Global Markets Analysis Report

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

MAY
2021

Ginnie Mae
Our Guaranty Matters

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

CONTENTS

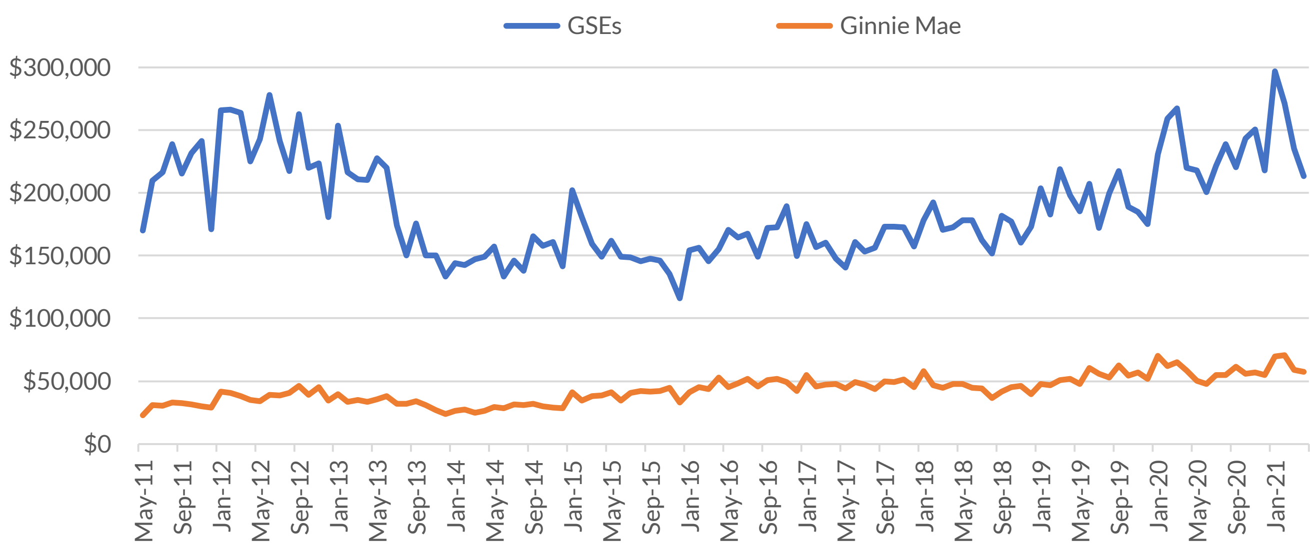
HIGHLIGHTS

A Closer Look at Trends in Agency MBS Trading Volume

Page 50 of this report shows the average daily trading volume for agency mortgage-backed securities. The top chart shows average daily dollar trading volume over time while the bottom chart shows turnover. Trading activity peaked at $345 billion per day on average in 2008 before falling off substantially post-bubble. However, very strong refinance issuance volumes spurred by all-time low rates have pushed the daily trading volume substantially higher since 2016. It reached $334 billion in Q1 2021, and even exceeded $366 billion in the month of Jan 2021.

More insights emerge when we analyze the conventional/government breakout of trading volumes. Figure 1 shows average daily trading volume by month for GSEs and Ginnie Mae. Both have increased over the last six years although GSEs volumes have grown more, from around $202 billion per day in Jan 2015 to $296 billion in Jan 2021, a 47 percent increase. Ginnie's daily trading volume, while smaller in absolute terms compared to the GSEs, has grown in percentage terms over the same six years, from $41 to $69 billion, a 68 percent increase. While monthly numbers can be volatile, note that current trading volumes for both are at the highest level since at least 2011. In comparison, trading volume for investment grade corporate bonds is much smaller, averaging about $21 billion a day currently.

Figure 1: GSE and Ginnie Mae Average Daily Trading Volume ($ millions)

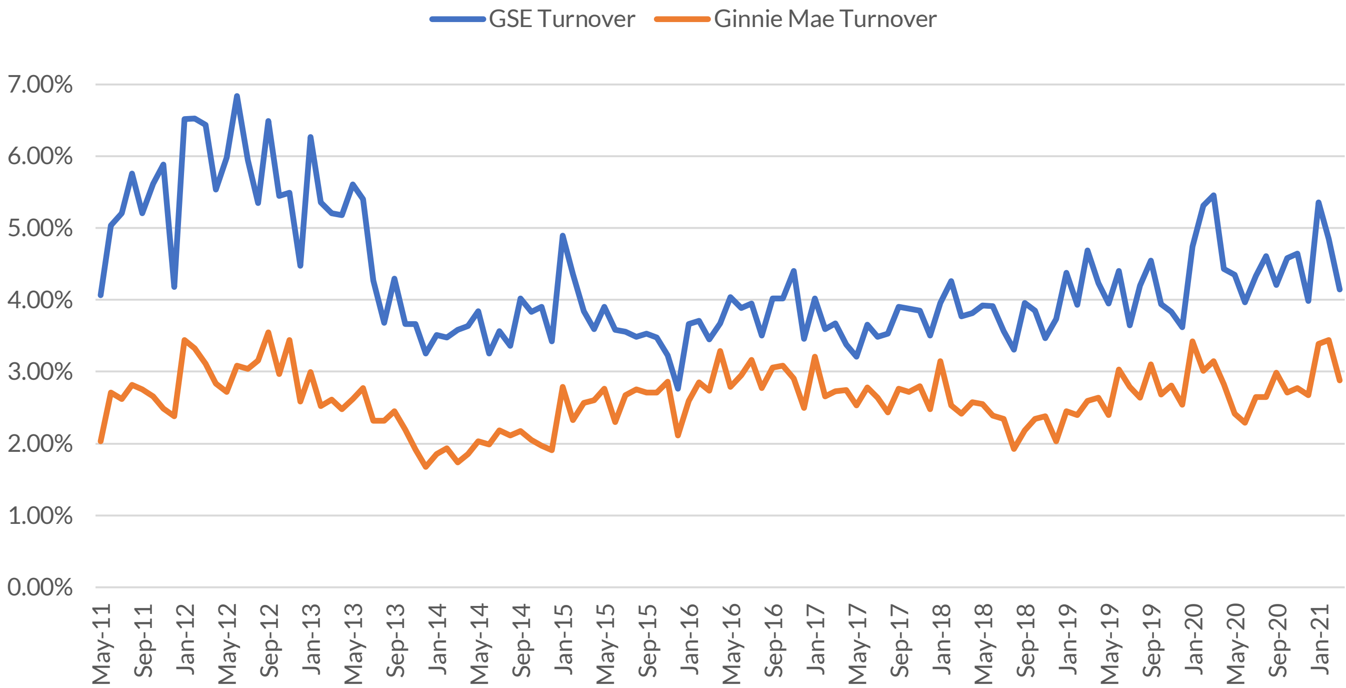


Sources: SIFMA and Urban Institute. **Note**: Data as of Mar 2021

The increase in trading volume, which facilitates efficient functioning of the TBA market and drives down liquidity premiums, in large part reflects growth in MBS outstanding. In Jan 2015 Ginnie Mae-guaranteed MBS outstanding was $1.5 trillion, compared to over $2 trillion today. GSE MBS outstanding in Jan 2015 was $4.1 trillion compared to $5.7 trillion today. A more holistic picture emerges when analyzing turnover i.e. the ratio of average daily trading volume to the MBS outstanding. This is shown in Figure 2.

HIGHLIGHTS

Figure 2: Turnover for GSE and Ginnie Mae MBS



Sources: SIFMA and Urban Institute. **Note**: Data as of Mar 2021

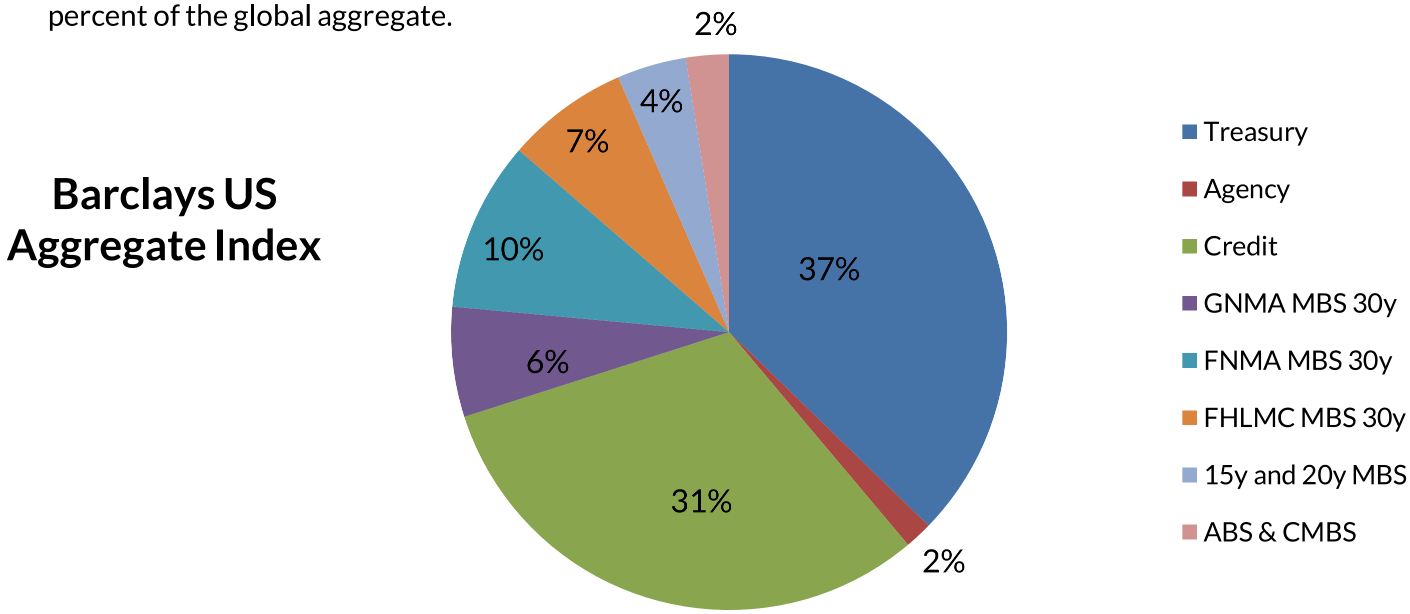
Although turnover is up for both GSE and Ginnie Mae securities, Ginnie's current turnover is at the higher end of the range during the last 10 years, above 3 percent. The GSE turnover, while higher at 4 to 5 percent today, is well below the 6 to 7 percent peak reached in 2012. The 2012 peak in GSE turnover was likely driven by the massive refi issuance volume as the Fed cut interest rates to zero after the 2008 bust. VA was a much smaller component of Ginnie outstanding in 2012 ($280 billion out of $1.3 trillion, or 21 percent). Trading volumes are highly correlated to new issuance volume. Newly issued pools are typically bought and sold frequently as traders try to profit from pricing imperfections, pushing up trading activity. Lower rates boosted both FHA and VA lending in 2020 and 2021. In addition, VA issuances have grown robustly since 2009 (VA loans today comprise about 40 percent of Ginnie outstanding), pushing trading volumes higher.

Highlights this month:

- FHA and VA serious delinquency rates edged down for the first time since the start of the pandemic, with FHA declining from 11.2 percent in Q4 2020 to 11.0 percent in Q1 2021 and VA declining from 6.0 to 5.6 percent (page 13).
- 2021 was off to a strong start for first-lien originations, with $1.31 trillion in mortgages originated during the first quarter (page 22).

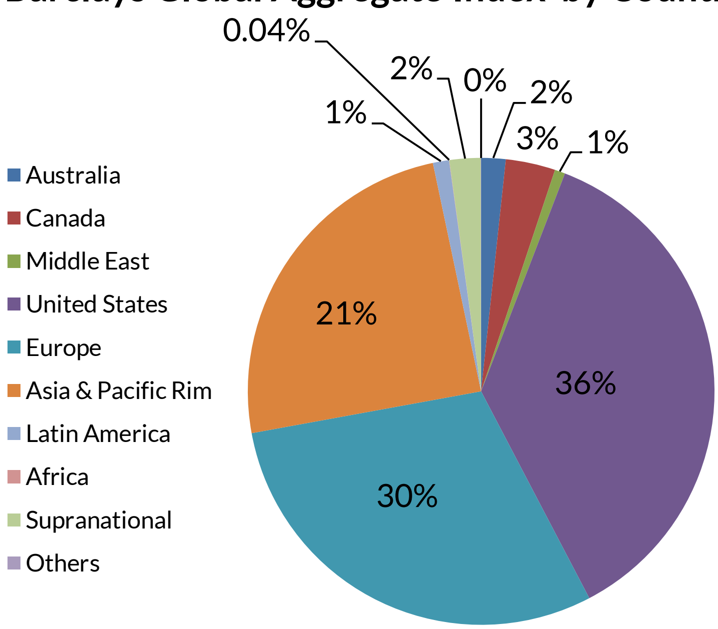
Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

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



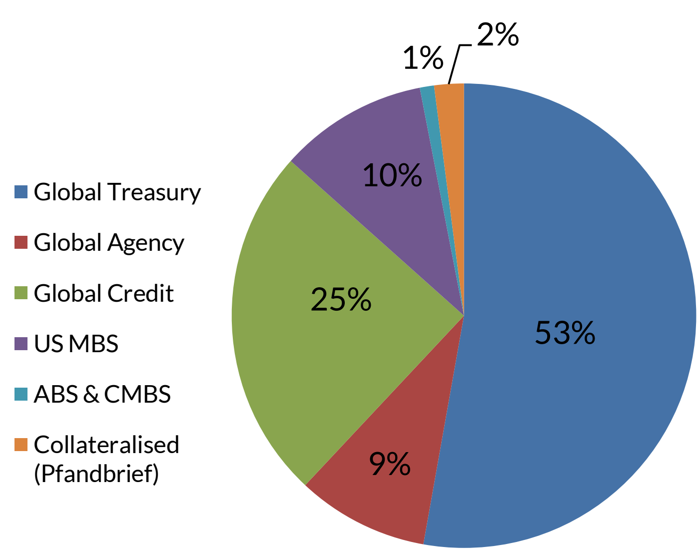
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of March 2021.*
Note*: Numbers in chart may not add to 100 percent due to rounding.*

Barclays Global Aggregate Index by Country



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

Barclays Global Aggregate Index by Sector

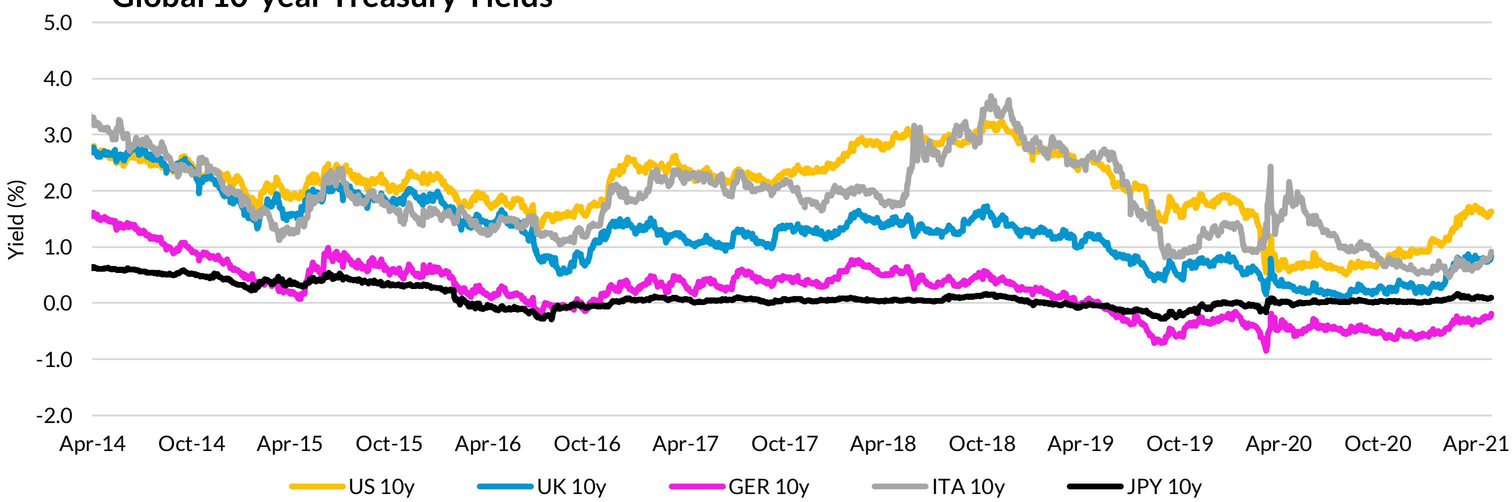


Sources: *Bloomberg and State Street Global Advisors*
Note*: Data as of March 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

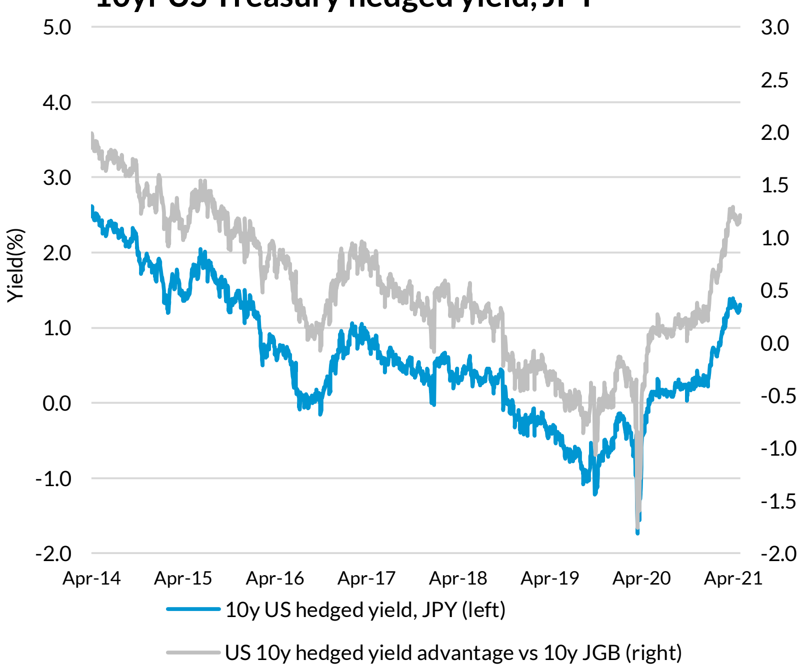
After experiencing COVID-19 related volatility in March and April of 2020, government bond yields across the globe gradually stabilized and have started trending up meaningfully in 2021. Yields on the 10-year treasury decreased by 11 bps to 1.63 percent in April 2021, after increasing by 83 bps in Q1, 2021, and remain 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 24 bps to 0.90 percent. The yields on the UK 10-year and Japanese 10-year government bonds remained steady at 0.85 percent and 0.10 percent, respectively, in April. The German 10-year yield increased by 9 bps to negative 0.20 percent in April. At the end of March 2021, the hedged yield differential between the 10-year Treasury and the 10-year JGB stood at 121 bps, a tightening of 9 bps from the previous month. The hedged yield differential between the 10-year Treasury and the 10-year Bund stood at 107 bps, a tightening of 18 bps since the end of March 2021.

Global 10-year Treasury Yields



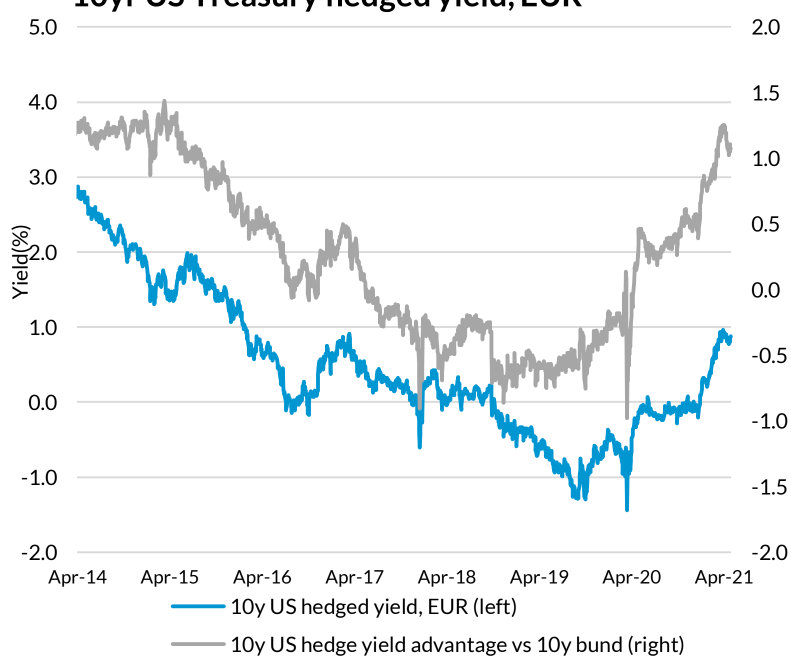
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of April 2021.*

10yr US Treasury hedged yield, JPY



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

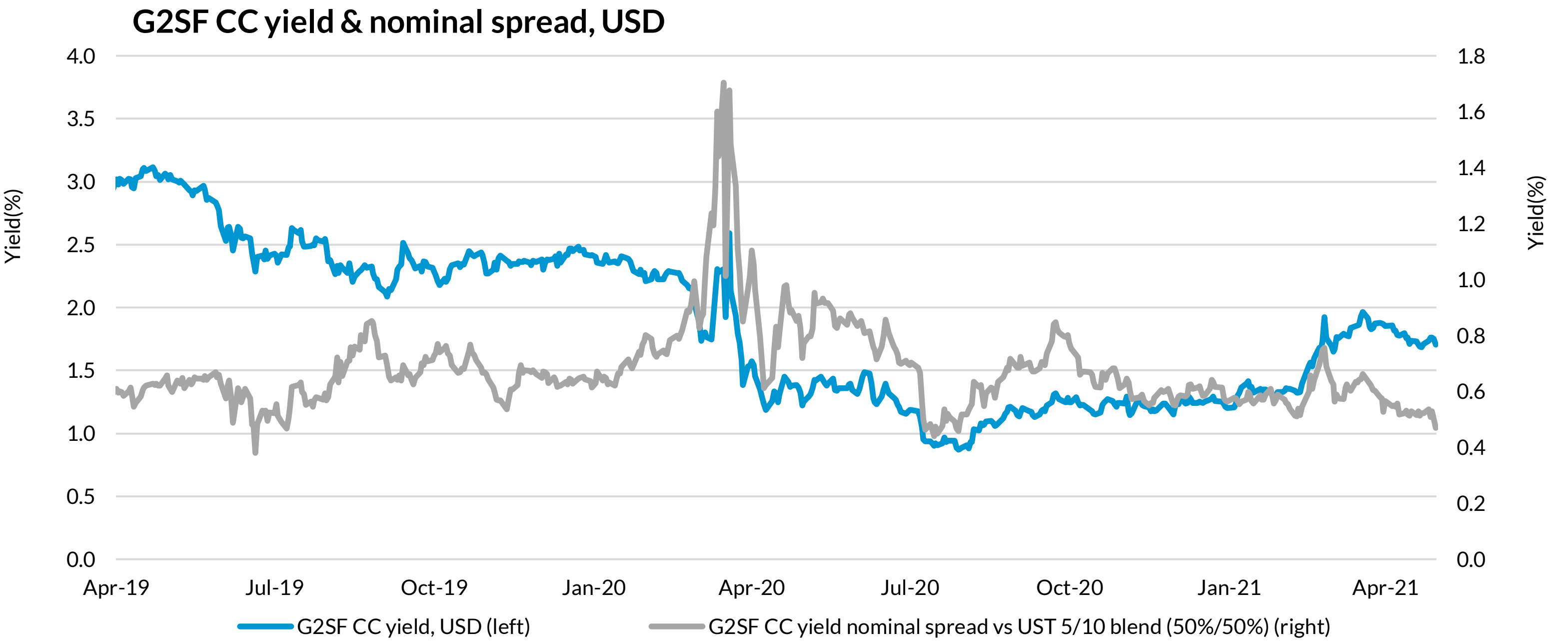
10yr US Treasury hedged yield, EUR



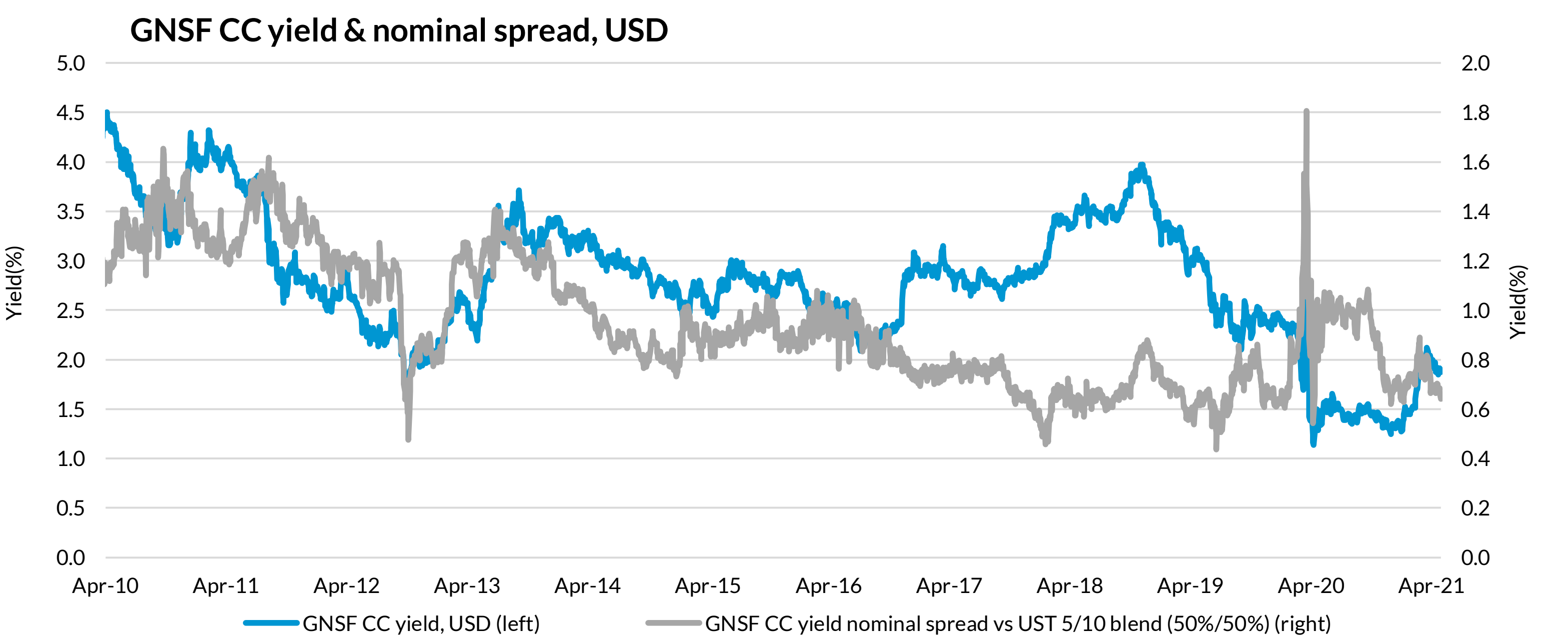
Sources: *Bloomberg and State Street Global Advisors*
Note*: Data as of April 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

Nominal yields were down in April 2021, with GNMA II yields falling 16 bps to 1.71 percent and GNMA I yields down 13 bps to 1.88 percent. At the end of April, current coupon Ginnie Mae securities outyield their Treasury counterparts (relative to the average of 5- and 10-year Treasury yields) by 47 bps on the G2SF and 64 bps on the GNSF, a tightening of 6 and 2 bps, respectively, since last month.



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

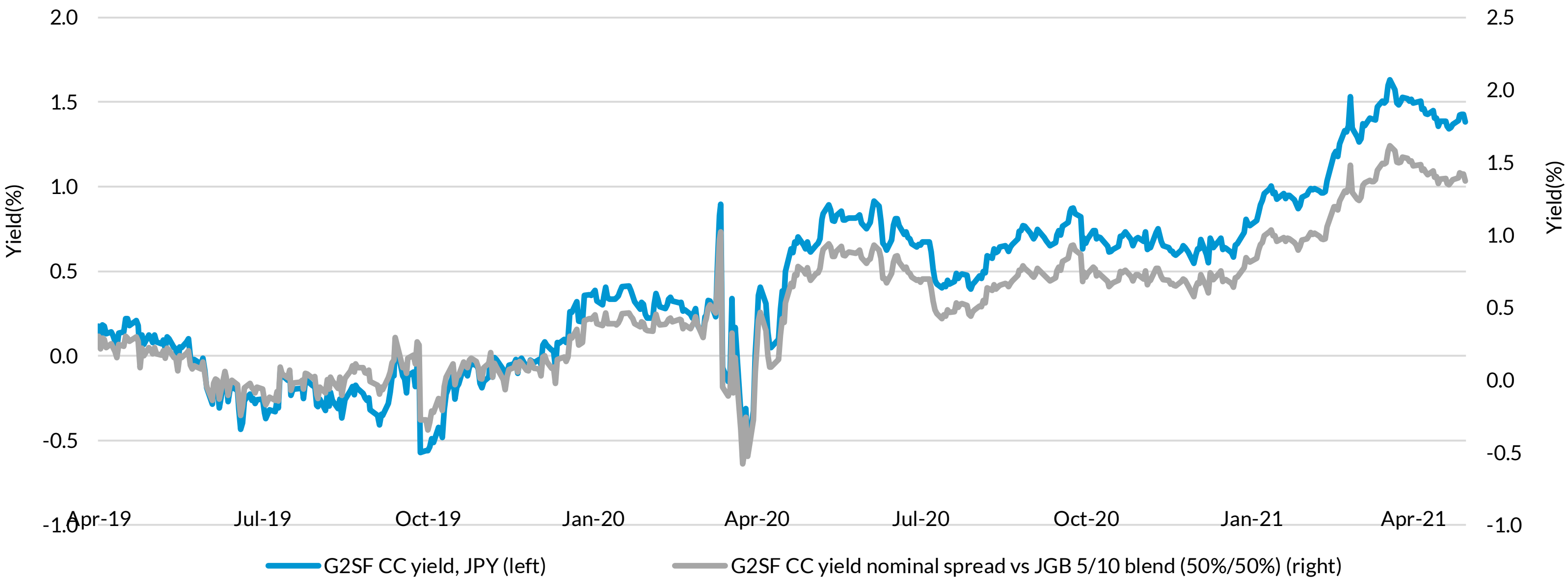


Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of April 2021.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

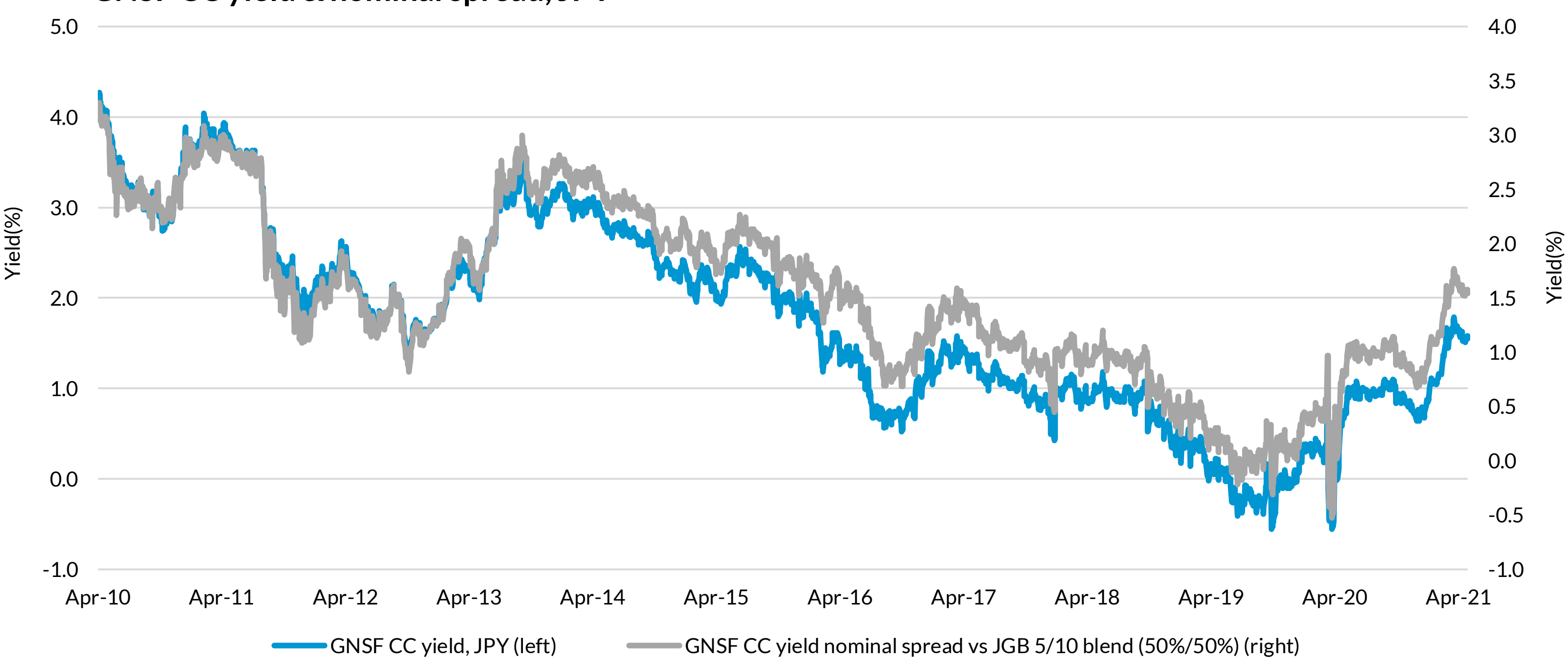
If Ginnie Mae securities are hedged into Japanese Yen, they look favorable on a yield basis versus the JGB 5/10 blend at the end of April 2021. More precisely, hedged into Japanese yen, the G2SF and GNSF have a 137 and 155 bp yield, respectively, versus the JGB 5/10 blend. This represents a 14 bp tightening for G2SF and a 11 bp tightening for GNSF since the end of March 2021.

G2SF CC yield & nominal spread, JPY



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

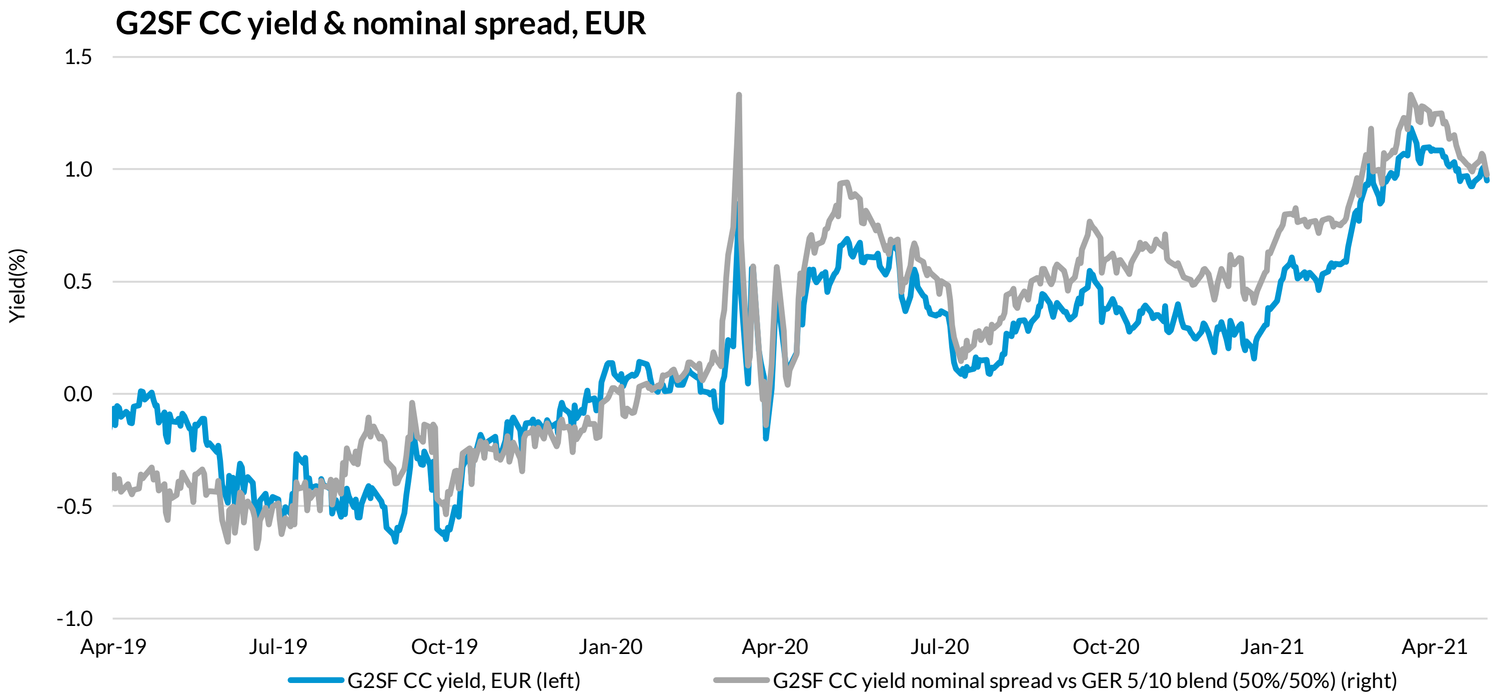
GNSF CC yield & nominal spread, JPY



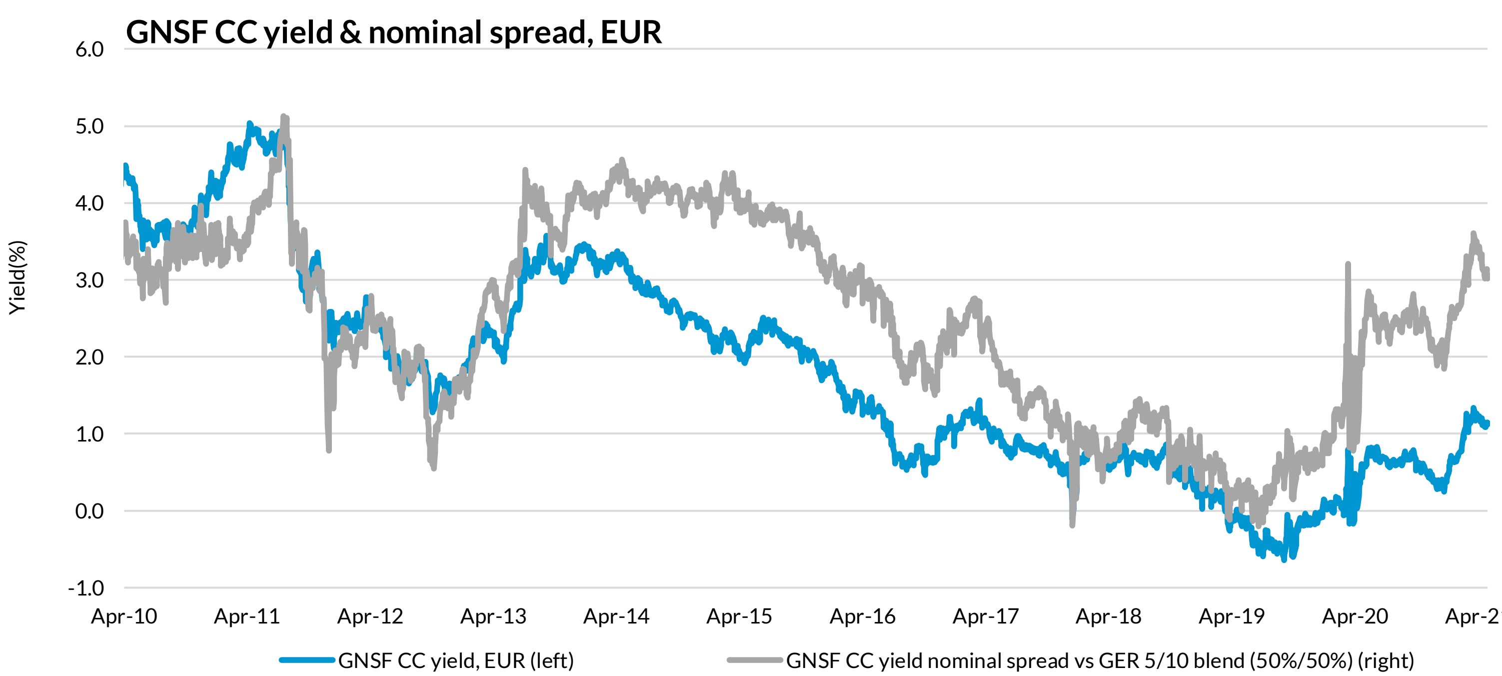
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of April 2021.*

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 April 2021, the current coupon G2SF and GNSF hedged into euros have a 134 and 151 bp higher yield than the average of the German 5/10, respectively. This represents a 21 and 18 bp tightening for the G2SF and GNSF, respectively, since the end of March 2021.



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

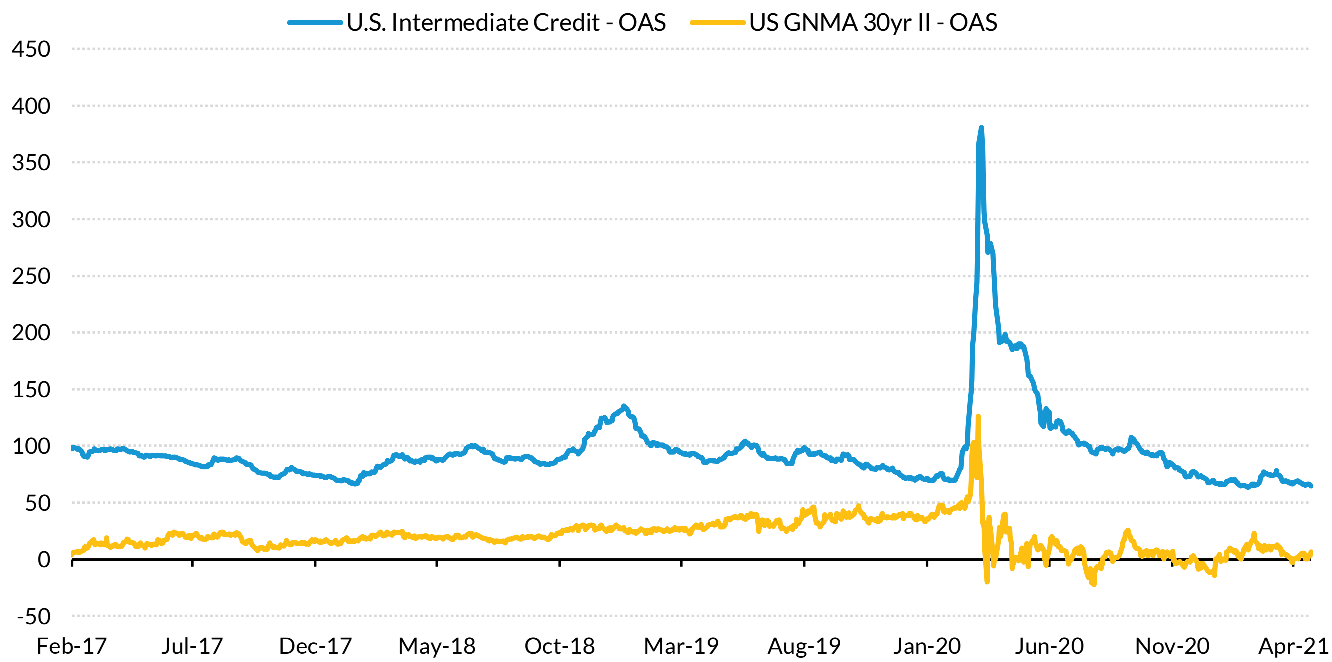


***Sources:** Bloomberg and State Street Global Advisors. **Note:** Data as of April 2021.*

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 April of 2021. The OAS on intermediate credit fully recovered from its enormous widening in early 2020, while the Ginnie Mae II 30-year fell to multi-year lows. The spread between the two remains much elevated, ending April 2021 at 65 bps, higher than the 21 bps in January 2020, but similar to levels in mid 2019.

G2 30 MBS versus Intermediate Credit



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

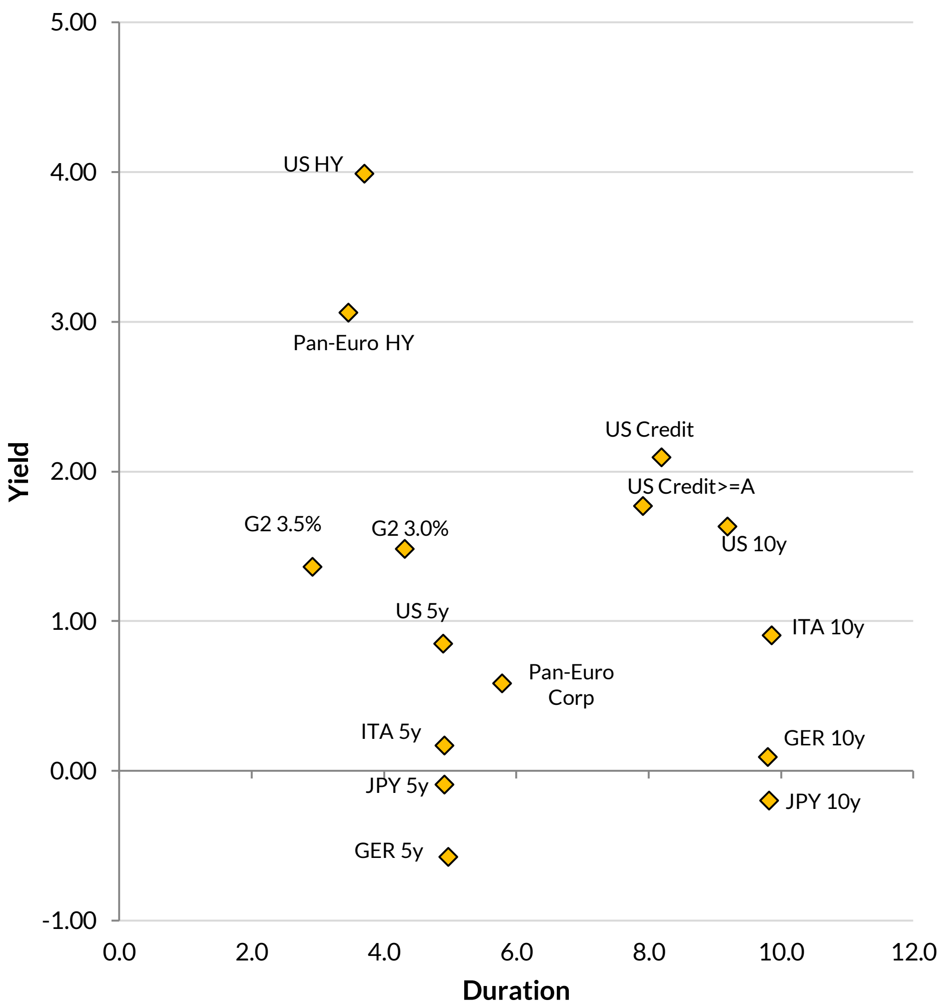
Spread between Intermediate credit and 30-year GNMA MBS OAS

***Sources:** State Street Global Advisors. **Note**: Data as of April 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 and a similarly short duration are the US and Pan-Euro high yield. 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.

Yield versus duration



Security	Duration	Yield
US 5y	4.9	0.85
US 10y	9.2	1.63
GNMA II 3.0%	4.3	1.48
GNMA II 3.5%	2.9	1.36
JPY 5y	4.9	-0.09
JPY 10y	9.8	0.09
GER 5y	5.0	-0.58
GER 10y	9.8	-0.20
ITA 5y	4.9	0.17
ITA 10y	9.9	0.90
US credit	8.2	2.09
US credit >= A	7.9	1.77
US HY	3.7	3.99
Pan-Euro Corp	5.8	0.58
Pan-Euro HY	3.5	3.06

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

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

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

Time Period	Average Return (Per Month)					
	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield*	Pan Euro High Yield*
1 year	-0.05	-0.36	0.38	0.38	1.52	1.24
3 year	0.32	0.39	0.58	0.25	0.60	0.37
5 year	0.19	0.20	0.41	0.20	0.62	0.40
10 year	0.22	0.24	0.42	0.36	0.54	0.54

Time Period	Average Excess Return (Per Month)					
	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield*	Pan Euro High Yield*
1 year	-0.06	-0.37	0.37	0.43	1.51	1.29
3 year	0.21	0.28	0.48	0.31	0.50	0.43
5 year	0.10	0.11	0.32	0.26	0.53	0.46
10 year	0.17	0.19	0.37	0.39	0.49	0.57

Time Period	Standard Deviation					
	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield*	Pan Euro High Yield*
1 year	0.25	0.91	1.75	0.75	1.83	1.25
3 year	0.58	1.27	2.03	1.65	2.69	2.90
5 year	0.59	1.17	1.71	1.38	2.15	2.31
10 year	0.63	1.07	1.49	1.36	2.03	2.03

Time Period	Sharpe Ratio					
	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield	Pan Euro High Yield*
1 year	-0.23	-0.40	0.21	0.57	0.82	1.03
3 year	0.37	0.22	0.23	0.19	0.18	0.15
5 year	0.17	0.10	0.19	0.19	0.25	0.20
10 year	0.28	0.18	0.25	0.29	0.24	0.28

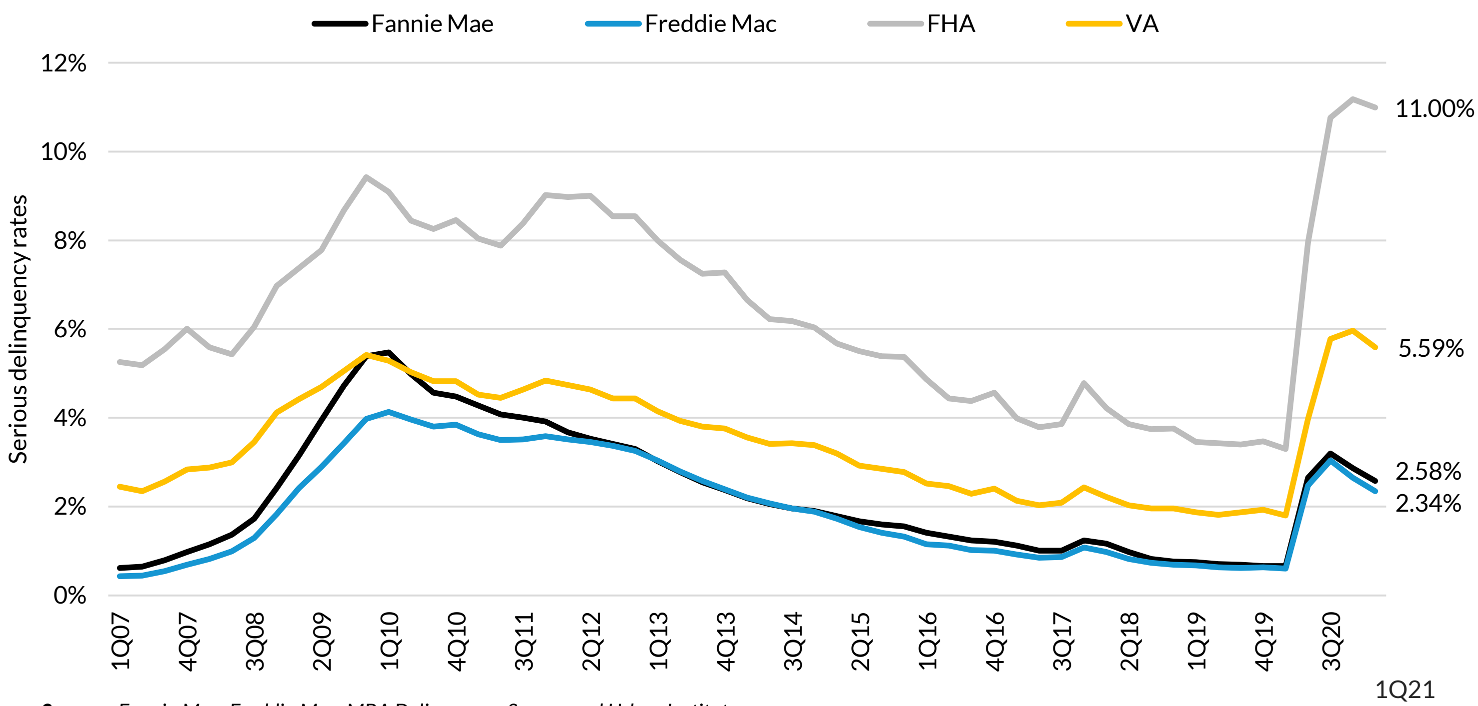
**Assumes 2% capitalization max per issuer on high yield indices*

Sources: *Barclays Indices, Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of April 2021.*

State of the US Housing Market

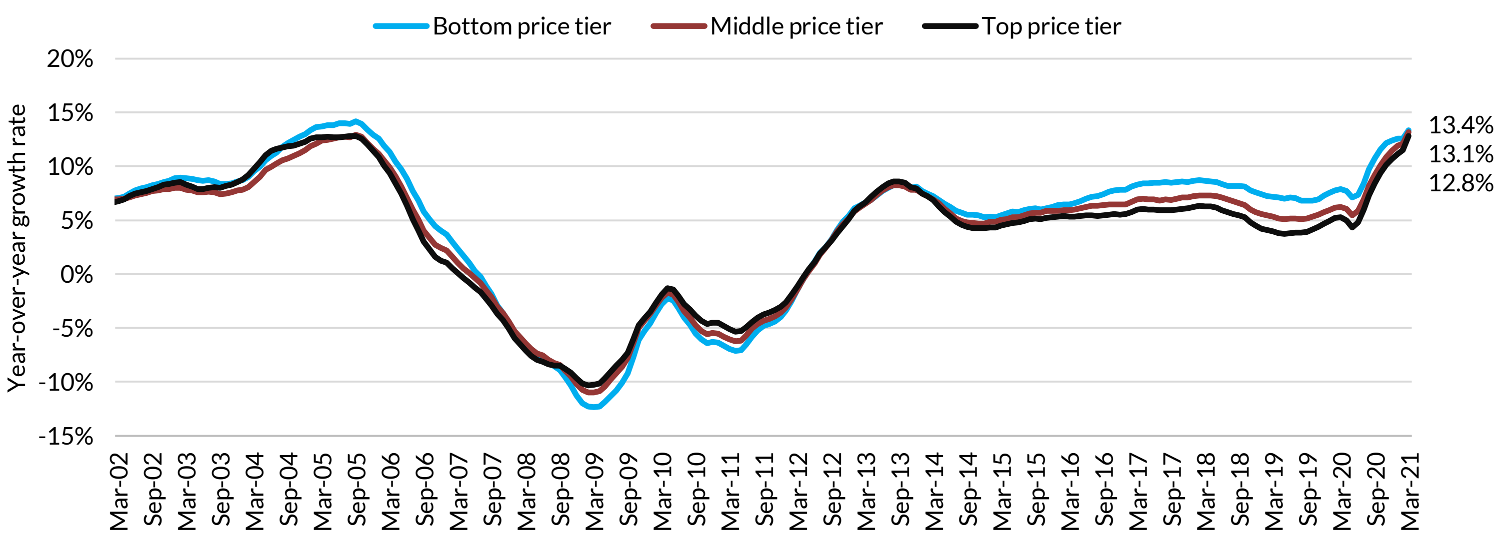
Serious delinquency rates for single-family GSE, FHA, and VA loans all fell slightly in Q1 2021. The increase in delinquencies from Q2 2020 to Q1 2021 reflects the impact of the pandemic on mortgage payments. The bottom chart shows nationwide house prices for the bottom, middle and the top quintiles by price. House prices escalated significantly in the second half of 2020, a trend that has remained in place in 2021. 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 13.4 percent for 12 months ended March 2021, higher than the 12.8 percent for the top end of the market. Year-over-year price growth in March 2021 was higher than in February 2021 for all price tiers.

Serious Delinquency Rates: Single-Family Loans



Sources: *Fannie Mae, Freddie Mac, MBA Delinquency Survey and Urban Institute.*
Note: *Serious delinquency is defined as 90 days or more past due or in the foreclosure process. Data as of Q1 2021.*

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 March 2021.*

State of the US Housing Market

Nationally, nominal home prices have increased by 77.5 percent since the trough, and now exceed their pre-crisis peak valuation on a nominal basis by 32.7 percent. The picture is very different across states, with most states well in excess of the prior peak; two states, Illinois and Connecticut, surpassed their 2007 peak only now in March of 2021, currently 0.2 and 0.5 percent above the peak.

State	2000 to Peak	Peak to Trough	Trough to Current	HPI Changes YOY	Current HPI % Above Peak
National	74.8%	-25.2%	77.5%	12.8%	32.7%
Alabama	35.9%	-15.4%	49.2%	11.9%	26.1%
Alaska	68.9%	-2.9%	34.8%	9.3%	30.8%
Arizona	110.1%	-47.9%	129.7%	19.9%	19.7%
Arkansas	41.5%	-9.8%	38.4%	11.9%	24.9%
California	154.5%	-43.3%	124.6%	14.6%	27.4%
Colorado	40.4%	-12.9%	113.0%	14.7%	85.6%
Connecticut	92.1%	-24.8%	33.7%	14.9%	0.5%
Delaware	94.0%	-23.6%	48.6%	13.8%	13.5%
District of Columbia	174.4%	-14.1%	67.2%	5.0%	43.5%
Florida	128.2%	-46.9%	96.4%	12.1%	4.3%
Georgia	38.3%	-31.5%	92.2%	13.8%	31.8%
Hawaii	163.1%	-22.6%	68.7%	9.8%	30.6%
Idaho	71.7%	-28.8%	151.0%	29.0%	78.6%
Illinois	61.6%	-34.4%	52.6%	8.7%	0.2%
Indiana	21.6%	-8.1%	55.9%	12.4%	43.3%
Iowa	28.5%	-4.8%	37.9%	8.5%	31.3%
Kansas	34.5%	-9.3%	60.9%	11.4%	45.9%
Kentucky	29.7%	-7.7%	52.7%	13.1%	40.9%
Louisiana	48.7%	-5.5%	33.1%	7.3%	25.8%
Maine	81.9%	-12.4%	63.4%	14.6%	43.2%
Maryland	129.4%	-28.8%	47.1%	13.6%	4.7%
Massachusetts	92.3%	-22.6%	78.1%	11.5%	37.9%
Michigan	23.8%	-39.5%	102.5%	11.8%	22.5%
Minnesota	66.6%	-28.0%	74.8%	9.4%	25.8%
Mississippi	41.2%	-13.8%	42.6%	9.4%	22.9%
Missouri	42.7%	-15.5%	55.0%	11.1%	31.0%
Montana	83.1%	-11.8%	81.4%	19.0%	60.1%
Nebraska	26.6%	-6.8%	62.3%	11.7%	51.2%
Nevada	126.8%	-59.0%	156.6%	12.9%	5.2%
New Hampshire	90.9%	-23.3%	72.1%	18.2%	32.0%
New Jersey	117.8%	-28.1%	48.9%	15.0%	7.1%
New Mexico	66.5%	-16.4%	44.6%	12.8%	20.9%
New York	98.5%	-15.3%	56.5%	9.6%	32.6%
North Carolina	40.6%	-16.2%	60.4%	13.8%	34.5%
North Dakota	53.5%	-3.9%	62.1%	7.1%	55.9%
Ohio	21.2%	-18.5%	58.4%	12.5%	29.0%
Oklahoma	37.4%	-2.7%	34.6%	9.7%	31.0%
Oregon	81.9%	-28.2%	114.8%	15.8%	54.1%
Pennsylvania	70.0%	-11.8%	42.2%	11.1%	25.4%
Rhode Island	130.3%	-34.8%	80.5%	15.6%	17.8%
South Carolina	44.9%	-19.6%	54.5%	11.5%	24.2%
South Dakota	45.2%	-3.6%	60.7%	9.4%	55.0%
Tennessee	34.9%	-11.9%	71.6%	14.7%	51.1%
Texas	33.6%	-5.8%	69.7%	10.9%	59.9%
Utah	55.0%	-22.2%	117.6%	19.6%	69.3%
Vermont	81.3%	-9.2%	42.9%	17.8%	29.8%
Virginia	100.0%	-23.0%	45.2%	11.0%	11.8%
Washington	84.8%	-28.7%	131.7%	18.0%	65.2%
West Virginia	40.4%	-5.8%	37.6%	12.4%	29.6%
Wisconsin	44.8%	-16.4%	54.9%	11.7%	29.5%
Wyoming	77.9%	-7.5%	48.9%	10.6%	37.7%

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 March 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 3/2021, the latest HPI data period.*

State of the US Housing Market

Ginnie Mae MBS constitute 23.3 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 10.4 percent in the District of Columbia and as high as 44.9 percent in Mississippi. In general, the Ginnie Mae share is higher in states with lower home prices.

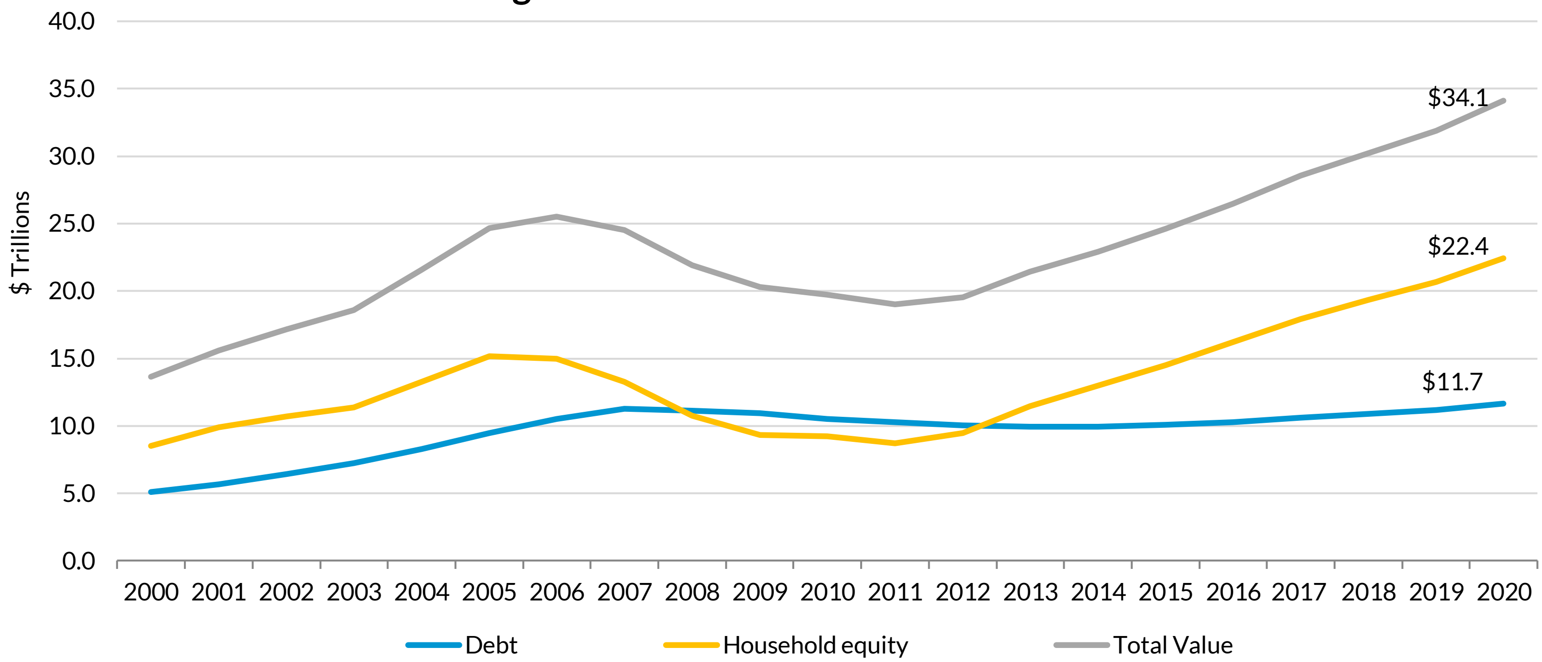
	Agency Issuance (past 1 year)				Agency Outstanding			
State	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)
National	24.2%	2,953,721	258.2	282.6	23.3%	10,955,728	166.2	207.5
Alabama	37.3%	54,981	199.9	222.8	37.8%	235,095	130.4	164.1
Alaska	46.0%	9,592	313.0	280.3	43.9%	37,367	235.0	211.3
Arizona	25.5%	110,086	253.2	258.2	21.9%	296,806	171.8	200.8
Arkansas	34.8%	29,568	170.8	202.1	37.4%	137,785	112.2	148.5
California	16.7%	267,188	397.3	391.9	13.8%	724,775	270.6	301.4
Colorado	24.1%	90,833	336.2	321.3	19.9%	227,235	234.3	253.7
Connecticut	23.2%	23,800	242.3	269.2	23.6%	106,140	180.7	199.2
Delaware	29.8%	12,993	243.3	260.9	29.7%	51,332	180.3	196.4
District of Columbia	12.9%	2,606	512.8	443.2	10.4%	9,086	302.0	335.4
Florida	34.6%	252,834	248.0	250.3	29.4%	845,265	174.7	188.5
Georgia	32.5%	135,019	221.1	253.1	31.6%	505,551	148.1	185.9
Hawaii	40.7%	14,334	554.5	441.7	23.5%	33,000	387.3	337.4
Idaho	23.7%	22,543	258.1	252.1	22.3%	72,605	166.5	195.3
Illinois	17.1%	80,978	205.6	236.8	19.6%	356,484	140.4	170.0
Indiana	26.1%	67,700	173.0	193.3	29.2%	289,967	112.9	138.8
Iowa	16.3%	17,400	175.9	197.2	20.1%	84,041	115.0	142.1
Kansas	24.1%	21,657	185.8	214.7	27.9%	100,254	120.7	152.6
Kentucky	29.6%	38,242	180.9	200.5	32.2%	165,343	122.4	144.5
Louisiana	34.5%	43,227	196.3	229.7	36.4%	189,817	139.2	169.1
Maine	23.8%	10,223	213.7	238.3	24.5%	39,439	153.6	177.3
Maryland	33.9%	86,142	328.1	316.4	30.3%	291,249	229.8	235.5
Massachusetts	13.7%	33,786	335.5	341.1	13.7%	117,319	242.1	254.9
Michigan	16.0%	63,284	175.4	205.2	19.1%	289,245	114.3	146.7
Minnesota	15.7%	41,658	234.2	248.6	17.0%	170,766	157.7	186.0
Mississippi	42.4%	24,336	181.5	205.5	44.9%	117,216	122.8	150.9
Missouri	24.2%	58,260	183.7	209.8	27.7%	254,397	121.3	151.2
Montana	23.8%	9,985	257.0	260.0	22.2%	35,112	173.5	196.3
Nebraska	22.9%	15,531	199.6	205.1	25.3%	68,947	124.8	150.2
Nevada	33.6%	51,117	289.0	269.5	26.5%	136,291	201.3	211.6
New Hampshire	21.7%	11,760	271.2	265.7	21.4%	41,873	195.4	199.0
New Jersey	18.9%	59,100	286.2	321.7	19.8%	234,980	209.8	239.9
New Mexico	35.9%	21,655	214.1	226.4	35.7%	96,681	142.0	164.4
New York	17.2%	46,970	283.3	317.8	19.6%	314,150	184.5	230.9
North Carolina	28.2%	113,856	220.9	250.0	27.0%	426,331	144.8	182.6
North Dakota	20.7%	4,606	236.8	232.7	20.5%	16,692	169.6	177.3
Ohio	24.7%	89,464	173.2	195.2	28.3%	433,174	112.8	138.1
Oklahoma	38.9%	38,269	185.5	205.9	41.3%	192,507	121.3	149.9
Oregon	20.2%	40,089	300.4	299.4	17.2%	119,438	209.2	231.1
Pennsylvania	22.6%	77,647	196.5	238.4	25.8%	401,508	134.3	169.9
Rhode Island	26.2%	9,428	268.2	261.6	26.5%	35,682	195.7	199.3
South Carolina	33.8%	66,574	222.4	236.2	31.1%	230,501	151.6	175.3
South Dakota	23.9%	8,113	212.9	218.7	27.0%	30,185	146.0	166.7
Tennessee	30.8%	74,892	223.0	245.7	30.9%	287,236	143.6	183.3
Texas	31.4%	281,540	235.1	258.3	29.7%	1,076,864	151.2	190.7
Utah	18.0%	39,685	294.7	290.2	17.7%	110,994	204.8	237.2
Vermont	18.2%	2,886	220.4	237.4	17.0%	12,534	163.4	168.9
Virginia	35.5%	135,211	326.7	323.0	31.4%	442,214	216.5	236.7
Washington	21.8%	88,853	339.2	347.7	18.8%	252,482	229.9	264.7
West Virginia	41.2%	12,601	184.0	189.5	40.6%	56,518	126.5	135.8
Wisconsin	14.4%	32,872	199.2	212.1	15.6%	129,347	134.6	153.5
Wyoming	33.3%	7,747	244.0	248.2	32.0%	25,908	179.6	190.0

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

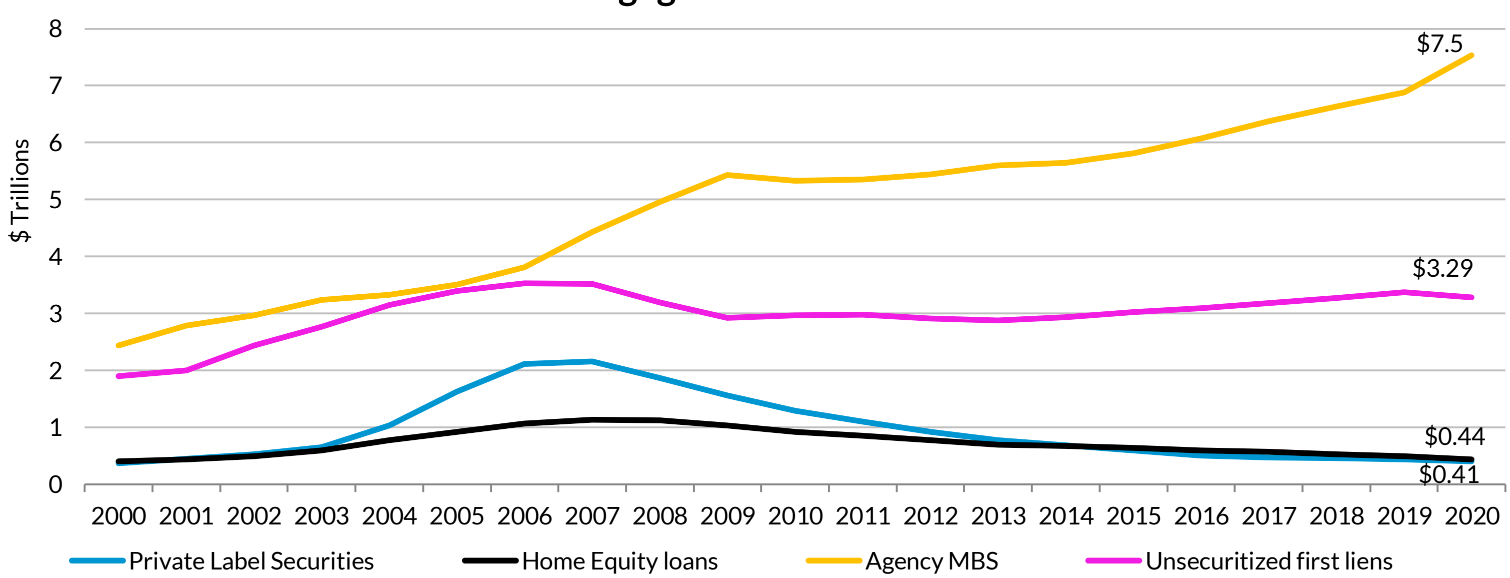
State of the US Housing Market

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

Value of the US Housing Market



Size of the US Residential Mortgage Market

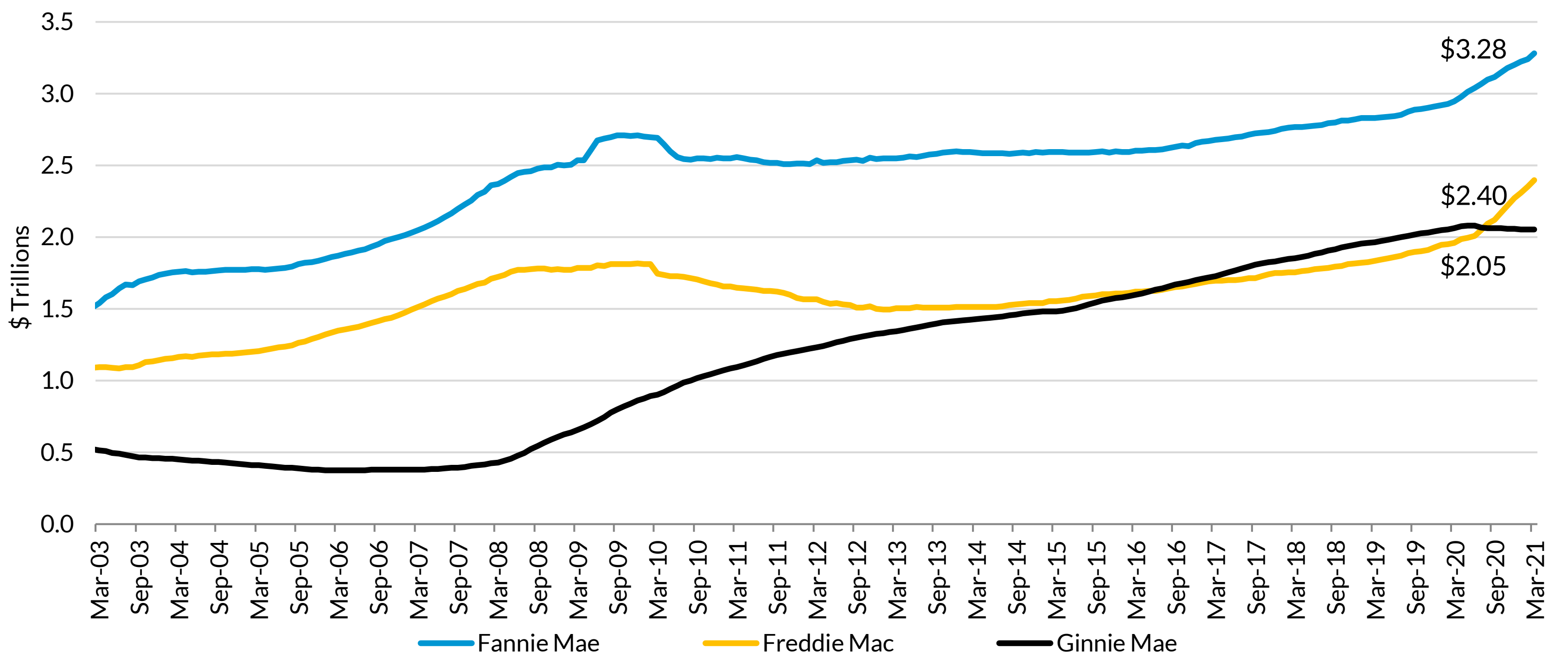


Sources: *Federal Reserve Flow of Funds, eMBS and Urban Institute. Last updated April 2020.*
Note Top: *Single family includes 1-4 family mortgages. The home equity number is grossed up from Fed totals to include the value of households and the non-financial business sector.* **Note Bottom**: *Unsecuritized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

State of the US Housing Market

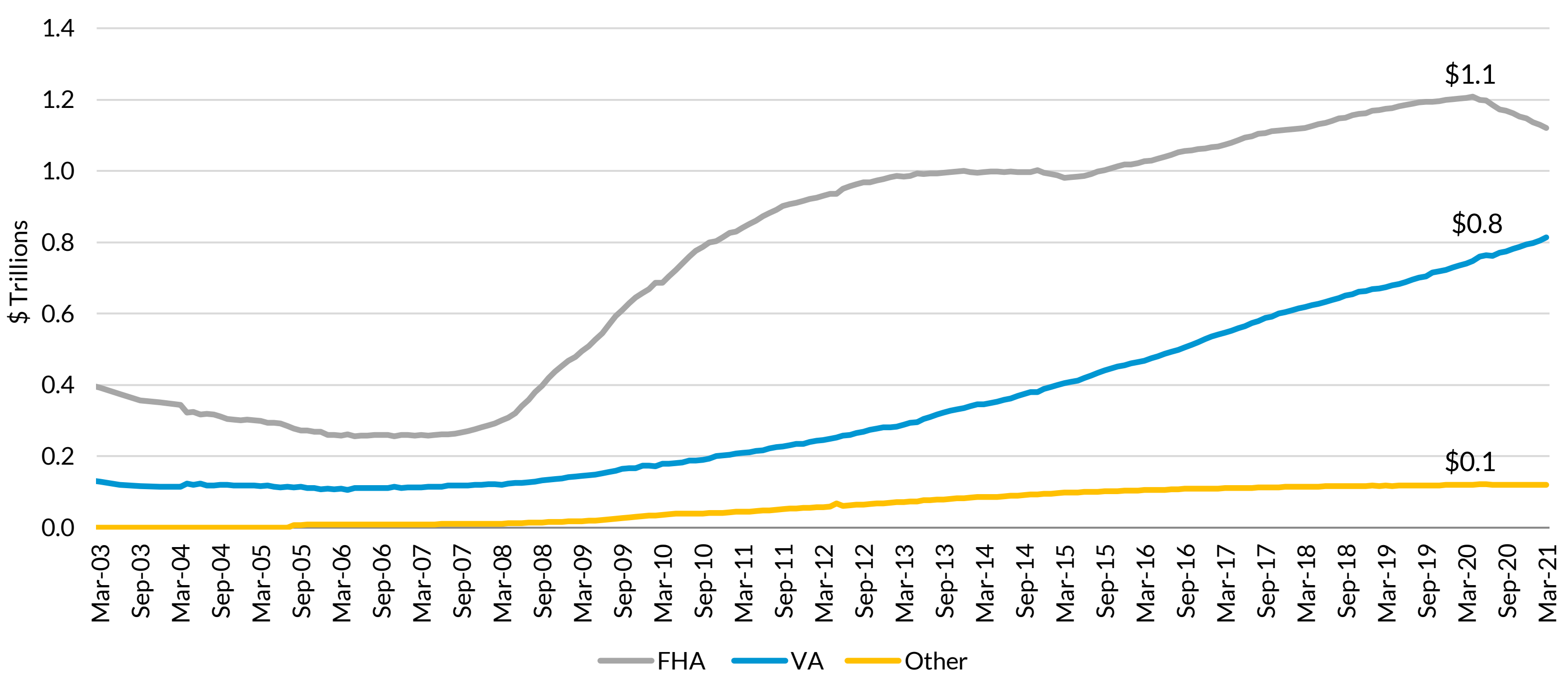
As of March 2021, outstanding securities in the agency market totaled $7.73 trillion: 42.4 percent Fannie Mae, 31.0 percent Freddie Mac, and 26.6 percent Ginnie Mae MBS. Within the Ginnie Mae market, both FHA and VA have grown very rapidly since 2009, although since May 2020, FHA has contracted. FHA comprises 54.6 percent of total Ginnie Mae MBS outstanding, while VA comprises 39.6 percent. Note that during the pandemic the GSEs have been growing faster than Ginnie Mae, courtesy of borrowers with home price appreciation moving from FHA to conventional refinances and saving on the mortgage insurance premium.

Outstanding Agency Mortgage-Backed Securities



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

Outstanding Ginnie Mae Mortgage-Backed Securities

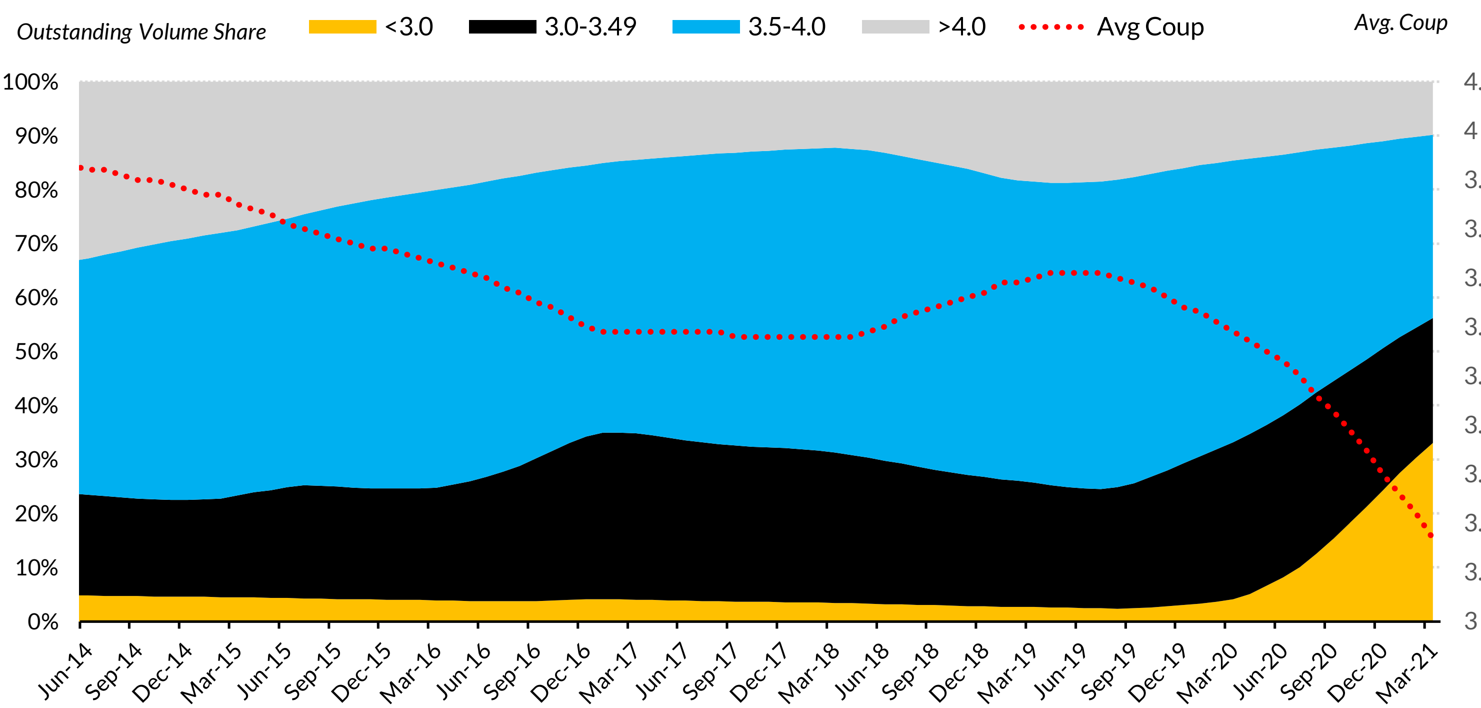


Sources: *eMBS and Urban Institute.* **Note:** *Data as of March 2021.*

State of the US Housing Market

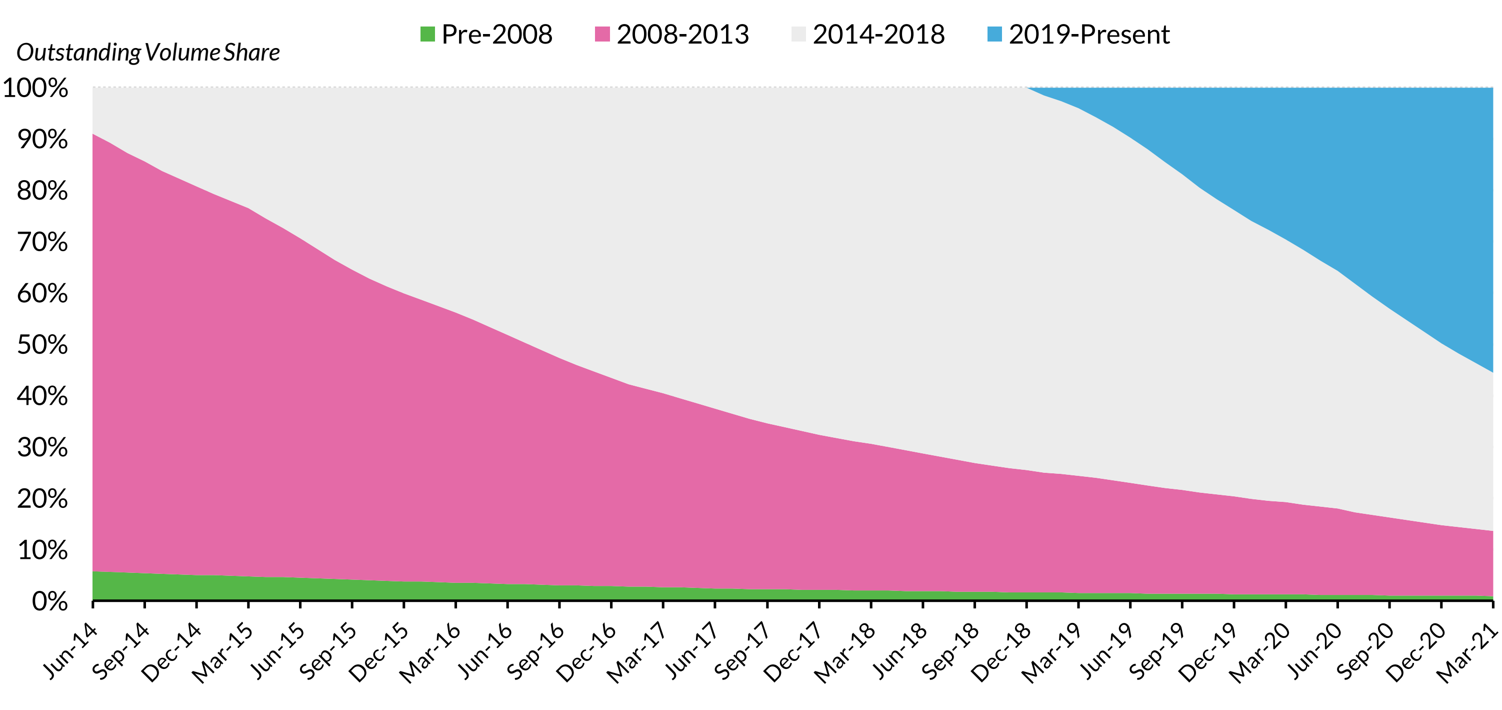
As of March 2021, the average coupon on outstanding Ginnie Mae pools was 3.17 percent, declining steadily over time. The share of outstanding MBS pools with coupons below 3.0 percent has grown exponentially in 2020 and early 2021 due to plummeting rates. The bottom chart shows that loans originated since 2019 now comprise over half, 55.5 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 March 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 March 2021.*

State of the US Housing Market

In March 2021, a total of 525,783 Ginnie Mae loans were in forbearance, 13,953 of which were removed from pools (i.e. liquidated) during the month. Most liquidated loans (11,001) were FHA. Forborne loans removed from pools in March 2021 had measurably higher note rates and were more likely to be purchase loans than forborne loans that remain in pools.

All loans in forbearance – March 2021

	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	660	4.0	$168,768	77.9%	70.1%	525,783
Bank	675	4.1	$131,793	73.4%	76.9%	70,521
Nonbank	658	4.0	$174,359	78.5%	69.3%	455,262
FHA	656	4.1	$165,475	78.6%	72.5%	380,703
Bank	669	4.2	$120,759	74.2%	79.0%	51,646
Nonbank	655	4.0	$172,571	79.2%	71.7%	329,057
VA	668	3.7	$216,102	70.1%	49.9%	99,271
Bank	686	3.8	$193,230	68.1%	66.5%	14,841
Nonbank	665	3.7	$219,834	70.6%	47.0%	84,430

Loans in forbearance and removed from pools – March 2021

	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	668	4.1	$176,000	74.6%	74.3%	13,953
Bank	675	4.2	$148,000	73.3%	80.0%	6,556
Nonbank	665	4.1	$204,000	75.7%	70.3%	7,397
FHA	664	4.2	$170,000	75.7%	77.9%	11,001
Bank	671	4.3	$142,000	74.1%	82.7%	5,098
Nonbank	660	4.2	$198,000	76.9%	74.5%	5,903
VA	683	3.8	$227,500	64.5%	52.9%	2,302
Bank	686	3.9	$203,716	64.1%	62.4%	1,038
Nonbank	681	3.7	$248,000	64.8%	45.6%	1,264

Loans in forbearance that remain in pools – March 2021

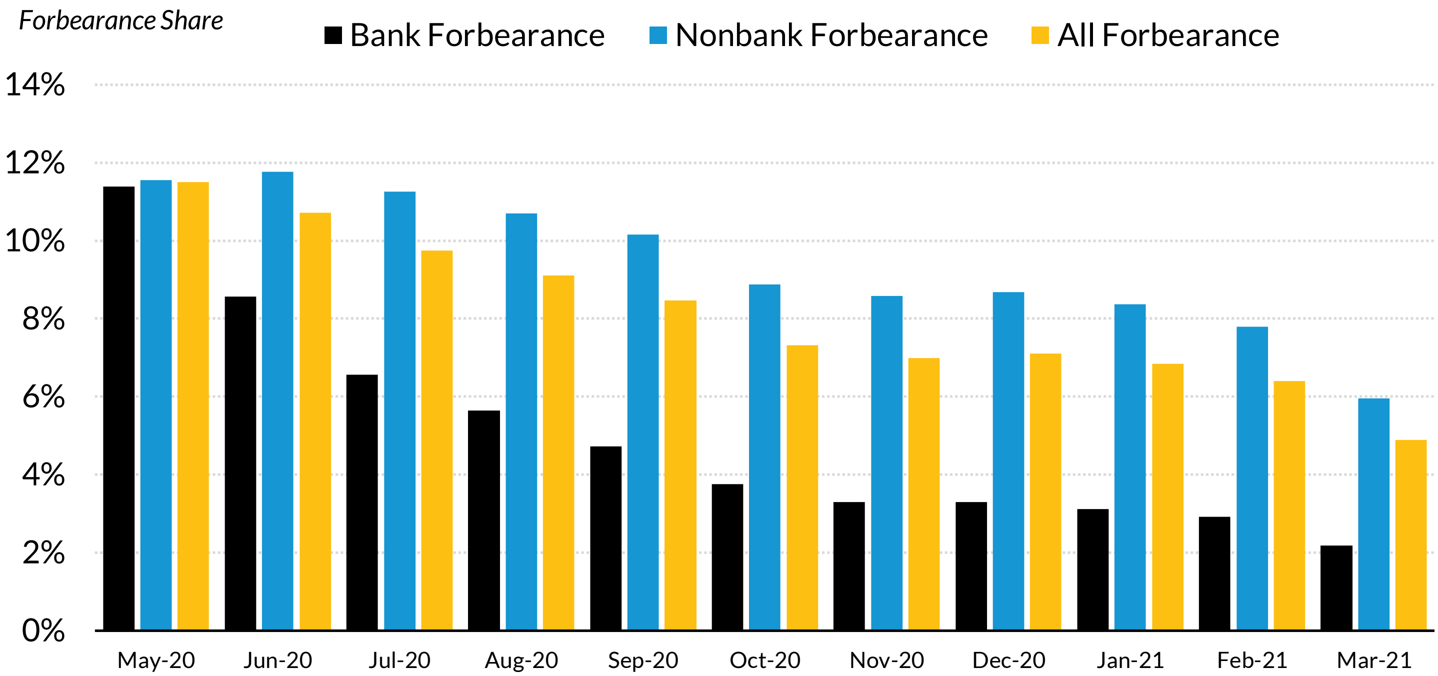
	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	660	4.0	$168,908	78.0%	70.1%	511,786
Bank	675	4.1	$131,719	73.2%	76.7%	64,717
Nonbank	658	4.0	$174,116	78.6%	69.3%	447,069
FHA	656	4.1	$165,676	78.7%	72.4%	369,656
Bank	668	4.2	$120,122	74.1%	78.7%	47,108
Nonbank	655	4.0	$172,382	79.2%	71.7%	322,548
VA	668	3.7	$216,185	70.2%	49.8%	96,971
Bank	686	3.8	$194,053	68.2%	66.8%	13,874
Nonbank	665	3.7	$219,560	70.7%	47.0%	83,097

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

State of the US Housing Market

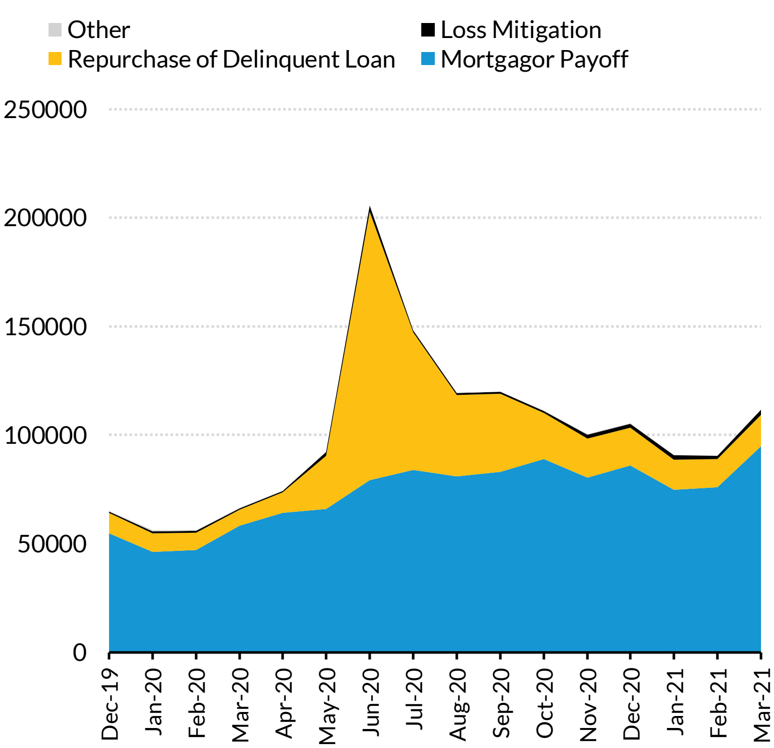
The share of Ginnie Mae loans in forbearance is higher for nonbank issuers than for bank issuers for two reasons: (1) more recent origination is more likely to be forborne and comprises a larger share of the non-bank servicing portfolio, and (2) banks have been more aggressive in buying forborne loans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



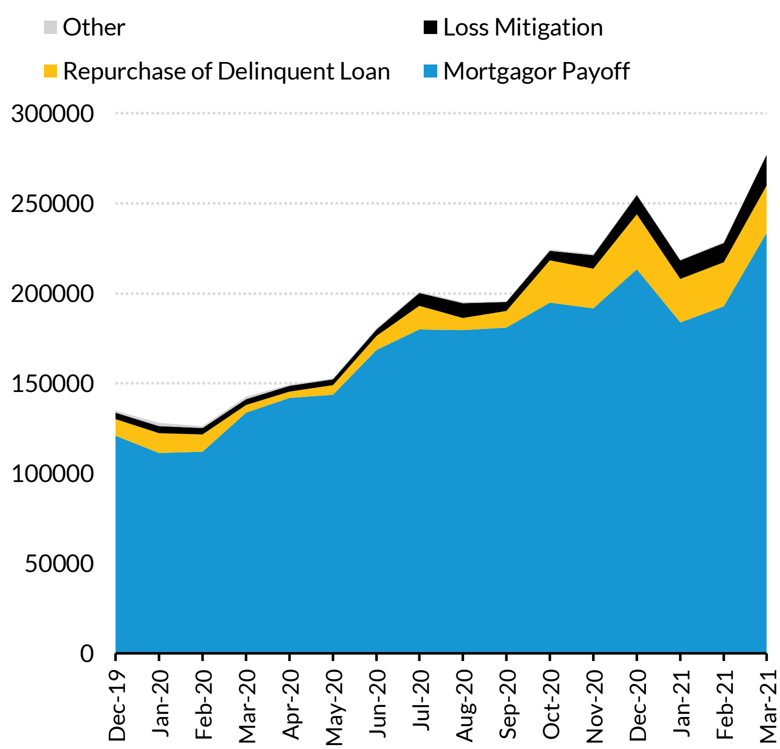
Sources: *eMBS and Urban Institute*. **Note:** *Data as of March 2021.*

Number of Loans Removed from Pools: Bank Issuers



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

Number of Loans Removed from Pools: Nonbank Issuers

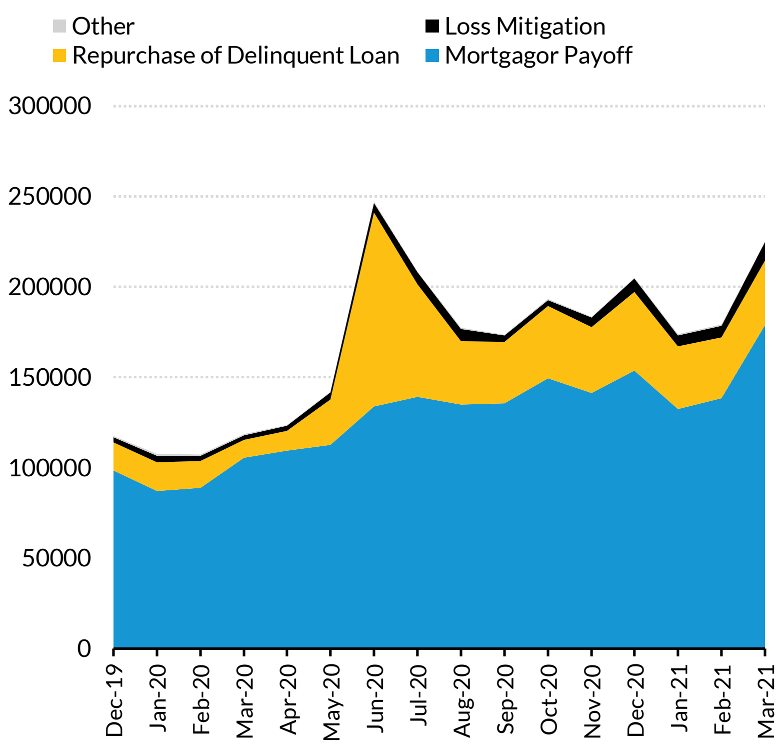


Sources: *eMBS and Urban Institute.* **Note:** *Data as of March 2021.*

State of the US Housing Market

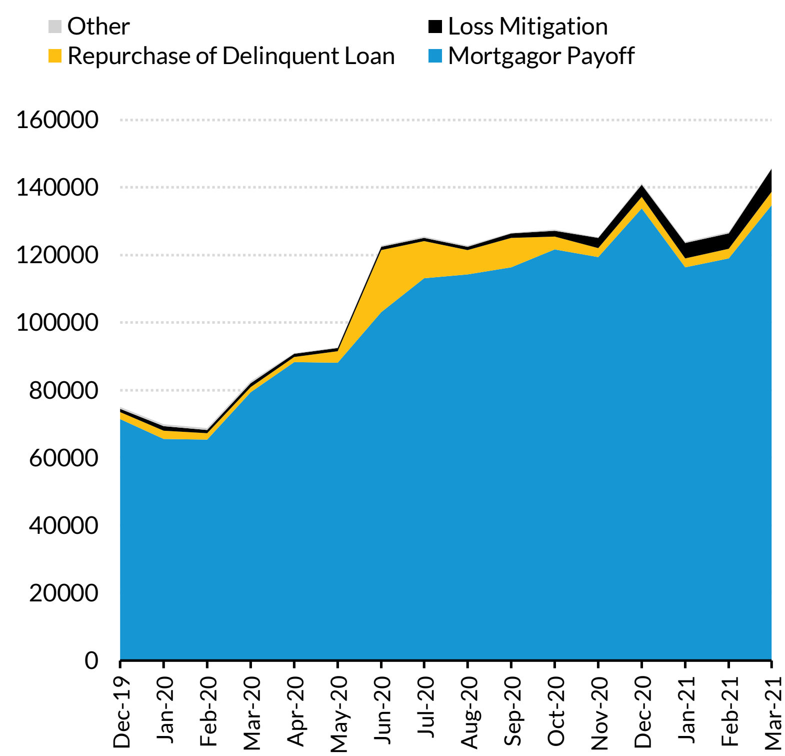
Ginnie Mae delinquent loans bought out of pools are more likely to be FHA than VA (top charts, yellow areas) and more likely to be higher coupons (bottom chart). In March 2021, 35,744 FHA and 3,915 VA loans were bought out. (These counts include all delinquent buyouts, regardless of forbearance status). 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



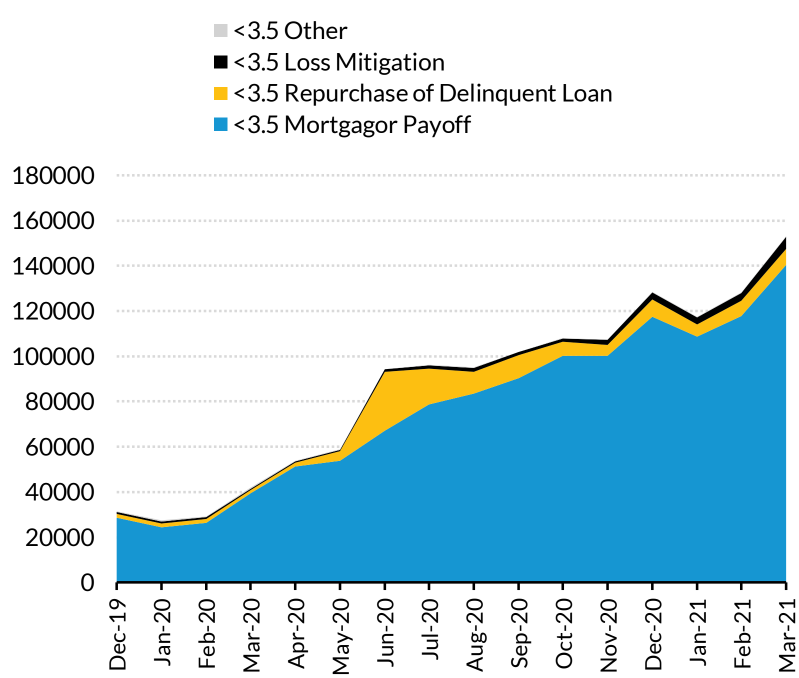
Sources: *eMBS and Urban Institute.* **Note:** *Data as of March 2021.*

Number of Loans Removed from Pools: VA

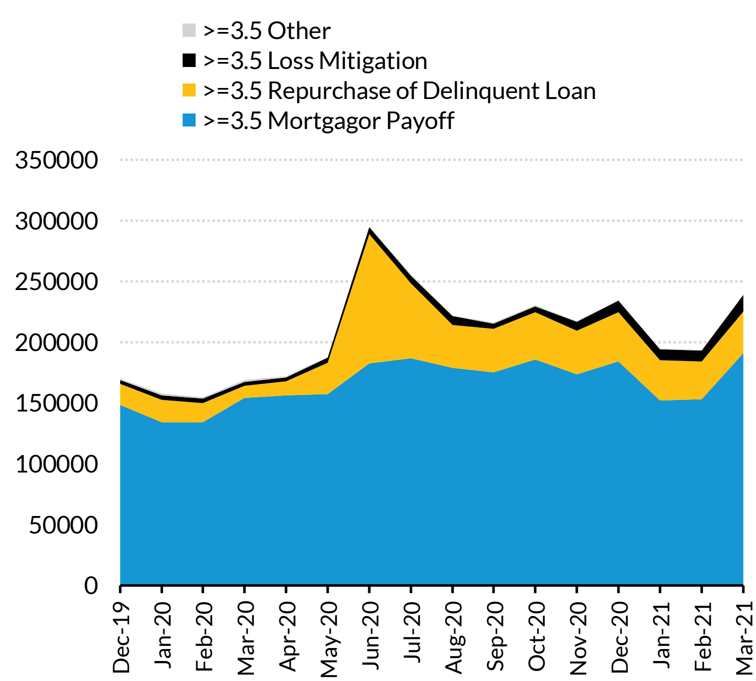


Sources: *eMBS and Urban Institute.* **Note:** *Data as of March 2021.*

Number of Loans Removed from Pools by Coupon



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

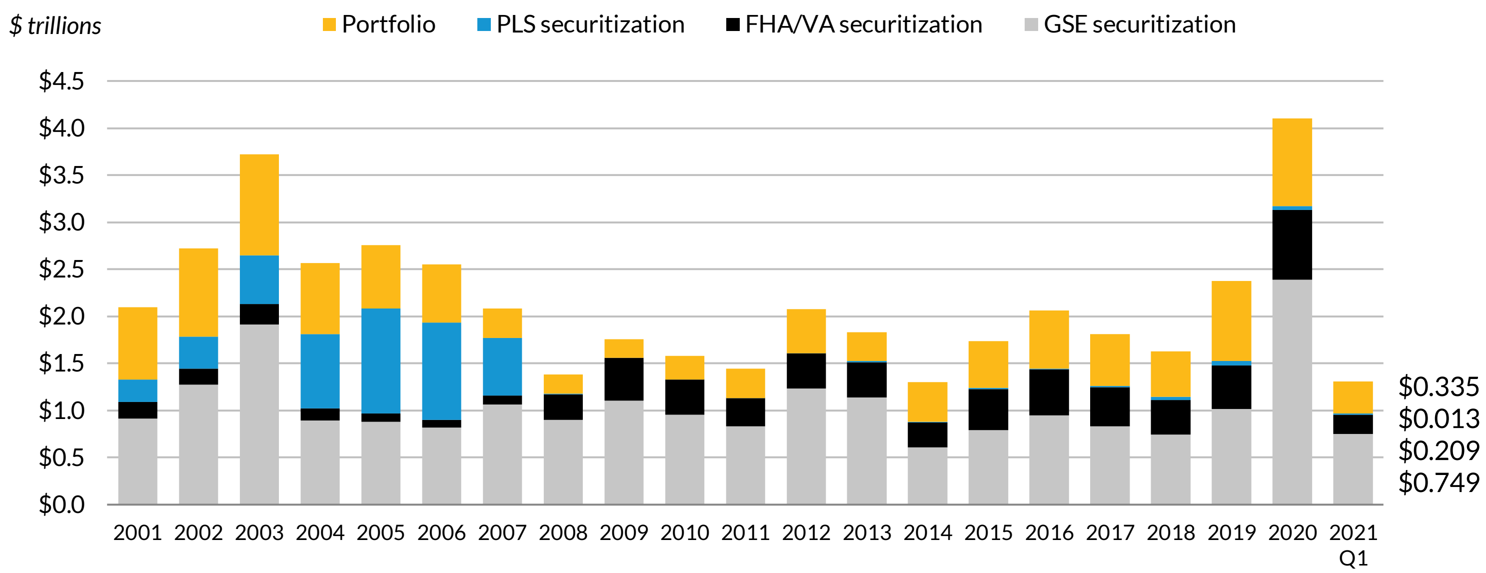


Sources: *eMBS and Urban Institute.* **Note:** *Data as of March 2021.*

State of the US Housing Market

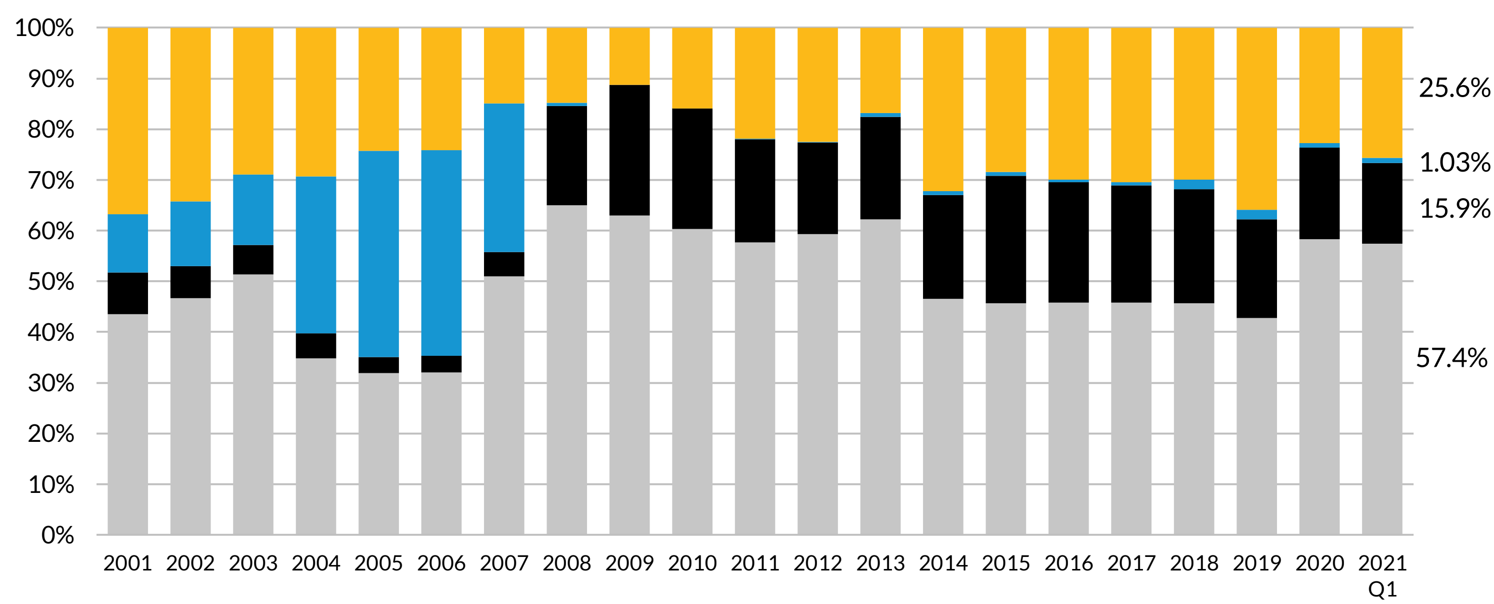
2021 is off to a strong start for first-lien originations with $1.31 trillion in mortgages originated during the first quarter. The share of portfolio originations was 25.6 percent in Q1 2021, down from the 29.2 percent share in Q1 2020, but up from 23.0 percent for the full year 2020.. The Q1 2021 GSE share was 57.4 percent, compared to 45.7 percent in Q1 2020. The FHA/VA share in Q1 2021 was 15.9 percent, down compared to 23.2 percent in the same quarter last year. The PLS share was 1.0 percent in Q1 2021, down from 1.9 percent in Q1 2020, 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 Q1 2021.*

First Lien Origination Share



Sources: *Inside Mortgage Finance and Urban Institute.* **Note:** *Data as of Q1 2021.*

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 $983.4 billion issued through March, up 104.8 percent compared to the same period last year.

Agency Gross Issuance					
Issuance Year	Fannie Mae	Freddie Mac	GSE Total	Ginnie Mae	Total
2000	$202.8	$157.9	$360.6	$102.2	$462.8
2001	$506.9	$378.2	$885.1	$171.5	$1,056.6
2002	$710.0	$529.0	$1,238.9	$169.0	$1,407.9
2003	$1,174.4	$700.5	$1,874.9	$213.1	$2,088.0
2004	$517.5	$355.2	$872.6	$119.2	$991.9
2005	$514.1	$379.9	$894.0	$81.4	$975.3
2006	$500.2	$352.9	$853.0	$76.7	$929.7
2007	$633.0	$433.3	$1,066.2	$94.9	$1,161.1
2008	$562.7	$348.7	$911.4	$267.6	$1,179.0
2009	$817.1	$462.9	$1,280.0	$451.3	$1,731.3
2010	$626.6	$377.0	$1,003.5	$390.7	$1,394.3
2011	$578.2	$301.2	$879.3	$315.3	$1,194.7
2012	$847.6	$441.3	$1,288.8	$405.0	$1,693.8
2013	$749.9	$426.7	$1,176.6	$393.6	$1,570.2
2014	$392.9	$258.0	$650.9	$296.3	$947.2
2015	$493.9	$351.9	$845.7	$436.3	$1,282.0
2016	$600.5	$391.1	$991.6	$508.2	$1,499.8
2017	$531.3	$345.9	$877.3	$455.6	$1,332.9
2018	$480.9	$314.1	$795.0	$400.6	$1,195.3
2019	$597.4	$445.2	$1,042.6	$508.6	$1,551.2
2020	$1,343.4	$1,064.1	$2,407.5	$775.4	$3,182.9
2021 YTD	$404.3	$351.7	$756.0	$227.4	$983.4
2021 % Change YOY	115.5%	165.9%	136.3%	41.9%	104.8%
2021 Ann.	$1,617.3	$1,406.8	$3,024.1	$909.6	$3,933.7

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	$88.6	$132.5	$6.3	$227.4
2021 % Change YOY	14.5%	69.2%	38.1%	41.9%
2021 Ann.	$354.6	$529.9	$25.2	$909.6

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 March 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 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 three months of 2021 Ginnie Mae net issuance was -$6.4 billion, driven by FHA contraction.

Agency Net Issuance

Issuance Year	Fannie Mae	Freddie Mac	GSE Total	Ginnie Mae	Total
2000	$92.0	$67.8	$159.8	$29.3	$189.1
2001	$216.6	$151.8	$368.4	-$9.9	$358.5
2002	$218.9	$138.3	$357.2	-$51.2	$306.1
2003	$293.7	$41.1	$334.9	-$77.6	$257.3
2004	$32.3	$50.2	$82.5	-$40.1	$42.4
2005	$62.5	$111.7	$174.2	-$42.2	$132.0
2006	$164.3	$149.3	$313.6	$0.2	$313.8
2007	$296.1	$218.8	$514.9	$30.9	$545.7
2008	$213.0	$101.8	$314.8	$196.4	$511.3
2009	$208.1	$42.5	$250.6	$257.4	$508.0
2010	-$156.4	-$146.8	-$303.2	$198.3	-$105.0
2011	-$32.6	-$95.8	-$128.4	$149.6	$21.2
2012	$32.9	-$75.3	-$42.4	$119.1	$76.8
2013	$53.5	$11.8	$65.3	$89.6	$154.9
2014	-$4.0	$30.0	$26.0	$61.6	$87.7
2015	$3.5	$65.0	$68.4	$97.3	$172.5
2016	$60.5	$66.8	$127.4	$126.1	$261.6
2017	$83.7	$77.0	$160.7	$132.3	$293.0
2018	$81.9	$67.6	$149.4	$112.0	$261.5
2019	$87.4	$110.3	$197.8	$95.7	$293.5
2020	$289.3	$343.5	$632.8	$19.9	$652.7
2021	$80.4	$126.2	$206.5	-$6.4	$200.1
2021 % Change YOY	121.0%	310.3%	207.7%	-126.1%	118.5%
2021 Ann.	$321.4	$504.6	$826.0	-$25.5	$800.5

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	-$25.9	$20.4	-$0.9	-$6.4
2021 % Change YOY	-533.0%	15.5%	-207.2%	-126.1%
2021 Ann.	-$103.5	$81.6	-$3.6	-$25.5

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 March 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 March 2021 gross agency issuance of $339.7 was significantly higher than the same month in 2020, as the impact of lower rates on volume was not seen until April of 2020.

Monthly Agency Issuance

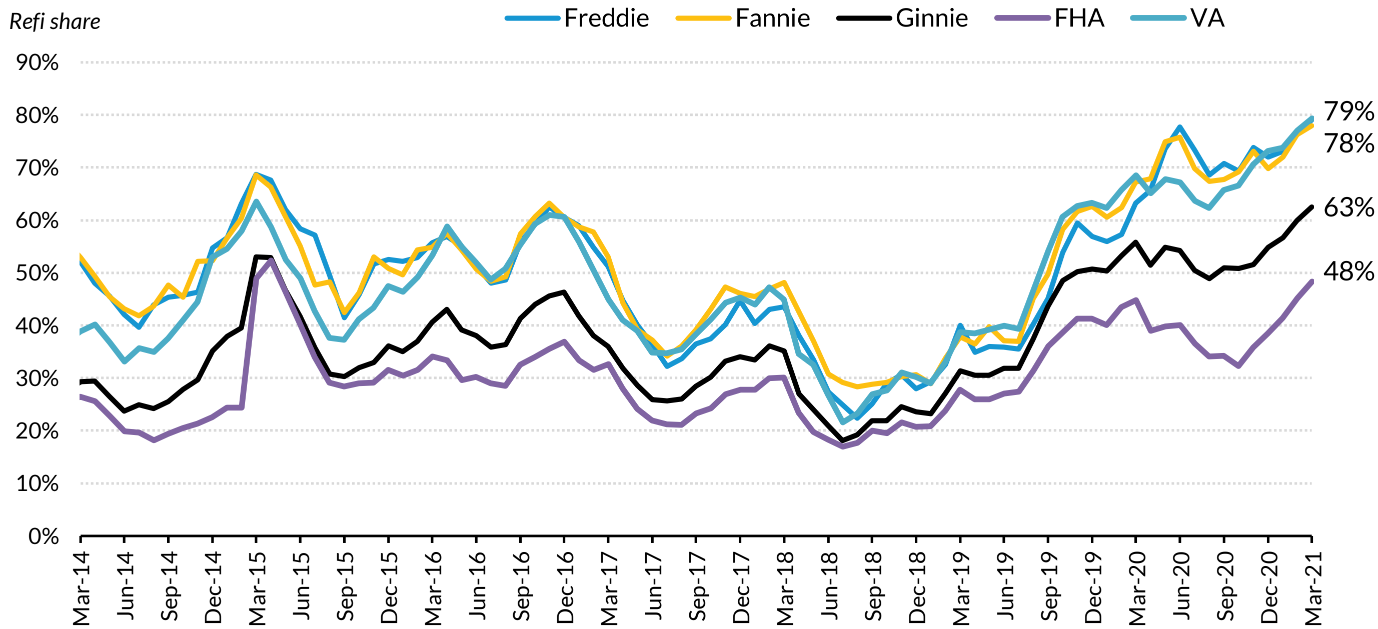
	Gross Issuance				Net Issuance			
Date	Fannie Mae	Freddie Mac	Ginnie Mae	Total	Fannie Mae	Freddie Mac	Ginnie Mae	Total
Jan-19	$33.3	$19.2	$29.0	$81.6	$5.9	$2.5	$9.2	$17.6
Feb-19	$27.3	$19.9	$23.5	$70.7	$1.4	$3.4	$4.6	$9.3
Mar-19	$29.6	$27.3	$26.6	$83.5	$1.8	$10.3	$5.6	$17.6
Apr-19	$33.1	$30.8	$32.9	$96.8	$1.3	$10.8	$8.3	$20.4
May-19	$44.5	$34.3	$38.8	$117.6	$6.7	$9.8	$9.4	$26.0
Jun-19	$44.6	$34.0	$43.3	$121.9	$1.9	$5.9	$9.0	$16.8
Jul-19	$51.7	$36.9	$45.9	$134.5	$10.9	$10.1	$11.0	$32.0
Aug-19	$71.1	$50.4	$51.2	$172.6	$20.8	$17.1	$8.7	$46.6
Sep-19	$67.1	$43.0	$52.0	$162.1	$14.1	$7.5	$6.5	$28.0
Oct-19	$65.0	$46.2	$58.4	$169.6	$7.4	$7.1	$11.9	$26.5
Nov-19	$68.1	$50.7	$54.3	$173.1	$5.2	$8.6	$4.1	$18.0
Dec-19	$62.1	$52.5	$52.7	$167.3	$10.1	$17.3	$7.4	$34.7
Jan-20	$61.7	$51.4	$56.0	$169.0	$9.1	$16.5	$8.6	$34.2
Feb-20	$56.5	$39.5	$51.2	$147.2	$9.4	$7.9	$7.1	$24.4
Mar-20	$69.5	$41.1	$53.0	$163.9	$17.9	$6.3	$8.8	$33.0
Apr-20	$101.6	$76.3	$61.4	$239.3	$30.5	$27.5	$10.2	$68.2
May-20	$124.3	$70.6	$60.8	$255.7	$35.2	$8.2	$5.7	$49.1
Jun-20	$118.9	$78.1	$58.5	$255.4	$30.0	$15.9	$1.3	$47.2
Jul-20	$125.0	$108.1	$66.5	$299.5	$23.4	$38.0	-$15.5	$45.9
Aug-20	$137.6	$113.6	$73.6	$324.8	$34.2	$43.4	-$4.1	$73.5
Sep-20	$122.9	$102.1	$72.4	$297.5	$16.5	$29.9	$1.0	$47.5
Oct-20	$142.3	$124.8	$72.6	$339.7	$28.9	$48.3	-$0.3	$76.9
Nov-20	$152.4	$131.5	$72.6	$356.5	$31.4	$48.4	-$4.5	$75.3
Dec-20	$130.8	$126.7	$76.9	$334.4	$22.8	$53.1	$1.7	$77.5
Jan-21	$141.6	$117.3	$78.2	$337.1	$25.9	$37.9	-$6.5	$57.3
Feb-21	$118.8	$115.5	$72.3	$306.6	$16.8	$44.3	-$0.9	$60.2
Mar-21	$143.9	$118.9	$76.9	$339.7	$37.6	$44.0	$1.0	$82.6

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 March 2021.*

US Agency Market, Originations

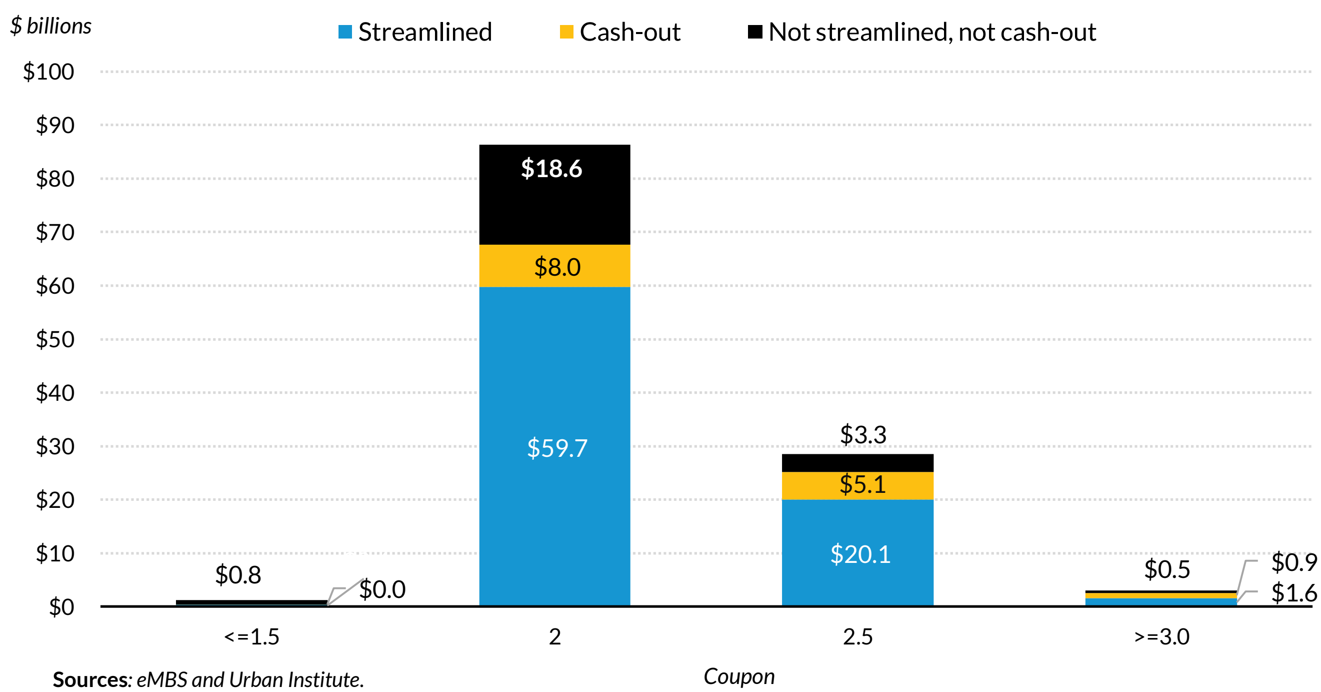
The FHA refinance share stood at 48.3 percent in March 2021, below the 79.1 percent refi share for Freddie originations, the 77.9 percent share for Fannie, and the 79.3 percent share for the VA. The total Ginnie refinance share stood at 62.5 percent in March. Refinances as a share of all originations grew during 2019 and 2020 as interest rates fell. The bottom section shows that most of 2021 Ginnie Mae refinances YTD, predominantly streamlined, were securitized in 2-2.5 coupon pools. Cash-out refinance volume remains muted due to restrictions Ginnie Mae put in place in late 2019, to combat the "churning" problem.

Percent Refi at Issuance



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

Ginnie Mae Refinance Issuance by Type: YTD 2021

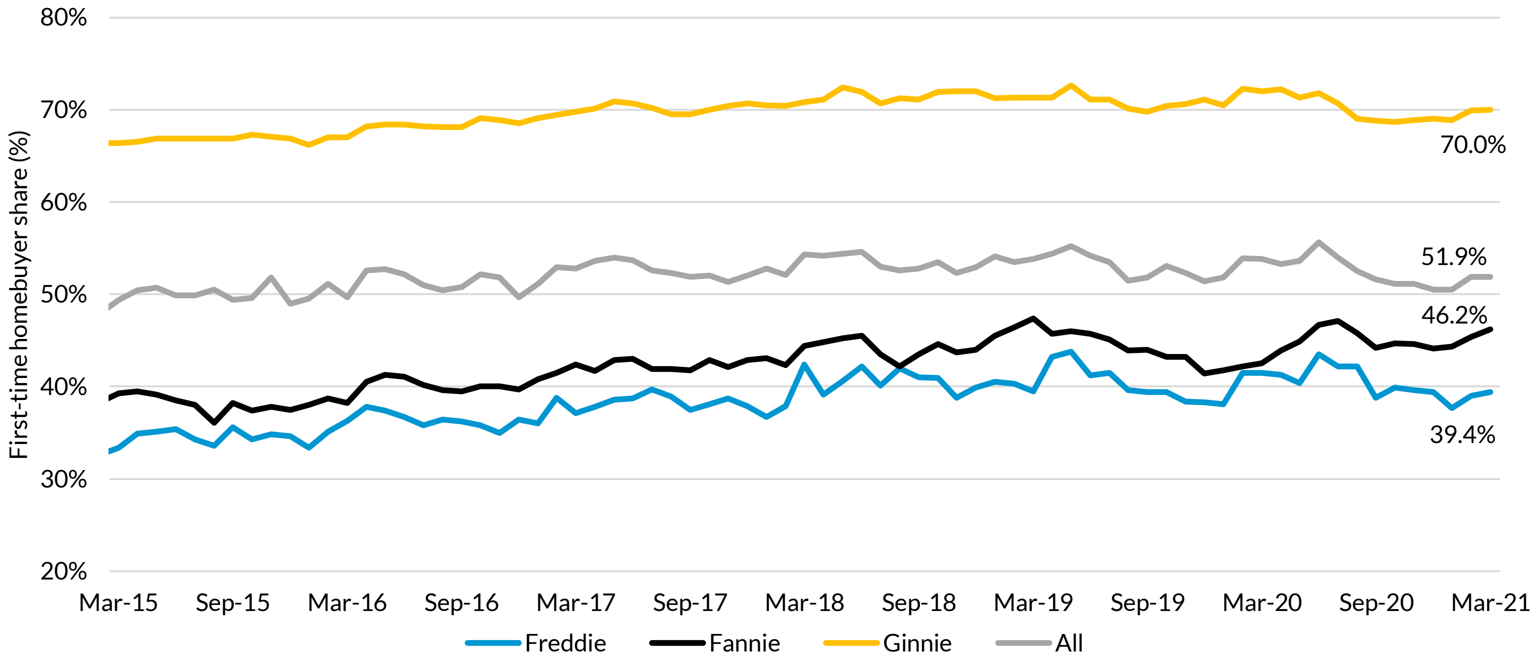


Sources: *eMBS and Urban Institute.*
Note: *Based on at-issuance balance. Data as of March 2021.*

Credit Box

The first time homebuyer share of Ginnie Mae purchase loans was 70.0 percent in March 2021, down from 72.0 percent in March 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 46.2 percent and 39.4 percent of Fannie Mae and Freddie Mac purchase originations, respectively. The bottom table shows that based on mortgages originated in March 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 March 2021.*

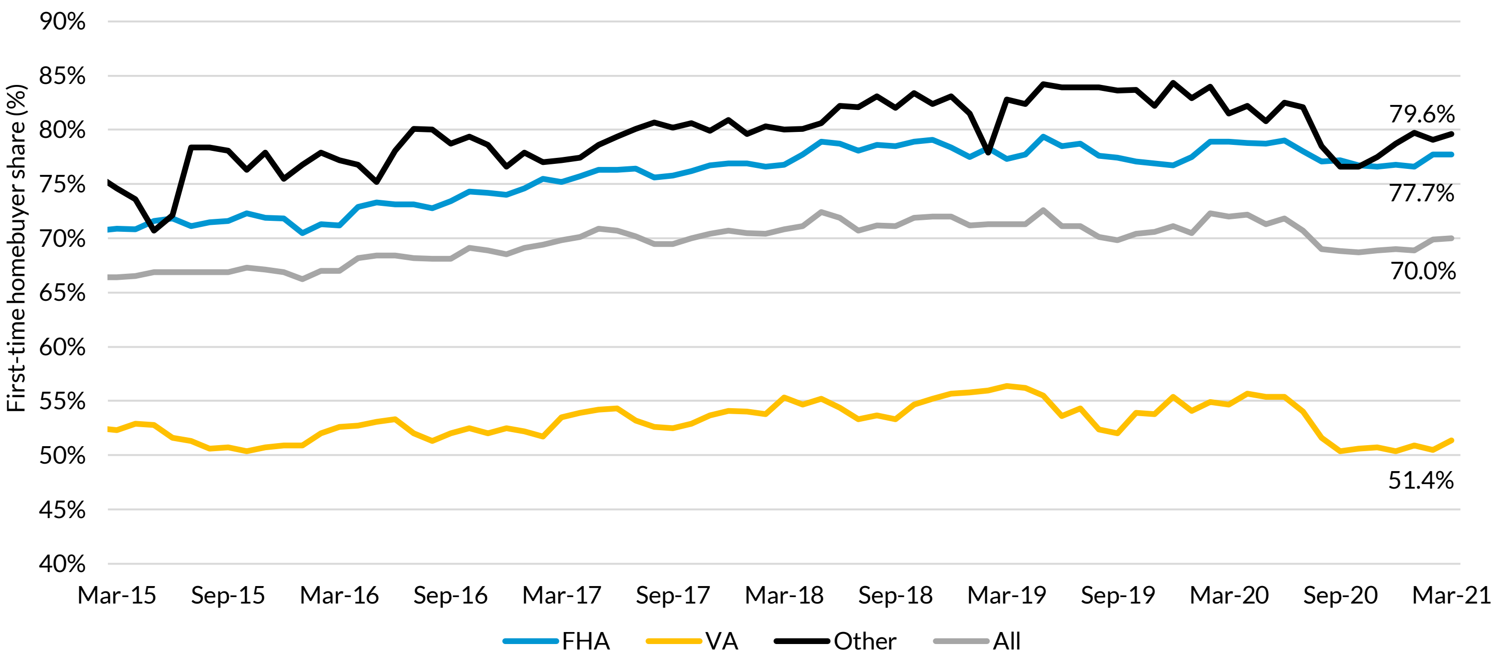
	Fannie Mae		Freddie Mac		Ginnie Mae		All	
	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat
Loan Amount ($)	292,423	311,250	307,958	322,965	247,398	303,775	275,574	313,368
Credit Score	746.3	756.2	749.4	759.0	688.0	704.6	720.8	743.9
LTV (%)	87.6	78.9	86.8	79.3	96.9	95.8	91.6	83.4
DTI (%)	34.6	35.6	34.0	34.8	41.4	41.9	37.5	36.9
Loan Rate (%)	2.9	2.8	2.8	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 March 2021.*

Credit Box

Within the Ginnie Mae purchase market, 77.7 percent of FHA loans, 51.4 percent of VA loans, and 79.6 percent of other loans represent financing for first-time home buyers in March 2021. The bottom table shows that based on mortgages originated in March 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. Note that FHA's average credit score for FTHBs was slightly higher compared to the same for repeat buyers (677.7 vs. 676.1)

First Time Homebuyer Share: Ginnie Mae Breakdown



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

March 2021 Credit Box at a Glance

In March 2021, the median Ginnie Mae FICO score was 700 versus 771 for Fannie Mae and 767 for Freddie Mac. Note that the FICO score for the 10th percentile was 638 for Ginnie Mae, versus 696 for Fannie Mae and 694 for Freddie Mac. Within the Ginnie Mae market, FHA loans have a median FICO score of 672, VA loans have a median FICO score of 739 and other loans have a median FICO score of 695.

Purchase FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	292,995	655	715	742	780	799	733
Fannie	115,473	688	734	760	794	802	752
Freddie	83,861	693	726	763	789	802	755
Ginnie	93,661	632	653	682	727	772	692
Refi FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	843,550	684	724	767	792	806	755
Fannie	407,407	699	738	773	795	807	762
Freddie	317,329	694	730	769	792	805	758
Ginnie	118,814	643	672	717	770	797	718
All FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	1,136,545	674	715	762	790	804	749
Fannie	522,880	696	734	771	794	806	760
Freddie	401,190	694	729	767	791	804	757
Ginnie	212,475	638	662	700	755	790	707

Purchase FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	93,661	632	653	682	727	772	692
FHA	55,927	627	646	670	701	740	677
VA	28,009	646	673	720	769	795	720
Other	9,725	645	662	693	732	764	699
Refi FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	118,814	643	672	717	770	797	718
FHA	36,853	627	648	675	705	746	680
VA	80,668	659	695	745	783	802	736
Other	1,293	654	674	708	749	779	712
All FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	212,475	638	662	700	755	790	707
FHA	92,780	627	647	672	703	742	678
VA	108,677	654	689	739	780	800	732
Other	11,018	645	663	695	734	767	700

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 March 2021.*

March 2021 Credit Box at a Glance

In March 2021, the median loan-to-value ratio (LTV) was 94.9 percent for Ginnie Mae, compared to 69 percent for Fannie Mae and 70 percent for Freddie Mac. The 90th percentile was 100 percent for Ginnie Mae, versus 90 percent for both Fannie and Freddie. Within the Ginnie Mae market, the median LTV was 96.2 for FHA, 91.1 for VA and 100.9 for other programs.

Purchase LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	293,027	72.0	80.0	94.0	96.5	100.0	87.0
Fannie	115,388	65.0	79.0	80.0	95.0	95.0	82.7
Freddie	83,883	66.0	79.0	80.0	95.0	95.0	82.2
Ginnie	93,756	94.2	96.5	96.5	100.0	101.0	96.6
Refi LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	884,053	42.0	55.0	69.0	80.0	90.0	66.8
Fannie	407,405	39.0	51.0	64.0	75.0	80.0	61.8
Freddie	317,343	41.0	54.0	67.0	75.0	80.0	63.9
Ginnie	159,305	65.4	79.0	89.0	96.4	99.3	85.3
All LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	1,177,080	45.0	59.0	75.0	87.0	96.5	71.8
Fannie	522,793	41.0	54.0	69.0	80.0	90.0	66.4
Freddie	401,226	44.0	57.0	70.0	80.0	90.0	67.7
Ginnie	253,061	71.7	83.8	94.9	97.4	100.0	89.5

Purchase LTV: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	93,756	94.2	96.5	96.5	100.0	101.0	96.6
FHA	55,976	93.9	95.0	96.5	96.5	96.5	95.2
VA	28,022	93.9	100.0	100.0	100.0	102.3	98.4
Other	9,758	95.9	99.3	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	159,305	65.4	79.0	89.0	96.4	99.3	85.3
FHA	55,390	73.4	81.4	90.8	96.4	97.7	87.4
VA	102,574	61.8	76.2	87.9	96.4	100.0	84.0
Other	1,341	78.1	87.2	95.0	99.7	101.0	91.7
All LTV: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	253,061	71.7	83.8	94.9	97.4	100.0	89.5
FHA	111,366	79.7	89.3	96.2	96.5	97.0	91.3
VA	130,596	64.9	79.9	91.1	100.0	100.6	87.1
Other	11,099	92.8	98.6	100.9	101.0	101.0	98.4

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 March 2021.*

March 2021 Credit Box at a Glance

In March 2021, the median Ginnie Mae debt-to-income ratio (DTI) was 41.0 percent, considerably higher than the 33.0 percent median DTI for Fannie Mae and 34.0 percent for Freddie Mac. The 90th percentile for Ginnie Mae was 53.4 percent, also much higher than the 46.0 percent DTI for Fannie Mae and 45.0 percent for Freddie Mac. Within the Ginnie Mae market, the median FHA DTI ratio was 43.6 percent, versus 38.2 percent for VA and 35.6 percent for other lending programs.

Purchase DTI

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	292,534	23.0	30.0	38.0	44.0	49.0	36.9
Fannie	115,555	21.0	28.0	36.0	43.0	46.0	34.9
Freddie	83,882	21.0	28.0	36.0	42.0	46.0	34.5
Ginnie	93,097	28.3	35.0	42.2	48.6	53.7	41.4

Refi DTI

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	766,786	19.0	25.0	33.0	41.0	46.0	32.6
Fannie	407,399	18.0	25.0	33.0	41.0	45.0	32.2
Freddie	317,328	19.0	25.0	33.0	41.0	45.0	32.5
Ginnie	42,059	21.9	29.9	37.3	46.1	52.4	37.3

All DTI

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	1,059,320	20.0	26.0	34.0	42.0	47.0	33.8
Fannie	522,954	19.0	25.0	33.0	41.0	46.0	32.8
Freddie	401,210	19.0	26.0	34.0	41.0	45.0	32.9
Ginnie	135,156	26.1	33.0	41.0	47.9	53.4	40.1

Purchase DTI: Ginnie Mae Breakdown By Source

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	93,097	28.3	35.0	42.2	48.6	53.7	41.4
FHA	55,750	30.6	37.4	44.1	49.7	54.3	43.0
VA	27,620	26.3	33.2	40.9	47.9	53.5	40.3
Other	9,727	25.5	30.5	35.9	40.4	43.3	35.1

Refi DTI: Ginnie Mae Breakdown By Source

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	42,059	21.9	29.9	37.3	46.1	52.4	37.3
FHA	18,040	26.5	32.7	41.4	48.6	53.8	40.4
VA	23,258	19.6	27.1	34.5	43.5	50.6	35.1
Other	761	17.5	22.9	30.1	36.9	41.6	29.9

All DTI: Ginnie Mae Breakdown By Source

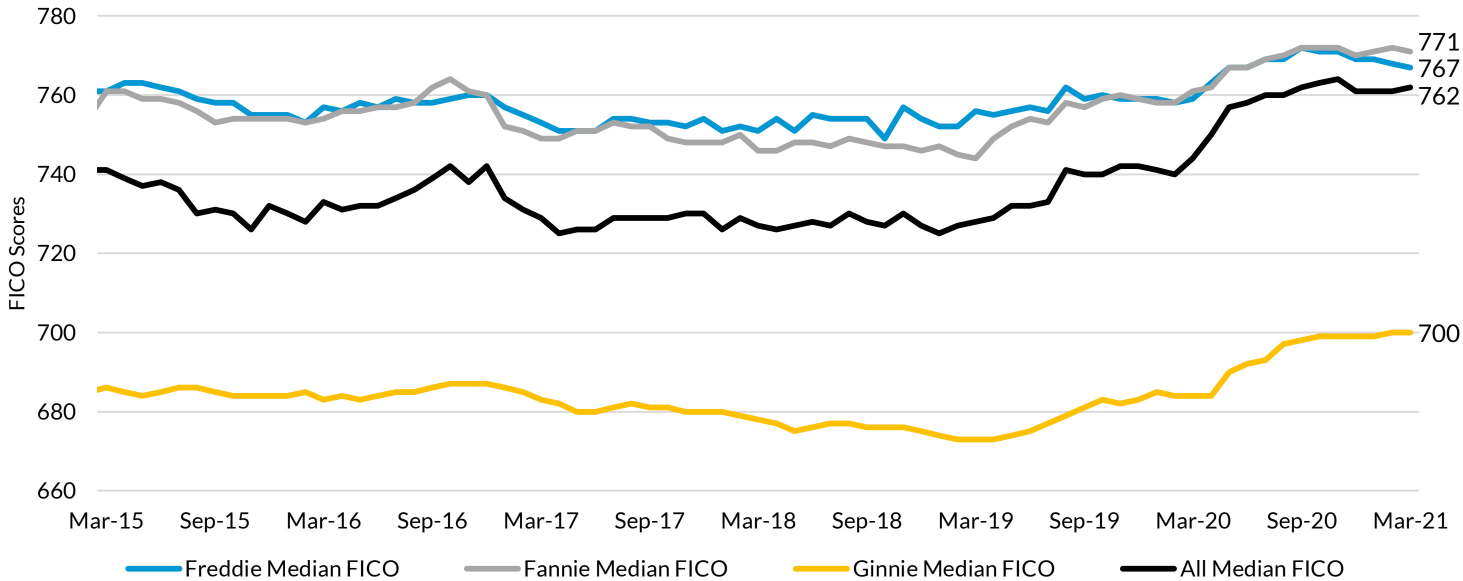
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	135,156	26.1	33.0	41.0	47.9	53.4	40.1
FHA	73,790	29.5	36.3	43.6	49.5	54.2	42.4
VA	50,878	22.8	30.5	38.2	46.2	52.5	38.0
Other	10,488	24.7	30.0	35.6	40.2	43.2	34.7

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 March 2021.*

Credit Box: Historical

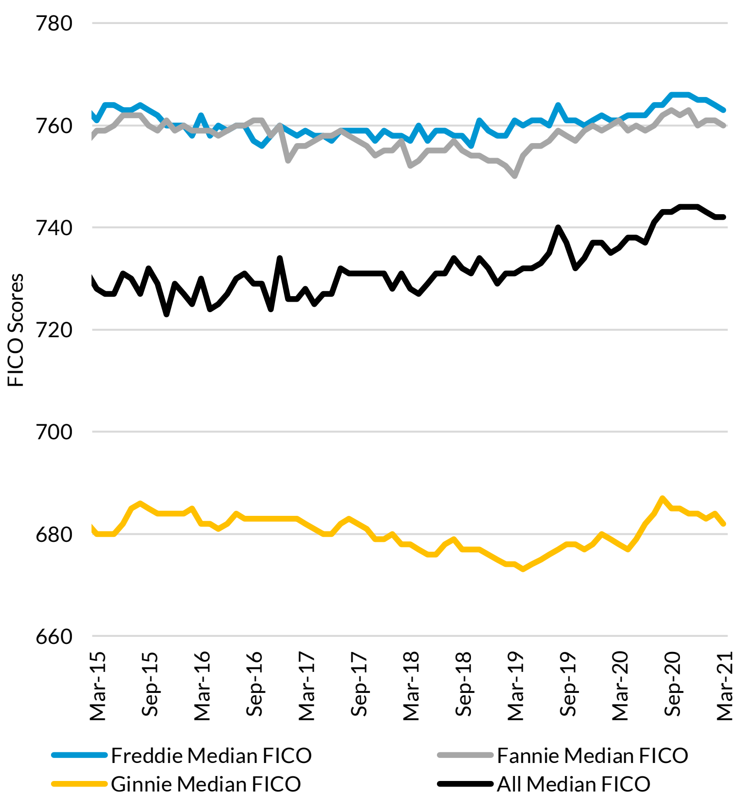
The median FICO score for all agency loans originated in March 2021 was 762, up considerably since the start of 2019, owing to the refinance wave, which higher FICO borrowers take advantage of with greater frequency. In addition, the increases in refinance activity have been much more dramatic at the 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



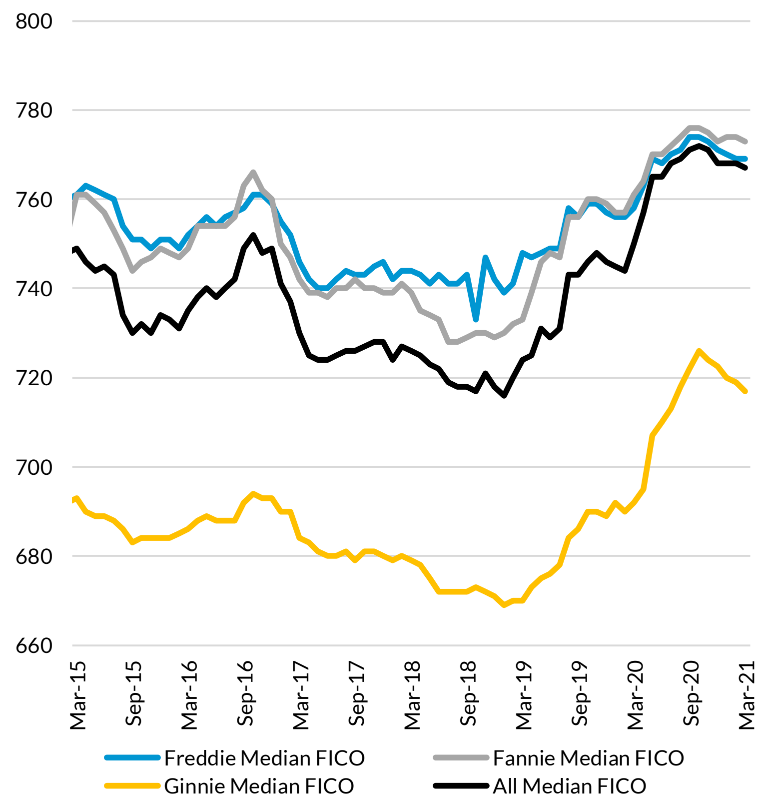
Sources: *eMBS and Urban Institute.* **Note**: *Data as of March 2021.*

FICO Scores for Purchase Loans



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

FICO Scores for Refinance Loans

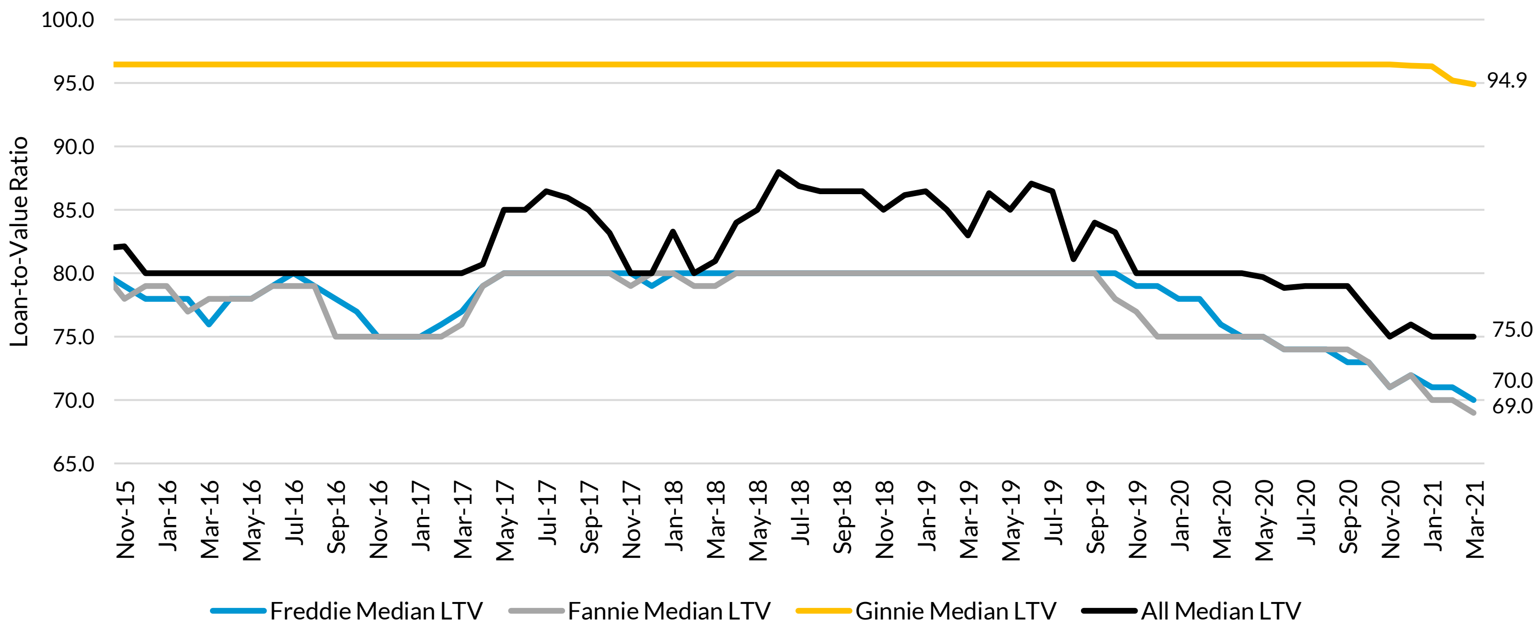


Sources: *eMBS and Urban Institute.* **Note:** *Data as of March 2021.*

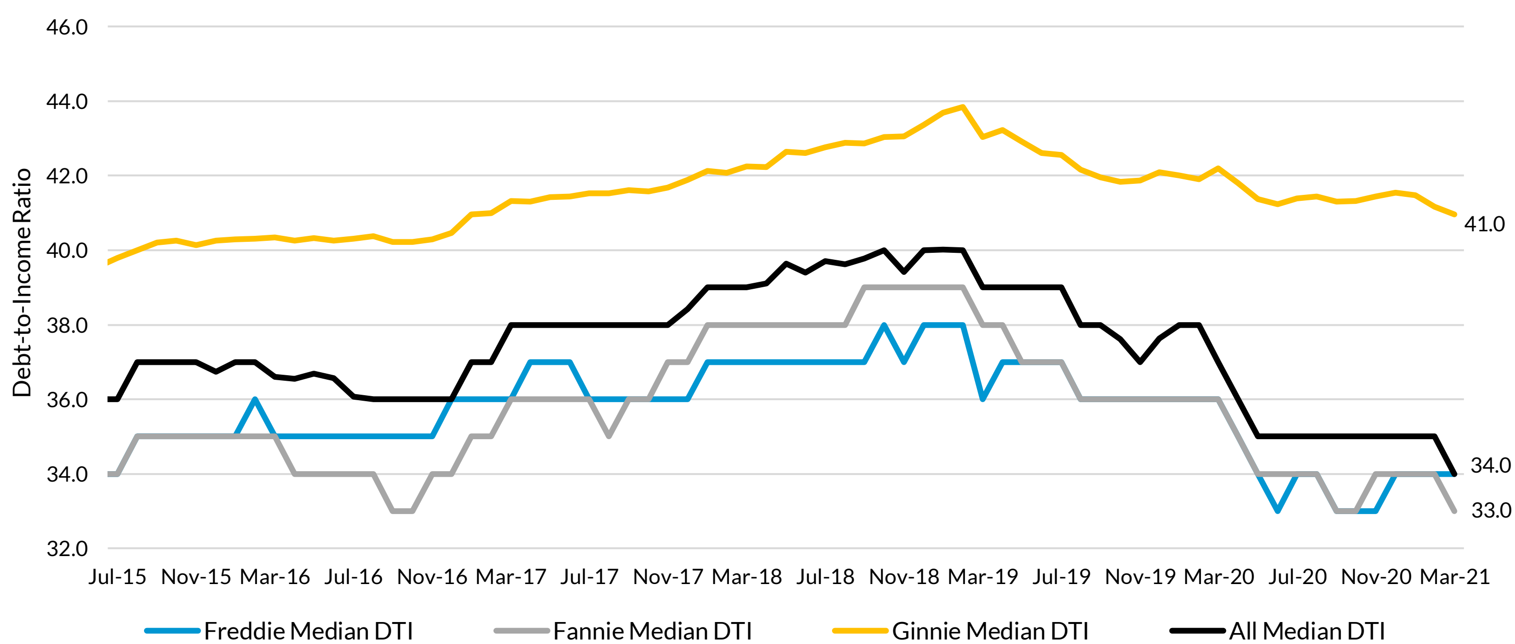
Credit Box: Historical

The median LTV for Ginnie Mae loans was 94.9 percent in March 2021, much higher than the 70 percent LTV for Freddie Mac and 69 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

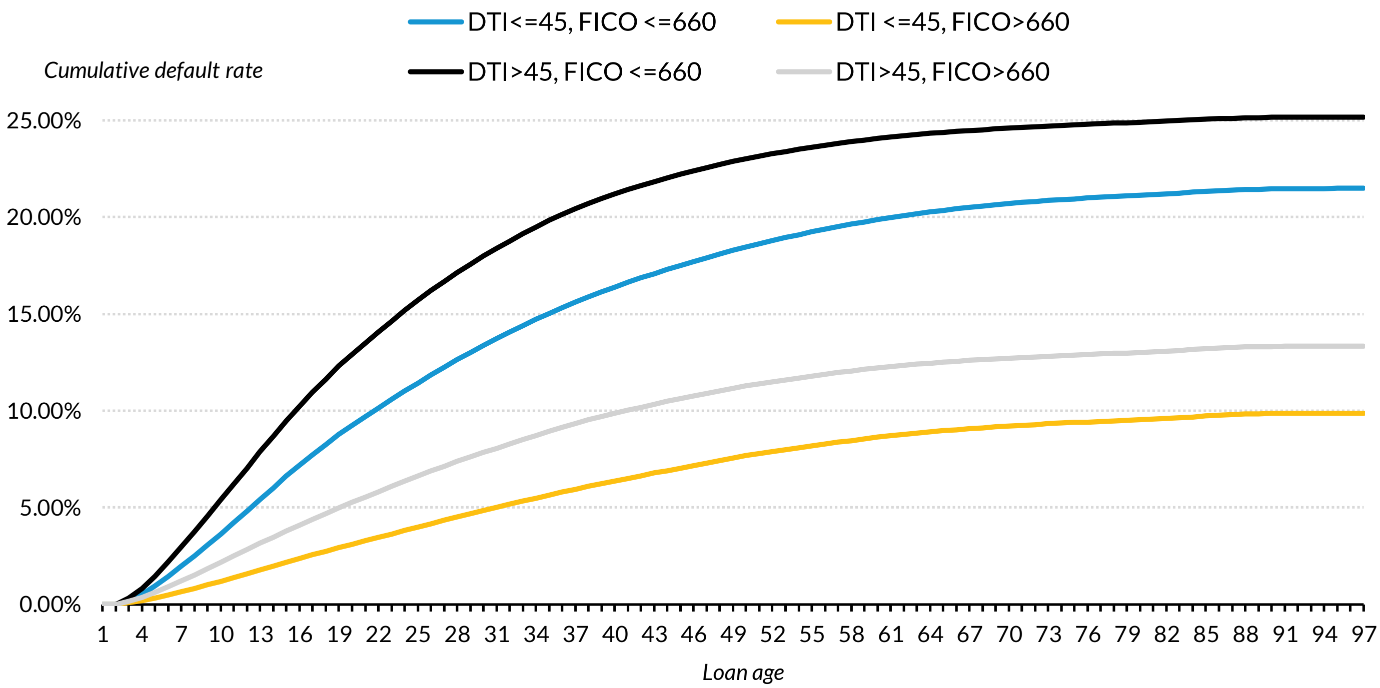


Sources: *eMBS and Urban Institute.* **Note:** *In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA loans, which includes the financed upfront mortgage insurance premium. To make it consistent with the previously reported LTV, we removed the financed upfront mortgage insurance premium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

Credit Box: Historical

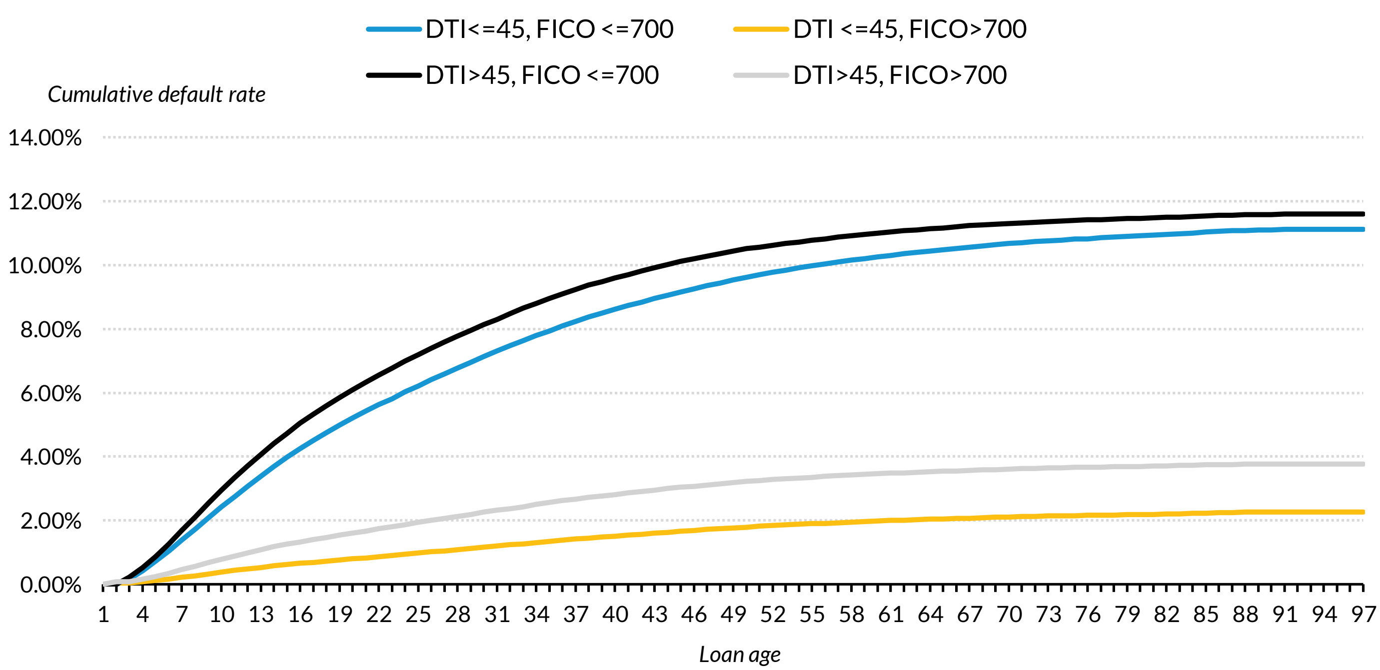
DTI is a much weaker predictor of performance than FICO score. The top chart shows FHA borrowers with higher DTIs do default more than those with lower DTIs, but the differences are modest, as evidenced by the fact that the black line is very close to the blue line and the grey line is not that much 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 April 2021.*

VA Cumulative Default Rate by DTI and FICO

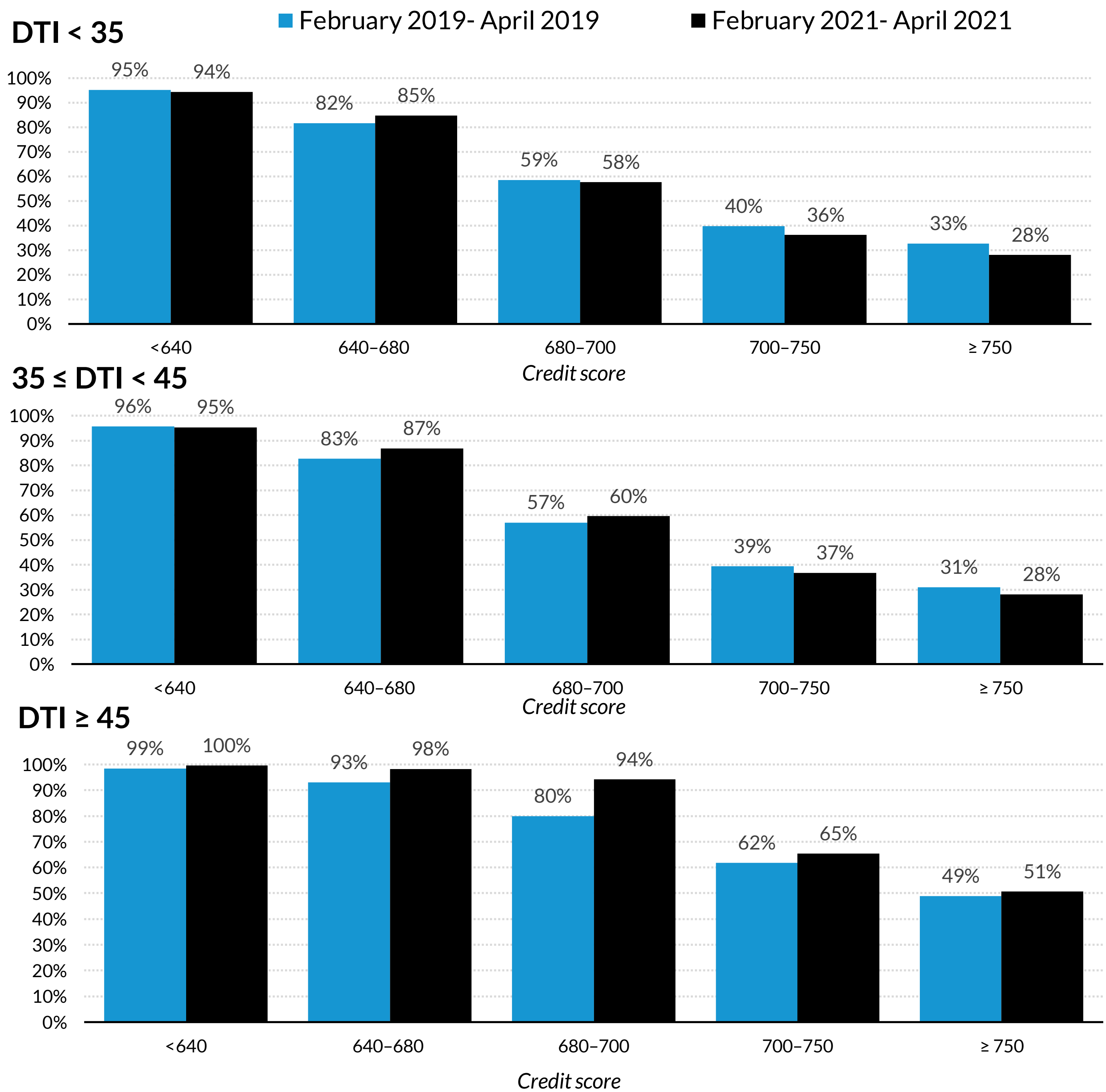


Sources: *eMBS and Urban Institute.* **Note:** Defaults = 180 days delinquent. *Data as of April 2021.*

Credit Box: Historical

This table shows Ginnie Mae's share of agency high-LTV lending by DTI and FICO. In each DTI bucket, Ginnie Mae's share is more concentrated in lower FICO scores than in higher FICO scores. In February 2021- April 2021, Ginnie Mae accounted for 94 percent of agency issuance for DTIs under 35 and FICOs below 640, compared to just 28 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 February 2021– April 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 58-60 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 60.3 percent of its issuances in the February 2021- April 2021 period having LTVs of 95 or above, compared to 7.2 percent for the GSEs. Both the GSEs and Ginnie Mae have decreased their high-LTV lending share from February 2019– April 2019, with the GSEs falling more dramatically from 19.4 percent. The share of high-LTV agency loans going to highest FICO borrowers (i.e. above 750) has increased from the February 2019- April 2019 period to the February 2021- April 2021 period, as has the share of lower DTI borrowers (below 35).

Share of Loans with LTV ≥ 95

	Ginnie Mae	GSE	All
February 2019- April 2019	69.2%	19.4%	35.3%
February 2021- April 2021	60.3%	7.2%	14.3%

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

February 2019-April 2019

	FICO					
DTI	<640	640–680	680–700	700–750	≥ 750	All
< 35	2.8%	4.3%	2.5%	6.4%	8.0%	24.0%
35 –45	5.7%	8.9%	4.7%	11.2%	9.8%	40.3%
≥ 45	5.6%	9.4%	4.5%	9.6%	6.7%	35.7%
All	14.1%	22.6%	11.6%	27.2%	24.5%	100.0%

February 2021-April 2021

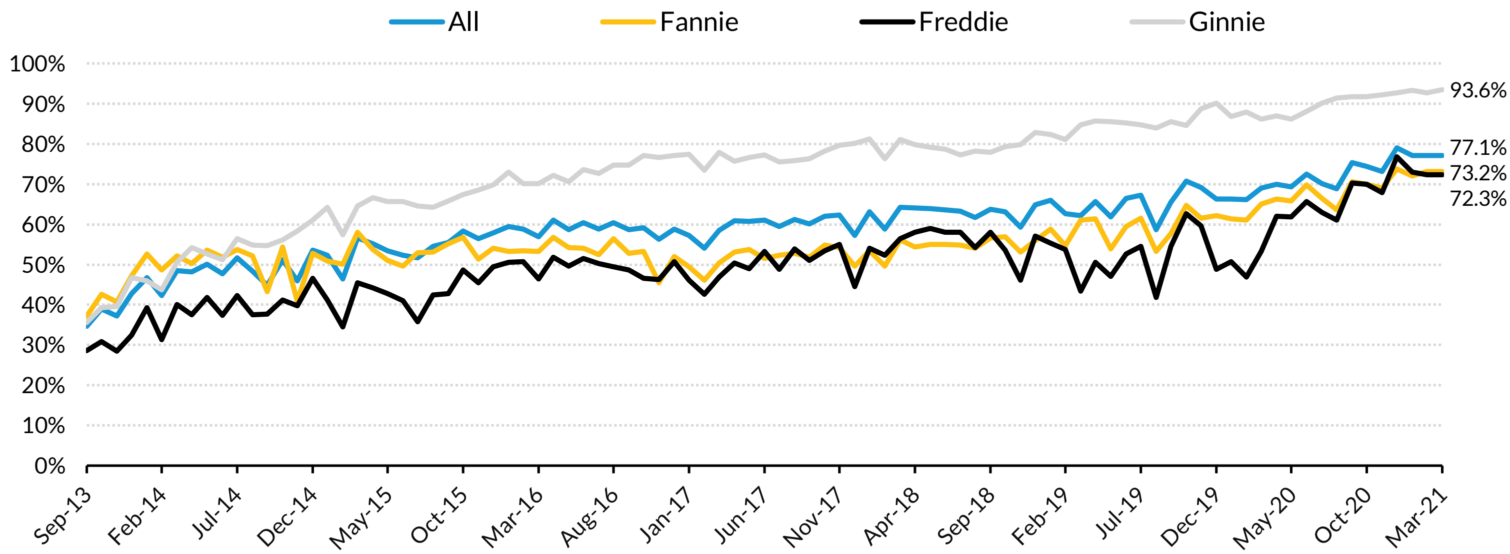
	FICO					
DTI	<640	640–680	680–700	700–750	≥ 750	All
< 35	1.7%	4.9%	3.1%	9.1%	12.9%	31.7%
35 –45	3.1%	8.9%	5.2%	12.9%	12.4%	42.4%
≥ 45	2.5%	6.8%	3.2%	7.5%	5.9%	25.9%
All	7.3%	20.6%	11.5%	29.4%	31.2%	100.0%

Sources: *eMBS and Urban Institute.*

Nonbank Originators

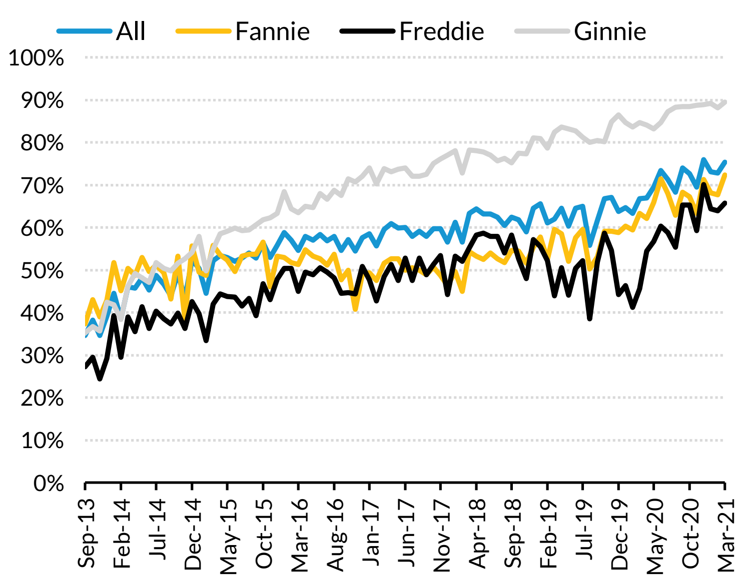
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 93.6 percent in March 2021. Fannie's nonbank share remained steady in March at 73.2 percent, while Freddie's declined slightly, to 72.3 percent (note that these numbers can be volatile on a month-to-month basis). Ginnie Mae, Fannie Mae, and Freddie Mac all have higher nonbank origination shares for refi activity than for purchase activity. Freddie Mac's nonbank share is the lowest among the three agencies for purchase loans, while Fannie Mae's nonbank share is the lowest for refi loans.

Nonbank Origination Share: All Loans

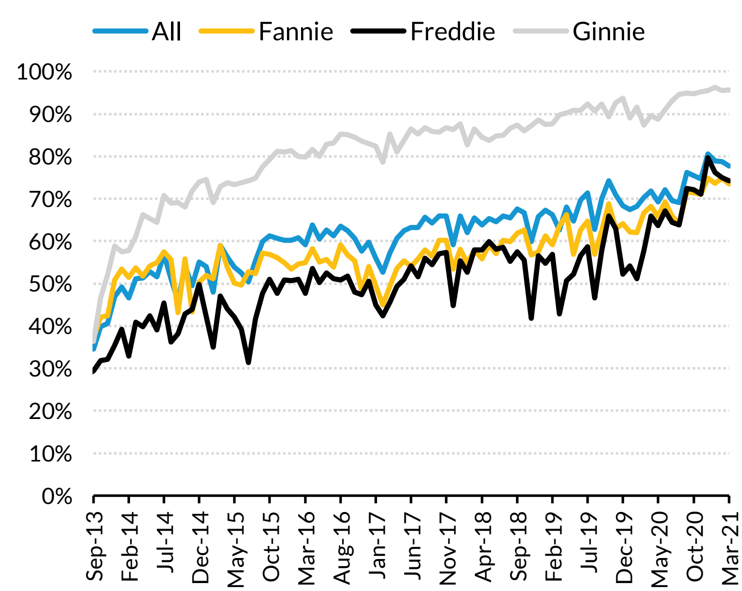


Sources: *eMBS and Urban Institute*
Note: *Data as of March 2021.*

Nonbank Origination Share: Purchase Loans



Nonbank Origination Share: Refinance Loans

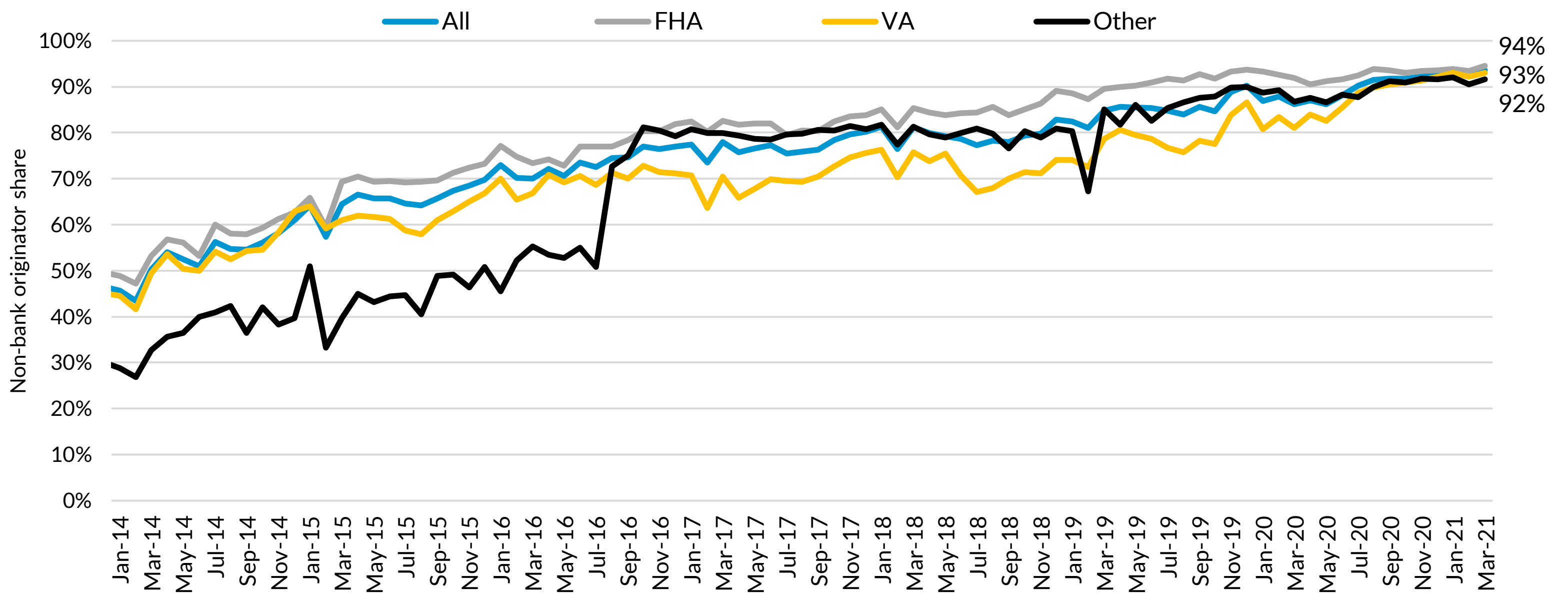


Sources: *eMBS and Urban Institute.* **Note: "***Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of March 2021.*

Ginnie Mae Nonbank Originators

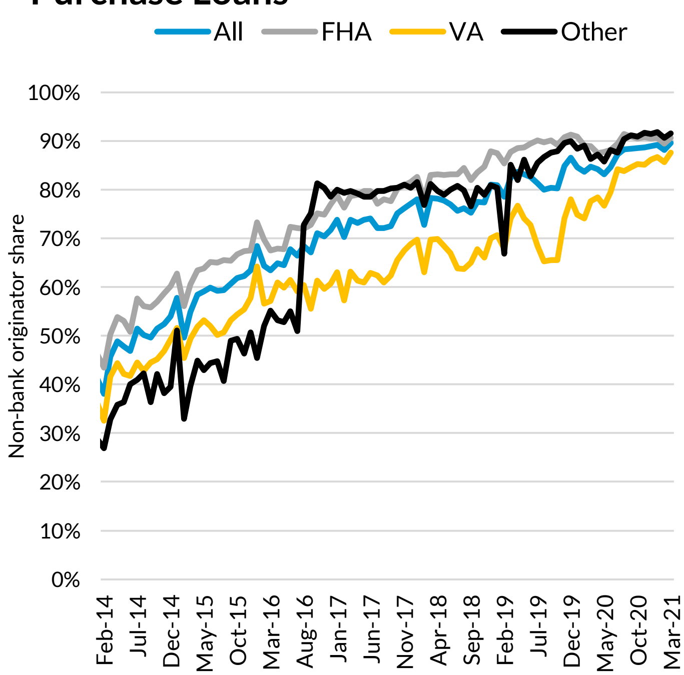
In March 2021, Ginnie Mae's nonbank share rose to 93.6 percent. The nonbank originator share for FHA also rose to 94.6 percent in March. The nonbank originator share for VA was higher than last month at 93.0 percent and the nonbank originator share for other loans, which can fluctuate quite a bit month to month, rose to 91.7percent.

Ginnie Mae Nonbank Originator Share: All Loans

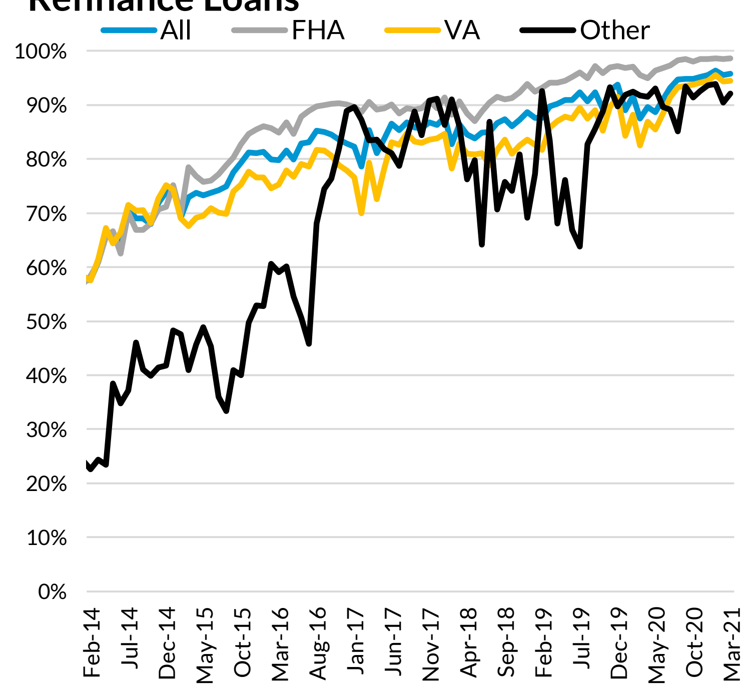


Sources: *eMBS and Urban Institute*
Note: *Data as of March 2021.*

Ginnie Mae Nonbank Share: Purchase Loans



Ginnie Mae Nonbank Share: Refinance Loans

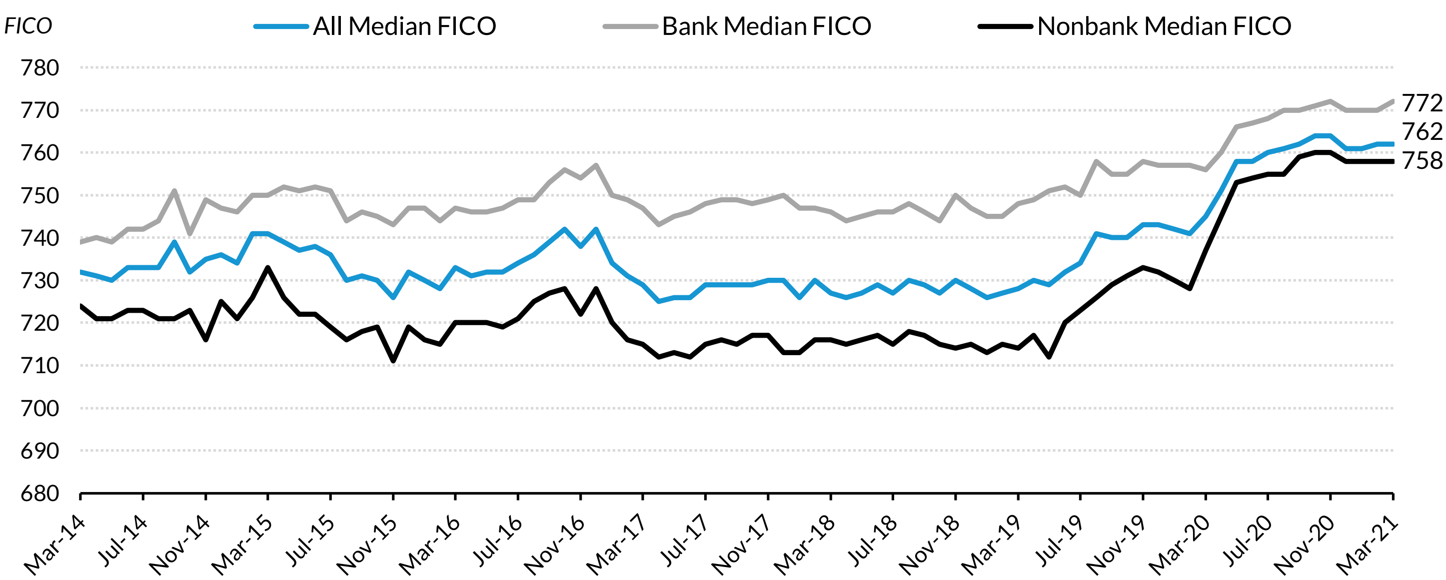


Sources: *eMBS and Urban Institute.* **Note:** *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of March 2021.*

Nonbank Credit Box

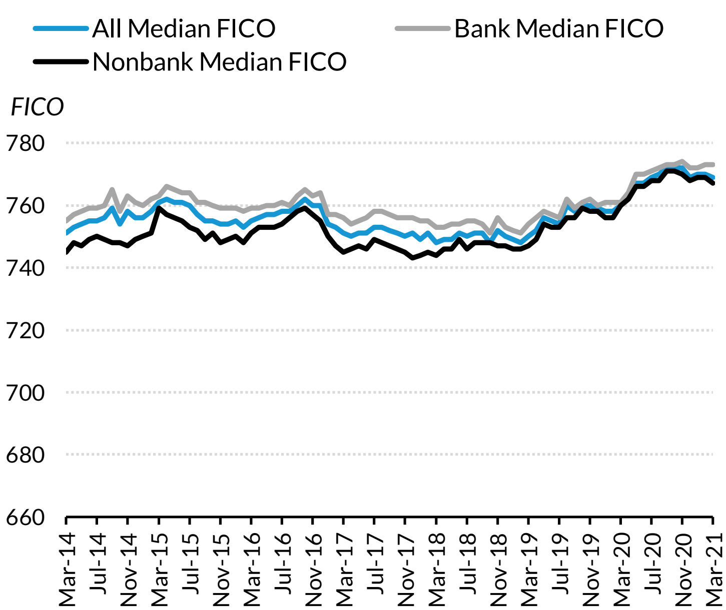
Nonbank originators have played a key role in opening up access to credit. FICO scores for loans originated by nonbanks are lower than their bank counterparts. Within the GSE space, where the differentials between banks and non-banks are small, FICO scores for both have increased since early 2014. The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

Agency FICO: Bank vs. Nonbank



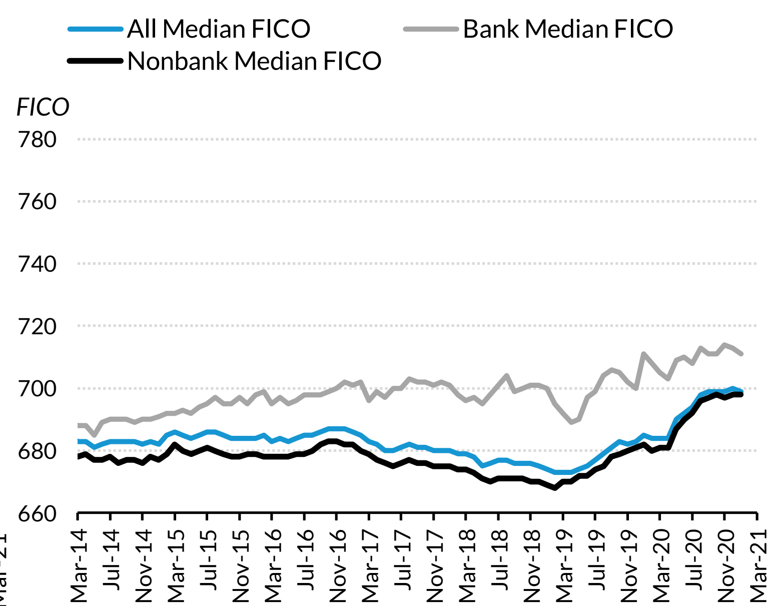
Sources: *eMBS and Urban Institute.* **Note**: *Data as of March 2021.*

GSE FICO: Bank vs. Nonbank



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

Ginnie Mae FICO: Bank vs. Nonbank

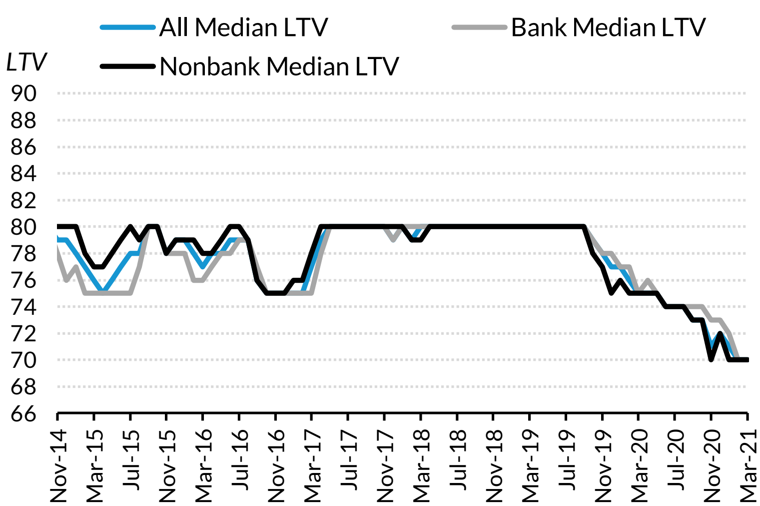


Sources: *eMBS and Urban Institute.*
Note: *Data as of March 2021.*

Nonbank Credit Box

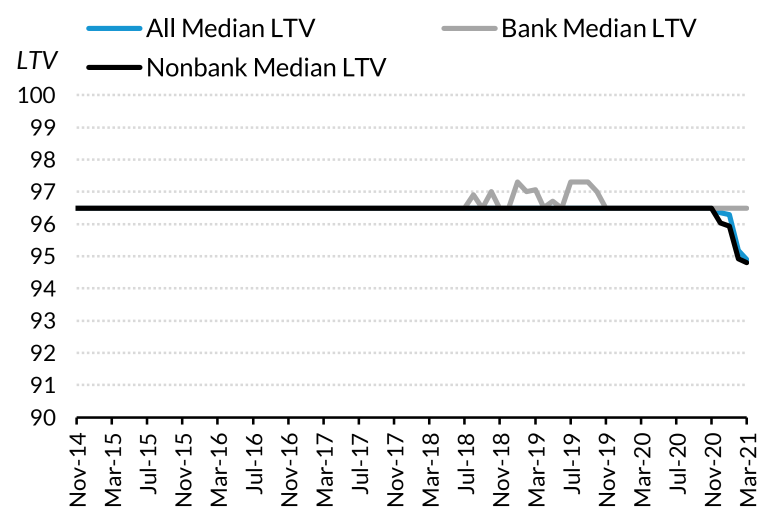
Between early 2017 and early 2019, there was a substantial increase in DTIs for both Ginnie Mae and the GSEs, for banks and nonbanks. Over the subsequent two years, this has mostly reversed in the Ginnie Mae space, and more than completely reversed for the GSEs, leaving GSE DTIs as low as they have been at any point since 2014. 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



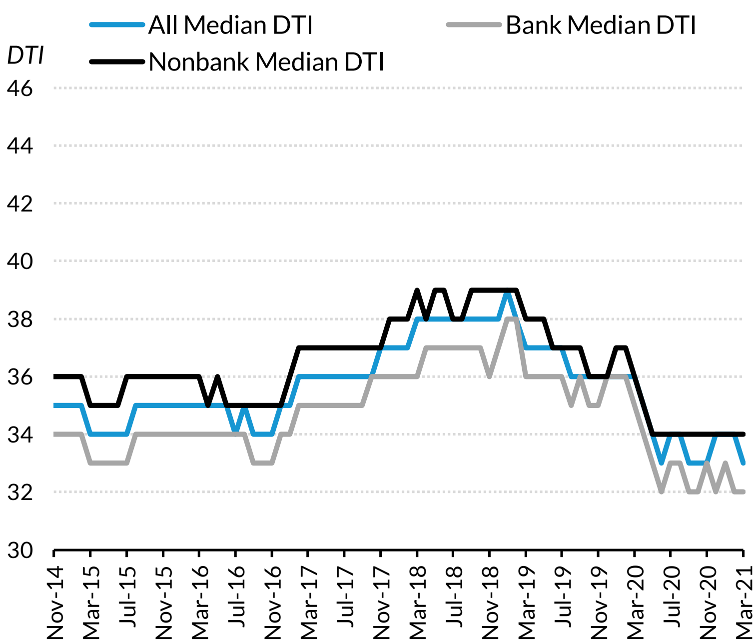
Sources: *eMBS and Urban Institute.* **Note**: *Data as of March 2021.*

Ginnie Mae LTV: Bank vs. Nonbank



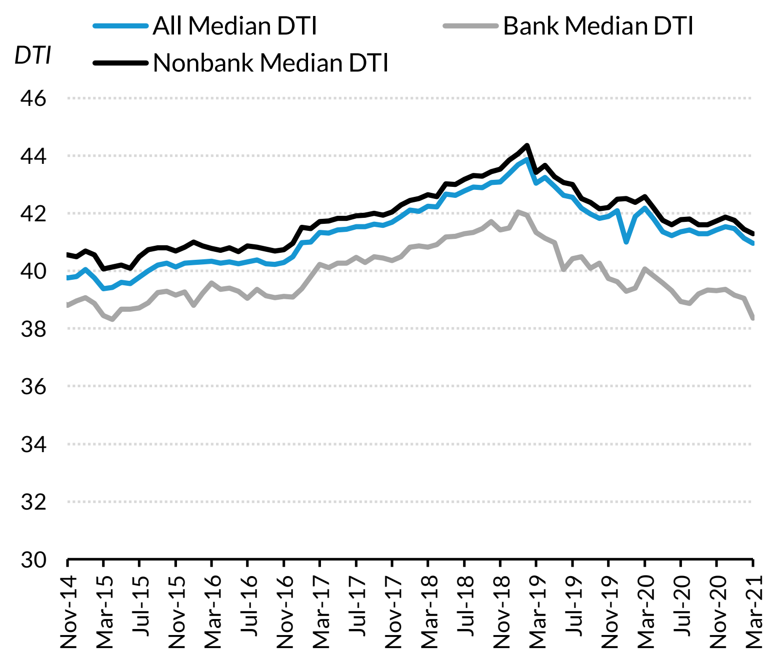
Sources: *eMBS and Urban Institute.* **Note**: *Data as of March 2021.*

GSE DTI: Bank vs. Nonbank



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

Ginnie Mae DTI: Bank vs. Nonbank

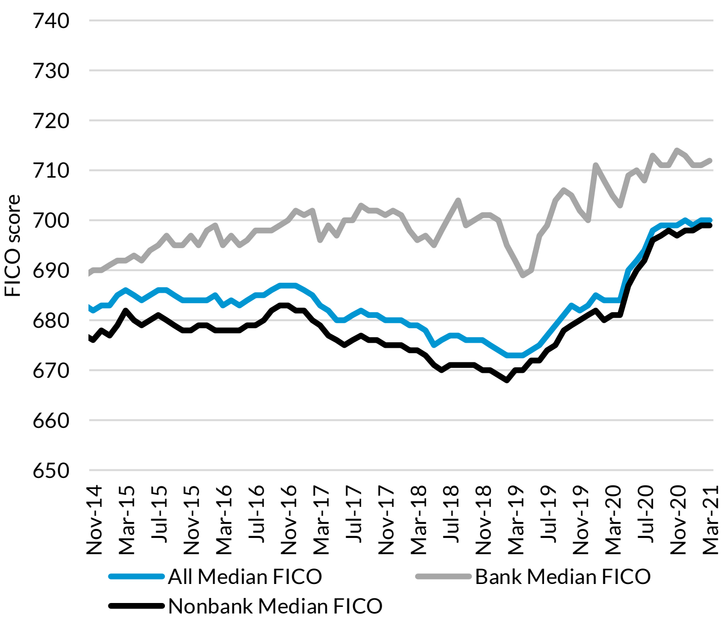


Sources: *eMBS and Urban Institute.* **Note**: *Data as of March 2021.*

Ginnie Mae Nonbank Originators: Credit Box

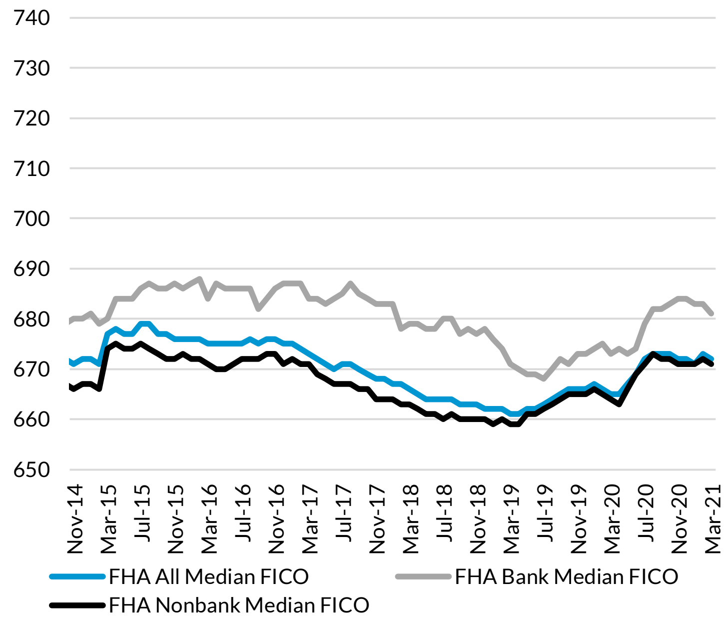
The median FICO score for Ginnie Mae nonbank originators remained steady in March 2021. Bank FICOs are 12 points above non-banks. The gap between banks and non-banks is very apparent for all categories of government lending.

Ginnie Mae FICO Scores: Bank vs. Nonbank



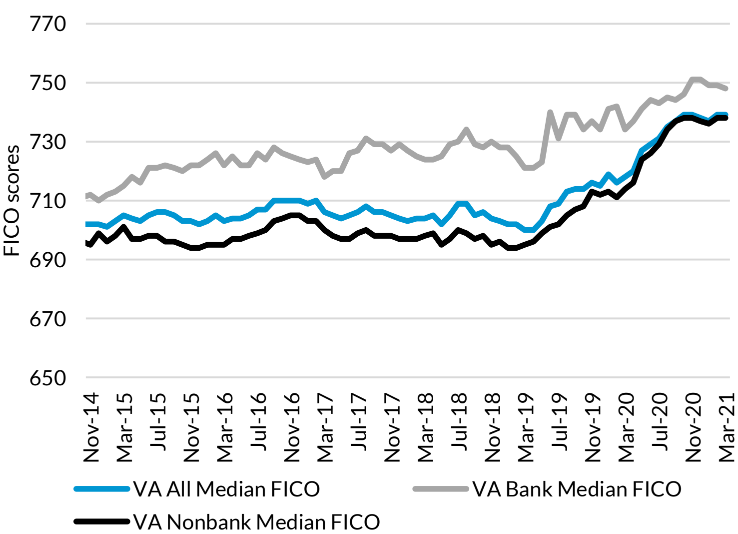
Sources: *eMBS and Urban Institute* **Note:** *Data as of March 2021.*

Ginnie Mae FHA FICO Scores: Bank vs. Nonbank



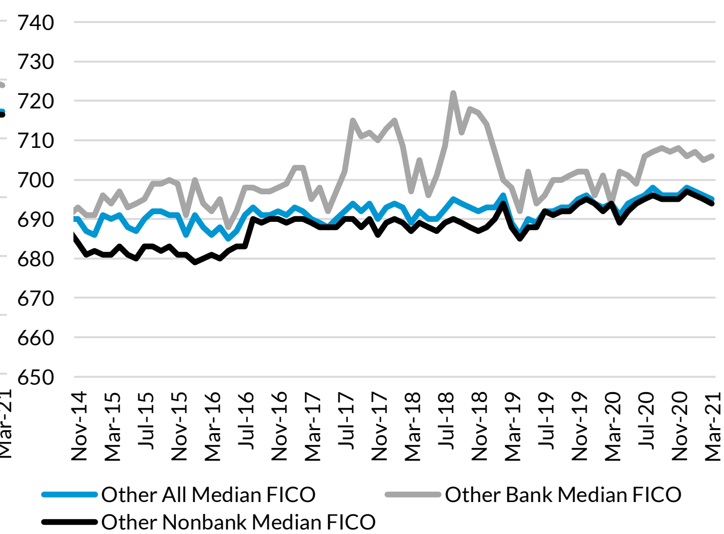
Sources: *eMBS and Urban Institute* **Note:** *Data as of March 2021.*

Ginnie Mae VA FICO Scores: Bank vs. Nonbank



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

Ginnie Mae Other FICO Scores: Bank vs. Nonbank

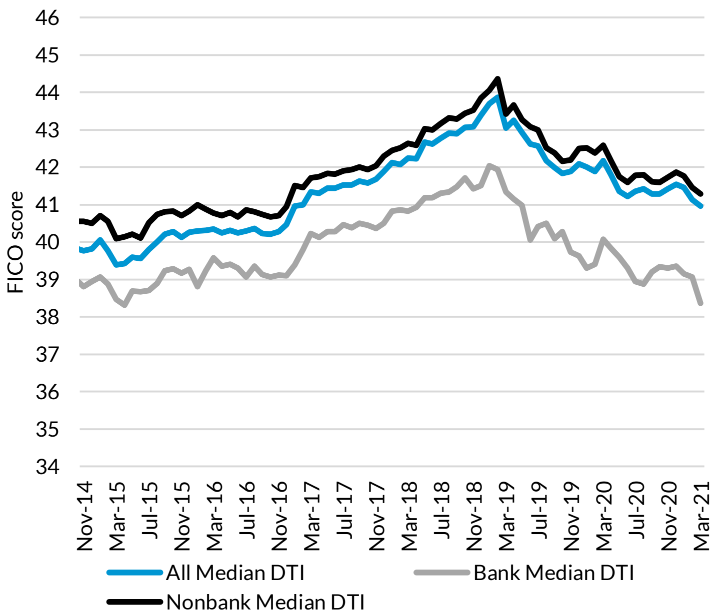


Sources: *eMBS and Urban Institute*
Note: *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of March 2021.*

Ginnie Mae Nonbank Originators: Credit Box

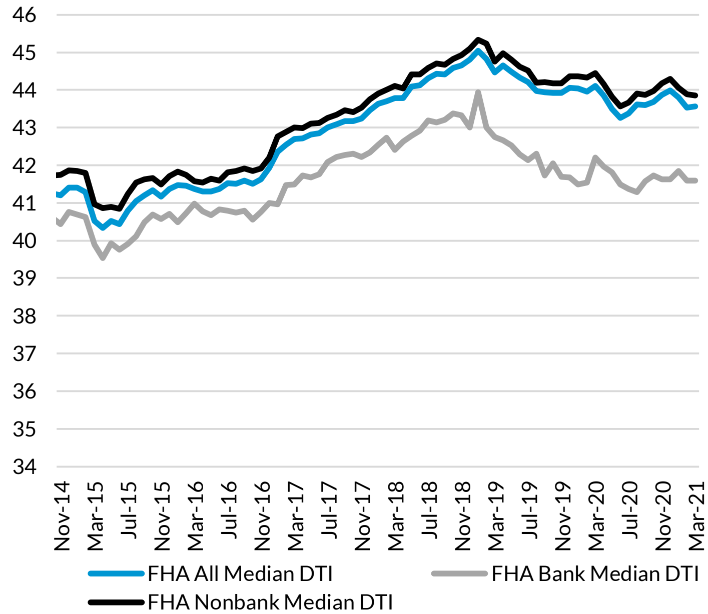
An analysis of borrowers' DTI ratios for bank versus non-bank originators indicates that the former have a lower median DTI. The DTIs for FHA and VA borrowers experienced notable increases during 2017 and 2018 for both banks and nonbank originators, while the Other origination DTIs stayed relatively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



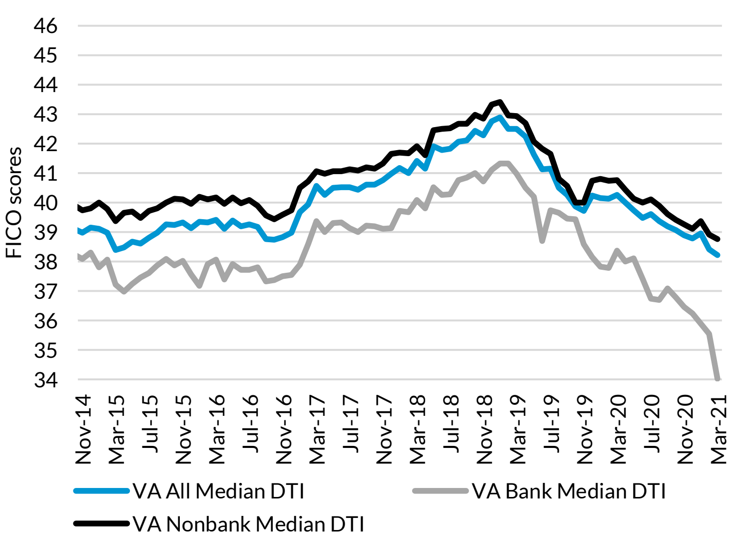
Sources: *eMBS and Urban Institute* **Note:** *Data as of March 2021.*

Ginnie Mae FHA DTI: Bank vs. Nonbank



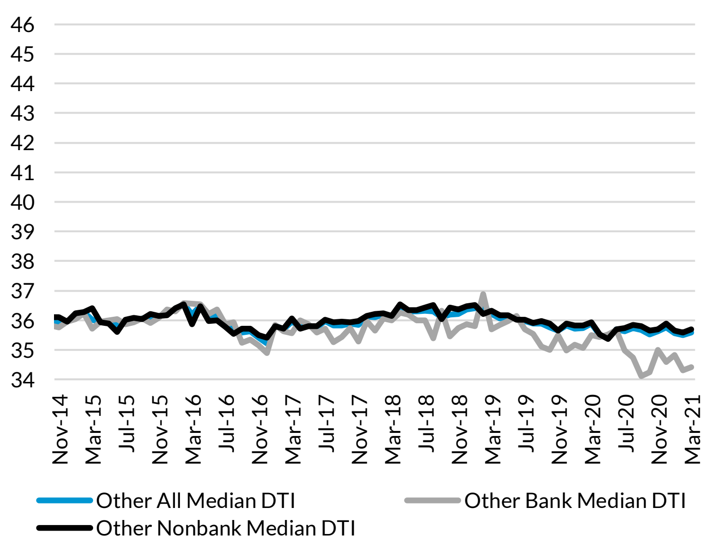
Sources: *eMBS and Urban Institute* **Note:** *Data as of March 2021.*

Ginnie Mae VA DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute*
Note: *Data as of March 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 March 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 March 2021, over half (50.8 percent) of the Ginnie Mae MSRs are owned by the top six firms. The top 30 firms collectively own 82.9 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

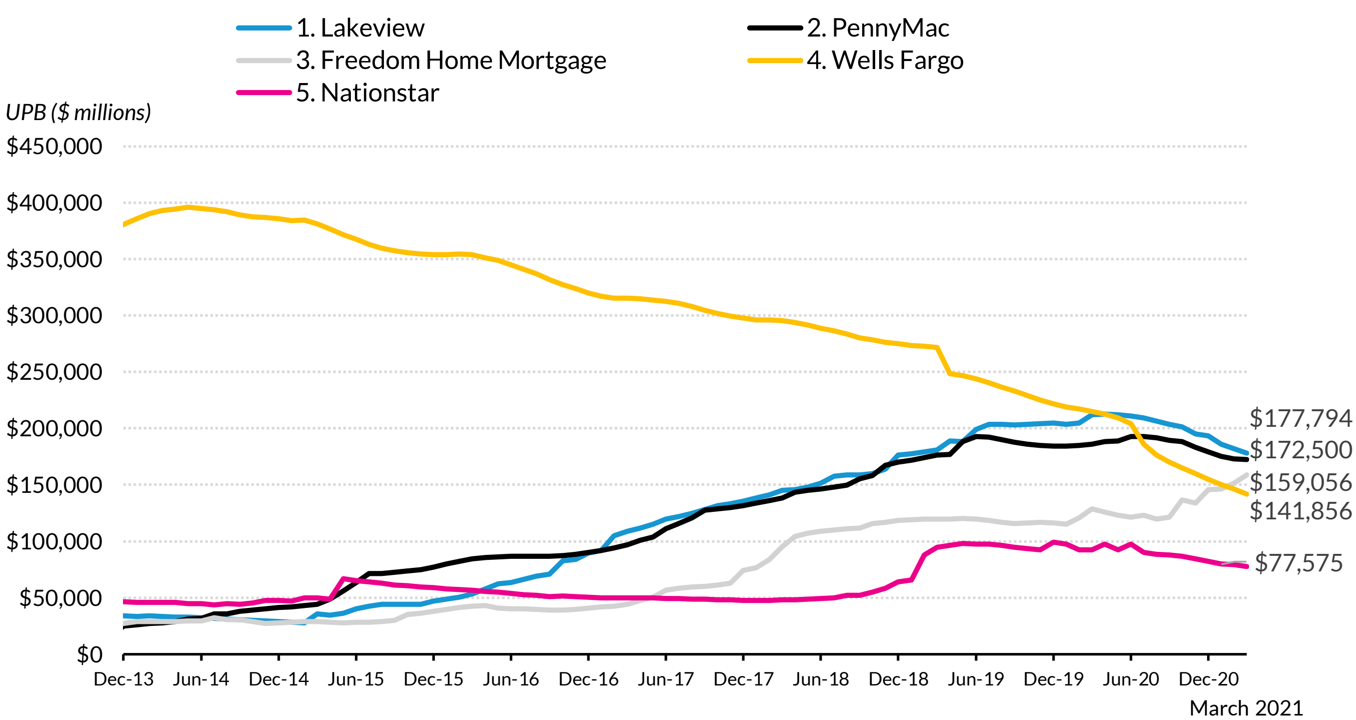
Rank	MSR Holder	UPB ($ millions)	Share	Cumulative Share
1	**Lakeview**	$177,794	11.4%	11.4%
2	**PennyMac**	$172,500	11.1%	22.5%
3	**Freedom Home Mortgage**	$159,056	10.2%	32.7%
4	**Wells Fargo**	$141,856	9.1%	41.8%
5	**Nationstar**	$77,575	5.0%	46.8%
6	**Quicken Loans**	$61,643	4.0%	50.8%
7	**Newrez**	$44,957	2.9%	53.7%
8	**US Bank**	$43,333	2.8%	56.4%
9	**Carrington Mortgage**	$38,499	2.5%	58.9%
10	**USAA Federal Savings Bank**	$35,612	2.3%	61.2%
11	**Caliber Home Loans**	$34,648	2.2%	63.4%
12	**Navy Federal Credit Union**	$26,186	1.7%	65.1%
13	**Amerihome Mortgage**	$25,501	1.6%	66.7%
14	**Truist Bank**	$24,573	1.6%	68.3%
15	**United WholeSale Mortgage**	$20,751	1.3%	69.7%
16	**The Money Source**	$20,344	1.3%	71.0%
17	**Home Point Financial Corporation**	$19,665	1.3%	72.2%
18	**Loan Depot**	$19,557	1.3%	73.5%
19	**Guild Mortgage**	$15,612	1.0%	74.5%
20	**Midfirst Bank**	$14,948	1.0%	75.4%
21	**Planet Home Lending**	$14,937	1.0%	76.4%
22	**JP Morgan Chase**	$14,553	0.9%	77.3%
23	**Citizens Bank**	$12,360	0.8%	78.1%
24	**Mortgage Research Center**	$12,237	0.8%	78.9%
25	**M&T Bank**	$11,773	0.8%	79.7%
26	**PHH Mortgage Corporation**	$11,722	0.8%	80.4%
27	**Flagstar Bank**	$10,848	0.7%	81.1%
28	**Idaho Housing and Finance Association**	$9,574	0.6%	81.7%
29	**New American Funding**	$9,316	0.6%	82.3%
30	**Bank of America**	$8,169	0.5%	82.9%

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

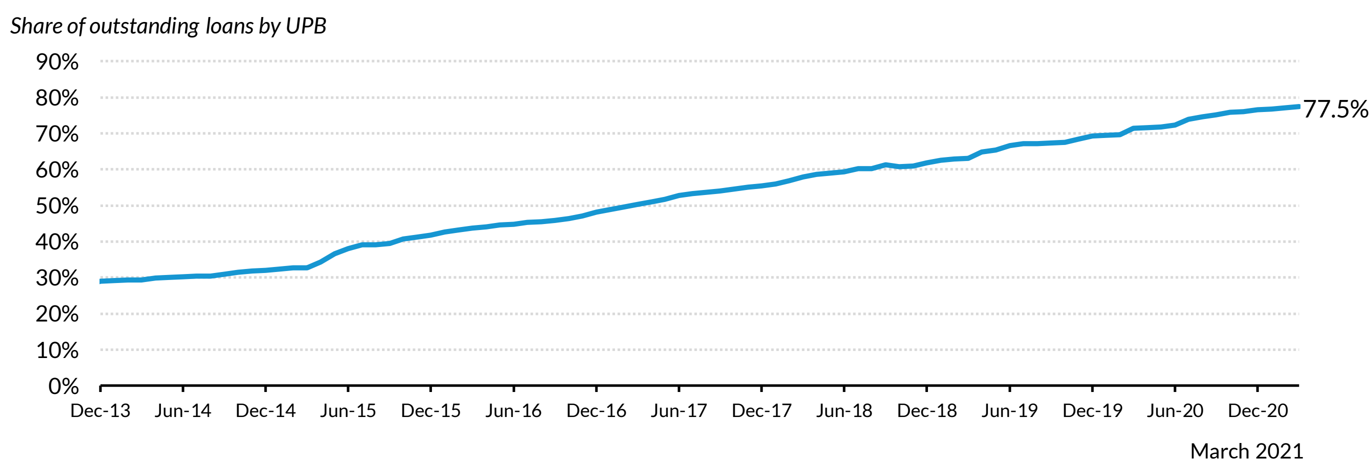
Holders of Ginnie Mae MSRs

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 March 2021, Wells Fargo's holdings of MSRs dipped to $141.9 billion, below the $177.8, $172.5, and $159.1 billion held by Lakeview, PennyMac, and Freedom Home Mortgage, respectively (all nonbanks). Nationstar (also nonbank) makes up the remainder of the top five largest holders of MSRs, owning $77.6 billion respectively as of March 2021. Nonbanks collectively owned servicing rights for 77.5 percent of all outstanding unpaid principal balance guaranteed by Ginnie Mae in March 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

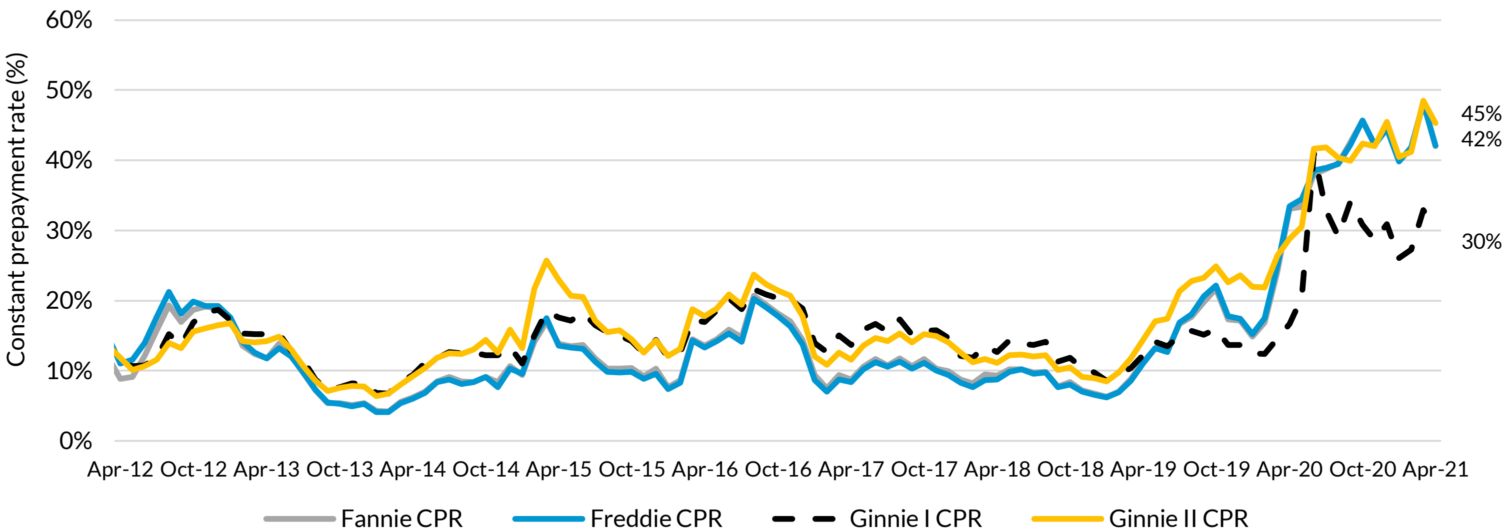


Sources: *eMBS and Urban Institute.* **Note:** *Data as of March 2021.*

Prepayments

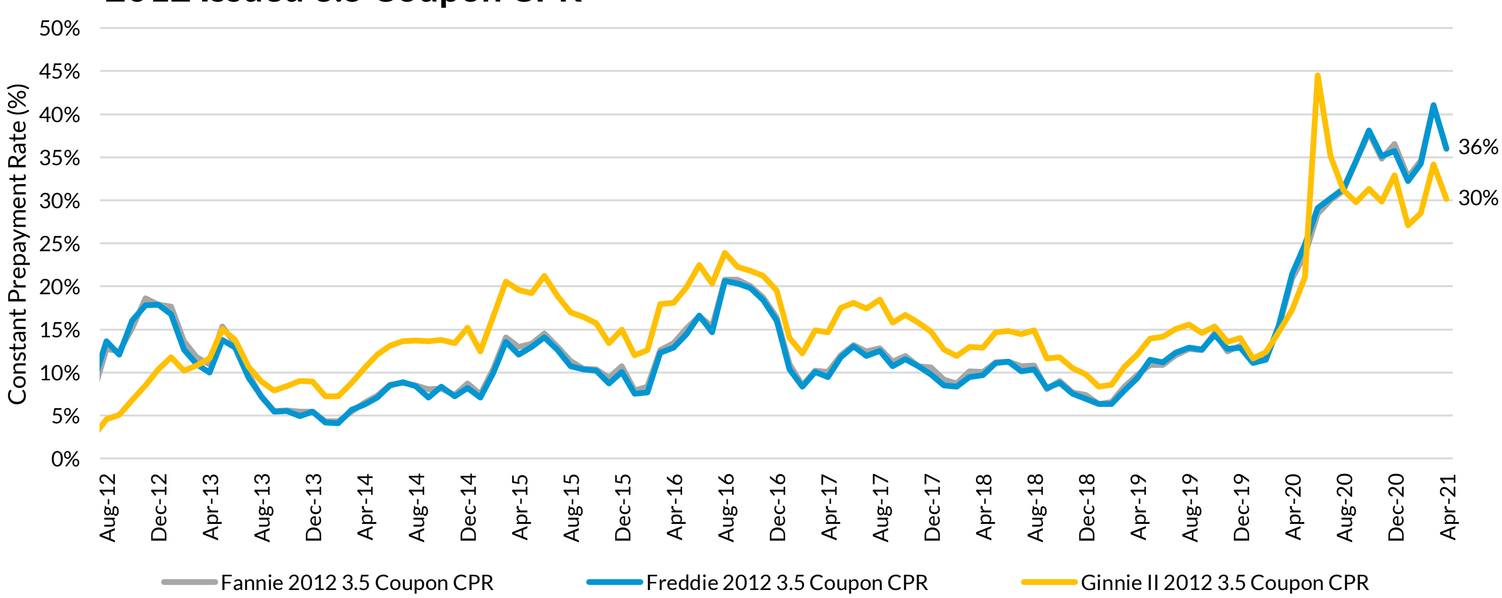
While prepayment speeds on all securities have risen since early 2019, the speed increase has been especially dramatic in 2020 and continuing into early 2021, with speeds on both Ginnie II and GSE securities rising rapidly due to a sharp drop in rates. At this point, the speeds on GSE securities have largely converged with those on Ginnie II securities, as the former have ramped up more quickly in 2020. The faster Ginnie speeds from 2013-early 2020 reflected the growing share of VA loans, which tend to prepay faster than either FHA or GSE loans. In addition, FHA puts fewer restrictions on streamlined refinances, and some of the upfront mortgage insurance premium can also be applied to the refinanced loan. Prepayment speeds have declined the past month, and may decline further over the next few months, given the more than 30 bps increase in mortgage rates since year end 2020. Even so, rates remain very low in a historical context.

Aggregate Prepayments



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

2012 Issued 3.5 Coupon CPR

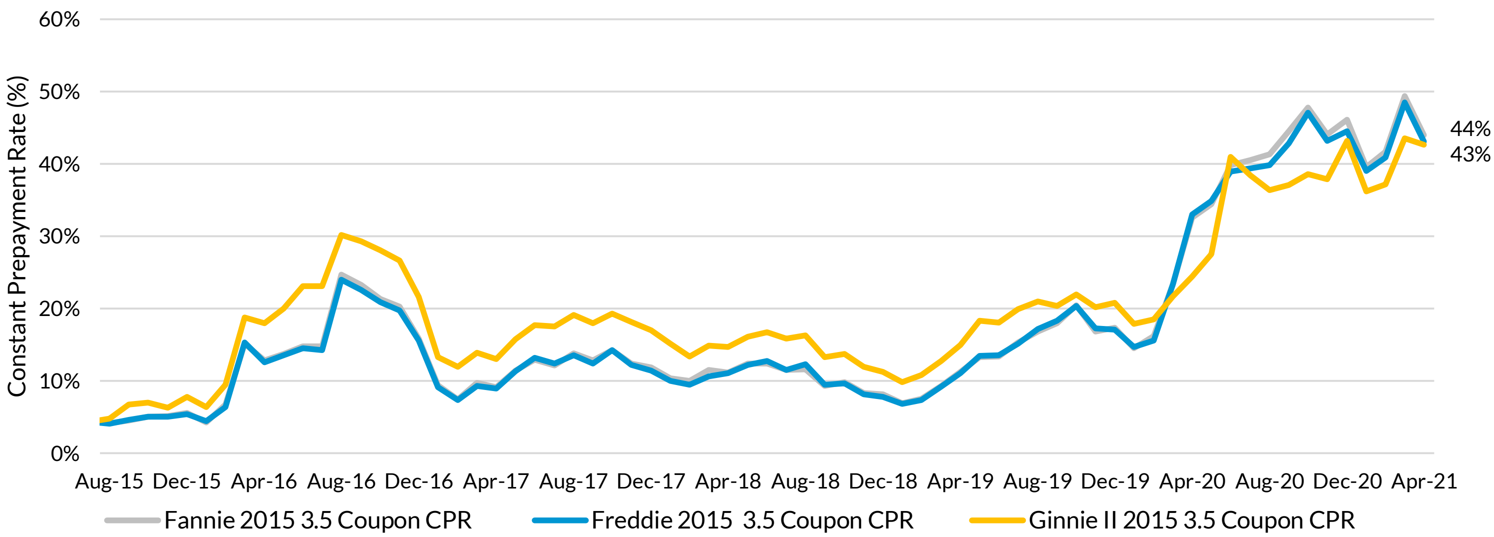


Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of April 2021.*

Prepayments

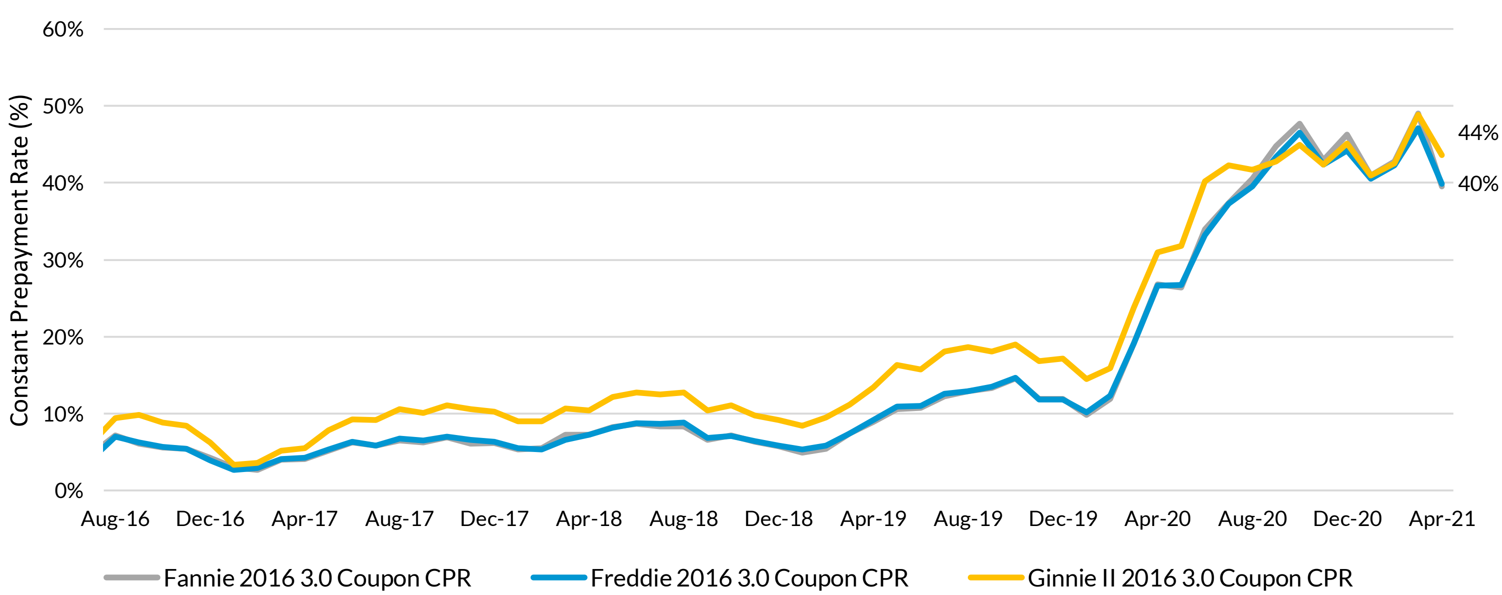
Speeds on the 2015 3.5s and the 2016 3.0s, the largest coupon cohorts of those vintage years, have been increasing since early 2019; the speed increases have been especially dramatic in 2020 and continuing into early 2021 due to a sharp drop in rates, with speeds on both Ginnie II and GSE securities rising rapidly. The speeds on the 2015-issued Ginnie 3.5s have been slightly lower than their conventional counterparts since August 2020, although the speeds on the 2016-issued Ginnie Mae 3.0s remain very comparable to their conventional counterparts. The faster historical speeds on the Ginnie Mae cohorts reflect the fact that 2015 and 2016 Ginnie originations consist of a large component of VA loans, which prepay faster than either FHA or GSE loans. The FHA streamlined programs are likely another contributor to the historically faster speeds. Prepayment speeds have declined the past month, and may decline further over the next few months, given the more than 30 bps increase in mortgage rates since year end 2020.

2015 Issued 3.5 Coupon CPR



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

2016 Issued 3.0 Coupon CPR

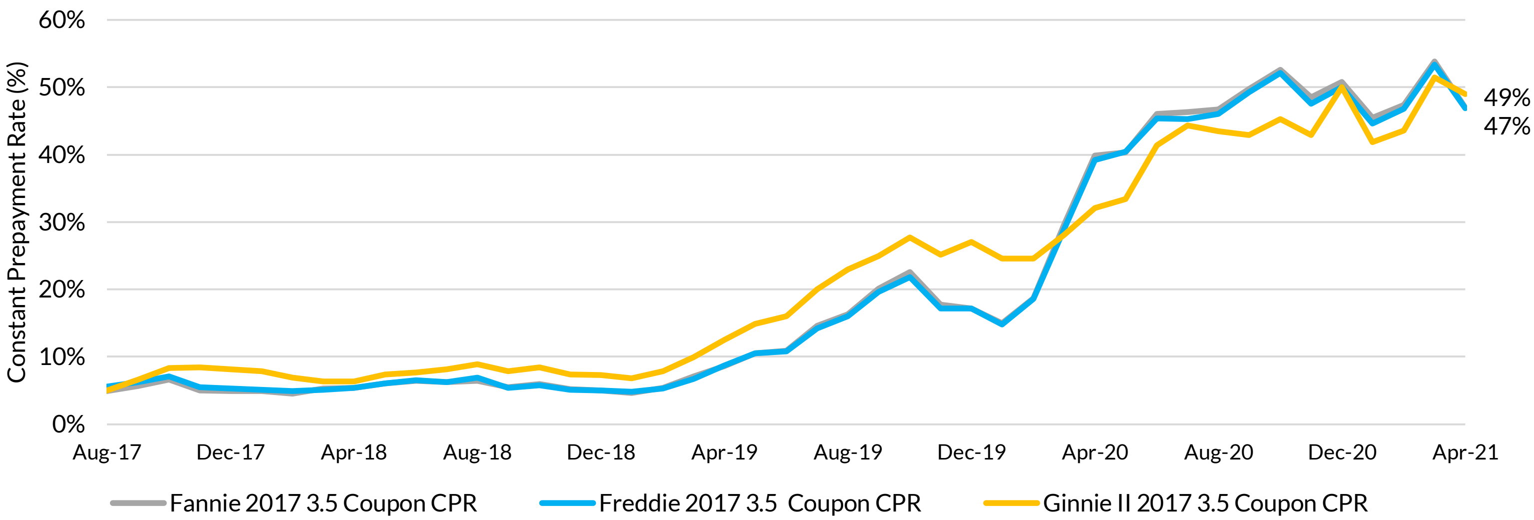


Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of April 2021.*

Prepayments

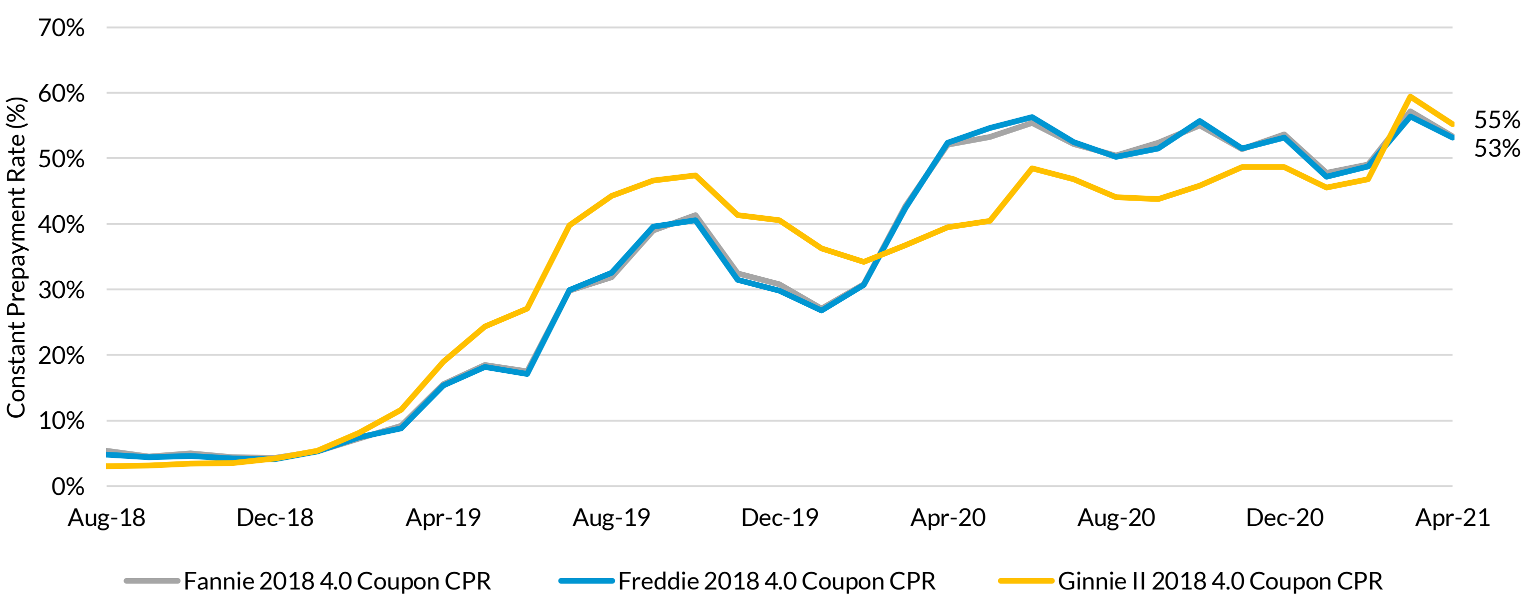
The charts below show the behavior of the 2017-issued 3.5s and the 2018-issued 4.0s, the largest coupon cohorts of those vintage years. Despite slower seasoning, 2017 Ginnie II 3.5s were prepaying faster than their conventional counterparts from late 2017 to March 2020, due primarily to fast VA prepayment speeds. Similarly, the 2018 Ginnie II 4.0s prepaid more slowly than their conventional counterparts until January of 2019. In 2019, speeds of 2018 4.0s and 2017 3.5s accelerated, and Ginnie II speeds accelerated more than their conventional counterparts. However, in early 2020 conventional speeds accelerated more than Ginnie speeds. Since March 2020, conventional speeds have generally exceeded those of the Ginnie cohorts, although the difference between the two has narrowed in recent months, and, for the latest month, both 2017 Ginnie 3.5s and 2018 Ginnie 4s are marginally faster than their conventional counterparts. Prepayment speeds have declined the past month, and may decline further over the next few months, given the more than 30 bps increase in mortgage rates since year end 2020.

2017 Issued 3.5 Coupon CPR



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

2018 Issued 4.0 Coupon CPR

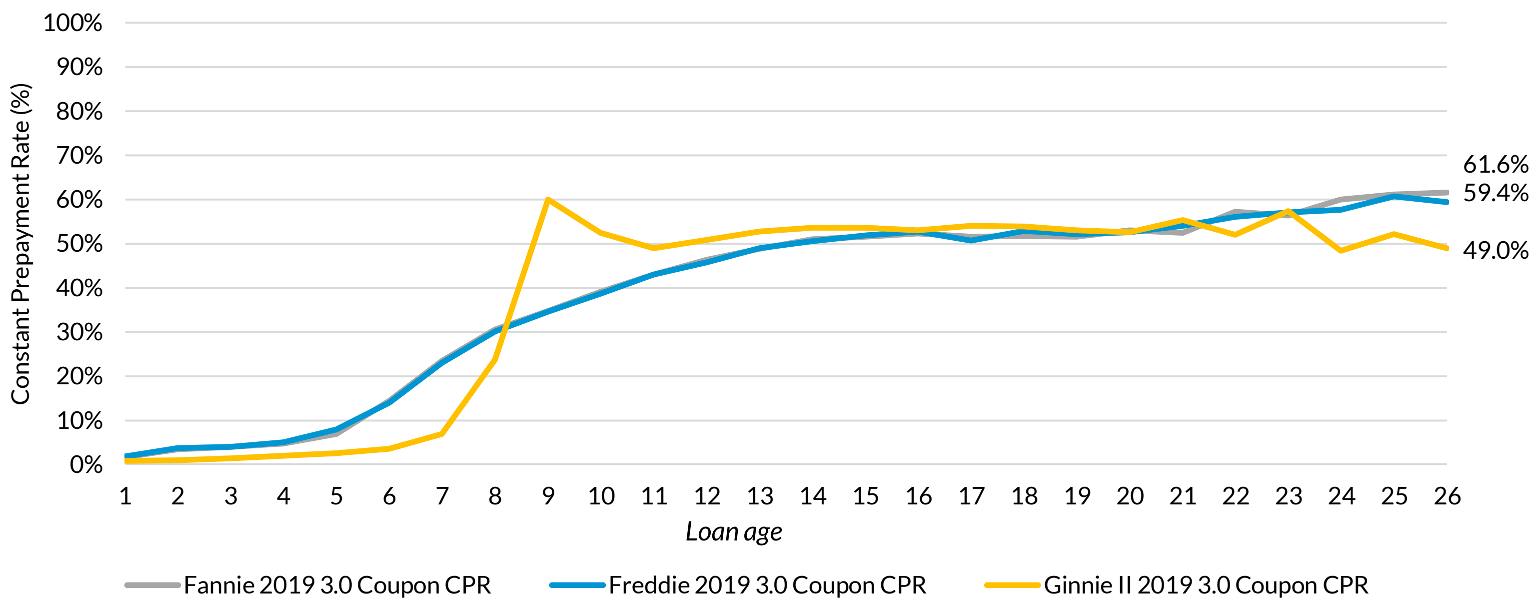


Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of April 2021.*

Prepayments

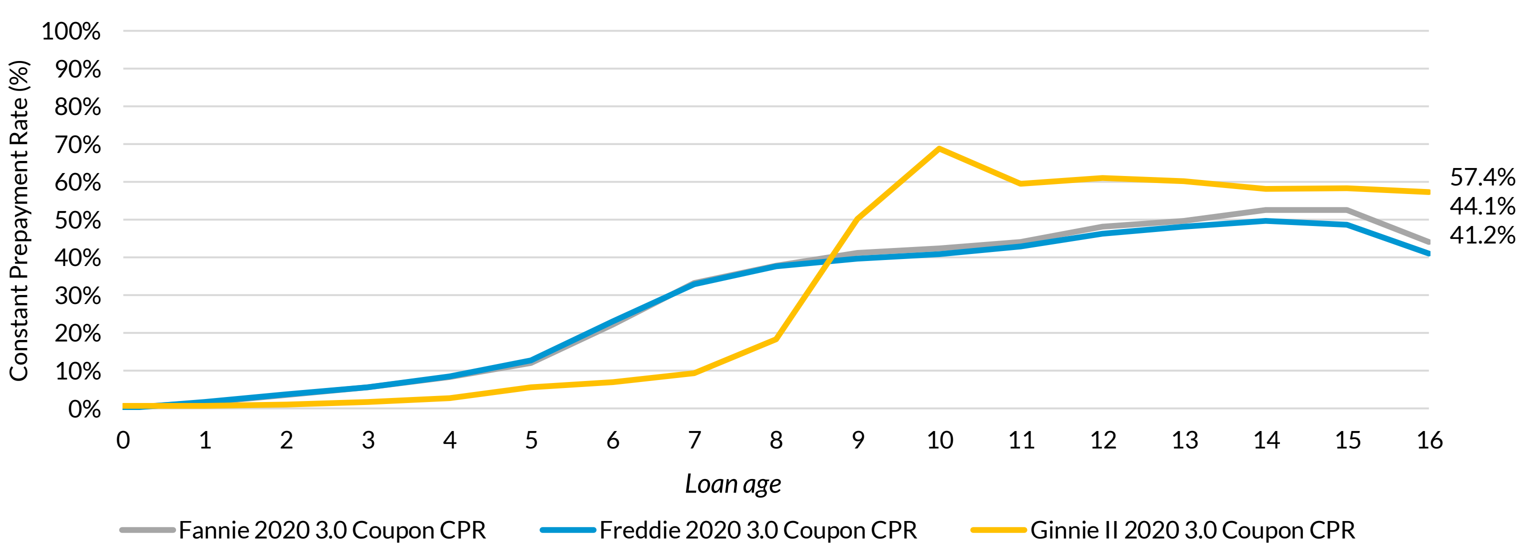
The charts below show prepayment speeds by loan age for 2019 and 2020 Ginnie II 3.0s. Prepayment speeds on both cohorts jumped at the 8-10 month loan age, a more muted jump than earlier cohorts at the same age; they then began to converge with conventional speeds more quickly, as a result of Ginnie Mae 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 22 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 April 2021.*

2020 Issued 3.0 Coupon CPR, by Loan Age

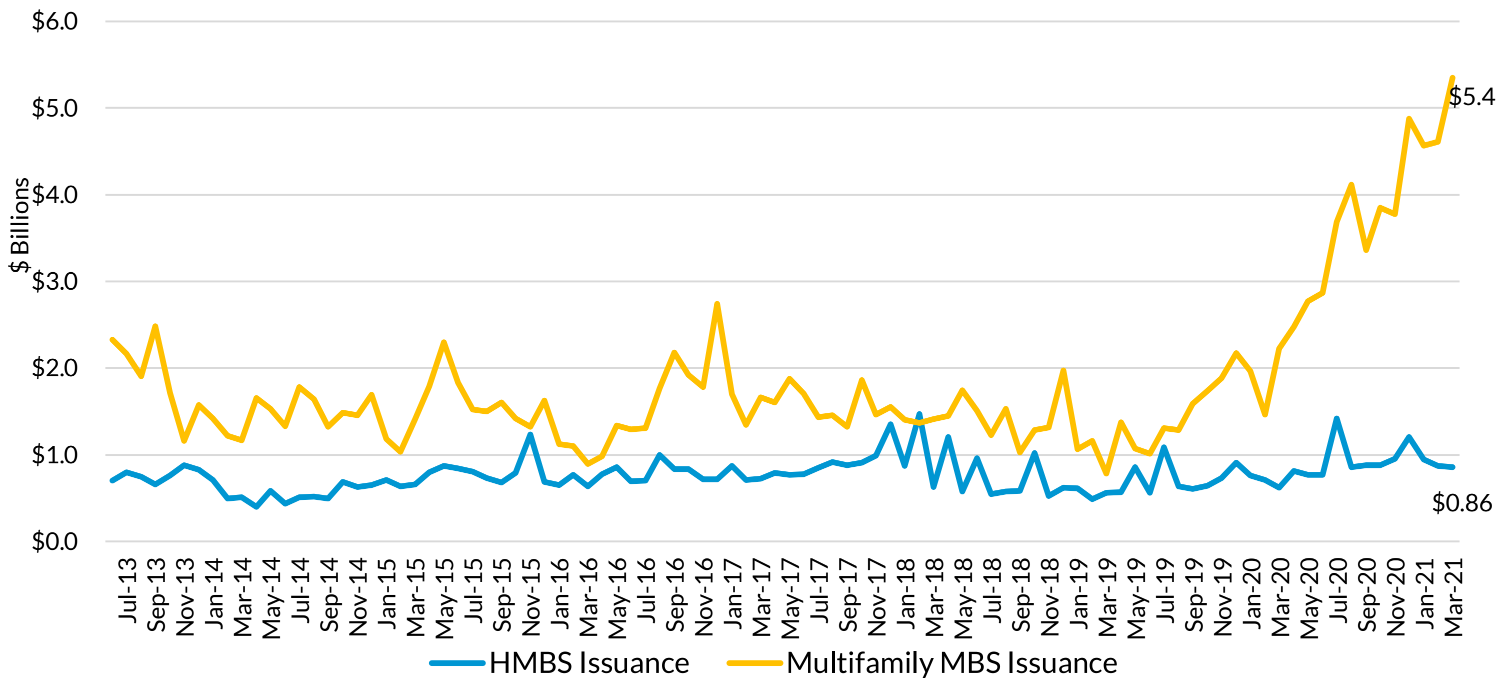


Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of April 2021.*

Other Ginnie Mae Programs Reverse and Multifamily Mortgages

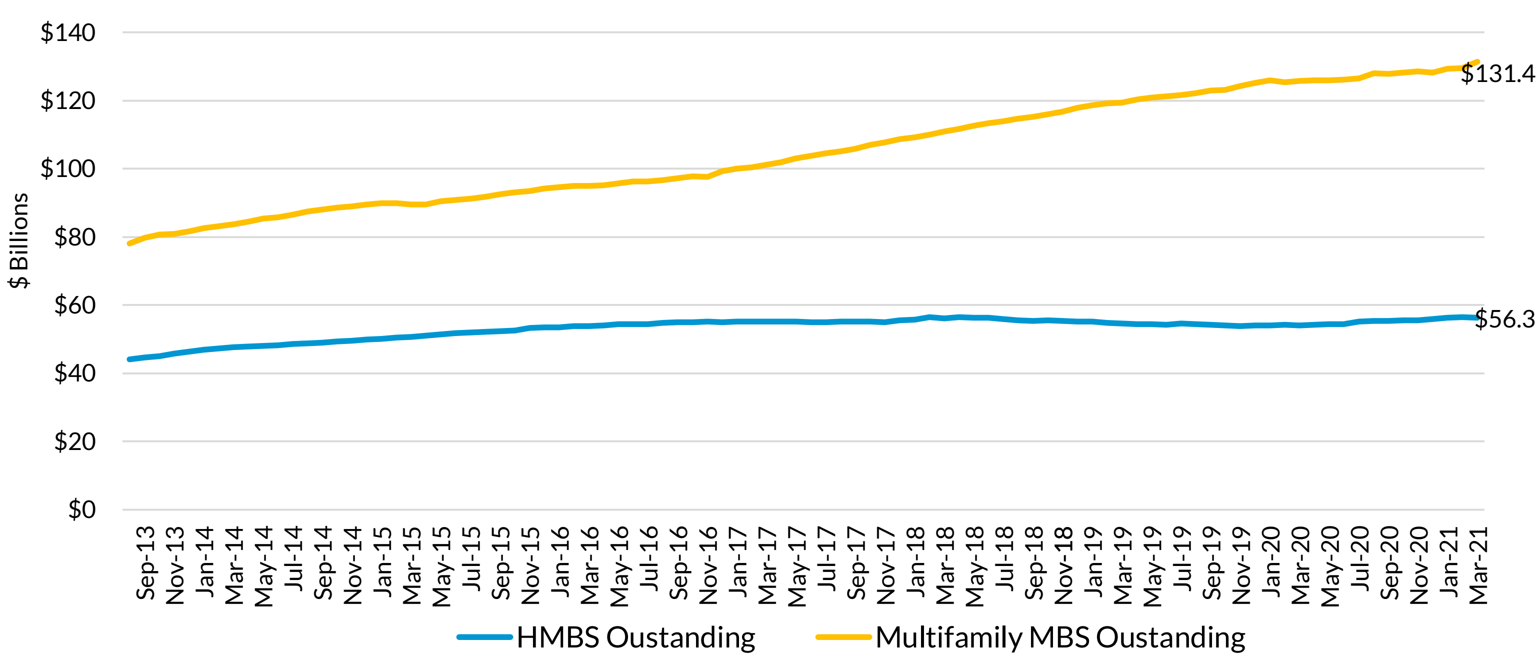
Monthly issuance of Ginnie Mae reverse mortgages has been volatile over the past three years. After declining in 2018, volume has slowly improved over the course of 2019 and 2020. In March 2021, issuance fell to $0.86 billion. Outstanding reverse mortgage securities totaled $56.3 billion in March 2021, up slightly from the previous month, reflecting a higher volume of new issuances relative to paydowns. Ginnie Mae multifamily issuance has increased considerably over the past year, but there are month to month fluctuations. After decreasing in January 2020, Ginnie Mae multifamily issuance has since increased through March 2021 to $5.4 billion. Outstanding multifamily securities totaled $131.4 billion in the first month of 2021.

Issuance Volume



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

Outstanding Volume

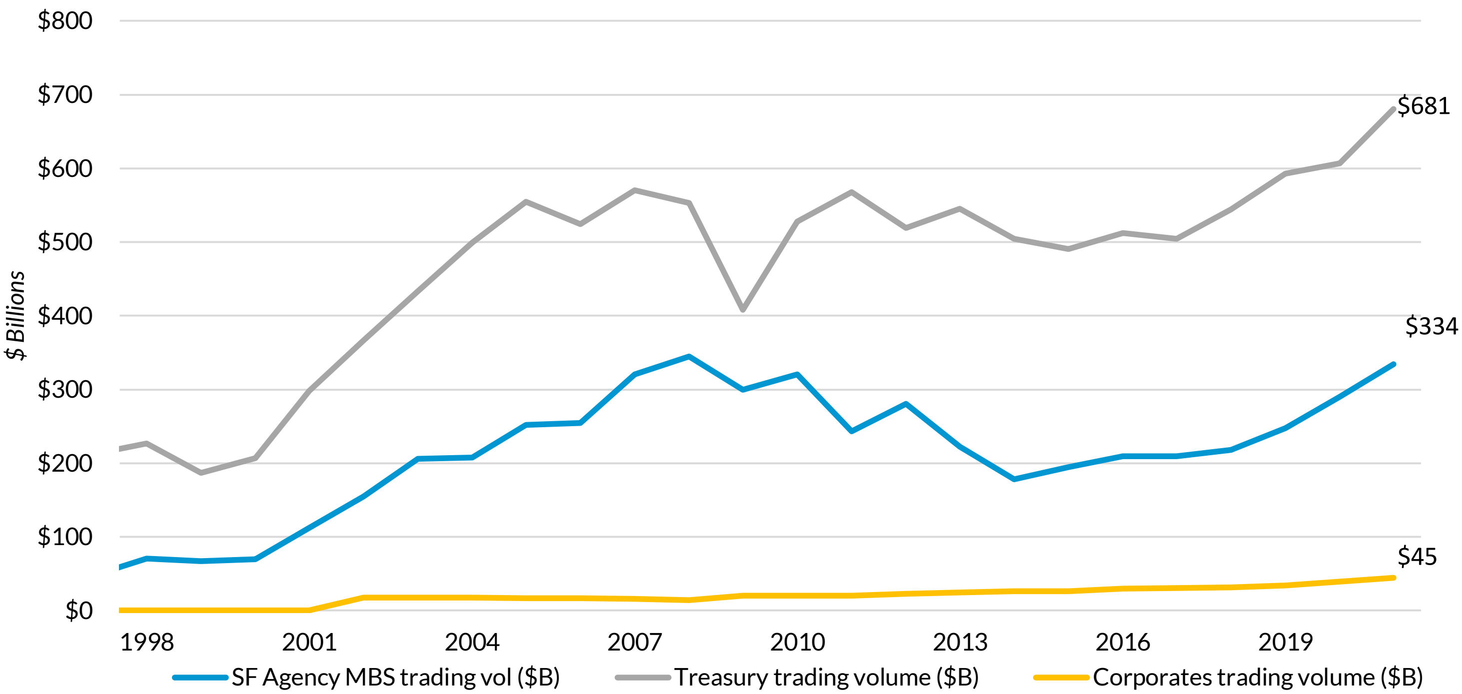


Sources: *Ginnie Mae and Urban Institute.* ***Note:*** *Data as of March 2021.*

Market Conditions

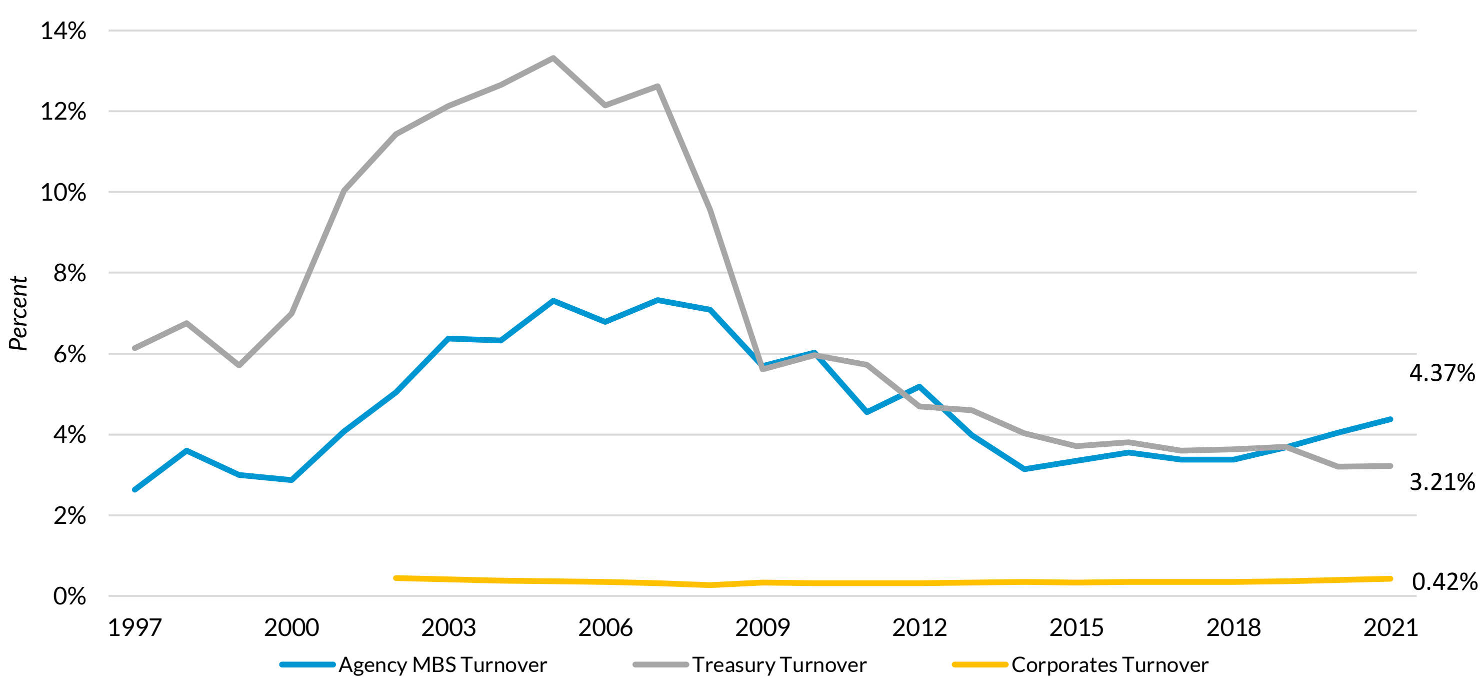
Agency MBS trading volume was $334 billion per day from January to March 2021, just below the pre-crisis peak of $345 billion in 2008. Agency MBS turnover in the first three months of 2021 was also higher than the 2014-2020 period; in March 2021, average daily MBS turnover was 4.37 percent, above the 2020 average of 4.05 percent. Note that agency MBS turnover in 2020 and thus far in 2021 was higher than US Treasury turnover, a relatively rare occurrence. Both average daily mortgage and Treasury turnover are down from their pre-crisis peaks. Corporate turnover is miniscule relative to either Agency MBS or Treasury turnover.

Average Daily Fixed Income Trading Volume by Sector



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

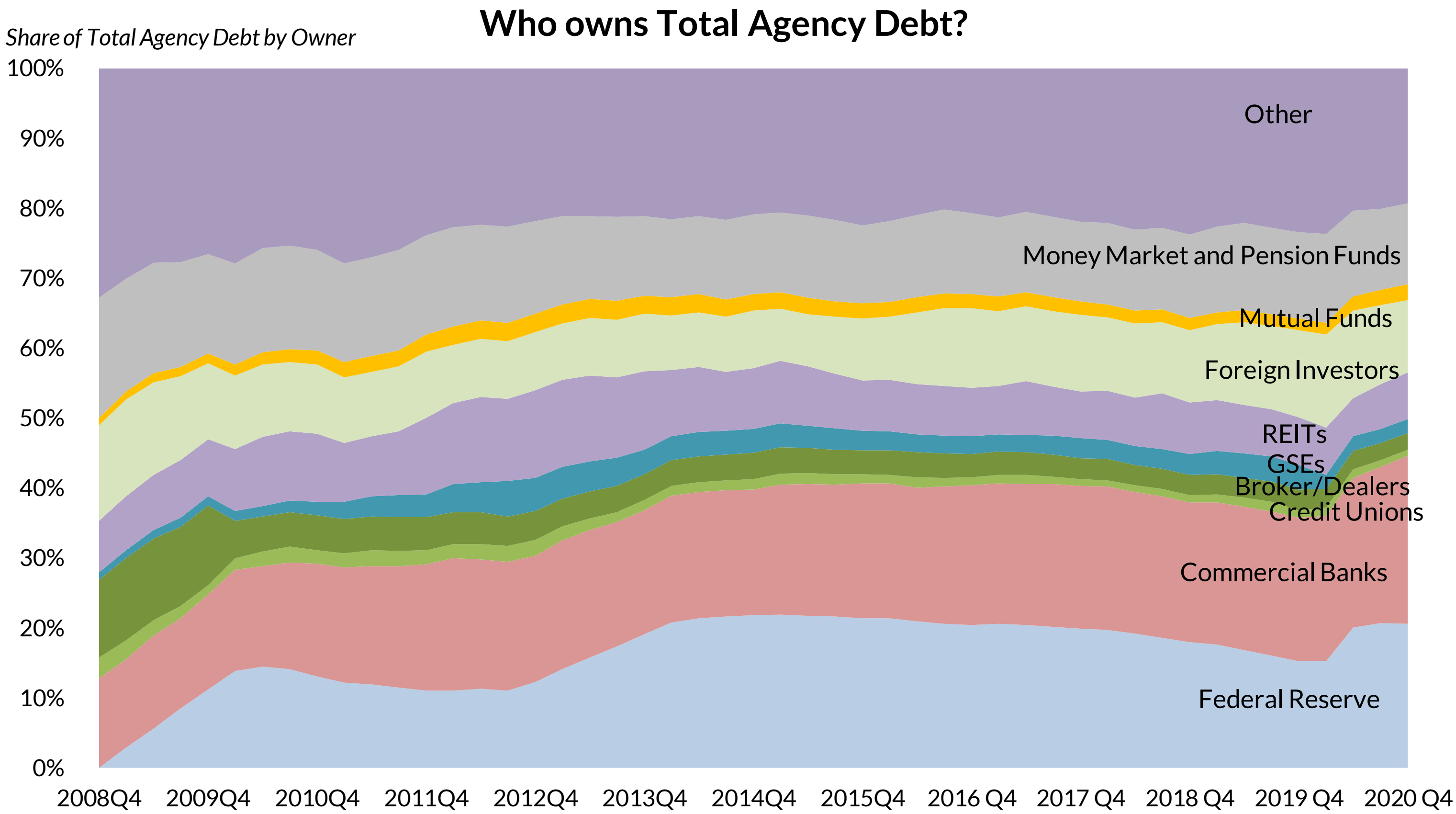
Average Daily Turnover by Sector



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

MBS Ownership

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



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

Commercial bank holdings of agency MBS

`	Commercial Bank Holdings ($Billions)								Week Ending			
	Mar-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Mar 31	Apr 07	Apr 14	Apr 21
Largest 25 Domestic Banks	1592.0	1716.1	1766.2	1822.4	1852.7	1894.0	1938.1	1966.5	1968.4	1964.8	1987.8	1988.5
Small Domestic Banks	535.8	582.3	594.6	607.3	623.7	637.0	650.5	667.7	677.2	675.9	688.9	688.3
Foreign Related Banks	42.7	41.5	39.9	45.3	47.1	48.6	50.3	54.2	60	50.3	49.9	54
Total, Seasonally Adjusted	2170.5	2339.9	2400.7	2475.0	2523.5	2579.6	2638.9	2688.4	2705.6	2691.0	2726.6	2730.8

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 April 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
2017	$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

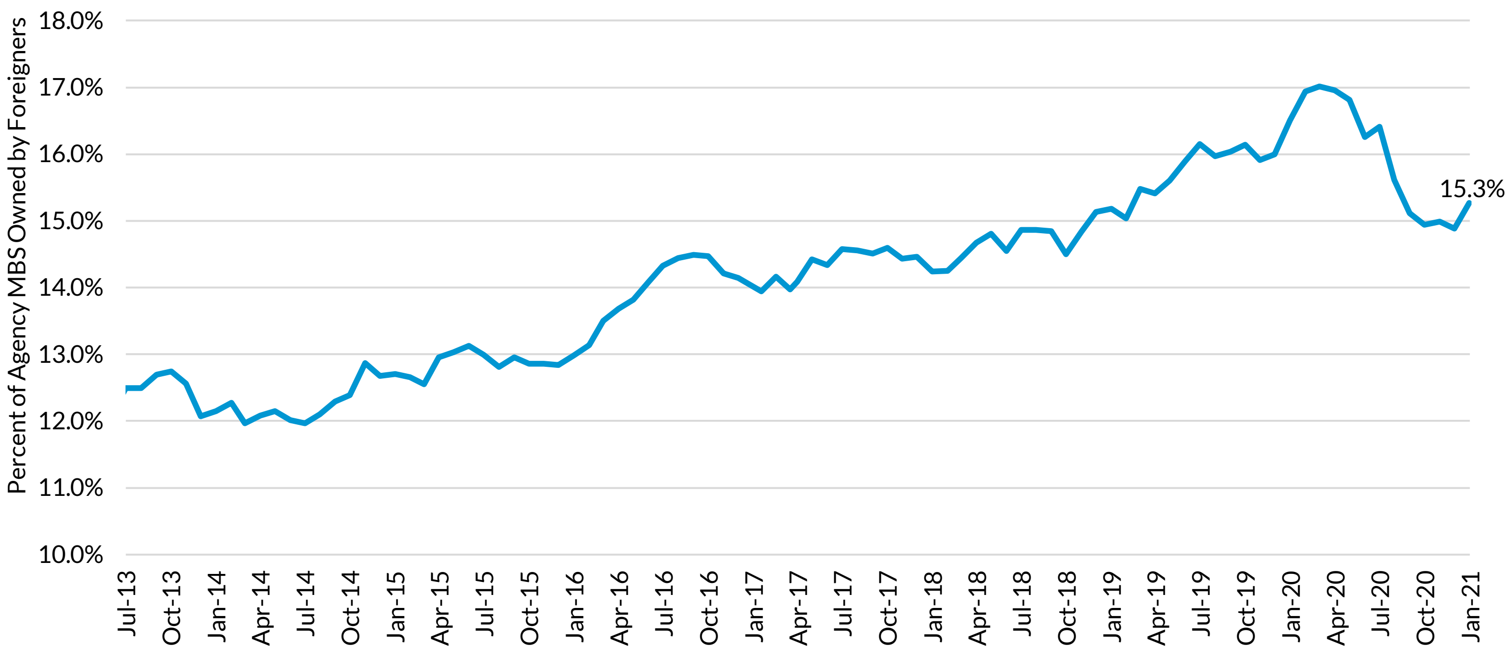
	Top Bank & Thrift Residential MBS Investors	Total ($MM)	GSE PT ($MM)	GNMA PT ($MM)	Agency REMIC ($MM)	Non-Agency ($MM)	Market Share
1	Bank Of America Corporation	$489,458.0	$364,527.0	$113,413.0	$11,255.0	$263.0	19.40
2	Wells Fargo & Company	$254,580.0	$187,217.0	$59,978.0	$6,952.0	$433.0	10.10
3	Jpmorgan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

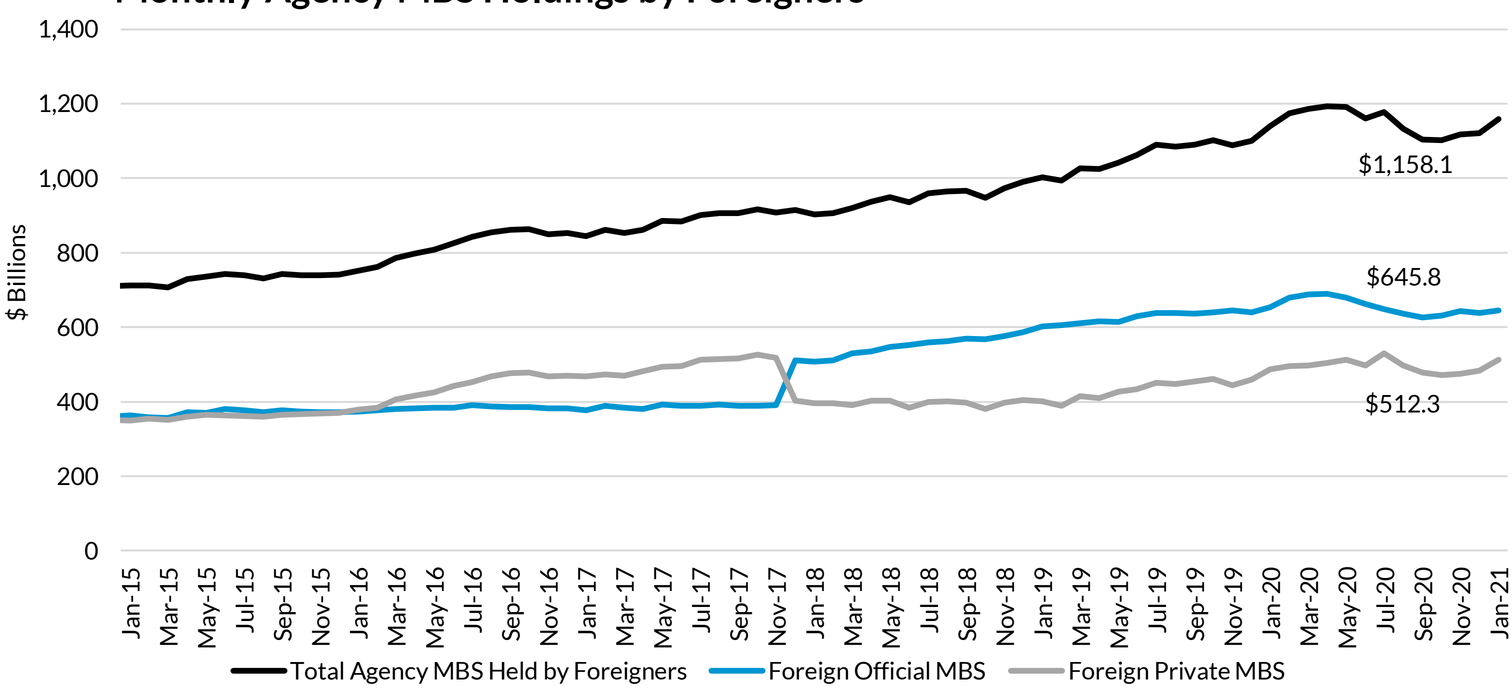
Foreign investors held 15.3 percent of agency MBS in January 2021, up from a low of 12.0 percent in July 2014, but down from 17.0 percent in spring 2020. For the month of January 2021, this represents $1.12 trillion in Agency MBS, $484 billion held by foreign private institutions and $637 billion held by foreign institutions. While foreign holdings trended up in the first month of 2021, this still represents a drop of $35.5 billion 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 January 2021.*

Monthly Agency MBS Holdings by Foreigners



Sources: *Treasury International Capital (TIC) and Urban Institute.* ***Note***: *Data as of January 2021. 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 January 2021, we estimate that Japan has increased their agency MBS holdings by $31.33 billion, Taiwan has decreased their holdings by $4.82 billion and China has decreased their holdings by $6.92 billion. China and Taiwan 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 16 percent from March 2020 through January of 2021.

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	Dec-20	Jan-21	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Jan-21
Japan	297,016	311,047	305,332	322,155	310,268	305,064	308,033	328,416	14,031	-5,715	16,823	-11,887	-5,204	2,969	20,383
Taiwan	265,524	263,018	261,740	269,133	267,918	264,270	262,453	260,636	-2,506	-1,278	7,393	-1,215	-3,648	-1,817	-1,817
China	227,357	233,783	231,753	260,479	239,045	206,861	212,317	218,933	6,426	-2,030	28,726	-21,434	-32,184	5,456	6,616
Luxembourg	47,646	46,641	39,015	36,789	42,389	35,626	36,224	36,587	-1,005	-7,626	-2,226	5,600	-6,763	598	363
Ireland	45,829	41,367	38,731	26,131	29,399	28,286	31,064	30,464	-4,462	-2,636	-12,600	3,268	-1,113	2,778	-600
South Korea	42,879	41,485	40,810	40,964	38,891	40,303	42,628	42,867	-1,394	-675	154	-2,073	1,412	2,325	239
Cayman Islands	34,967	29,540	31,827	27,154	34,564	34,495	34,264	37,128	-5,427	2,287	-4,673	7,410	-69	-231	2,864
Bermuda	29,365	29,184	33,897	27,790	27,790	35,751	27,989	28,596	-181	4,713	-6,107	0	7,961	-7,762	607
Netherlands	14,074	10,549	10,902	10,886	13,255	10,964	12,344	14,206	-3,525	353	-16	2,369	-2,291	1,380	1,862
Malaysia	12,167	15,585	16,600	21,399	20,390	19,808	19,147	18,546	3,418	1,015	4,799	-1,009	-582	-661	-601
Rest of world	128,142	135,515	152,489	202,143	201,165	196,246	197,139	209,425	7,373	16,974	49,654	-978	-4,919	893	12,286
Total	1,144,971	1,157,714	1,163,096	1,245,023	1,225,074	1,171,603	1,183,602	1,225,804	12,743	5,382	81,927	-19,949	-53,471	11,999	42,202

Agency MBS Only (Estimates)

	Level of Holdings ($Millions)*								Change in Holdings ($Millions)*						
Country	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20	Dec-20	Jan-21	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Jan-21
Japan	293,662	307,738	302,212	319,241	306,963	301,622	304,865	324,989	14,076	-5,526	16,823	-12,278	-5,341	3,243	20,124
Taiwan	265,234	262,732	261,470	268,881	267,700	264,043	262,244	260,410	-2,502	-1,262	7,393	-1,181	-3,657	-1,799	-1,834
China	221,738	228,240	226,526	255,596	235,078	202,730	208,516	214,821	6,502	-1,714	28,726	-20,518	-32,348	5,785	6,305
Luxembourg	43,978	43,023	35,603	33,602	40,207	33,354	34,133	34,325	-955	-7,420	-2,226	6,605	-6,853	779	192
Ireland	37,674	33,322	31,145	19,045	21,091	19,635	23,102	21,852	-4,352	-2,177	-12,600	2,047	-1,457	3,468	-1,250
South Korea	34,969	33,682	33,452	34,091	28,743	29,736	32,903	32,347	-1,287	-230	154	-5,347	992	3,167	-555
Cayman Islands	29,896	24,538	27,110	22,748	28,431	29,364	28,386	30,770	-5,358	2,572	-4,673	5,684	933	-978	2,384
Bermuda	26,394	26,253	31,133	25,208	25,111	25,635	25,422	25,819	-141	4,880	-6,107	-97	523	-213	397
Netherlands	13,904	10,381	10,744	10,738	12,739	10,427	11,850	13,671	-3,523	363	-16	2,001	-2,312	1,423	1,822
Malaysia	11,881	15,303	16,334	21,150	20,028	19,432	18,801	18,171	3,422	1,031	4,799	-1,122	-597	-631	-629
Rest of world	97,585	105,371	124,063	175,591	173,716	167,661	170,833	180,970	7,786	18,692	49,654	-1,874	-6,055	3,171	10,137
Total	1,076,916	1,090,579	1,099,788	1,185,887	1,159,808	1,103,636	1,121,052	1,158,145	13,663	9,209	81,927	-26,079	-56,172	17,416	37,093

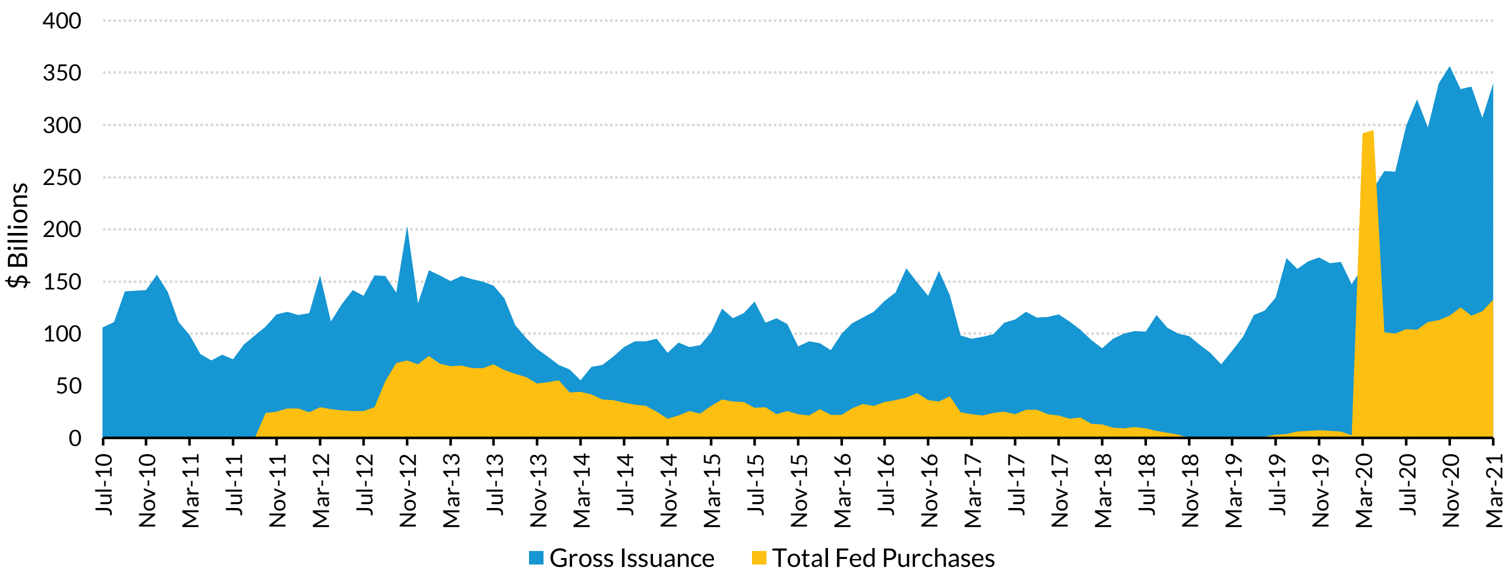
Sources *:Treasury International Capital (TIC) and Urban Institute.*

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 January 2021.*

MBS Ownership

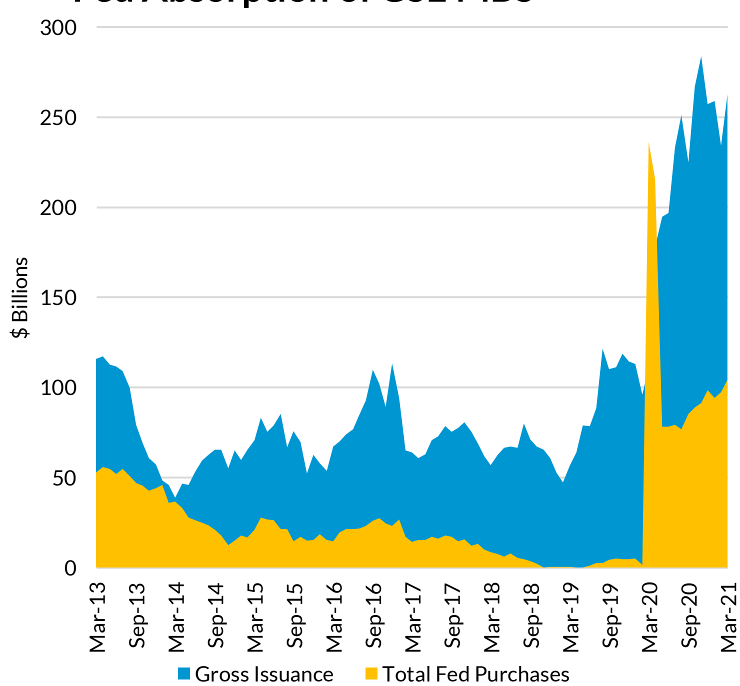
On March 23, 2020, in response to the market dislocations caused by the coronavirus pandemic, the Fed announced they would purchase Treasuries and agency MBS in an amount necessary to support smooth functioning markets. In March 2020 the Fed bought $292.2 billion in agency MBS, and April 2020 clocked 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. More recently, Fed purchases have ramped up again slightly; purchases totaled $132.4 billion in March 2021. February Fed purchases totaled 39.0 percent of monthly issuance. As of March 2021, total agency MBS owned by the Fed equaled $2.22 trillion. Prior to the COVID-19 intervention, the Fed was winding down its MBS portfolio from its 2014 prior peak.

Total Fed Absorption



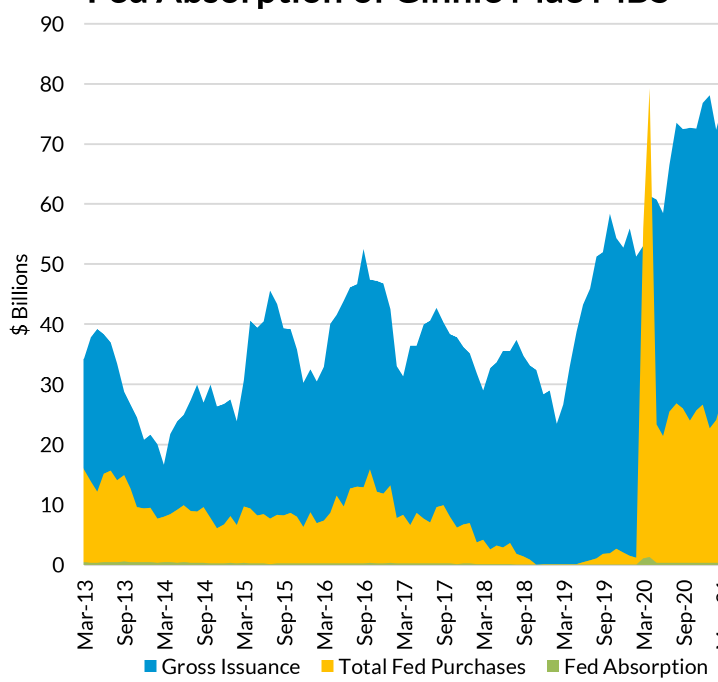
***Sources**: eMBS, Federal Reserve Bank of New York and Urban Institute.* ***Note:** Data as of March 2021.*

Fed Absorption of GSE MBS



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

Fed Absorption of Ginnie Mae MBS



***Sources**: eMBS, Federal Reserve Bank of New York and Urban Institute.* ***Note**: Data as of March 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: 3489631.6.1.GBL.RTL

Expiration Date: 5/31/2022