnie Mae Nonbank Share: Refinance Loans

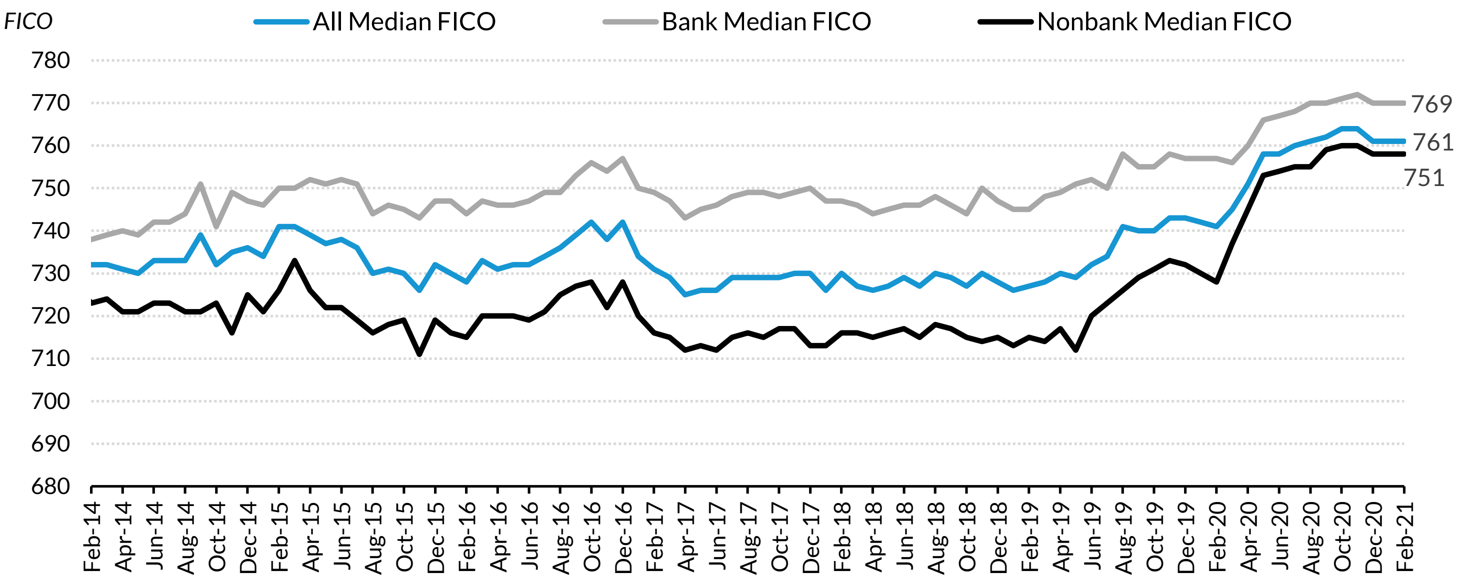


Sources: *eMBS and Urban Institute.* **Note:** *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of February 2021.*

Nonbank Credit Box

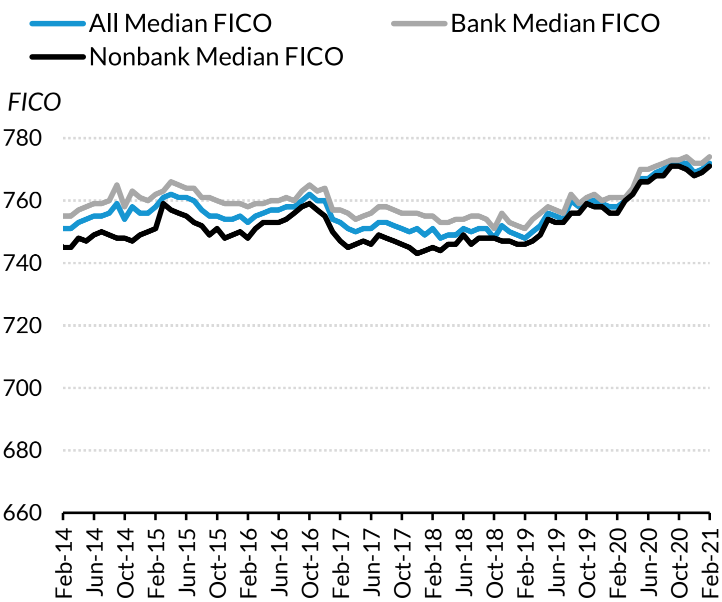
Nonbank originators have played a key role in opening up access to credit. FICO scores for loans originated by nonbanks are lower than their bank counterparts. Within the GSE space, where the differentials between banks and non-banks are small, FICO scores for both have increased since early 2014. The sharp rise in bank and non-bank FICOs reflects an increase in GSE refinance activity, producing a shift in their business mix toward higher FICO borrowers. Within the Ginnie Mae space, FICO scores for bank originations has been consistently higher than their non-bank counterparts, reflecting the sharp cut-back in FHA lending by many banks. The bank/non-bank FICO differential as narrowed over the past 2 years, as non-banks are relatively more active in refi lendings, which has higher borrower FICO scores.

Agency FICO: Bank vs. Nonbank



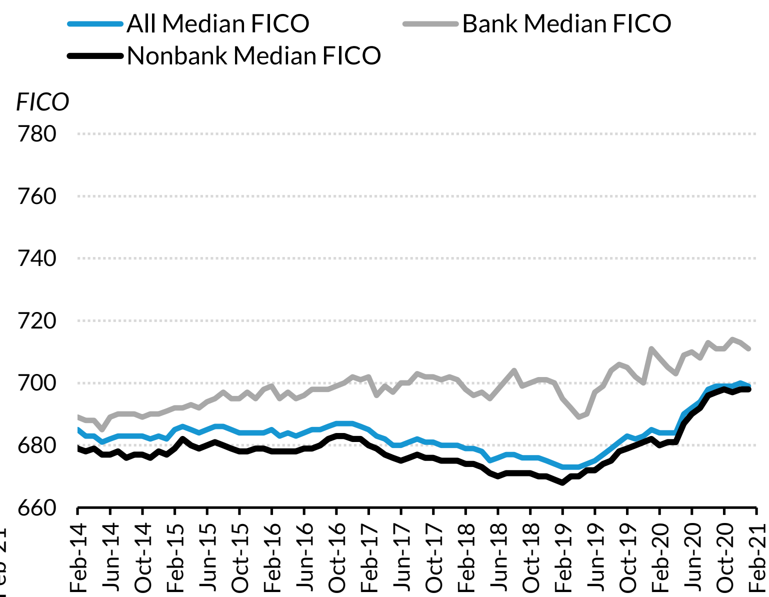
Sources: *eMBS and Urban Institute.* **Note**: *Data as of February 2021.*

GSE FICO: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*
Note: *Data as of January 2021.*

Ginnie Mae FICO: Bank vs. Nonbank

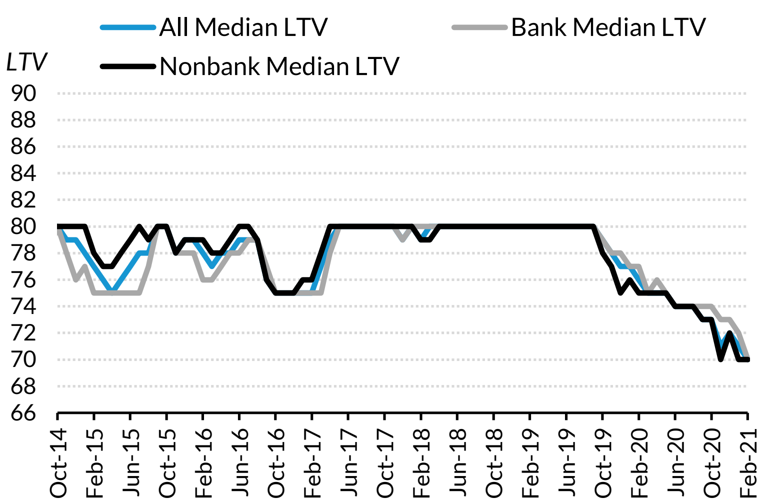


Sources: *eMBS and Urban Institute.*
Note: *Data as of January 2021.*

Nonbank Credit Box

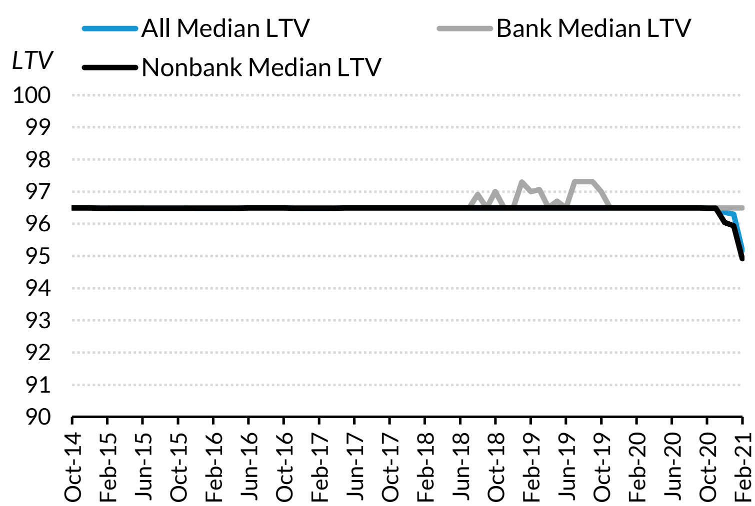
The median LTVs for nonbank and bank originations are comparable, while the median DTI for nonbank loans is higher than for bank loans, indicating that nonbanks are more accommodating in both this and the FICO dimension. Between early 2017 and early 2019, there was a substantial increase in DTIs; over the subsequent two years, this has mostly reversed in the Ginnie Mae space, and more than completely reversed for the GSEs, leaving DTIs as low as they have been at any point since 2014. This is true for both Ginnie Mae and the GSEs, for banks and nonbanks. As interest rates increased, DTIs rose, because borrower payments were driven up relative to incomes. With the fall in interest rates over the past two years, DTIs have dropped.

GSE LTV: Bank vs. Nonbank



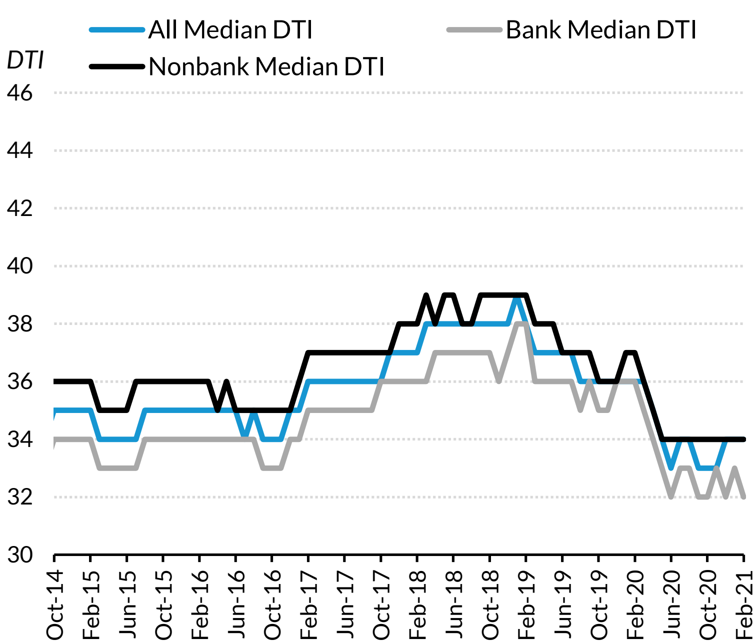
Sources: *eMBS and Urban Institute.* **Note**: *Data as of February 2021.*

Ginnie Mae LTV: Bank vs. Nonbank



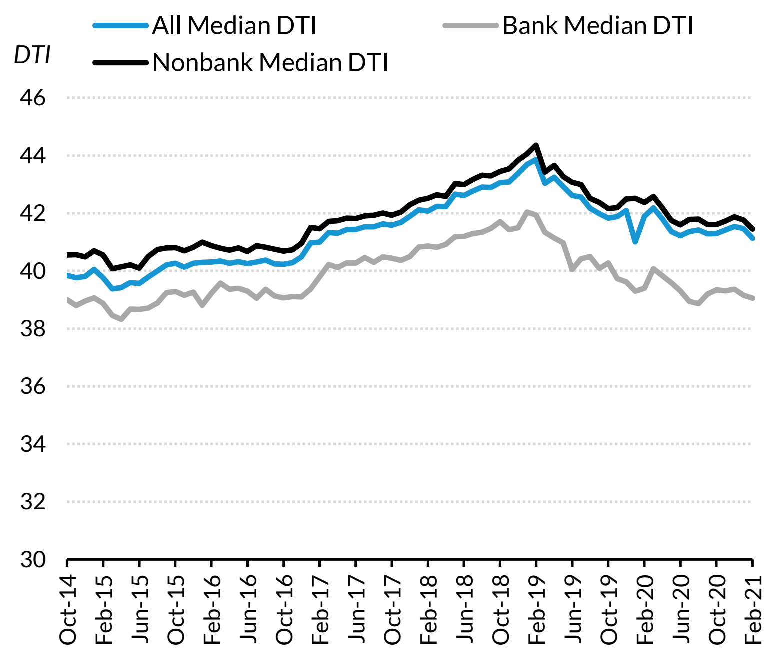
Sources: *eMBS and Urban Institute.* **Note**: *Data as of February 2021.*

GSE DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.* **Note**: *Data as of February 2021.*

Ginnie Mae DTI: Bank vs. Nonbank

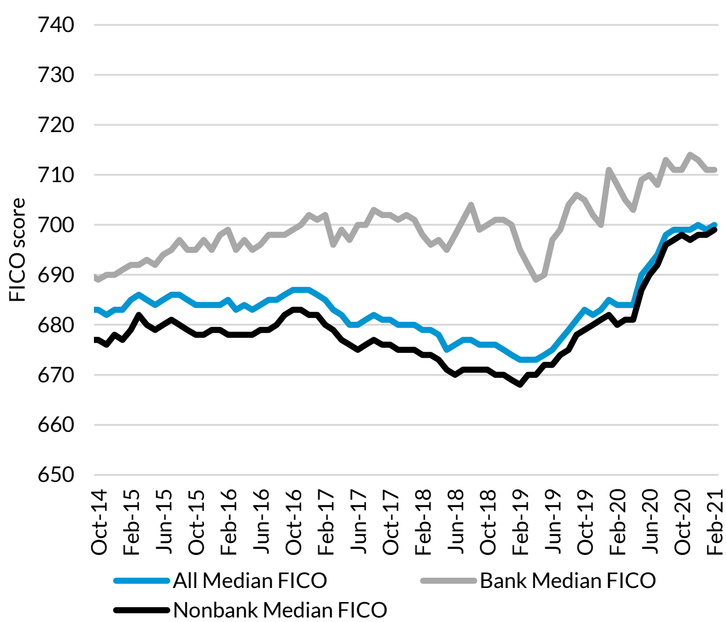


Sources: *eMBS and Urban Institute.* **Note**: *Data as of February 2021.*

Ginnie Mae Nonbank Originators: Credit Box

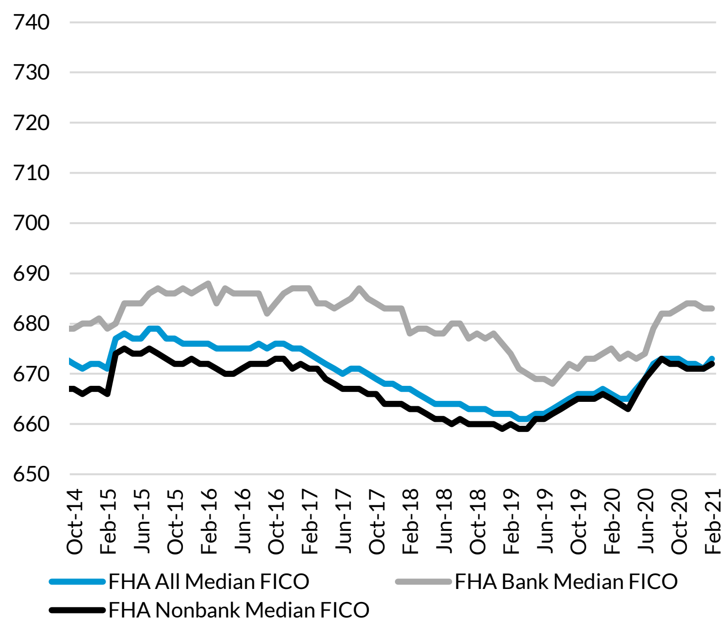
The median FICO score for Ginnie Mae nonbank originators increased slightly in February 2021. Bank FICOs are 12 points above non-banks. The gap between banks and non-banks is very apparent for all categories of government lending.

Ginnie Mae FICO Scores: Bank vs. Nonbank



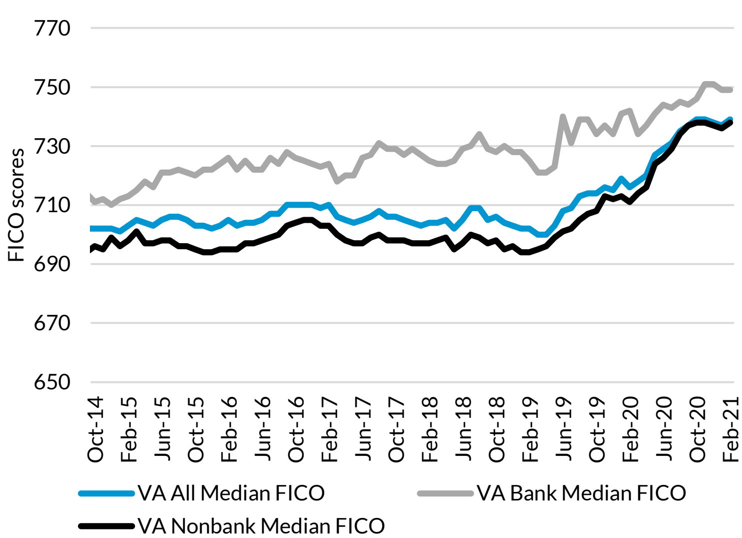
Sources: *eMBS and Urban Institute* **Note:** *Data as of February 2021.*

Ginnie Mae FHA FICO Scores: Bank vs. Nonbank



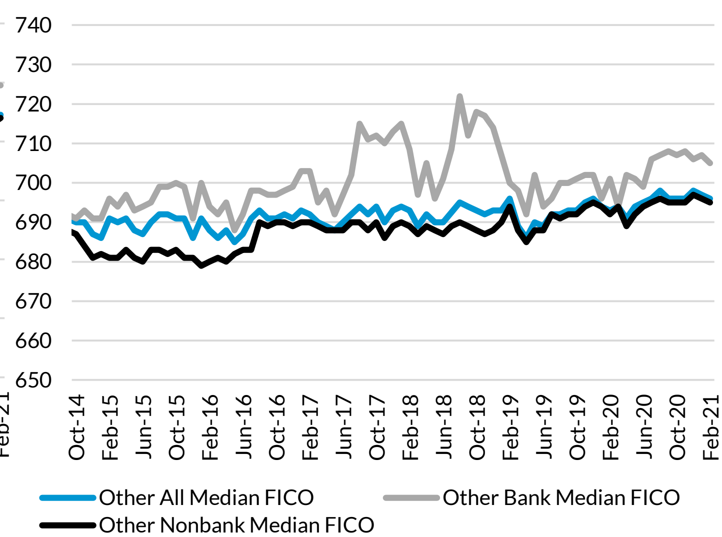
Sources: *eMBS and Urban Institute* **Note:** *Data as of February 2021.*

Ginnie Mae VA FICO Scores: Bank vs. Nonbank



Sources: *eMBS and Urban Institute*
Note: *Data as of February 2021.*

Ginnie Mae Other FICO Scores: Bank vs. Nonbank

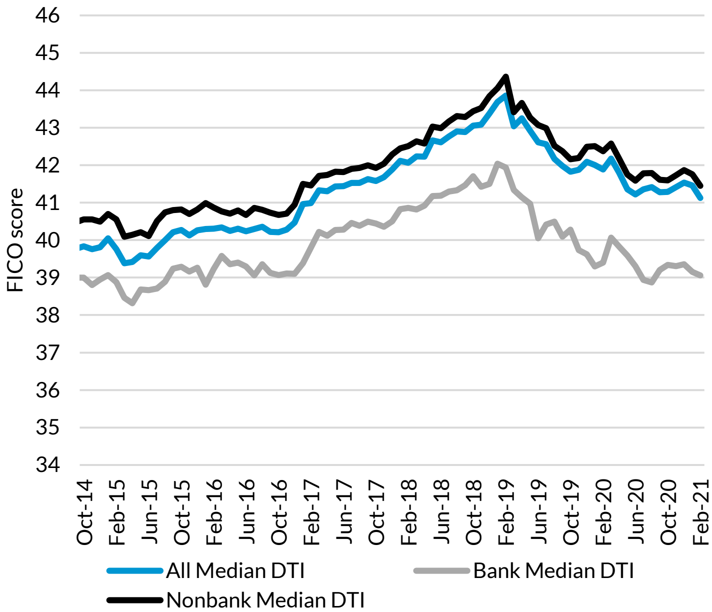


Sources: *eMBS and Urban Institute*
Note: *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of February 2021.*

Ginnie Mae Nonbank Originators: Credit Box

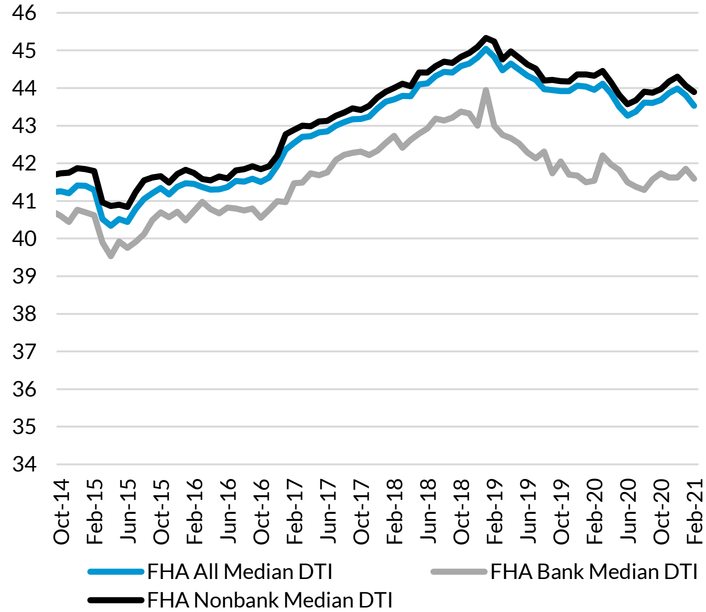
An analysis of borrowers' DTI ratios for bank versus non-bank originators indicates that the former have a lower median DTI. The DTIs for FHA and VA borrowers experienced notable increases during 2017 and 2018 for both banks and nonbank originators, while the Other origination DTIs stayed relatively flat. Rising DTIs are expected in a rising rate environment. After peaking in January 2019, Ginnie DTIs have reverted to 2017 levels, as rates have declined.

Ginnie Mae DTI: Bank vs. Nonbank



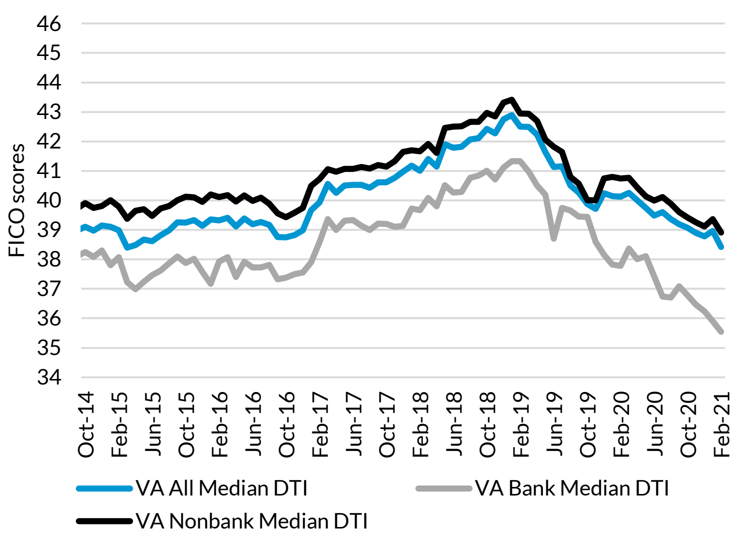
Sources: *eMBS and Urban Institute* **Note:** *Data as of February 2021.*

Ginnie Mae FHA DTI: Bank vs. Nonbank



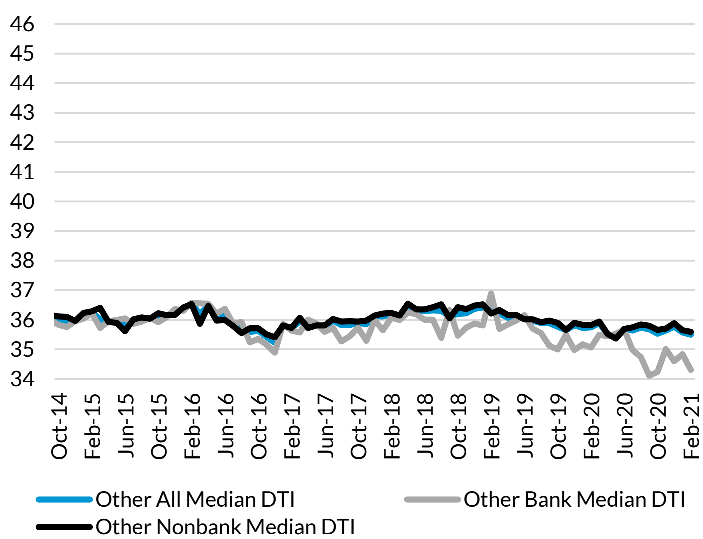
Sources: *eMBS and Urban Institute* **Note:** *Data as of February 2021.*

Ginnie Mae VA DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute*
Note: *Data as of February 2021.*

Ginnie Mae Other DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute*
Note: *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of February 2021.*

Holders of Ginnie Mae MSRs

This table shows 30 largest owners of mortgage servicing rights (MSR) by UPB for Ginnie Mae securitizations. As of February 2021, over half (50.9 percent) of the Ginnie Mae MSRs are owned by the top six firms. The top 30 firms collectively own 83.1 percent. Nineteen of these 30 are non-depositories, the remaining 11 are depository institutions.

Top 30 Holders of Ginnie Mae Mortgage Servicing Rights (MSRs), by UPB

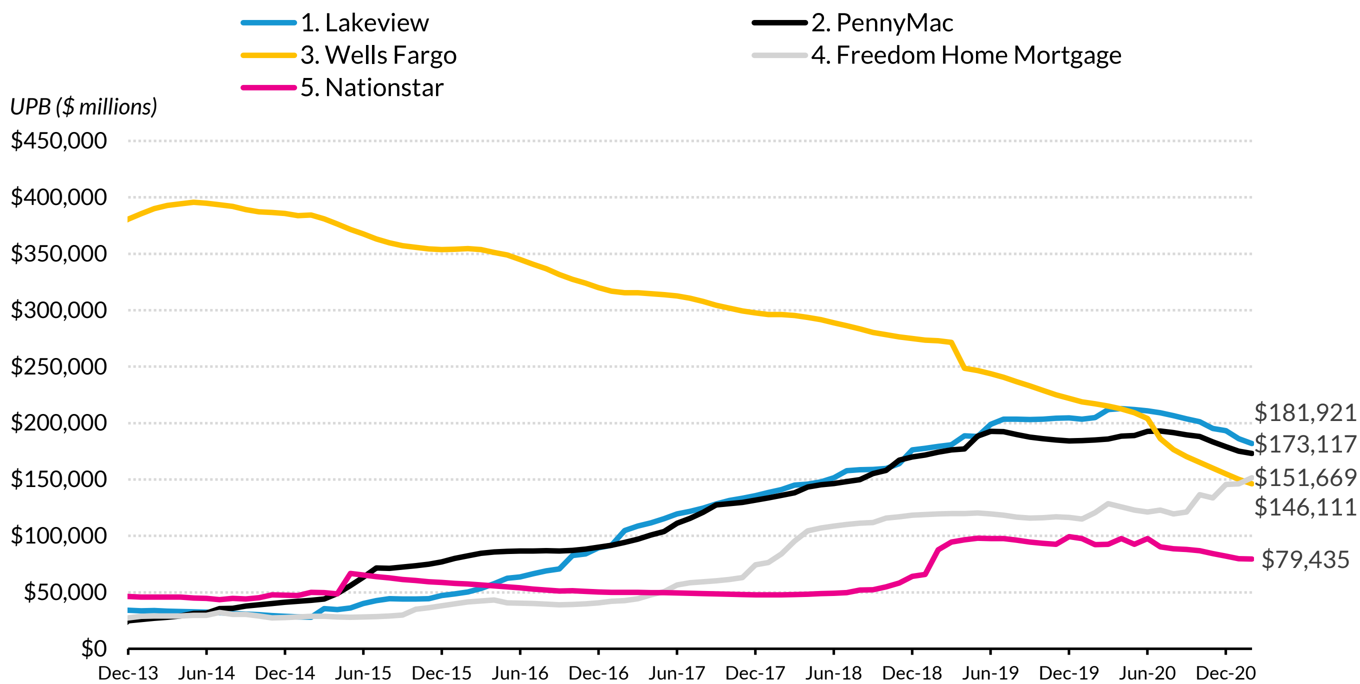
Rank	MSR Holder	UPB ($ millions)	Share	Cumulative Share
1	**Lakeview**	$181,921	11.7%	11.7%
2	**PennyMac**	$173,117	11.1%	22.7%
3	**Freedom Home Mortgage**	$151,669	9.7%	32.5%
4	**Wells Fargo**	$146,111	9.4%	41.8%
5	**Nationstar**	$79,435	5.1%	46.9%
6	**Quicken Loans**	$62,416	4.0%	50.9%
7	**Newrez**	$45,284	2.9%	53.8%
8	**US Bank**	$44,098	2.8%	56.6%
9	**Carrington Mortgage**	$39,189	2.5%	59.2%
10	**USAA Federal Savings Bank**	$36,148	2.3%	61.5%
11	**Caliber Home Loans**	$35,107	2.2%	63.7%
12	**Navy Federal Credit Union**	$26,377	1.7%	65.4%
13	**Truist Bank**	$25,315	1.6%	67.0%
14	**Amerihome Mortgage**	$24,948	1.6%	68.6%
15	**The Money Source**	$20,536	1.3%	69.9%
16	**Home Point Financial Corporation**	$20,202	1.3%	71.2%
17	**Loan Depot**	$19,781	1.3%	72.5%
18	**United WholeSale Mortgage**	$19,236	1.2%	73.7%
19	**Guild Mortgage**	$15,649	1.0%	74.7%
20	**Midfirst Bank**	$15,245	1.0%	75.7%
21	**JP Morgan Chase**	$14,946	1.0%	76.7%
22	**Planet Home Lending**	$14,379	0.9%	77.6%
23	**Citizens Bank**	$12,576	0.8%	78.4%
24	**M&T Bank**	$12,129	0.8%	79.2%
25	**PHH Mortgage Corporation**	$11,918	0.8%	79.9%
26	**Flagstar Bank**	$11,340	0.7%	80.7%
27	**Mortgage Research Center**	$10,894	0.7%	81.4%
28	**New American Funding**	$10,162	0.7%	82.0%
29	**Idaho Housing and Finance Association**	$9,315	0.6%	82.6%
30	**Bank of America**	$8,293	0.5%	83.1%

Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

Holders of Ginnie Mae MSRs

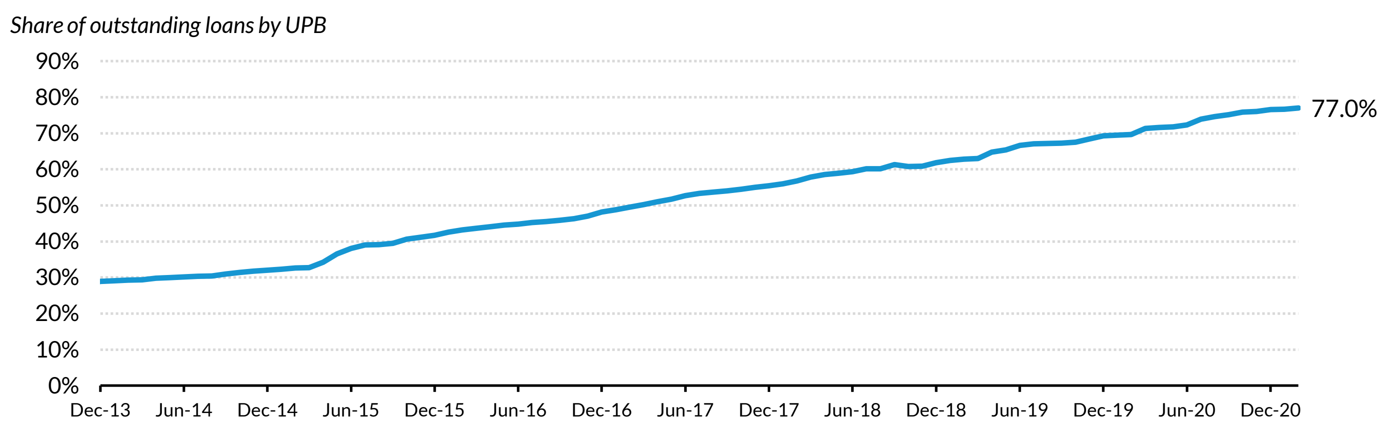
The composition of the largest owners of Ginnie Mae MSR has evolved quite a bit over time. In December 2013, Wells Fargo and JP Morgan Chase were the two largest owners of Ginnie Mae MSRs, holding $375 billion and $139 billion in servicing UPB respectively. In February 2021, Wells Fargo's holdings of MSRs dipped to $146.1 billion, below the $181.9, $173.1, and $151.7 billion held by Lakeview, PennyMac, and Freedom Home Mortgage, respectively (all nonbanks). Nationstar (also nonbank) makes up the remainder of the top five largest holders of MSRs, owning $79.4 billion respectively as of February 2021. Nonbanks collectively owned servicing rights for 77.0 percent of all outstanding unpaid principal balance guaranteed by Ginnie Mae in February 2021. In December 2013, the nonbank share was much smaller at 27.7 percent.

Top 5 MSR Holders: Outstanding Ginnie Mae Loans by UPB



February 2021

Share of Ginnie Mae MSRs held by Nonbanks



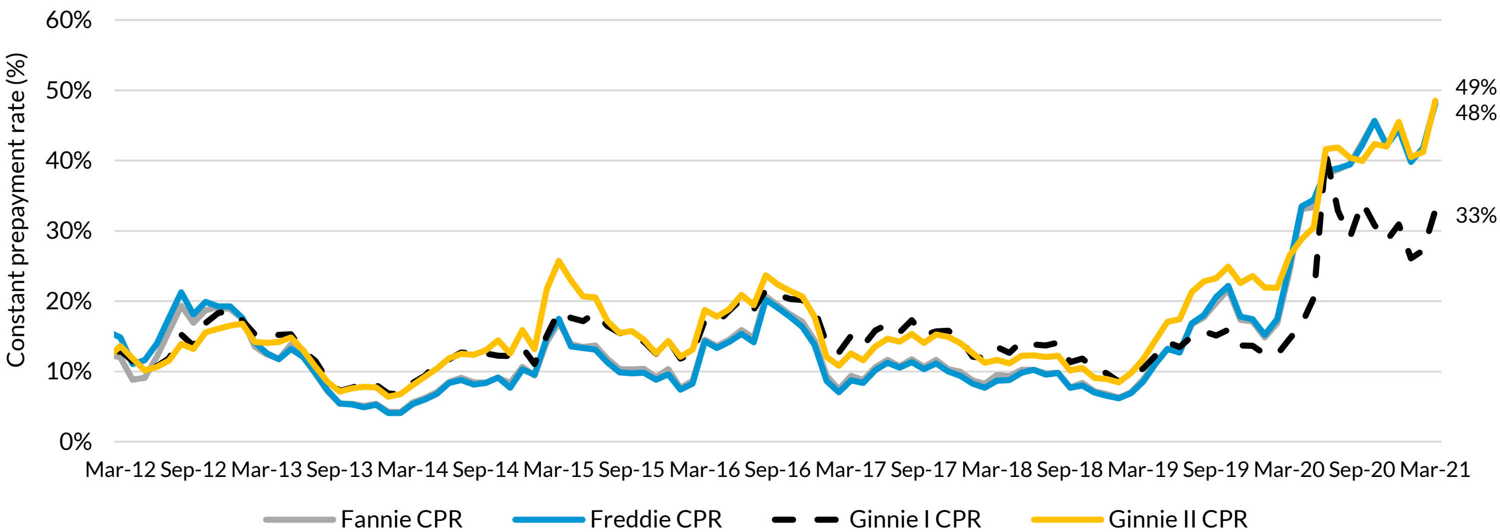
February 2021

Sources: *eMBS and Urban Institute.* **Note:** *Data as of February 2021.*

Prepayments

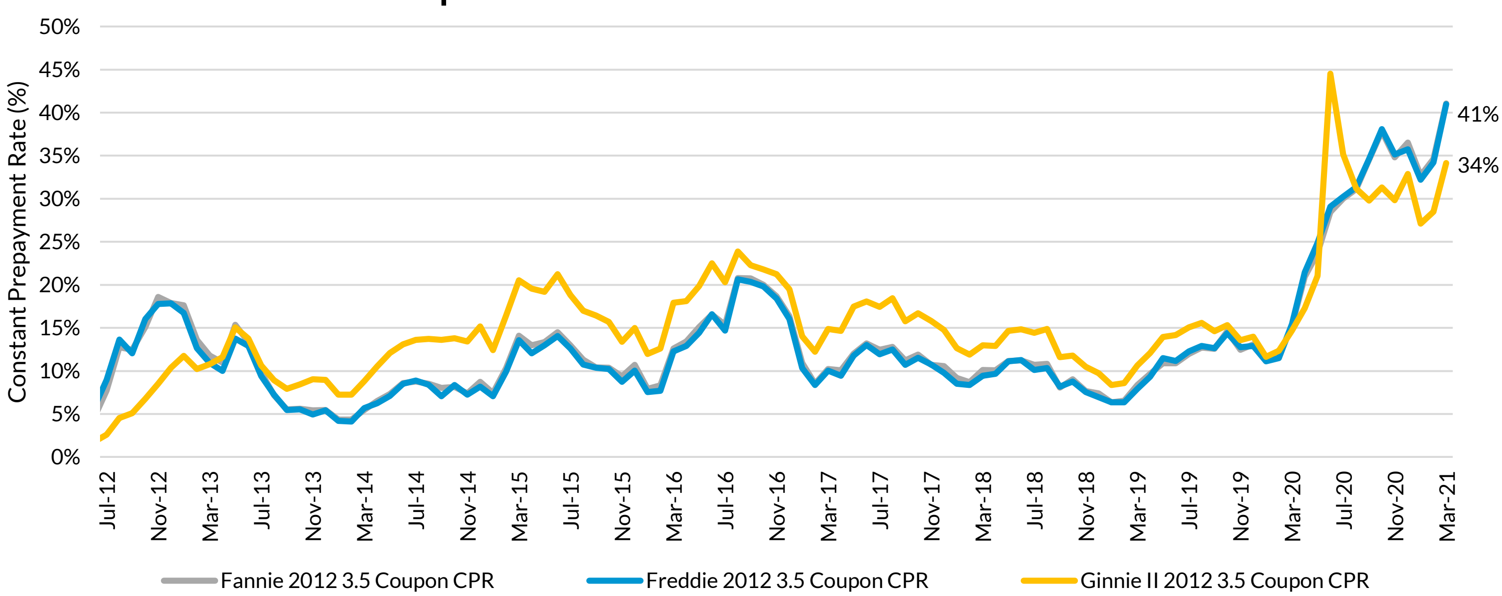
While prepayment speeds on all securities have risen since early 2019, the speed increase has been especially dramatic in 2020 and continuing into early 2021, with speeds on both Ginnie II and GSE securities rising rapidly due to a sharp drop in rates. At this point, the speeds on GSE securities have largely converged with those on Ginnie II securities, as the former have ramped up more quickly in 2020. The faster Ginnie speeds from 2013-early 2020 reflected the growing share of VA loans, which tend to prepay faster than either FHA or GSE loans. In addition, FHA puts fewer restrictions on streamlined refinances, and some of the upfront mortgage insurance premium can also be applied to the refinanced loan. We expect prepayment speeds to decline for all securities over the next few months, given the more than 50 basis point increase in 10-year Treasury rates and the almost 50 basis point increase in mortgage rates since year end 2020.

Aggregate Prepayments



Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of March 2021.*

2012 Issued 3.5 Coupon CPR

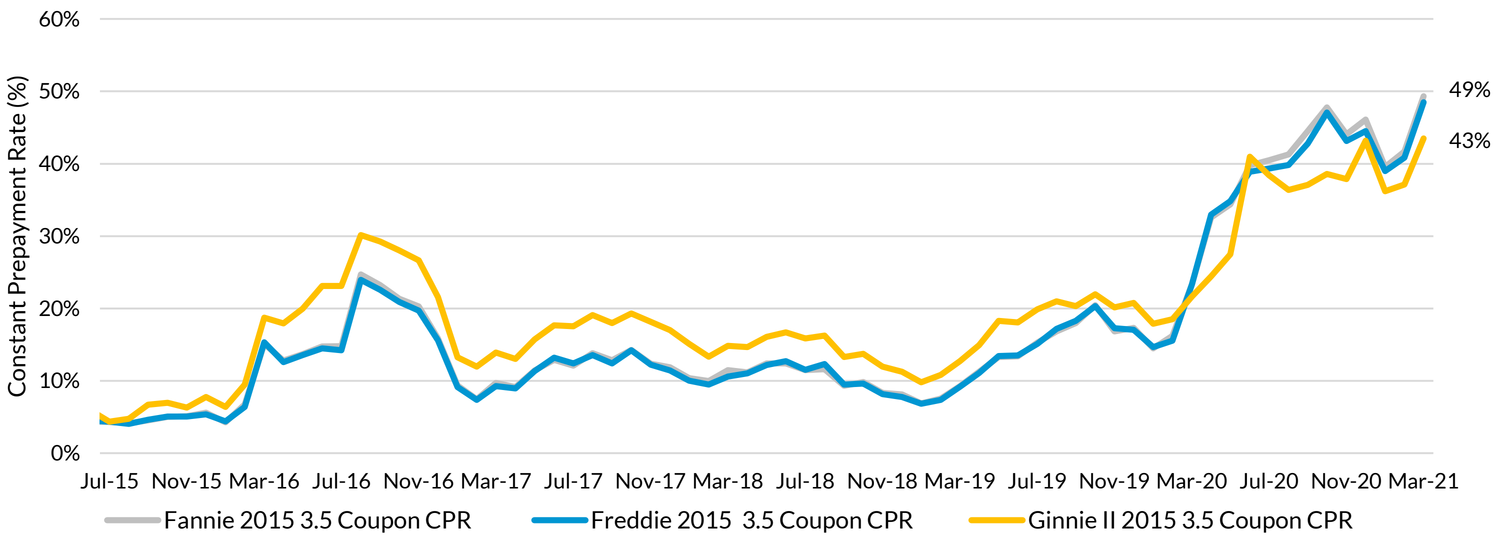


Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of March 2021.*

Prepayments

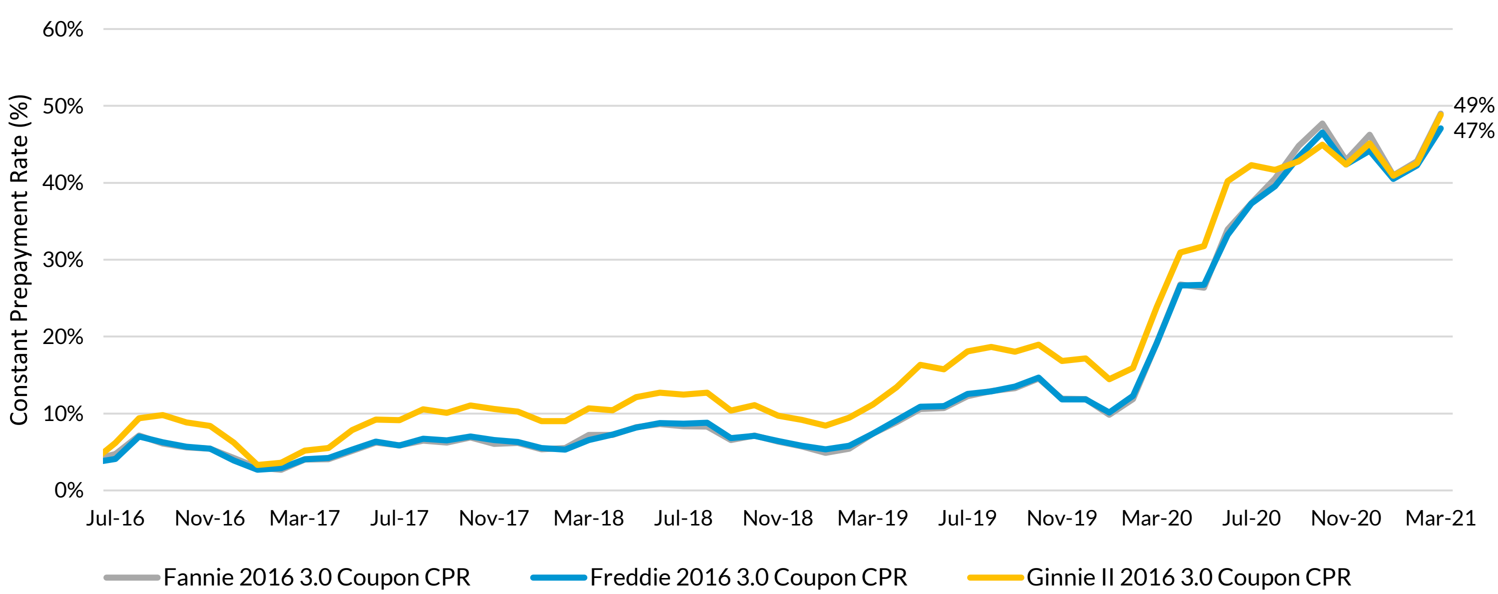
Speeds on the 2015 3.5s and the 2016 3.0s, the largest coupon cohorts of those vintage years, have been increasing since early 2019; the speed increases have been especially dramatic in 2020 and continuing into early 2021 due to a sharp drop in rates, with speeds on both Ginnie II and GSE securities rising rapidly. The speeds on the 2015-issued Ginnie 3.5s have been slightly lower than their conventional counterparts since August 2020, although the speeds on the 2016-issued Ginnie Mae 3.0s remain very comparable to their conventional counterparts. The faster historical speeds on the Ginnie Mae cohorts reflect the fact that 2015 and 2016 Ginnie originations consist of a large component of VA loans, which prepay faster than either FHA or GSE loans. The FHA streamlined programs are likely another contributor to the historically faster speeds. We expect declines in prepayment speeds over the next few months, reflecting the impact of higher mortgage rates.

2015 Issued 3.5 Coupon CPR



Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of March 2021.*

2016 Issued 3.0 Coupon CPR

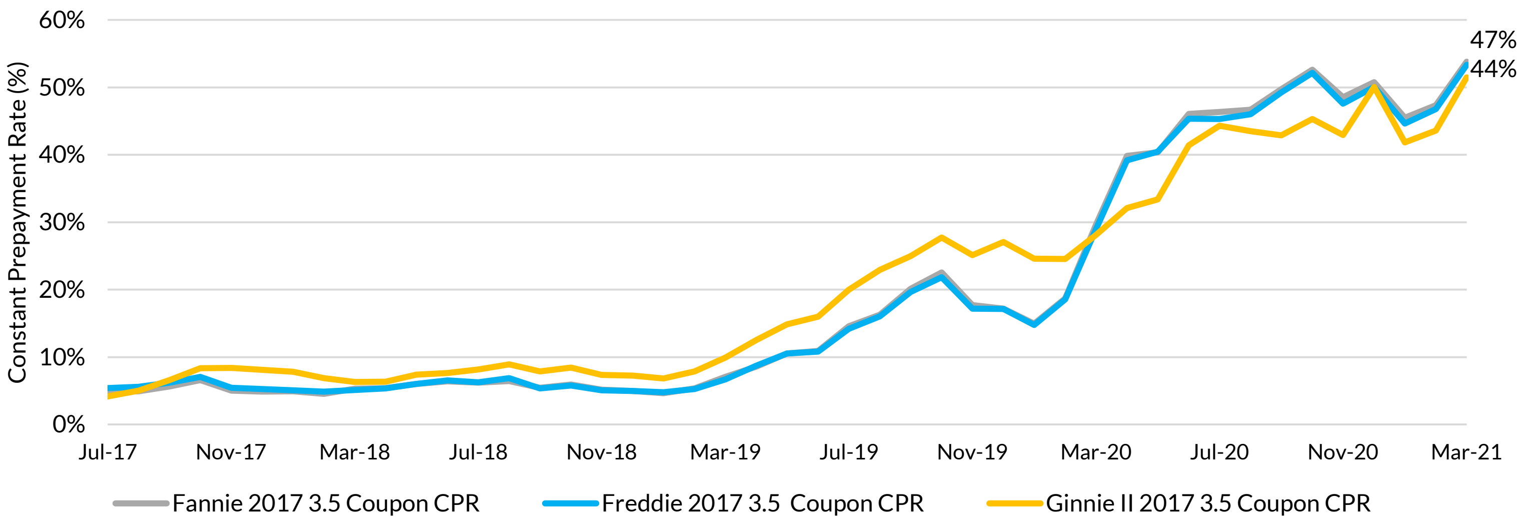


Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of March 2021.*

Prepayments

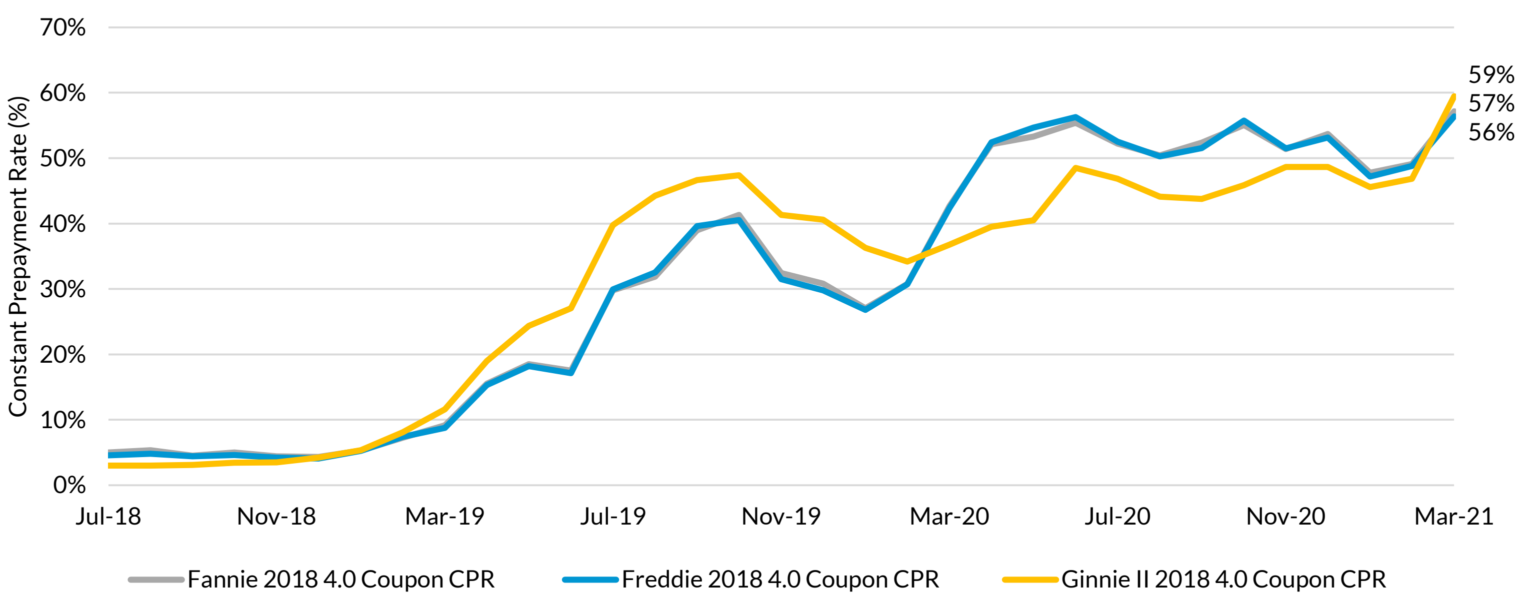
The charts below show the behavior of the 2017-issued 3.5s and the 2018-issued 4.0s, the largest coupon cohorts of those vintage years. Despite slower seasoning, 2017 Ginnie II 3.5s were prepaying faster than their conventional counterparts from late 2017 to March 2020, due primarily to fast VA prepayment speeds. Similarly, the 2018 Ginnie II 4.0s prepaid more slowly than their conventional counterparts until January of 2019. In 2019, speeds of 2018 4.0s and 2017 3.5s accelerated, and Ginnie II speeds accelerated more than their conventional counterparts. However, in early 2020 conventional speeds accelerated more than Ginnie speeds. Since March 2020, conventional speeds have generally exceeded those of the Ginnie cohorts, although the difference between the two has narrowed in recent months, and, for the latest month, the 2018 Ginnie 4s are marginally faster than their conventional counterparts. We expect declines in prepayment speeds over the next few months, reflecting the impact of higher mortgage rates.

2017 Issued 3.5 Coupon CPR



Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of March 2021.*

2018 Issued 4.0 Coupon CPR

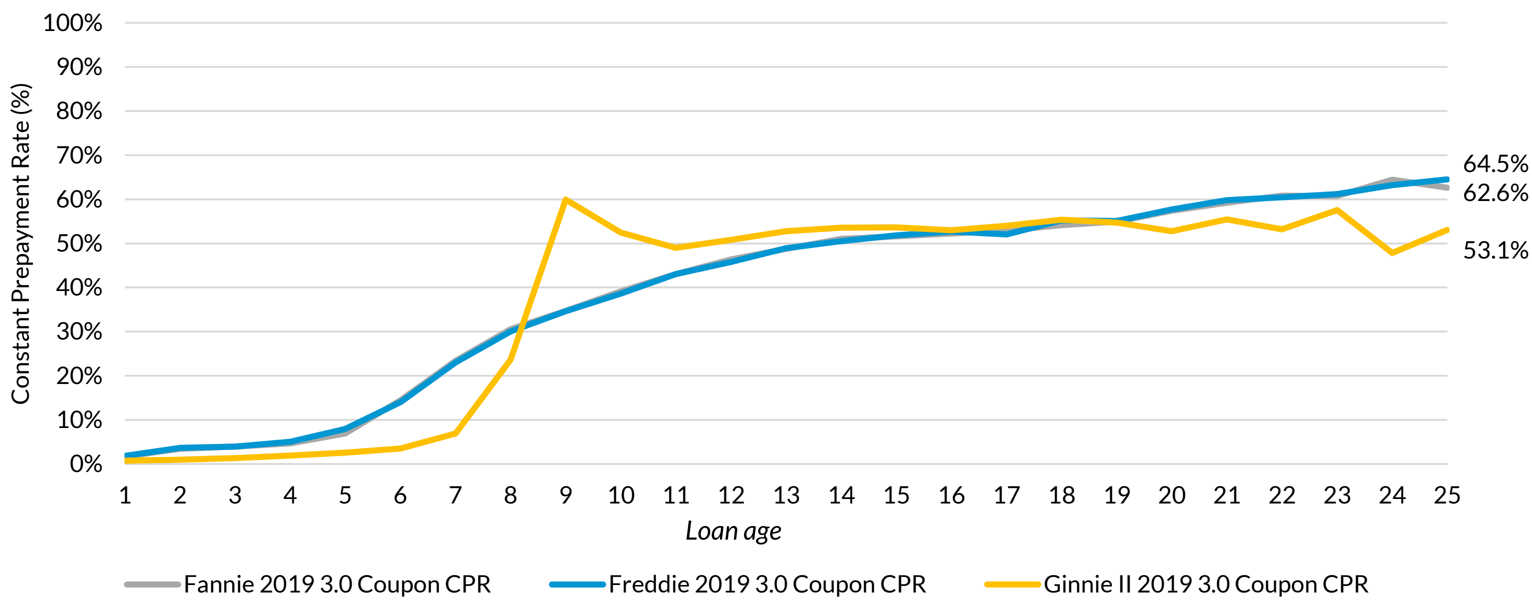


Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of March 2021.*

Prepayments

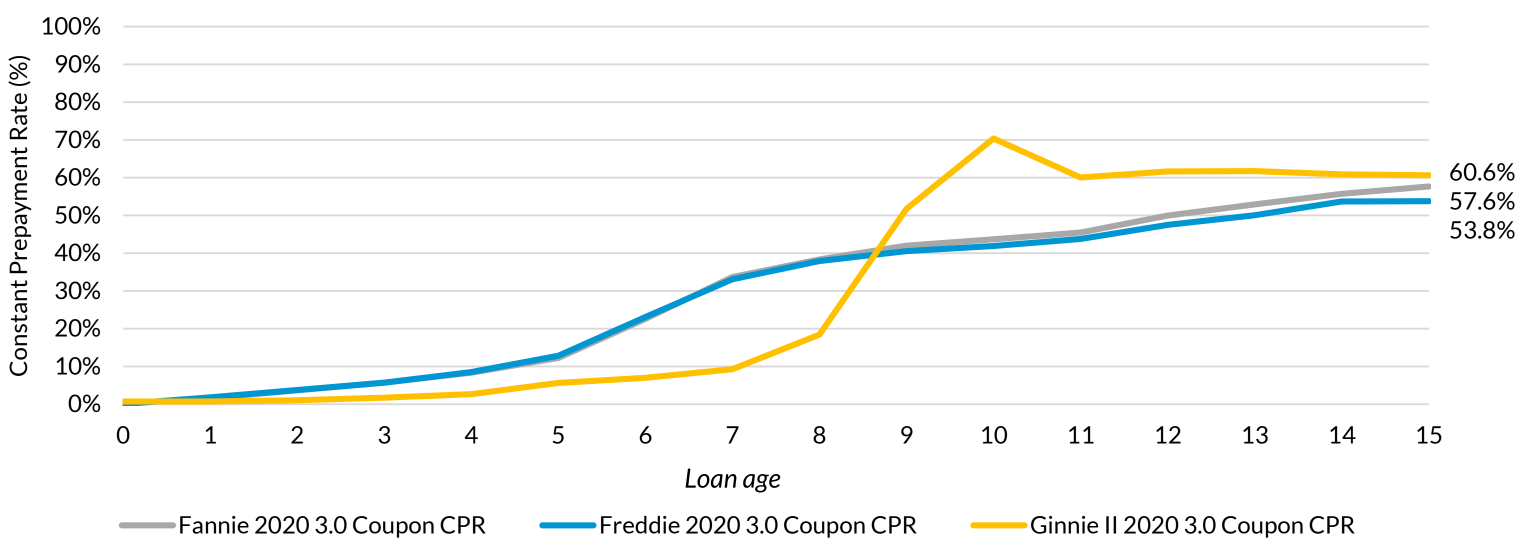
The charts below show prepayment speeds by loan age for 2019 and 2020 Ginnie II 3.0s. Prepayment speeds on both cohorts jumped at the 8-10 month loan age, a more muted jump than earlier cohorts at the same age; they then began to converge with conventional speeds more quickly, as a result of Ginnie Mae actions to curtail the "churning" problem. These actions have included suspending a few servicers whose VA speeds are especially high from selling VA loans into Ginnie Mae II securities, as well as rewriting the pooling requirements so that if loans that do not meet the seasoning requirement are refinanced, the new loan is ineligible for securitization. Ginnie's latest action on this front became effective for securities issued on or after November 1, 2019. It bars the securitization of over 90 percent LTV cash-out refinances into Ginnie I and Ginnie II pools (custom pools excepted). In addition, VA has implemented a net tangible benefit test, requiring the lender to show that the borrower has obtained a benefit from the refinance. The recent experience of these cohorts indicates that, as a result of these cumulative actions plus the acceleration of speeds in the conventional market in response to lower rates, Ginnie Mae speeds on 2019-issued 3.0s have been generally running below their conventional counterparts 17 month loan age onwards. 2020 Ginnie II 3.0s show a sharp increase in speeds at the 9-10 month mark, pushing it well above conventional speeds, but the gaps are narrowing by months 11 and 12.

2019 Issued 3.0 Coupon CPR, by Loan Age



Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of March 2021.*

2020 Issued 3.0 Coupon CPR, by Loan Age

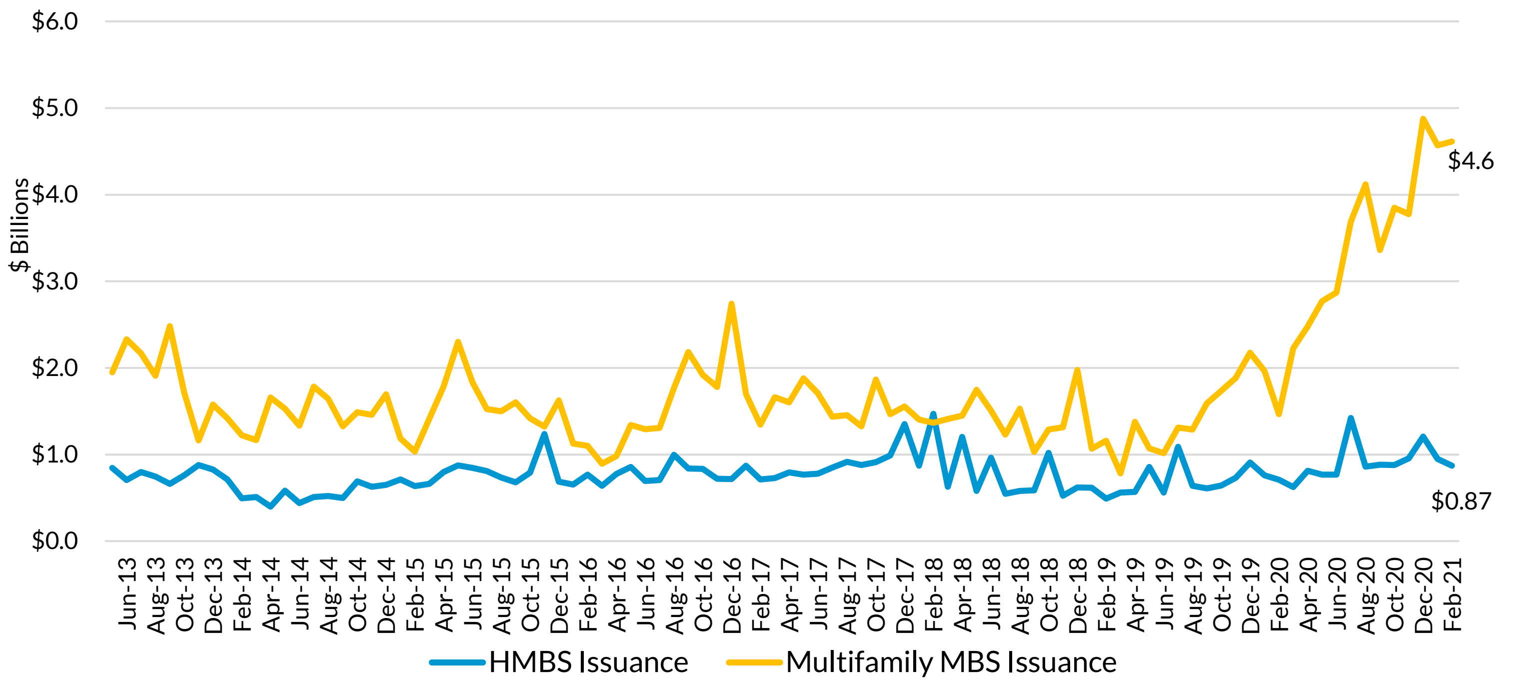


Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of March 2021.*

Other Ginnie Mae Programs Reverse and Multifamily Mortgages

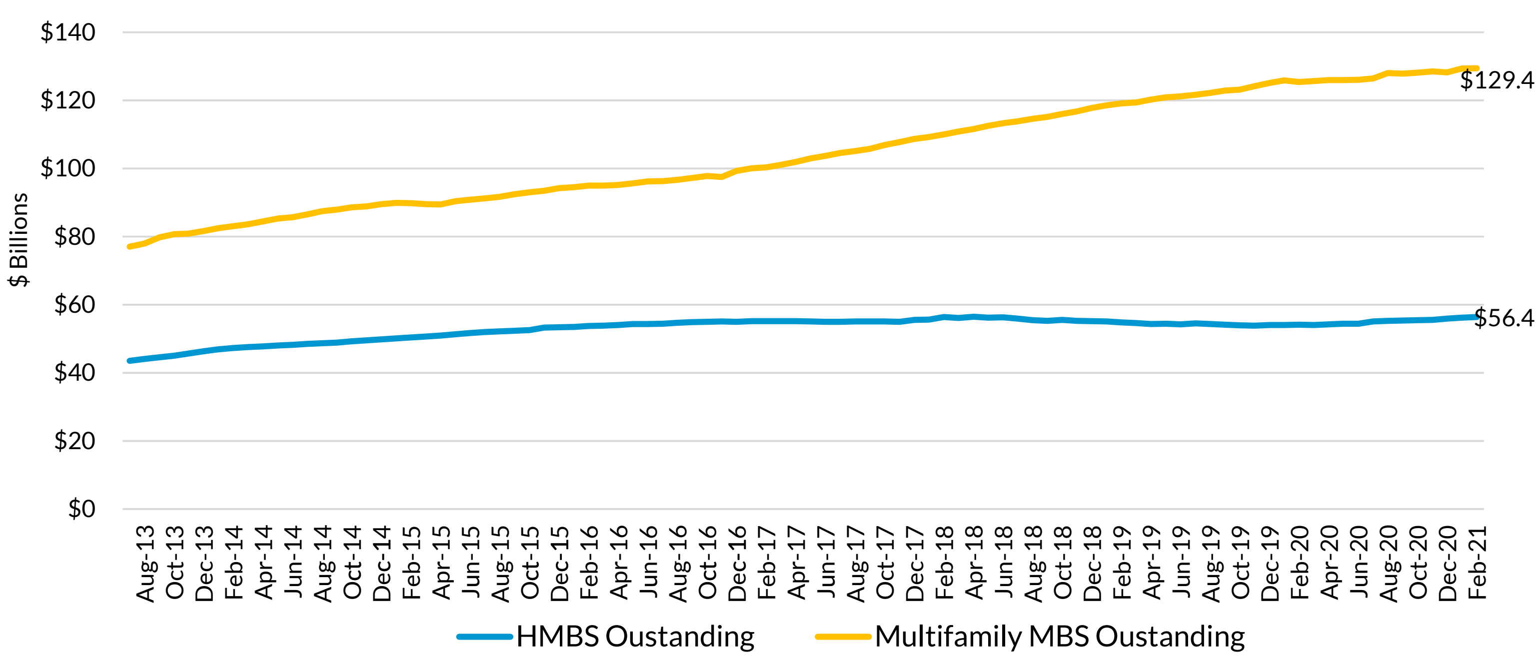
Ginnie Mae reverse mortgage issuance has been volatile over the past two years. After declining in 2018, volume has slowly improved over the course of 2019 and 2020. In February 2021, issuance fell to $0.87 billion. Outstanding reverse mortgage securities totaled $56.4 billion in February 2021, up slightly from the previous month, reflecting a higher volume of new issuances relative to paydowns. Ginnie Mae multifamily issuance has increased considerably over the past year, but there are month to month fluctuations. After decreasing in January 2020, Ginnie Mae multifamily issuance increased slightly in February 2021 to $4.6 billion. Outstanding multifamily securities totaled $129.4 billion in the first month of 2021.

Issuance Volume



Sources: *Ginnie Mae and Urban Institute.* **Note**: *Data as of February 2021.*

Outstanding Volume

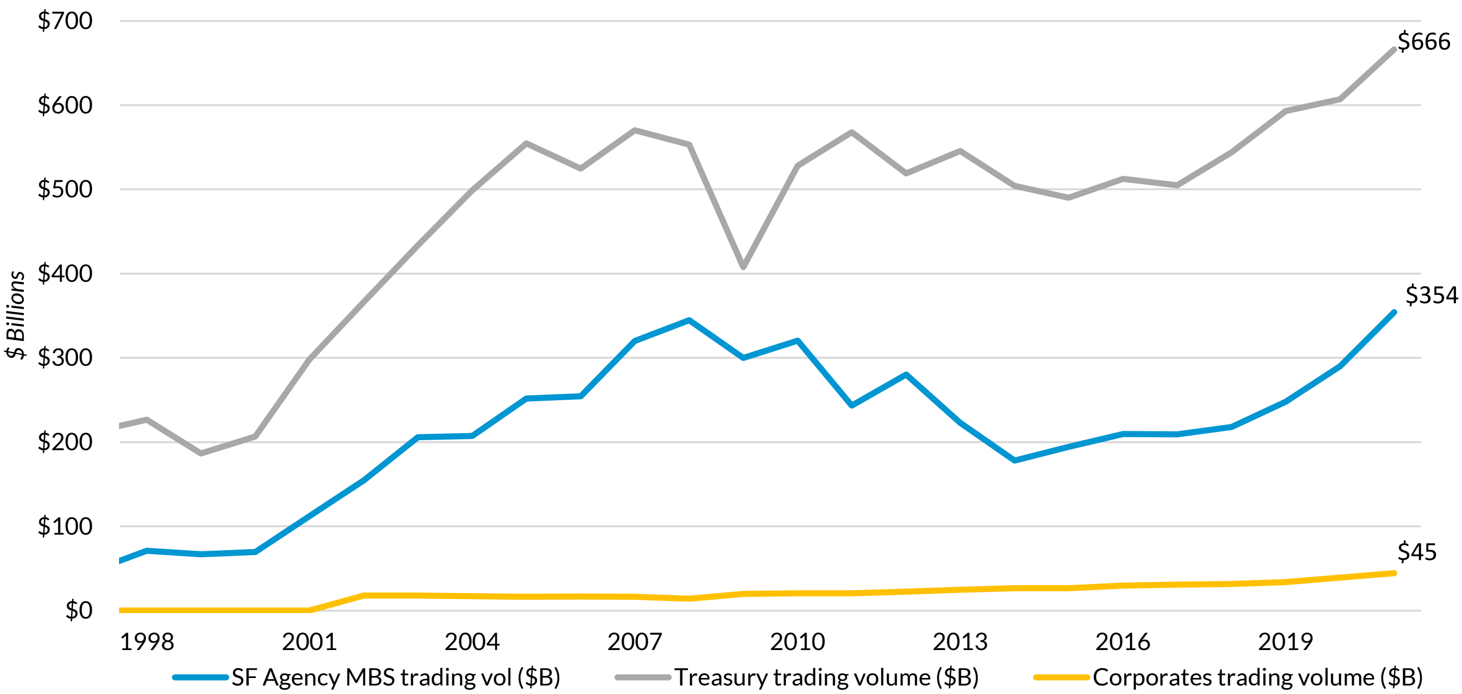


Sources: *Ginnie Mae and Urban Institute.* **Note**: *Data as of February 2021.*

Market Conditions

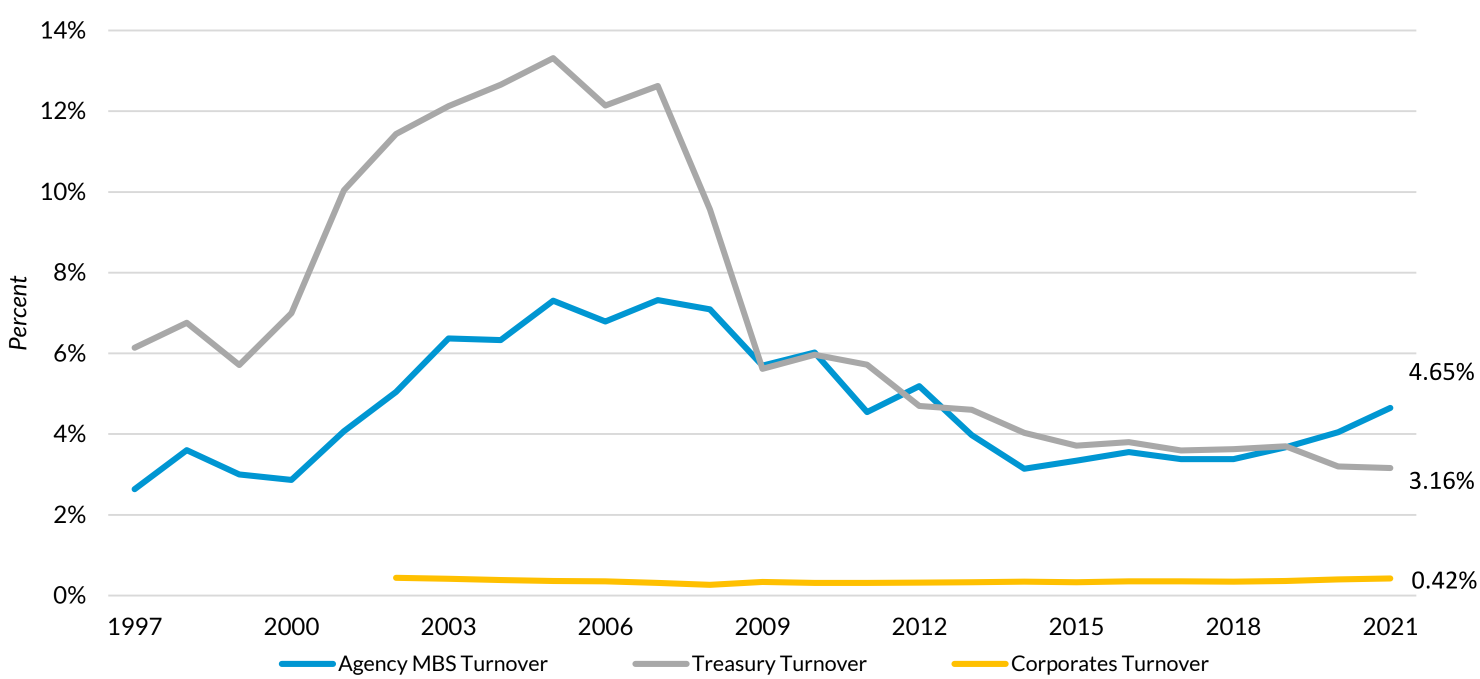
Agency MBS trading volume was $354 billion per day in February 2021, surpassing the pre-crisis peak of $345 billion in 2008. Agency MBS turnover in the first two months of 2021 was also higher than the 2014-2020 period; in January 2021, average daily MBS turnover was 4.65 percent, above the 2020 average of 4.05 percent. Note that agency MBS turnover in 2020 and thus far in 2021 was higher than US Treasury turnover, a relatively rare occurrence. Both average daily mortgage and Treasury turnover are down from their pre-crisis peaks. Corporate turnover is miniscule relative to either Agency MBS or Treasury turnover.

Average Daily Fixed Income Trading Volume by Sector



Sources: *SIFMA and Urban Institute.* ***Note:*** *Updated April 2021.*

Average Daily Turnover by Sector

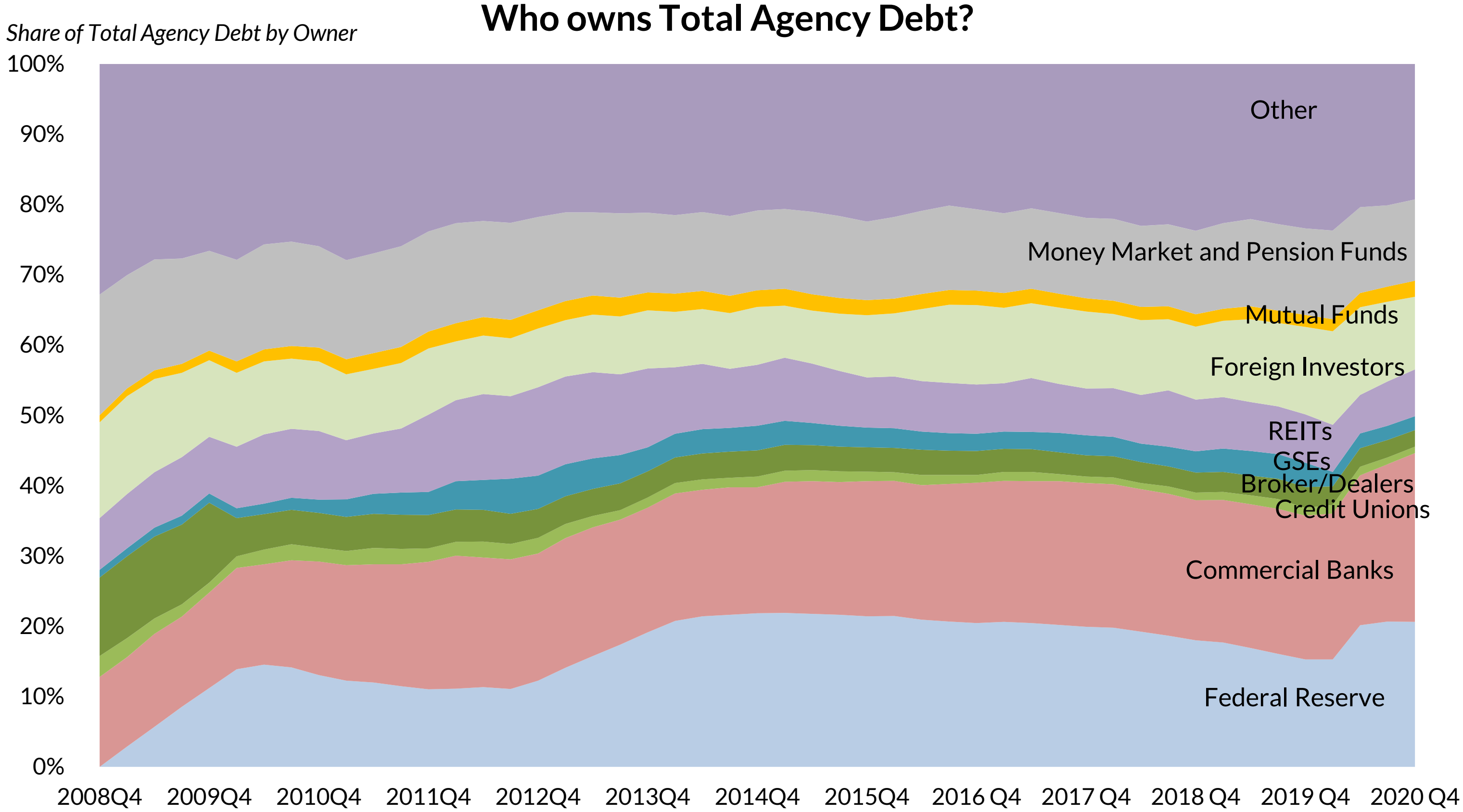


Sources: *SIFMA and Urban Institute.* ***Note:*** *Updated April 2021.*

MBS Ownership

The largest holders of agency debt (Agency MBS + Agency notes and bonds) include the Federal Reserve (21 percent), commercial banks (24 percent), foreign investors (12 percent), and money market & pension funds (10 percent). The broker/dealer and GSE shares are a fraction of what they once were. The Federal Reserve's share increased from 15 percent in the first quarter of 2020 to 21 percent in the third quarter due to substantial purchases of MBS in response to the COVID-19 crisis. Despite large Federal Reserve purchases, commercial banks continue to be the largest holders of Agency MBS, as they too have dramatically increased their holdings as deposits have swelled. Out of their $2.7 trillion in holdings as of the end of March 2021, $2.0 trillion was held by the top 25 domestic banks.

Who owns Total Agency Debt?



Sources: *Federal Reserve Flow of Funds and Urban Institute.* ***Note****: The "other" category includes primarily life insurance companies, state and local govts, households, and nonprofits. Data as of Q4 2020.*

Commercial bank holdings of agency MBS

`	Commercial Bank Holdings ($Billions)								Week Ending			
	Feb-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar 03	Mar 10	Mar 17	Mar 24
Largest 25 Domestic Banks	1544.0	1724.5	1716.1	1766.2	1822.4	1852.7	1894.0	1938.1	1966.6	1967.3	1959.7	1970.6
Small Domestic Banks	531.0	572.0	582.3	594.6	607.3	623.7	637.0	649.4	655.7	655.5	668.0	671.0
Foreign Related Banks	37.8	42.5	41.5	39.9	45.3	47.1	48.6	50.3	50.5	52.6	53.1	52.7
Total, Seasonally Adjusted	2112.8	2339.0	2339.9	2400.7	2475.0	2523.5	2579.6	2637.8	2672.8	2675.4	2680.8	2694.3

Sources*: Federal Reserve Bank and Urban Institute.* ***Note****: Small domestic banks includes all domestically chartered commercial banks not included in the top 25. Data as of February 2021.*

MBS Ownership

Out of the $2.5 trillion in MBS holdings at banks and thrifts as of 4Q 2020, $1.9 trillion was agency pass-throughs: $1.5 trillion in GSE pass-throughs and $391 billion in Ginnie Mae pass-throughs. Another $549 billion was agency CMOs, while non-agency holdings totaled $44 billion. In Q4 2020, MBS holdings at banks and thrifts increased for the ninth consecutive quarter. The increase was driven by both GSE pass-throughs and agency CMO holdings, with the increase in GSE pass-throughs making the larger contribution.

Bank and Thrift Residential MBS Holdings

	All Banks & Thrifts ($Billions)						
	Total	Agency MBS PT	GSE PT	GNMA PT	Agency CMO	Private MBS PT	Private CMO
2000	$683.90	$392.85	$234.01	$84.26	$198.04	$21.57	$71.43
2001	$810.50	$459.78	$270.59	$109.53	$236.91	$37.62	$76.18
2002	$912.36	$557.43	$376.11	$101.46	$244.98	$20.08	$89.88
2003	$982.08	$619.02	$461.72	$75.11	$236.81	$19.40	$106.86
2004	$1,113.89	$724.61	$572.40	$49.33	$208.18	$20.55	$160.55
2005	$1,139.68	$708.64	$566.81	$35.92	$190.70	$29.09	$211.25
2006	$1,207.09	$742.28	$628.52	$31.13	$179.21	$42.32	$243.28
2007	$1,236.00	$678.24	$559.75	$31.58	$174.27	$26.26	$357.24
2008	$1,299.76	$820.12	$638.78	$100.36	$207.66	$12.93	$259.04
2009	$1,345.74	$854.40	$629.19	$155.00	$271.17	$7.53	$212.64
2010	$1,433.38	$847.13	$600.80	$163.13	$397.30	$7.34	$181.61
2011	$1,566.88	$917.10	$627.37	$214.81	$478.82	$3.28	$167.70
2012	$1,578.86	$953.76	$707.87	$242.54	$469.27	$17.16	$138.67
2013	$1,506.60	$933.73	$705.97	$231.93	$432.60	$26.11	$114.15
2014	$1,539.32	$964.16	$733.71	$230.45	$449.90	$20.33	$104.94
2015	$1,643.56	$1,115.40	$823.10	$292.30	$445.39	$11.14	$71.63
2016	$1,736.93	$1,254.13	$930.67	$323.46	$419.80	$7.40	$55.60
1Q17	$1,762.38	$1,280.63	$950.72	$329.91	$419.34	$7.03	$55.39
2Q17	$1,798.66	$1,320.59	$985.12	$335.47	$417.89	$6.38	$53.79
3Q17	$1,838.93	$1,364.75	$1,012.89	$351.86	$418.08	$5.65	$50.45
4Q17	$1,844.15	$1,378.53	$1,010.83	$367.70	$413.97	$4.63	$47.01
1Q18	$1,809.98	$1,352.28	$991.57	$360.71	$412.37	$3.92	$41.37
2Q18	$1,806.58	$1,345.80	$976.92	$368.88	$414.41	$7.45	$38.92
3Q18	$1,794.39	$1,339.72	$966.52	$373.21	$416.20	$2.42	$36.04
4Q18	$1,814.97	$1,361.00	$980.56	$380.43	$419.59	$2.69	$34.69
1Q19	$1,844.99	$1,385.10	$1,001.61	$383.49	$422.18	$3.06	$34.65
2Q19	$1,907.13	$1,445.91	$1,037.93	$407.97	$421.56	$2.90	$36.76
3Q19	$1,975.78	$1,506.92	$1,079.82	$427.10	$428.69	$4.74	$35.44
4Q19	$1,985.38	$1,516.26	$1,089.41	$426.85	$428.99	$4.62	$35.52
1Q20	$2,107.66	$1,621.00	$1,173.36	$448.34	$443.73	$4.65	$37.56
2Q20	$2,195.19	$1,669.93	$1,228.87	$441.06	$478.11	$5.00	$42.14
3Q20	$2,310.42	$1,764.72	$1,349.48	$415.24	$499.50	$4.43	$41.78
4Q20	$2,520.90	$1,928.21	$1,537.54	$390.66	$548.65	$3.94	$40.10

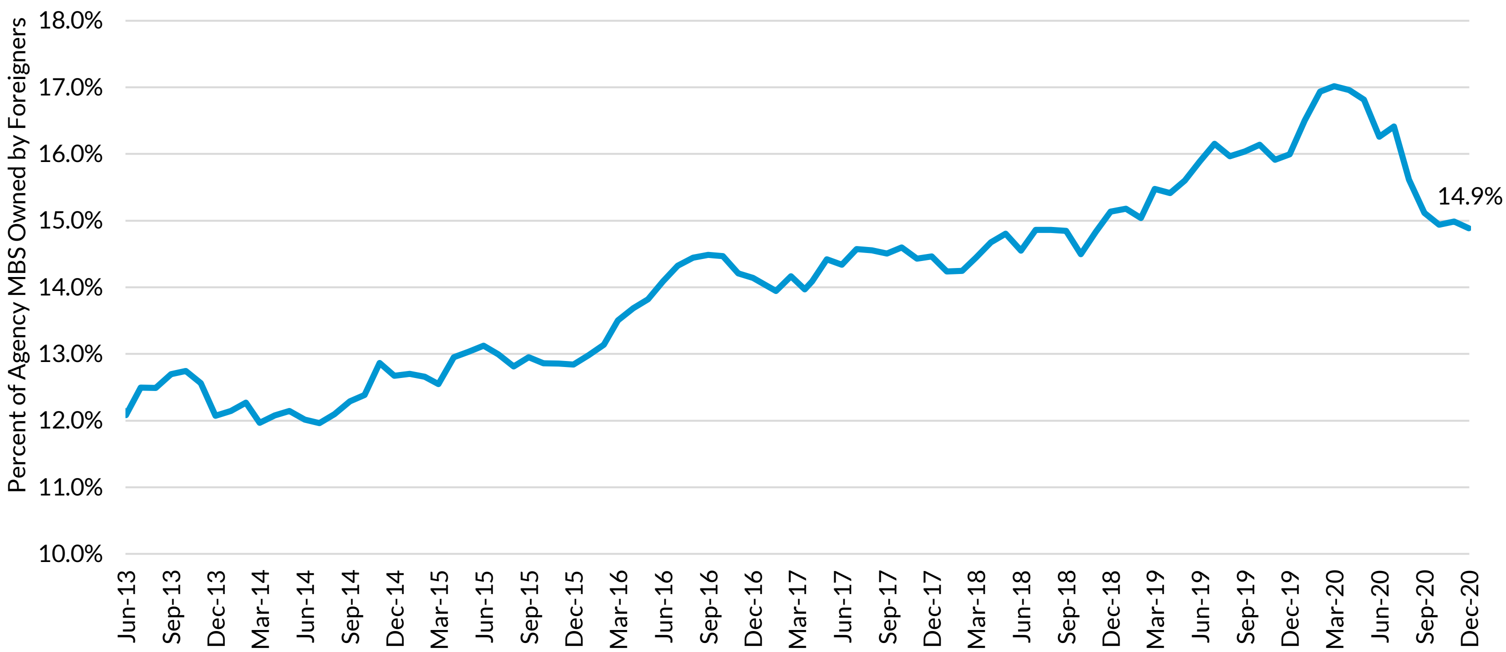
	Top Bank & Thrift Residential MBS Investors	Total ($MM)	GSE PT ($MM)	GNMA PT ($MM)	Agency REMIC ($MM)	Non-Agency ($MM)	Market Share
1	Bank Of America Corporation	$489,458.0	$364,527.0	$113,413.0	$11,255.0	$263.0	19.40
2	Wells Fargo & Company	$254,580.0	$187,217.0	$59,978.0	$6,952.0	$433.0	10.10
3	Jpmorgan Chase & Co.	$215,137.0	$130,974.0	$69,432.0	$176.0	$14,555.0	8.50
4	Charles Schwab Bank	$166,204.0	$87,536.0	$15,140.0	$63,528.0	$0.0	6.60
5	Truist Bank	$113,523.0	$39,959.0	$16,075.0	$57,489.0	$0.0	4.50
6	U.S. Bancorp	$99,825.5	$69,428.0	$14,103.4	$16,293.7	$0.5	4.00
7	Citigroup Inc.	$85,612.0	$77,162.0	$1,943.0	$4,811.0	$1696.0	3.40
8	Capital One Financial Corporation	$76,081.1	$41,868.0	$9,836.6	$23,760.8	$615.8	3.00
9	Bank Of New York Mellon Corp	$64,124.0	$46,920.0	$3,280.0	$11,538.0	$2,386.0	2.50
10	Pnc Bank, National Association	$50,426.5	$42,478.5	$4,947.9	$1,500.0	$1,500.1	2.00
11	State Street Bank And Trust Company	$46,767.2	$20,518.0	$6,806.0	$16,962.2	$2,481.0	1.90
12	Morgan Stanley	$36,158.0	$22,827.0	$4,607.0	$8,724.0	$0.0	1.40
13	Usaa Federal Savings Bank	$34,733.8	$29,034.4	$2,422.7	$3,276.8	$0.0	1.40
14	Silicon Valley Bank	$31,483.5	$21,350.2	$131.2	$10,002.2	$0.0	1.20
15	E*Trade Bank	$30,678.8	$19,364.4	$5,910.9	$5,403.5	$0.0	1.20
16	Td Bank Usa/Td Bank Na	$28,338.2	$1,710.3	$139.1	$26,392.5	$96.3	1.10
17	Hsbc Bank Usa, National Association	$25,279.1	$7,445.0	$9,168.2	$8,664.1	$1.8	1.00
18	Bmo Harris Bank National Association	$22,954.0	$4,837.2	$482.7	$17,632.3	$1.9	0.90
19	Ally Bank	$21,796.0	$15,536.0	$1,203.0	$2461.0	$2596.0	0.90
20	Keybank National Association	$20,622.2	$1,980.7	$470.3	$18,171.2	$0.0	0.80
	Total Top 20	**$1,913,782**	**$1,232,673**	**$339,490**	**$314,993**	**$26,626**	**75.80%**

Sources: *Inside Mortgage Finance and Urban Institute.* ***Note:*** *Data as of Q4 2020.*

MBS Ownership

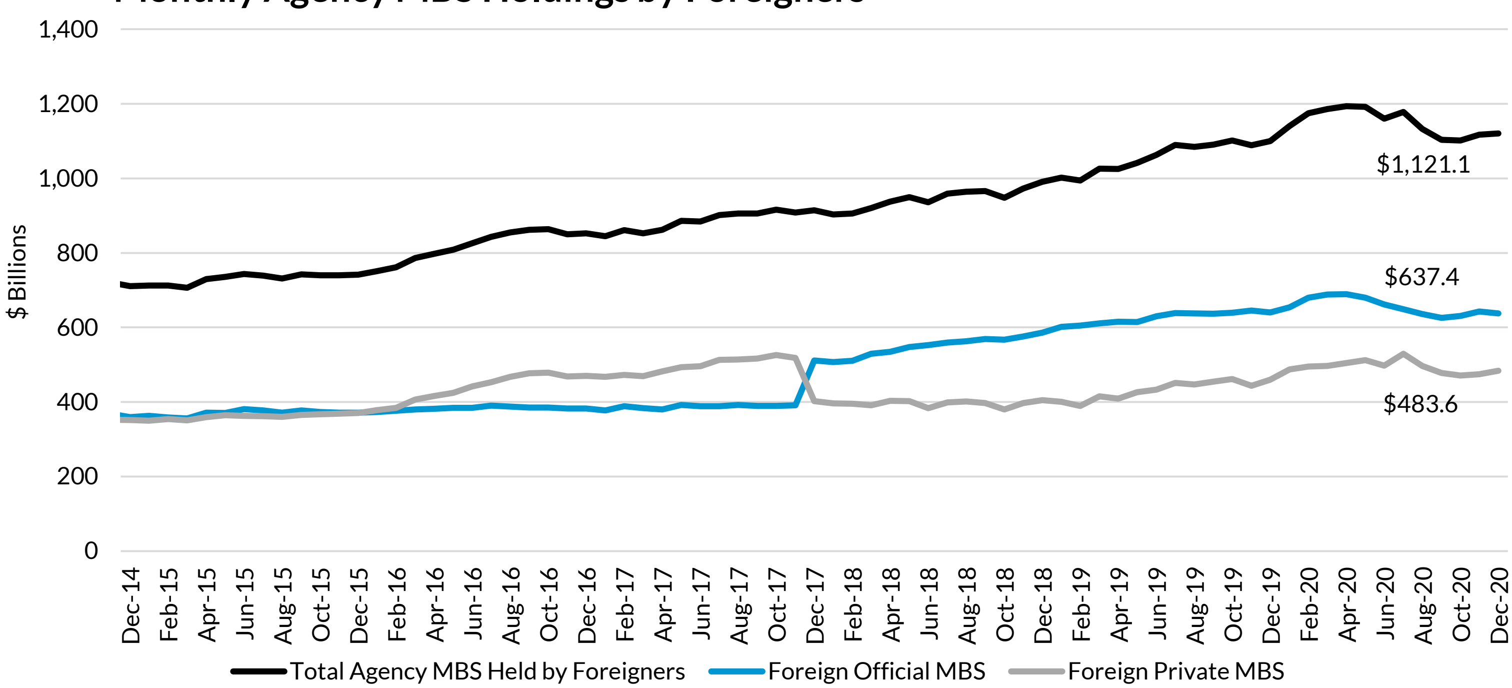
Foreign investors held 14.9 percent of agency MBS in December 2020, up from a low of 12.0 percent in July 2014, but down from 17.0 percent in spring 2020. For the month of December 2020, this represents $1.12 trillion in Agency MBS, $484 billion held by foreign private institutions and $637 billion held by foreign institutions. This represents a $72.6 billion drop in Agency MBS from the peak in spring 2020, all in official holdings.

Foreign Share of Agency MBS



***Sources**: SIFMA and Treasury International Capital (TIC). **Note**: Data as of December 2020.*

Monthly Agency MBS Holdings by Foreigners



***Sources**: Treasury International Capital (TIC) and Urban Institute. **Note**: Data as of December 2020. In December 2017, there was a data correction that moved about $120 billion from privately held U.S. agency bonds to officially held U.S. agency bonds; this resulted in a series break at December 2017 in the split between the portion held by foreign private and the portion held by foreign official.*

MBS Ownership

The largest foreign holders of Agency MBS are Japan, Taiwan, and China; these three comprise 70 percent of all foreign holdings. Between June 2019 and December 2020, we estimate that Japan has increased their agency MBS holdings by $11.20 billion, Taiwan has decreased their holdings by $2.99 billion and China has decreased their holdings by $13.22 billion. All three countries have experienced declines since March of 2020; the declines in Chinese holdings have been especially dramatic, we estimate Chinese holdings of MBS are down by approximately 18 percent from March through December of 2020.

Agency MBS+ Agency Debt

Country	Level of Holdings ($Millions)*							Change in Holdings ($Millions)*					
	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20	Dec-20	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020
Japan	297,016	311,047	305,332	322,155	310,268	305,064	308,033	14,031	-5,715	16,823	-11,887	-5,204	2,969
Taiwan	265,524	263,018	261,740	269,133	267,918	264,270	262,453	-2,506	-1,278	7,393	-1,215	-3,648	-1,817
China	227,357	233,783	231,753	260,479	239,045	206,861	212,317	6,426	-2,030	28,726	-21,434	-32,184	5,456
Luxembourg	47,646	46,641	39,015	36,789	42,389	35,626	36,224	-1,005	-7,626	-2,226	5,600	-6,763	598
Ireland	45,829	41,367	38,731	26,131	29,399	28,286	31,064	-4,462	-2,636	-12,600	3,268	-1,113	2,778
South Korea	42,879	41,485	40,810	40,964	38,891	40,303	42,628	-1,394	-675	154	-2,073	1,412	2,325
Cayman Islands	34,967	29,540	31,827	27,154	34,564	34,495	34,264	-5,427	2,287	-4,673	7,410	-69	-231
Bermuda	29,365	29,184	33,897	27,790	27,790	35,751	27,989	-181	4,713	-6,107	0	7,961	-7,762
Netherlands	14,074	10,549	10,902	10,886	13,255	10,964	12,344	-3,525	353	-16	2,369	-2,291	1,380
Malaysia	12,167	15,585	16,600	21,399	20,390	19,808	19,147	3,418	1,015	4,799	-1,009	-582	-661
Rest of world	128,142	135,515	152,489	202,143	201,165	196,246	197,139	7,373	16,974	49,654	-978	-4,919	893
Total	1,144,971	1,157,714	1,163,096	1,245,023	1,225,074	1,171,603	1,183,602	12,743	5,382	81,927	-19,949	-53,471	11,999

Agency MBS Only (Estimates)

Country	Level of Holdings ($Millions)*							Change in Holdings ($Millions)*					
	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20	Dec-20	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020
Japan	293,662	307,738	302,212	319,241	306,963	301,622	304,865	14,076	-5,526	16,823	-12,278	-5,341	3,243
Taiwan	265,234	262,732	261,470	268,881	267,700	264,043	262,244	-2,502	-1,262	7,393	-1,181	-3,657	-1,799
China	221,738	228,240	226,526	255,596	235,078	202,730	208,516	6,502	-1,714	28,726	-20,518	-32,348	5,785
Luxembourg	43,978	43,023	35,603	33,602	40,207	33,354	34,133	-955	-7,420	-2,226	6,605	-6,853	779
Ireland	37,674	33,322	31,145	19,045	21,091	19,635	23,102	-4,352	-2,177	-12,600	2,047	-1,457	3,468
South Korea	34,969	33,682	33,452	34,091	28,743	29,736	32,903	-1,287	-230	154	-5,347	992	3,167
Cayman Islands	29,896	24,538	27,110	22,748	28,431	29,364	28,386	-5,358	2,572	-4,673	5,684	933	-978
Bermuda	26,394	26,253	31,133	25,208	25,111	25,635	25,422	-141	4,880	-6,107	-97	523	-213
Netherlands	13,904	10,381	10,744	10,738	12,739	10,427	11,850	-3,523	363	-16	2,001	-2,312	1,423
Malaysia	11,881	15,303	16,334	21,150	20,028	19,432	18,801	3,422	1,031	4,799	-1,122	-597	-631
Rest of world	97,585	105,371	124,063	175,591	173,716	167,661	170,833	7,786	18,692	49,654	-1,874	-6,055	3,171
Total	1,076,916	1,090,579	1,099,788	1,185,887	1,159,808	1,103,636	1,121,052	13,663	9,209	81,927	-26,079	-56,172	17,416

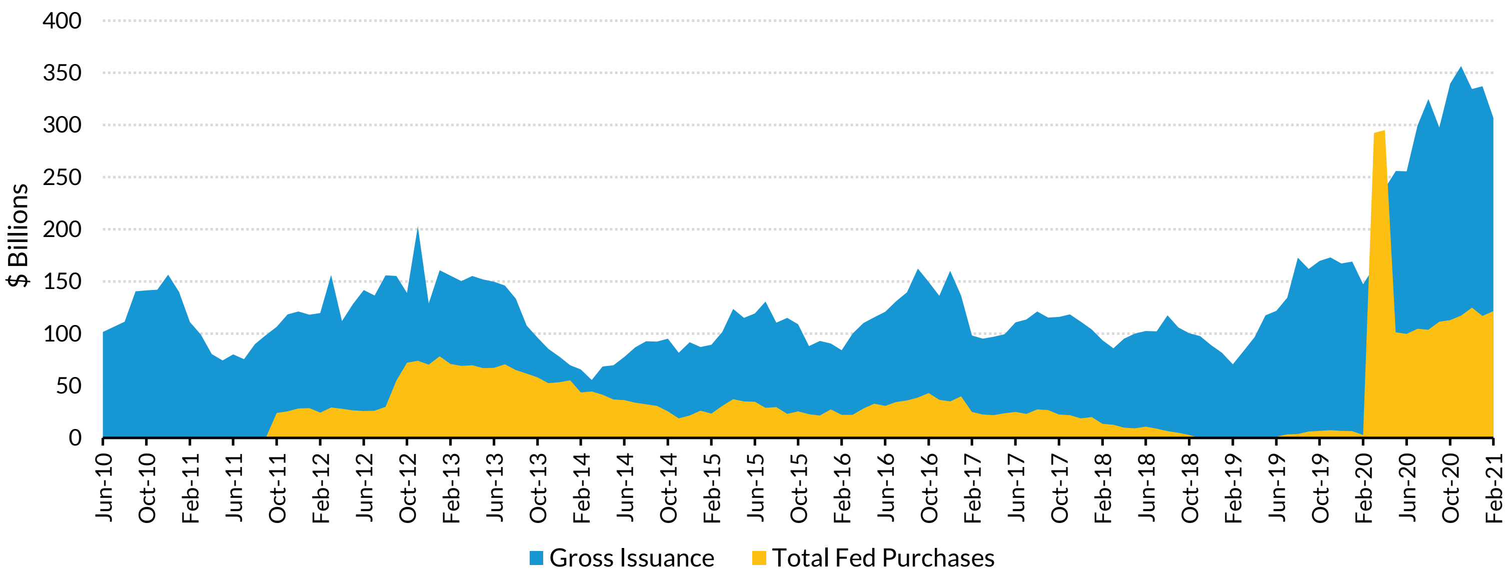
Sources *: Treasury International Capital (TIC) and Urban Institute.*

Note: **calculated based on June 2018 report with amount asset backed per country. Revised to include Top 10 holders of MBS listed as of June 2018. Monthly data as of December 2020.*

MBS Ownership

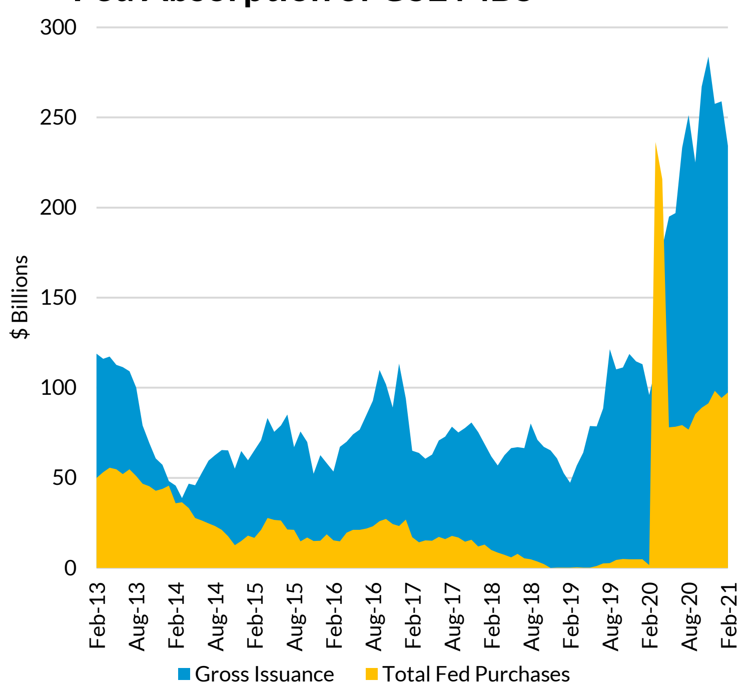
On March 23, 2020, in response to the market dislocations caused by the coronavirus pandemic, the Fed announced they would purchase Treasuries and agency MBS in an amount necessary to support smooth functioning markets. In March 2020 the Fed bought $292.2 billion in agency MBS, and April 2020 clocked in at $295.1 billion, the largest two months of mortgage purchases ever; and well over 100 percent of gross issuance for each of those two months. After the market stabilized, the Fed slowed its purchases to around $100 billion per month in May through August of 2020. Recently, Fed purchases have ramped up again slightly; purchases totaled $121.4 billion in February 2021. February Fed purchases totaled 39.6 percent of monthly issuance. As of February 2021, total agency MBS owned by the Fed equaled $2.19 trillion. Prior to the COVID-19 intervention, the Fed was winding down its MBS portfolio from its 2014 prior peak.

Total Fed Absorption



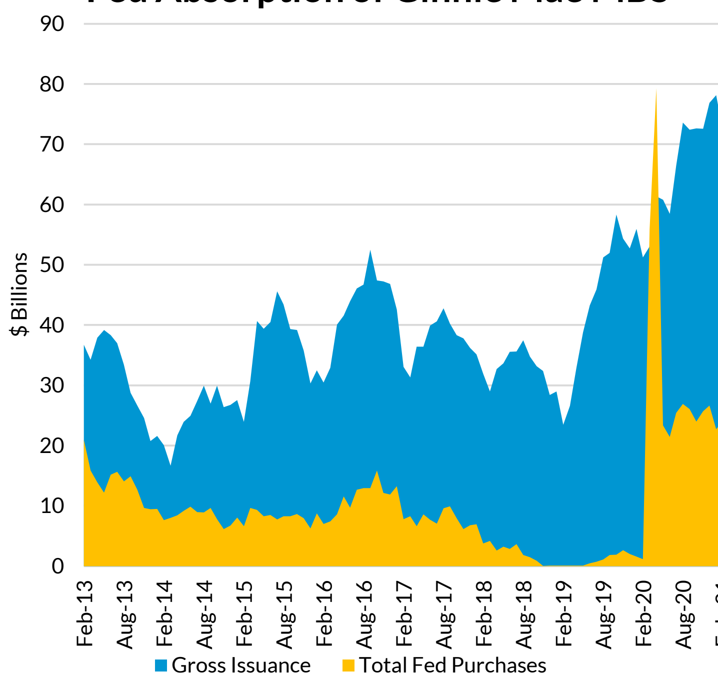
Sources: *eMBS, Federal Reserve Bank of New York and Urban Institute.* ***Note:*** *Data as of February 2021.*

Fed Absorption of GSE MBS



Sources: *eMBS, Federal Reserve Bank of New York and Urban Institute.* ***Note:*** *Data as of February 2021.*

Fed Absorption of Ginnie Mae MBS



Sources: *eMBS, Federal Reserve Bank of New York and Urban Institute.* ***Note:*** *Data as of February 2021.*