Global Markets Analysis Report

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

MARCH
2021

Ginnie Mae
Our Guaranty Matters

PREPARED FOR GINNIE MAE
BY STATE STREET GLOBAL ADVISORS
URBAN INSTITUTE, HOUSING FINANCE POLICY CENTER

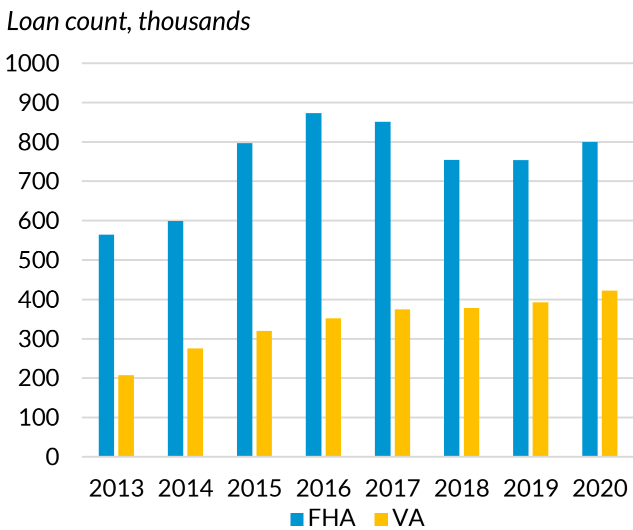
CONTENTS

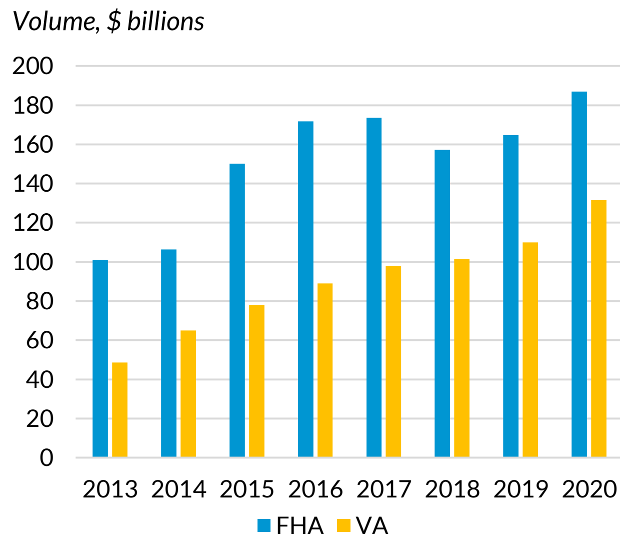
HIGHLIGHTS

FHA and VA Purchase Mortgage Originations Expanded in 2020

2020 was a record year for mortgage originations, with over $4 trillion in total volume originated (page 22). While much of this was driven by refinances owing to ultra-low rates, purchase originations were strong as well, reflecting improved affordability for homebuyers. Figure 1 (right panel) shows that FHA and VA purchase volumes reached new records, at $186.9 billion and $131.5 billion, respectively. For VA, 2020 was also a record year in terms of loan count (left panel,) with nearly 432,000 purchase mortgages originated. FHA's 2020 purchase loan count of over 800,000 was higher than the two previous years. Overall, these numbers reflect that while low rates stimulated refinances for existing homeowners, they also enabled the transition into homeownership for many low- and moderate-income households that rely on government loans.

Figure 1: FHA and VA Volume and Loan Count, Purchase Originations





Sources: eMBS and Urban Institute as of March 2021.

Figure 2 shows that for both FHA and VA purchase originations, the top 3 states by loan count were Texas, Florida, and California. Georgia and Ohio had the fourth and fifth most FHA purchase loans, while Virginia and North Carolina rounded out the top five for VA purchase loans.

Figure 2: FHA and VA 2020 Purchase Loans by State

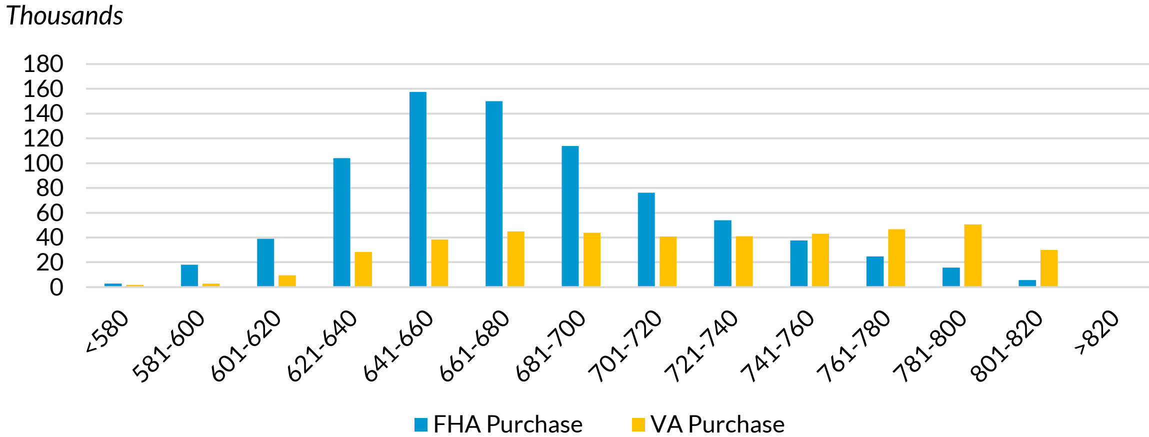
FHA Purchase Loan Count		VA Purchase Loan Count	
Texas	100,535	Texas	47,547
Florida	81,377	Florida	40,527
California	58,539	California	27,842
Georgia	37,289	Virginia	26,807
Ohio	29,747	North Carolina	23,929

Sources: eMBS and Urban Institute as of March 2021.

In terms of credit characteristics, average FICO scores were up in 2020 relative to 2019, from 670 to 677 for FHA loans and 712 to 719 for VA loans. As Figure 3 shows, FHA lending is more skewed towards lower FICO scores than VA's, reflecting FHA's mission. 82.7 percent of FHA purchase loans had FICO scores of 720 or below, while 49.9 percent of VA purchase loans fell in that category. While DTIs decreased slightly, from 43.6 to 43.1 for FHA and 41.4 to 40.5 for VA, this reflects the impact of lower rates on the monthly payment--that is, lower monthly mortgage payments in relation to incomes. Predictably, as Figure 4 demonstrates, the average note rate for both FHA and VA purchase loans was much lower in 2020 than in 2019. Lastly, robust house price appreciation led to increases in loan amounts - the average loan amount rose from $218, 497 in 2019 to $233,573 for FHA purchase loans and from $279,872 in 2019 to $311,105 for VA purchase loans. These numbers represent a 6.9 percent year over increase in the FHA loan amount and 11.2 percent for VA loans.

HIGHLIGHTS

Figure 3: FICO Distribution of FHA and VA Purchase Loans (by count)



Sources: eMBS and Urban Institute as of March 2021.

Figure 4: Note Rate and Original Loan Amount for FHA and VA Purchase Originations

	Note Rate (mean)		Original Loan Amount (mean)	
	FHA	VA	FHA	VA
2013	3.83%	3.77%	$178,870	$234,265
2014	4.23%	4.09%	$177,433	$235,562
2015	4.02%	3.83%	$188,493	$243,655
2016	3.83%	3.64%	$196,602	$252,846
2017	4.15%	3.91%	$203,724	$261,447
2018	4.71%	4.45%	$208,307	$268,837
2019	4.52%	4.21%	$218,497	$279,872
2020	3.46%	3.21%	$233,573	$311,105

Sources: eMBS and Urban Institute as of March 2021.

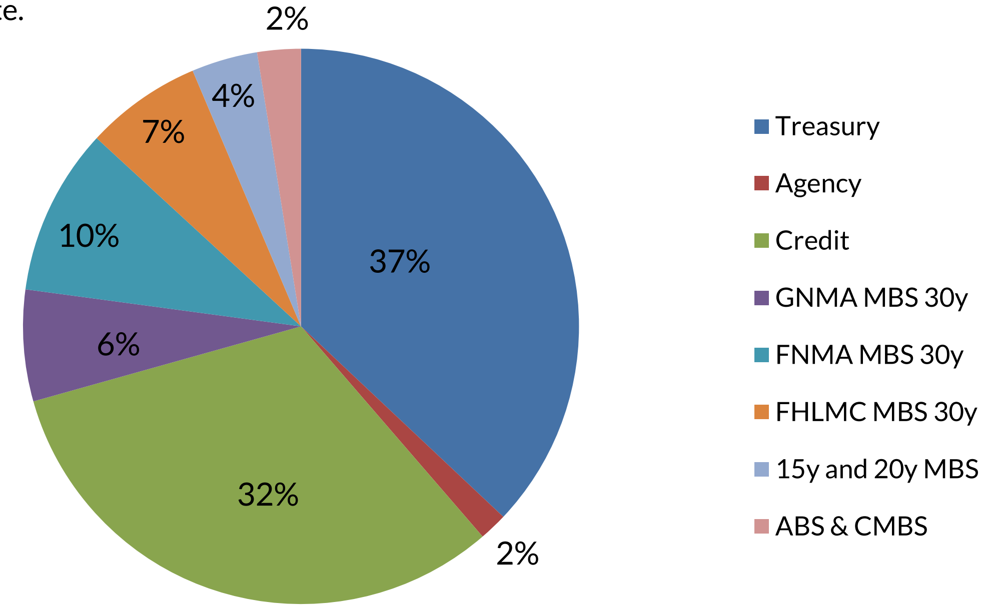
***Highlights this month*:**

- Year over year house price growth has been running over 10 percent since November 2020 (page 13).
- Loans originated since 2019 now comprise over half of Ginnie Mae MBS outstanding as older vintages have refinanced in substantial numbers (page 18).
- Agency MBS average daily trading volume reached $366 billion in January 2021, surpassing the pre-crisis peak of $345 billion in 2008 (page 50).
- Total MBS held by banks and thrifts increased from $2.3 trillion in 3Q20 to $2.5 trillion in 4Q20, continuing the multi-year upward trend (page 52).

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

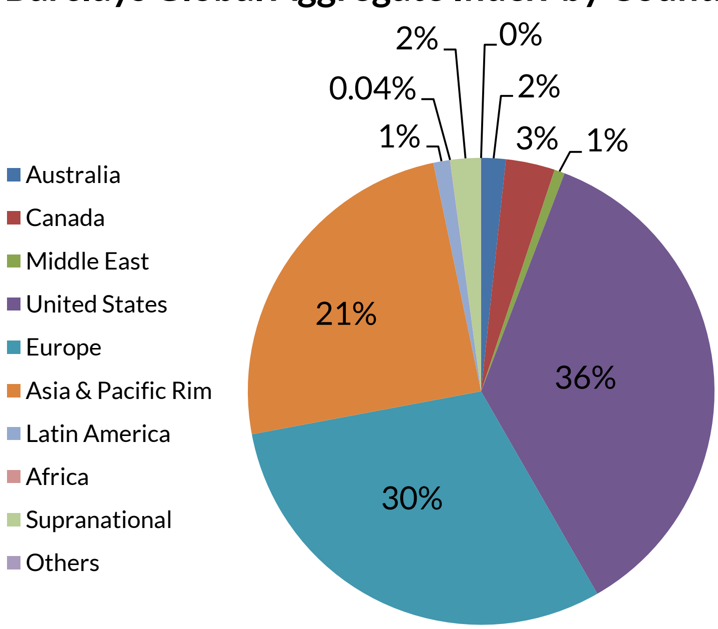
US MBS (Ginnie Mae, Fannie Mae, and Freddie Mac) comprise 27 percent of the Barclays US Aggregate Index—less than either the US Treasury share (37 percent) or the US Credit share (32 percent). Fannie Mae 30-year MBS accounts for 10 percent of the overall index, the largest MBS component, while Freddie 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



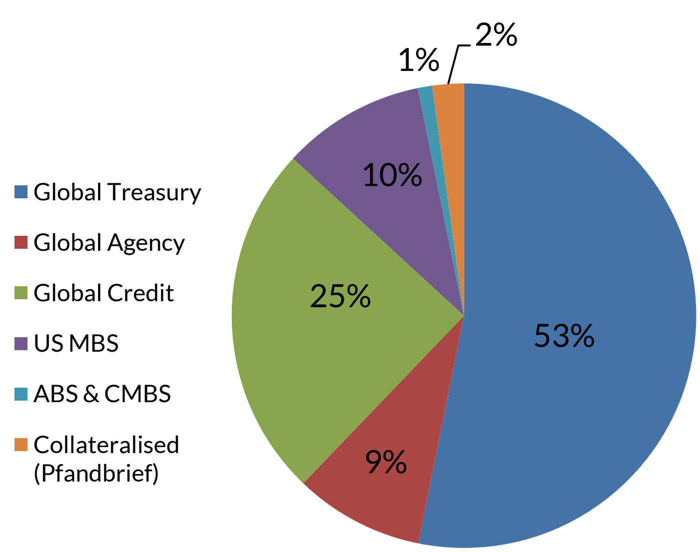
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of December 2020.*
Note*: Numbers in chart may not add to 100 percent due to rounding.*

Barclays Global Aggregate Index by Country



Sources: *Bloomberg and State Street Global Advisors.*
Note: *Data as of December 2020.*

Barclays Global Aggregate Index by Sector

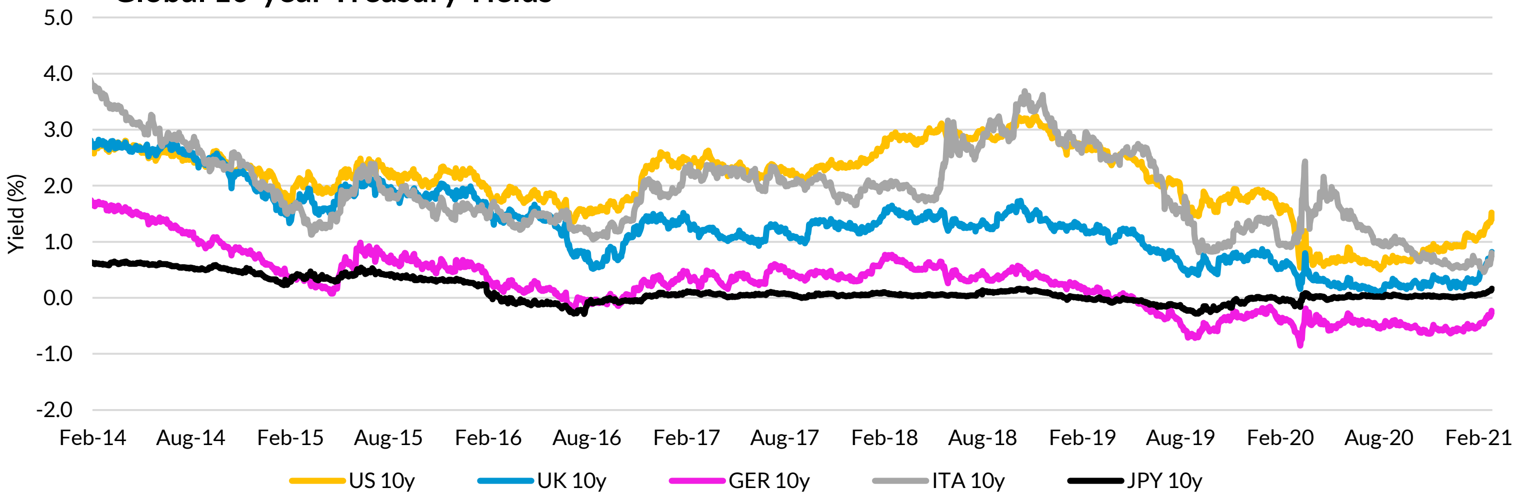


Sources: *Bloomberg and State Street Global Advisors*
Note*: Data as of December 2020.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

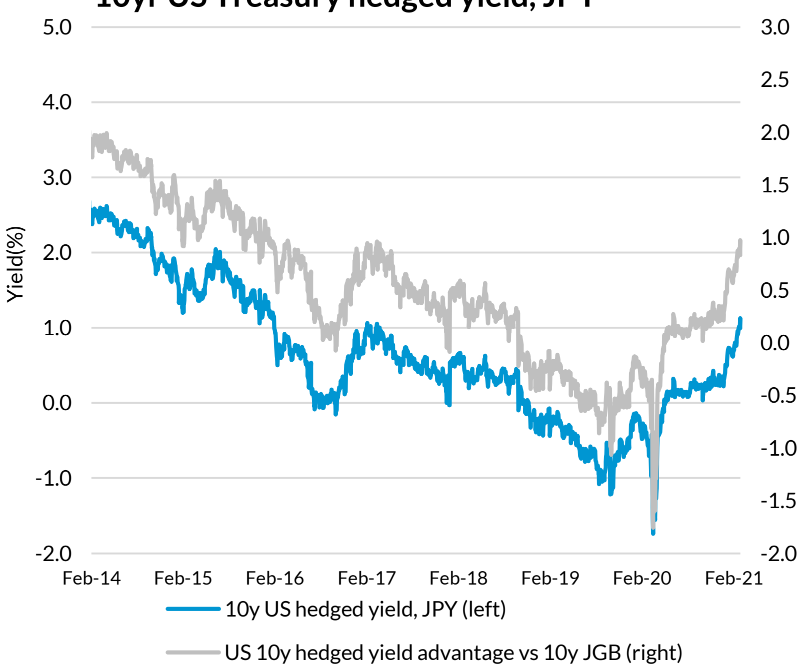
After experiencing COVID-19 related volatility in March and April of 2020, government bond yields across the globe gradually stabilized and have started trending up meaningfully in 2021. Yields on the 10-year treasury increased by 34 bps to 1.40 percent in February 2021, remaining the highest of the 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, increased by 12 bps to 0.76 percent. The yield on the UK 10-year bond rose by 49 bps to 0.82 percent, while the Japanese 10-year government bond increased by 11 bps to 0.16 percent in February. The German 10-year yield rose by 26 bps to negative 0.26 percent in February. At the end of February 2021, the hedged yield differential between the 10-year Treasury and the 10-year JGB stood at 83 bps, a widening of 22 bps from the previous month. The hedged yield differential between the 10-year Treasury and the 10-year Bund stood at 84 bps, an expansion of 6 bps since the end of January 2021.

Global 10-year Treasury Yields



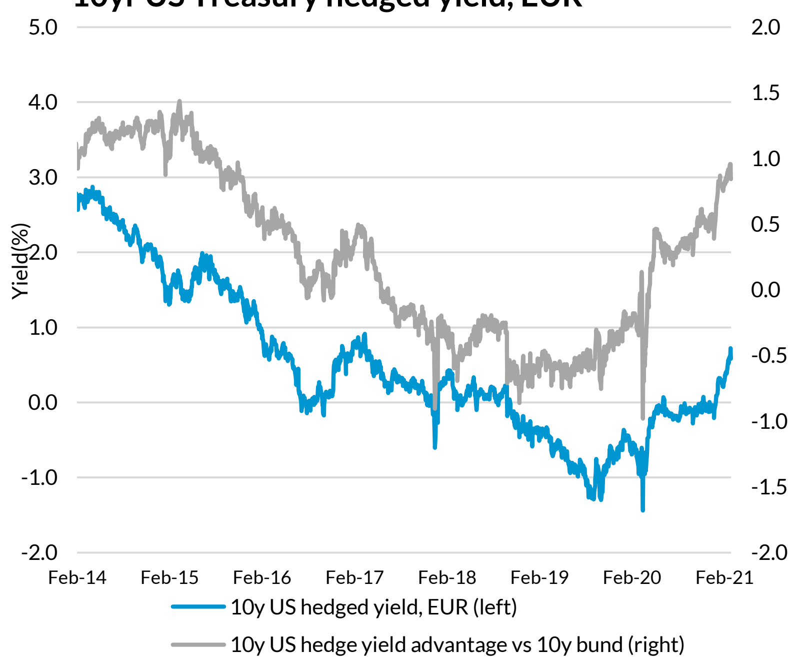
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of February 2021.*

10yr US Treasury hedged yield, JPY



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

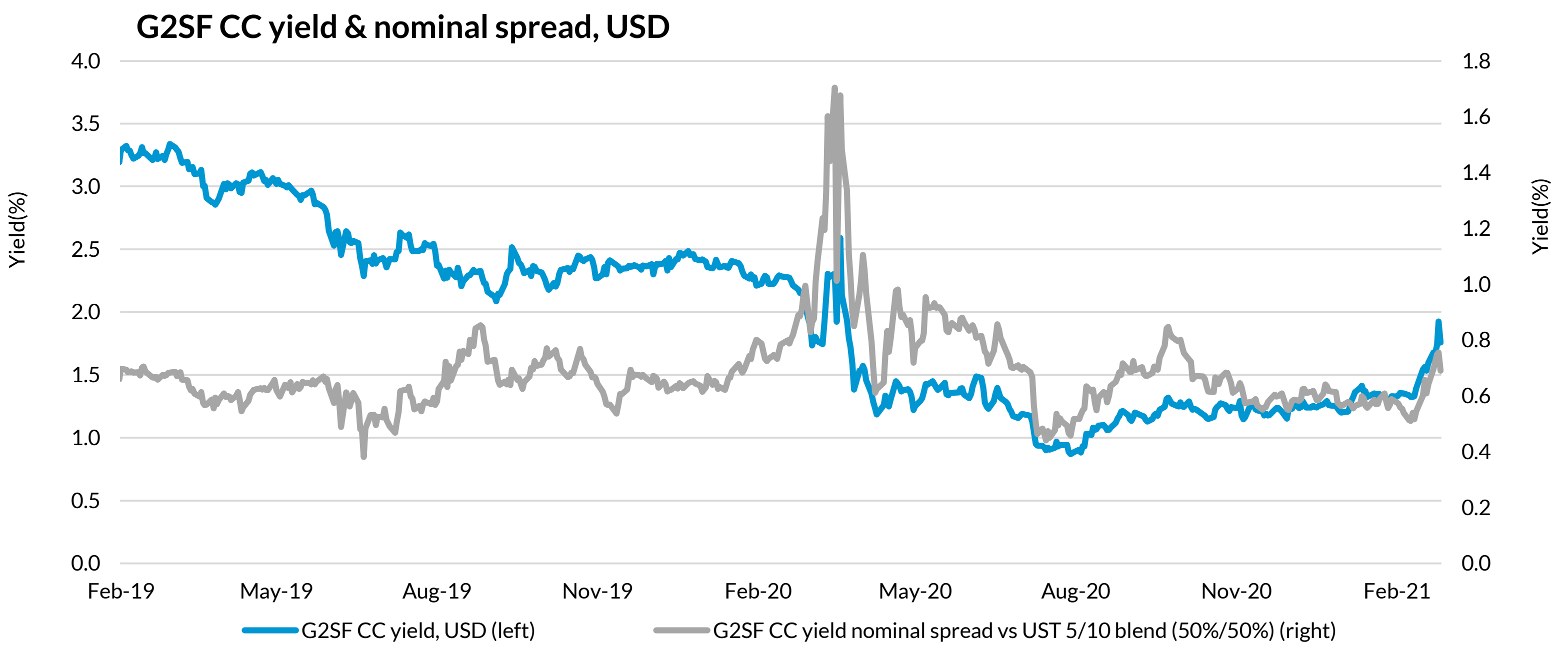
10yr US Treasury hedged yield, EUR



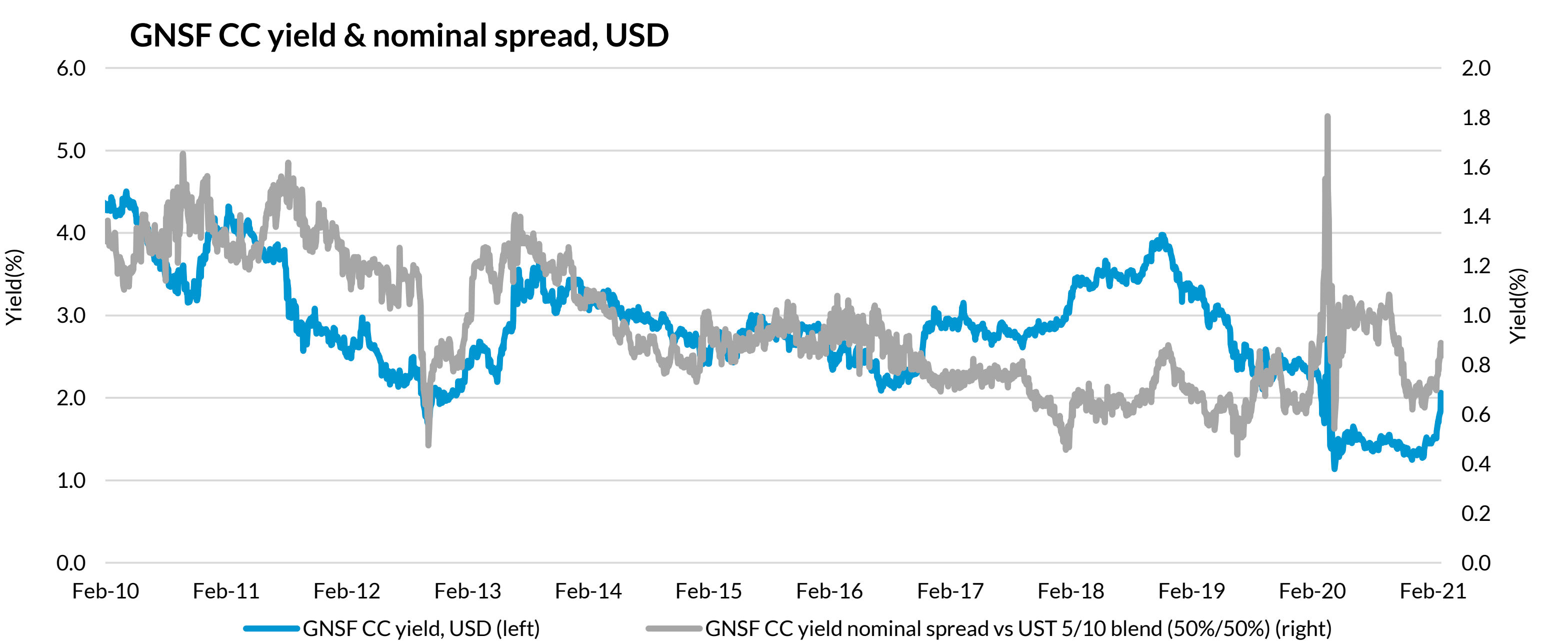
Sources: *Bloomberg and State Street Global Advisors*
Note*: Data as of February 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

Nominal yields were up in February 2021, with GNMA II yields rising 43 bps to 1.76 percent and GNMA I yields up 42 bps to 1.90 percent. At the end of February, current coupon Ginnie Mae securities outyield their Treasury counterparts (relative to the average of 5- and 10-year Treasury yields) by 69 bps on the G2SF and 84 bps on the GNSF, a widening of 10 and 9 bps on the G2SF and GNSF, respectively, since last month.



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

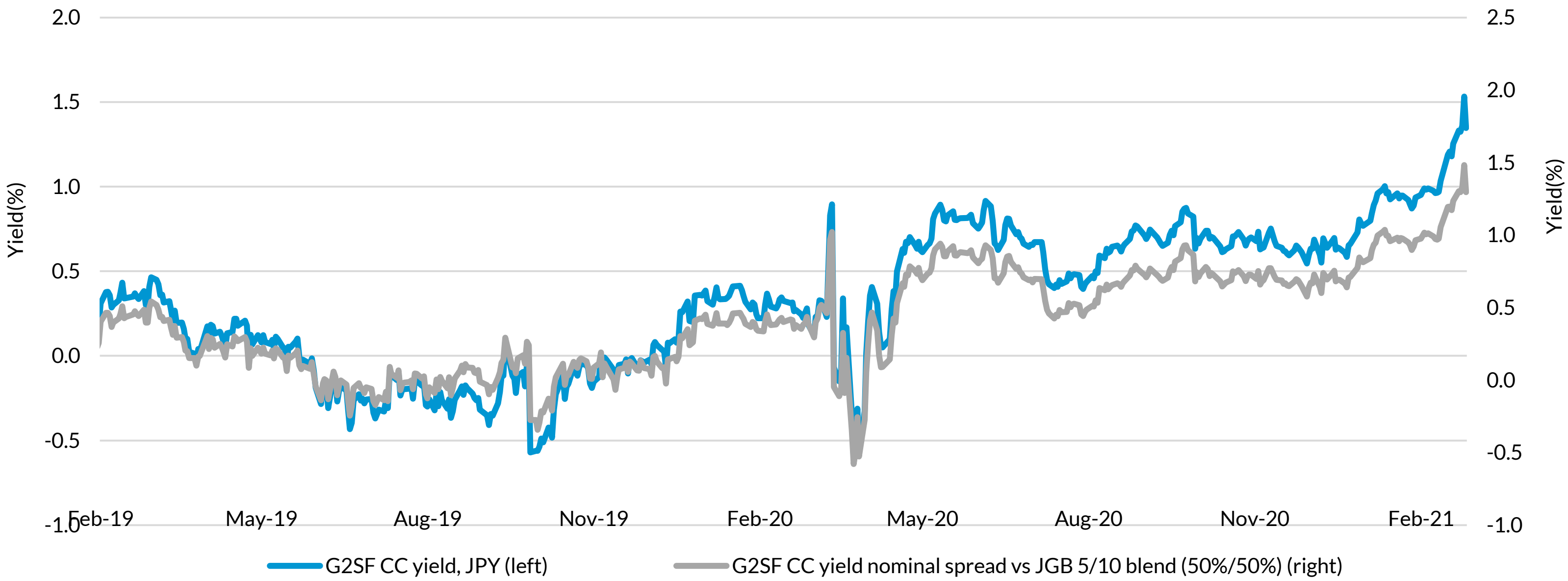


Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of February 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

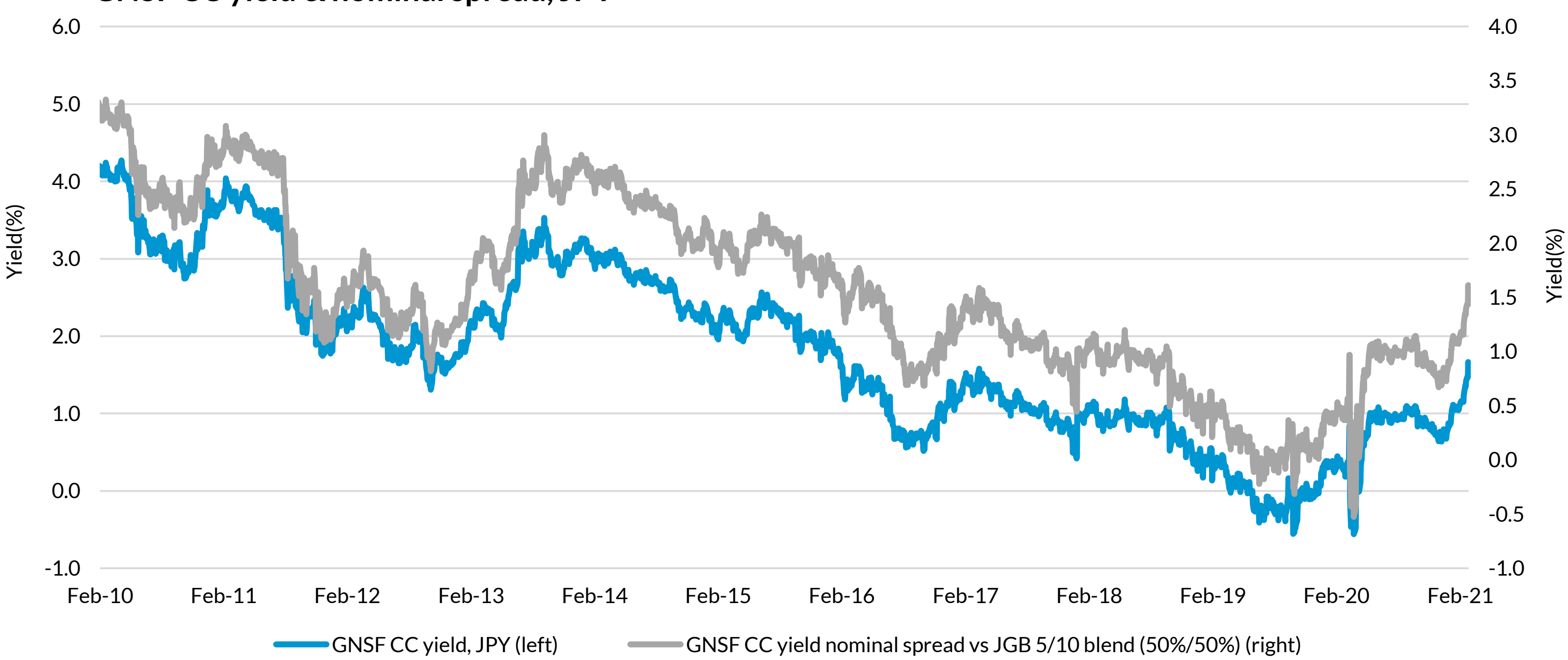
If Ginnie Mae securities are hedged into Japanese Yen, they look favorable on a yield basis versus the JGB 5/10 blend at the end of February 2021. More precisely, hedged into Japanese yen, the G2SF and GNSF have a 129 and 144 bp yield, respectively, versus the JGB 5/10 blend. This represents a 33 bp widening for G2SF and a 32 bp widening for GNSF since the end of January 2021.

G2SF CC yield & nominal spread, JPY



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

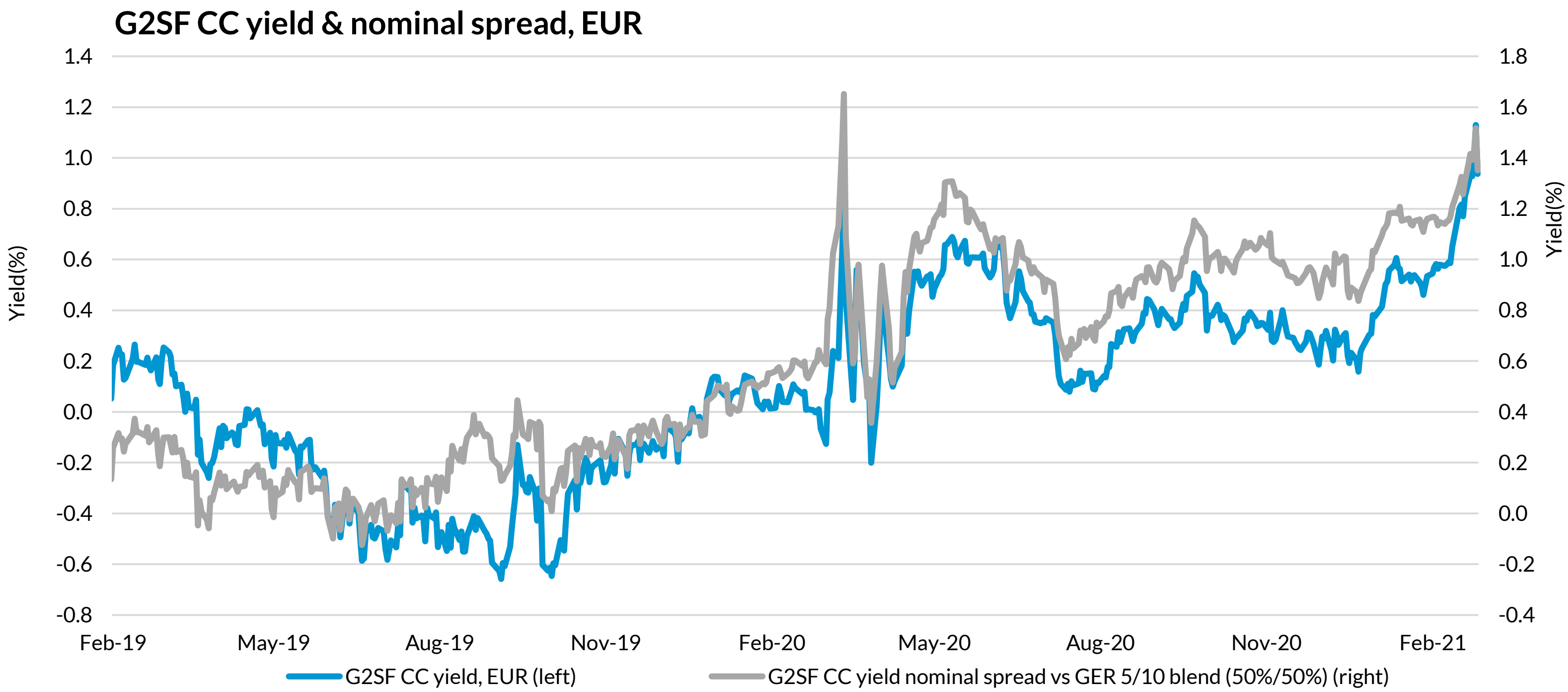
GNSF CC yield & nominal spread, JPY



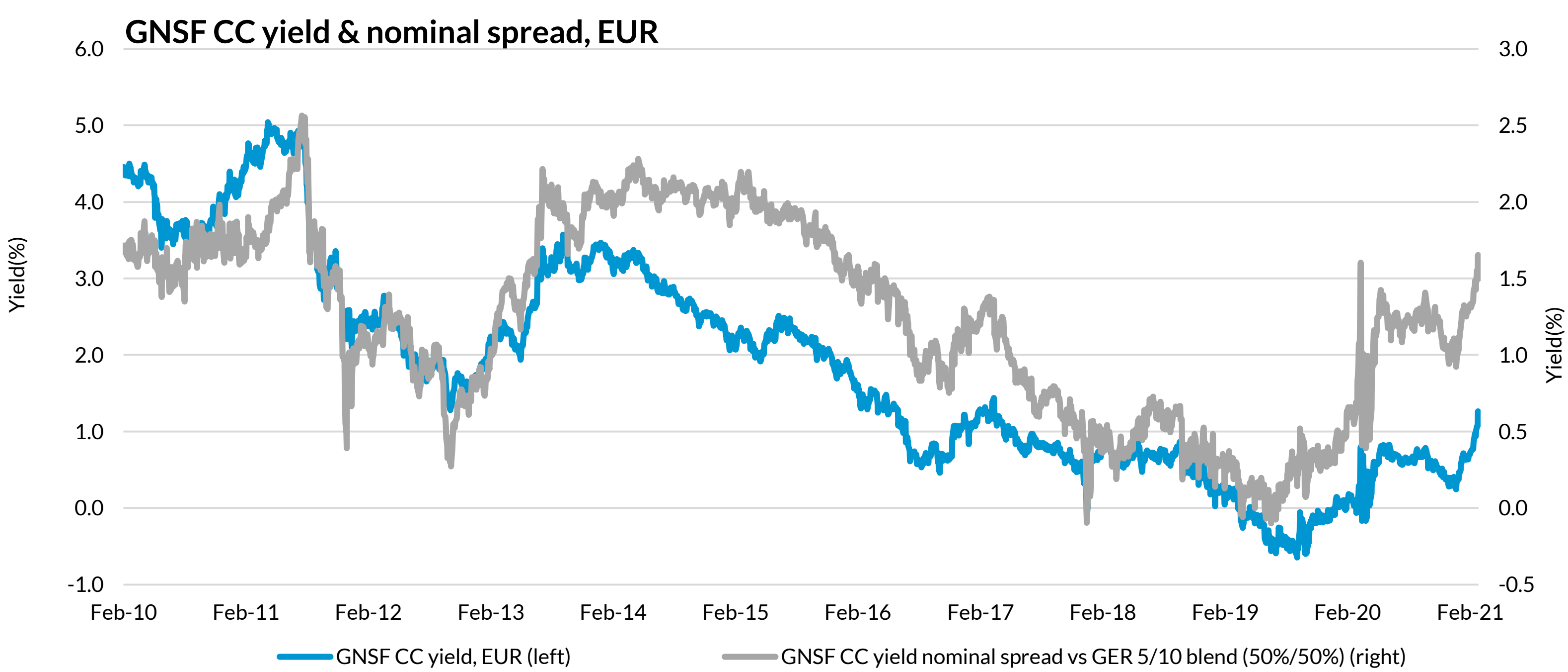
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of February 2021.*

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 February 2021, the current coupon G2SF and GNSF hedged into euros have a 135 and 150 bp higher yield than the average of the German 5/10, respectively. This represents a 19 and 18 bp expansion for the G2SF and GNSF, respectively, since the end of January 2021.



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

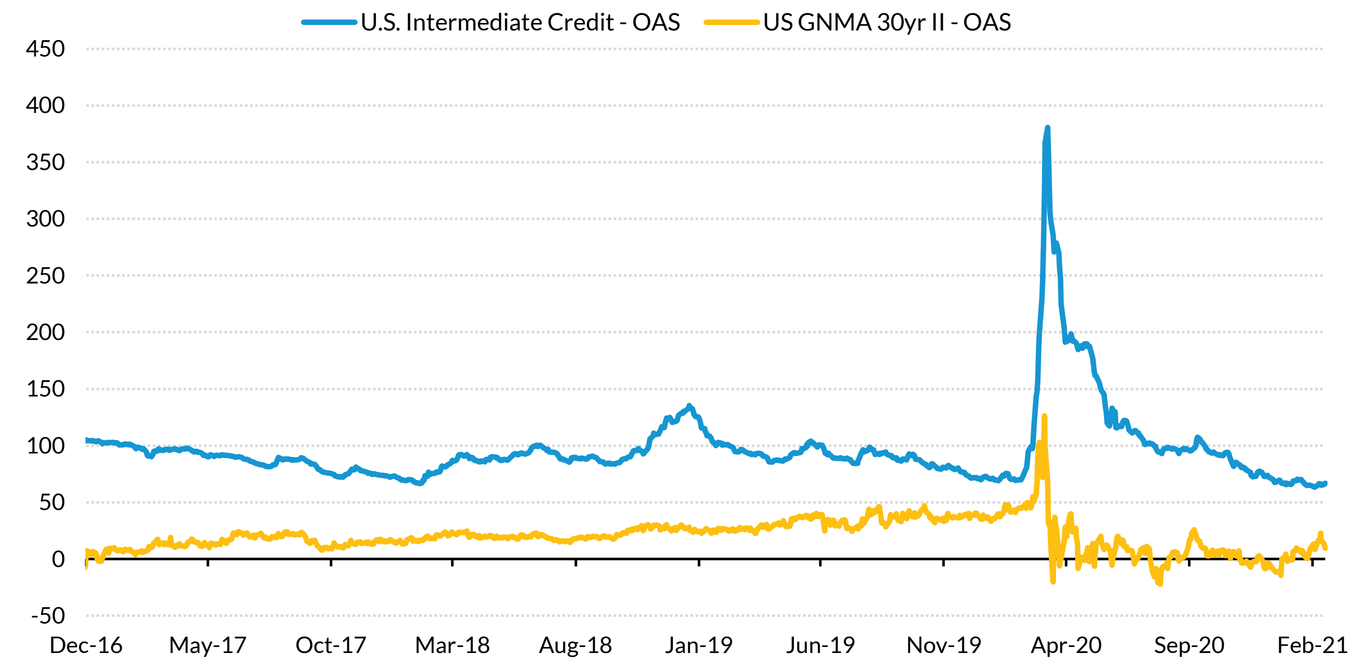


Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of February 2021.*

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 February 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. Despite this tightening, the spread between the two remains much elevated, ending February 2021 at 57 bps, higher than the 21 bps in January 2020, but similar to levels in mid 2019.

G2 30 MBS versus Intermediate Credit



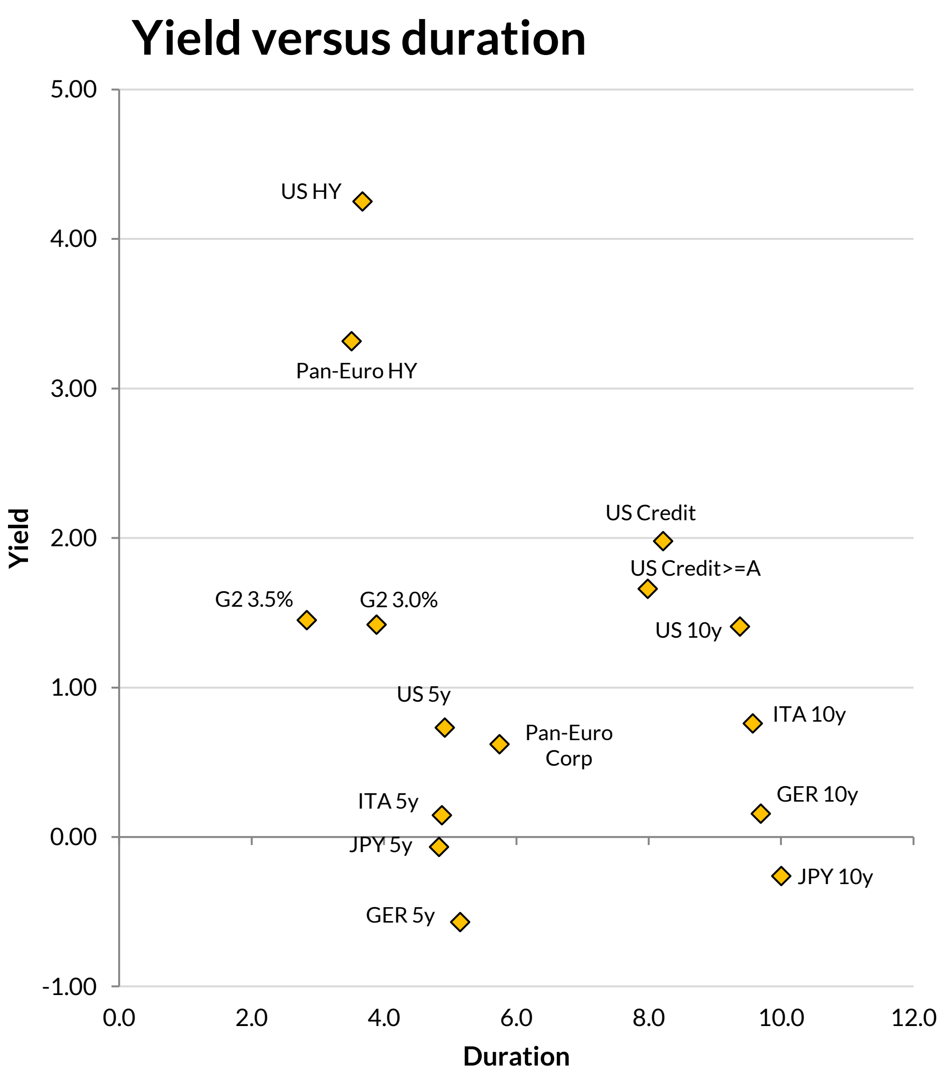
***Sources:** State Street Global Advisors. **Note:** Data as of February 2021.*

Spread between Intermediate credit and 30-year GNMA MBS OAS

***Sources:** State Street Global Advisors. **Note:** Data as of February 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	0.73
US 10y	9.4	1.41
GNMA II 3.0%	3.9	1.42
GNMA II 3.5%	2.8	1.45
JPY 5y	4.8	-0.07
JPY 10y	9.7	0.16
GER 5y	5.1	-0.57
GER 10y	10.0	-0.26
ITA 5y	4.9	0.15
ITA 10y	9.6	0.76
US credit	8.2	1.98
US credit >= A	8.0	1.66
US HY	3.7	4.25
Pan-Euro Corp	5.7	0.62
Pan-Euro HY	3.5	3.32

Sources: *Bloomberg and State Street Global Advisors.* ***Note****: Yields are in base currency of security and unhedged. Data as of February 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 over 1, 3 and 10-year horizons.

	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	0.13	0.00	0.28	0.11	0.84	0.52
3 year	0.32	0.41	0.58	0.25	0.57	0.35
5 year	0.19	0.22	0.49	0.23	0.74	0.47
10 year	0.23	0.26	0.43	0.36	0.55	0.53

	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	0.12	-0.01	0.27	0.17	0.83	0.57
3 year	0.21	0.30	0.47	0.30	0.46	0.41
5 year	0.10	0.13	0.40	0.29	0.65	0.53
10 year	0.18	0.21	0.39	0.39	0.50	0.56

	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	0.55	1.23	3.14	2.73	4.34	4.84
3 year	0.59	1.25	2.01	1.65	2.70	2.90
5 year	0.59	1.14	1.72	1.38	2.25	2.35
10 year	0.64	1.06	1.48	1.37	2.03	2.03

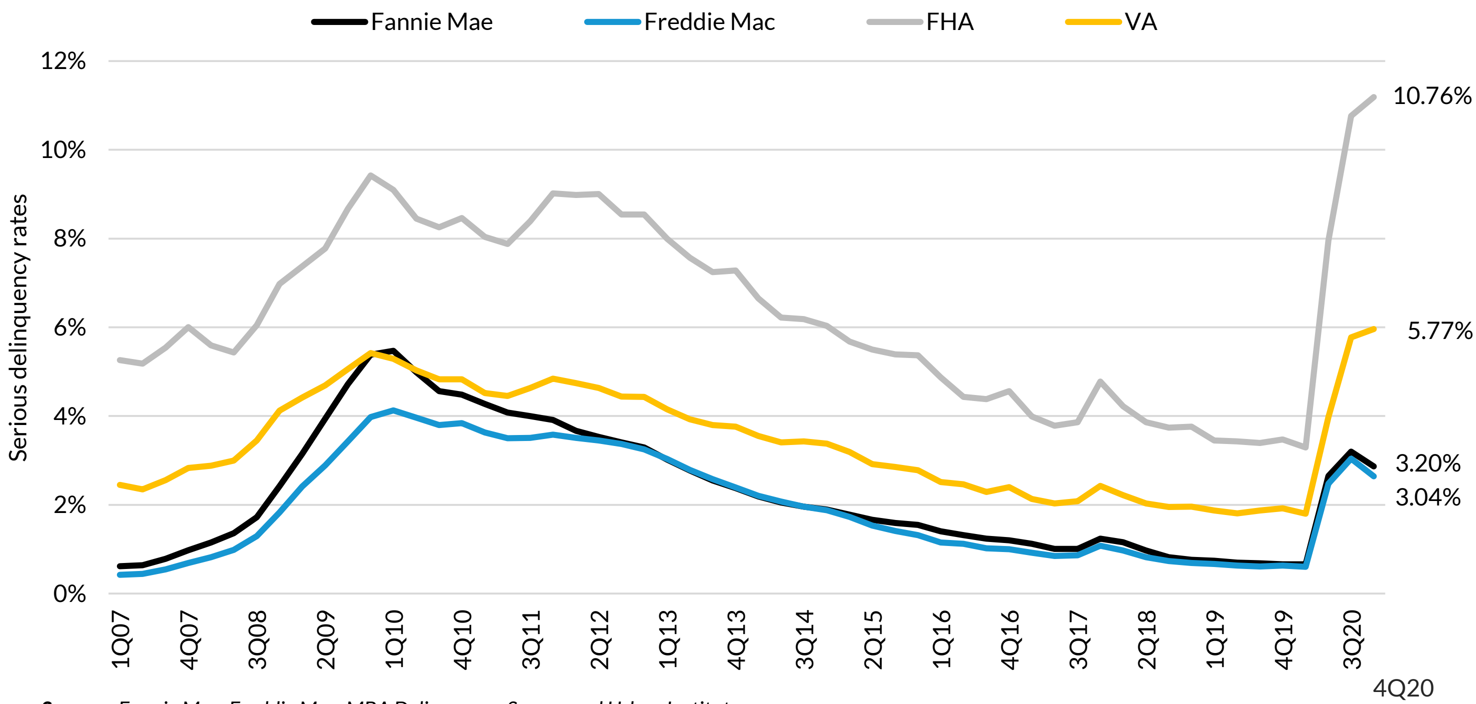
	Sharpe Ratio					
Time Period	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield	Pan Euro High Yield*
1 year	0.22	-0.01	0.09	0.06	0.19	0.12
3 year	0.35	0.24	0.23	0.18	0.17	0.14
5 year	0.18	0.11	0.23	0.21	0.29	0.22
10 year	0.29	0.20	0.26	0.29	0.25	0.28

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

State of the US Housing Market

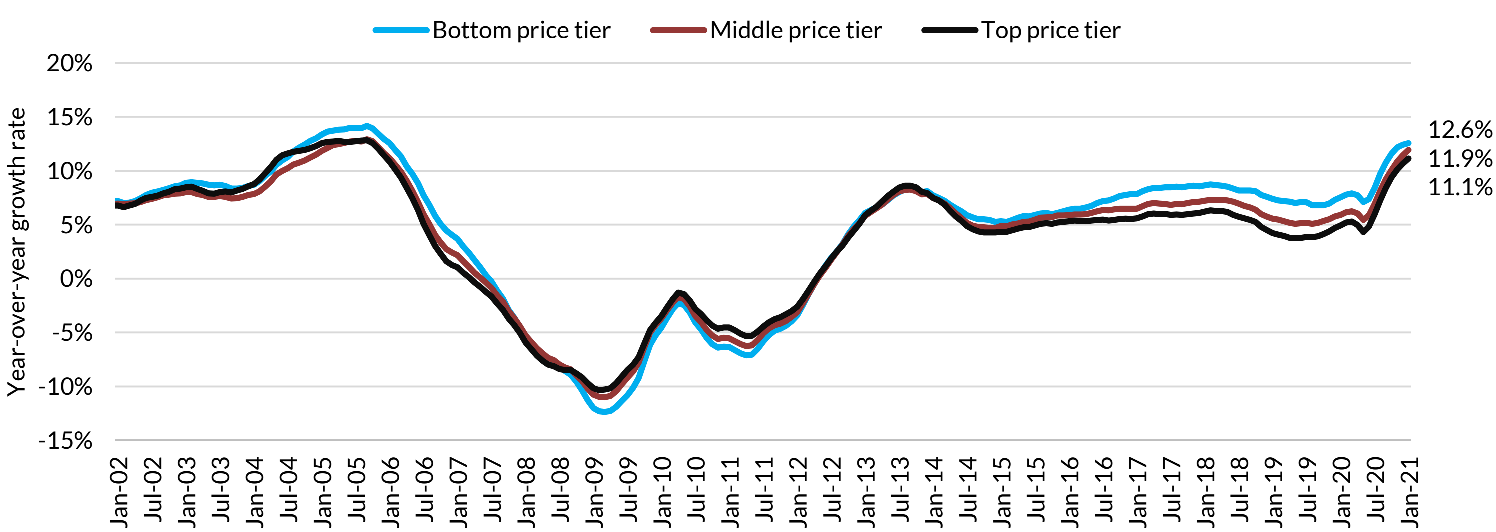
Serious delinquency rates for single-family GSE loans fell slightly in Q4 2020 while FHA and VA serious delinquency rates continued to rise but at a slower rate. The increase in delinquencies from Q2-Q4 2020 reflects the impact of the pandemic on mortgage payments. The bottom chart shows nationwide house prices for the bottom, middle and the top quintiles by price. House prices escalated significantly in the second half on 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 January 2021, higher than the 11.1 percent for the top end of the market. Year-over-year price growth in January 2021 was higher than in December 2020 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 January 2021.*

State of the US Housing Market

Nationally, nominal home prices have increased by 71.2 percent since the trough, and now exceed their pre-crisis peak valuation on a nominal basis by 27.9 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 3.7 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%	71.2%	11.2%	27.9%
Alabama	35.9%	-15.3%	44.9%	10.9%	22.7%
Alaska	69.1%	-3.0%	30.2%	7.6%	26.3%
Arizona	110.2%	-47.9%	116.9%	16.7%	13.0%
Arkansas	41.4%	-9.7%	34.3%	10.4%	21.3%
California	154.6%	-43.3%	113.7%	11.6%	21.2%
Colorado	40.4%	-12.9%	102.3%	12.2%	76.2%
Connecticut	92.0%	-24.8%	30.0%	13.5%	-2.3%
Delaware	94.0%	-23.7%	44.8%	12.2%	10.5%
District of Columbia	174.2%	-13.9%	64.0%	5.6%	41.3%
Florida	128.3%	-46.9%	90.6%	10.7%	1.2%
Georgia	38.3%	-31.5%	86.0%	12.9%	27.5%
Hawaii	163.0%	-22.6%	62.0%	7.1%	25.4%
Idaho	71.8%	-28.7%	132.5%	22.6%	65.8%
Illinois	61.6%	-34.4%	46.8%	7.0%	-3.7%
Indiana	21.6%	-8.0%	51.4%	11.2%	39.3%
Iowa	28.5%	-4.8%	35.3%	8.3%	28.8%
Kansas	34.5%	-9.2%	57.3%	10.4%	42.8%
Kentucky	29.6%	-7.7%	48.4%	12.2%	37.0%
Louisiana	48.5%	-5.3%	29.4%	6.0%	22.6%
Maine	82.0%	-12.4%	56.4%	11.6%	37.0%
Maryland	129.4%	-28.8%	41.8%	11.9%	0.9%
Massachusetts	92.4%	-22.6%	72.4%	11.2%	33.3%
Michigan	23.9%	-39.5%	97.2%	12.2%	19.3%
Minnesota	66.6%	-28.0%	69.1%	9.0%	21.8%
Mississippi	41.2%	-13.9%	37.1%	6.4%	18.1%
Missouri	42.6%	-15.4%	50.7%	10.4%	27.4%
Montana	82.7%	-11.6%	72.8%	15.6%	52.7%
Nebraska	26.6%	-6.8%	55.9%	10.1%	45.4%
Nevada	126.8%	-59.0%	145.8%	11.0%	0.7%
New Hampshire	91.1%	-23.3%	64.5%	16.0%	26.1%
New Jersey	117.7%	-28.1%	42.7%	12.5%	2.7%
New Mexico	66.6%	-16.4%	40.8%	11.7%	17.7%
New York	98.6%	-15.3%	53.5%	8.6%	30.1%
North Carolina	40.6%	-16.1%	55.8%	12.8%	30.7%
North Dakota	53.1%	-3.8%	60.7%	6.7%	54.6%
Ohio	21.2%	-18.6%	54.5%	13.3%	25.8%
Oklahoma	37.4%	-2.6%	31.5%	9.1%	28.0%
Oregon	81.9%	-28.2%	103.8%	13.5%	46.3%
Pennsylvania	70.2%	-11.8%	38.2%	10.4%	21.9%
Rhode Island	130.2%	-34.6%	74.8%	13.7%	14.2%
South Carolina	44.9%	-19.7%	50.0%	10.2%	20.5%
South Dakota	45.3%	-3.7%	57.9%	8.6%	52.0%
Tennessee	35.0%	-11.9%	65.6%	13.3%	45.8%
Texas	33.5%	-5.8%	64.3%	9.0%	54.8%
Utah	55.0%	-22.2%	105.5%	15.8%	59.8%
Vermont	81.3%	-9.2%	40.4%	18.8%	27.6%
Virginia	100.0%	-23.0%	40.8%	10.2%	8.5%
Washington	84.9%	-28.7%	116.3%	14.8%	54.2%
West Virginia	40.4%	-5.8%	34.1%	9.6%	26.3%
Wisconsin	44.8%	-16.4%	49.4%	11.1%	24.9%
Wyoming	77.9%	-7.4%	45.2%	9.8%	34.4%

***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 1/2021, the latest HPI data period.*

State of the US Housing Market

Ginnie Mae MBS constitute 23.9 percent of outstanding agency issuance by loan balance and 24.2 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 10.8 percent in the District of Columbia and as high as 45.3 percent in Mississippi. In general, the Ginnie Mae share is higher in states with lower home prices.

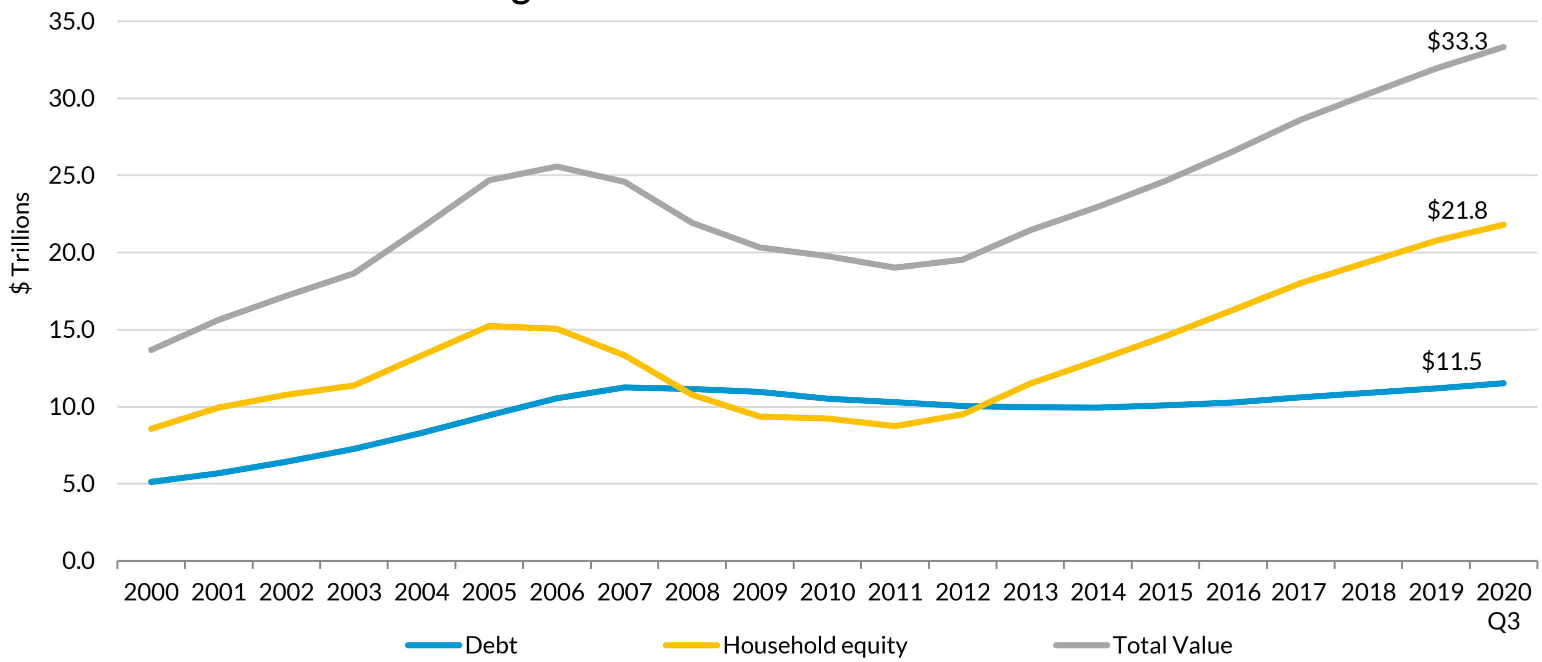
State	Agency Issuance (past 1 year)				Agency Outstanding			
	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)
National	24.2%	2,953,708	258.2	282.6	23.9%	11,031,329	165.0	205.1
Alabama	37.3%	54,981	199.9	222.8	38.4%	235,409	129.3	162.5
Alaska	46.0%	9,592	313.0	280.3	44.2%	37,330	232.6	209.8
Arizona	25.5%	110,086	253.2	258.2	22.6%	300,306	169.7	198.1
Arkansas	34.8%	29,568	170.8	202.1	37.7%	138,200	111.3	147.4
California	16.7%	267,188	397.3	391.9	14.5%	735,172	269.3	296.4
Colorado	24.1%	90,833	336.2	321.3	20.1%	229,364	230.7	250.9
Connecticut	23.2%	23,800	242.3	269.2	24.2%	106,915	180.4	197.6
Delaware	29.8%	12,993	243.3	260.9	30.4%	51,581	179.8	194.8
District of Columbia	12.9%	2,606	512.8	443.2	10.8%	9,187	299.4	331.2
Florida	34.6%	252,832	248.0	250.3	29.9%	845,972	172.8	186.0
Georgia	32.5%	135,019	221.1	253.1	32.0%	507,463	146.8	184.3
Hawaii	40.7%	14,334	554.5	441.7	24.0%	32,683	384.9	333.8
Idaho	23.7%	22,543	258.1	252.1	22.9%	74,066	163.9	192.3
Illinois	17.1%	80,977	205.6	236.8	19.9%	359,447	139.8	169.1
Indiana	26.1%	67,699	173.0	193.3	29.8%	293,057	112.0	137.6
Iowa	16.3%	17,400	175.9	197.2	20.6%	84,733	114.7	141.2
Kansas	24.1%	21,657	185.8	214.7	28.4%	101,137	119.9	151.1
Kentucky	29.6%	38,241	180.9	200.5	32.7%	166,314	121.8	143.3
Louisiana	34.5%	43,226	196.4	229.7	36.6%	189,607	138.2	168.0
Maine	23.8%	10,223	213.7	238.3	25.2%	39,714	152.8	175.4
Maryland	33.9%	86,142	328.1	316.4	31.1%	293,264	228.8	233.2
Massachusetts	13.7%	33,785	335.5	341.1	14.3%	118,664	241.1	251.9
Michigan	16.0%	63,284	175.4	205.2	19.7%	292,654	114.0	145.4
Minnesota	15.7%	41,658	234.2	248.6	17.3%	173,974	156.5	184.8
Mississippi	42.4%	24,336	181.5	205.5	45.3%	117,076	122.0	149.7
Missouri	24.2%	58,260	183.7	209.8	28.4%	256,992	120.8	149.8
Montana	23.8%	9,985	257.0	260.0	22.4%	35,402	171.5	194.5
Nebraska	22.9%	15,531	199.6	205.1	25.8%	69,668	123.6	148.8
Nevada	33.6%	51,117	289.0	269.5	26.9%	137,184	198.2	209.2
New Hampshire	21.7%	11,760	271.2	265.7	22.2%	42,507	194.8	197.1
New Jersey	18.9%	59,099	286.2	321.7	20.6%	237,135	209.2	236.9
New Mexico	35.9%	21,655	214.1	226.4	36.2%	97,023	140.9	163.0
New York	17.2%	46,970	283.3	317.8	20.4%	316,707	185.1	227.9
North Carolina	28.2%	113,854	220.9	250.0	27.4%	426,923	143.5	180.7
North Dakota	20.7%	4,606	236.8	232.7	20.9%	16,726	168.9	176.5
Ohio	24.7%	89,464	173.2	195.2	28.8%	436,809	112.3	137.0
Oklahoma	38.9%	38,269	185.5	205.9	41.5%	193,445	120.1	148.9
Oregon	20.2%	40,089	300.4	299.4	17.7%	121,203	206.7	228.3
Pennsylvania	22.6%	77,646	196.5	238.4	26.4%	404,742	134.0	168.4
Rhode Island	26.2%	9,428	268.2	261.6	27.3%	36,030	194.1	197.4
South Carolina	33.8%	66,574	222.4	236.2	31.4%	230,673	150.2	173.7
South Dakota	23.9%	8,113	212.9	218.7	27.4%	30,415	144.1	165.3
Tennessee	30.8%	74,892	223.0	245.7	31.5%	289,170	142.1	181.3
Texas	31.4%	281,539	235.1	258.3	29.7%	1,080,831	149.0	189.4
Utah	18.0%	39,685	294.7	290.2	18.2%	113,741	201.3	234.4
Vermont	18.2%	2,886	220.4	237.4	17.3%	12,583	163.4	167.9
Virginia	35.5%	135,211	326.7	323.0	31.9%	442,446	214.8	234.4
Washington	21.8%	88,853	339.2	347.7	19.3%	256,184	227.0	260.8
West Virginia	41.2%	12,601	184.0	189.5	41.1%	56,397	125.9	134.5
Wisconsin	14.4%	32,872	199.2	212.1	15.9%	130,912	133.9	152.4
Wyoming	33.3%	7,746	244.0	248.2	32.5%	26,192	178.4	188.8

***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 January 2020 to January 2021.*

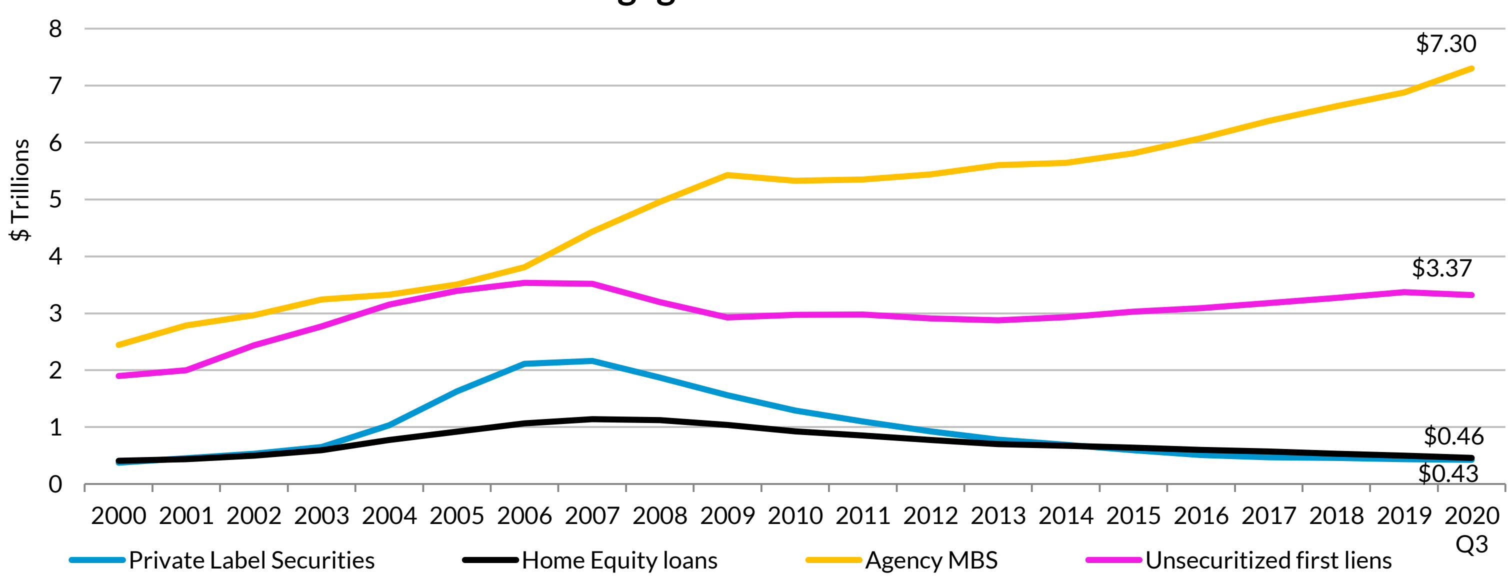
State of the US Housing Market

The Federal Reserve's Flow of Fund Report has indicated a gradually increasing total value of the housing market, driven primarily by growing home equity since 2012. The Q3 2020 numbers show that while mortgage debt outstanding remained steady at $11.5 trillion, total home equity grew slightly from $21.5 trillion in Q2 2020 to $21.8 trillion in the third quarter of 2020, bringing the total value of the housing market to $33.3 trillion, 30.3 percent higher than the pre-crisis peak in 2006. Agency MBS account for 63.4 percent of the total mortgage debt outstanding, private-label securities make up 3.7 percent, and unsecuritized first liens make up 28.9 percent. Home equity loans comprise the remaining 4.0 percent of the total.

Value of the US Housing Market



Size of the US Residential Mortgage Market

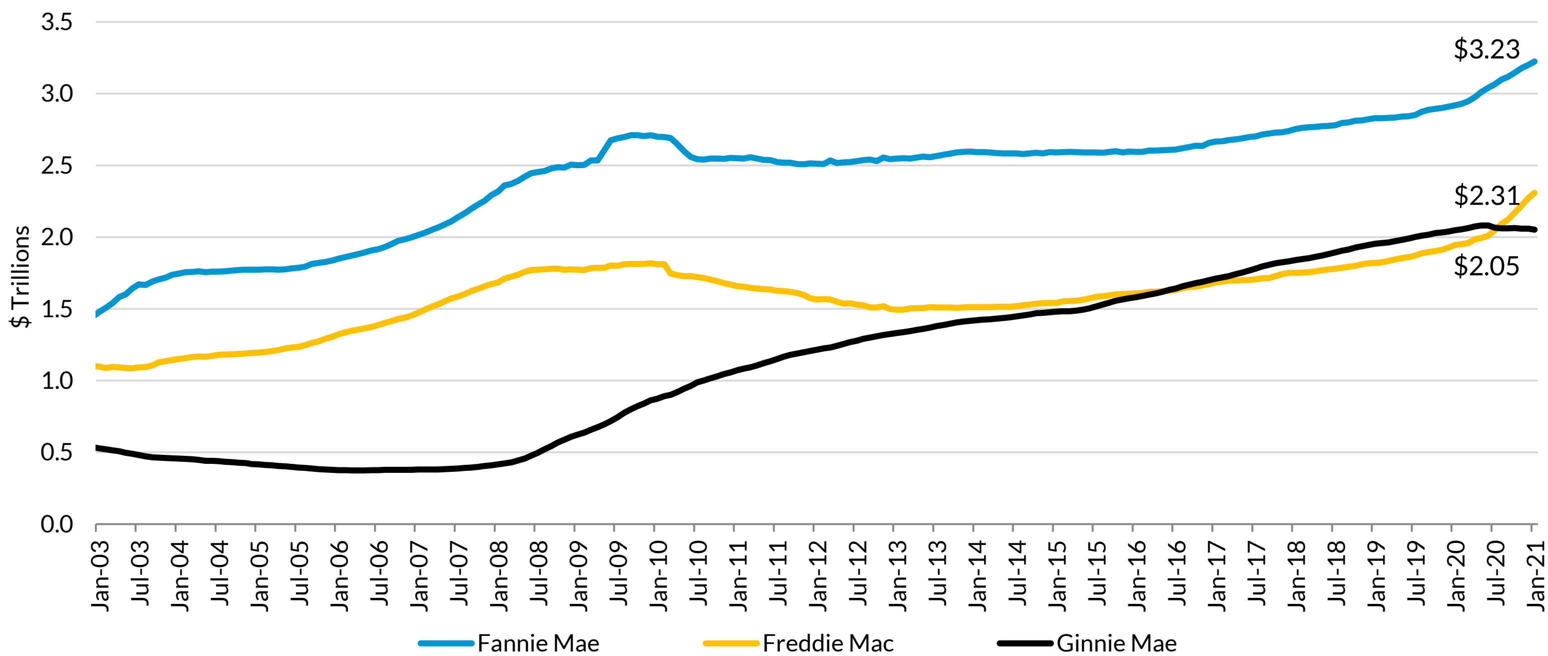


Sources: *Federal Reserve Flow of Funds, eMBS and Urban Institute. Last updated December 2020.*
Note Top: *Single family includes 1-4 family mortgages. The home equity number is grossed up from Fed totals to include the value of households and the non-financial business sector.* **Note Bottom**: *Unsecuritized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

State of the US Housing Market

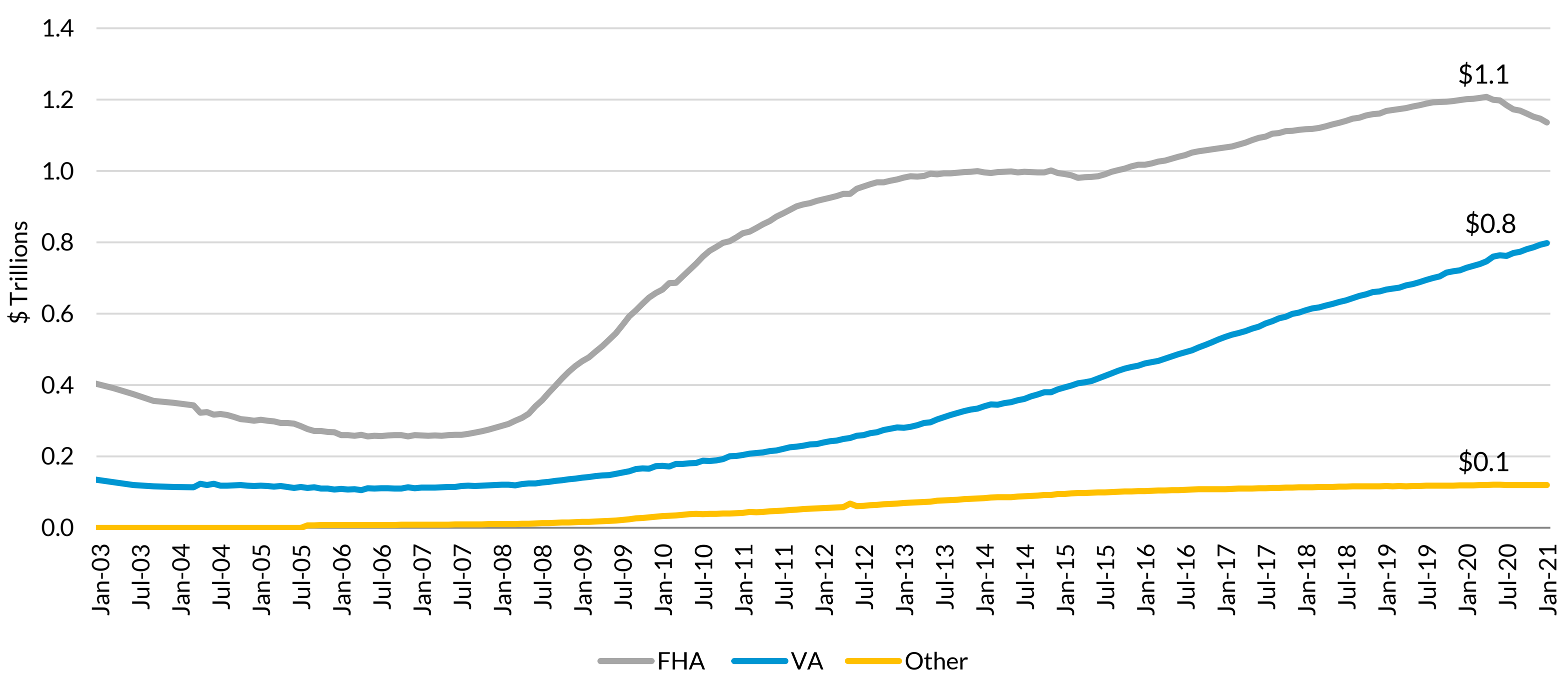
As of January 2021, outstanding securities in the agency market totaled $7.59 trillion: 42.5 percent Fannie Mae, 30.4 percent Freddie Mac, and 27.1 percent Ginnie Mae MBS. Within the Ginnie Mae market, both FHA and VA have grown very rapidly since 2009, although since May 2020, FHA has contracted. FHA comprises 55.3 percent of total Ginnie Mae MBS outstanding, while VA comprises 38.9 percent. Note that during the pandemic the GSEs have been growing faster than Ginnie Mae, courtesy of borrowers with home prices appreciating 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 January 2021.*

Outstanding Ginnie Mae Mortgage-Backed Securities

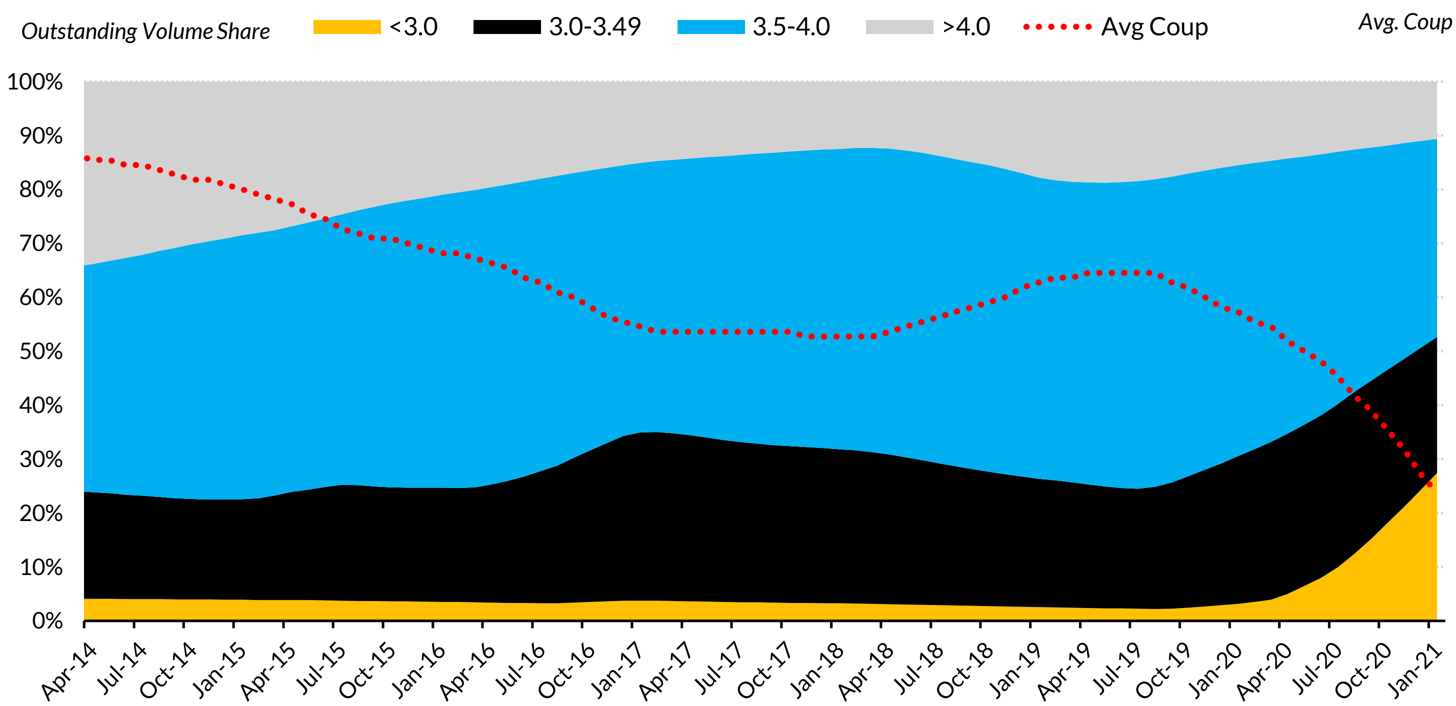


Sources: *eMBS and Urban Institute.* **Note:** *Data as of January 2021.*

State of the US Housing Market

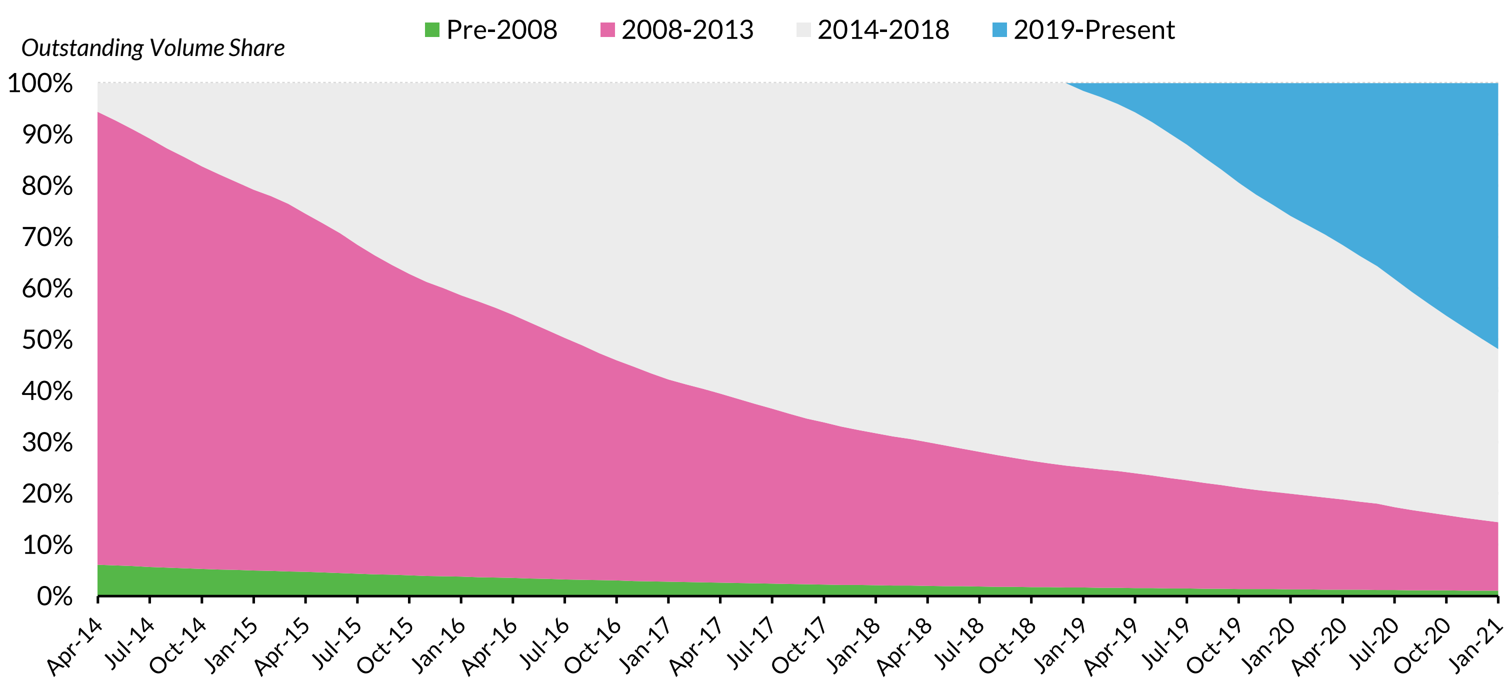
As of January 2021, the average coupon on outstanding Ginnie Mae pools was 3.26 percent, declining steadily over time. The share of outstanding MBS pools with coupons below 3.0 percent has grown exponentially in 2020 due to plummeting rates. The bottom chart shows that loans originated since 2019 now comprise the majority, 51.9 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 January 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 January 2021.*

State of the US Housing Market

In January 2021, a total of 747,102 Ginnie Mae loans were in forbearance, 18,081 of which were removed from pools (i.e. liquidated) during the month. Most liquidated loans (14,733) were FHA. Forborne loans removed from pools in January 2021 had measurably higher note rates and lower outstanding loan balances, and were more likely to be purchase loans than forborne loans that remain in pools.

All loans in forbearance – January 2021

	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	660	4.0	$171,458	77.7%	70.7%	747,102
Bank	675	4.1	$134,384	73.9%	77.2%	104,557
Nonbank	658	4.0	$177,412	78.2%	69.8%	642,545
FHA	657	4.1	$168,925	78.3%	72.8%	552,222
Bank	669	4.2	$124,721	74.9%	79.5%	77,282
Nonbank	655	4.1	$176,156	78.8%	71.9%	474,940
VA	668	3.8	$217,564	69.7%	51.0%	133,088
Bank	685	3.8	$194,620	67.8%	65.7%	21,154
Nonbank	665	3.8	$221,601	70.2%	48.2%	111,934

Loans in forbearance and removed from pools – January 2021

	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	664	4.2	$159,000	74.3%	75.5%	18,081
Bank	677	4.2	$137,000	75.4%	82.7%	9,075
Nonbank	655	4.2	$185,000	73.3%	69.5%	9,006
FHA	659	4.3	$152,000	75.2%	77.4%	14,733
Bank	674	4.3	$132,935	76.5%	85.2%	7,203
Nonbank	649	4.3	$175,000	74.0%	71.6%	7,530
VA	680	3.8	$221,000	65.7%	58.9%	2,543
Bank	688	3.9	$190,124	65.0%	63.9%	1,258
Nonbank	675	3.8	$249,000	66.3%	54.5%	1,285

Loans in forbearance that remain in pools – January 2021

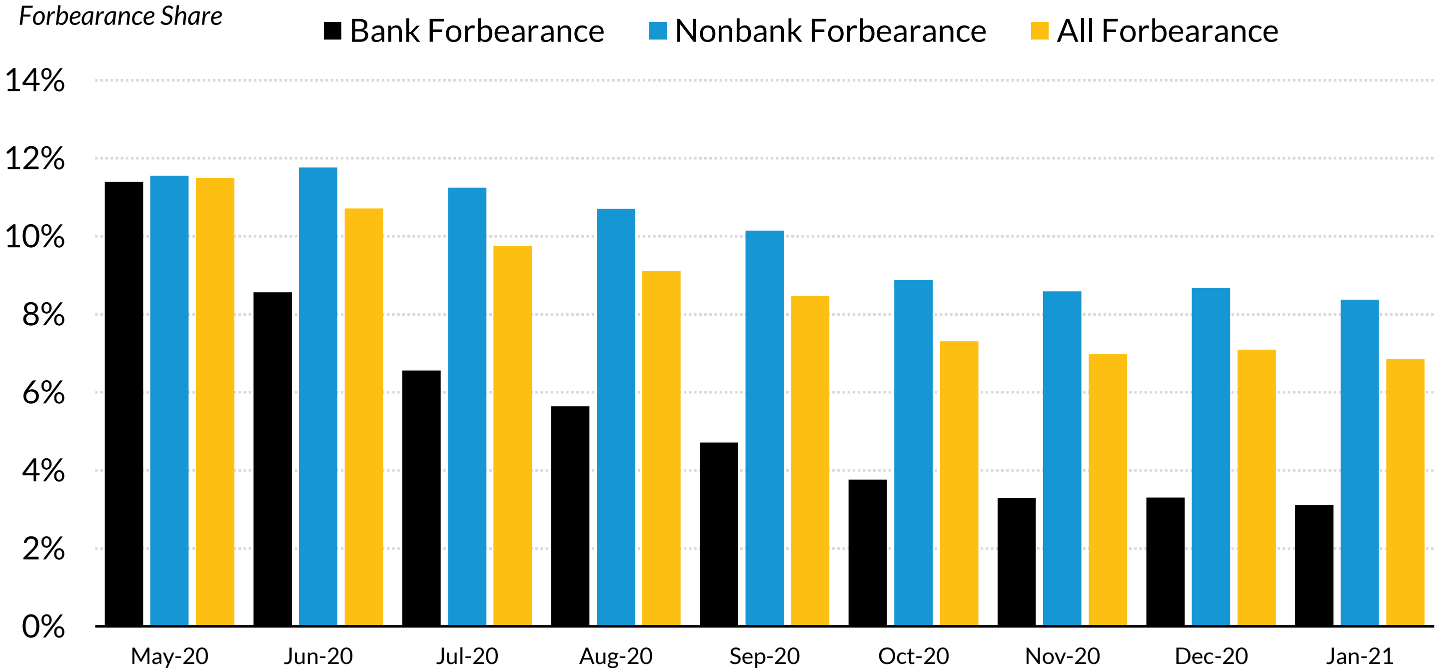
	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	660	4.0	$172,091	77.7%	70.6%	728,892
Bank	674	4.1	$135,627	73.7%	76.9%	95,929
Nonbank	658	4.0	$177,482	78.3%	69.8%	632,963
FHA	657	4.1	$169,713	78.3%	72.7%	537,371
Bank	668	4.2	$125,385	74.6%	79.2%	70,431
Nonbank	655	4.1	$176,392	78.9%	71.9%	466,940
VA	668	3.8	$217,727	69.8%	50.8%	130,535
Bank	685	3.8	$196,147	67.9%	65.8%	19,931
Nonbank	665	3.8	$221,338	70.3%	48.1%	110,604

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

State of the US Housing Market

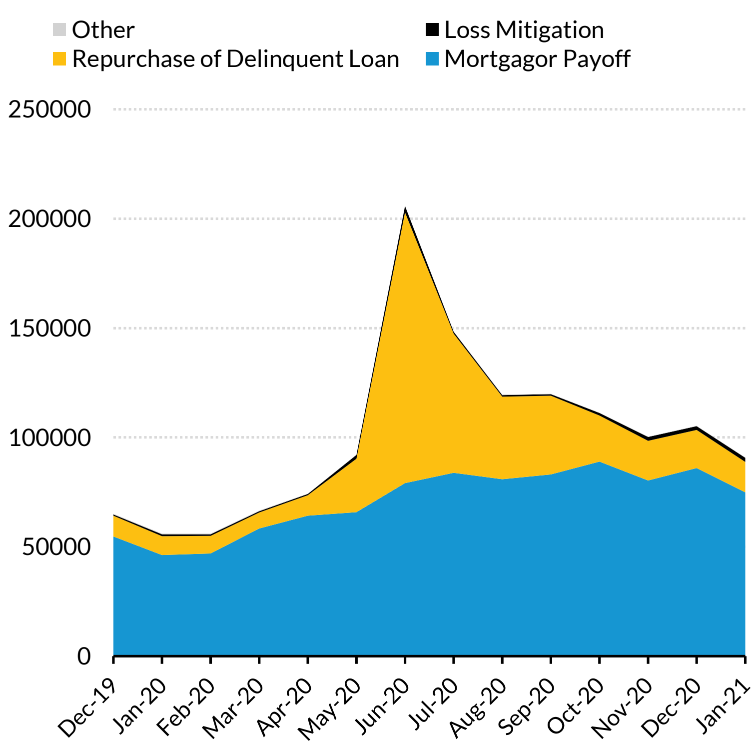
The share of Ginnie Mae loans in forbearance is higher for nonbank issuers than for bank issuers for two reasons: (1) more recent origination is more likely to be forborne and comprises a larger share of the non-bank servicing portfolio, and (2) banks have been more aggressive in buying forborne loans 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



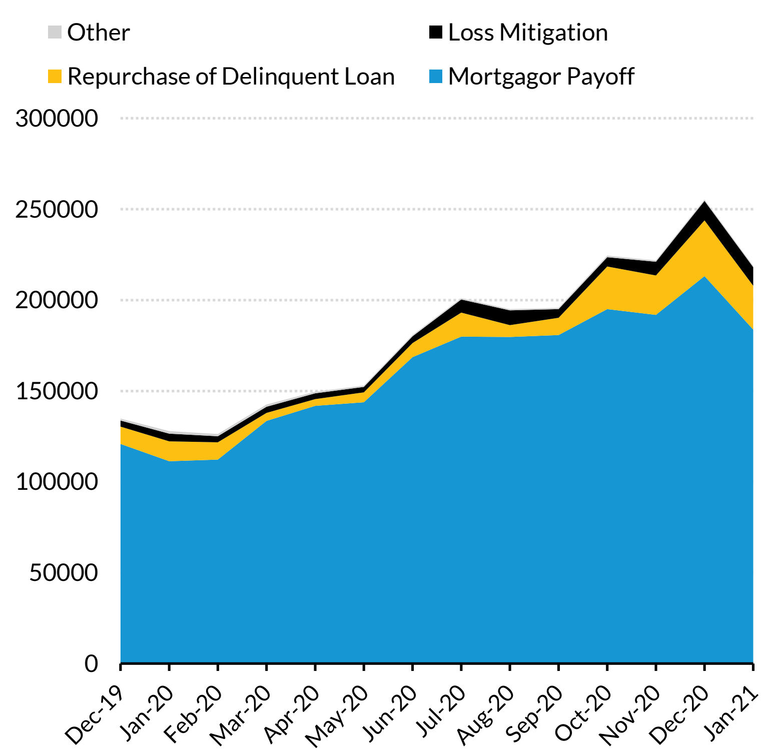
Sources: *eMBS and Urban Institute.* **Note:** *Data as of January 2021.*

Number of Loans Removed from Pools: Bank Issuers



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

Number of Loans Removed from Pools: Nonbank Issuers

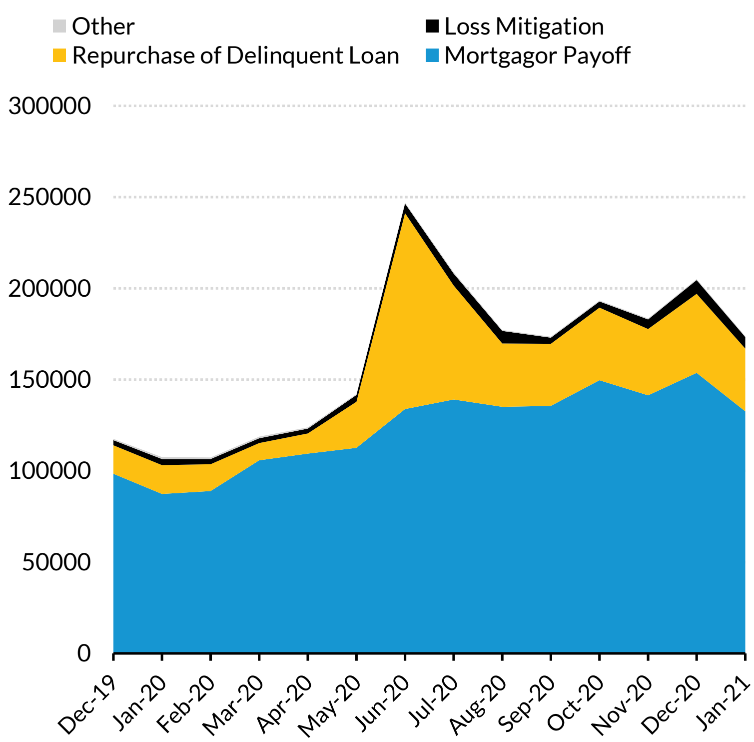


Sources: *eMBS and Urban Institute.* **Note:** *Data as of January 2021.*

State of the US Housing Market

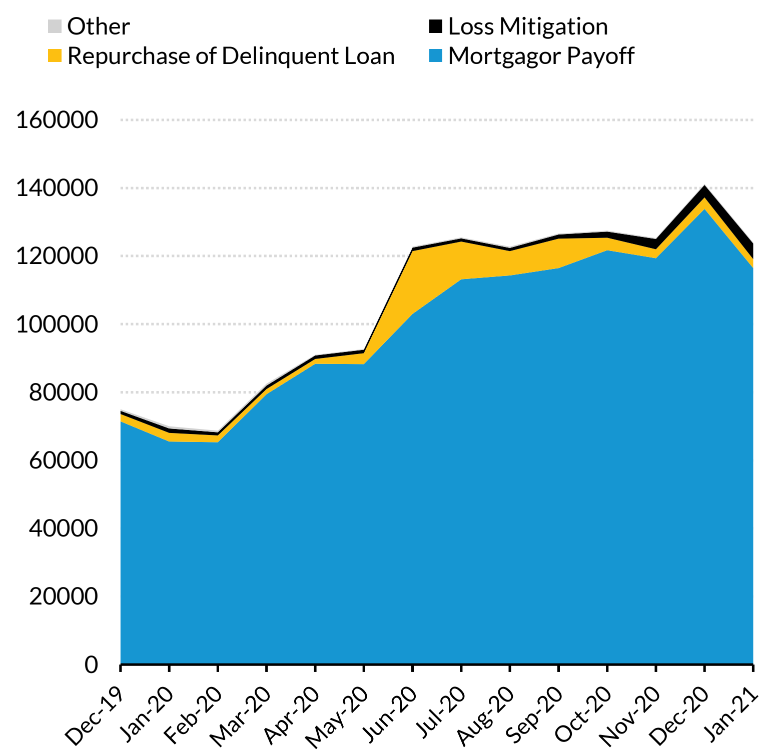
Ginnie Mae delinquent loans bought out of pools are more likely to be FHA than VA (top charts, yellow areas) and more likely to be higher coupons (bottom chart). In January 2021, 34,568 FHA and 2,678 VA loans were bought out. (These counts include all delinquent buyouts, regardless of forbearance status). 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



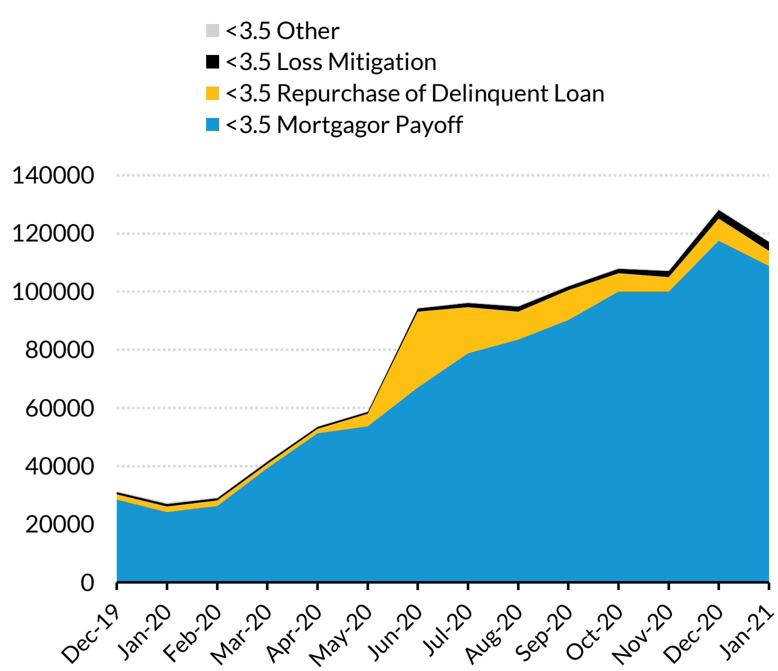
Sources: *eMBS and Urban Institute.* **Note:** *Data as of January 2021.*

Number of Loans Removed from Pools: VA

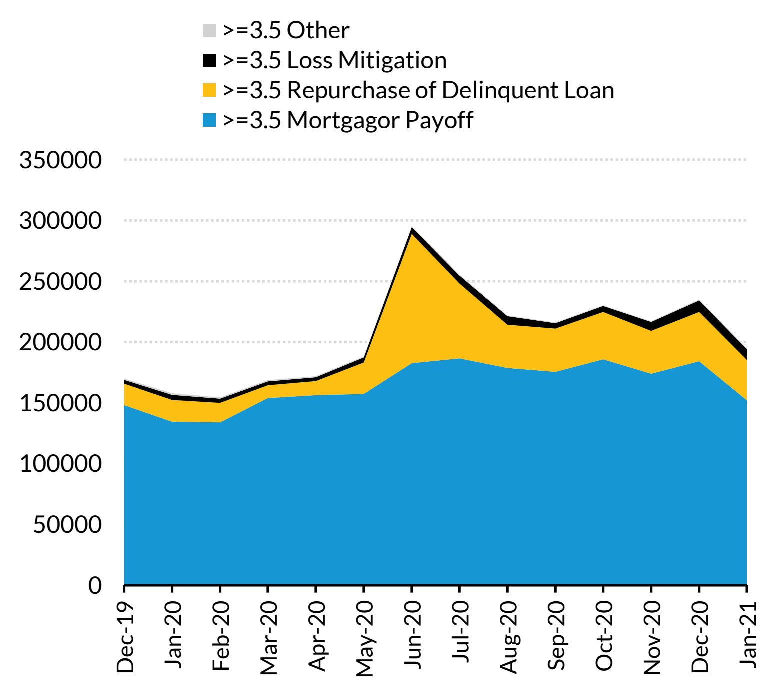


Sources: *eMBS and Urban Institute.* **Note:** *Data as of January 2021.*

Number of Loans Removed from Pools by Coupon



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

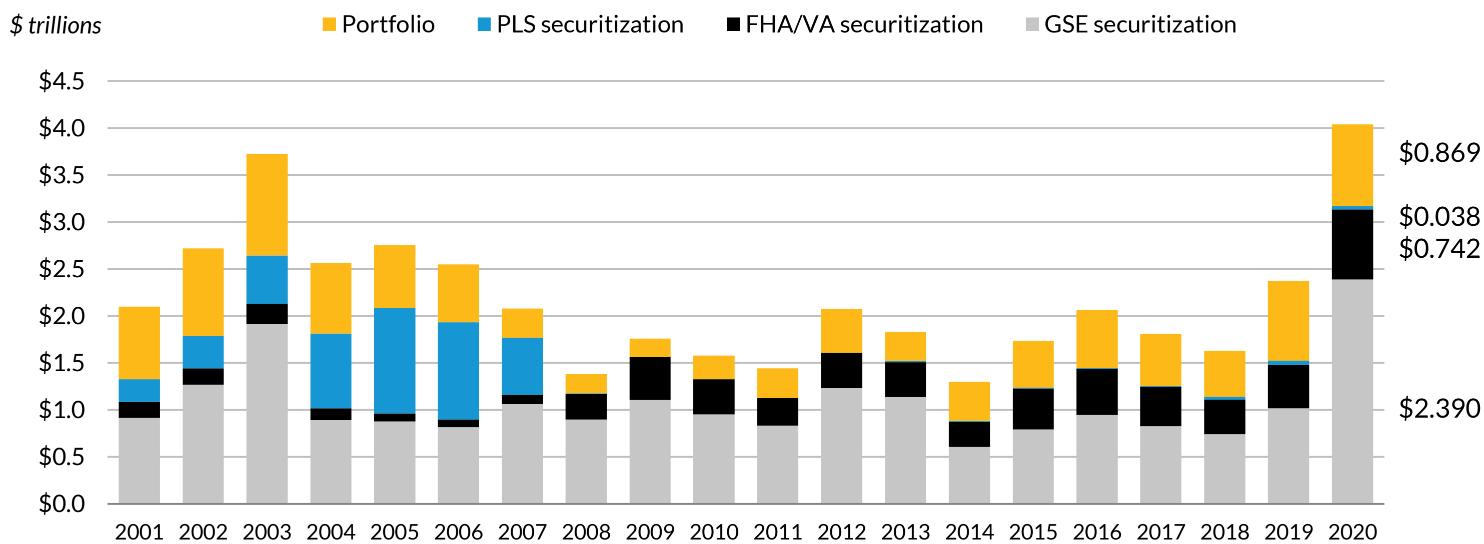


Sources: *eMBS and Urban Institute.* **Note:** *Data as of January 2021.*

State of the US Housing Market

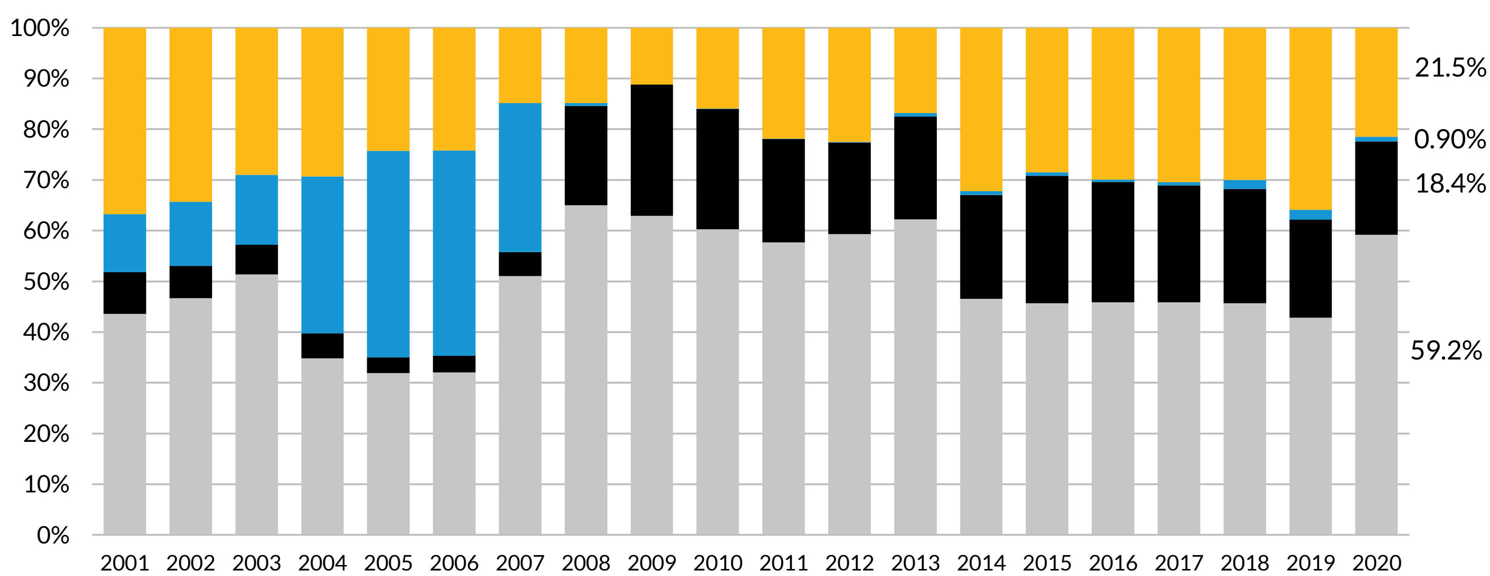
2020 was a record year for first-lien originations with $4.04 trillion in mortgages originated during the year. This number exceeds the 2003 volume of $3.73 trillion, the previous record holder, by $315 billion. The share of portfolio originations was 21.5 percent in 2020, a substantial decline from 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 $337.1 billion issued in January, up 99.4 percent compared to January 2020.

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	$141.6	$117.3	$258.9	$78.2	$337.1
2020 % Change YOY	129.6%	128.3%	129.0%	39.6%	99.4%
2021 Ann.	$1,699.6	$1,407.5	$3,107.0	$937.8	$4,044.8

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	$30.7	$45.4	$2.1	$78.2
2021 % Change YOY	10.3%	70.4%	36.2%	39.6%
2021 Ann.	$368.1	$544.2	$25.5	$937.8

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 January 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 month of 2021 Ginnie Mae net issuance was -$6.5 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	$25.9	$37.9	$63.8	-$6.5	$57.3
2021 % Change YOY	184.9%	129.4%	149.1%	-175.8%	67.5%
2021 Ann.	$310.7	$454.5	$765.2	-$78.0	$687.1

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	-$10.7	$4.9	-$0.7	-$6.5
2021 % Change YOY	-666.1%	-24.4%	-361.9%	-175.8%
2021 Ann.	-$128.5	$58.4	-$8.0	-$78.0

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 January 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 January 2021 gross agency issuance of $337.1 continued the trend of historically high volume in monthly issuance from the end of 2020 and 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

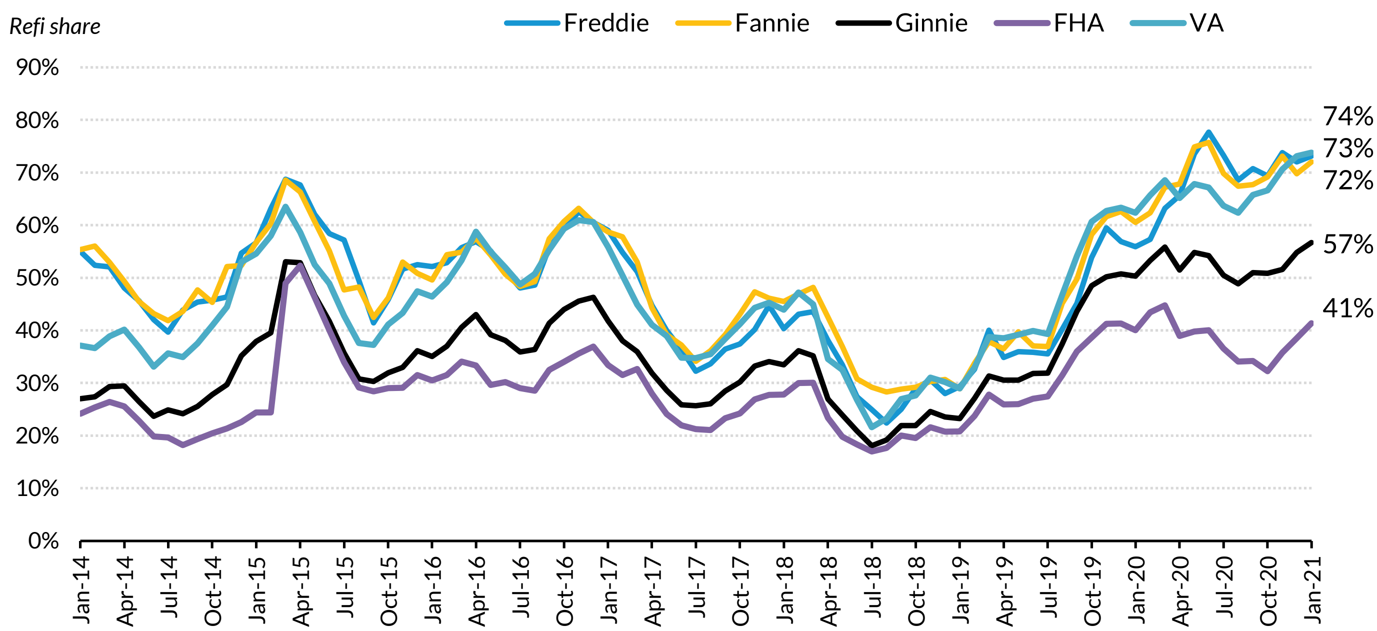
	Gross Issuance				Net Issuance			
Date	Fannie Mae	Freddie Mac	Ginnie Mae	Total	Fannie Mae	Freddie Mac	Ginnie Mae	Total
Jan-18	$47.4	$21.4	$35.2	$104.0	$12.1	$0.2	$7.7	$20.0
Feb-18	$40.3	$21.5	$31.9	$93.7	$8.3	$2.2	$7.1	$17.6
Mar-18	$35.6	$21.3	$29.0	$85.9	$4.9	$3.0	$6.3	$14.1
Apr-18	$36.3	$26.2	$32.7	$95.2	$1.7	$6.0	$8.8	$16.5
May-18	$38.9	$27.5	$33.7	$100.1	$5.1	$7.2	$10.5	$22.8
Jun-18	$38.2	$28.8	$35.6	$102.5	$2.5	$6.8	$10.3	$19.6
Jul-18	$40.3	$26.2	$35.6	$102.1	$4.2	$3.7	$10.4	$18.3
Aug-18	$50.4	$29.9	$37.5	$117.8	$15.8	$7.9	$12.5	$36.1
Sep-18	$41.8	$30.1	$34.8	$106.6	$5.9	$6.2	$9.0	$21.1
Oct-18	$39.8	$27.4	$33.2	$100.3	$9.7	$7.1	$11.4	$28.2
Nov-18	$35.1	$30.1	$32.4	$97.6	$3.6	$11.0	$9.8	$24.4
Dec-18	$36.9	$23.9	$28.4	$89.1	$8.2	$6.4	$8.2	$22.8
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

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 December 2020.*

US Agency Market, Originations

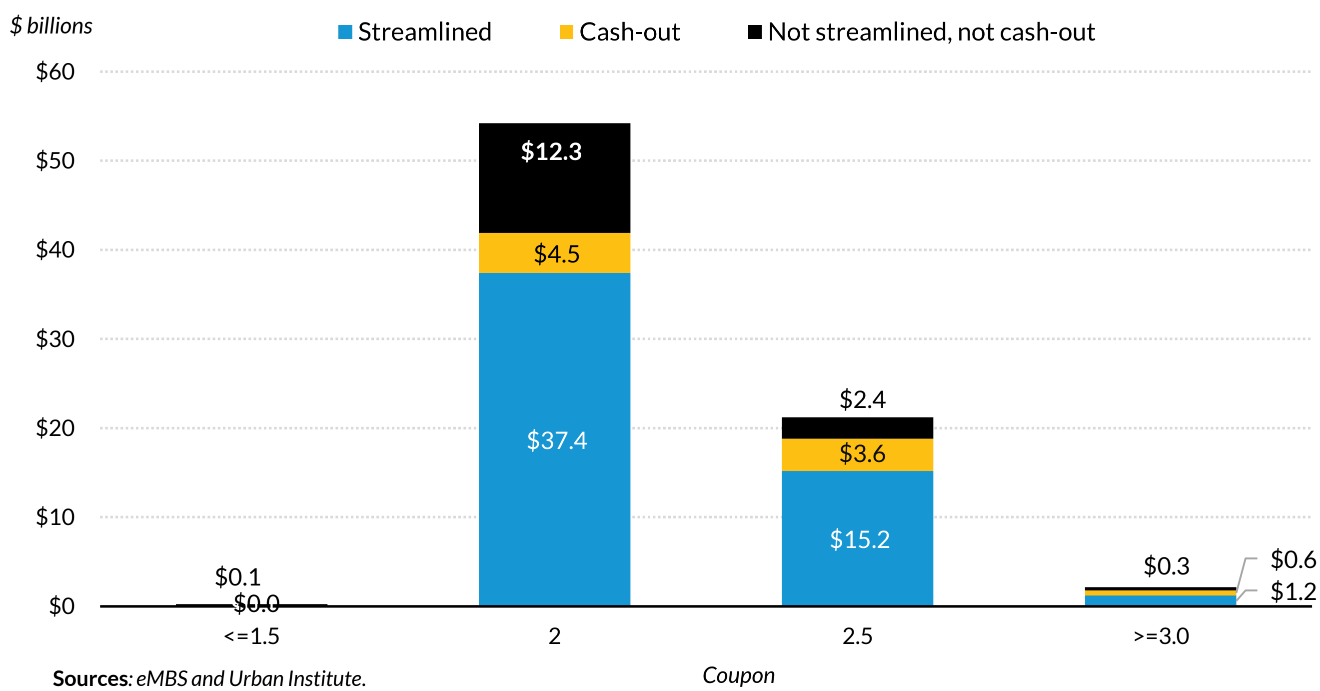
The FHA refinance share stood at 41.4 percent in January 2021, below the 73.1 percent refi share for Freddie originations, the 72.0 percent share for Fannie, and the 73.8 percent share for the VA. The total Ginnie refinance share stood at 56.7 percent in January. Refinances as a share of all originations grew during 2019 and 2020 as interest rates fell. Refinances have declined slightly from their peaks but remain at high levels. The bottom section shows that most of January 2021 Ginnie Mae refinances, 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 January 2021.*

Ginnie Mae Refinance Issuance by Type: YTD 2021

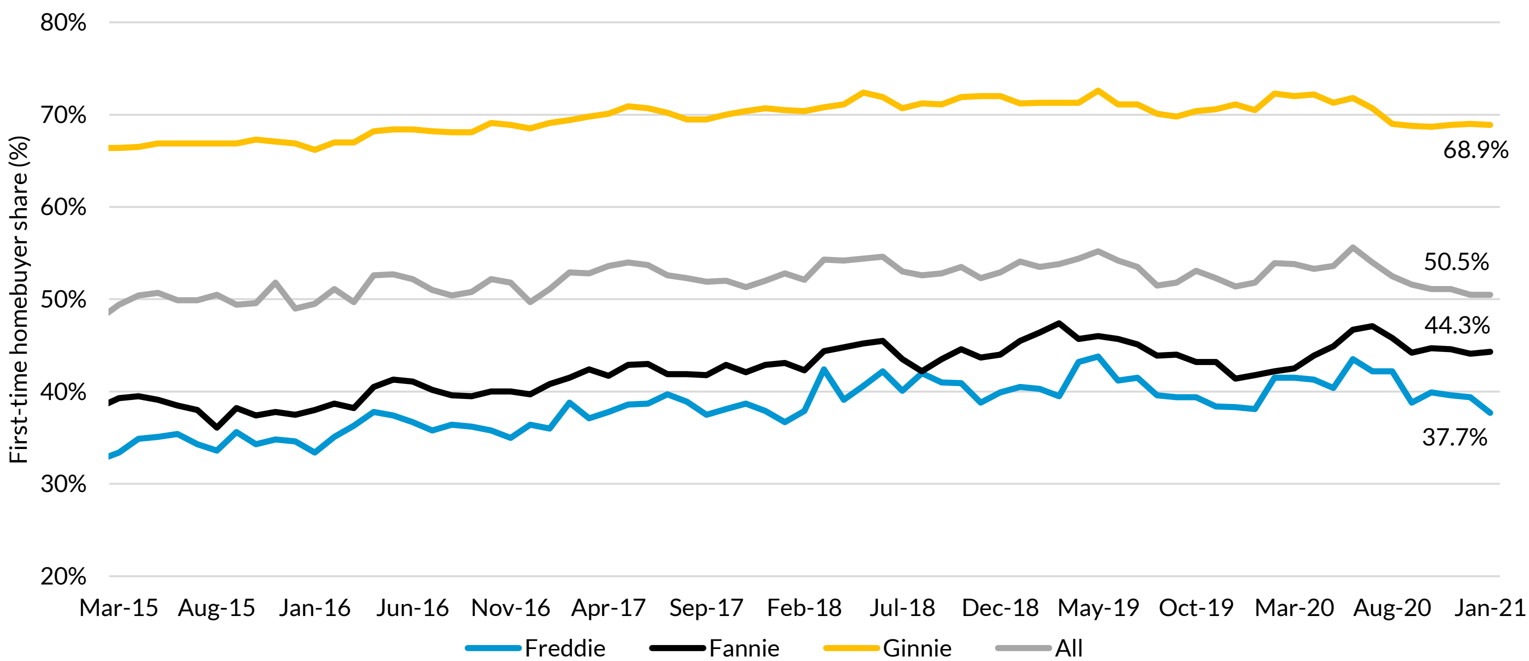


Sources: *eMBS and Urban Institute.*
Note: *Based on at-issuance balance. Data as of January 2021.*

Credit Box

The first time homebuyer share of Ginnie Mae purchase loans was 68.9 percent in January 2021, down from 70.5 percent in January 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 44.3 percent and 37.7 percent of Fannie Mae and Freddie Mac purchase originations, respectively. The bottom table shows that based on mortgages originated in January 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: Purchase Only Loans



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

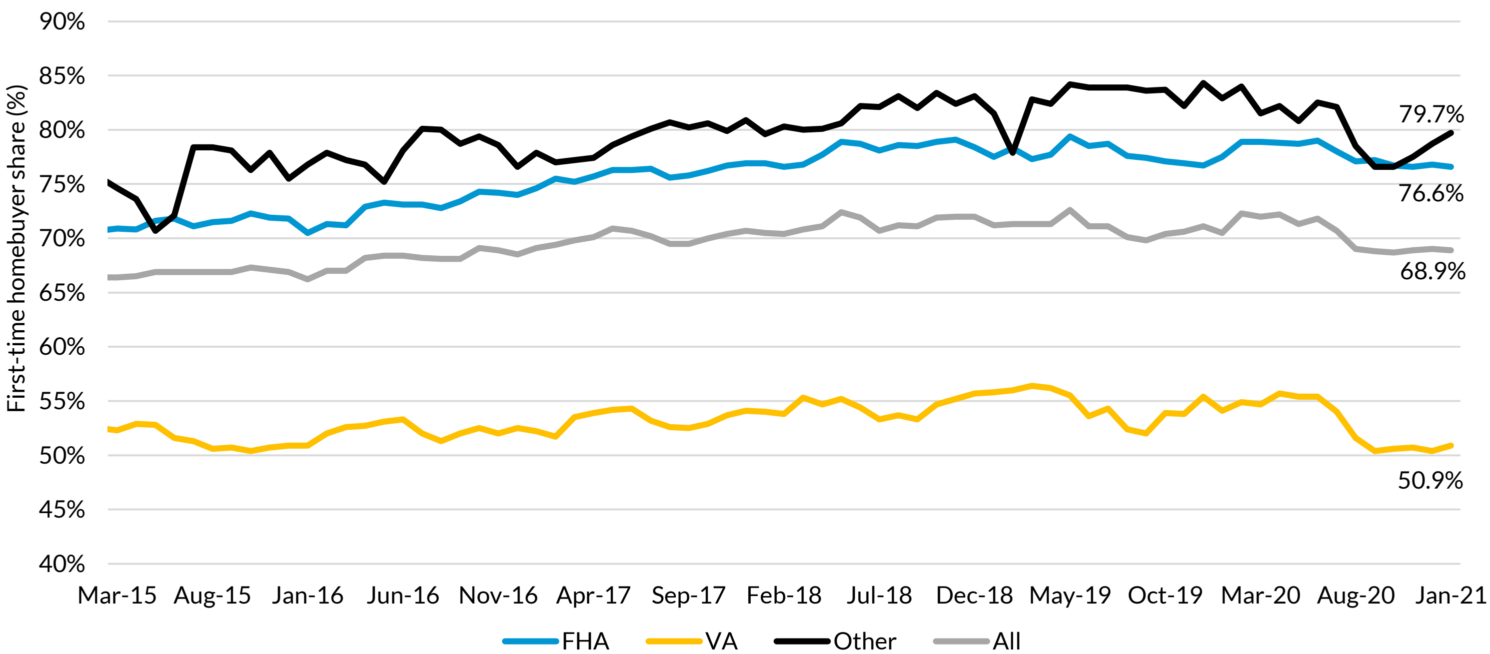
	Fannie Mae		Freddie Mac		Ginnie Mae		All	
	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat
Loan Amount ($)	307,958	322,965	292,423	311,250	247,398	303,775	275,574	313,368
Credit Score	749.4	759.0	746.3	756.2	688.0	704.6	720.8	743.9
LTV (%)	86.8	79.3	87.6	78.9	96.9	95.8	91.6	83.4
DTI (%)	34.0	34.8	34.6	35.6	41.4	41.9	37.5	36.9
Loan Rate (%)	2.8	2.8	2.9	2.8	2.9	2.8	2.9	2.8

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 January 2021.*

Credit Box

Within the Ginnie Mae purchase market, 76.6 percent of FHA loans, 50.9 percent of VA loans, and 79.7 percent of other loans represent financing for first-time home buyers in January 2021. The bottom table shows that based on mortgages originated in January 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 January 2021.*

	FHA		VA		Other		Ginnie Mae Total	
	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat
Loan Amount ($)	240,669	253,716	298,795	363,547	174,640	185,563	247,398	303,775
Credit Score	677.7	676.1	712.8	731.0	700.5	703.6	688.0	704.6
LTV (%)	95.5	94.1	99.8	97.0	99.3	99.3	96.9	95.8
DTI (%)	43.0	43.6	39.6	41.0	34.9	35.3	41.4	41.9
Loan Rate (%)	3.0	3.0	2.7	2.7	2.9	3.0	2.9	2.8

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 January 2021.*

January 2021 Credit Box at a Glance

In January 2021, the median Ginnie Mae FICO score was 699 versus 771 for Fannie Mae and 769 for Freddie Mac. Note that the FICO score for the 10th percentile was 637 for Ginnie Mae, versus 699 for Fannie Mae and 698 for Freddie Mac. Within the Ginnie Mae market, FHA loans have a median FICO score of 671, VA loans have a median FICO score of 737 and other loans have a median FICO score of 696.

Purchase FICO							
	Number of Loans	**P10**	**P25**	**Median**	**P75**	**P90**	**Mean**
All	360,419	655	715	743	781	800	735
Fannie	138,153	691	735	761	794	802	753
Freddie	103,847	697	729	765	790	803	757
Ginnie	118,419	633	653	683	730	774	693
Refi FICO							
	Number of Loans	**P10**	**P25**	**Median**	**P75**	**P90**	**Mean**
All	746,742	687	726	768	793	806	756
Fannie	356,230	702	740	774	796	808	763
Freddie	282,832	698	733	770	793	806	760
Ginnie	107,680	644	674	720	772	798	720
All FICO							
	Number of Loans	**P10**	**P25**	**Median**	**P75**	**P90**	**Mean**
All	1,107,161	673	715	761	790	804	749
Fannie	494,383	699	735	771	794	806	761
Freddie	386,679	698	732	769	792	805	759
Ginnie	226,099	637	661	699	754	790	706

Purchase FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	**P10**	**P25**	**Median**	**P75**	**P90**	**Mean**
All	118,419	633	653	683	730	774	693
FHA	71,280	627	646	670	702	741	677
VA	36,875	647	676	722	771	796	722
Other	10,264	645	663	695	735	770	701
Refi FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	**P10**	**P25**	**Median**	**P75**	**P90**	**Mean**
All	107,680	644	674	720	772	798	720
FHA	29,094	627	649	675	707	748	680
VA	77,690	658	694	744	783	802	735
Other	896	657	678	715	756	784	714
All FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	**P10**	**P25**	**Median**	**P75**	**P90**	**Mean**
All	226,099	637	661	699	754	790	706
FHA	100,374	627	647	671	704	743	678
VA	114,565	654	688	737	780	801	731
Other	11,160	646	664	696	737	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 January 2021.*

January 2021 Credit Box at a Glance

In January 2021, the median loan-to-value ratio (LTV) was 96.3 percent for Ginnie Mae, compared to 70 percent for Fannie Mae and 71 percent for Freddie Mac. The 90th percentile was 100.2 percent for Ginnie Mae, versus 92 percent for Fannie and 90 percent for Freddie. Within the Ginnie Mae market, the median LTV was 96.5 for FHA, 93.4 for VA and 101.0 for other programs.

Purchase LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	360,436	71.0	80.0	93.0	96.5	100.0	86.8
Fannie	138,004	64.0	79.0	80.0	95.0	95.0	82.3
Freddie	103,868	64.0	77.0	80.0	95.0	95.0	81.6
Ginnie	118,564	94.0	96.5	96.5	100.0	101.0	96.5
Refi LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	785,728	43.0	56.0	70.0	80.0	90.1	67.6
Fannie	356,227	40.0	52.0	65.0	75.0	80.0	62.7
Freddie	282,848	42.0	55.0	67.0	75.0	80.0	64.4
Ginnie	146,653	66.7	79.8	89.7	96.7	99.7	85.9
All LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	1,146,164	47.0	60.0	75.0	90.0	96.5	73.6
Fannie	494,231	43.0	56.0	70.0	80.0	92.0	68.2
Freddie	386,716	45.0	59.0	71.0	80.0	90.0	69.0
Ginnie	265,217	74.3	86.4	96.3	97.9	100.2	90.7

Purchase LTV: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	118,564	94.0	96.5	96.5	100.0	101.0	96.5
FHA	71,373	93.9	95.7	96.5	96.5	96.5	95.2
VA	36,900	92.8	100.0	100.0	100.0	102.3	98.4
Other	10,291	96.1	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	146,653	66.7	79.8	89.7	96.7	99.7	85.9
FHA	47,419	74.1	81.4	91.0	96.4	97.7	87.6
VA	98,292	63.5	77.6	88.9	97.0	100.4	85.1
Other	942	77.3	86.3	95.4	99.9	101.0	91.6
All LTV: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	265,217	74.3	86.4	96.3	97.9	100.2	90.7
FHA	118,792	81.1	91.4	96.5	96.5	96.7	92.2
VA	135,192	67.6	81.9	93.4	100.0	101.5	88.7
Other	11,233	93.9	99.1	101.0	101.0	101.0	98.7

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 January 2021.*

January 2020 Credit Box at a Glance

In January 2021, the median Ginnie Mae debt-to-income ratio (DTI) was 41.5 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 43.8 percent, versus 39.0 percent for VA and 35.6 percent for other lending programs.

Purchase DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	359,885	23.0	30.0	38.0	44.0	49.0	37.0
Fannie	138,222	21.0	28.0	36.0	43.0	47.0	35.0
Freddie	103,865	21.0	28.0	36.0	42.0	46.0	34.4
Ginnie	117,798	28.4	35.2	42.4	48.7	53.7	41.5
Refi DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	676,462	19.0	25.0	33.0	41.0	46.0	32.7
Fannie	356,200	18.0	25.0	33.0	41.0	45.0	32.3
Freddie	282,833	19.0	25.0	33.0	41.0	45.0	32.6
Ginnie	37,429	22.3	30.0	37.7	46.2	52.4	37.5
All DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	1,036,347	20.0	26.6	35.0	42.0	47.0	34.2
Fannie	494,422	19.0	25.0	34.0	41.0	46.0	33.0
Freddie	386,698	19.0	26.0	34.0	41.0	45.0	33.1
Ginnie	155,227	26.8	33.7	41.5	48.2	53.5	40.6

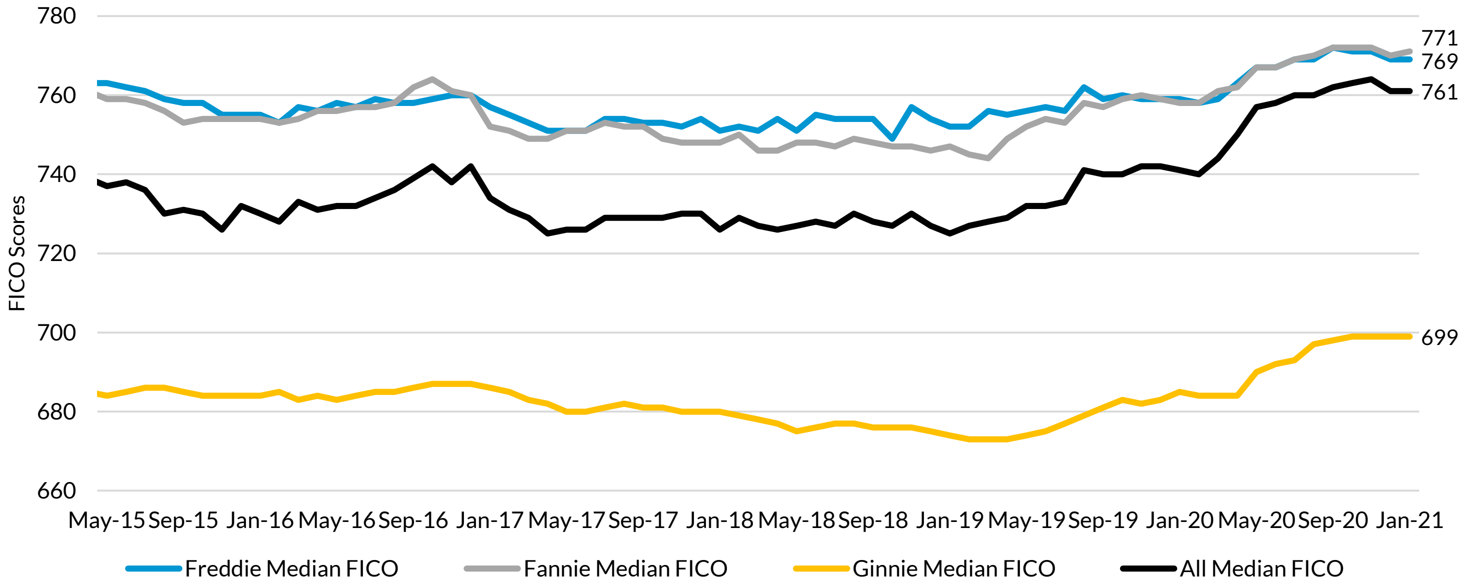
Purchase DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	117,798	28.4	35.2	42.4	48.7	53.7	41.5
FHA	71,097	30.8	37.5	44.2	49.8	54.2	43.1
VA	36,421	26.2	33.1	40.9	47.8	53.4	40.3
Other	10,280	25.5	30.4	35.9	40.2	43.3	35.0
Refi DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	37,429	22.3	30.0	37.7	46.2	52.4	37.5
FHA	15,253	26.6	33.2	41.7	48.5	53.6	40.6
VA	21,639	20.3	27.9	35.0	44.0	50.8	35.6
Other	537	16.5	22.9	29.0	34.9	40.9	29.1
All DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	155,227	26.8	33.7	41.5	48.2	53.5	40.6
FHA	86,350	30.0	36.8	43.8	49.6	54.2	42.7
VA	58,060	23.7	31.1	39.0	46.6	52.6	38.5
Other	10,817	24.9	30.0	35.6	40.1	43.2	34.7

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 January 2021.*

Credit Box: Historical

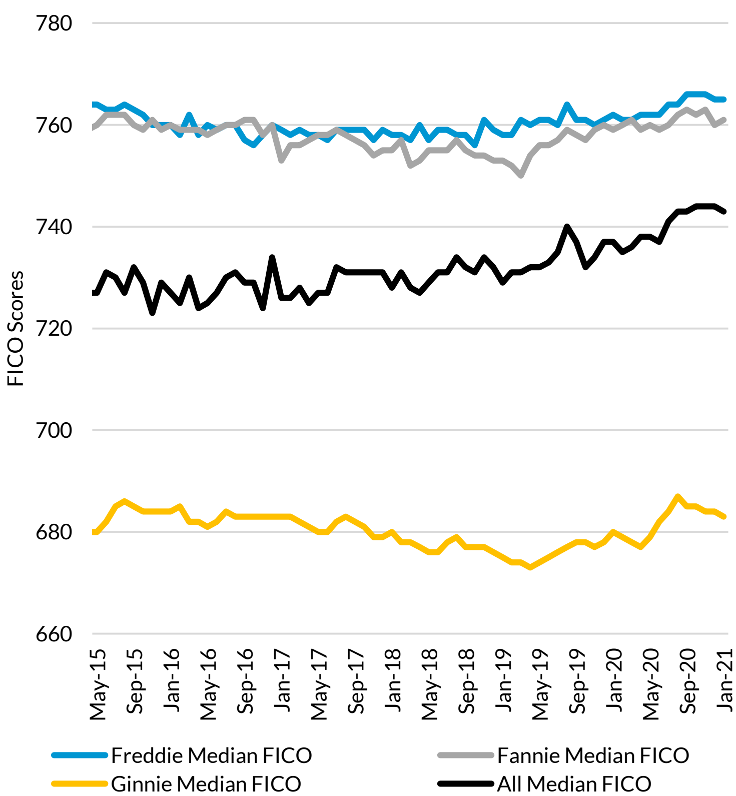
The median FICO score for all agency loans originated in January 2021 was 761, up considerably since the start of 2019, owing to the refinance wave, which higher FICO borrowers take advantage of with greater frequency. In addition, the increases in refinance activity have been much more dramatic at the 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



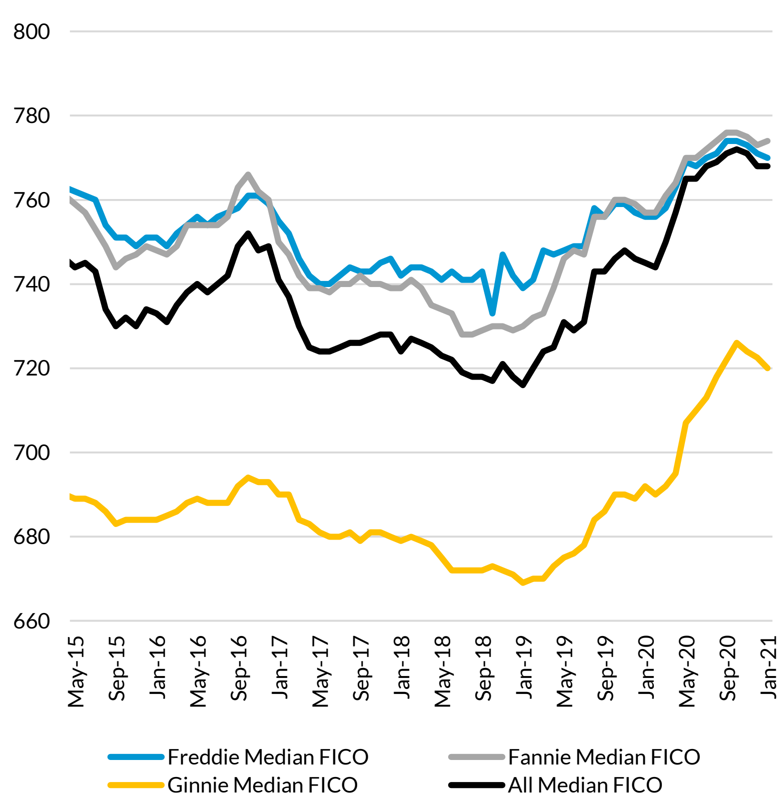
Sources: *eMBS and Urban Institute.* **Note**: *Data as of January 2021.*

FICO Scores for Purchase Loans



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

FICO Scores for Refinance Loans

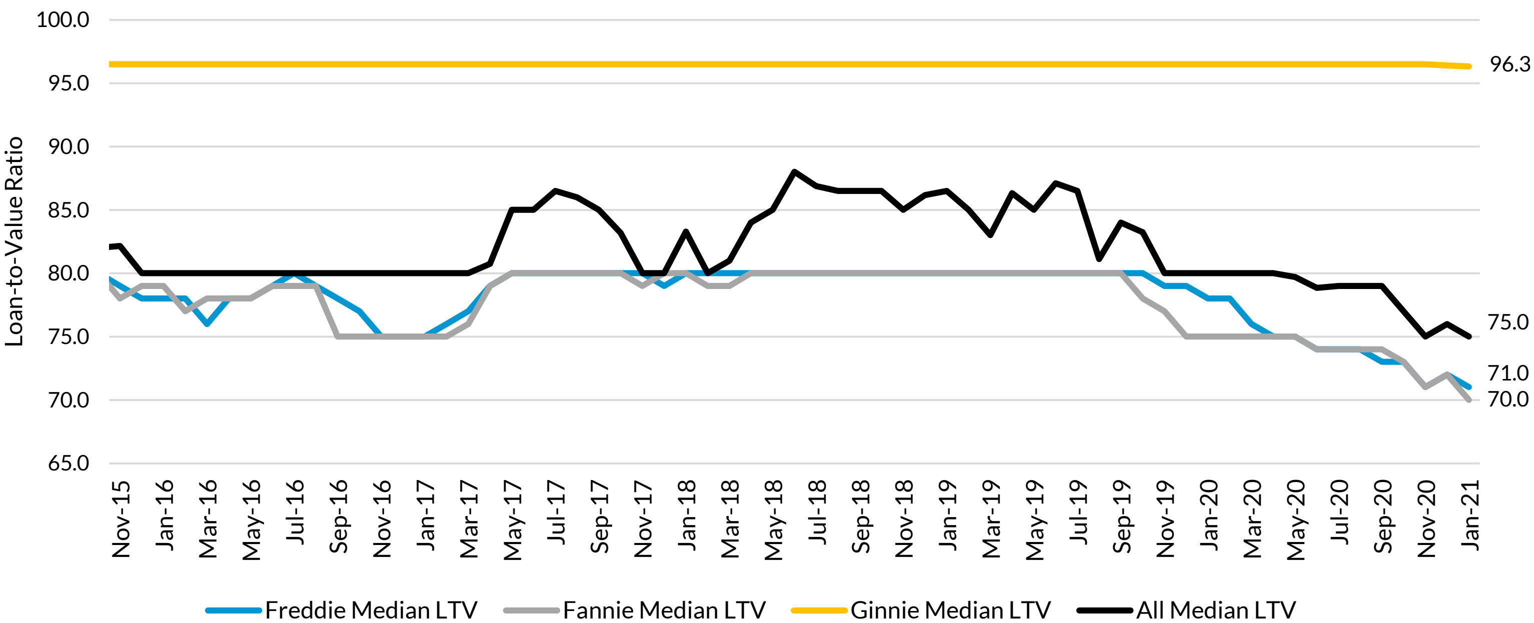


Sources: *eMBS and Urban Institute.* **Note:** *Data as of January 2021.*

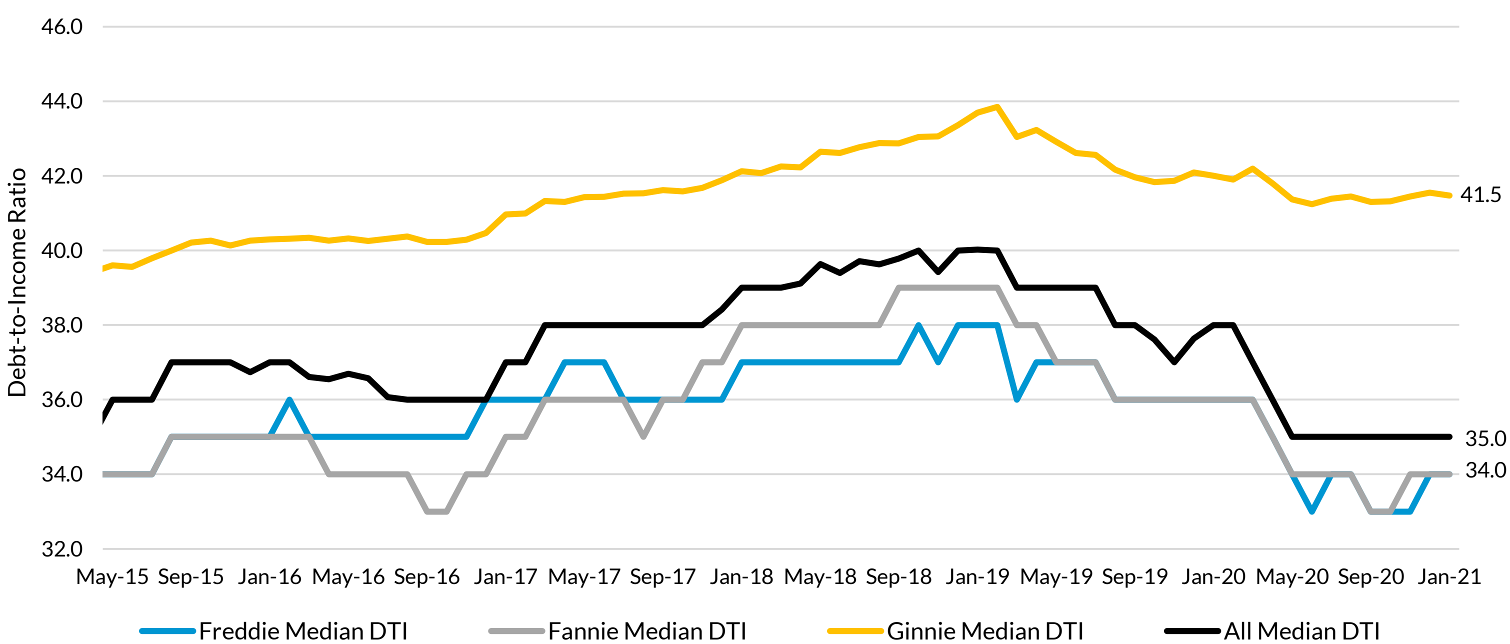
Credit Box: Historical

The median LTV for Ginnie Mae loans was 96.3 percent in January 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

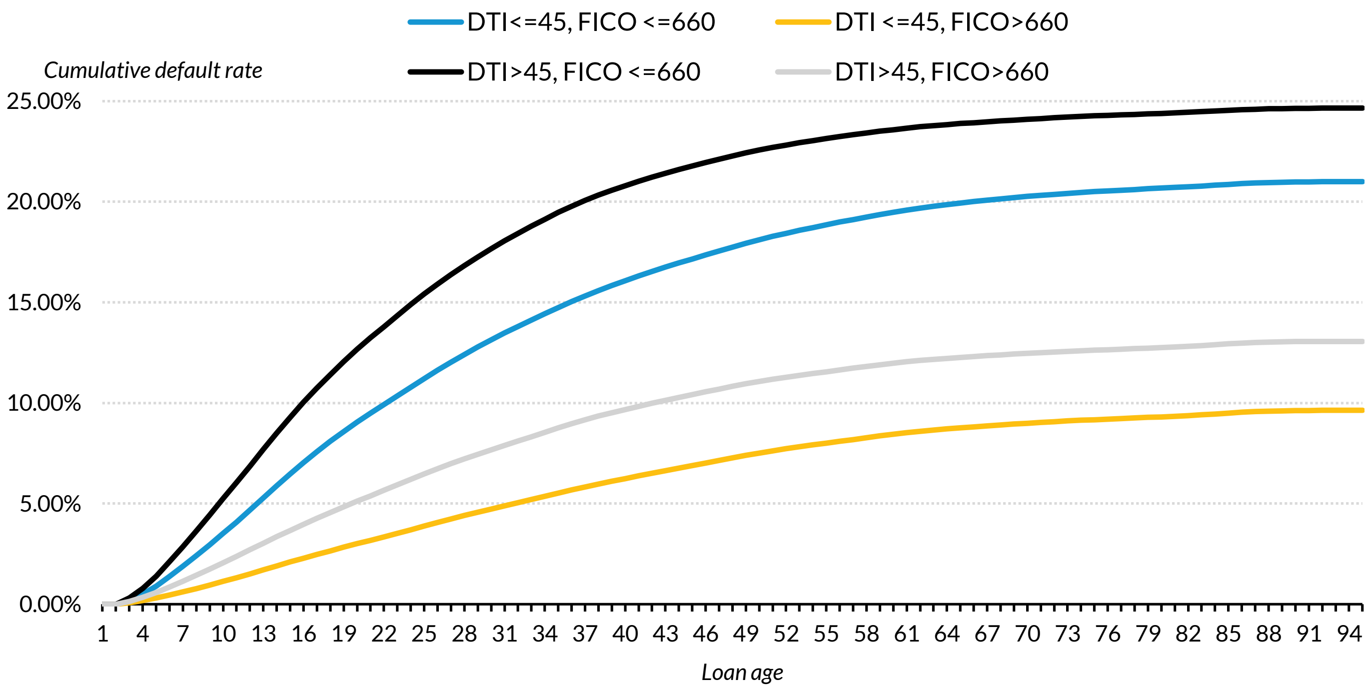


Sources: *eMBS and Urban Institute.* **Note:** *In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA loans, which includes the financed upfront mortgage insurance premium. To make it consistent with the previously reported LTV, we removed the financed upfront mortgage insurance premium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

Credit Box: Historical

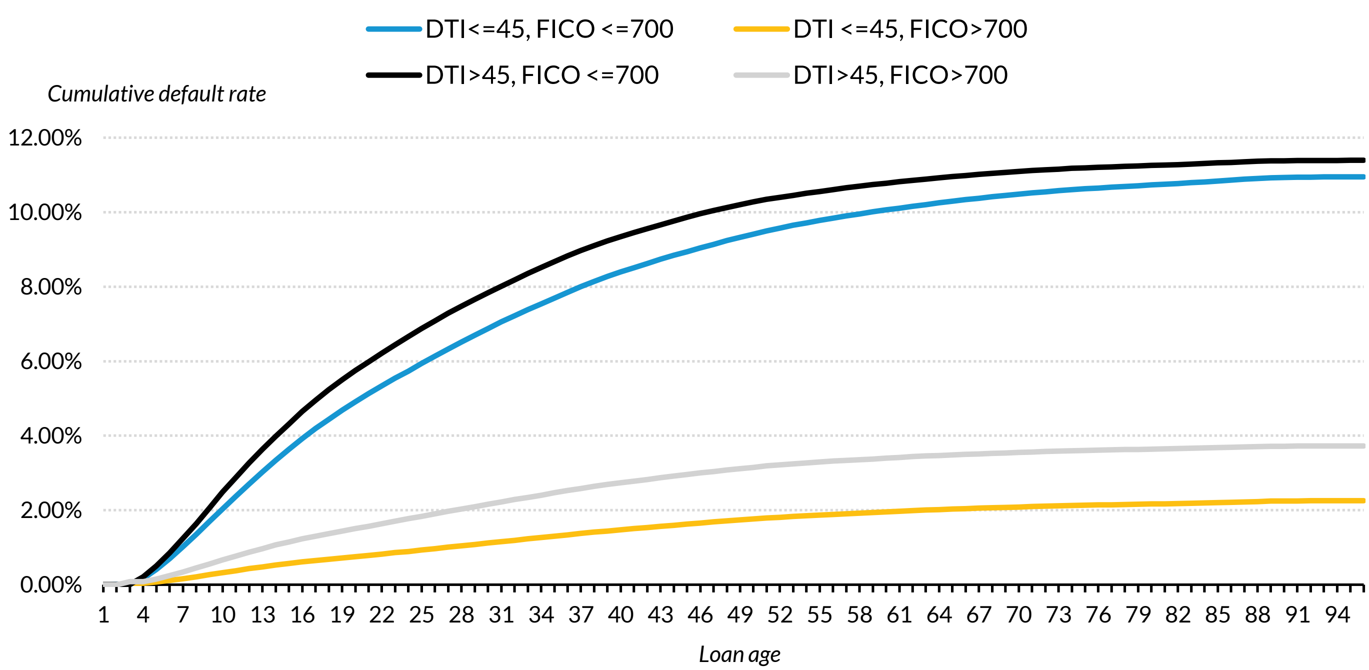
DTI is a much weaker predictor of performance than FICO score. The top chart shows FHA borrowers with higher DTIs do default more than those with lower DTIs, but the differences are modest, as evidenced by the fact that the black line is very close to the blue line and the grey line is not that much 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 February 2020.*

VA Cumulative Default Rate by DTI and FICO

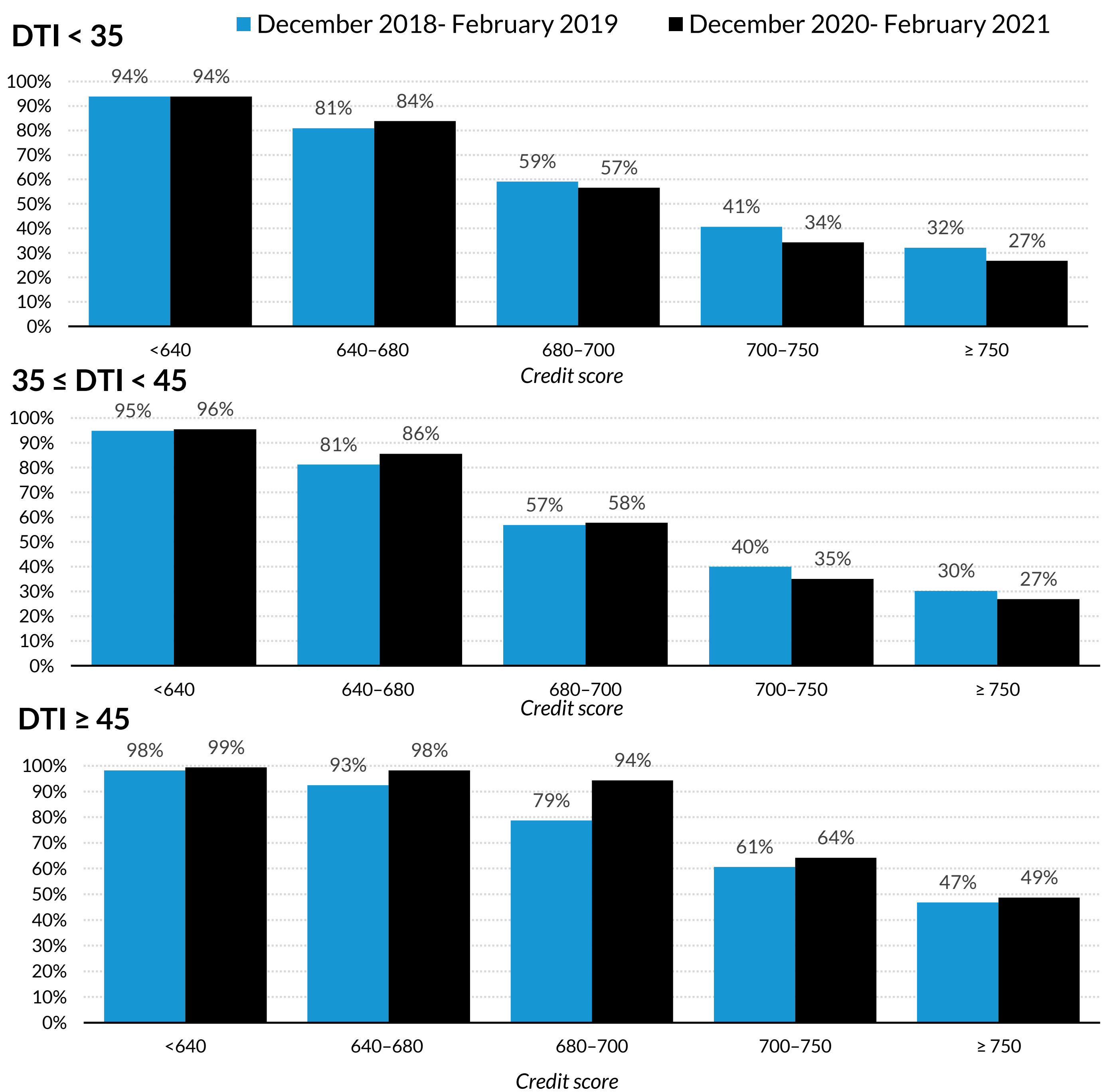


Sources: *eMBS and Urban Institute*. **Note:** Defaults = 180 days delinquent. *Data as of February 2020.*

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 December 2020- February 2021, Ginnie Mae accounted for 94 percent of agency issuance for DTIs under 35 and FICOs below 640, compared to just 27 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 December 2020– February 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 94 percent; it was 57-58 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 65.2 percent of its issuances in the December 2020- February 2021 period having LTVs of 95 or above, compared to 9.0 percent for the GSEs. Both the GSEs and Ginnie Mae have decreased their high-LTV lending share from December 2018– February 2019, with the GSEs falling more dramatically from 21.8 percent. The share of high-LTV agency loans going to highest FICO borrowers (i.e. above 750) has increased from the December 2018- February 2019 period to the December 2020- February 2021 period, as has the share of lower DTI borrowers (below 35).

Share of Loans with LTV ≥ 95

	Ginnie Mae	GSE	All
December 2018- February 2019	69.8%	21.8%	38.1%
December 2020- February 2021	65.2%	9.0%	17.2%

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

December 2018-February 2019

	FICO					
DTI	<640	640–680	680–700	700–750	≥ 750	All
< 35	2.8%	4.3%	2.3%	6.2%	7.9%	23.5%
35 –45	5.5%	8.7%	4.7%	11.2%	9.9%	40.0%
≥ 45	5.5%	9.5%	4.7%	9.8%	7.0%	36.5%
All	13.8%	22.6%	11.7%	27.2%	24.7%	100.0%

December 2020-February 2021

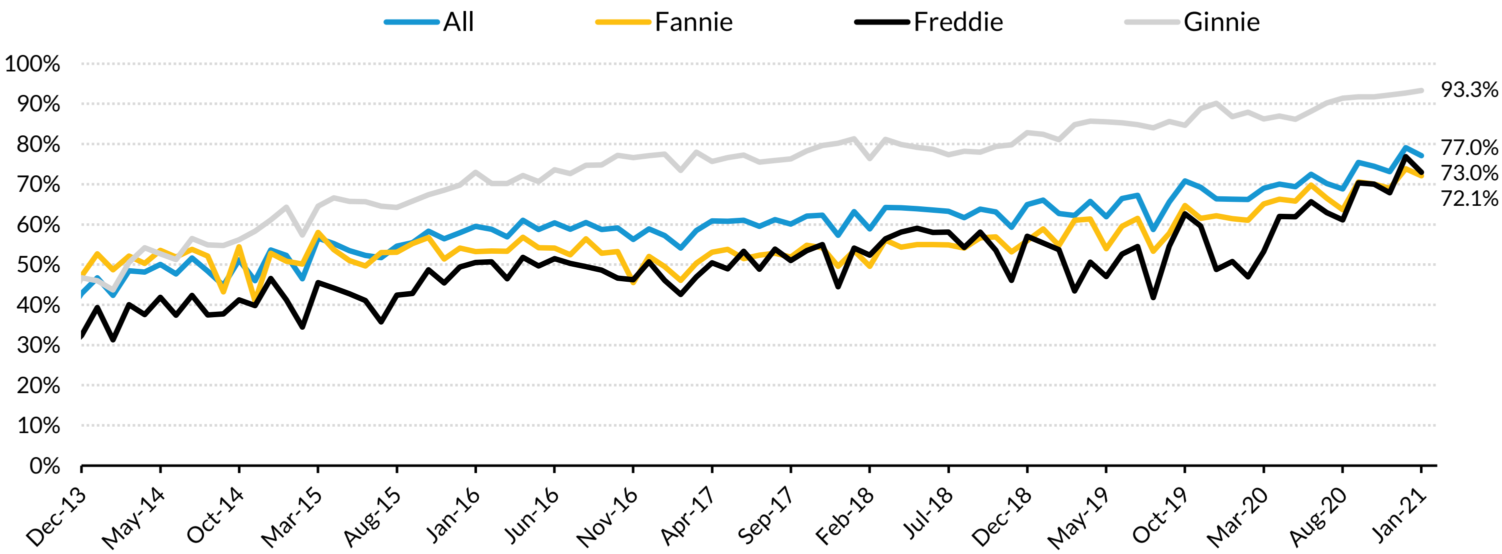
	FICO					
DTI	<640	640–680	680–700	700–750	≥ 750	All
< 35	1.7%	4.6%	3.0%	8.9%	13.1%	31.3%
35 –45	3.0%	8.5%	4.9%	12.9%	12.7%	42.0%
≥ 45	2.6%	7.1%	3.3%	7.7%	6.1%	26.7%
All	7.2%	20.2%	11.2%	29.6%	31.8%	100.0%

Sources: *eMBS and Urban Institute.*

Nonbank Originators

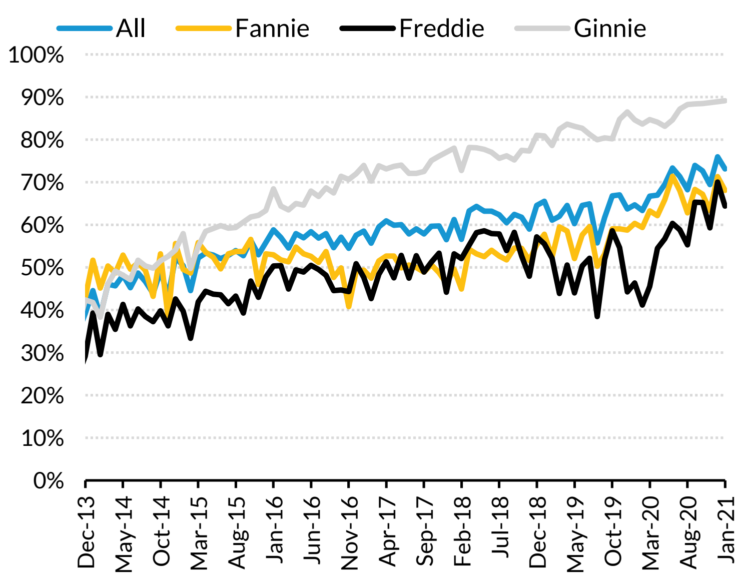
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 93.3 percent in January 2021, a new record high. Fannie and Freddie's nonbank shares both declined slightly in January, standing at 73.0 percent and 72.1 percent respectively (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

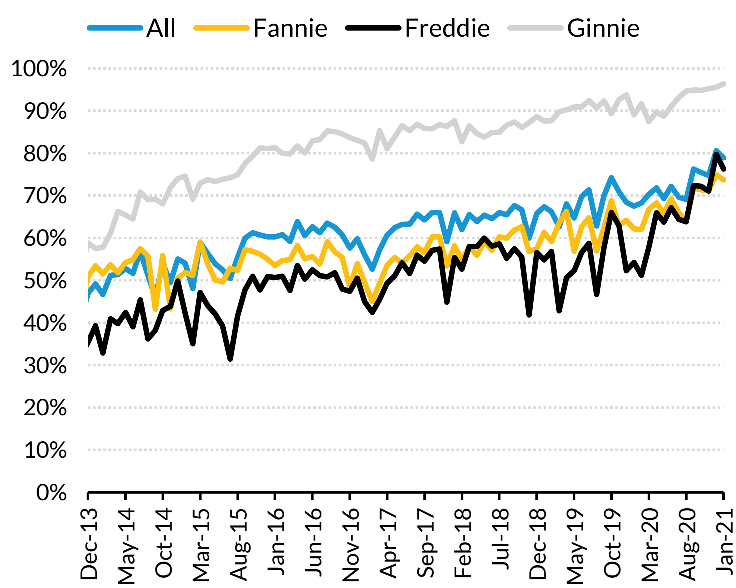


Sources: *eMBS and Urban Institute*
Note: *Data as of January 2021.*

Nonbank Origination Share: Purchase Loans



Nonbank Origination Share: Refinance Loans

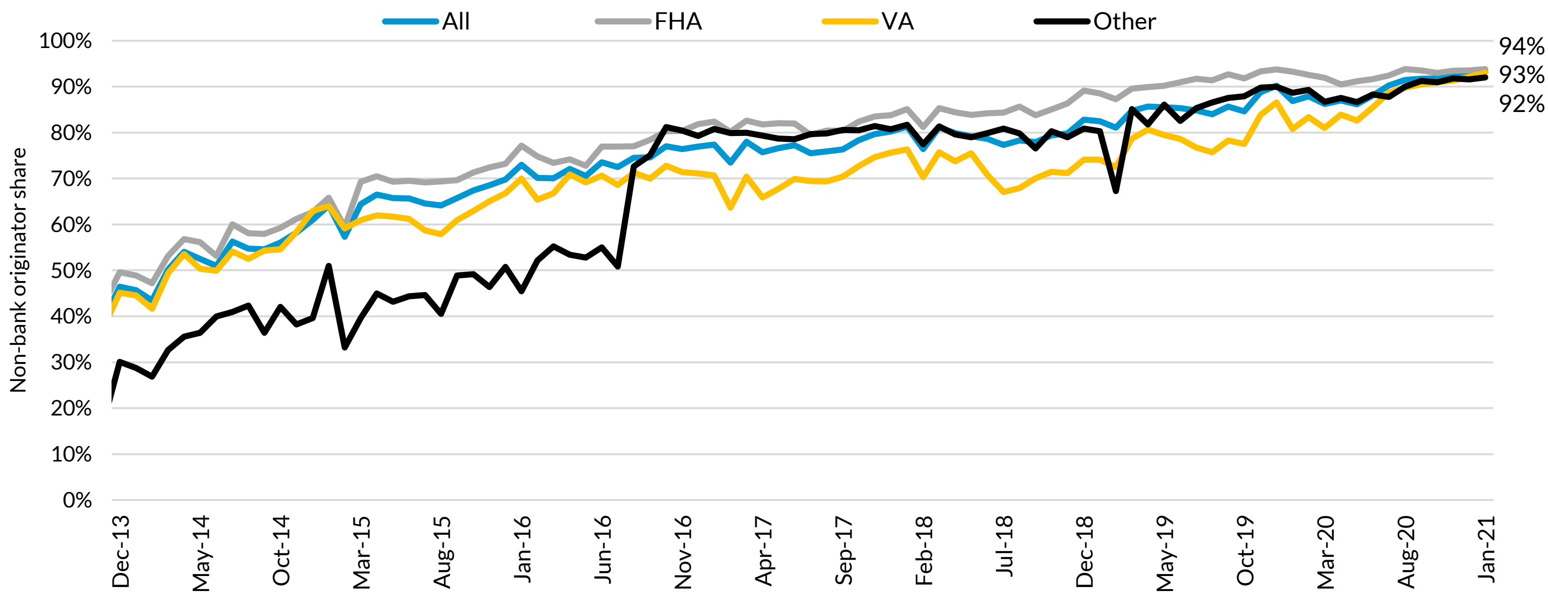


Sources: *eMBS and Urban Institute.* **Note: "***Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of January 2021.*

Ginnie Mae Nonbank Originators

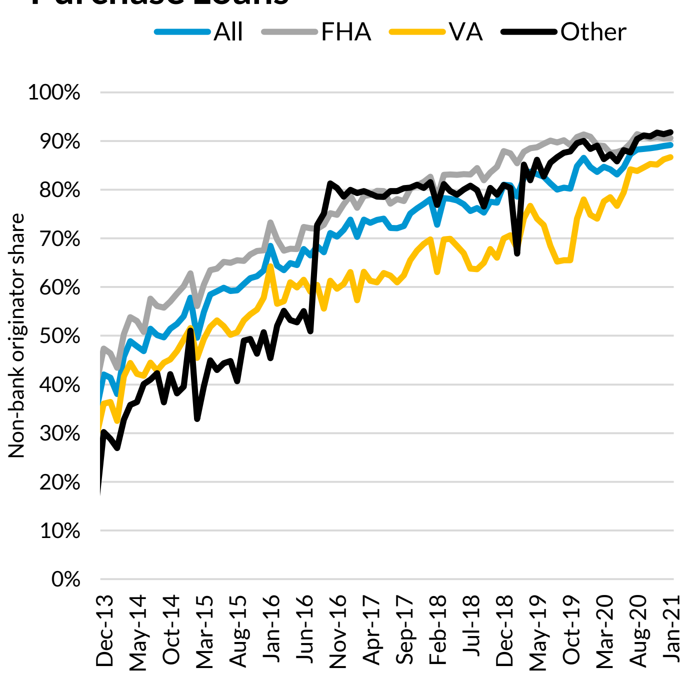
In January 2021, Ginnie Mae's nonbank share rose very slightly to 93.3 percent. The nonbank originator share for FHA also rose slightly to 93.9 percent in January, up very marginally from the previous month. The nonbank originator share for VA was higher than last month at 93.0 percent and the nonbank originator share for other loans, which can fluctuate quite a bit month to month, rose to 92.0 percent.

Ginnie Mae Nonbank Originator Share: All Loans

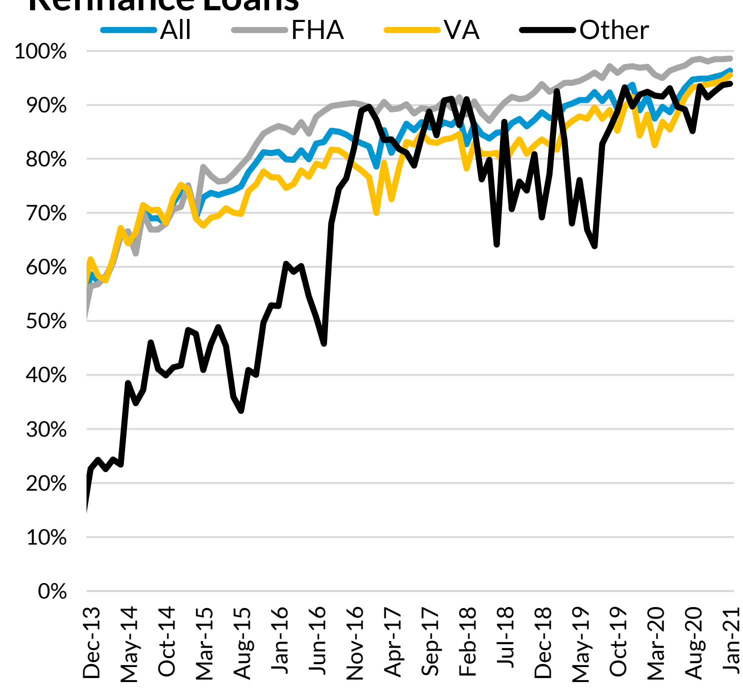


Sources: *eMBS and Urban Institute*
Note: *Data as of January 2021.*

Ginnie Mae Nonbank Share: Purchase Loans



Ginnie Mae Nonbank Share: Refinance Loans

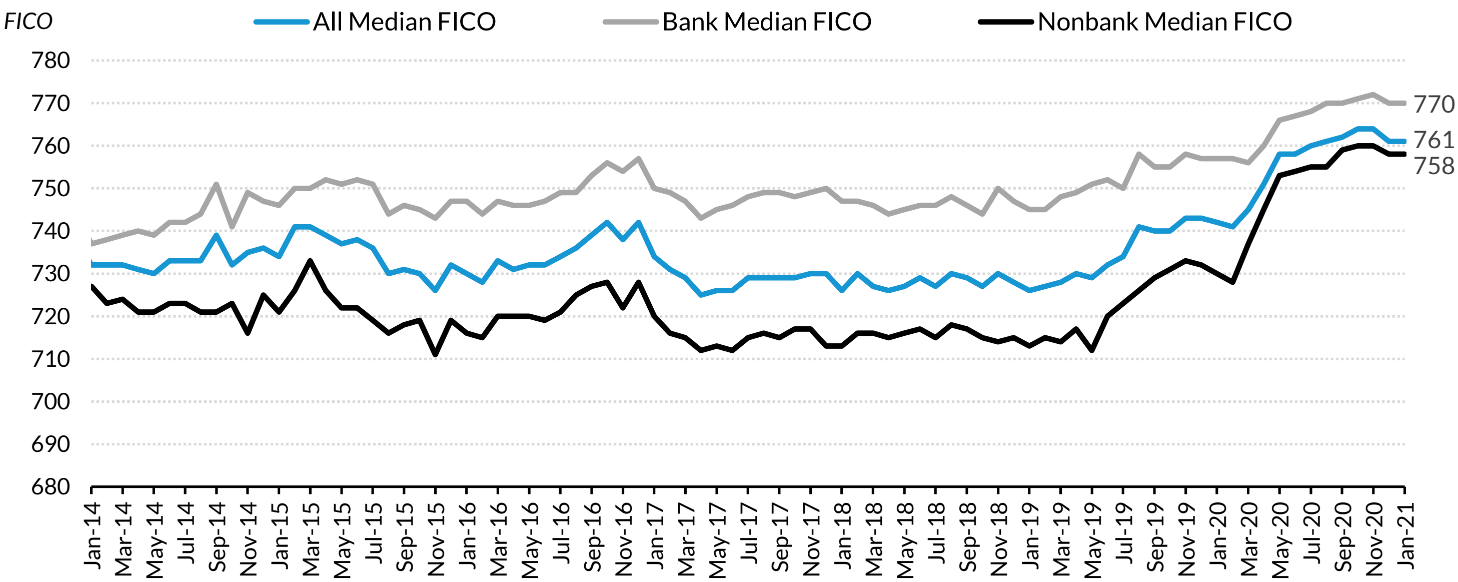


Sources: *eMBS and Urban Institute.* **Note:** *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of January 2021.*

Nonbank Credit Box

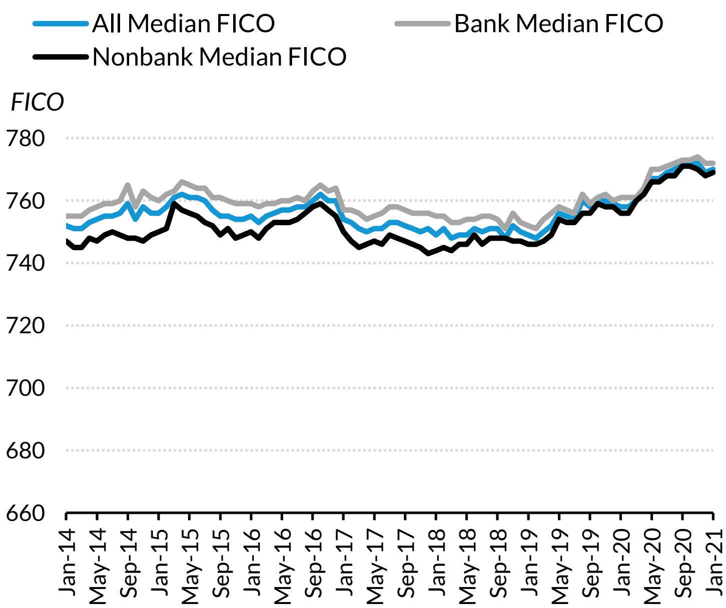
Nonbank originators have played a key role in opening up access to credit. FICO scores for loans originated by nonbanks are lower than their bank counterparts. Within the GSE space, where the differentials between banks and non-banks are small, FICO scores for both have increased since early 2014. The 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 are much higher since early 2014 while nonbank FICOs are up somewhat less. This reflects both the sharp cut-back in FHA lending by many banks, and increased refi activity for higher FICO borrowers.

Agency FICO: Bank vs. Nonbank



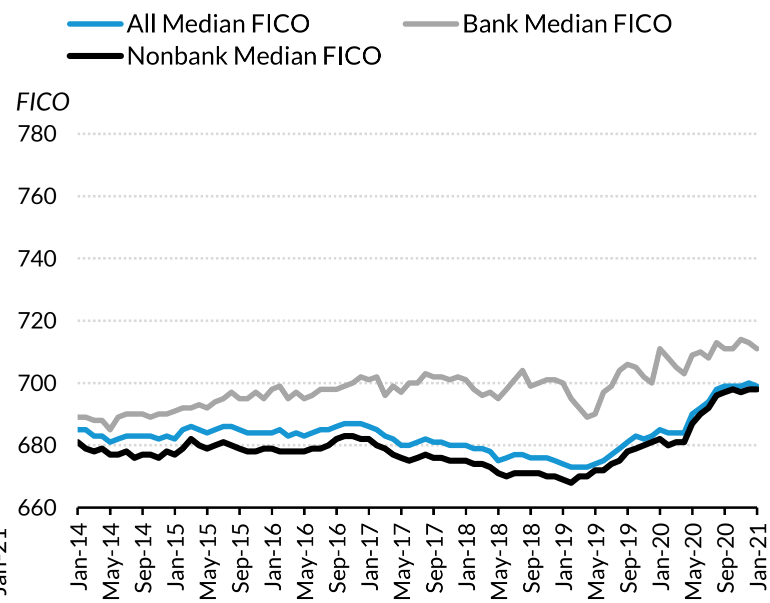
Sources: *eMBS and Urban Institute.* **Note**: *Data as of January 2021.*

GSE FICO: Bank vs. Nonbank



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

Ginnie Mae FICO: Bank vs. Nonbank

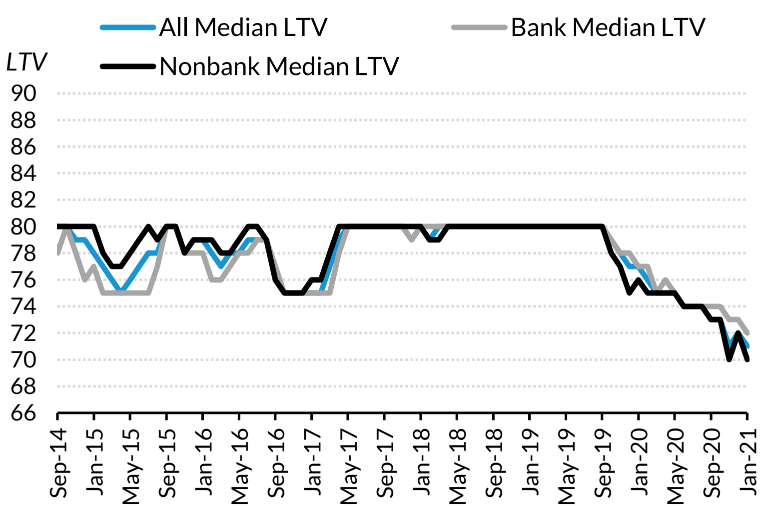


Sources: *eMBS and Urban Institute.*
Note: *Data as of January 2021.*

Nonbank Credit Box

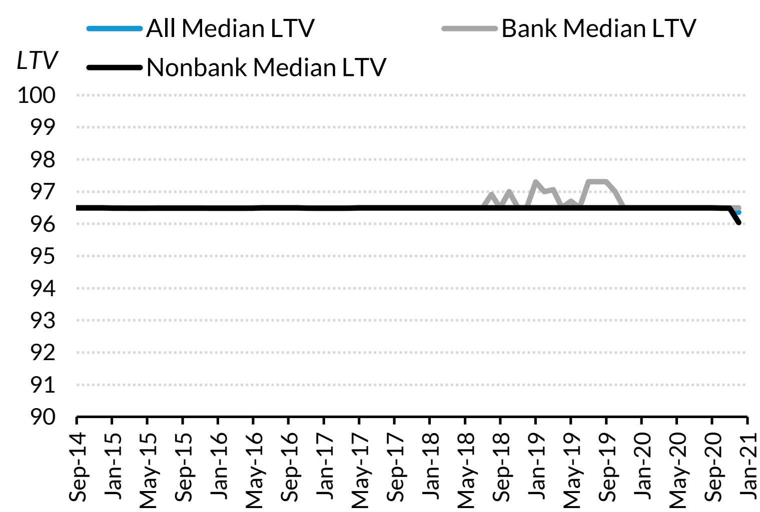
The median LTVs for nonbank and bank originations are comparable, while the median DTI for nonbank loans is higher than for bank loans, indicating that nonbanks are more accommodating in both this and the FICO dimension. Between early 2017 and early 2019, there was a substantial increase in DTIs; over 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



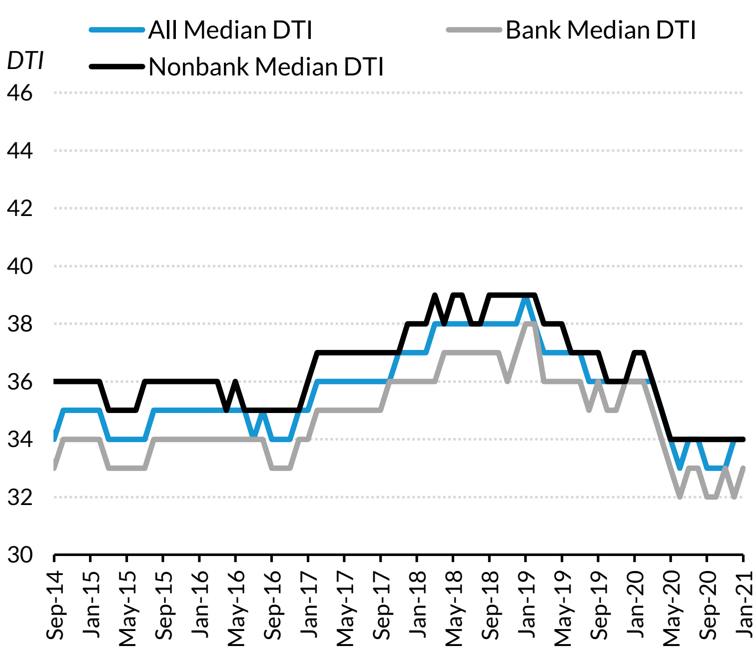
Sources: *eMBS and Urban Institute.* ***Note:*** *Data as of January 2021.*

Ginnie Mae LTV: Bank vs. Nonbank



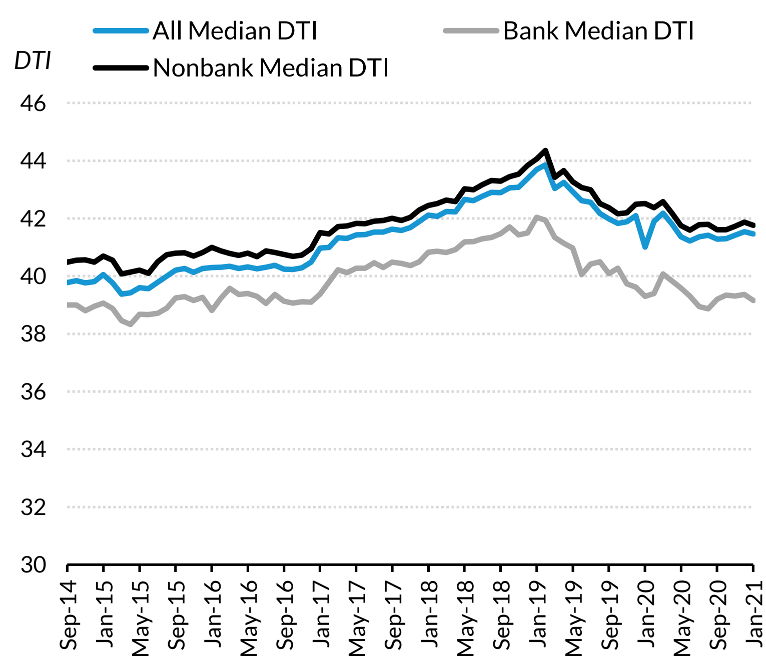
Sources: *eMBS and Urban Institute.* ***Note:*** *Data as of January 2021.*

GSE DTI: Bank vs. Nonbank



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

Ginnie Mae DTI: Bank vs. Nonbank

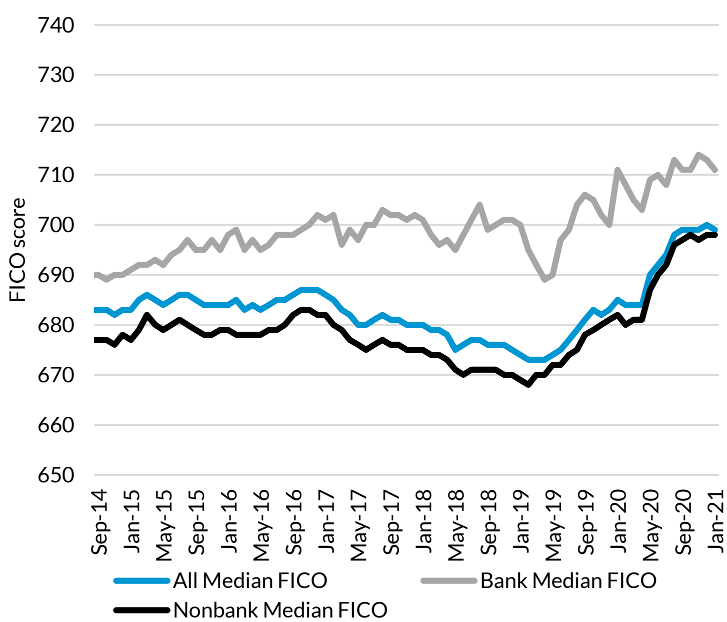


Sources: *eMBS and Urban Institute.* ***Note:*** *Data as of January 2021.*

Ginnie Mae Nonbank Originators: Credit Box

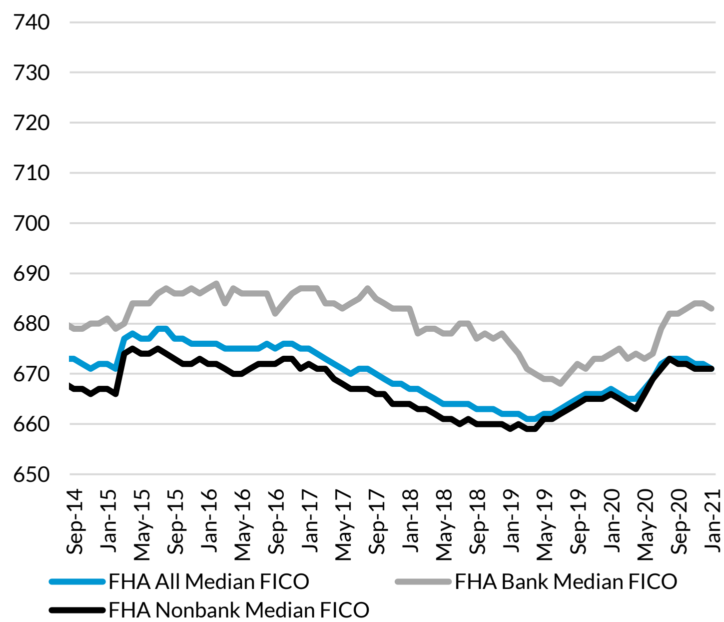
The median FICO score for Ginnie Mae nonbank originators increased slightly in January 2021. Bank FICOs are 15 points above non-banks. The gap between banks and non-banks is very apparent for all categories of government lending.

Ginnie Mae FICO Scores: Bank vs. Nonbank



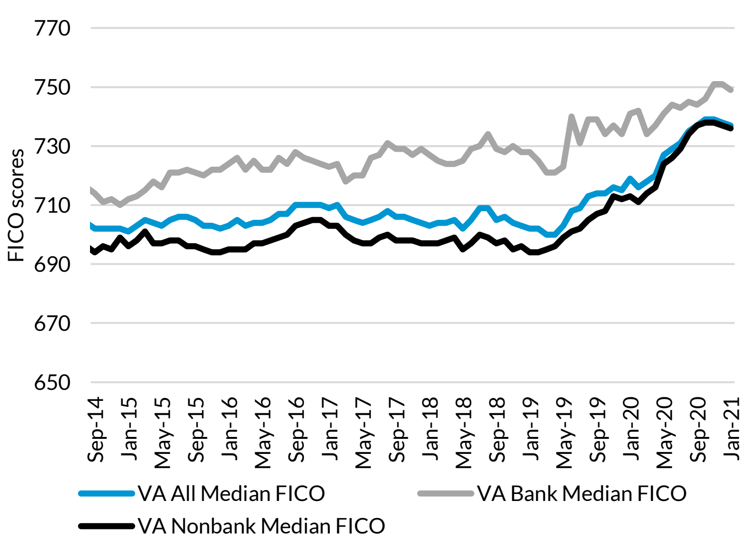
Sources: *eMBS and Urban Institute* **Note:** *Data as of January 2021.*

Ginnie Mae FHA FICO Scores: Bank vs. Nonbank



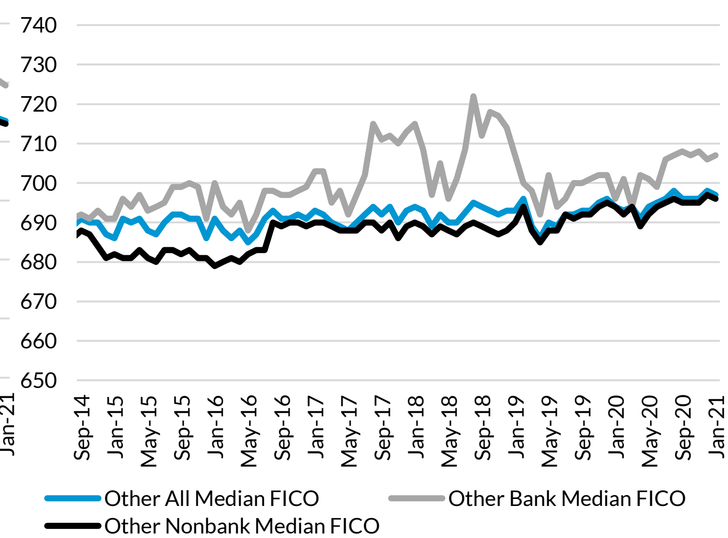
Sources: *eMBS and Urban Institute* **Note:** *Data as of January 2021.*

Ginnie Mae VA FICO Scores: Bank vs. Nonbank



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

Ginnie Mae Other FICO Scores: Bank vs. Nonbank

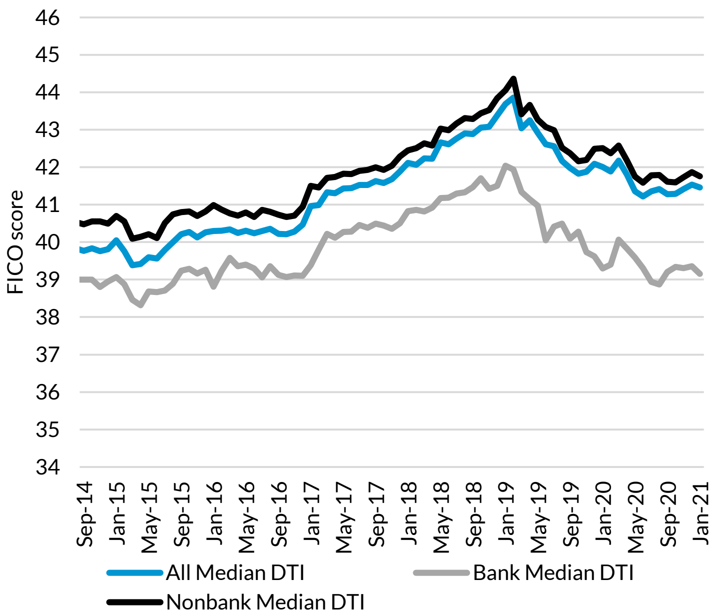


Sources: *eMBS and Urban Institute*
Note: *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of January 2021.*

Ginnie Mae Nonbank Originators: Credit Box

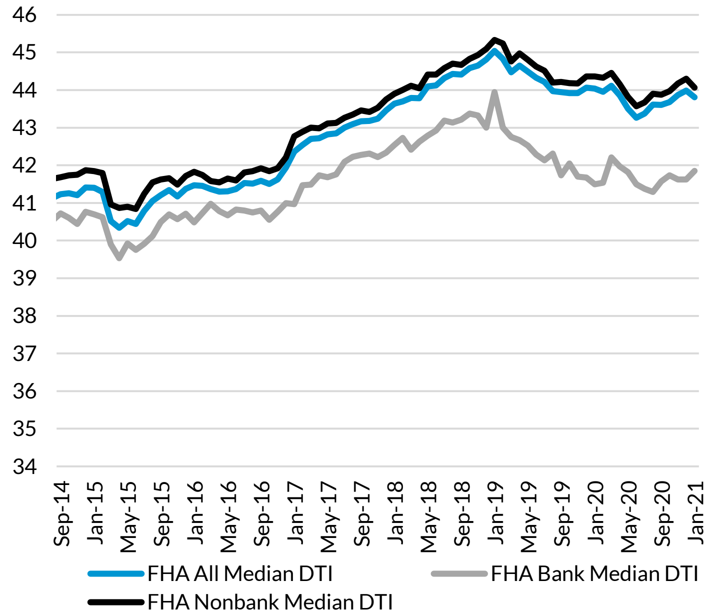
An analysis of borrowers' DTI ratios for bank versus non-bank originators indicates that the former have a lower median DTI. The DTIs for FHA and VA borrowers experienced notable increases during 2017 and 2018 for both banks and nonbank originators, while the Other origination DTIs stayed relatively 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



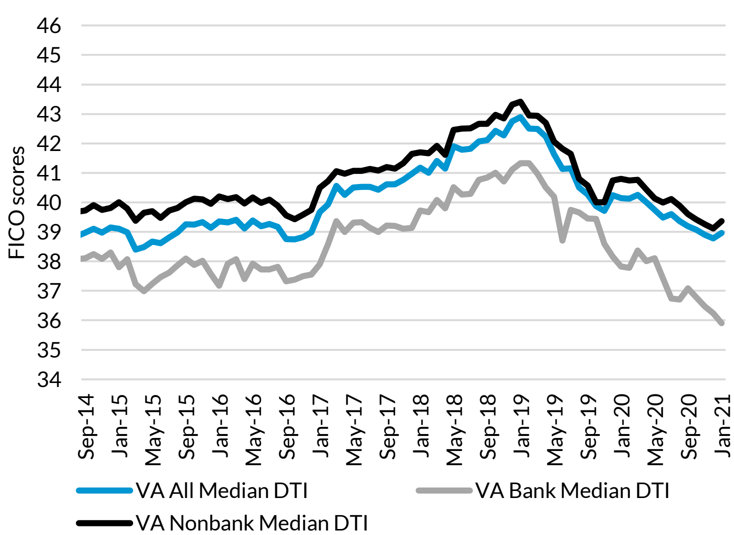
Sources: *eMBS and Urban Institute* **Note:** *Data as of January 2021.*

Ginnie Mae FHA DTI: Bank vs. Nonbank



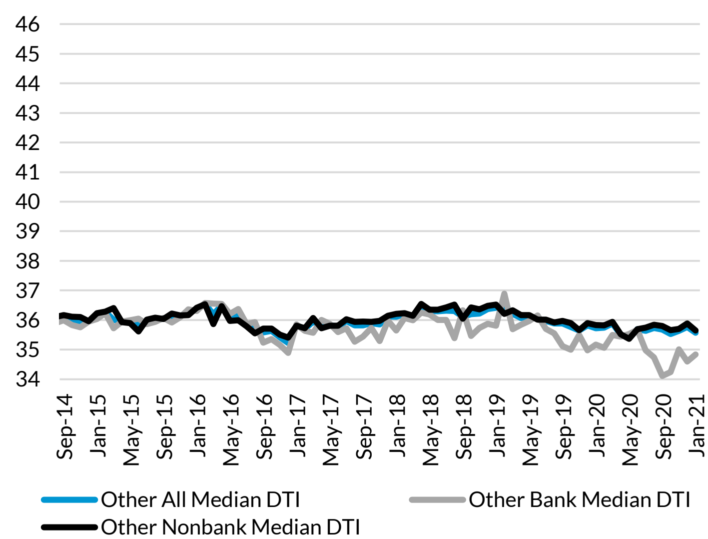
Sources: *eMBS and Urban Institute* **Note:** *Data as of January 2021.*

Ginnie Mae VA DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute*
Note: *Data as of January 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 January 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 January 2021, over half (51.4 percent) of the Ginnie Mae MSRs are owned by the top six firms. The top 30 firms collectively own 83.7 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

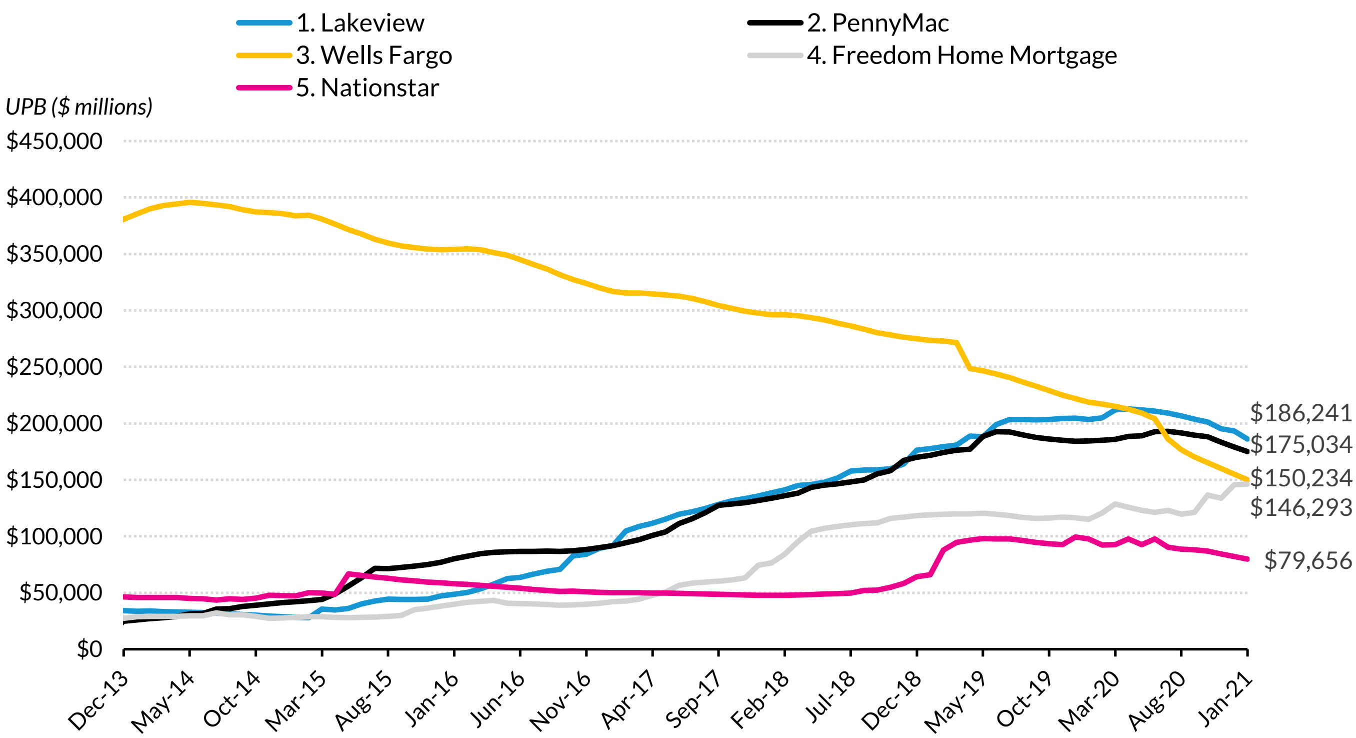
Rank	MSR Holder	UPB ($ millions)	Share	Cumulative Share
1	**Lakeview**	$186,241	11.9%	11.9%
2	**PennyMac**	$175,034	11.2%	23.2%
3	**Wells Fargo**	$150,234	9.6%	32.8%
4	**Freedom Home Mortgage**	$146,293	9.4%	42.2%
5	**Nationstar**	$79,656	5.1%	47.3%
6	**Quicken Loans**	$64,417	4.1%	51.4%
7	**Newrez**	$45,704	2.9%	54.3%
8	**US Bank**	$44,745	2.9%	57.2%
9	**Carrington Mortgage**	$39,726	2.5%	59.7%
10	**USAA Federal Savings Bank**	$36,607	2.3%	62.1%
11	**Caliber Home Loans**	$35,424	2.3%	64.3%
12	**Navy Federal Credit Union**	$26,435	1.7%	66.0%
13	**Truist Bank**	$26,043	1.7%	67.7%
14	**Amerihome Mortgage**	$24,652	1.6%	69.3%
15	**Home Point Financial Corporation**	$20,818	1.3%	70.6%
16	**The Money Source**	$20,431	1.3%	71.9%
17	**Loan Depot**	$19,463	1.2%	73.2%
18	**United WholeSale Mortgage**	$18,524	1.2%	74.4%
19	**Guild Mortgage**	$15,741	1.0%	75.4%
20	**Midfirst Bank**	$15,509	1.0%	76.4%
21	**JP Morgan Chase**	$15,317	1.0%	77.4%
22	**Planet Home Lending**	$13,676	0.9%	78.2%
23	**Citizens Bank**	$12,900	0.8%	79.1%
24	**M&T Bank**	$12,470	0.8%	79.9%
25	**PHH Mortgage Corporation**	$12,069	0.8%	80.6%
26	**Flagstar Bank**	$11,815	0.8%	81.4%
27	**New American Funding**	$9,737	0.6%	82.0%
28	**Mortgage Research Center**	$9,115	0.6%	82.6%
29	**Idaho Housing and Finance Association**	$9,076	0.6%	83.2%
30	**Bank of America**	$8,500	0.5%	83.7%

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

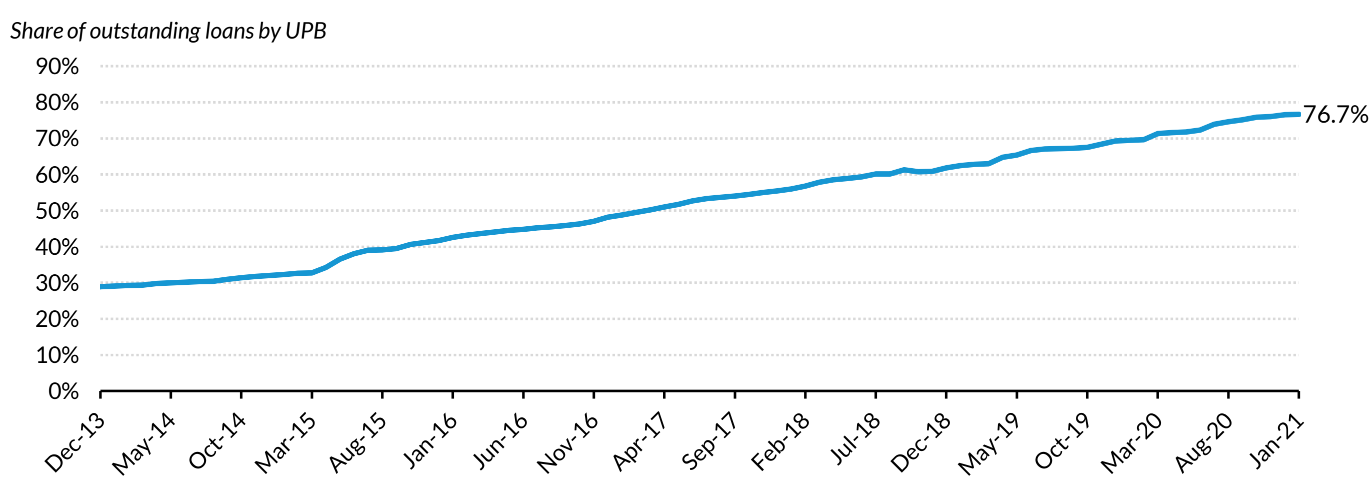
Holders of Ginnie Mae MSRs

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 January 2021, Wells Fargo's holdings of MSRs dipped to $150.2 billion, below the $186.2 and $175.0 billion held by Lakeview and PennyMac, respectively (both nonbanks). Freedom Home Mortgage and Nationstar (also both nonbanks) make up the remainder of the top five largest holders of MSRs, owning $146.3 billion and $79.7 billion respectively as of January 2021. Nonbanks collectively owned servicing rights for 76.7 percent of all outstanding unpaid principal balance guaranteed by Ginnie Mae in January 2021. In December 2013, the nonbank share was much smaller at 27.7 percent.

Top 5 MSR Holders: Outstanding Ginnie Mae Loans by UPB



Share of Ginnie Mae MSRs held by Nonbanks

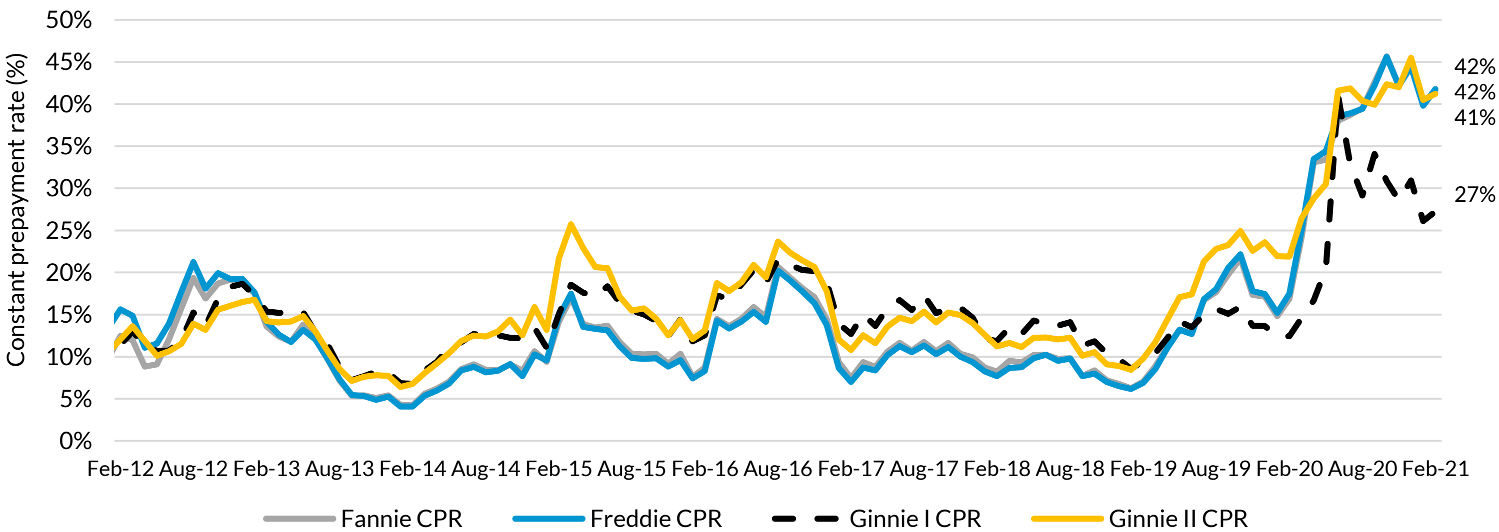


Sources: *eMBS and Urban Institute.* **Note:** *Data as of January 2021.*

Prepayments

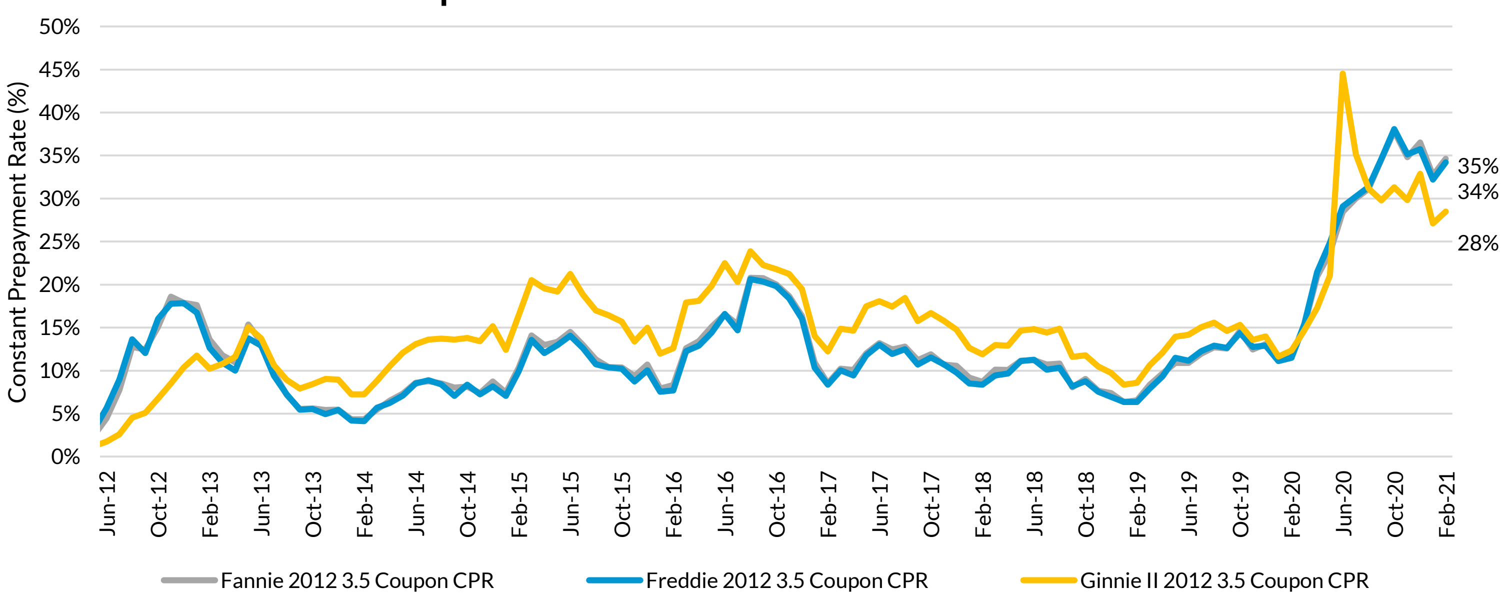
While prepayment speeds on all securities have risen since early 2019, the speed increase has been especially dramatic in 2020, with speeds on both Ginnie II and GSE securities rising rapidly due to a sharp drop in rates. At this point, the speeds on GSE securities have largely converged with those on 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 more muted but still significant increase in mortgage rates since year end 2020.

Aggregate Prepayments



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

2012 Issued 3.5 Coupon CPR

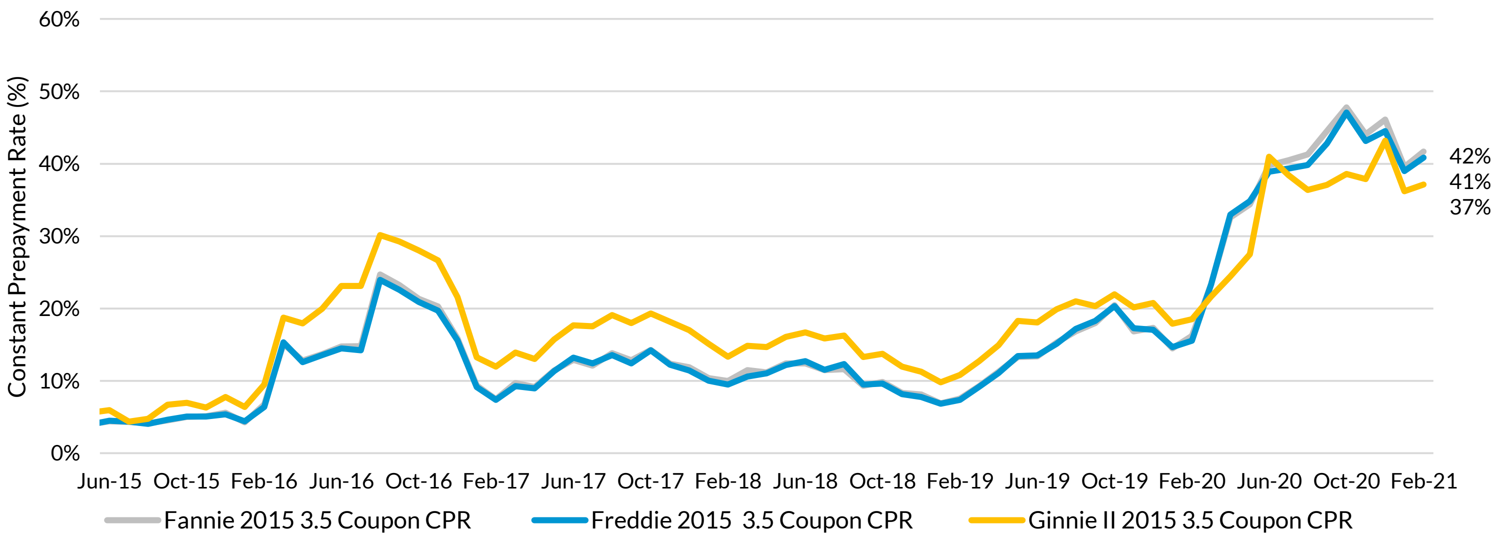


Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of February 2021.*

Prepayments

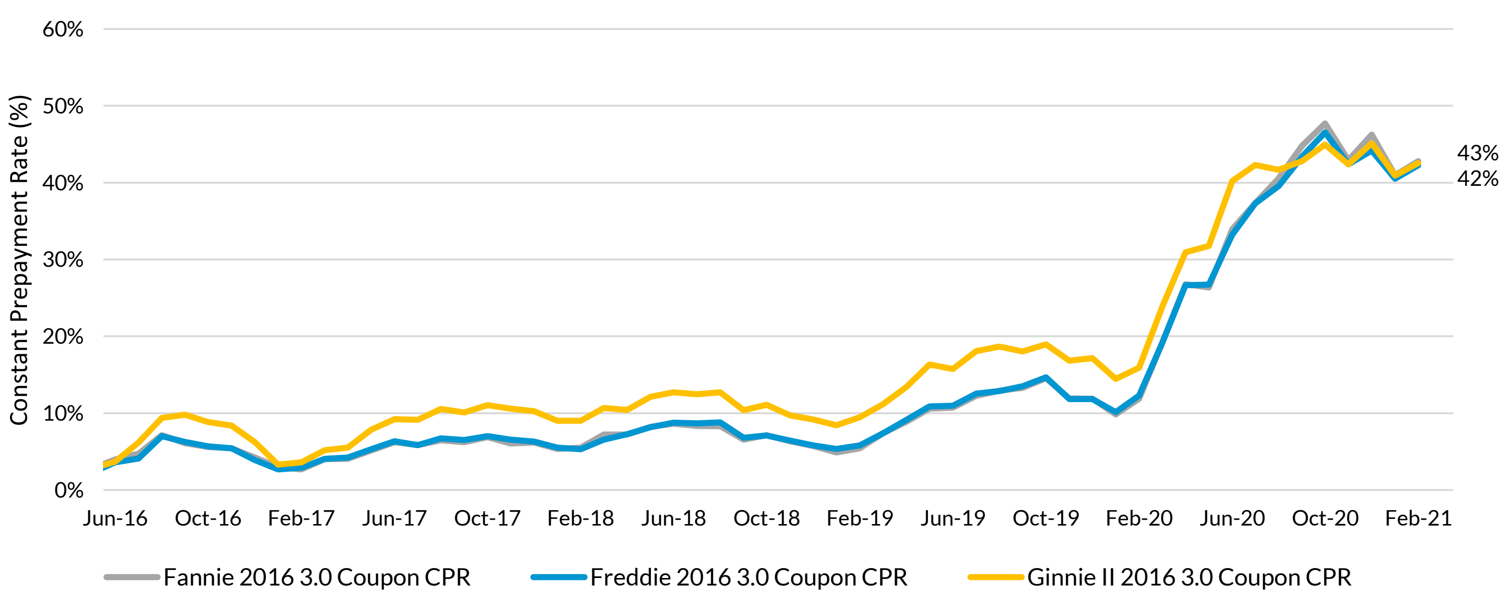
Speeds on the 2015 3.5s and the 2016 3.0s, the largest coupon cohorts of those vintage years, have been increasing since early 2019; the speed increases have been especially dramatic in 2020 due to a sharp drop in rates, with speeds on both Ginnie II and GSE securities rising rapidly. The speeds on the 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 February 2021.*

2016 Issued 3.0 Coupon CPR

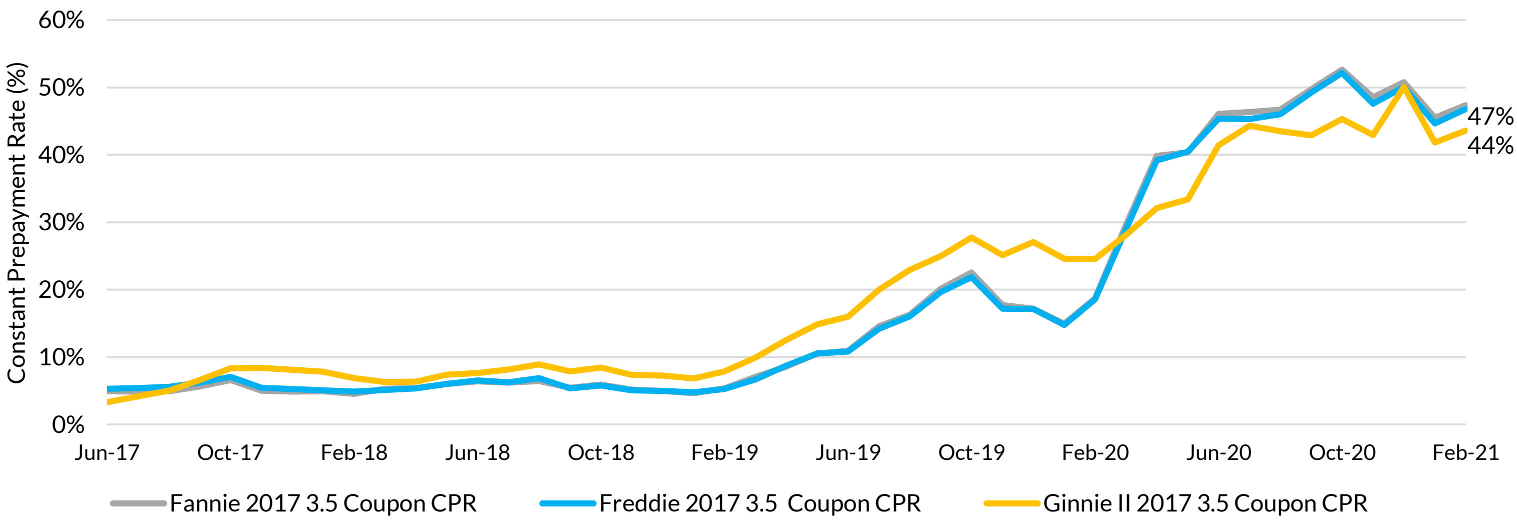


Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of February 2021.*

Prepayments

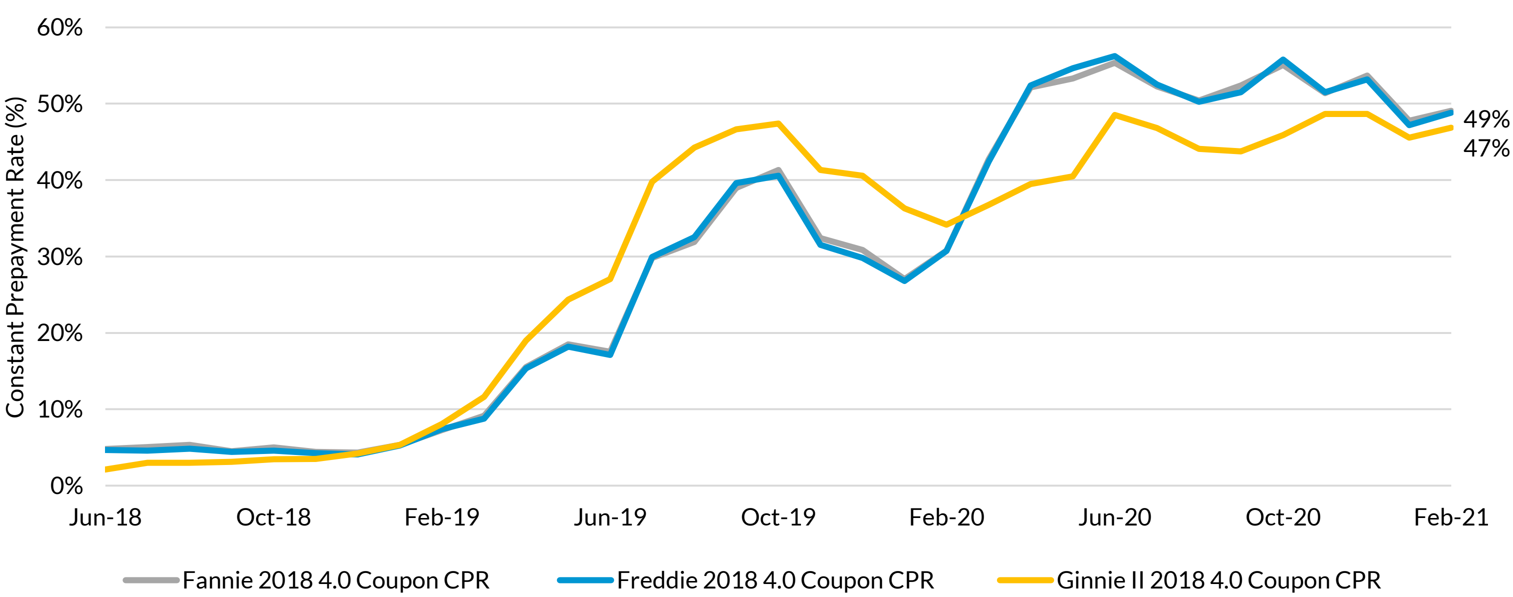
The charts below show the behavior of the 2017-issued 3.5s and the 2018-issued 4.0s, the largest coupon cohorts of those vintage years. Despite slower seasoning, 2017 Ginnie II 3.5s were prepaying faster than their conventional counterparts from late 2017 to March 2020, due primarily to fast VA prepayment 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 exceeded those of the Ginnie cohorts, although the difference between the two has narrowed in recent months. 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 February 2021.*

2018 Issued 4.0 Coupon CPR

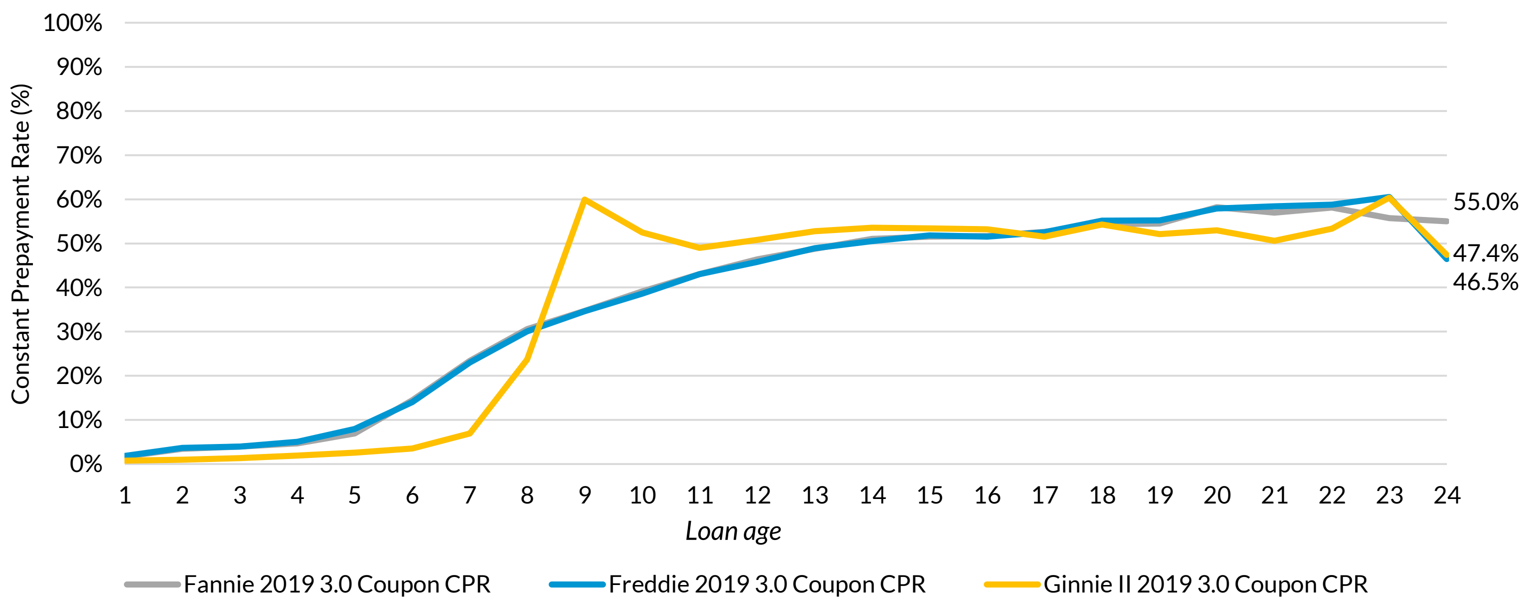


Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of February 2021.*

Prepayments

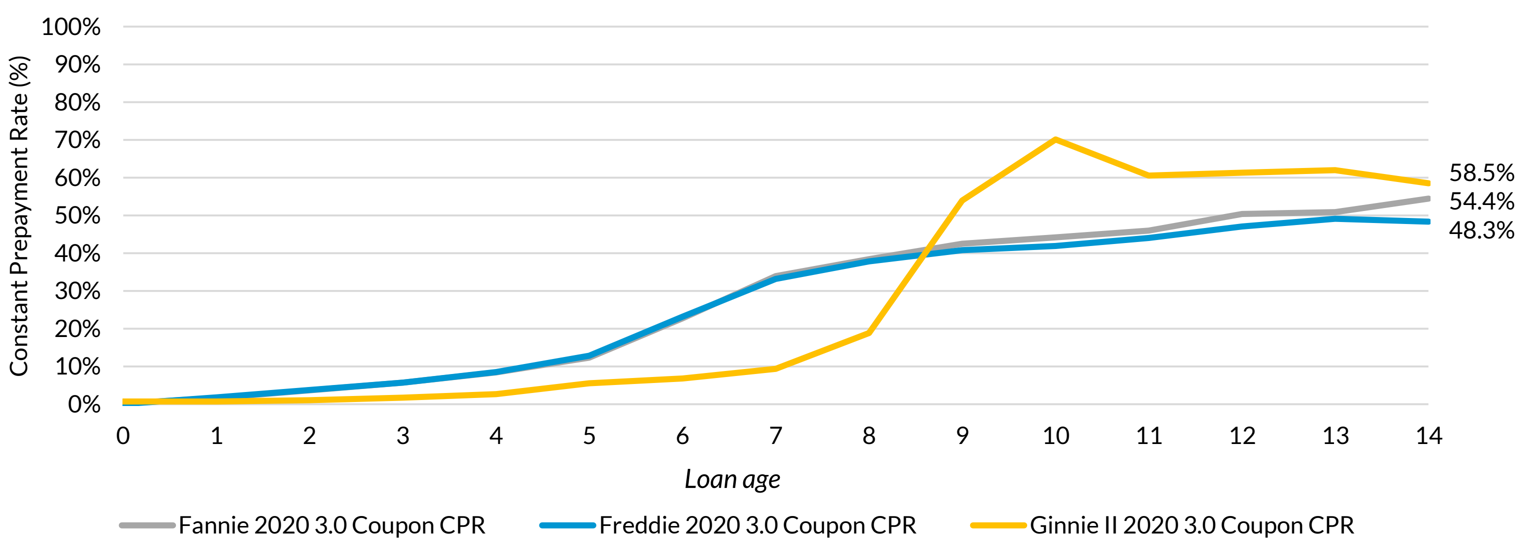
The charts below show prepayment speeds by loan age for 2019 and 2020 Ginnie II 3.0s. Prepayment speeds on both cohorts jumped at the 8-10 month loan age, a more muted jump than earlier cohorts at the same age; they then began to converge with conventional speeds more quickly, as a result of Ginnie Mae 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 February 2021.*

2020 Issued 3.0 Coupon CPR, by Loan Age

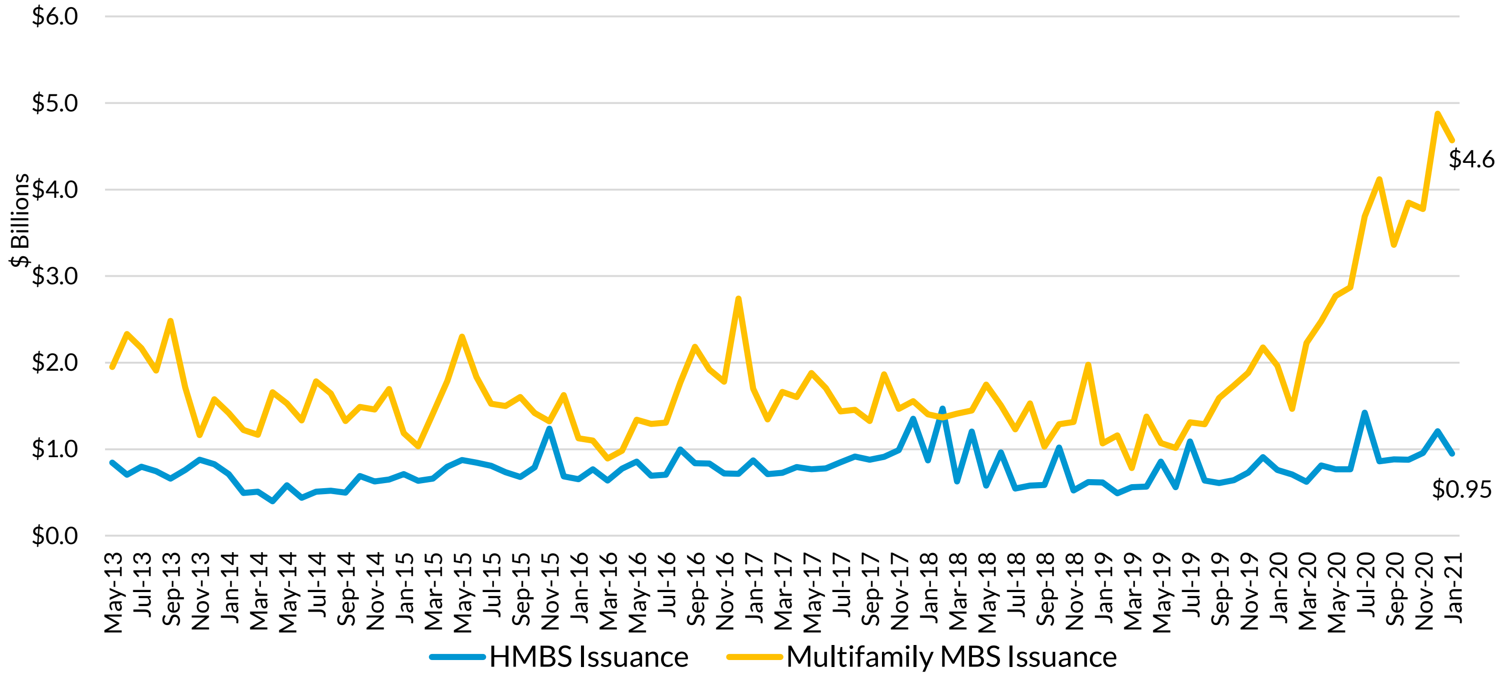


Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of February 2021.*

Other Ginnie Mae Programs Reverse and Multifamily Mortgages

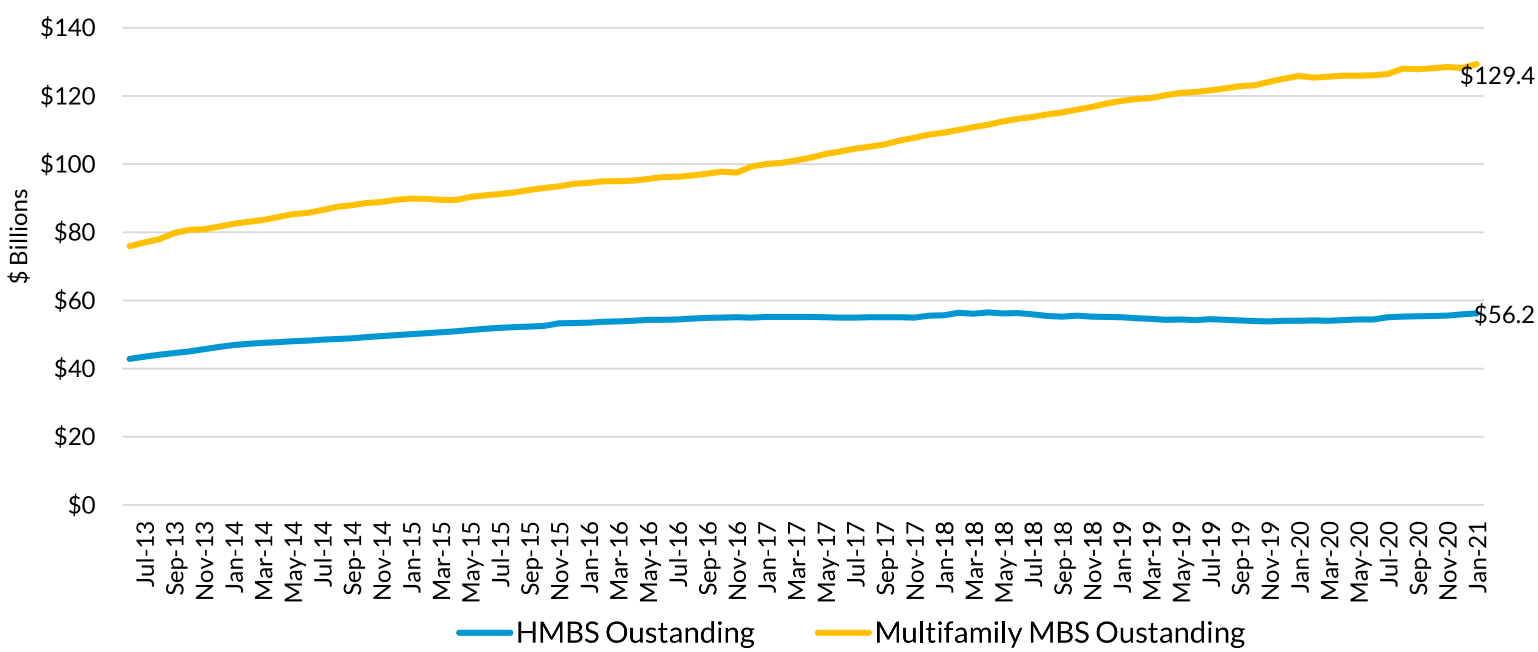
Ginnie Mae reverse mortgage issuance has been volatile over the past two years. After declining in 2018, volume has slowly improved over the course of 2019 and 2020. In January 2021, issuance fell to $0.95 billion. Outstanding reverse mortgage securities totaled $56.2 billion in January 2021, up slightly from the previous month, reflecting a higher volume of new issuances relative to paydowns. After increasing in December 2020, Ginnie Mae multifamily issuance fell in January 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 January 2021.*

Outstanding Volume

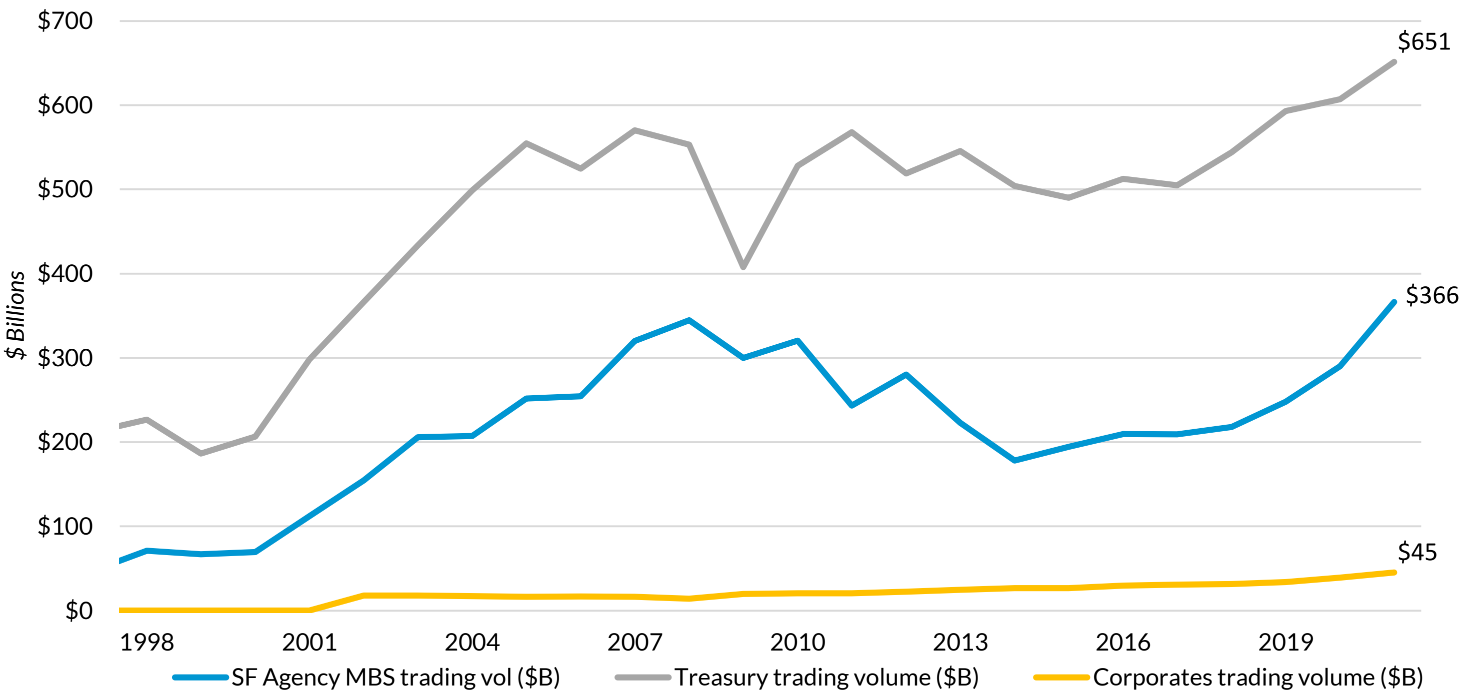


Sources: *Ginnie Mae and Urban Institute.* **Note**: *Data as of January 2021.*

Market Conditions

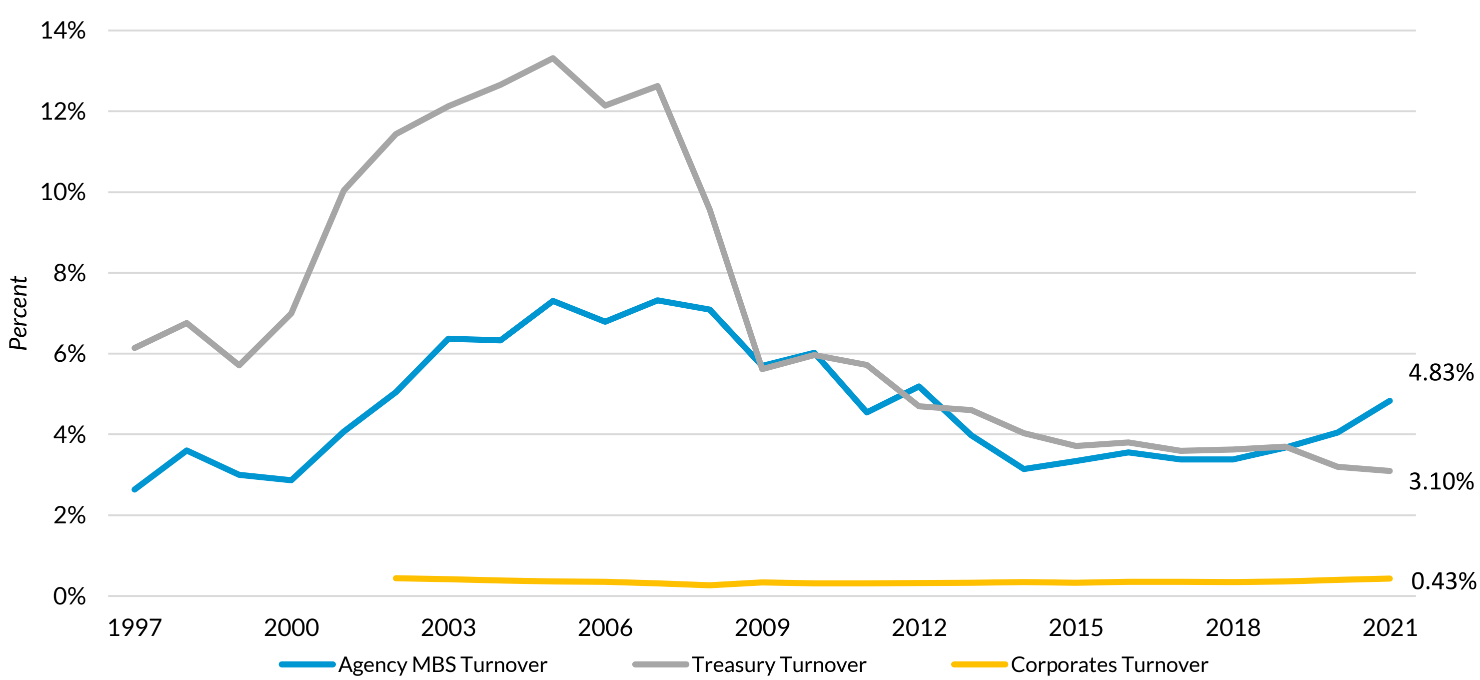
Agency MBS trading volume was $366 billion per day in January 2021, surpassing the pre-crisis peak of $345 billion in 2008. Agency MBS turnover in the first month of 2021 was also higher than the 2014-2019 period; in January 2021, average daily MBS turnover was 4.83 percent, above the 2019 average of 3.67 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 March 2021.*

Average Daily Turnover by Sector

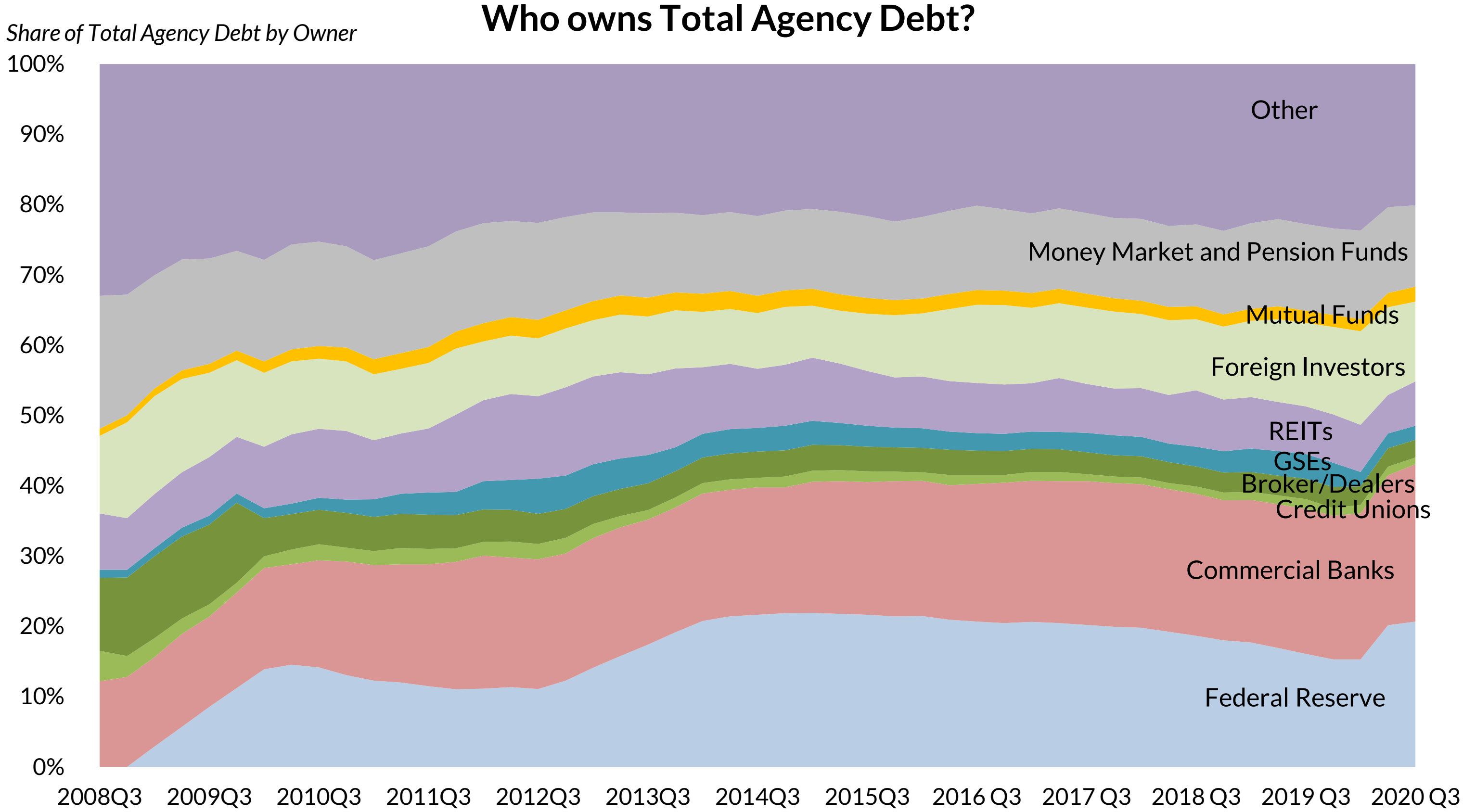


Sources: *SIFMA and Urban Institute.* ***Note:*** *Updated March 2021.*

MBS Ownership

The largest holders of agency debt (Agency MBS + Agency notes and bonds) include the Federal Reserve (21 percent), commercial banks (22 percent), foreign investors (12 percent), and money market & pension funds (11 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. Out of their $2.7 trillion in holdings as of the end of February 2021, $1.9 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 Q3 2020.*

Commercial bank holdings of agency MBS

`	Commercial Bank Holdings ($Billions)								Week Ending			
	Jan-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Jan 27	Feb 03	Feb 10	Feb 17
Largest 25 Domestic Banks	1517.7	1649.0	1703.9	1693.5	1740.8	1797.8	1829.1	1877.5	1891.4	1898.0	1904.0	1922.1
Small Domestic Banks	545.6	577.5	588.8	599.2	611.0	626.8	644.7	660.9	656.4	666.2	666.5	674.5
Foreign Related Banks	38.2	43.4	41.7	40.2	39.3	45.3	46.9	49.7	52.0	54.5	52.9	53.8
Total, Seasonally Adjusted	2101.5	2269.9	2334.4	2332.9	2391.1	2469.9	2520.7	2588.1	2599.8	2618.7	2623.4	2650.4

***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

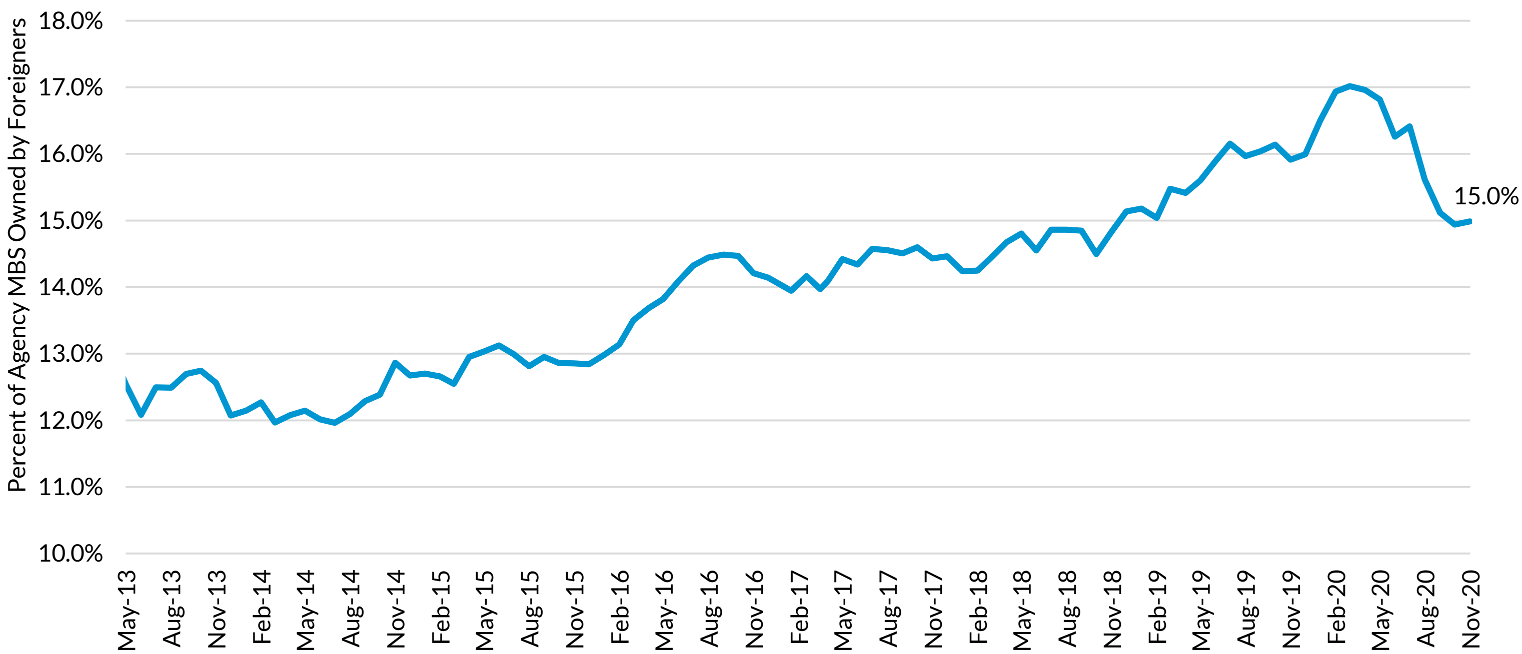
	Top Bank & Thrift Residential MBS Investors	Total ($MM)	GSE PT ($MM)	GNMA PT ($MM)	Agency REMIC ($MM)	Non-Agency ($MM)	Market Share
1	Bank Of America Corporation	$489,458.0	$364,527.0	$113,413.0	$11,255.0	$263.0	19.40
2	Wells Fargo & Company	$254,580.0	$187,217.0	$59,978.0	$6,952.0	$433.0	10.10
3	Jpmorgan 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

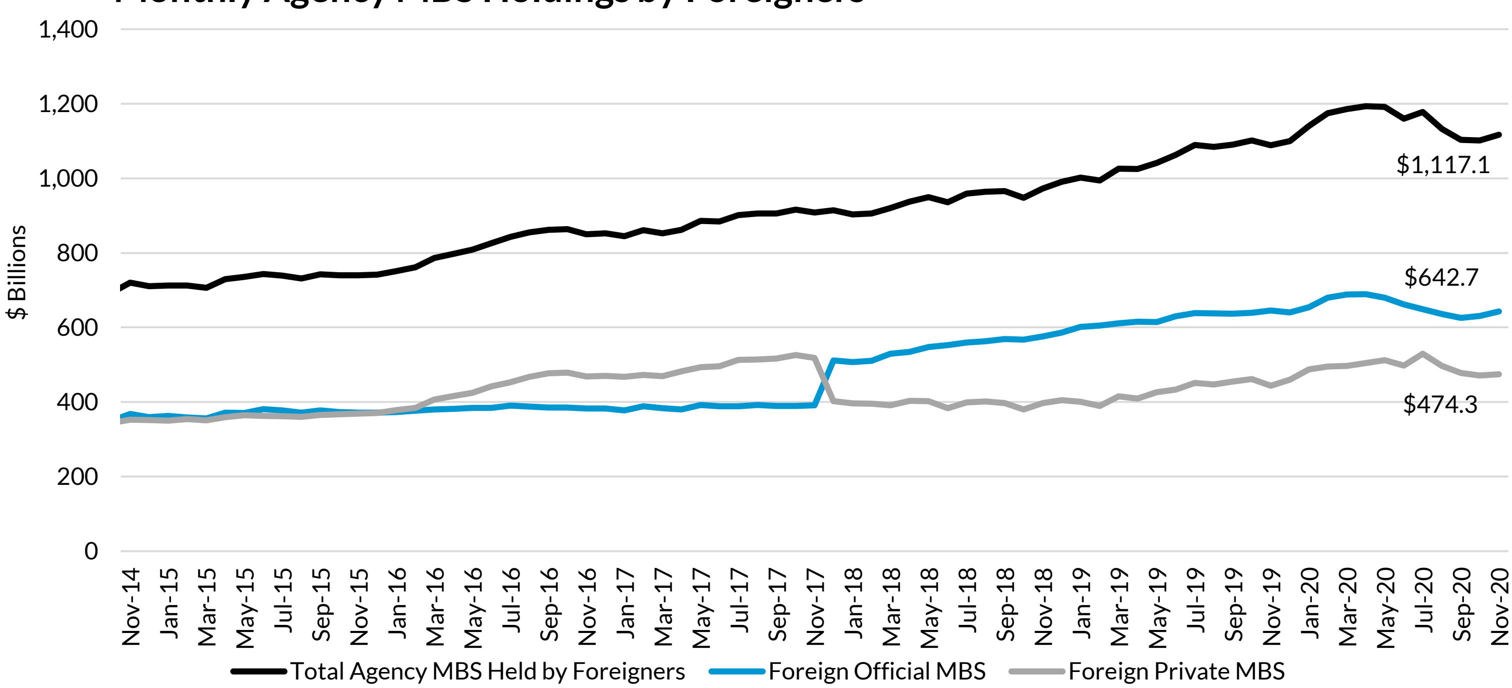
Foreign investors held 15.0 percent of agency MBS in November 2020, up from a low of 12.0 percent in July 2014, but down from 17.0 percent in spring 2020. For the month of November 2020, this represents $1.12 trillion in Agency MBS, $474 billion held by foreign private institutions and $643 billion held by foreign institutions. This represents a $76.6 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 November 2020.*

Monthly Agency MBS Holdings by Foreigners



Sources: *Treasury International Capital (TIC) and Urban Institute.* ***Note***: *Data as of November 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 November 2020, we estimate that Japan has increased their agency MBS holdings by $5.98 billion, Taiwan has decreased their holdings by $3.74 billion and China has decreased their holdings by $5.00 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 15 percent from April through November of 2020.

Agency MBS+ Agency Debt

	Level of Holdings ($Millions)*								Change in Holdings ($Millions)*						
Country	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20	Oct-20	Nov-20	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Oct-20	Nov-20
Japan	297,016	311,047	305,332	322,155	310,268	305,064	303,329	303,449	14,031	-5,715	16,823	-11,887	-5,204	-1,735	120
Taiwan	265,524	263,018	261,740	269,133	267,918	264,270	262,990	261,751	-2,506	-1,278	7,393	-1,215	-3,648	-1,280	-1,239
China	227,357	233,783	231,753	260,479	239,045	206,861	211,545	221,311	6,426	-2,030	28,726	-21,434	-32,184	4,684	9,766
Luxembourg	47,646	46,641	39,015	36,789	42,389	35,626	33,896	34,929	-1,005	-7,626	-2,226	5,600	-6,763	-1,730	1,033
Ireland	45,829	41,367	38,731	26,131	29,399	28,286	27,433	27,838	-4,462	-2,636	-12,600	3,268	-1,113	-853	405
South Korea	42,879	41,485	40,810	40,964	38,891	40,303	40,706	41,683	-1,394	-675	154	-2,073	1,412	403	977
Cayman Islands	34,967	29,540	31,827	27,154	34,564	34,495	35,626	35,597	-5,427	2,287	-4,673	7,410	-69	1,131	-29
Bermuda	29,365	29,184	33,897	27,790	27,790	35,751	28,345	28,068	-181	4,713	-6,107	0	7,961	-7,406	-277
Netherlands	14,074	10,549	10,902	10,886	13,255	10,964	12,102	12,561	-3,525	353	-16	2,369	-2,291	1,138	459
Malaysia	12,167	15,585	16,600	21,399	20,390	19,808	19,750	19,708	3,418	1,015	4,799	-1,009	-582	-58	-42
Rest of world	128,142	135,515	152,489	202,143	201,165	196,246	195,259	205,465	7,373	16,974	49,654	-978	-4,919	-987	10,206
Total	1,144,971	1,157,714	1,163,096	1,245,023	1,225,074	1,171,603	1,170,981	1,192,360	12,743	5,382	81,927	-19,949	-53,471	-622	21,379

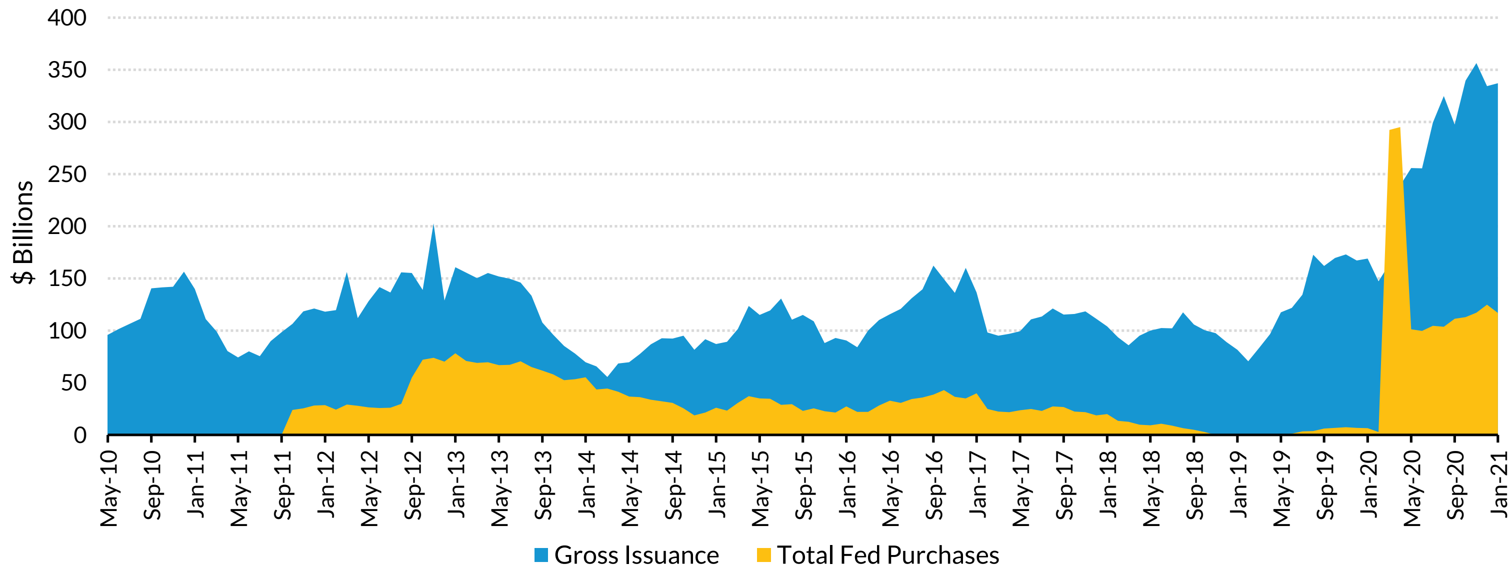
	Level of Holdings ($Millions)*								Change in Holdings ($Millions)*						
Country	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20	Oct-20	Nov-20	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Oct-20	Nov-20
Japan	293,662	307,738	302,212	319,241	306,963	301,622	299,839	299,637	14,076	-5,526	16,823	-12,278	-5,341	-1,783	-201
Taiwan	265,234	262,732	261,470	268,881	267,700	264,043	262,760	261,499	-2,502	-1,262	7,393	-1,181	-3,657	-1,283	-1,260
China	221,738	228,240	226,526	255,596	235,078	202,730	207,356	216,737	6,502	-1,714	28,726	-20,518	-32,348	4,626	9,380
Luxembourg	43,978	43,023	35,603	33,602	40,207	33,354	31,592	32,413	-955	-7,420	-2,226	6,605	-6,853	-1,762	821
Ireland	37,674	33,322	31,145	19,045	21,091	19,635	18,660	18,258	-4,352	-2,177	-12,600	2,047	-1,457	-974	-403
South Korea	34,969	33,682	33,452	34,091	28,743	29,736	29,990	29,981	-1,287	-230	154	-5,347	992	255	-10
Cayman Islands	29,896	24,538	27,110	22,748	28,431	29,364	29,150	28,525	-5,358	2,572	-4,673	5,684	933	-214	-625
Bermuda	26,394	26,253	31,133	25,208	25,111	25,635	25,516	24,979	-141	4,880	-6,107	-97	523	-118	-537
Netherlands	13,904	10,381	10,744	10,738	12,739	10,427	11,557	11,966	-3,523	363	-16	2,001	-2,312	1,130	409
Malaysia	11,881	15,303	16,334	21,150	20,028	19,432	19,368	19,291	3,422	1,031	4,799	-1,122	-597	-63	-77
Rest of world	97,585	105,371	124,063	175,591	173,716	167,661	166,274	173,811	7,786	18,692	49,654	-1,874	-6,055	-1,387	7,537
Total	1,076,916	1,090,579	1,099,788	1,185,887	1,159,808	1,103,636	1,102,062	1,117,095	13,663	9,209	81,927	-26,079	-56,172	-1,574	15,033

***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 November 2020.*

MBS Ownership

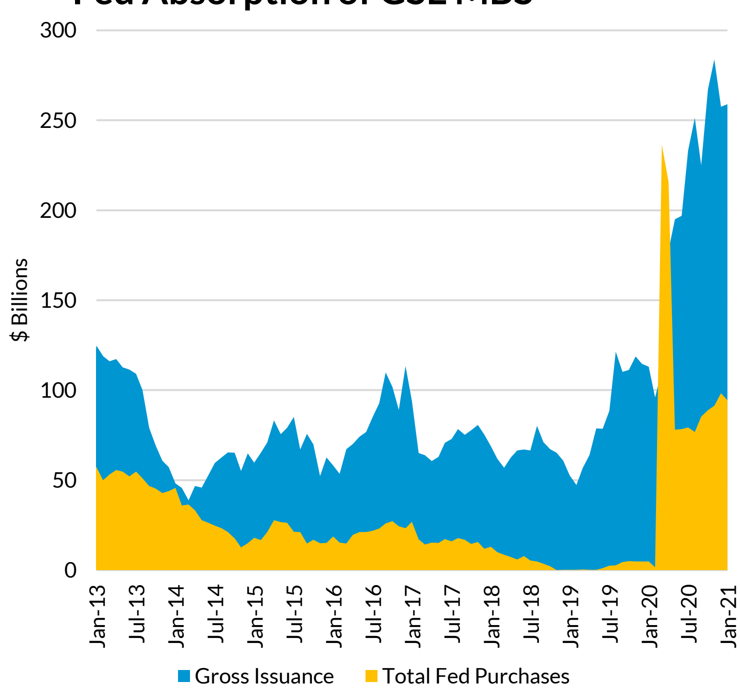
On March 23, 2020, in response to the market dislocations caused by the coronavirus pandemic, the Fed announced they would purchase Treasuries and agency MBS in an amount necessary to support smooth functioning markets. In March 2020 the Fed bought $292.2 billion in agency MBS, and April 2020 clocked 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 $117.1 billion in January 2021. January Fed purchases totaled 35 percent of monthly issuance. As of January 2021, total agency MBS owned by the Fed equaled $2.07 trillion. Prior to the COVID-19 intervention, the Fed was winding down its MBS portfolio from its 2014 prior peak.

Total Fed Absorption



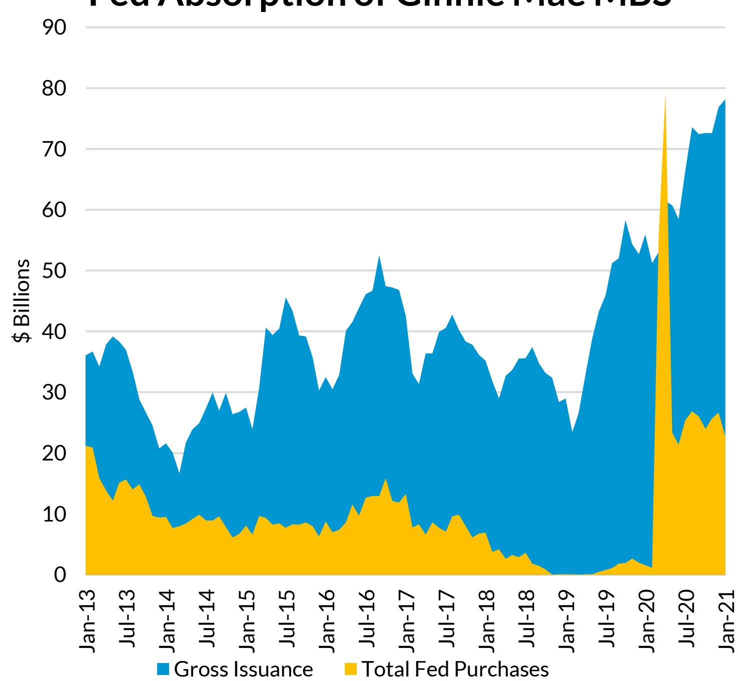
***Sources**: eMBS, Federal Reserve Bank of New York and Urban Institute.* ***Note:** Data as of January 2021.*

Fed Absorption of GSE MBS



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

Fed Absorption of Ginnie Mae MBS



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

Disclosures:
All the information contained in this document is as of date indicated unless otherwise noted. The information provided does not constitute investment advice and it should not be relied on as such. All information has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. The views expressed in this material are the views of the staff of the Urban Institute's Housing Finance Policy Center and State Street Global Advisors as of March 11th, 2021 and are subject to change based on market and other conditions. The views should not be attributed to the Urban Institute, its trustees, or its funders. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.

Information Classification: General

United States: State Street Global Advisors, 1 Iron Street, Boston, MA 02210-1641.
Tracking Code: 3489631.2.1.GBL.RTL
Expiration Date: 3/31/2022