Global Markets Analysis Report

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

JAN
2021

Ginnie Mae
Our Guaranty Matters

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

CONTENTS

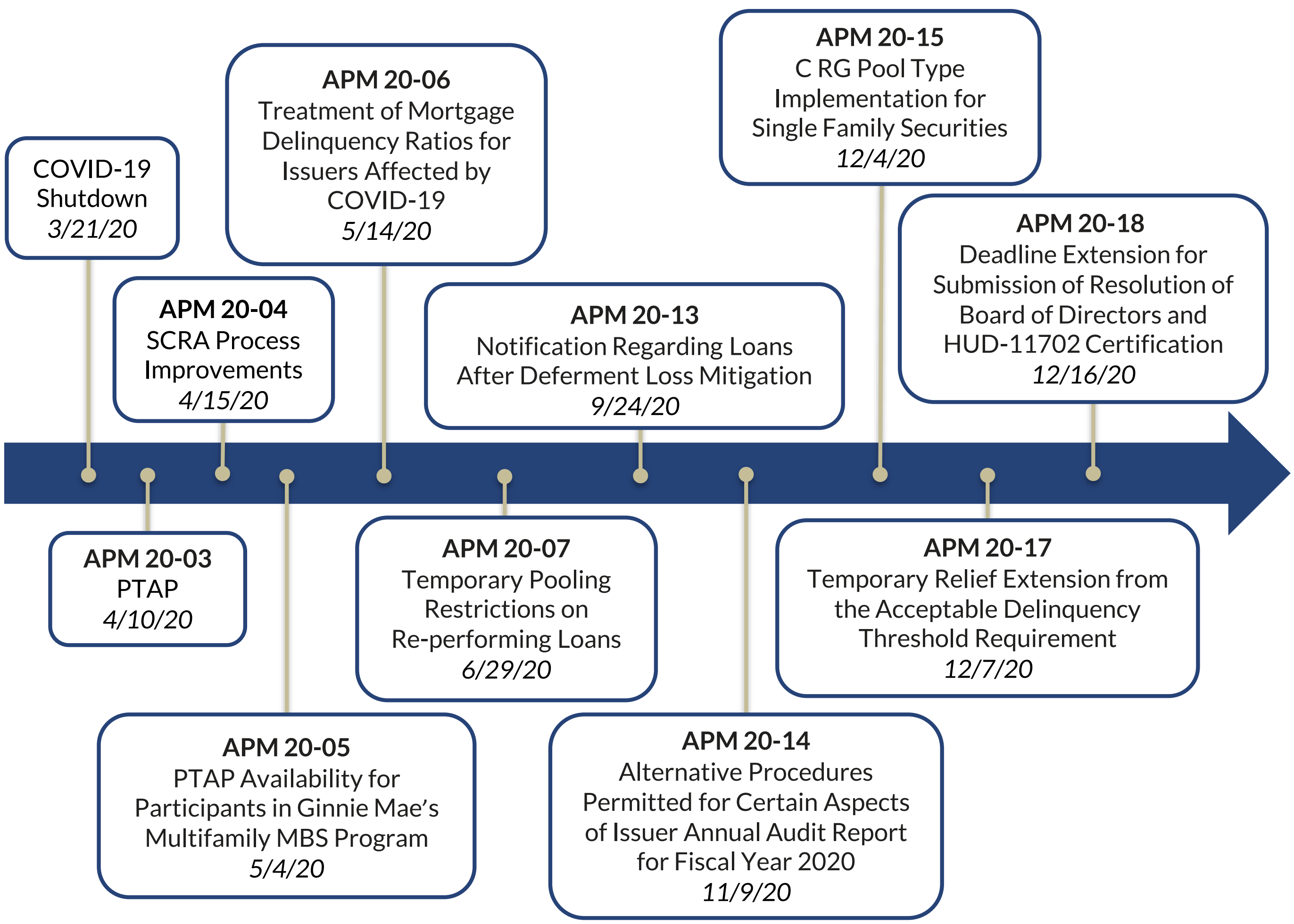
HIGHLIGHTS

Ginnie Mae's actions to promote market stability during the pandemic

While the COVID-19 pandemic created substantial stress for the economy, the mortgage market has performed reasonably well. Lower rates improved payment affordability and widespread availability of forbearance under the CARES Act allowed borrowers impacted by COVID-19 to pause their monthly payments without damaging their credit history.

Additionally, Ginnie Mae also took multiple actions to keep the secondary market for government mortgages afloat during the pandemic, helping to ensure continued availability of credit for low income families, first-time homebuyers, and veterans. Figure 1 shows a timeline of actions Ginnie Mae took during this period. Ginnie Mae's first important action (APM 20-03) was announced in March 2020 with the introduction of the Pass-through Assistance Program. PTAP provided last resort funding to issuers unable to meet their MBS payment obligations due to COVID-19 related stress. Although PTAP usage was limited, its availability was crucial to restoring market confidence.

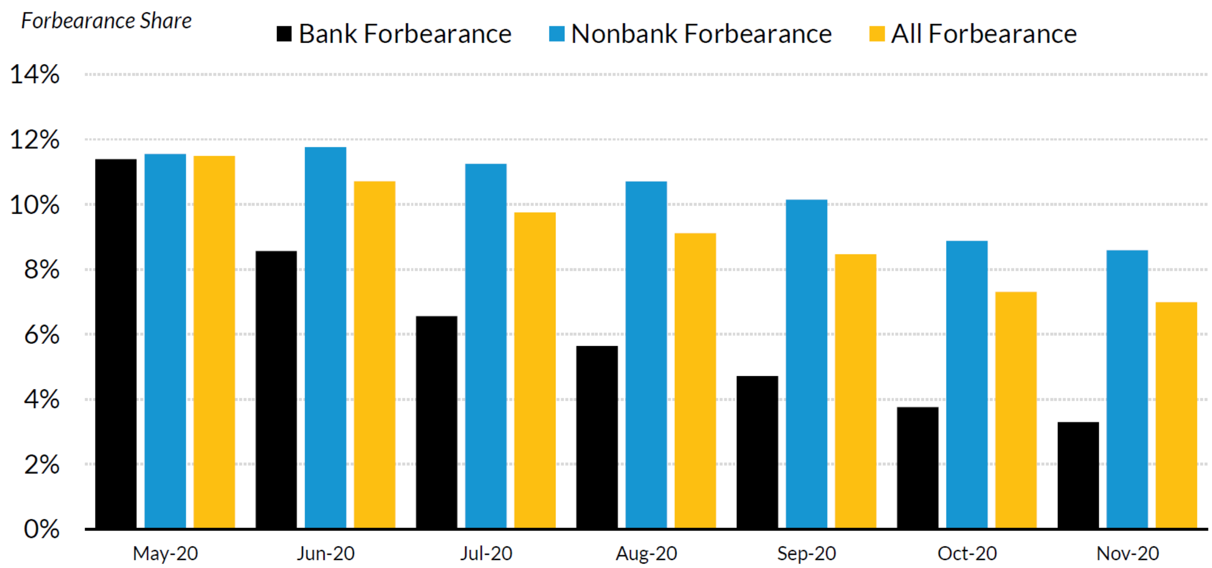
Figure 1: Timeline of Ginnie Mae Actions During the Pandemic



Another crucial action (APM 20-06) was to exclude delinquencies occurring after April 2020 from the delinquency ratio calculation. Ginnie Mae uses this metric as the basis for enforcing its MBS Guide compliance provisions. The aim of this policy was to provide regulatory compliance relief to issuers at a time when they were experiencing an uptick in COVID-19 forbearances driven by the CARES Act. This action significantly mitigated the risk of issuers becoming noncompliant with Ginnie Mae's delinquency thresholds. Another key action (APM 20-07) was to restrict forborne loans that were bought out of pools from being securitized into existing Ginnie Mae securities. This was done to address the potential rise in prepayment speeds that could have resulted from forbearance and loss mitigation policies put in place by the insuring agencies. This action helped preserve MBS investor confidence and a robust market for Ginnie Mae securities.

HIGHLIGHTS

Figure 2: Share of Ginnie Mae Loans in Forbearance



Source: eMBS and Urban Institute.

Despite the severity of the COVID-19 economic shock, Ginnie Mae's issuer base and the government lending market has remained stable. This in part reflects the positive impact of lower rates, which pushed originations to record levels. At the same time, it also reflects Ginnie Mae's accommodative policies that allowed servicers to stay focused on assisting borrowers impacted by the pandemic. This is evidenced on figure 2. Close to 12 percent of Ginnie Mae borrowers were benefiting from forbearance in June 2020 despite the financial burden on issuers caused by advancing delinquent payments. This share has come down gradually and stood at 7 percent in November 2020, as many borrowers have resumed payments. The bottom chart on page 20 shows another noteworthy development in the second half of 2020: a declining number of loan buyouts by bank issuers since July, the month APM 20-07 became effective. In November 2020, total buyouts by banks were a fraction of the level in June 2020. With the pandemic still raging and the economic recovery fragile, Ginnie Mae continues to monitor these trends and is prepared to act to ensure that the market for Ginnie Mae securities remains robust.

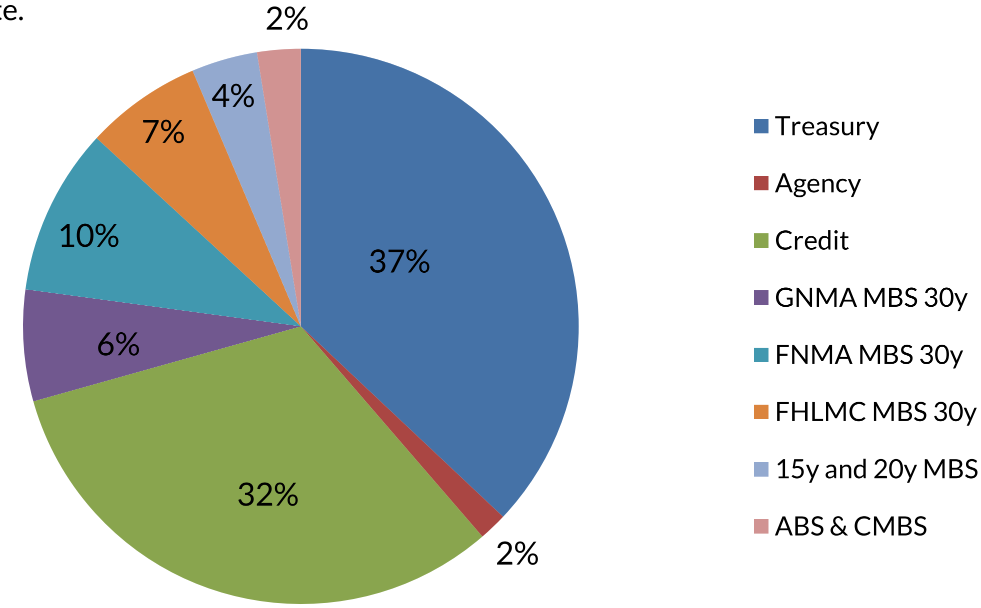
***Highlights this month*:**

- After skyrocketing last summer, buyouts of delinquent Ginnie Mae loans by bank issuers have fallen drastically while buyouts by nonbanks have edged up. In November 2020, banks purchased 18,194 delinquent Ginnie Mae loans out of pools, while nonbanks purchased 21,761 (page 20).
- Nonbank origination shares for FHA and VA have largely converged in recent months, with FHA at 93 percent and VA at 91 percent (page 38).

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

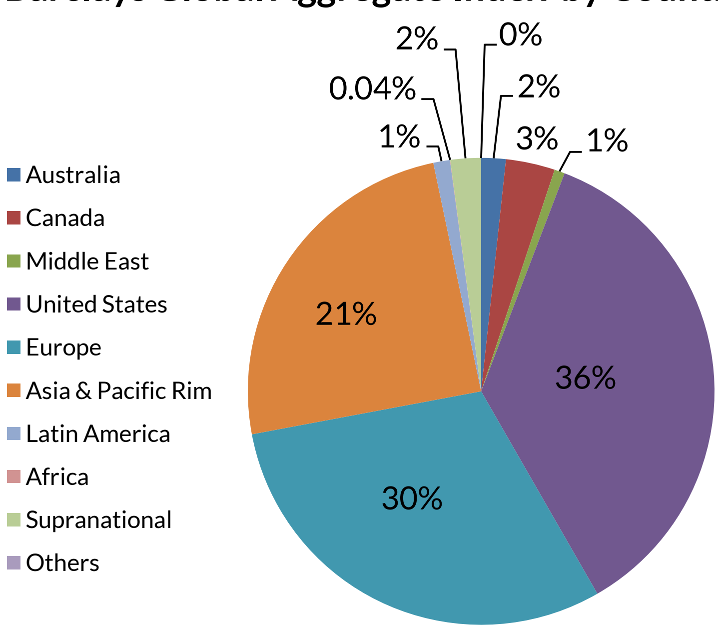
US MBS (Ginnie Mae, Fannie Mae, and Freddie Mac) comprise 27 percent of the Barclays US Aggregate Index—less than either the US Treasury share (37 percent) or the US Credit share (32 percent). Fannie Mae 30-year MBS accounts for 10 percent of the overall index, the largest MBS component, while Freddie Mac 30-year MBS and Ginnie Mae 30-year MBS comprise 7 and 6 percent of the market, respectively. Mortgages with terms of 15 and 20 years comprise the remaining balance (4 percent) of the Barclays US Aggregate Index. US securities are the single largest contributor to the Barclays Global Aggregate, accounting for 36 percent of the global total. US MBS comprises 10 percent of the global aggregate.

Barclays US Aggregate Index



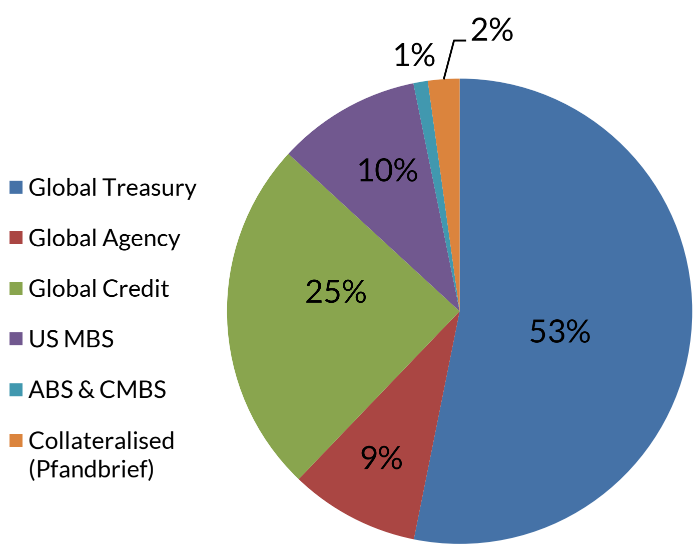
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of December 2020.*
Note*: Numbers in chart may not add to 100 percent due to rounding.*

Barclays Global Aggregate Index by Country



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

Barclays Global Aggregate Index by Sector

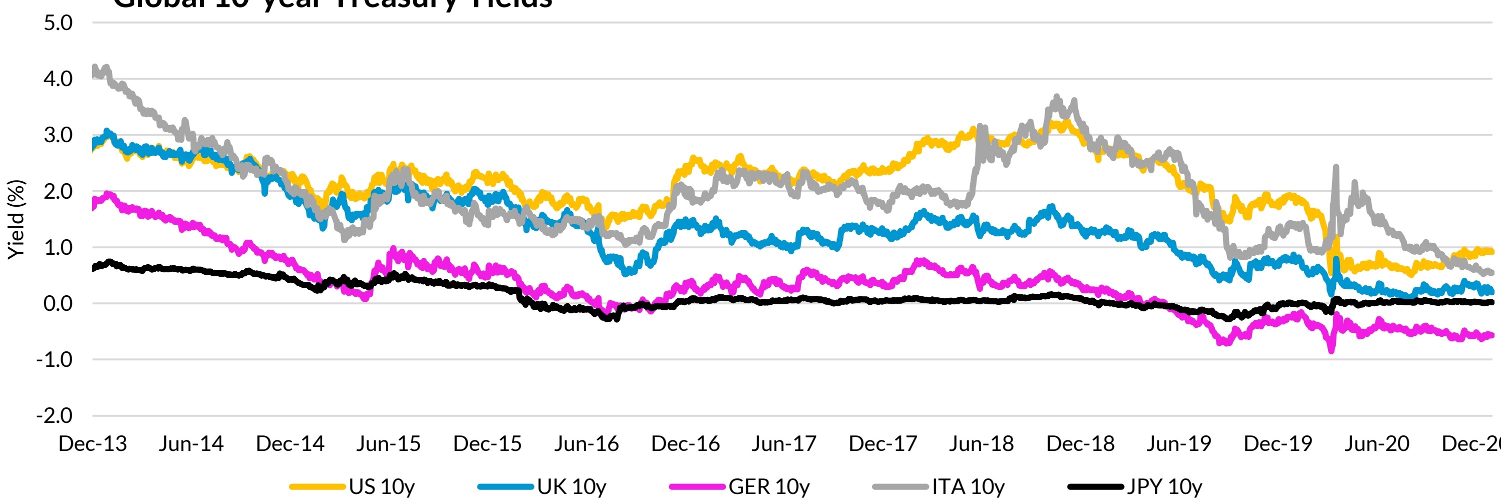


Sources: *Bloomberg and State Street Global Advisors*
Note*: Data as of December 2020.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

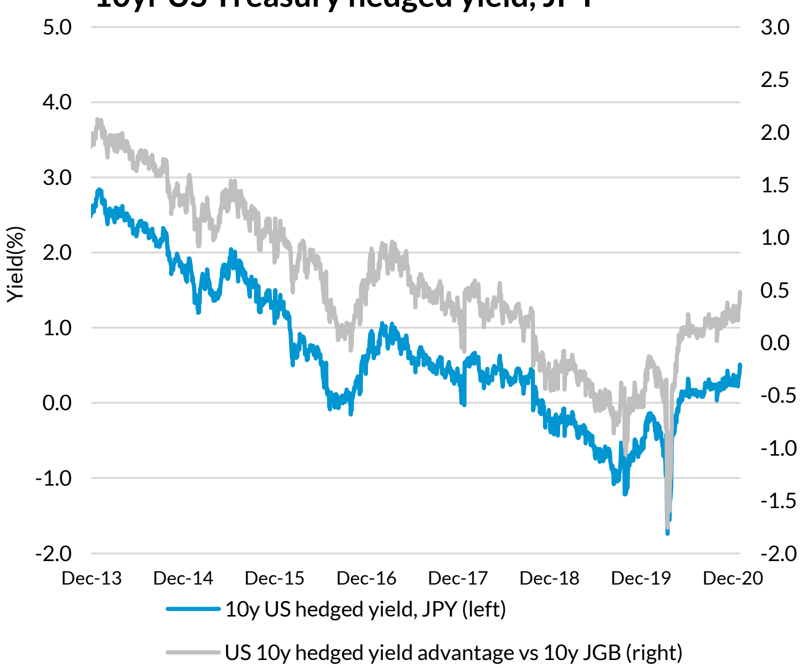
After experiencing COVID-19 related volatility in March and April of 2020, government bond yields across the globe stabilized. Yields on the 10-year treasury grew by 7 bps to 0.91 percent in December 2020, remaining the highest of the developed world. The yield on the Italian 10-year note, which has been higher than the 10-year sovereign debt of the US, Japan, and Europe for much of 2020, fell by 8 bps to 0.54 percent. The yield on the UK 10-year bond dropped by 11 bps to 0.20 percent, while the Japanese 10-year government bond fell ever so slightly by 1 bp to 0.02 percent in December. The German 10-year yield remained at negative 0.57 percent in December. At the end of December 2020, the hedged yield differential between the 10-year Treasury and the 10-year JGB stood at 46 bps, a widening of 26 bps from the previous month. The hedged yield differential between the 10-year Treasury and the 10-year Bund stood at 66 bps, an expansion of 21 bps since the end of November 2020.

Global 10-year Treasury Yields



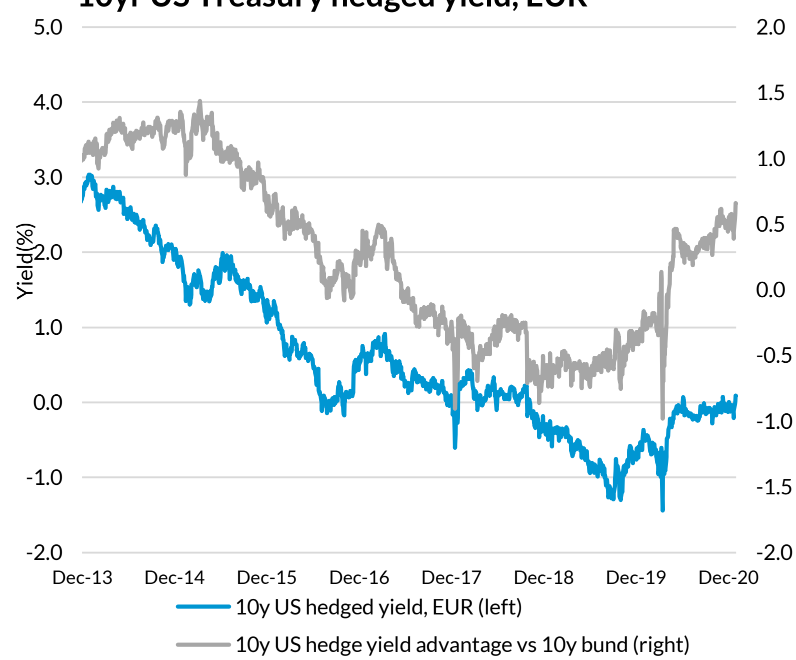
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of December 2020.*

10yr US Treasury hedged yield, JPY



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

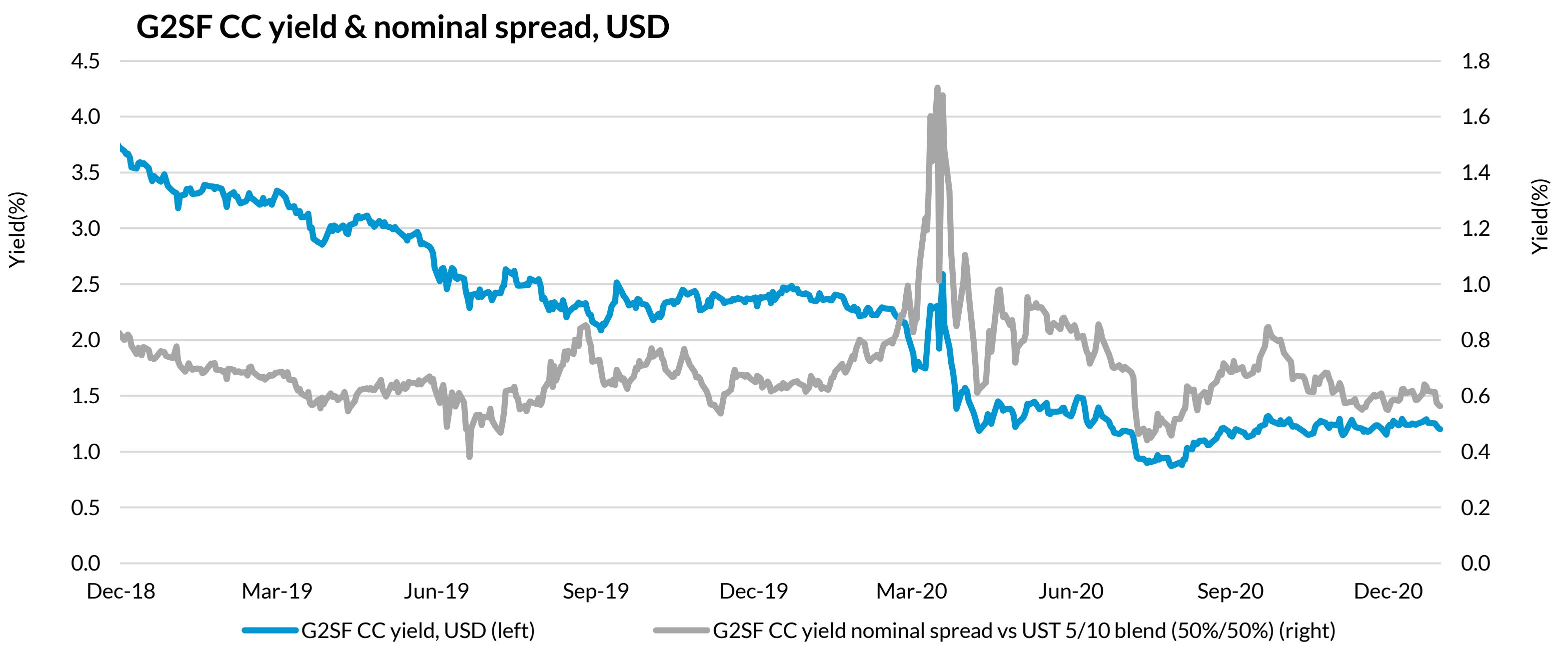
10yr US Treasury hedged yield, EUR



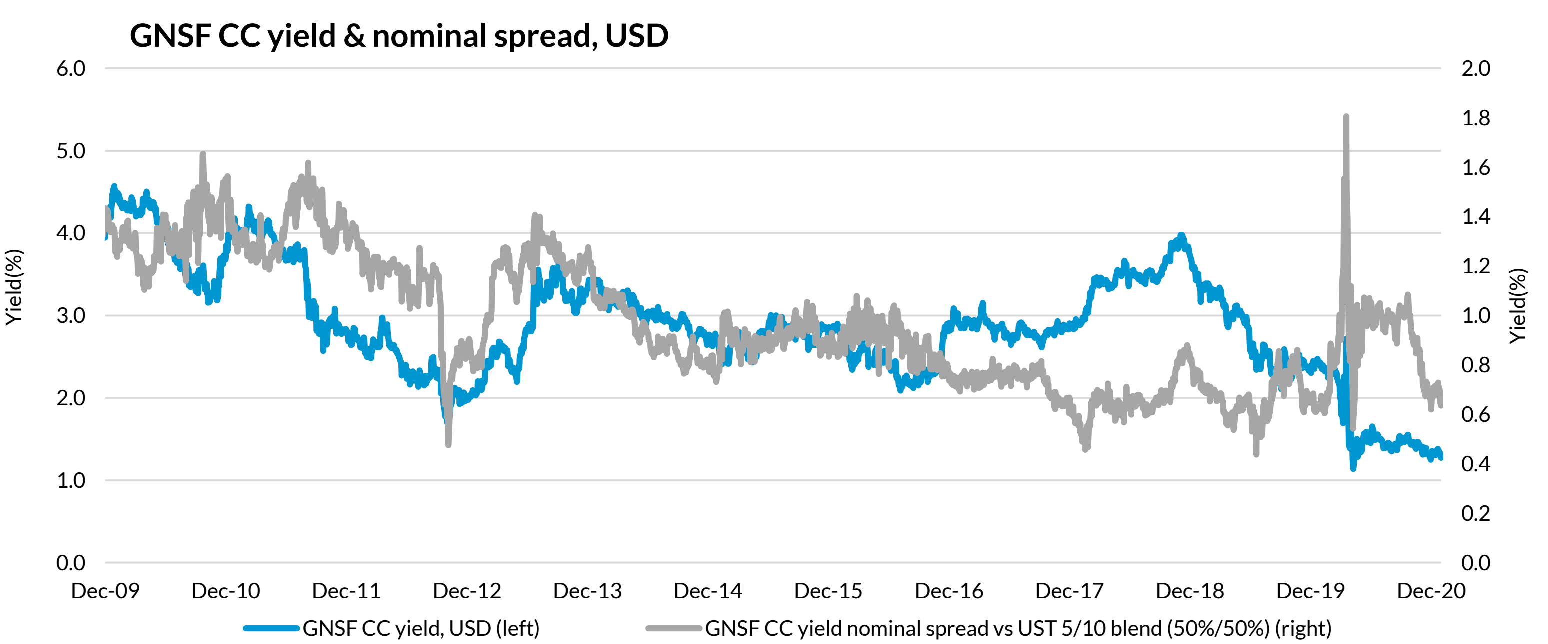
Sources: *Bloomberg and State Street Global Advisors*
Note: *Data as of December 2020.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

Nominal yields grew slightly in December 2020, with GNMA II yields rising 5 bps to 1.20 percent and GNMA I yields up 3 bps to 1.27 percent. At the end of December, current coupon Ginnie Mae securities outyield their Treasury counterparts (relative to the average of 5- and 10-year Treasury yields) by 56 bps on the G2SF and 64 bps on the GNSF, a widening on the G2SF and tightening on the GNSF of 1 bp since last month.



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

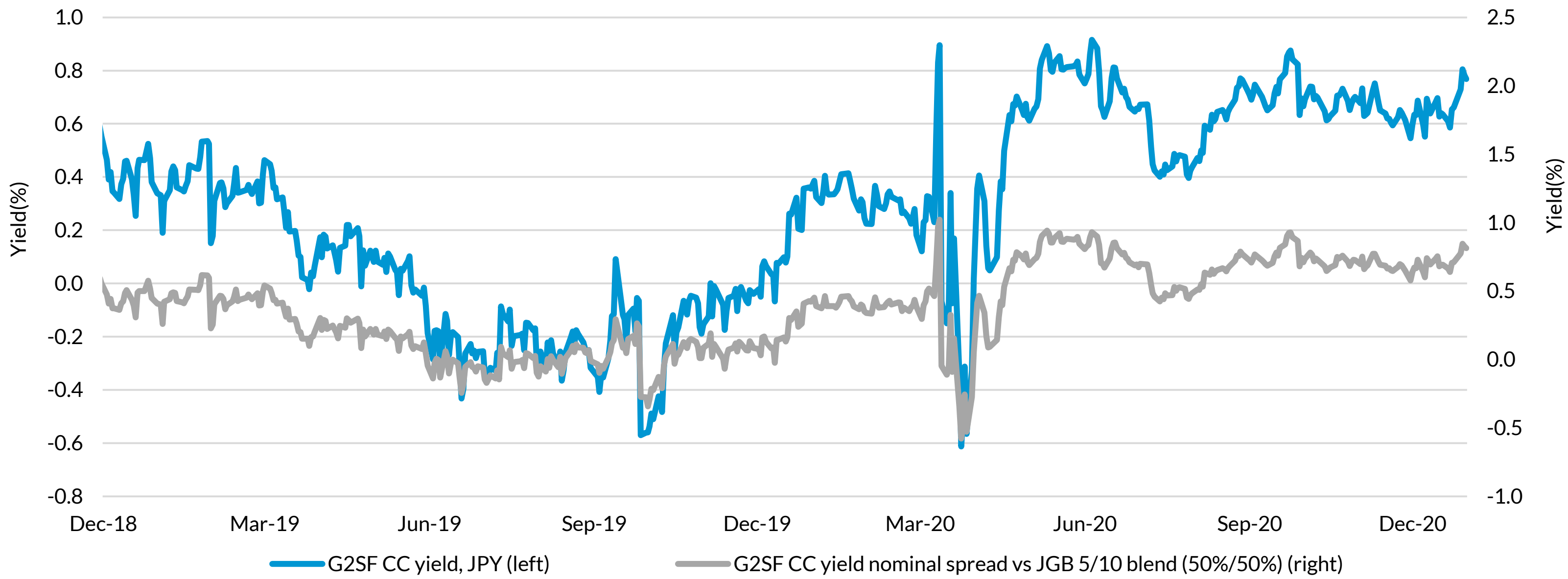


Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of December 2020.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

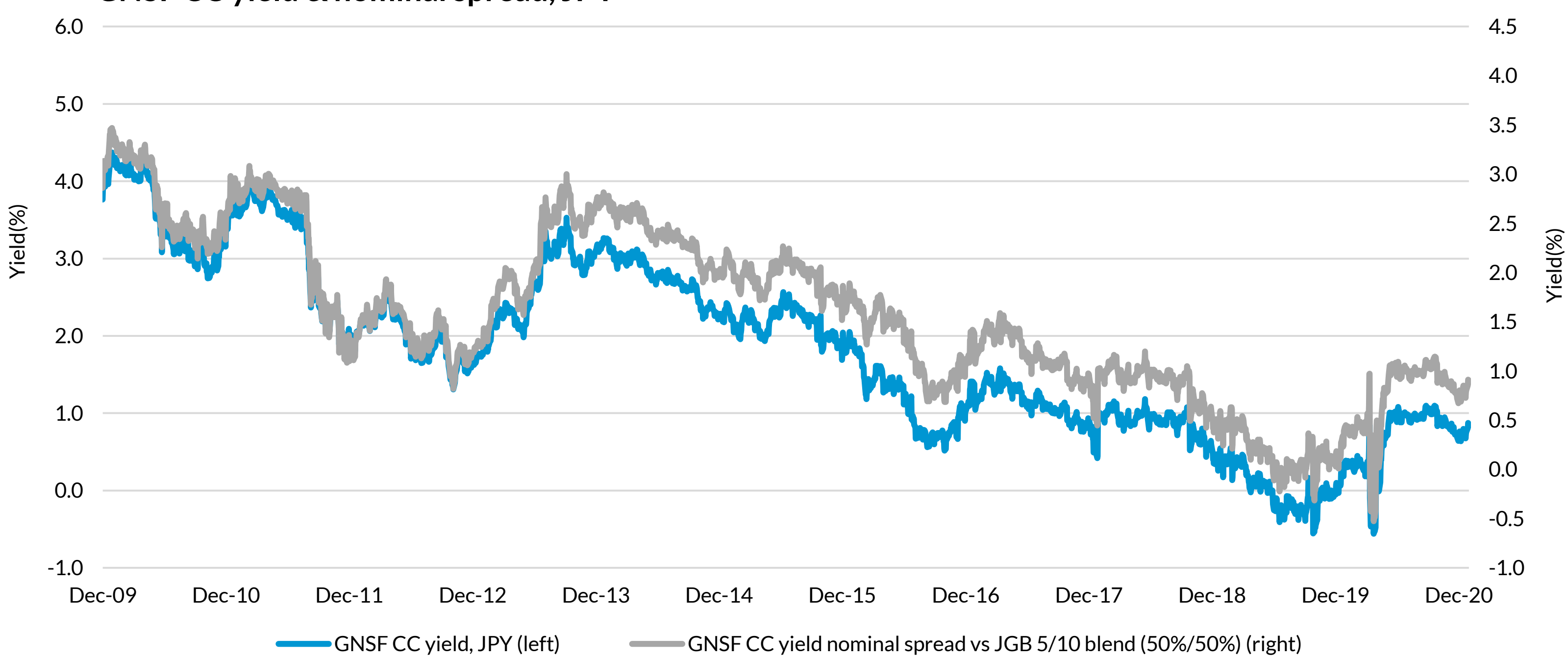
If Ginnie Mae securities are hedged into Japanese Yen, they look favorable on a yield basis versus the JGB 5/10 blend at the end of December. More precisely, hedged into Japanese yen, the G2SF and GNSF have a 81 and 88 bp yield, respectively, versus the JGB 5/10 blend. This represents a 23 bp widening for G2SF and a 21 bp widening for GNSF since the end of November 2020.

G2SF CC yield & nominal spread, JPY



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

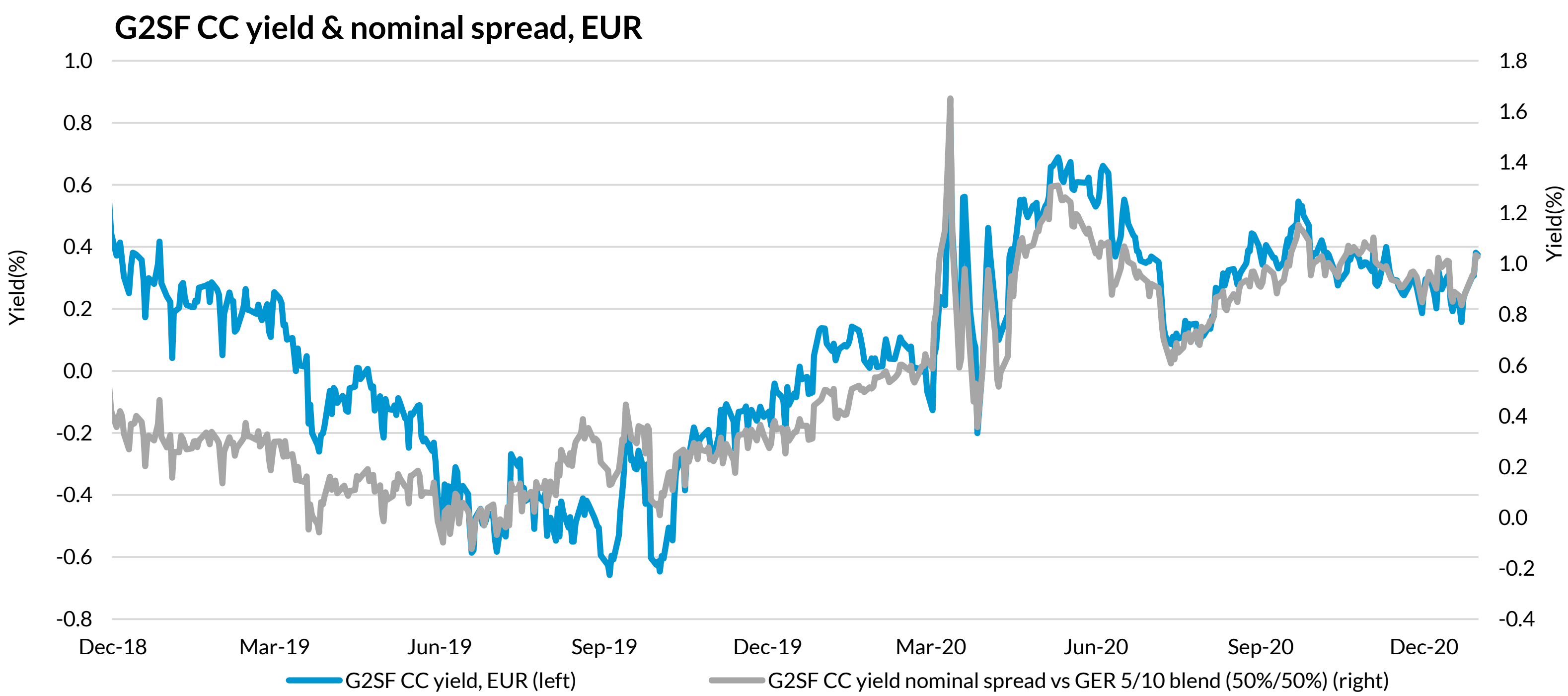
GNSF CC yield & nominal spread, JPY



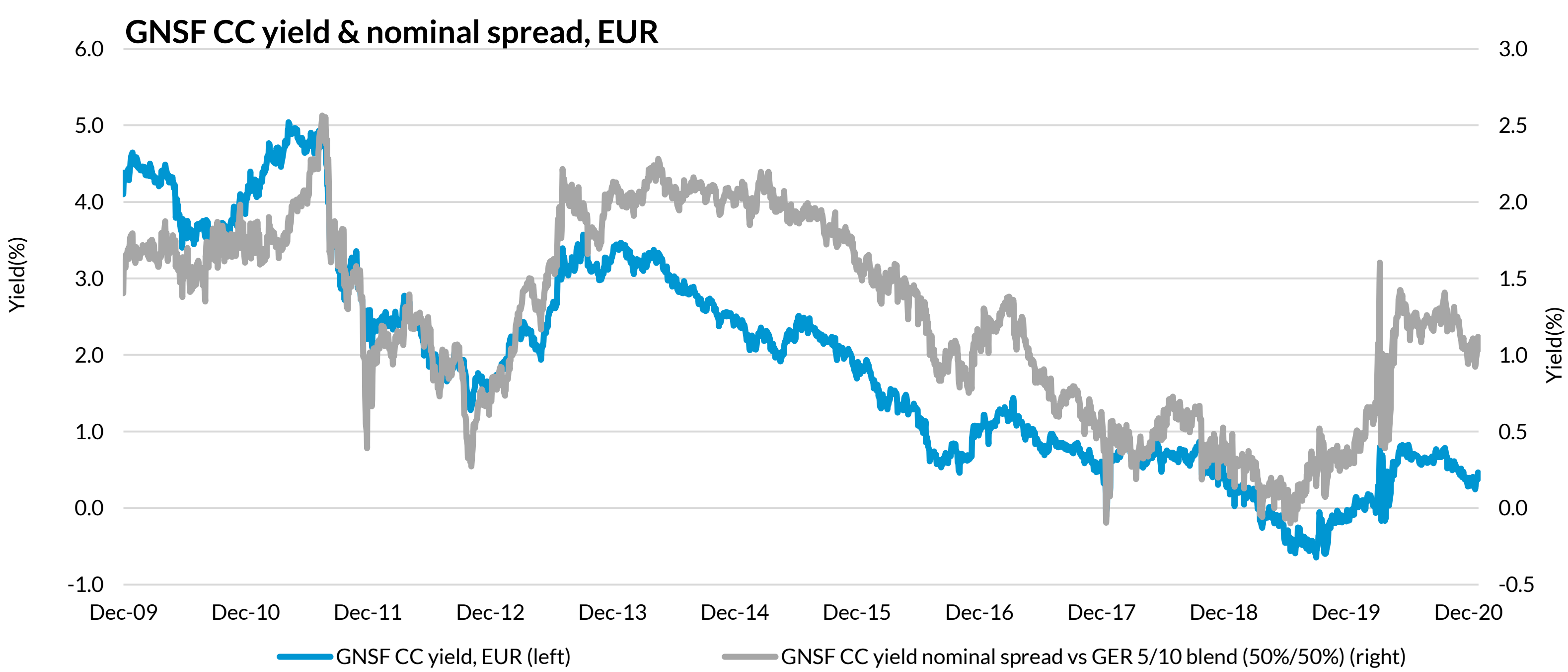
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of December 2020.*

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 December, the current coupon G2SF and GNSF hedged into euros have a 103 and 110 bp higher yield than the average of the German 5/10, respectively. This represents a 18 and 16 bp expansion for the G2SF and GNSF, respectively, since the end of November 2020.



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

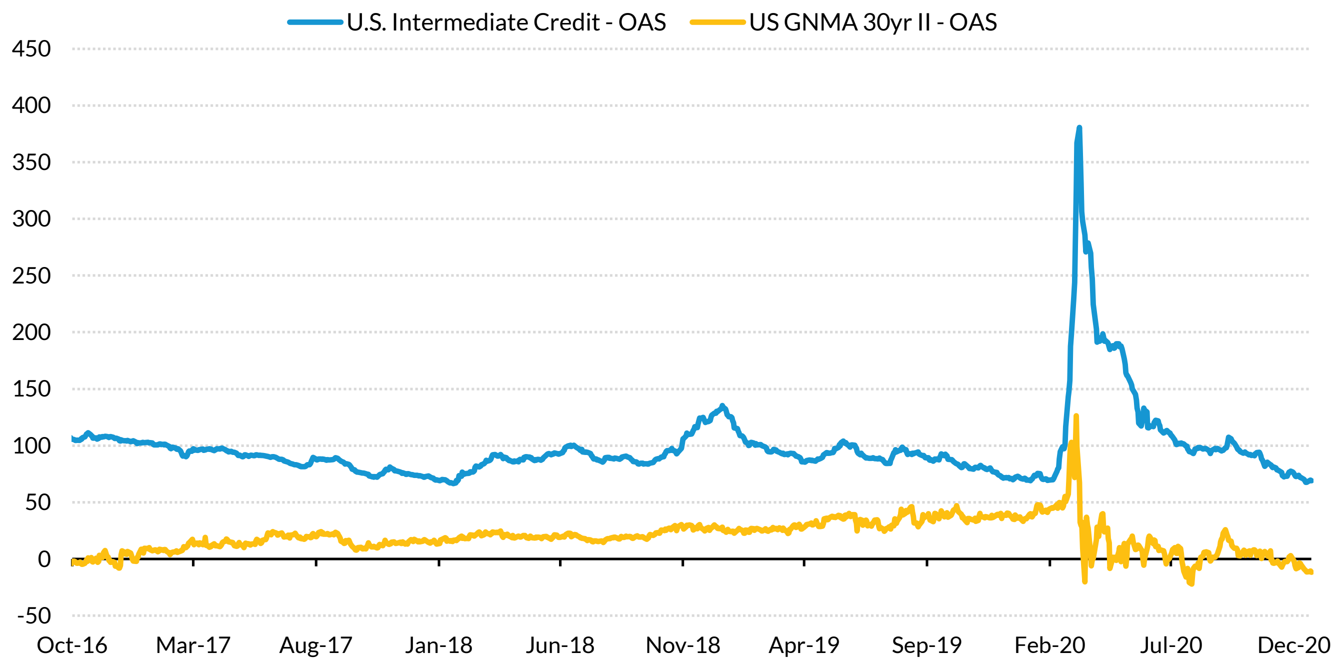


***Sources:** Bloomberg and State Street Global Advisors. **Note:** Data as of December 2020.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

After tightening steadily from mid-2016 to January 2020, 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. The OAS on intermediate credit partially recovered from its enormous widening in early 2020, while the Ginnie Mae II 30-year fell to multi-year lows. Despite this tightening, the spread between the two remains much elevated, ending December 2020 at 81 basis points in comparison to 21 basis points at the end of January 2020, reflecting heightened investor concern about corporate credit risk.

G2 30 MBS versus Intermediate Credit



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

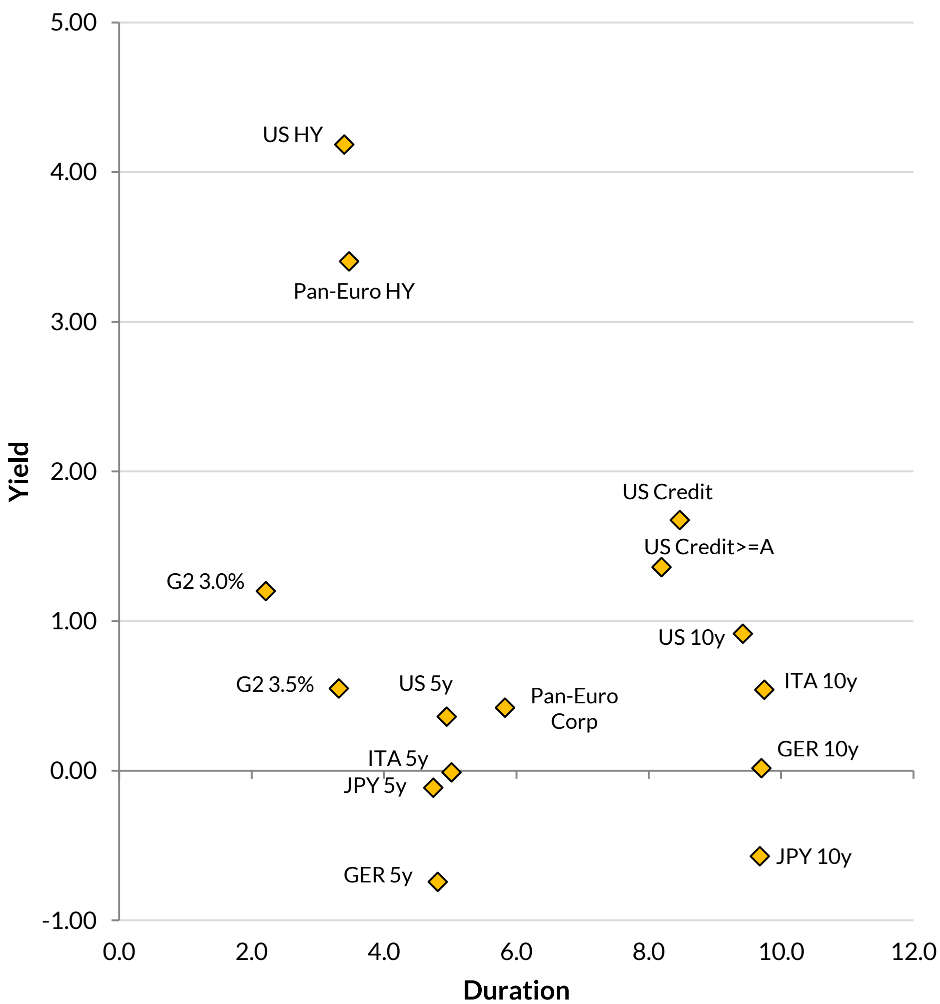
Spread between Intermediate credit and 30-year GNMA MBS OAS

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

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

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

Yield versus duration



Security	Duration	Yield
US 5y	4.9	0.36
US 10y	9.4	0.92
GNMA II 3.0%	3.3	0.55
GNMA II 3.5%	2.2	1.20
JPY 5y	4.7	-0.11
JPY 10y	9.7	0.02
GER 5y	4.8	-0.74
GER 10y	9.7	-0.57
ITA 5y	5.0	-0.01
ITA 10y	9.7	0.54
US credit	8.5	1.68
US credit >= A	8.2	1.36
US HY	3.4	4.18
Pan-Euro Corp	5.8	0.42
Pan-Euro HY	3.5	3.40

***Sources:** Bloomberg and State Street Global Advisors.* ***Note**:* *Yields are in base currency of security and unhedged. Data as of December 2020.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

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

	Average Return (Per Month)					
Time Period	**US MBS Ginnie Mae**	**US Treasury**	**US Credit Corp**	**Pan Euro Credit Corp**	**US High Yield***	**Pan Euro High Yield***
1 year	0.30	0.65	0.83	0.27	0.66	0.26
3 year	0.29	0.43	0.59	0.26	0.54	0.31
5 year	0.23	0.31	0.56	0.24	0.71	0.40
10 year	0.24	0.28	0.47	0.37	0.57	0.56

	Average Excess Return (Per Month)					
Time Period	**US MBS Ginnie Mae**	**US Treasury**	**US Credit Corp**	**Pan Euro Credit Corp**	**US High Yield***	**Pan Euro High Yield***
1 year	0.28	0.63	0.81	0.32	0.64	0.31
3 year	0.17	0.31	0.47	0.32	0.42	0.37
5 year	0.14	0.22	0.47	0.30	0.62	0.46
10 year	0.19	0.23	0.42	0.40	0.52	0.59

	Standard Deviation					
Time Period	**US MBS Ginnie Mae**	**US Treasury**	**US Credit Corp**	**Pan Euro Credit Corp**	**US High Yield***	**Pan Euro High Yield***
1 year	0.52	1.33	3.06	2.76	4.39	4.90
3 year	0.65	1.24	2.01	1.64	2.71	2.91
5 year	0.59	1.14	1.68	1.38	2.26	2.38
10 year	0.63	1.04	1.46	1.37	2.04	2.04

	Sharpe Ratio					
Time Period	**US MBS Ginnie Mae**	**US Treasury**	**US Credit Corp**	**Pan Euro Credit Corp**	**US High Yield**	**Pan Euro High Yield***
1 year	0.53	0.47	0.26	0.12	0.14	0.06
3 year	0.26	0.25	0.23	0.19	0.16	0.13
5 year	0.23	0.20	0.28	0.22	0.28	0.19
10 year	0.31	0.22	0.29	0.30	0.26	0.29

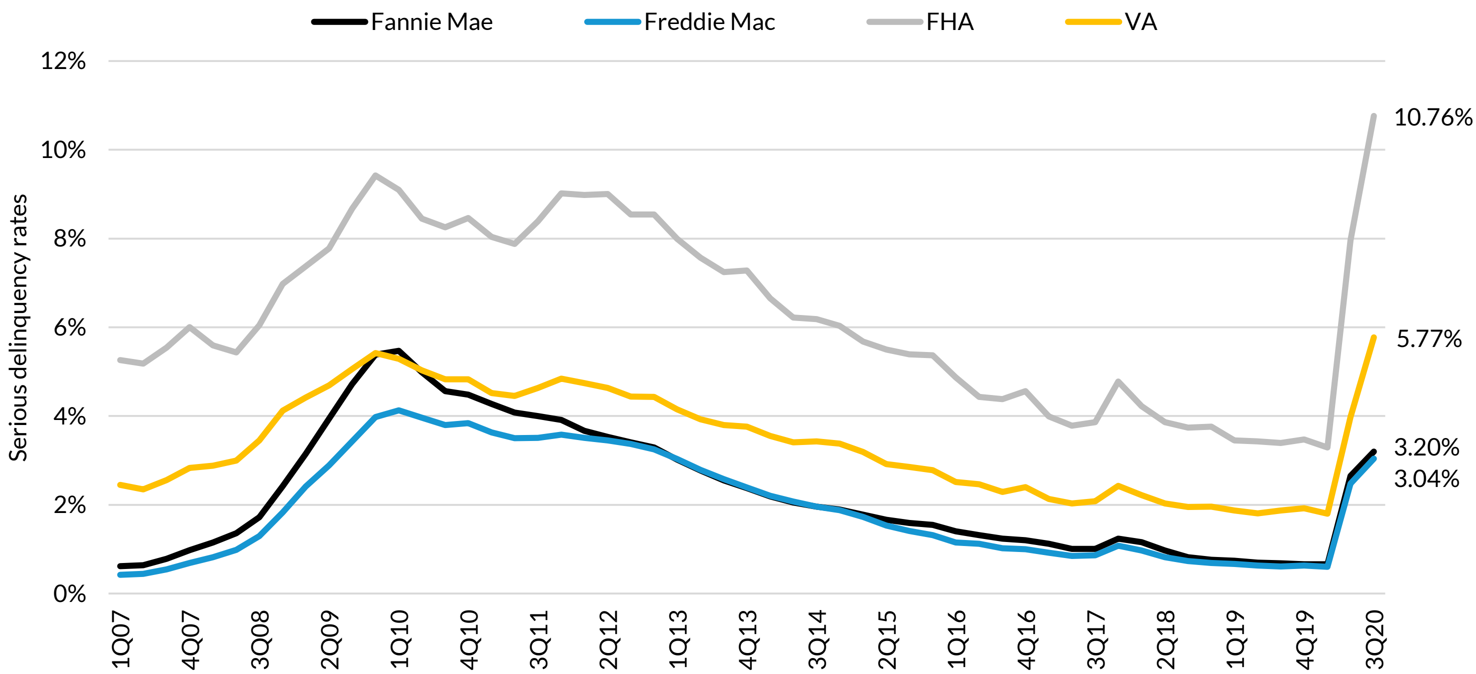
**Assumes 2% capitalization max per issuer on high yield indices*

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

State of the US Housing Market

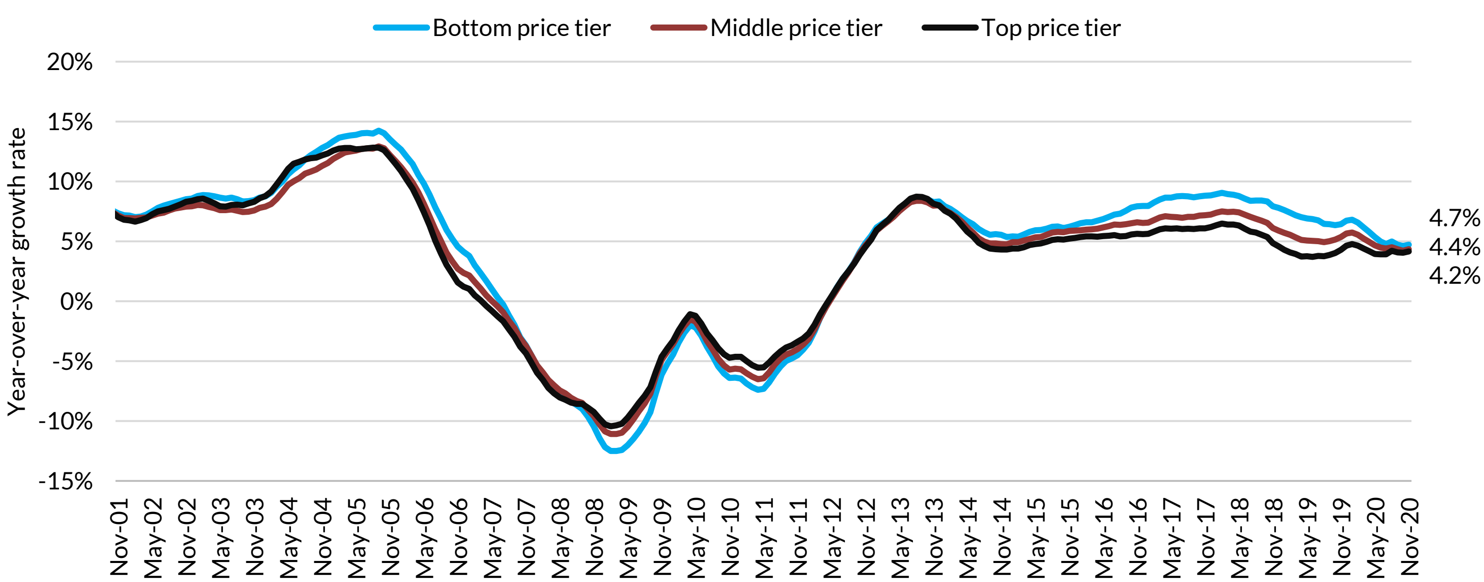
Serious delinquency rates for single-family GSE loans, FHA loans and VA loans rose in Q3 2020, reflecting the impact of the COVID-19 pandemic. These delinquency numbers include loans in COVID-19 forbearance. The bottom chart shows nationwide house prices for the bottom, middle and the top quintiles by price. House 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 4.7 percent for 12 months ended November 2020, higher than the 4.2 percent for the top end of the market. Year-over-year price growth in November was higher than in October 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 Q3 2020.*

National Year-Over-Year HPI Growth



Sources: *Black Knight and Urban Institute.* ***Note:*** *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 November 2020.*

State of the US Housing Market

Nationally, nominal home prices have increased by 60.0 percent since the trough, and now exceed their pre-crisis peak valuation on a nominal basis by 19.7 percent. The picture is very different across states, with most states well in excess of the prior peak; six states remain below their 2007 peak, with Connecticut, at 10.4 percent below peak level, the most underwater.

State	2000 to Peak	Peak to Trough	Trough to Current	HPI Changes YOY	Current HPI % Above Peak
National	74.8%	-25.2%	60.0%	4.2%	19.7%
Alabama	36.0%	-15.5%	37.0%	4.5%	15.8%
Alaska	69.3%	-3.1%	26.1%	3.2%	22.3%
Arizona	109.8%	-47.8%	93.8%	5.0%	1.1%
Arkansas	41.3%	-9.7%	29.2%	3.9%	16.6%
California	154.5%	-43.3%	97.6%	4.2%	12.1%
Colorado	40.3%	-12.9%	86.5%	4.0%	62.5%
Connecticut	92.1%	-24.7%	18.9%	3.4%	-10.4%
Delaware	94.2%	-23.4%	35.5%	4.2%	3.8%
District of Columbia	174.4%	-13.8%	62.6%	4.9%	40.2%
Florida	128.1%	-46.8%	80.7%	5.2%	-3.8%
Georgia	38.5%	-31.3%	71.4%	3.9%	17.8%
Hawaii	163.0%	-22.5%	57.8%	4.1%	22.3%
Idaho	71.9%	-28.7%	101.8%	6.8%	43.9%
Illinois	61.7%	-34.3%	40.9%	2.4%	-7.5%
Indiana	21.5%	-7.9%	41.7%	3.8%	30.4%
Iowa	28.3%	-4.7%	30.0%	2.9%	23.8%
Kansas	34.5%	-9.2%	55.7%	10.2%	41.4%
Kentucky	29.6%	-7.5%	36.5%	3.6%	26.4%
Louisiana	48.5%	-5.1%	27.2%	3.5%	20.7%
Maine	82.0%	-12.4%	54.8%	11.5%	35.6%
Maryland	129.2%	-28.6%	31.2%	3.6%	-6.3%
Massachusetts	92.2%	-22.4%	60.7%	3.8%	24.7%
Michigan	23.8%	-39.3%	81.2%	3.5%	10.1%
Minnesota	66.3%	-27.7%	61.2%	4.2%	16.6%
Mississippi	41.2%	-13.9%	36.0%	7.3%	17.1%
Missouri	42.6%	-15.3%	41.1%	3.7%	19.5%
Montana	82.3%	-11.4%	59.7%	4.5%	41.5%
Nebraska	26.7%	-6.8%	46.2%	3.4%	36.3%
Nevada	126.7%	-59.0%	129.2%	4.2%	-5.9%
New Hampshire	90.5%	-23.1%	48.1%	4.3%	13.9%
New Jersey	117.6%	-28.0%	32.0%	3.6%	-4.9%
New Mexico	66.7%	-16.4%	33.4%	6.0%	11.6%
New York	98.3%	-15.2%	47.3%	4.3%	24.9%
North Carolina	40.6%	-15.8%	43.2%	4.3%	20.5%
North Dakota	53.4%	-4.0%	59.3%	3.5%	52.9%
Ohio	21.1%	-18.3%	42.5%	3.6%	16.4%
Oklahoma	37.3%	-2.5%	25.4%	4.8%	22.3%
Oregon	81.8%	-28.0%	86.0%	3.9%	33.9%
Pennsylvania	70.1%	-11.7%	28.9%	3.0%	13.8%
Rhode Island	130.3%	-34.1%	62.1%	5.4%	6.8%
South Carolina	44.7%	-19.4%	41.8%	4.2%	14.3%
South Dakota	45.3%	-3.7%	56.5%	7.5%	50.7%
Tennessee	35.0%	-11.9%	52.6%	5.0%	34.5%
Texas	33.5%	-5.8%	56.7%	4.2%	47.6%
Utah	54.8%	-22.1%	85.3%	5.1%	44.4%
Vermont	83.5%	-7.5%	41.1%	3.9%	30.5%
Virginia	99.8%	-22.7%	32.6%	4.3%	2.4%
Washington	85.0%	-28.6%	97.5%	5.5%	41.0%
West Virginia	40.7%	-5.6%	31.8%	6.5%	24.4%
Wisconsin	44.7%	-16.3%	38.9%	2.8%	16.3%
Wyoming	77.7%	-7.2%	39.7%	5.1%	29.6%

Sources: *Black Knight and Urban Institute.* ***Note:*** *HPI data as of November 2020. 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 11/2020, the latest HPI data period.*

State of the US Housing Market

Ginnie Mae MBS constitute 25.0 percent of outstanding agency issuance by loan balance and 25.7 percent of new issuance over the past year. However, the Ginnie Mae share varies widely across states, with the share of outstanding (by loan balance) as low as 11.5 percent in the District of Columbia and as high as 46.1 percent in Mississippi. In general, the Ginnie Mae share is higher in states with lower home prices.

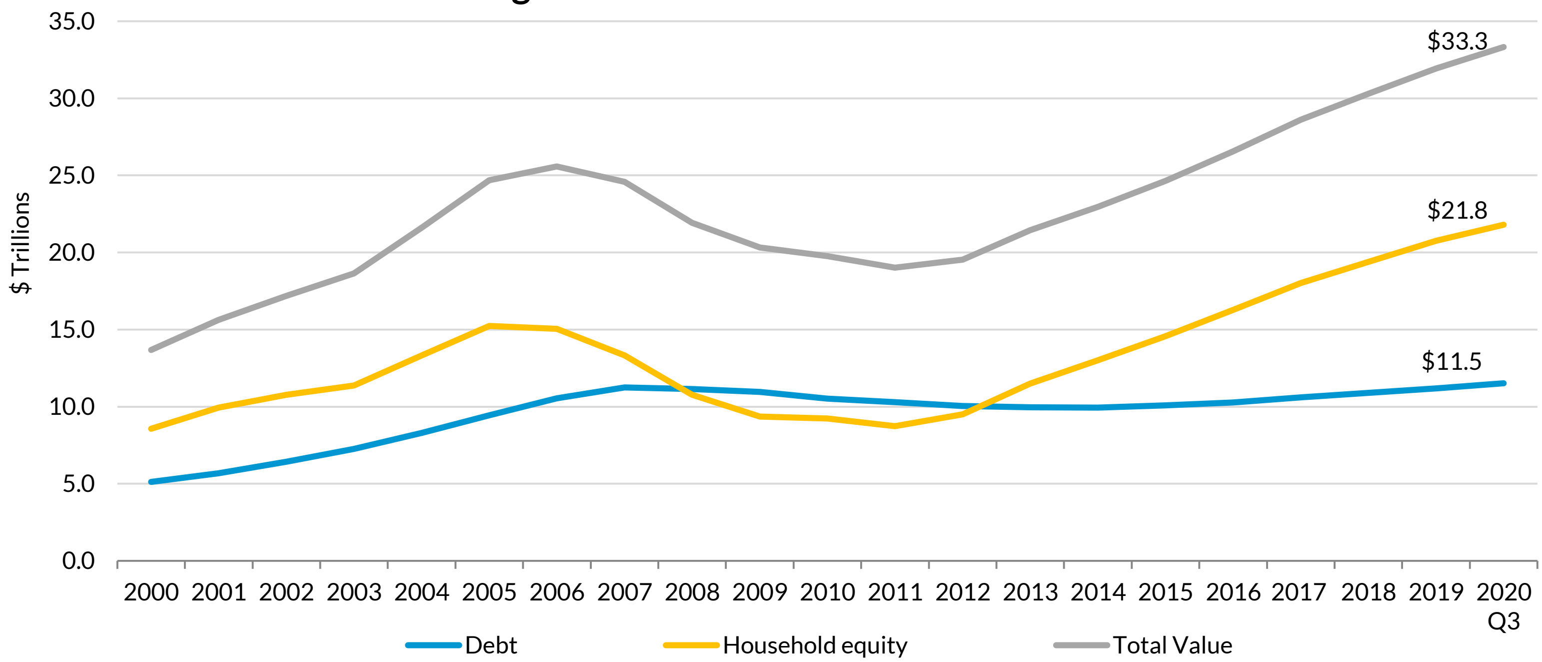
State	Agency Issuance (past 1 year)				Agency Outstanding			
	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)
National	25.7%	2,826,266	255.1	279.7	25.0%	11,147,783	165.1	202.1
Alabama	38.5%	51,982	196.7	221.4	39.3%	236,527	129.0	160.9
Alaska	47.9%	9,179	311.4	279.3	44.6%	37,525	230.6	208.2
Arizona	26.8%	105,990	249.8	256.4	23.8%	305,726	169.1	195.0
Arkansas	36.1%	27,772	168.1	200.3	38.8%	138,871	111.0	145.6
California	18.4%	258,873	393.2	388.9	15.6%	750,846	270.5	291.1
Colorado	25.3%	87,666	333.0	320.3	21.1%	232,115	229.6	247.3
Connecticut	24.8%	22,351	239.0	266.3	25.3%	107,907	180.6	195.4
Delaware	31.9%	12,440	240.6	259.2	31.8%	52,034	180.0	192.3
District of Columbia	14.1%	2,484	503.7	439.4	11.5%	9,351	298.9	325.8
Florida	36.0%	241,007	245.2	247.9	30.9%	849,352	171.8	183.3
Georgia	34.1%	129,612	218.1	251.1	33.0%	511,661	146.2	182.1
Hawaii	41.8%	13,001	554.0	441.6	25.1%	32,578	383.7	329.8
Idaho	24.9%	21,987	253.5	249.7	24.1%	75,955	162.5	188.7
Illinois	18.2%	77,489	203.3	235.9	20.7%	363,229	140.0	167.9
Indiana	27.6%	65,874	170.8	192.1	31.0%	297,274	111.9	136.0
Iowa	17.3%	17,030	172.7	196.8	21.3%	85,529	114.4	139.9
Kansas	25.6%	20,618	183.3	213.4	29.5%	102,354	119.5	149.0
Kentucky	31.0%	36,934	178.0	199.7	33.8%	167,699	121.6	141.4
Louisiana	35.8%	41,252	194.2	228.5	37.3%	190,042	137.6	166.4
Maine	25.4%	9,908	211.3	235.7	26.6%	40,180	152.9	172.7
Maryland	35.9%	81,047	323.2	314.6	32.6%	296,163	229.0	230.3
Massachusetts	15.0%	33,079	331.0	338.7	15.3%	120,599	241.2	247.7
Michigan	17.2%	62,357	173.1	204.6	20.7%	297,136	114.3	143.9
Minnesota	16.9%	40,540	231.2	247.6	18.3%	178,103	156.3	182.8
Mississippi	44.1%	23,428	178.3	204.2	46.1%	117,185	121.5	148.5
Missouri	25.5%	56,068	180.8	209.3	29.4%	259,965	120.7	148.1
Montana	24.9%	9,480	254.3	257.9	23.3%	35,841	171.0	191.9
Nebraska	24.3%	14,752	196.9	204.4	27.0%	70,750	123.3	146.8
Nevada	34.7%	49,064	286.4	268.8	28.0%	138,758	196.7	206.8
New Hampshire	23.1%	11,327	267.4	263.8	23.5%	43,233	194.9	194.3
New Jersey	20.8%	56,637	283.9	317.7	22.0%	240,823	210.0	232.9
New Mexico	37.2%	20,271	211.6	224.7	37.4%	97,605	141.2	161.1
New York	19.2%	46,525	280.3	312.4	21.5%	321,255	186.2	224.7
North Carolina	29.5%	108,070	217.9	247.5	28.2%	429,480	142.9	178.4
North Dakota	21.1%	4,183	237.3	232.2	21.5%	16,681	168.2	174.8
Ohio	26.2%	86,901	170.4	193.0	29.8%	441,896	112.2	135.2
Oklahoma	40.2%	36,148	181.9	204.4	42.4%	194,624	119.7	147.4
Oregon	21.6%	39,056	297.3	297.8	18.6%	123,283	206.0	224.9
Pennsylvania	24.4%	74,513	194.1	235.7	27.7%	409,117	134.7	166.4
Rhode Island	27.9%	9,133	264.7	260.1	28.6%	36,465	193.1	194.8
South Carolina	35.2%	63,317	219.3	234.2	32.3%	231,184	149.4	171.6
South Dakota	25.0%	7,718	209.7	218.9	28.5%	30,597	143.2	163.3
Tennessee	32.3%	71,945	220.3	243.9	32.6%	291,905	141.6	178.8
Texas	32.4%	264,642	232.9	256.3	30.3%	1,086,056	147.7	187.1
Utah	19.2%	38,939	290.6	289.0	19.5%	116,724	200.4	230.9
Vermont	19.6%	2,749	217.8	234.6	18.2%	12,688	163.8	165.3
Virginia	37.2%	125,077	320.6	320.2	33.3%	445,748	215.2	231.2
Washington	23.3%	85,042	335.7	344.9	20.7%	261,675	226.2	255.8
West Virginia	43.1%	11,980	181.4	187.3	42.1%	56,303	125.9	133.2
Wisconsin	15.1%	31,525	196.4	211.8	16.6%	132,702	133.7	150.9
Wyoming	34.4%	7,304	240.9	248.7	33.8%	26,484	178.0	186.8

Sources: *eMBS and Urban Institute.* ***Note:*** *Ginnie Mae outstanding share are based on loan balance as of November 2020. Ginnie Mae issuance is based on the last 12 months, from November 2019 to November 2020.*

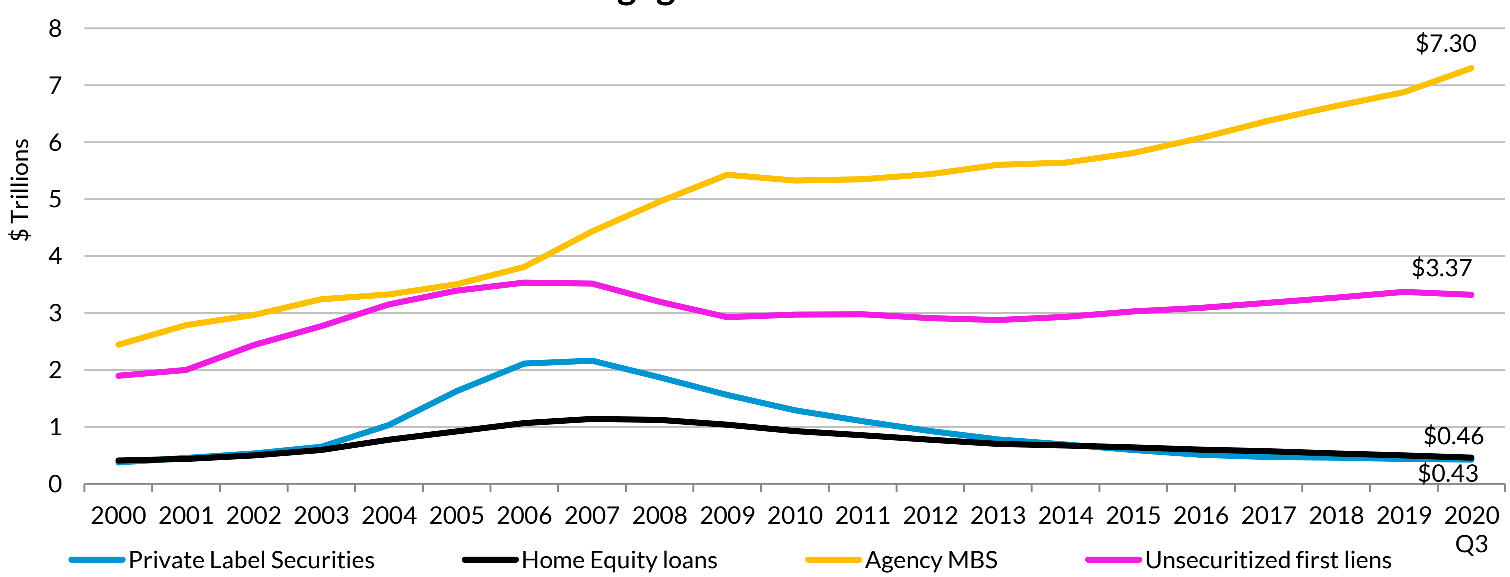
State of the US Housing Market

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

Value of the US Housing Market



Size of the US Residential Mortgage Market

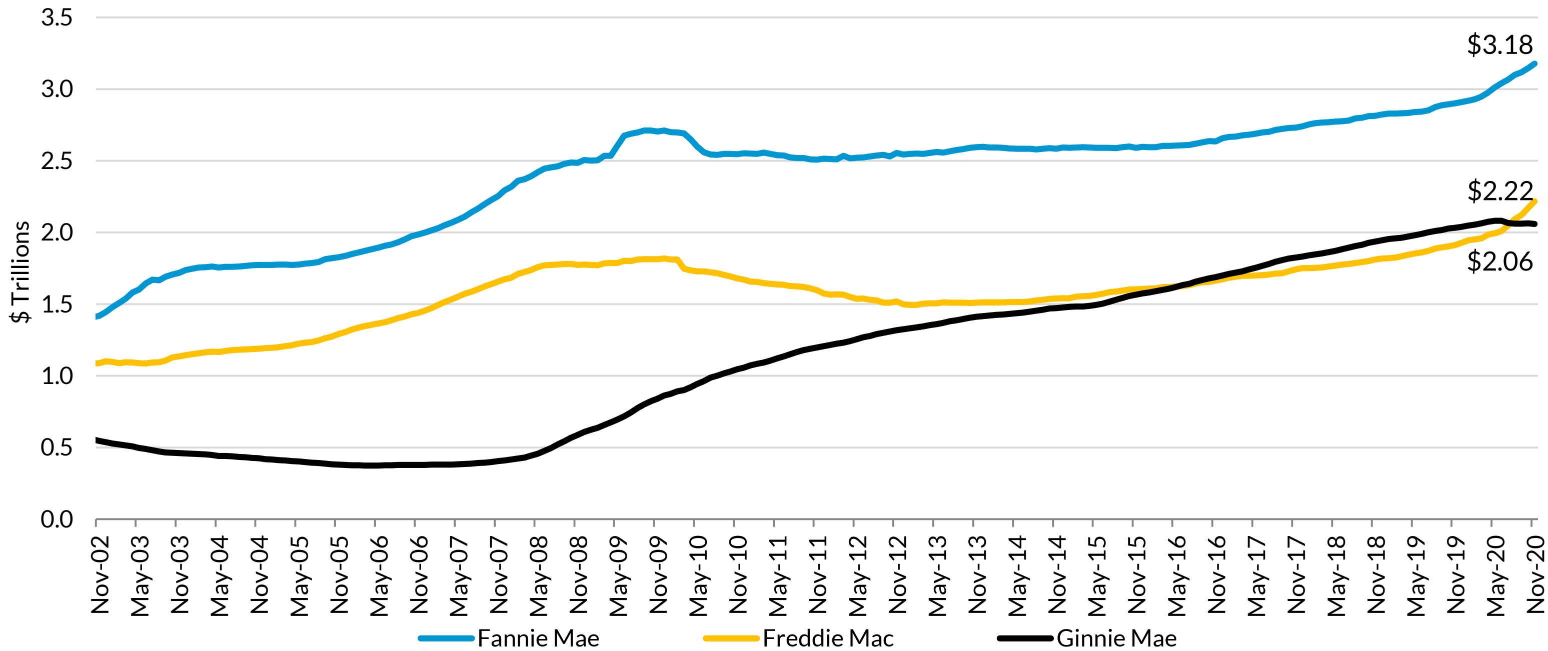


Sources: *Federal Reserve Flow of Funds, eMBS and Urban Institute. Last updated December 2020.*
Note Top: *Single family includes 1-4 family mortgages. The home equity number is grossed up from Fed totals to include the value of households and the non-financial business sector.* **Note Bottom**: *Unsecuritized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

State of the US Housing Market

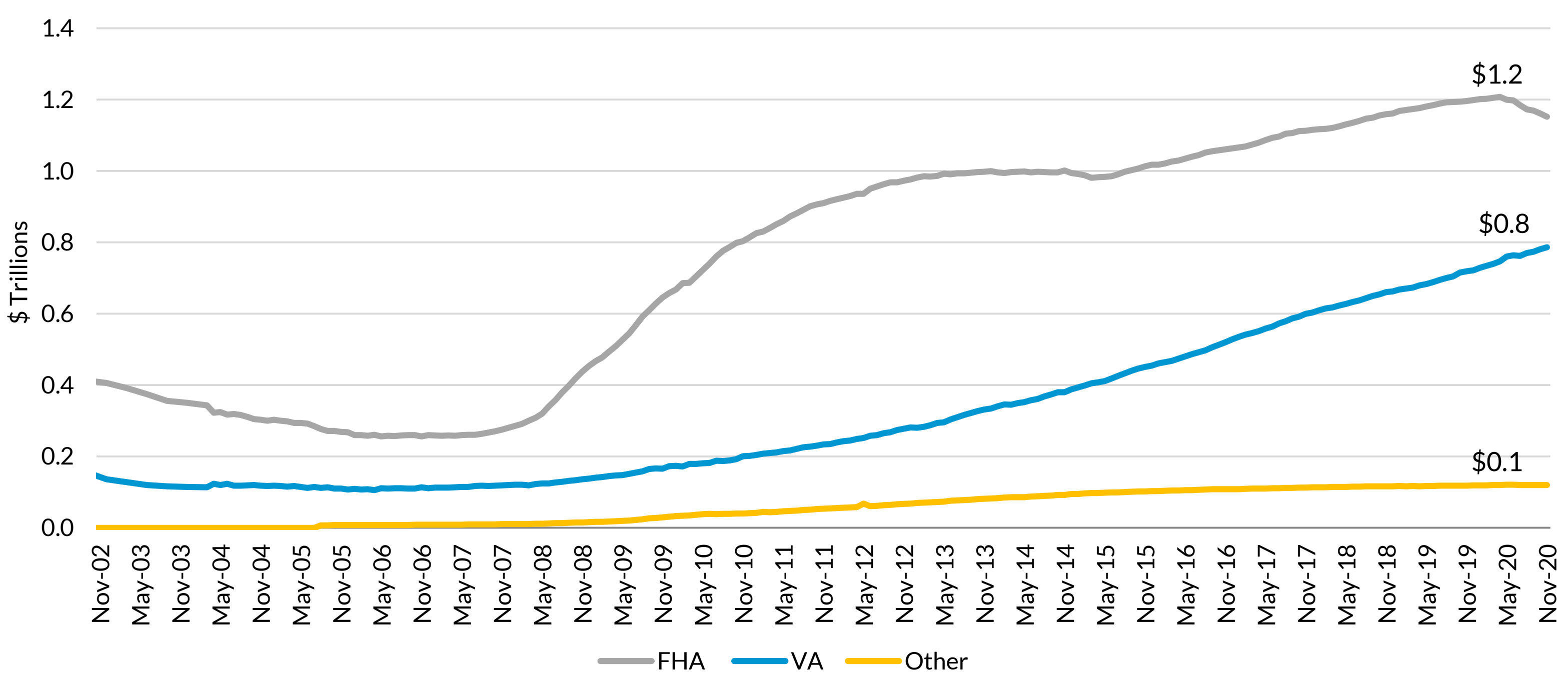
As of November 2020, outstanding securities in the agency market totaled $7.45 trillion: 42.6 percent Fannie Mae, 29.8 percent Freddie Mac, and 27.6 percent Ginnie Mae MBS. Within the Ginnie Mae market, both FHA and VA have grown very rapidly since 2009, although since May 2020, FHA has contracted. FHA comprises 56.0 percent of total Ginnie Mae MBS outstanding, while VA comprises 38.2 percent. Note that during the pandemic the GSEs have been growing faster than Ginnie Mae, courtesy of borrowers with home prices appreciating moving from FHA to conventional refinances and saving on the mortgage insurance premium.

Outstanding Agency Mortgage-Backed Securities



Sources: *eMBS and Urban Institute* **Note:** *Data as of November 2020.*

Outstanding Ginnie Mae Mortgage-Backed Securities

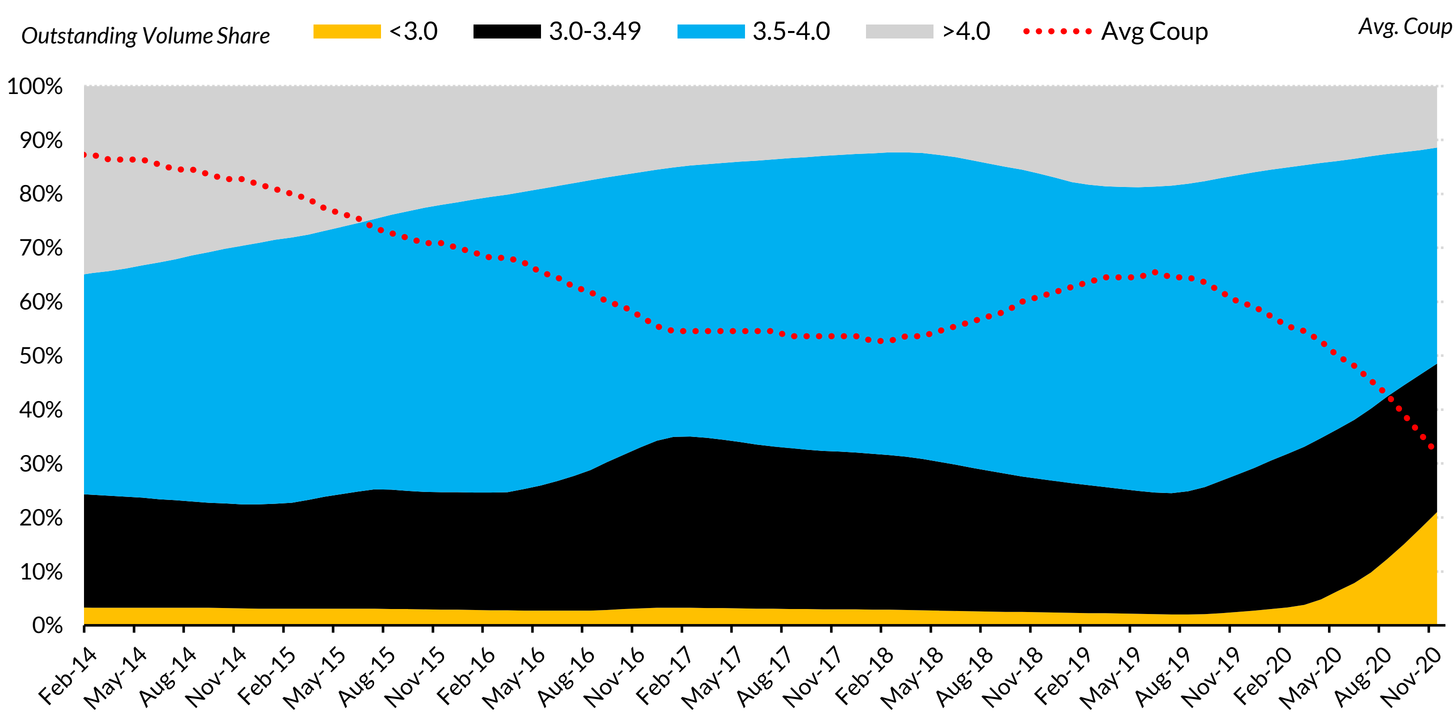


Sources: *eMBS and Urban Institute.* **Note:** *Data as of November 2020.*

State of the US Housing Market

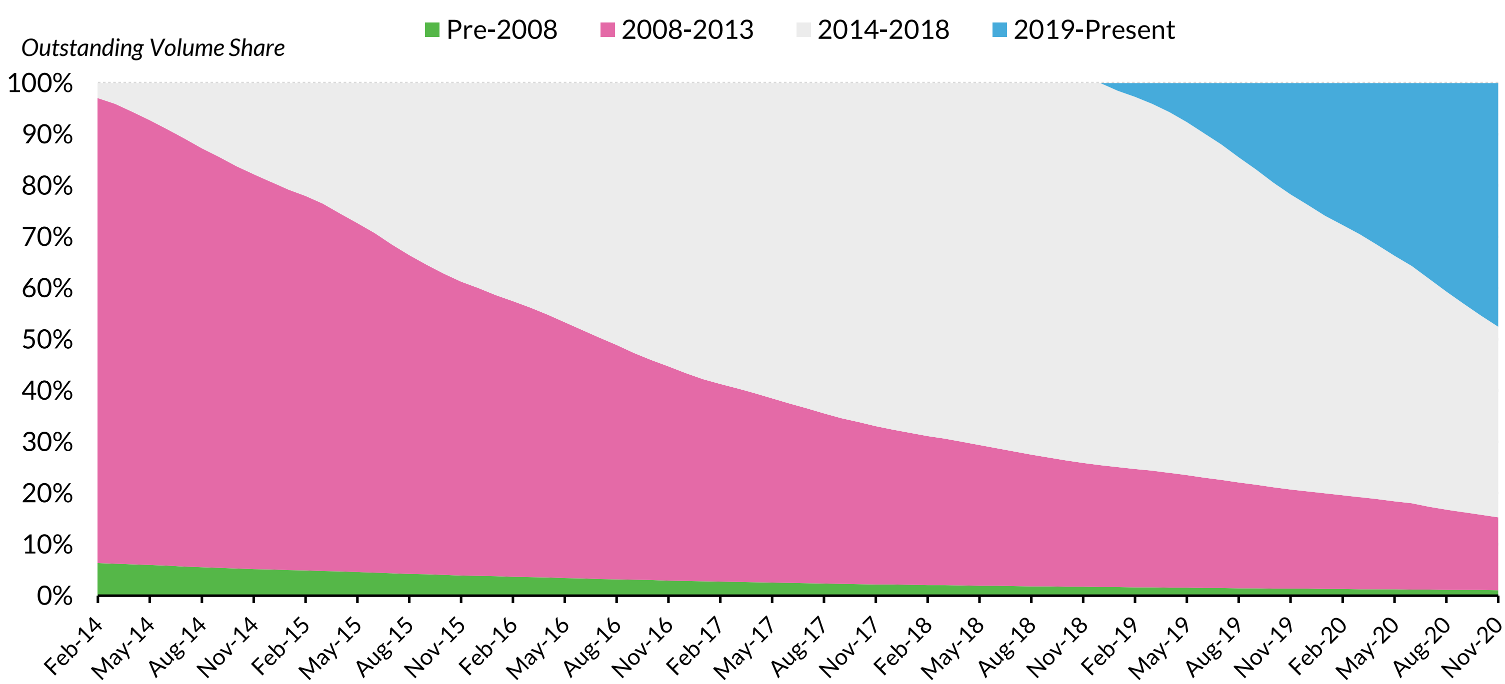
As of November 2020, the average coupon on outstanding Ginnie Mae pools was 3.35 percent, declining steadily over time. The share of outstanding MBS pools with coupons below 3.0 percent has grown exponentially in 2020 due to plummeting rates. The bottom chart shows that loans originated since 2019 now comprise a hefty 47.6 percent share 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 November 2020. 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 November 2020.*

State of the US Housing Market

In November 2020, a total of 751,552 Ginnie Mae loans were in forbearance, 23,367 of which were removed from pools (i.e. liquidated) during the month. Most liquidated loans (19,731) were FHA. Forborne loans removed from pools in November had measurably higher note rates and lower outstanding loan balances, and were more likely to be purchase loans than forborne loans that remain in pools.

All loans in forbearance – November 2020

	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	661	4.1	$173,105	77.3%	71.0%	775,085
Bank	676	4.1	$136,480	72.7%	77.2%	118,284
Nonbank	659	4.1	$179,706	78.1%	70.0%	656,801
FHA	658	4.2	$170,384	78.0%	73.2%	582,179
Bank	670	4.2	$126,024	73.8%	79.6%	86,469
Nonbank	656	4.2	$178,462	78.7%	72.2%	495,710
VA	670	3.8	$218,212	69.0%	51.6%	134,680
Bank	686	3.8	$195,627	66.4%	65.9%	24,976
Nonbank	666	3.8	$223,120	69.7%	48.4%	109,704

Loans in forbearance and removed from pools – November 2020

	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	662	4.3	$164,000	76.6%	81.6%	23,367
Bank	675	4.2	$139,942	75.1%	83.8%	12,301
Nonbank	654	4.4	$196,000	77.9%	79.6%	11,066
FHA	658	4.5	$161,976	77.4%	83.9%	19,731
Bank	671	4.3	$135,000	75.9%	85.7%	9,892
Nonbank	650	4.5	$193,000	78.8%	82.4%	9,839
VA	685	3.8	$211,000	65.0%	60.8%	2,614
Bank	689	3.9	$187,000	65.0%	67.9%	1,603
Nonbank	681	3.8	$247,000	65.1%	50.6%	1,011

Loans in forbearance that remain in pools – November 2020

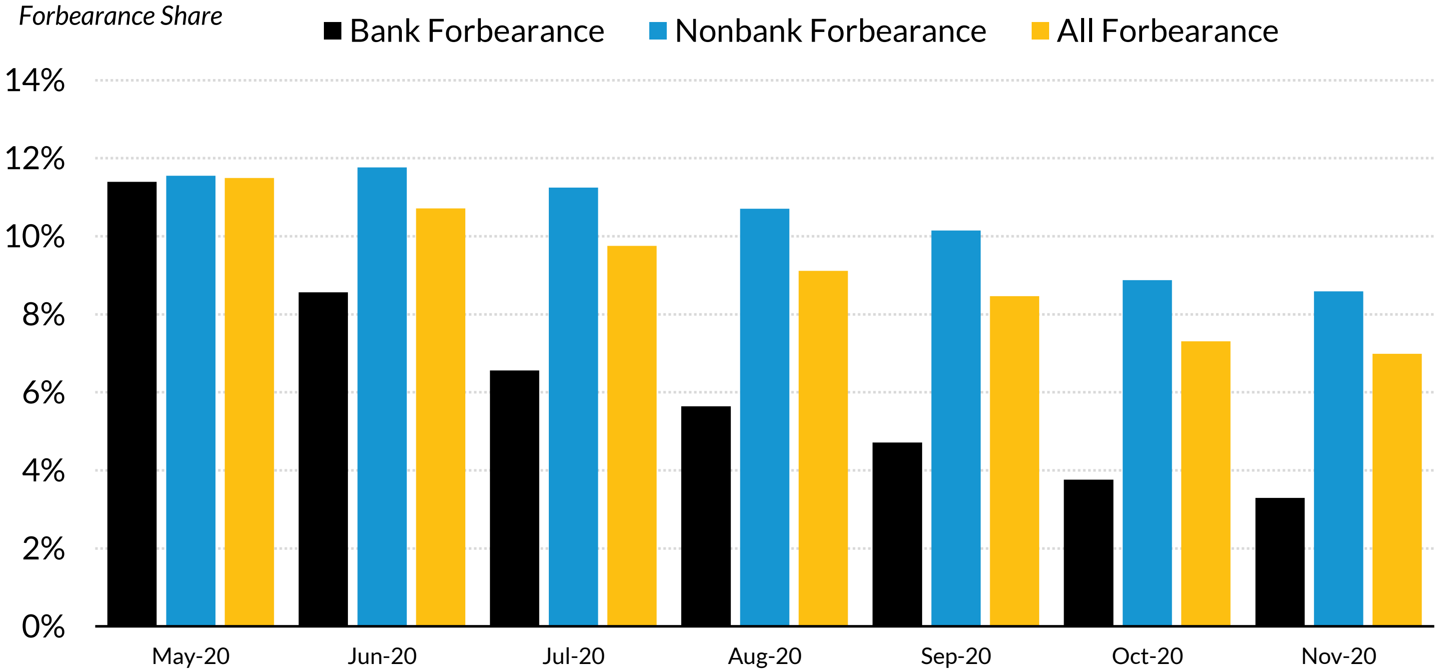
	FICO Score*	Note Rate*	Current Principal Balance Median	FTHB Share	Purchase Share	Loan Count
Ginnie	661	4.1	$173,792	77.4%	70.7%	751,552
Bank	676	4.1	$138,128	72.4%	76.8%	106,864
Nonbank	659	4.1	$179,650	78.2%	69.9%	644,688
FHA	658	4.2	$171,100	78.0%	72.9%	562,294
Bank	669	4.2	$126,880	73.5%	79.2%	77,415
Nonbank	657	4.1	$178,450	78.7%	72.0%	484,879
VA	670	3.8	$218,721	69.1%	51.4%	132,053
Bank	686	3.8	$197,482	66.5%	65.8%	23,369
Nonbank	666	3.8	$223,039	69.8%	48.3%	108,684

Sources: *eMBS and Urban Institute.* **Note**: *Data as of November 2020. *Averages weighted by remaining principal balance of loans.*

State of the US Housing Market

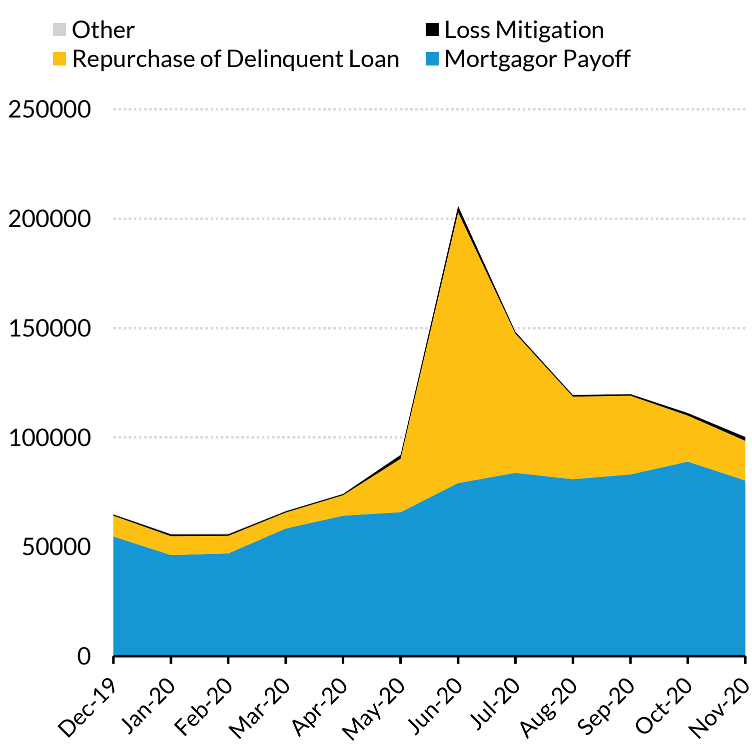
The share of Ginnie Mae loans in forbearance is higher for nonbank issuers than for bank issuers for two reasons: (1) more recent origination is more likely to be forborne and comprises a larger share of the non-bank servicing portfolio, and (2) banks have been more aggressive in buying forborne loans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



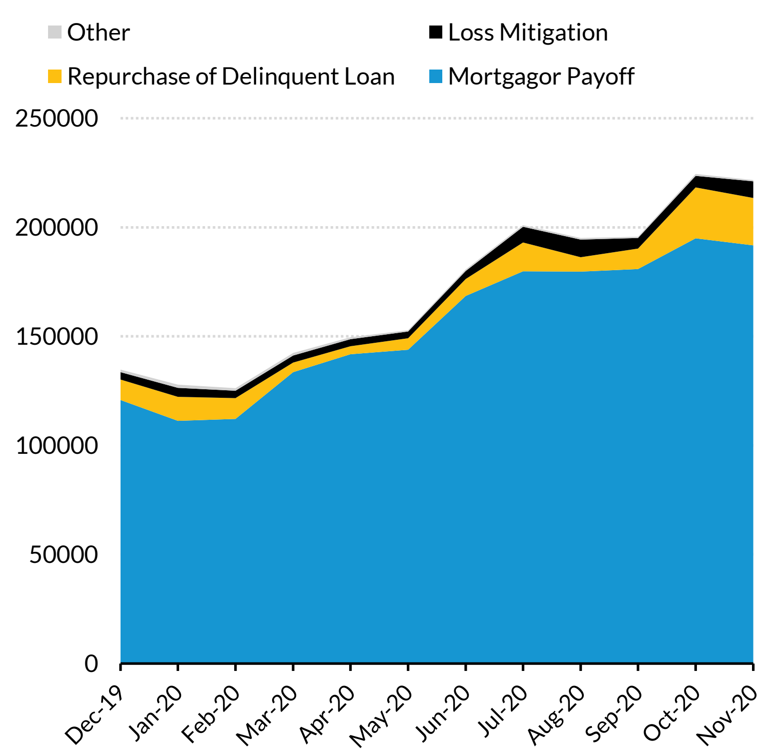
Sources: *eMBS and Urban Institute.* **Note:** *Data as of November 2020.*

Number of Loans Removed from Pools: Bank Issuers



Sources: *eMBS and Urban Institute.* **Note:** *Data as of November 2020.*

Number of Loans Removed from Pools: Nonbank Issuers

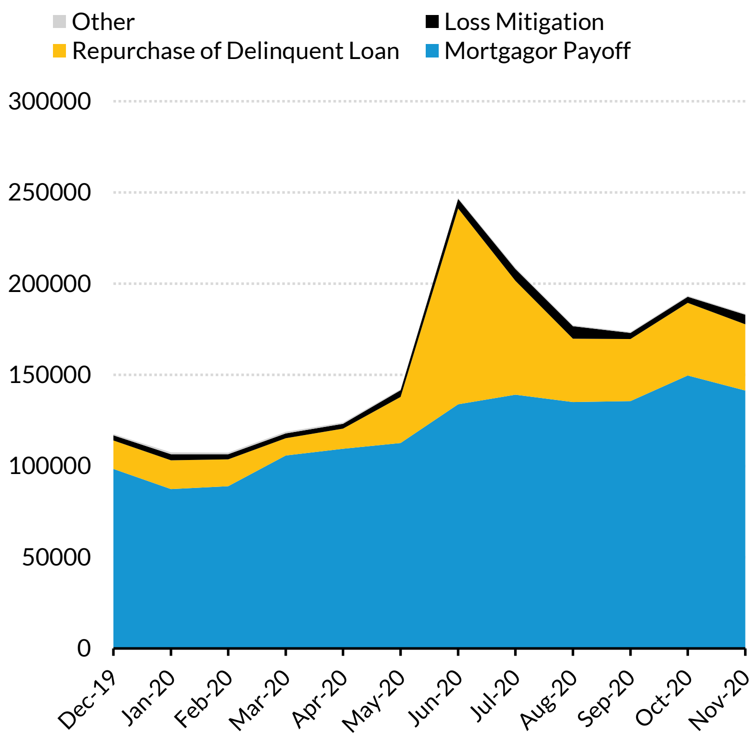


Sources: *eMBS and Urban Institute.* **Note:** *Data as of November 2020.*

State of the US Housing Market

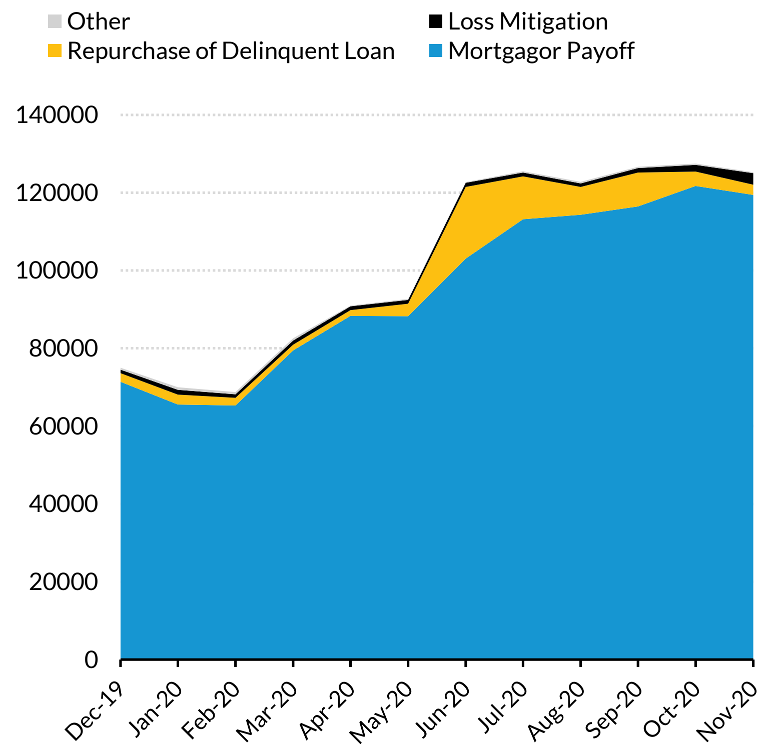
Ginnie Mae delinquent loans bought out of pools are more likely to be FHA than VA (top charts, yellow areas) and more likely to be higher coupons (bottom chart). In November 2020, 36,314 FHA and 2,632 VA loans were bought out. (These counts include all delinquent buyouts, regardless of forbearance status). 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



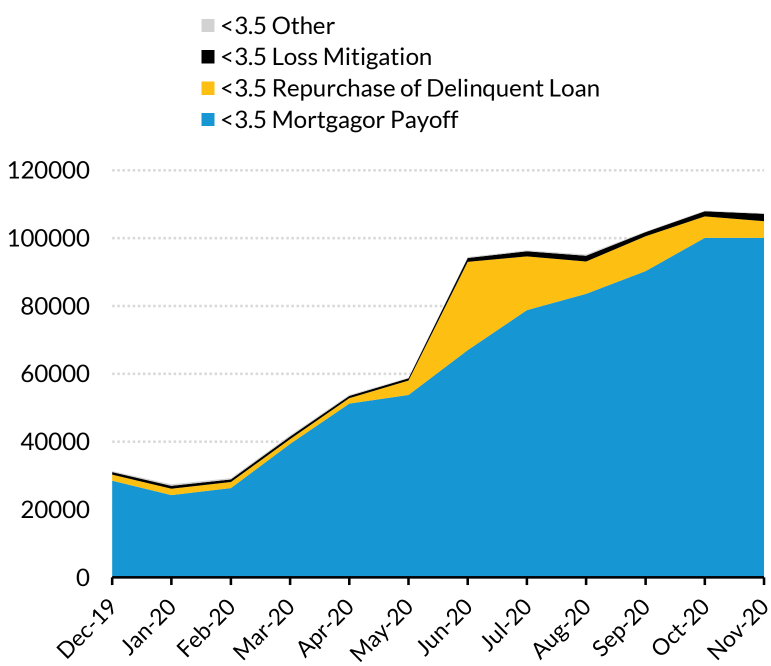
Sources: *eMBS and Urban Institute.* ***Note:*** *Data as of November 2020.*

Number of Loans Removed from Pools: VA

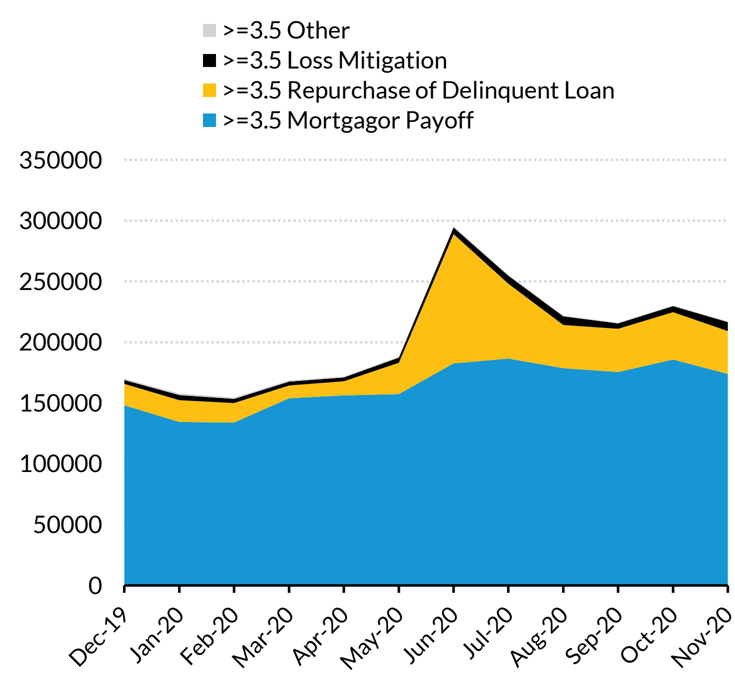


Sources: *eMBS and Urban Institute.* ***Note:*** *Data as of November 2020.*

Number of Loans Removed from Pools by Coupon



Sources: *eMBS and Urban Institute.* ***Note:*** *Data as of November 2020.*

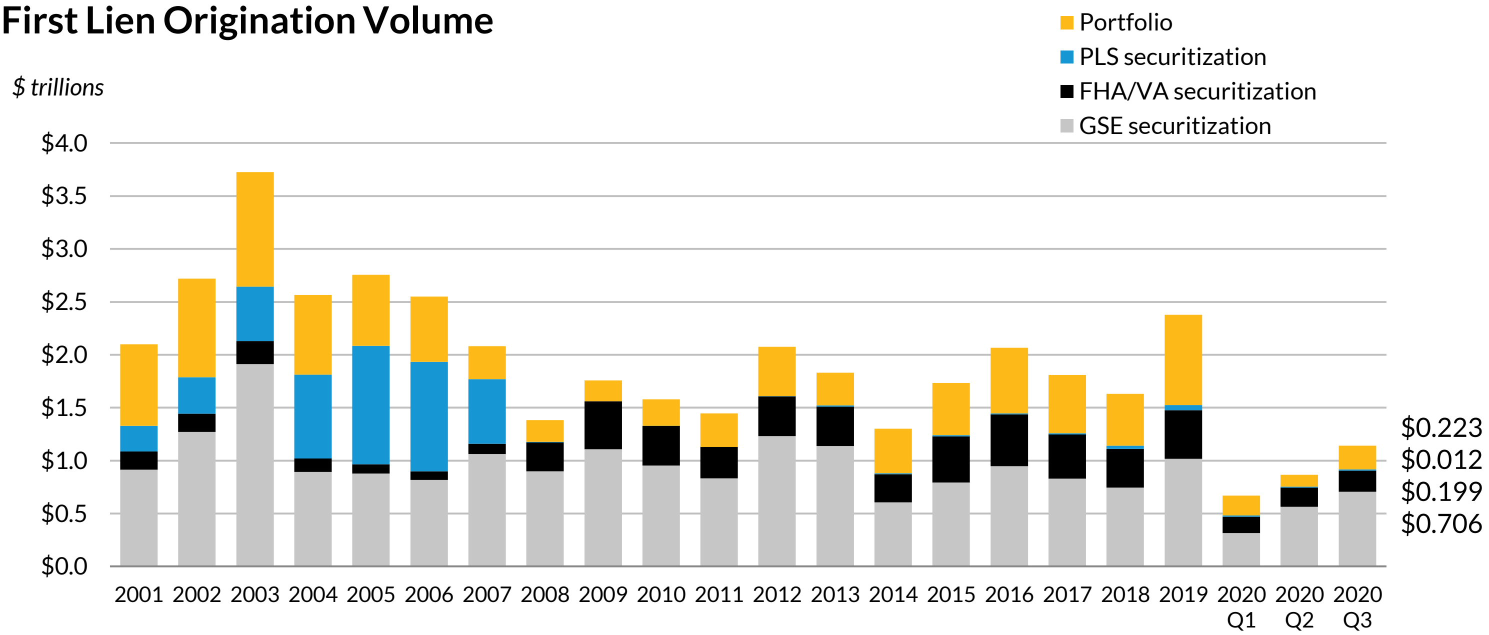


Sources: *eMBS and Urban Institute.* ***Note:*** *Data as of November 2020.*

State of the US Housing Market

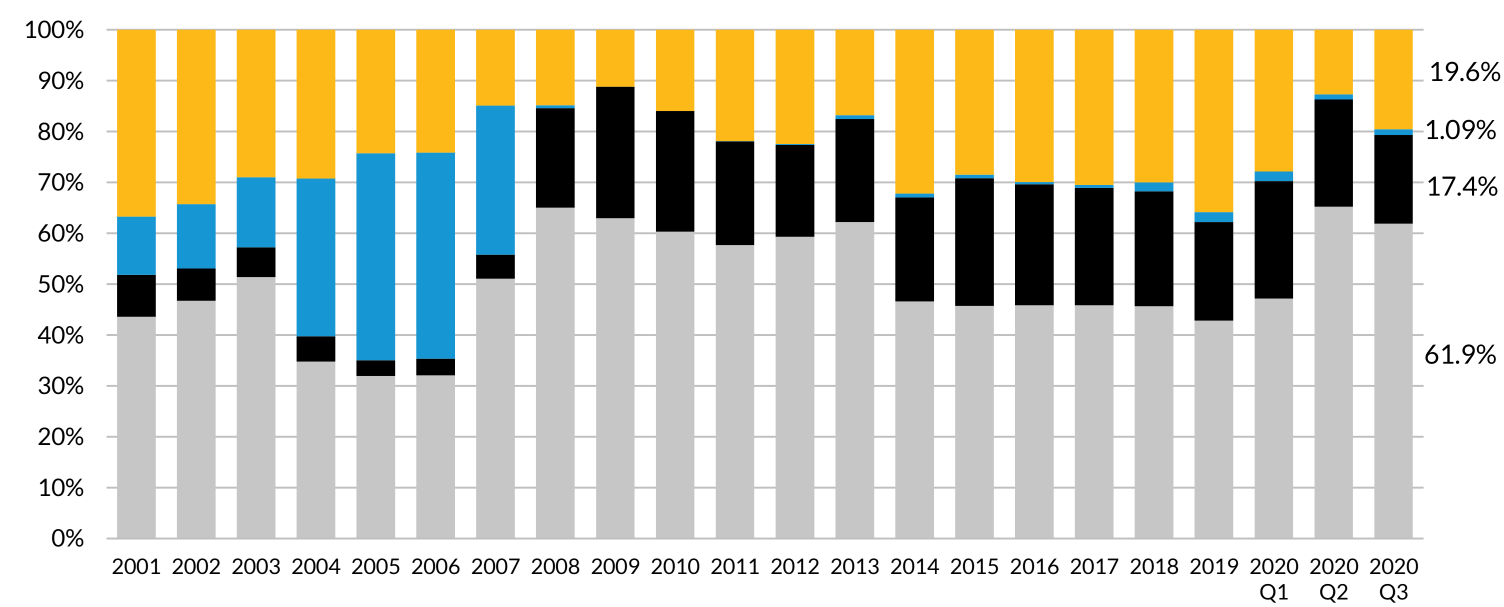
In the third quarter of 2020, first lien originations totaled $1.14 trillion, up from Q3 2019 volume of $700 billion. The share of portfolio originations was 19.6 percent in Q3 2020, a significant decline from the 33.3 percent share in the same period of 2019. The Q3 2020 GSE share was up significantly at 61.9 percent, compared to 45.3 percent in Q3 2019. The FHA/VA share fell to 17.4 percent, down slightly compared to 19.5 percent last year. The PLS share was 1.1 percent in Q3 2020, down from 1.8 percent one year ago, and a fraction of its share in the pre-bubble years. The smaller share of portfolio and PLS in Q3 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. Total origination volume added up to $2.7 trillion in the first three quarters of 2020—these three quarters alone were higher than any year since 2003, when originations exceeded $3.5 trillion.

First Lien Origination Volume



Sources: *Inside Mortgage Finance and Urban Institute.* ***Note:*** *Data as of Q3 2020.*

First Lien Origination Share



Sources: *Inside Mortgage Finance and Urban Institute.* ***Note:*** *Data as of Q3 2020.*

US Agency Market, Originations

Agency gross issuance in the first eleven months of 2020 was very strong at $2.85 trillion, already surpassing every full year of agency origination in the 21st century, including the previous high of $2.09 trillion in 2003. On an annualized basis, we expect 2020 to finish at about $3.11 trillion, as compared with the 2019 full year volume of $1.55 trillion. Compared to the same 11-month period of 2019, agency gross issuance was up 105.8 percent. Ginnie Mae gross issuance was up by 53.2 percent and GSE gross issuance was up by 131.7 percent. Within the Ginnie Mae market, FHA was up by 23.4 percent and VA origination was up by 88.9 percent.

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 YTD	$1,212.6	$937.4	$2,150.0	$698.6	$2,848.6
2020 % Change YOY	126.5%	138.7%	131.7%	53.2%	105.8%
2020 Ann.	$1,322.8	$1,022.6	$2,345.5	$762.1	$3,107.5

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 YTD	$297.5	$378.3	$22.7	$698.6
2020 % Change YOY	23.4%	88.9%	56.6%	53.2%
2020 Ann.	$324.6	$412.7	$24.7	$762.1

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 November 2020.*

US Agency Market, Originations

The first eleven months of 2020 have been very robust for agency net issuance, with $575.1 billion of net new supply, up 122.3 percent compared with the same period of 2019. 2020 YTD Ginnie Mae net issuance is $18.2 billion, comprising 3.2 percent of total agency net issuance. This is down substantially from 2019 levels, reflecting a contraction in FHA securities outstanding.

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 YTD	$266.5	$290.5	$556.9	$18.2	$575.1
2020 % Change YOY	244.4%	212.2%	226.8%	-79.4%	122.3%
2020 Ann.	$290.7	$316.9	$607.6	$19.8	$627.4

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 YTD	-$47.2	$64.1	$1.3	$18.2
2020 % Change YOY	-246.1%	17.6%	-8.3%	-79.4%
2020 Ann.	-$51.5	$70.0	$1.4	$19.8

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 November 2020.*

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 November 2020 gross agency issuance of $356.5 billion is the highest single monthly issuance on record, significantly higher than the same month in 2019, as lower rates gave borrowers a stronger incentive to refinance.

Monthly Agency Issuance

	Gross Issuance				Net Issuance			
Date	Fannie Mae	Freddie Mac	Ginnie Mae	Total	Fannie Mae	Freddie Mac	Ginnie Mae	Total
Jan-17	$55.6	$38.5	$42.6	$136.6	$8.5	$10.7	$10.3	$29.5
Feb-17	$37.6	$27.4	$33.1	$98.1	$2.5	$6.5	$9.4	$18.5
Mar-17	$39.5	$24.4	$31.3	$95.2	$9.7	$6.2	$9.7	$25.6
Apr-17	$39.3	$21.2	$36.4	$97.0	$3.3	$0.4	$11.7	$15.4
May-17	$40.3	$22.6	$36.4	$99.3	$7.7	$2.7	$13.3	$23.8
Jun-17	$45.7	$25.1	$39.9	$110.7	$7.9	$2.4	$13.3	$23.5
Jul-17	$45.3	$27.6	$40.6	$113.5	$5.6	$3.5	$12.3	$21.5
Aug-17	$49.1	$29.3	$42.8	$121.1	$12.0	$6.7	$15.4	$34.1
Sep-17	$47.3	$27.9	$40.2	$115.5	$7.7	$3.8	$10.6	$22.0
Oct-17	$42.9	$34.6	$38.4	$115.9	$5.5	$12.5	$11.0	$28.9
Nov-17	$43.5	$37.2	$37.8	$118.5	$3.9	$13.6	$8.3	$25.8
Dec-17	$45.3	$30.0	$36.2	$111.5	$9.2	$8.1	$7.0	$24.4
Jan-18	$47.4	$21.4	$35.2	$104.0	$12.1	$0.2	$7.7	$20.0
Feb-18	$40.3	$21.5	$31.9	$93.7	$8.3	$2.2	$7.1	$17.6
Mar-18	$35.6	$21.3	$29.0	$85.9	$4.9	$3.0	$6.3	$14.1
Apr-18	$36.3	$26.2	$32.7	$95.2	$1.7	$6.0	$8.8	$16.5
May-18	$38.9	$27.5	$33.7	$100.1	$5.1	$7.2	$10.5	$22.8
Jun-18	$38.2	$28.8	$35.6	$102.5	$2.5	$6.8	$10.3	$19.6
Jul-18	$40.3	$26.2	$35.6	$102.1	$4.2	$3.7	$10.4	$18.3
Aug-18	$50.4	$29.9	$37.5	$117.8	$15.8	$7.9	$12.5	$36.1
Sep-18	$41.8	$30.1	$34.8	$106.6	$5.9	$6.2	$9.0	$21.1
Oct-18	$39.8	$27.4	$33.2	$100.3	$9.7	$7.1	$11.4	$28.2
Nov-18	$35.1	$30.1	$32.4	$97.6	$3.6	$11.0	$9.8	$24.4
Dec-18	$36.9	$23.9	$28.4	$89.1	$8.2	$6.4	$8.2	$22.8
Jan-19	$33.3	$19.2	$29.0	$81.6	$5.9	$2.5	$9.2	$17.6
Feb-19	$27.3	$19.9	$23.5	$70.7	$1.4	$3.4	$4.6	$9.3
Mar-19	$29.6	$27.3	$26.6	$83.5	$1.8	$10.3	$5.6	$17.6
Apr-19	$33.1	$30.8	$32.9	$96.8	$1.3	$10.8	$8.3	$20.4
May-19	$44.5	$34.3	$38.8	$117.6	$6.7	$9.8	$9.4	$26.0
Jun-19	$44.6	$34.0	$43.3	$121.9	$1.9	$5.9	$9.0	$16.8
Jul-19	$51.7	$36.9	$45.9	$134.5	$10.9	$10.1	$11.0	$32.0
Aug-19	$71.1	$50.4	$51.2	$172.6	$20.8	$17.1	$8.7	$46.6
Sep-19	$67.1	$43.0	$52.0	$162.1	$14.1	$7.5	$6.5	$28.0
Oct-19	$65.0	$46.2	$58.4	$169.6	$7.4	$7.1	$11.9	$26.5
Nov-19	$68.1	$50.7	$54.3	$173.1	$5.2	$8.6	$4.1	$18.0
Dec-19	$62.1	$52.5	$52.7	$167.3	$10.1	$17.3	$7.4	$34.7
Jan-20	$61.7	$51.4	$56.0	$169.0	$9.1	$16.5	$8.6	$34.2
Feb-20	$56.5	$39.5	$51.2	$147.2	$9.4	$7.9	$7.1	$24.4
Mar-20	$69.5	$41.1	$53.0	$163.9	$17.9	$6.3	$8.8	$33.0
Apr-20	$101.6	$76.3	$61.4	$239.3	$30.5	$27.5	$10.2	$68.2
May-20	$124.3	$70.6	$60.8	$255.7	$35.2	$8.2	$5.7	$49.1
Jun-20	$118.9	$78.1	$58.5	$255.4	$30.0	$15.9	$1.3	$47.2
Jul-20	$125.0	$108.1	$66.5	$299.5	$23.4	$38.0	-$15.5	$45.9
Aug-20	$137.6	$113.6	$73.6	$324.8	$34.2	$43.4	-$4.1	$73.5
Sep-20	$122.9	$102.1	$72.4	$297.5	$16.5	$29.9	$1.0	$47.5
Oct-20	$142.3	$124.8	$72.6	$339.7	$28.9	$48.3	-$0.3	$76.9
Nov-20	$152.4	$131.5	$72.6	$356.5	$31.4	$48.4	-$4.5	$75.3

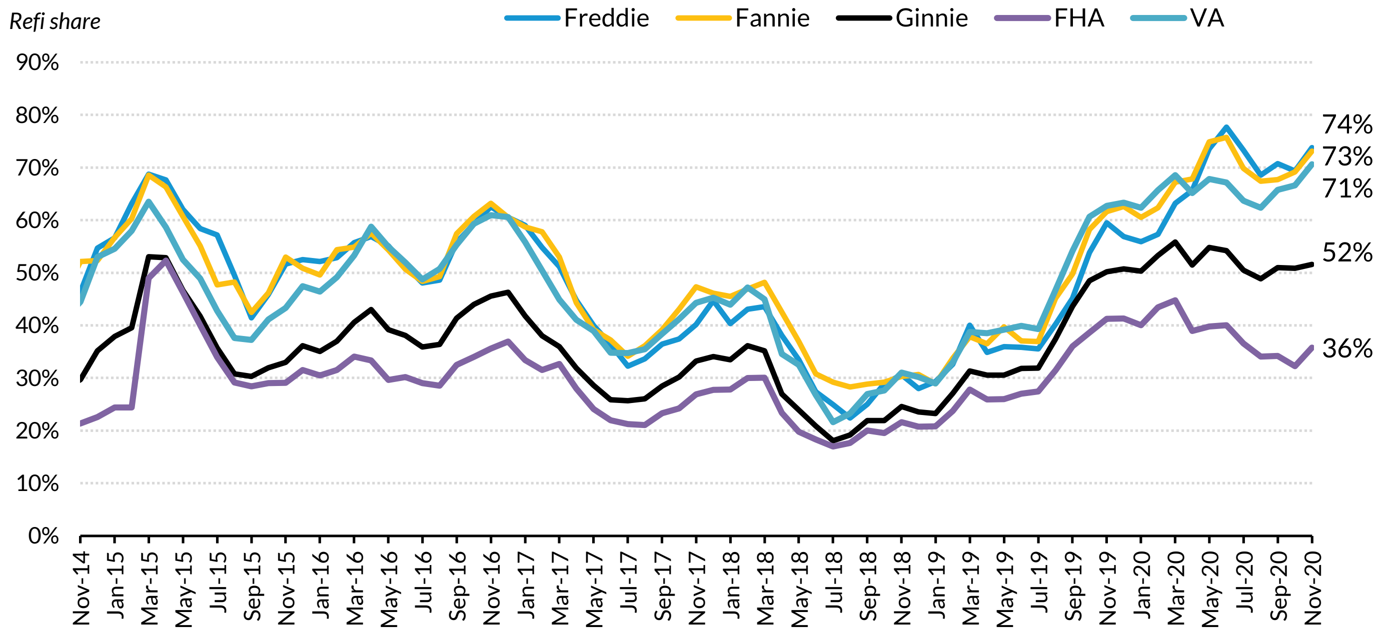
Sources: *eMBS and Urban Institute.*

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 November 2020.*

US Agency Market, Originations

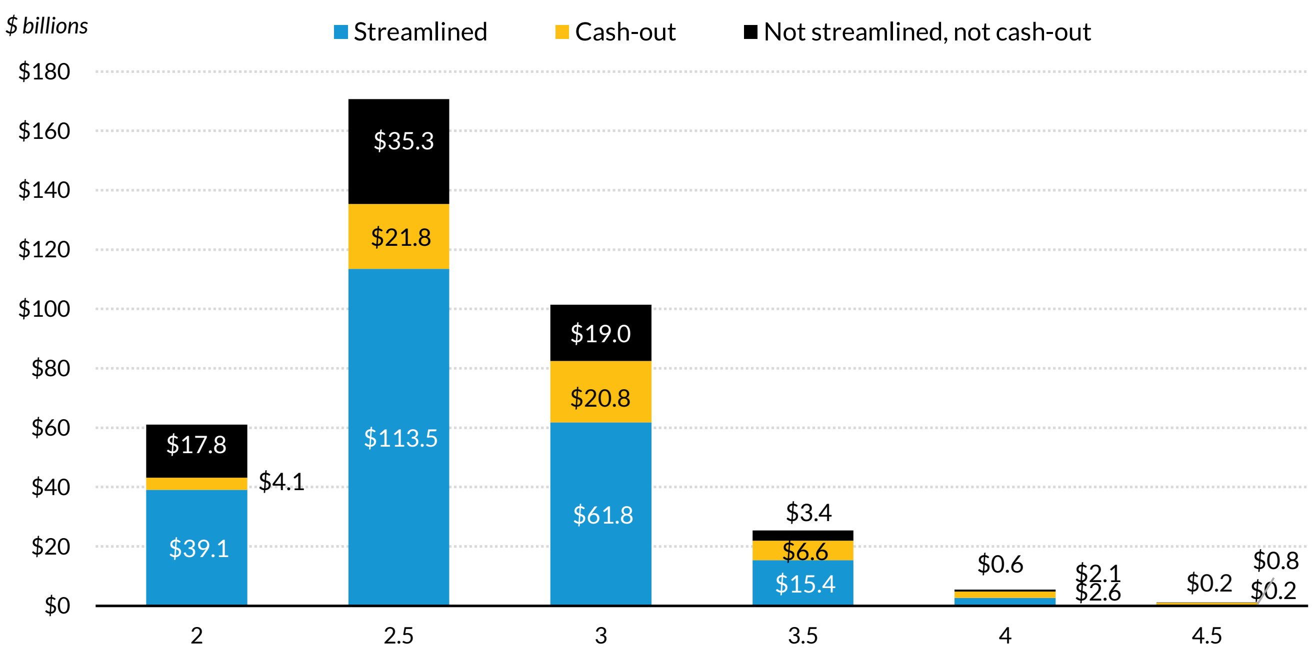
The FHA refinance share stood at 35.8 percent in November 2020, below the 73.8 percent refi share for Freddie originations, the 73.1 percent share for Fannie, and the 70.6 percent share for the VA. The total Ginnie refinance share stood at 51.6 percent in November. Refinances as a share of all originations grew during 2019 and 2020 as interest rates fell. Refinances have declined slightly from their peaks but remain at high levels, as interest rates have stabilized at generational lows. The bottom section shows that nearly all of 2020 YTD Ginnie Mae refinances, predominantly streamlined, were securitized in lower coupon pools. Cash-out refinances are typically securitized in higher coupons, but their volume has fallen sharply 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 November 2020.*

Ginnie Mae Refinance Issuance by Type: 2020 YTD

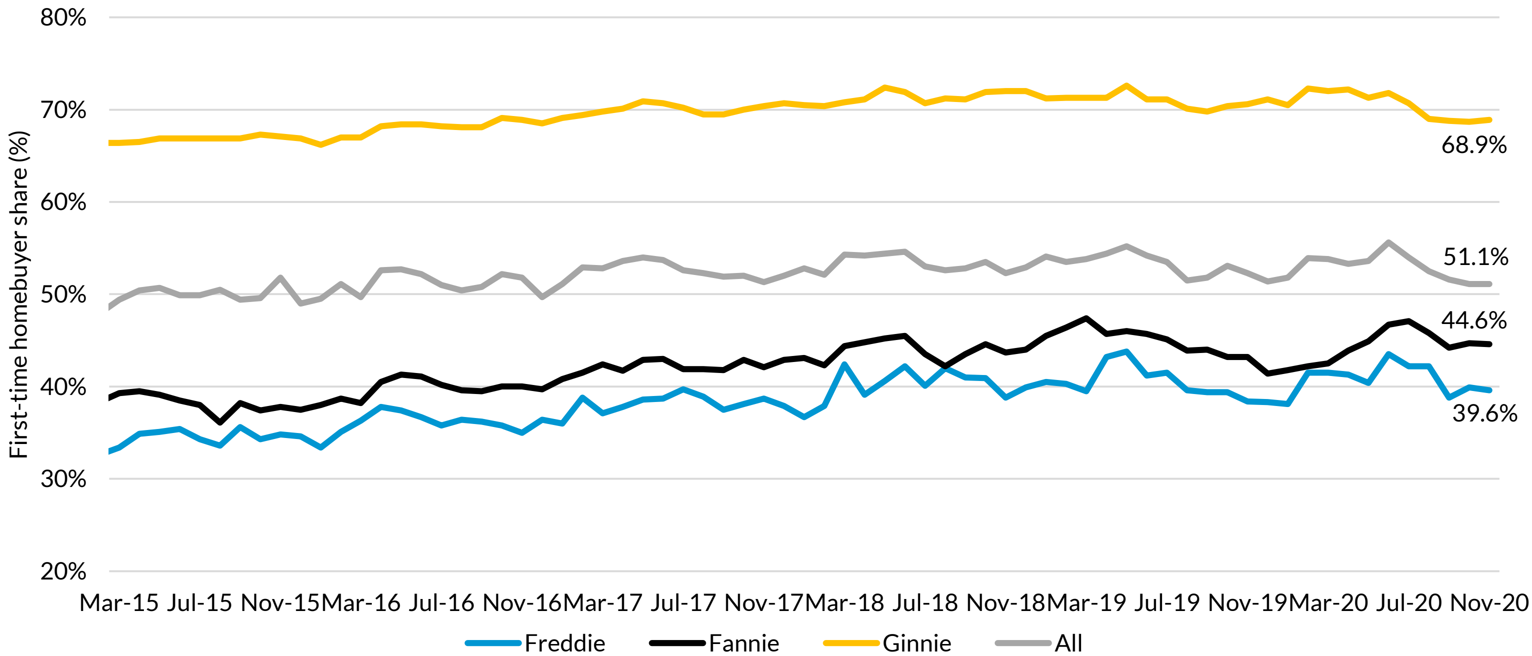


Sources: *eMBS and Urban Institute.*
Note: *Based on at-issuance balance. Data as of November 2020.*

Credit Box

The first time homebuyer share of Ginnie Mae purchase loans was 68.9 percent in November 2020, down slightly from 70.6 percent in November 2019. First time homebuyers comprise a significantly higher share of the Ginnie Mae purchase market than of the GSE purchase market, with first time homebuyers accounting for 44.6 percent and 39.6 percent of Fannie Mae and Freddie Mac purchase originations, respectively. The bottom table shows that based on mortgages originated in November 2020, 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 November 2020.*

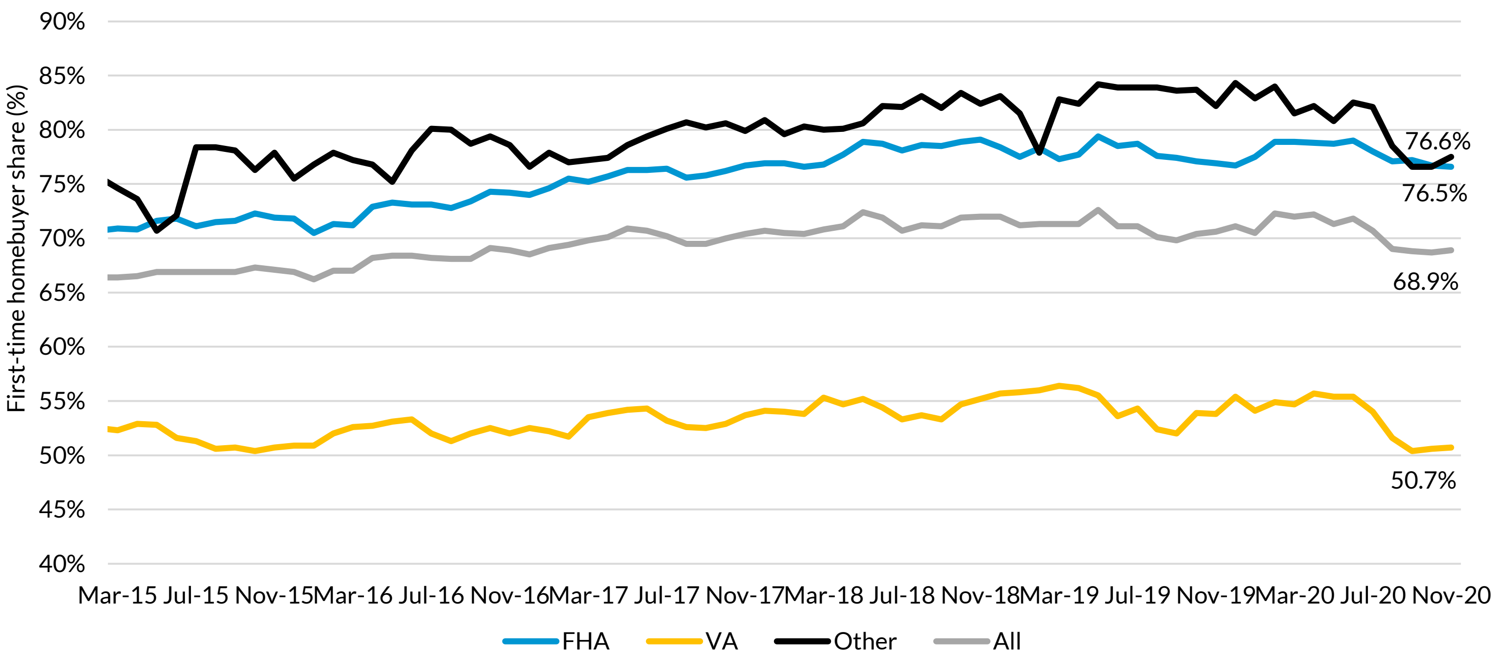
	Fannie Mae		Freddie Mac		Ginnie Mae		All	
	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat
Loan Amount ($)	295,693	319,475	290,865	312,297	242,177	296,505	270,296	310,832
Credit Score	750.1	761.3	747.8	757.4	688.5	704.8	721.9	745.4
LTV (%)	87.0	79.1	87.5	79.1	96.9	95.9	91.6	83.4
DTI (%)	34.1	34.9	34.7	35.6	41.3	41.9	37.5	37.0
Loan Rate (%)	2.9	2.9	3.0	2.9	3.0	2.9	3.0	2.9

Sources: *eMBS and Urban Institute.*
Note: *In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA loans, which includes the financed upfront mortgage insurance premium. To make it consistent with the previously reported LTV, we removed the financed upfront mortgage insurance premium by subtracting 169 bps from this new issuer-reported LTV. Data as of November 2020.*

Credit Box

Within the Ginnie Mae purchase market, 76.5 percent of FHA loans, 50.7 percent of VA loans, and 76.6 percent of other loans represent financing for first-time home buyers in November 2020. The bottom table shows that based on mortgages originated in November 2020, the average first-time homebuyer was more likely than an average repeat buyer to take out a smaller loan, have a lower credit score, have a higher LTV, similar DTI, and pay a slightly higher rate.

First Time Homebuyer Share: Ginnie Mae Breakdown



Sources: *eMBS and Urban Institute.* **Note**: *Includes only purchase loans. Data as of November 2020.*

	FHA		VA		Other		Ginnie Mae Total	
	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat
Loan Amount ($)	235,511	252,092	297,354	355,138	170,640	184,345	242,177	296,505
Credit Score	678.2	677.1	713.9	731.7	700.1	700.7	688.5	704.8
LTV (%)	95.6	94.3	99.6	97.0	99.3	99.1	96.9	95.9
DTI (%)	43.0	44.0	39.5	40.9	34.7	35.5	41.3	41.9
Loan Rate (%)	3.1	3.0	2.9	2.8	2.9	3.0	3.0	2.9

Sources: *eMBS and Urban Institute.*
Note: *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA loans, which includes the financed upfront mortgage insurance premium. To make it consistent with the previously reported LTV, we removed the financed upfront mortgage insurance premium by subtracting 169 bps from this new issuer-reported LTV. Data as of November 2020.*

November 2020 Credit Box at a Glance

In November 2020, the median Ginnie Mae FICO score was 699 versus 772 for Fannie Mae and 771 for Freddie Mac. Note that the FICO score for the 10th percentile was 638 for Ginnie Mae, versus 702 for both Fannie Mae and 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 696.

Purchase FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	381,185	656	719	744	782	801	735
Fannie	140,107	693	737	763	795	803	755
Freddie	115,143	698	731	766	791	804	758
Ginnie	125,935	633	654	684	730	774	694
Refi FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	798,345	693	732	771	794	807	759
Fannie	380,129	705	742	775	796	808	765
Freddie	324,506	703	737	773	795	807	763
Ginnie	93,710	646	677	724	775	800	723
All FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	1,179,530	677	719	764	791	805	751
Fannie	520,236	702	737	772	795	807	762
Freddie	439,649	702	736	771	794	806	761
Ginnie	219,645	638	661	699	753	790	706

Purchase FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	125,935	633	654	684	730	774	694
FHA	75,929	628	647	671	703	741	678
VA	37,908	647	677	725	772	797	723
Other	12,098	645	664	694	735	767	700
Refi FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	93,710	646	677	724	775	800	723
FHA	23,886	625	648	675	706	746	679
VA	68,860	661	698	747	784	803	738
Other	964	657	678	715	757	783	716
All FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	219,645	638	661	699	753	790	706
FHA	99,815	627	647	672	704	742	678
VA	106,768	655	689	739	781	801	733
Other	13,062	646	665	696	736	769	701

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 November 2020.*

November 2020 Credit Box at a Glance

In November 2020, the median loan-to-value ratio (LTV) was 96.5 percent for Ginnie Mae, compared to 71 percent for both Fannie Mae and Freddie Mac. The 90th percentile was 100.2 percent for Ginnie Mae, versus 90 percent for Freddie and 91 percent for Fannie. Within the Ginnie Mae market, the median LTV was 96.5 for FHA, 94.3 for VA and 100.9 for other programs.

Purchase LTV

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	381,324	70.0	80.0	93.0	96.5	100.0	86.9
Fannie	139,966	65.0	80.0	80.0	95.0	95.0	82.5
Freddie	115,186	64.0	78.0	80.0	95.0	95.0	81.8
Ginnie	126,172	94.2	96.5	96.5	100.0	101.0	96.6

Refi LTV

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	832,049	43.0	56.0	69.5	80.0	90.0	67.3
Fannie	380,132	41.0	53.0	66.0	75.0	80.0	63.5
Freddie	324,526	42.0	55.0	67.0	75.0	81.0	64.3
Ginnie	127,391	67.4	80.1	90.0	96.6	99.7	86.2

All LTV

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	1,213,373	47.0	60.0	75.0	90.0	96.5	73.5
Fannie	520,098	44.0	57.0	71.0	80.0	91.0	68.6
Freddie	439,712	45.0	58.0	71.0	80.0	90.0	68.9
Ginnie	253,563	76.1	88.3	96.5	98.0	100.2	91.4

Purchase LTV: Ginnie Mae Breakdown By Source

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	126,172	94.2	96.5	96.5	100.0	101.0	96.6
FHA	76,112	94.3	95.3	96.5	96.5	96.5	95.3
VA	37,937	92.5	100.0	100.0	100.0	102.3	98.3
Other	12,123	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	127,391	67.4	80.1	90.0	96.6	99.7	86.2
FHA	40,045	75.2	81.4	91.7	96.4	97.7	88.2
VA	86,328	64.2	77.9	89.0	96.9	100.3	85.3
Other	1,018	79.8	89.0	96.7	100.0	101.0	93.0

All LTV: Ginnie Mae Breakdown By Source

	Number of Loans	P10	P25	Median	P75	P90	Mean
All	253,563	76.1	88.3	96.5	98.0	100.2	91.4
FHA	116,157	81.4	93.3	96.5	96.5	96.6	92.8
VA	124,265	68.7	82.5	94.3	100.0	101.5	89.2
Other	13,141	94.5	99.0	100.9	101.0	101.0	98.8

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 November 2020.*

November 2020 Credit Box at a Glance

In November 2020, the median Ginnie Mae debt-to-income ratio (DTI) was 41.5 percent, considerably higher than the 34.0 percent median DTI for Fannie Mae and the 33.0 percent median DTI for Freddie Mac. The 90th percentile for Ginnie Mae was 53.5 percent, also much higher than the 46.0 percent DTI for Fannie Mae and 45.0 percent for Freddie Mac. Within the Ginnie Mae market, the median FHA DTI ratio was 43.9 percent, versus 38.9 percent for VA and 35.6 percent for other lending programs.

Purchase DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	380,705	23.0	30.0	38.0	44.0	49.0	37.0
Fannie	140,164	21.0	28.0	36.0	43.0	47.0	35.0
Freddie	115,176	21.0	28.0	36.0	42.0	46.0	34.4
Ginnie	125,365	28.4	35.1	42.2	48.7	53.8	41.5
Refi DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	735,939	19.0	25.0	33.0	41.0	45.8	32.4
Fannie	380,128	18.0	24.0	32.0	40.0	45.0	32.1
Freddie	324,481	19.0	25.0	33.0	40.0	45.0	32.2
Ginnie	31,330	22.3	30.0	37.3	45.8	52.1	37.4
All DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	1,116,644	20.0	26.0	35.0	42.0	47.0	34.0
Fannie	520,292	19.0	25.0	34.0	41.0	46.0	32.9
Freddie	439,657	19.0	25.0	33.0	41.0	45.0	32.8
Ginnie	156,695	27.1	33.8	41.5	48.2	53.5	40.7

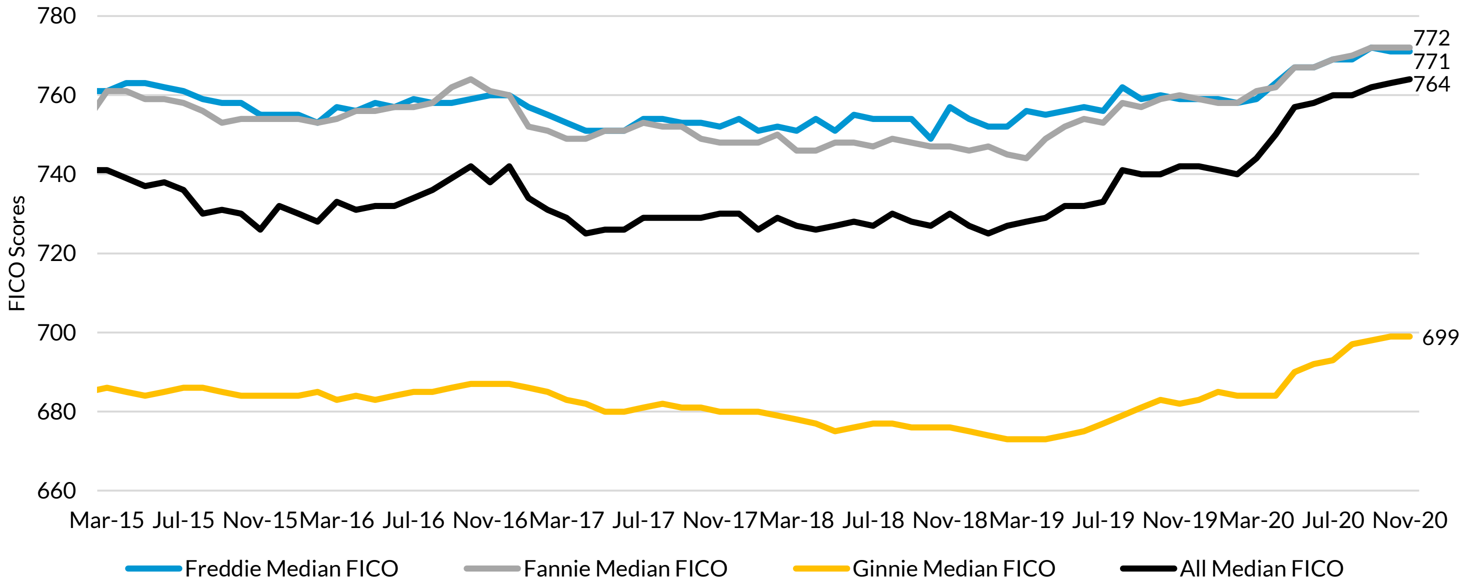
Purchase DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	125,365	28.4	35.1	42.2	48.7	53.8	41.5
FHA	75,811	30.8	37.6	44.2	49.8	54.4	43.2
VA	37,461	26.2	33.1	40.7	47.7	53.3	40.2
Other	12,093	25.3	30.3	35.8	40.3	43.3	34.9
Refi DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	31,330	22.3	30.0	37.3	45.8	52.1	37.4
FHA	12,491	27.0	33.3	41.8	48.5	53.7	40.7
VA	18,271	20.4	27.8	34.9	43.2	50.1	35.3
Other	568	17.1	23.7	31.7	38.5	43.7	31.0
All DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	156,695	27.1	33.8	41.5	48.2	53.5	40.7
FHA	88,302	30.2	37.0	43.9	49.7	54.3	42.8
VA	55,732	24.0	31.3	38.9	46.5	52.6	38.6
Other	12,661	24.8	30.1	35.6	40.2	43.3	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 November 2020.*

Credit Box: Historical

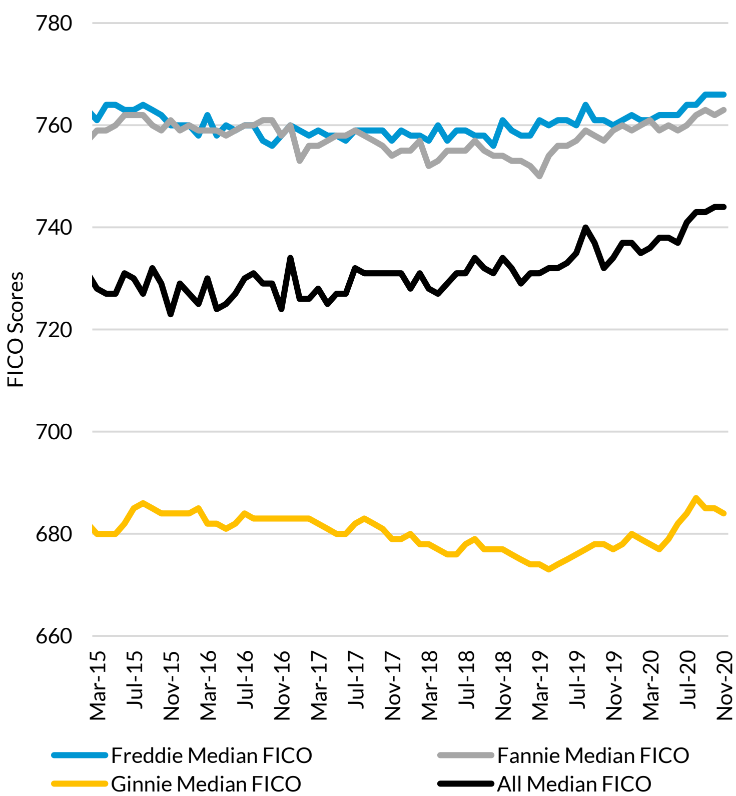
The median FICO score for all agency loans originated in November 2020 was 764, up considerably since the start of 2019, owing to the refinance wave, which higher FICO borrowers take advantage of with greater frequency. In addition, the increases in refinance activity have been much more dramatic at 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. The difference between Ginnie Mae and GSE borrower FICOs is considerably wider for purchase loans than for refi loans.

FICO Scores for All Loans



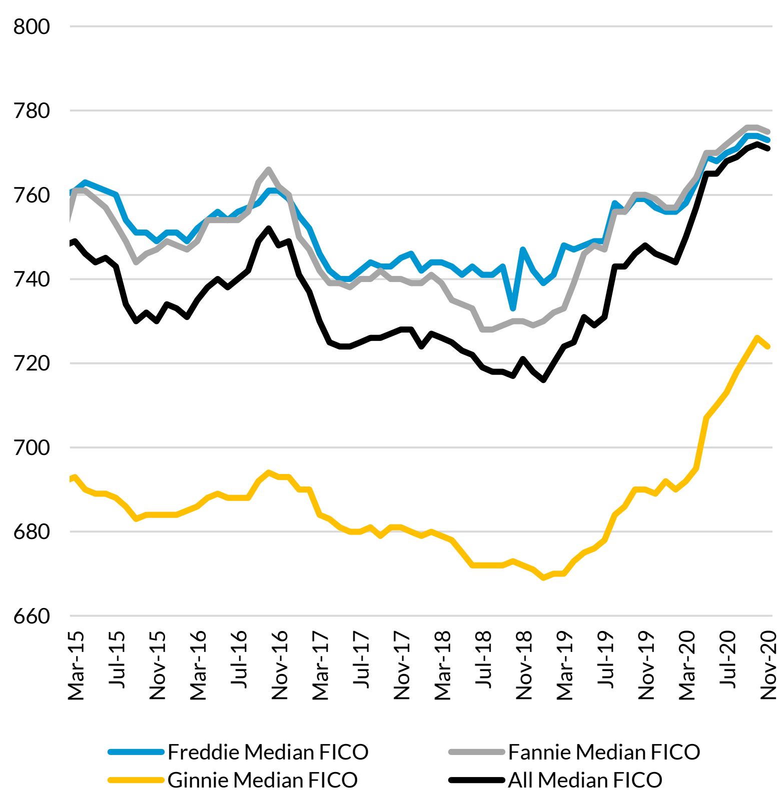
Sources: *eMBS and Urban Institute.* **Note**: *Data as of November 2020.*

FICO Scores for Purchase Loans



Sources: *eMBS and Urban Institute.* **Note:** *Data as of November 2020.*

FICO Scores for Refinance Loans

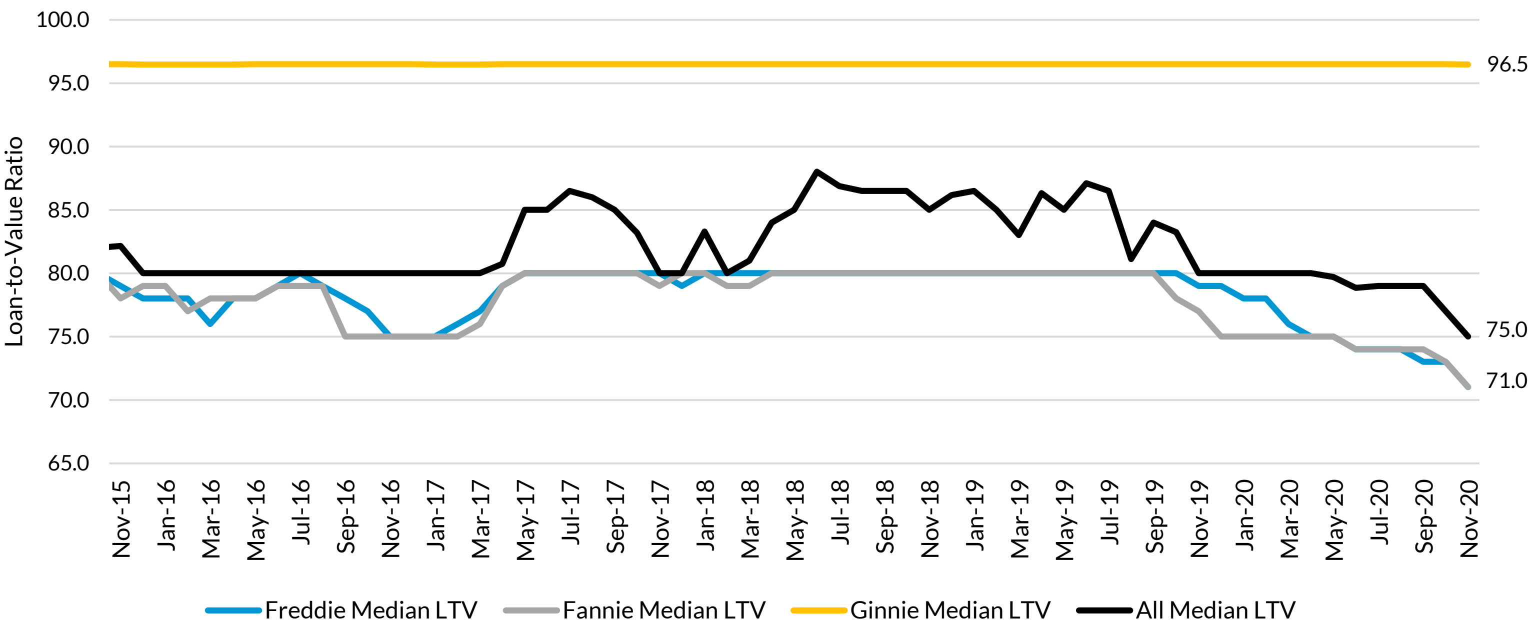


Sources: *eMBS and Urban Institute.* **Note:** *Data as of November 2020.*

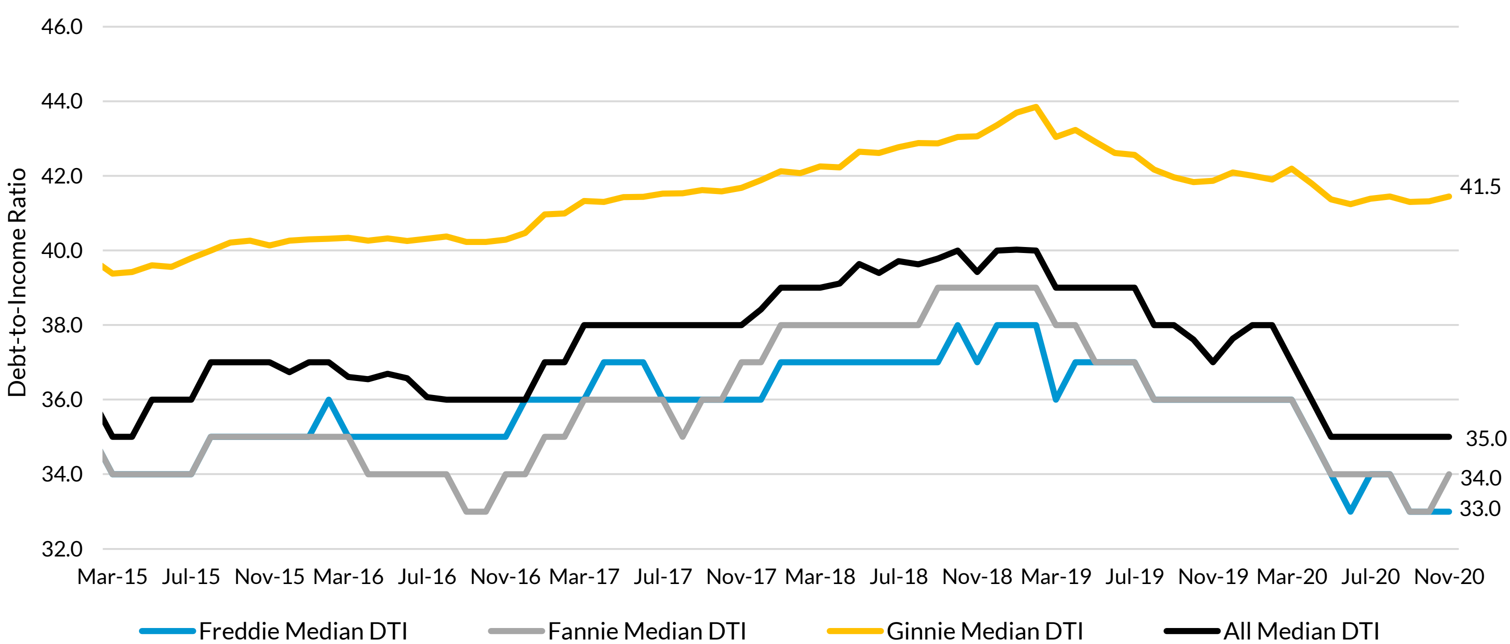
Credit Box: Historical

Median LTVs for Ginnie Mae loans have historically been at 96.5 percent, much higher than the 71 percent LTV for the GSEs. 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

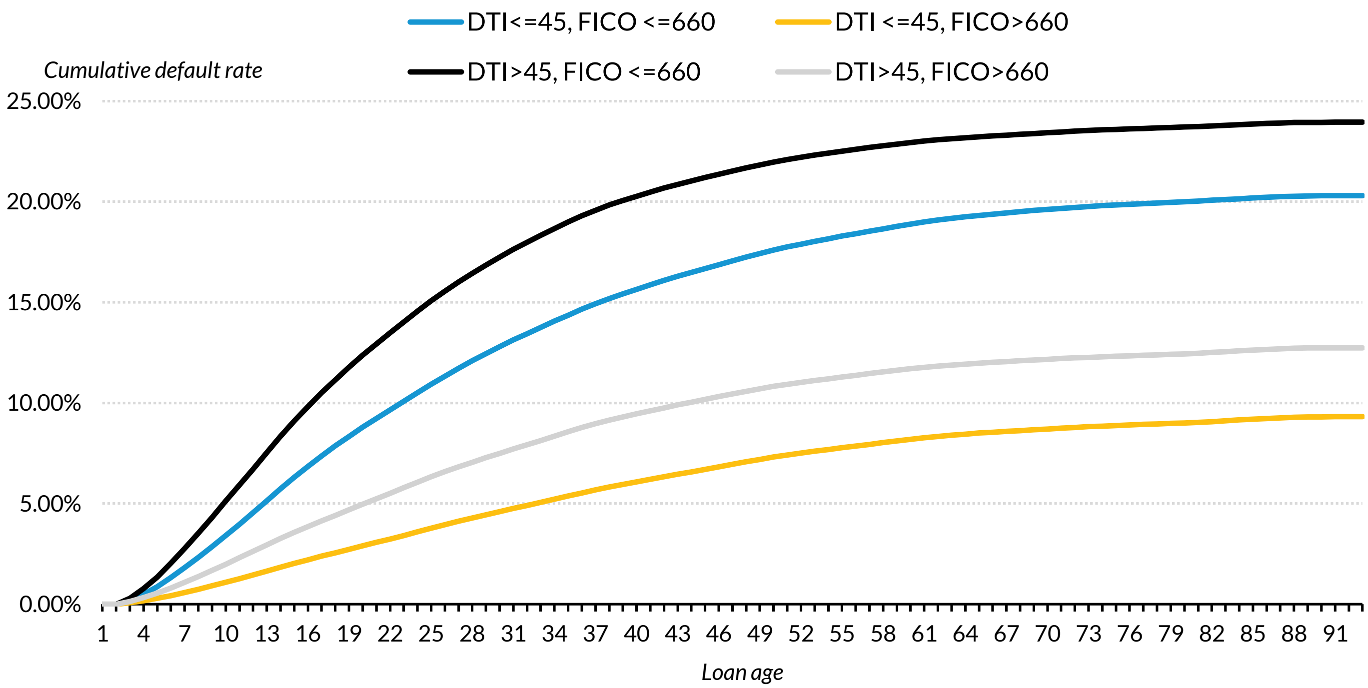


Sources: *eMBS and Urban Institute.* **Note:** *In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA loans, which includes the financed upfront mortgage insurance premium. To make it consistent with the previously reported LTV, we removed the financed upfront mortgage insurance premium by subtracting 169 bps from this new issuer-reported LTV. Sources and note apply to all three graphs. Data as of November 2020.*

Credit Box: Historical

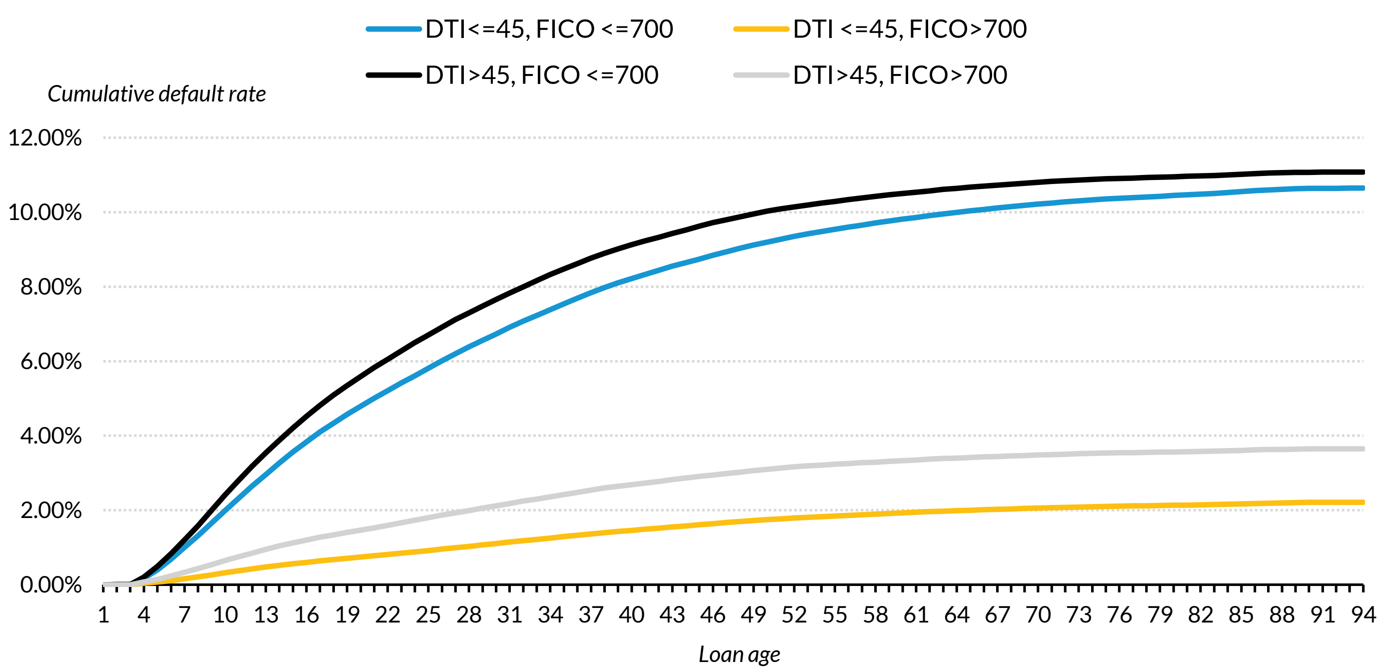
DTI is a much weaker predictor of performance than FICO score. The top chart shows FHA borrowers with higher DTIs do default more than those with lower DTIs, but the differences are modest, as evidenced by the fact that the black line is very close to the blue line and the grey line is not that much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

VA Cumulative Default Rate by DTI and FICO

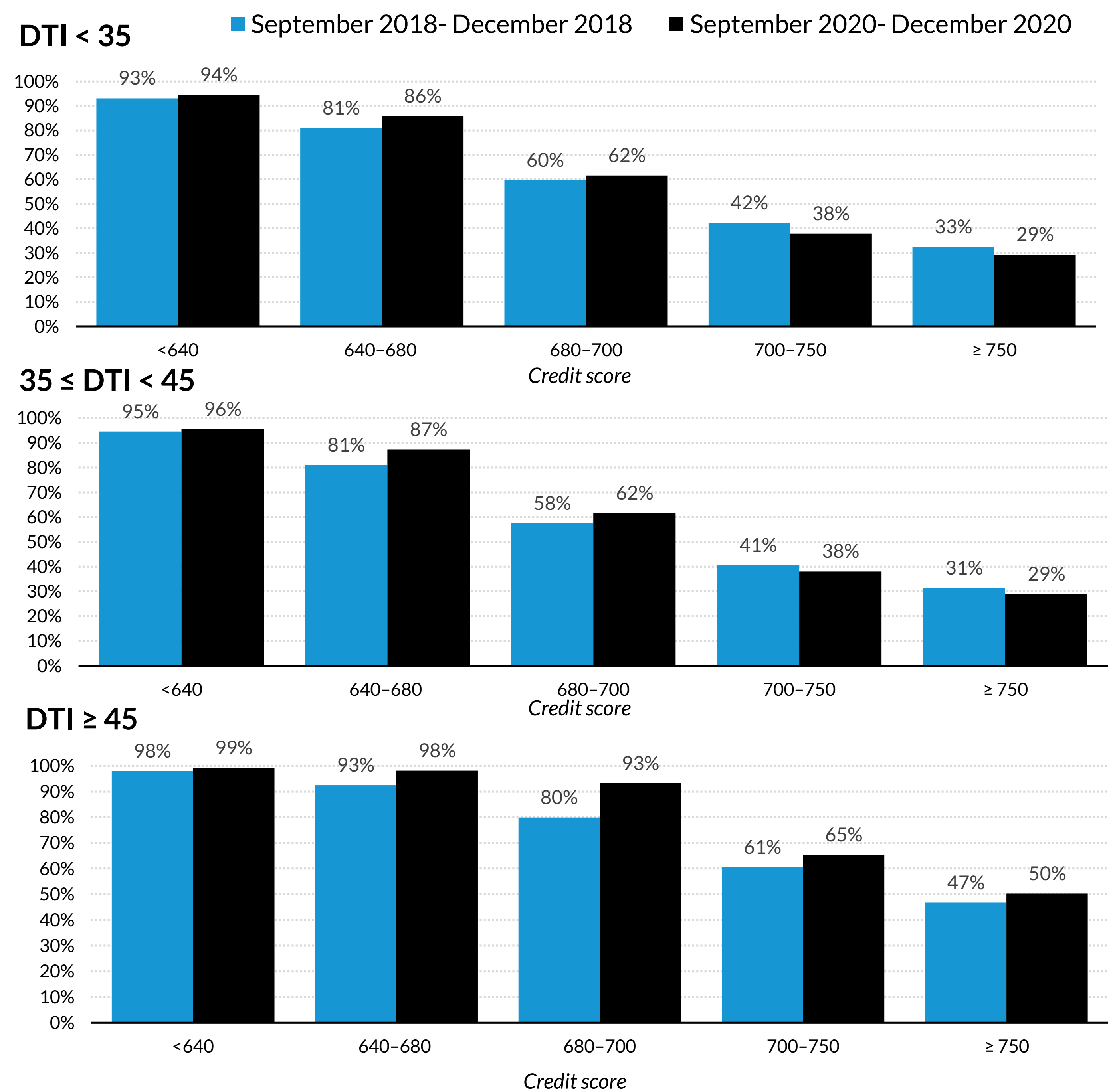


Sources: *eMBS and Urban Institute*. **Note:** Defaults = 180 days delinquent. *Data as of December 2020.*

Credit Box: Historical

This table shows Ginnie Mae's share of agency high-LTV lending by DTI and FICO. In each DTI bucket, Ginnie Mae's share is more concentrated in lower FICO scores than in higher FICO scores. In September 2020-December 2020, Ginnie Mae accounted for 94 percent of agency issuance for DTIs under 35 and FICOs below 640, compared to just 29 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 September 2020– December 2020, 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 93 percent; it was 62 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 69.6 percent of its issuances in the September 2020- December 2020 period having LTVs of 95 or above, compared to 9.2 percent for the GSEs. The GSEs have decreased their high-LTV lending share from 21.6 percent in September 2018– December 2018. Ginnie Mae's high-LTV lending share remained stable over the same period. The share of high-LTV agency loans going to highest FICO borrowers (i.e. above 750) has increased from the September 2018-December 2018 period to the September 2020-December 2020 period, as has the share of lower DTI borrowers (below 35).

Share of Loans with LTV ≥ 95

	Ginnie Mae	GSE	All
September 2018- December 2018	70.7%	21.6%	37.8%
September 2020- December 2020	69.6%	9.2%	18.4%

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

September 2018-December 2018

	FICO					
DTI	<640	640–680	680–700	700–750	≥ 750	All
< 35	2.8%	4.6%	2.5%	6.7%	8.6%	25.2%
35 –45	5.3%	9.0%	4.8%	11.4%	10.0%	40.4%
≥ 45	5.0%	8.9%	4.4%	9.4%	6.7%	34.4%
All	13.1%	22.4%	11.7%	27.4%	25.3%	100.0%

September 2020-December 2020

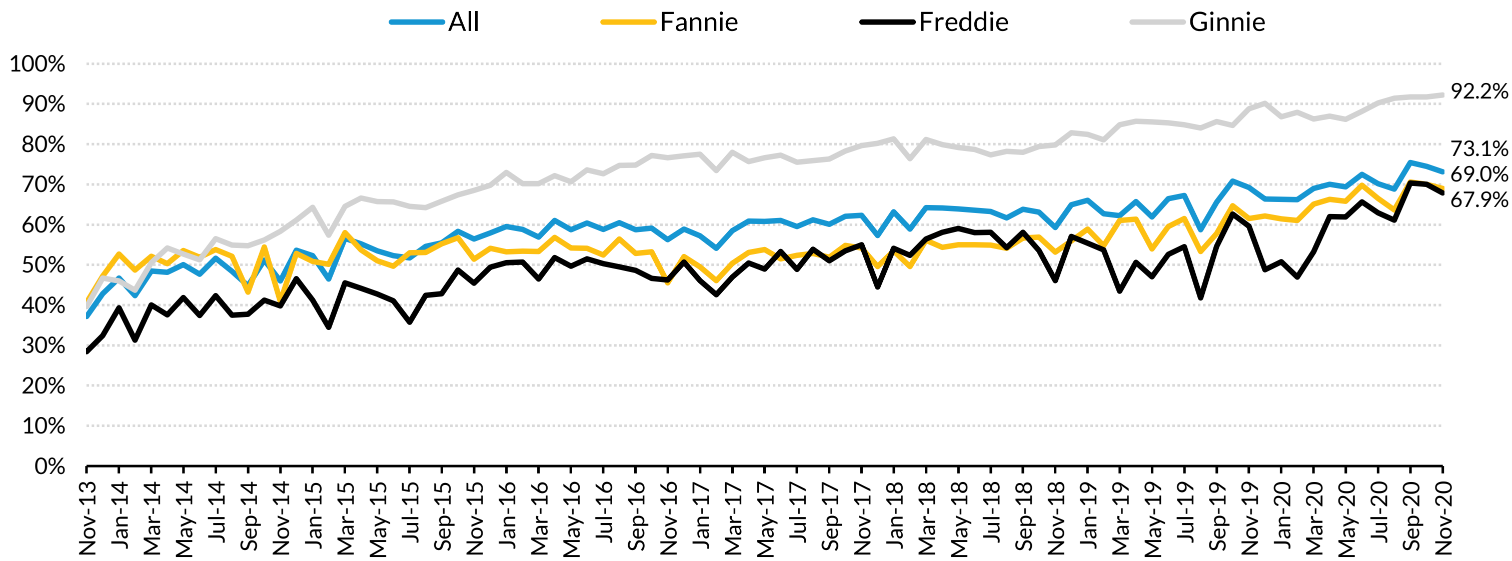
	FICO					
DTI	<640	640–680	680–700	700–750	≥ 750	All
< 35	1.7%	4.9%	3.0%	8.6%	13.0%	31.1%
35 –45	3.1%	8.8%	5.1%	12.9%	12.5%	42.3%
≥ 45	2.4%	7.1%	3.4%	7.7%	6.0%	26.6%
All	7.2%	20.8%	11.4%	29.2%	31.4%	100.0%

Sources: *eMBS and Urban Institute.*

Nonbank Originators

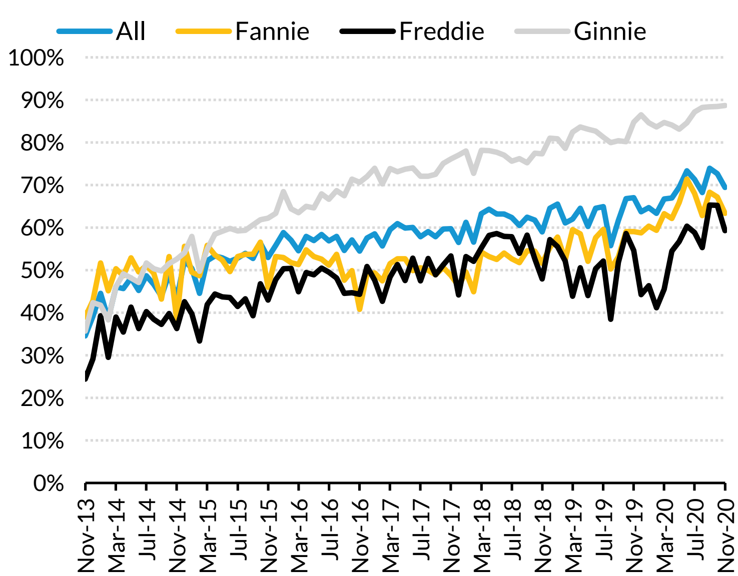
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 92.2 percent in November 2020, a new record high. Fannie and Freddie's nonbank shares both declined very slightly in November, to 69.0 percent and 67.9 percent respectively (note that these numbers can be volatile on a month-to-month basis). Ginnie Mae, Fannie Mae, and Freddie Mac all have higher nonbank origination shares for refi activity than for purchase activity. Freddie Mac's nonbank share is the lowest among the three agencies for both purchase and refi loans.

Nonbank Origination Share: All Loans

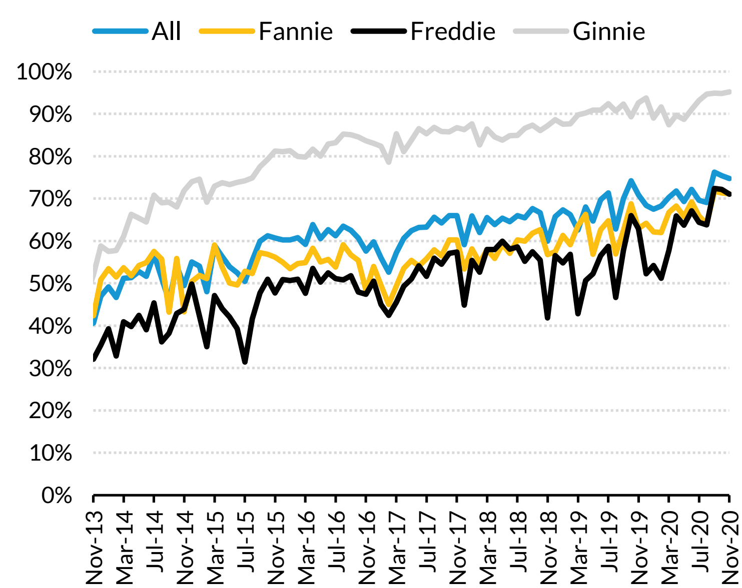


Sources: *eMBS and Urban Institute*
Note: *Data as of November 2020.*

Nonbank Origination Share: Purchase Loans



Nonbank Origination Share: Refinance Loans

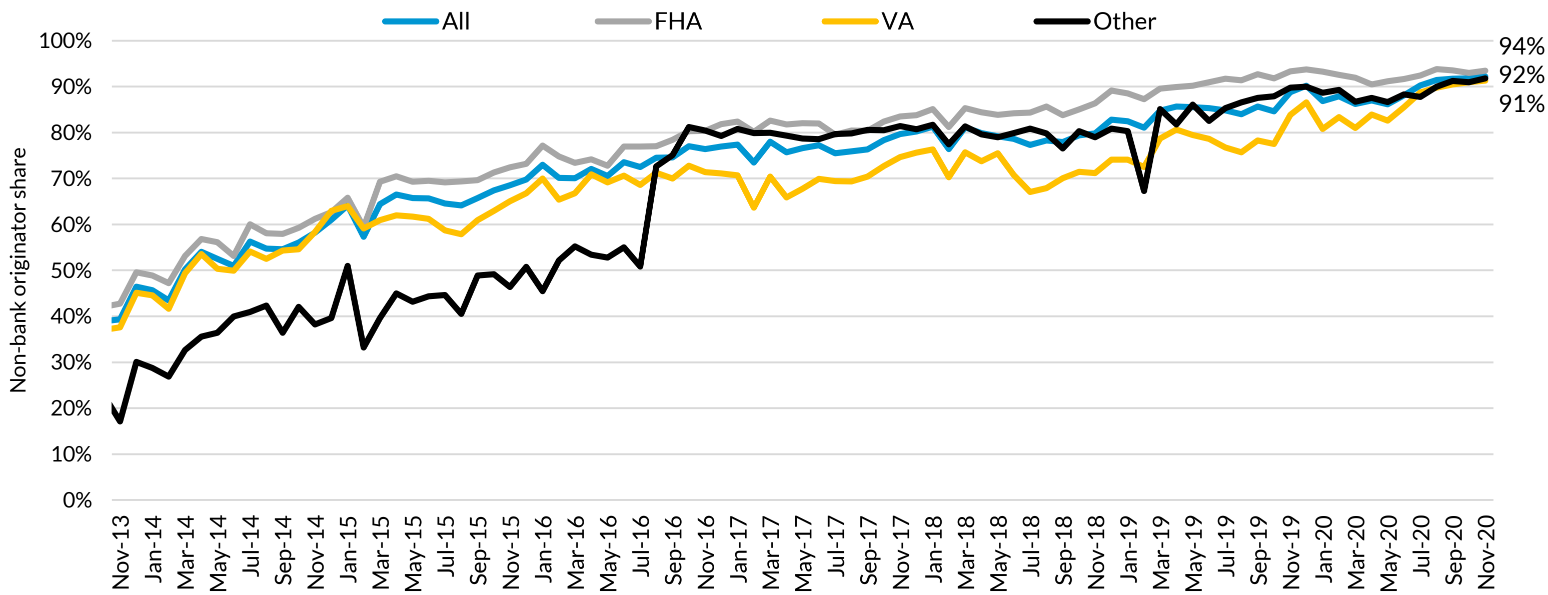


Sources: *eMBS and Urban Institute.* **Note:** *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of November 2020.*

Ginnie Mae Nonbank Originators

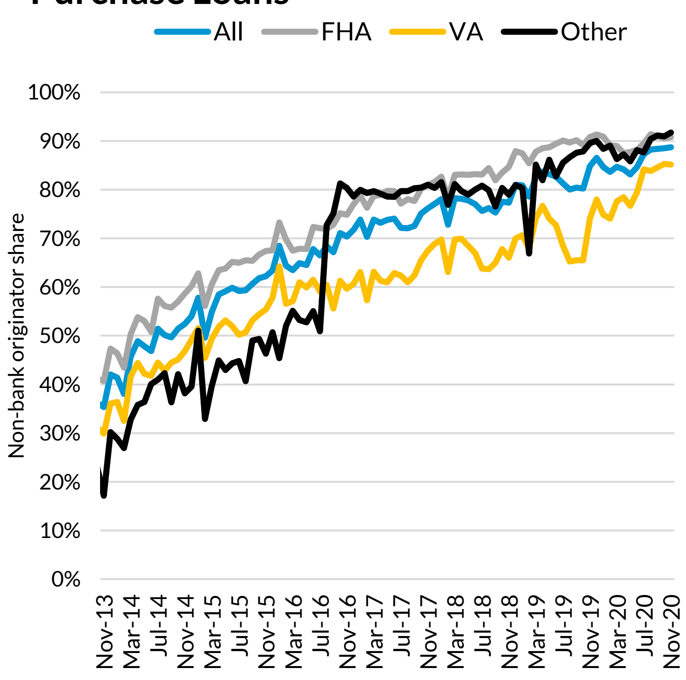
In November 2020, Ginnie Mae's nonbank share rose very slightly to 92.2 percent. The nonbank originator share for FHA also rose slightly 93.5 percent in October, compared to 93.0 percent the previous month. The nonbank originator share for VA was higher than last month at 91.3 percent and the nonbank originator share for other loans, which can fluctuate quite a bit month to month, rose to 91.8 percent.

Ginnie Mae Nonbank Originator Share: All Loans

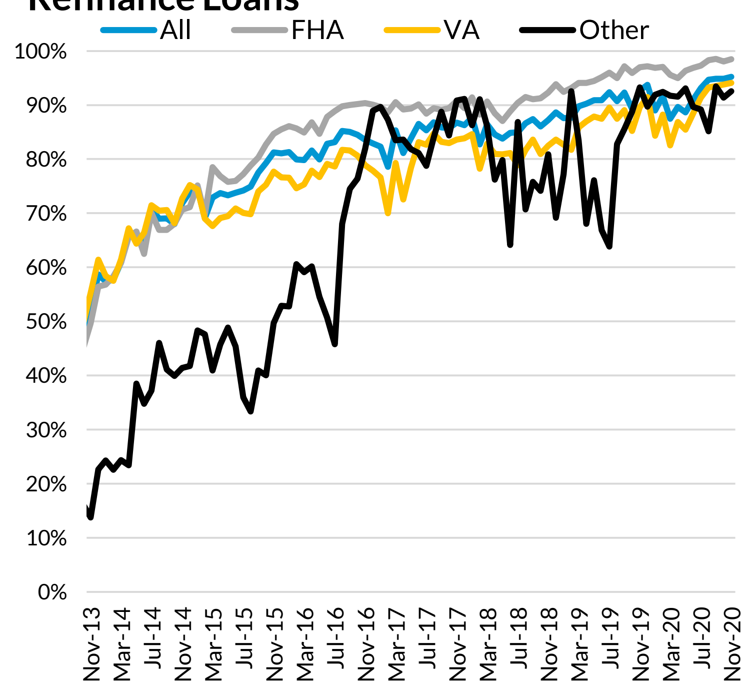


Sources: *eMBS and Urban Institute*
Note: *Data as of November 2020.*

Ginnie Mae Nonbank Share: Purchase Loans



Ginnie Mae Nonbank Share: Refinance Loans

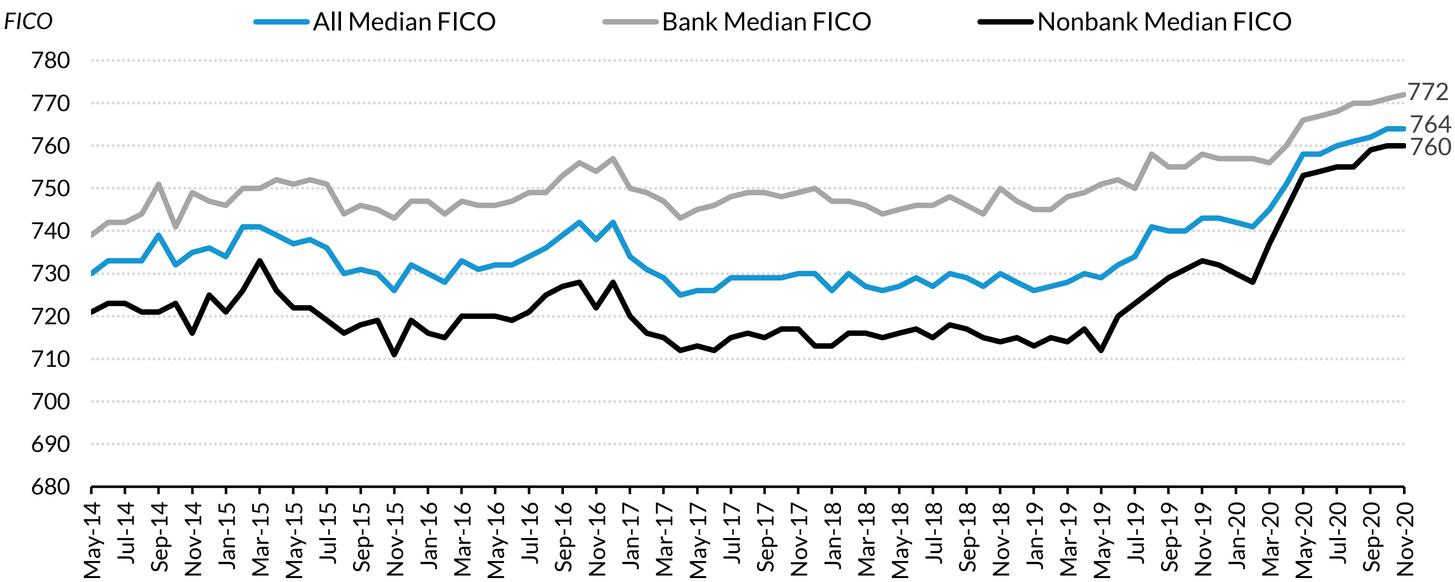


Sources: *eMBS and Urban Institute.* **Note:** *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of November 2020.*

Nonbank Credit Box

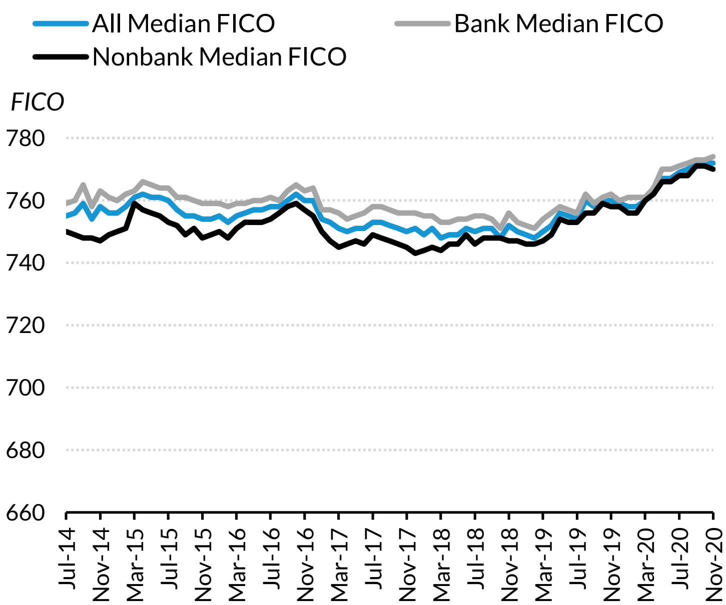
Nonbank originators have played a key role in opening up access to credit. FICO scores for loans originated by nonbanks are lower than their bank counterparts. Within the GSE space, where the differentials between banks and non-banks are small, FICO scores for both have increased since early 2014. The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

Agency FICO: Bank vs. Nonbank



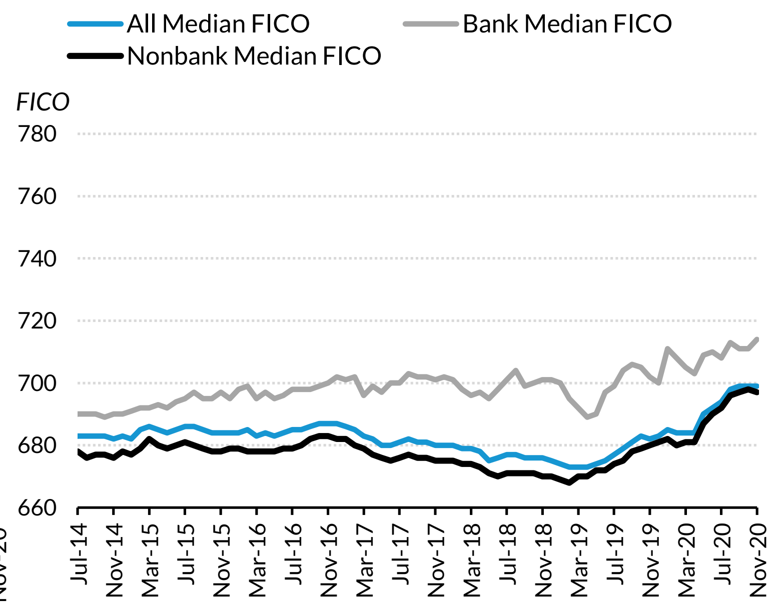
Sources: *eMBS and Urban Institute.* **Note**: *Data as of November 2020.*

GSE FICO: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*
Note: *Data as of November 2020.*

Ginnie Mae FICO: Bank vs. Nonbank

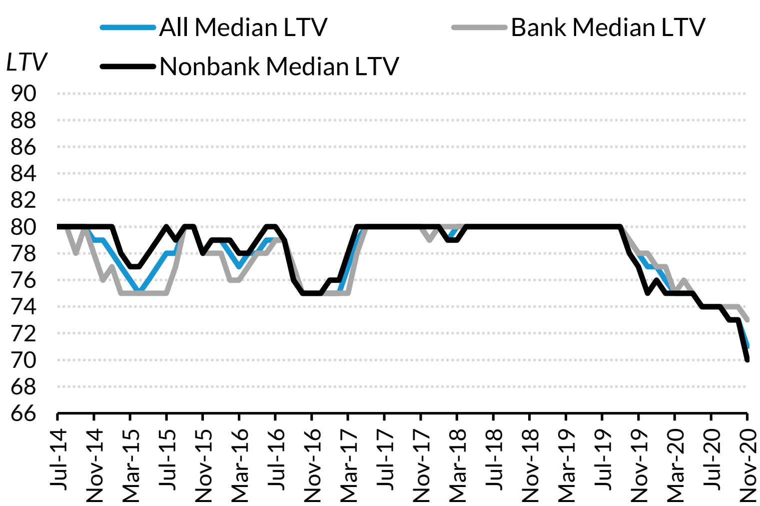


Sources: *eMBS and Urban Institute.*
Note: *Data as of November 2020.*

Nonbank Credit Box

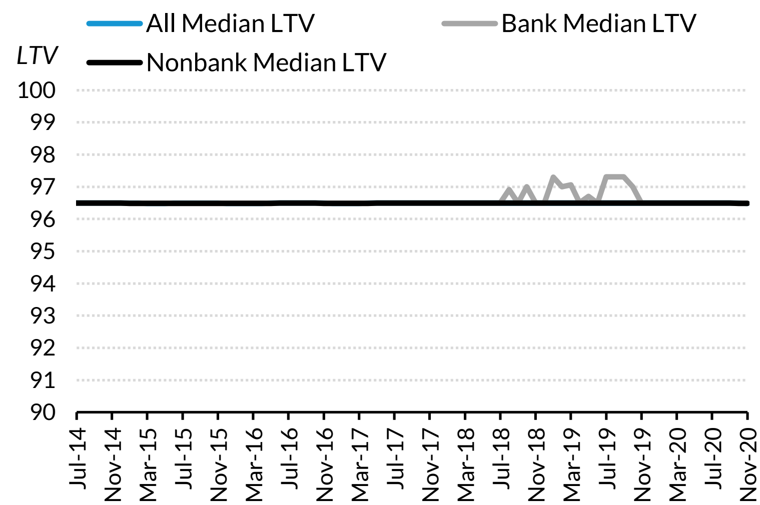
The median LTVs for nonbank and bank originations are comparable, while the median DTI for nonbank loans is higher than for bank loans, indicating that nonbanks are more accommodating in both this and the FICO dimension. Between early 2017 and early 2019, there was a substantial increase in DTIs; over the subsequent months, this has mostly reversed in the Ginnie Mae space, and more than completely reversed for the GSEs, leaving GSE DTIs lower than they have been at any point in the last 7 years. This is true for both Ginnie Mae and the GSEs, for banks and nonbanks. As interest rates increased, DTIs rose, because borrower payments were driven up relative to incomes. With the fall in interest rates in 2019 and 2020, DTIs have dropped.

GSE LTV: Bank vs. Nonbank



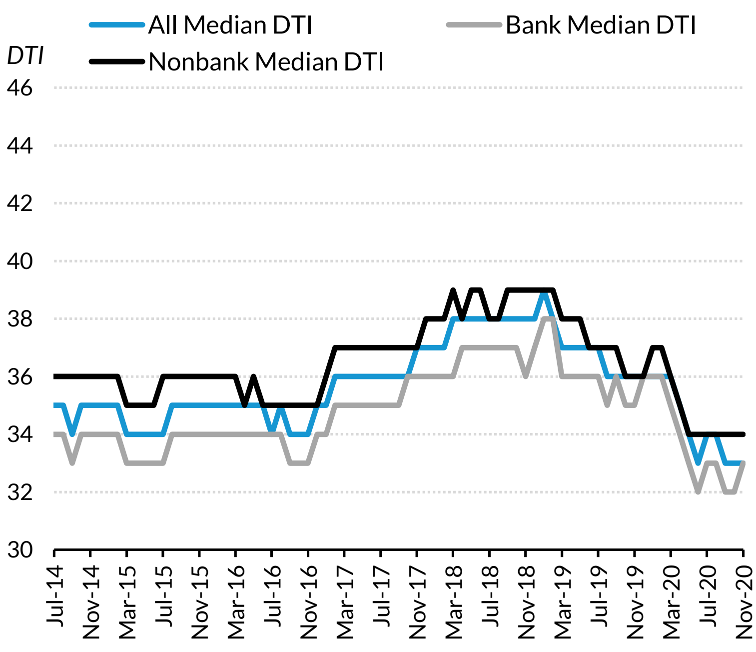
Sources: *eMBS and Urban Institute.* ***Note:*** *Data as of November 2020.*

Ginnie Mae LTV: Bank vs. Nonbank



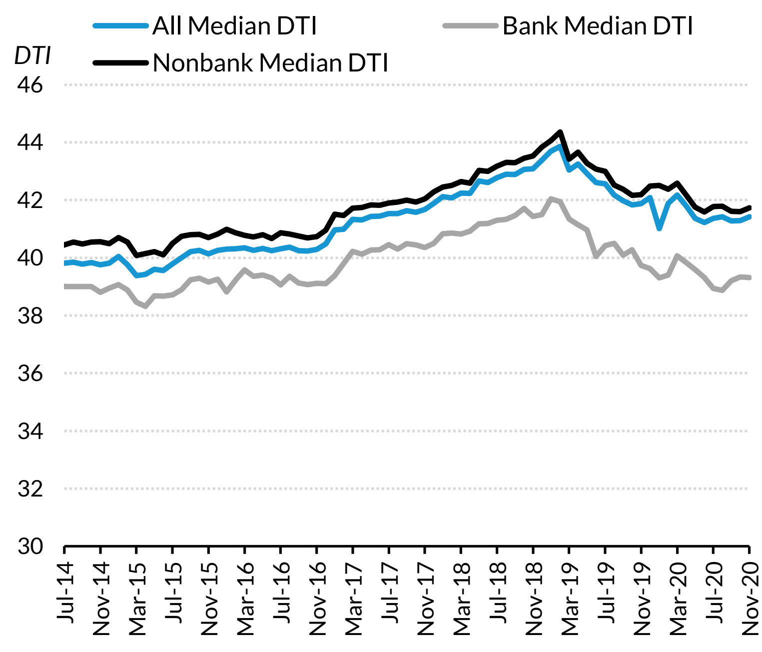
Sources: *eMBS and Urban Institute.* ***Note:*** *Data as of November 2020.*

GSE DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.* ***Note:*** *Data as of November 2020.*

Ginnie Mae DTI: Bank vs. Nonbank

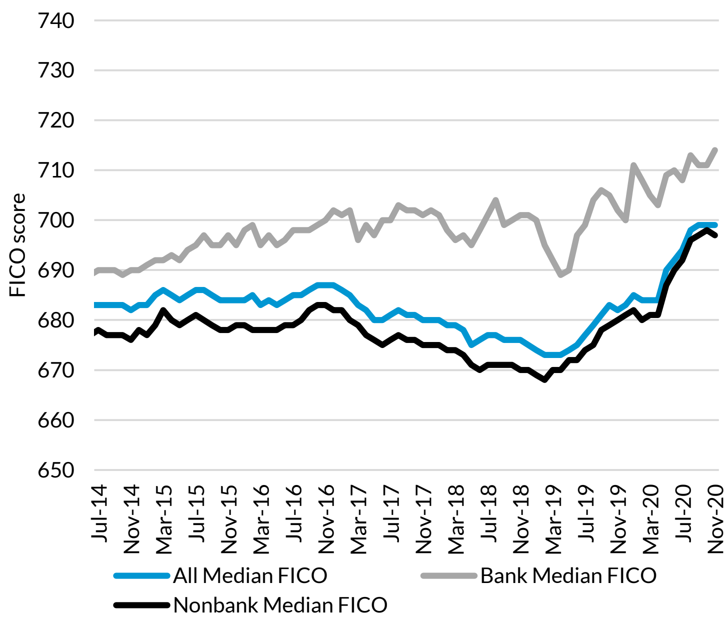


Sources: *eMBS and Urban Institute.* ***Note:*** *Data as of November 2020.*

Ginnie Mae Nonbank Originators: Credit Box

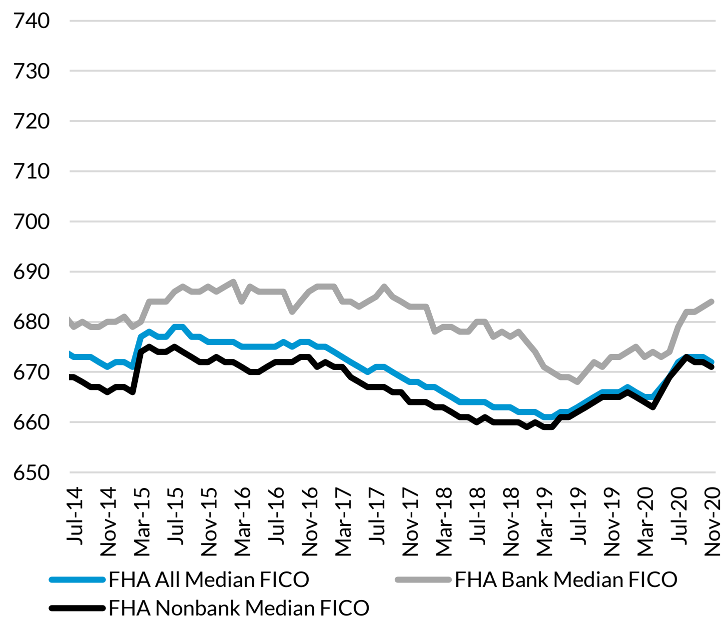
The median FICO score for Ginnie Mae nonbank originators fell slightly in November 2020. Bank FICOs are 17 points above non-banks. The gap between banks and non-banks is very apparent for all categories of government lending.

Ginnie Mae FICO Scores: Bank vs. Nonbank



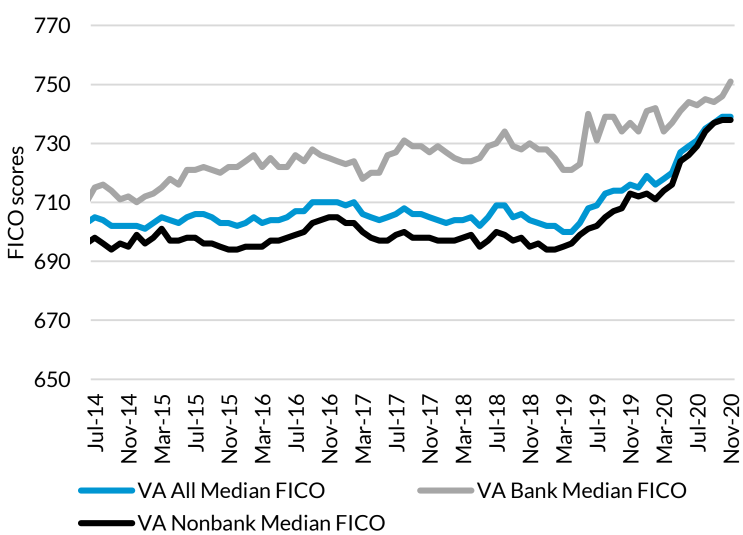
Sources: *eMBS and Urban Institute* **Note:** *Data as of November 2020.*

Ginnie Mae FHA FICO Scores: Bank vs. Nonbank



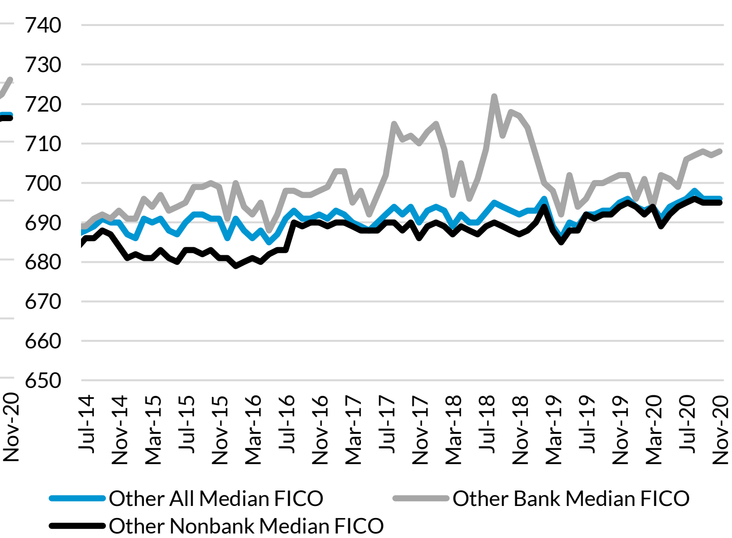
Sources: *eMBS and Urban Institute* **Note:** *Data as of November 2020.*

Ginnie Mae VA FICO Scores: Bank vs. Nonbank



Sources: *eMBS and Urban Institute*
Note: *Data as of November 2020.*

Ginnie Mae Other FICO Scores: Bank vs. Nonbank

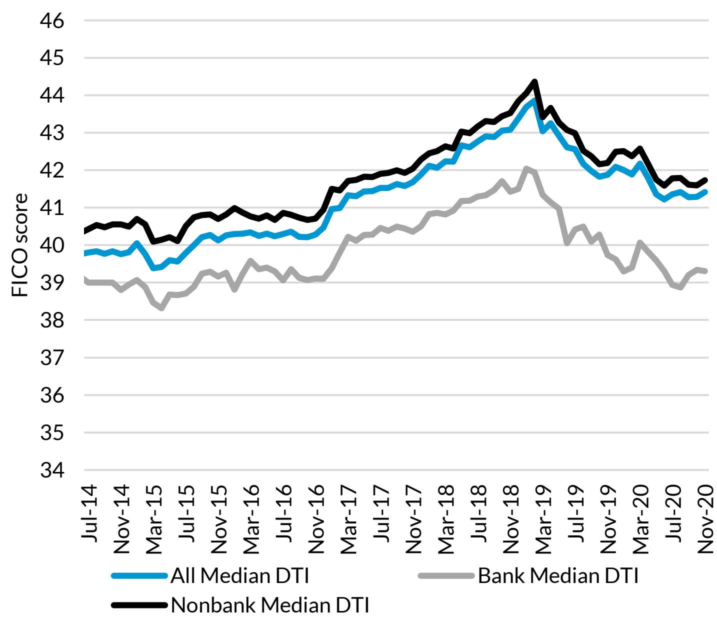


Sources: *eMBS and Urban Institute*
Note: *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of November 2020.*

Ginnie Mae Nonbank Originators: Credit Box

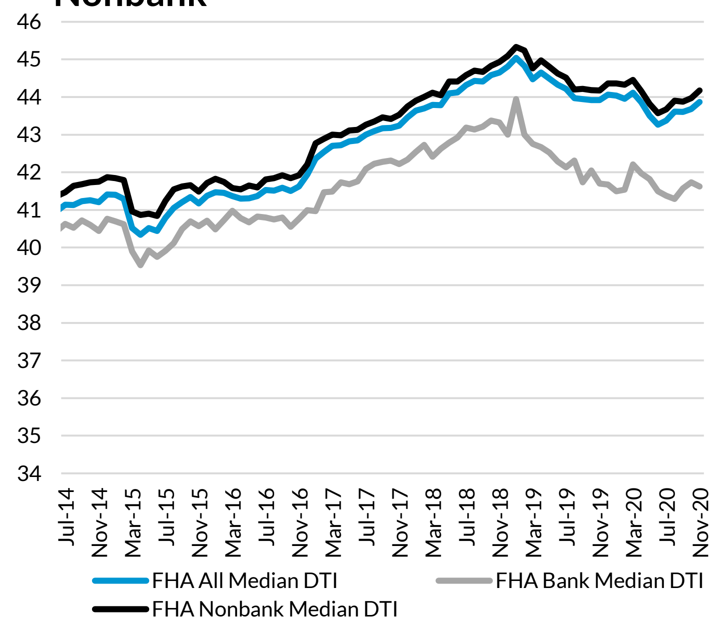
An analysis of borrowers' DTI ratios for bank versus non-bank originators indicates that the former have a lower median DTI. The DTIs for FHA and VA borrowers experienced notable increases during 2017 and 2018 for both banks and nonbank originators, while the Other origination DTIs stayed relatively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



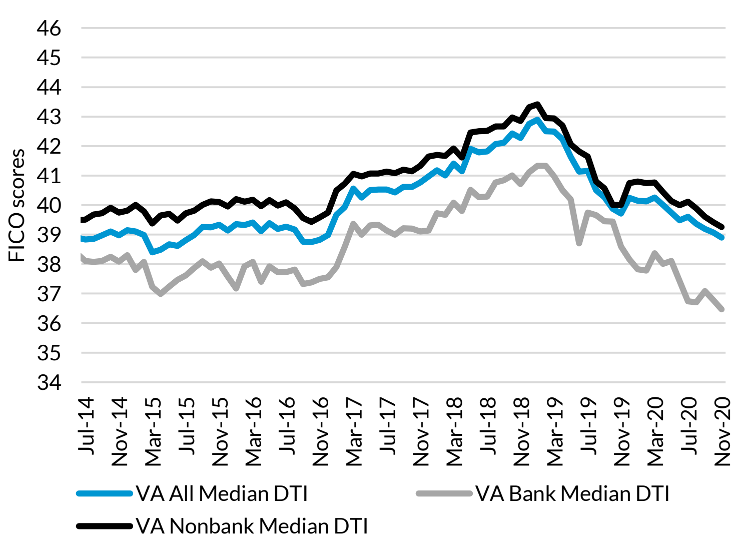
Sources: *eMBS and Urban Institute* **Note:** *Data as of November 2020.*

Ginnie Mae FHA DTI: Bank vs. Nonbank



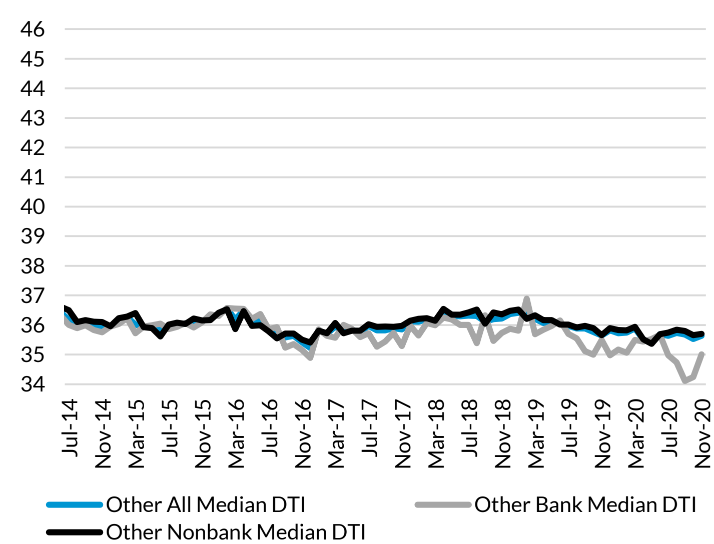
Sources: *eMBS and Urban Institute* **Note:** *Data as of November 2020.*

Ginnie Mae VA DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute*
Note: *Data as of November 2020.*

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 November 2020.*

Holders of Ginnie Mae MSRs

This table shows 30 largest owners of mortgage servicing rights (MSR) by UPB for Ginnie Mae securitizations. As of November 2020, over half (51.8 percent) of the Ginnie Mae MSRs are owned by the top six firms. The top 30 firms collectively own 84.9 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

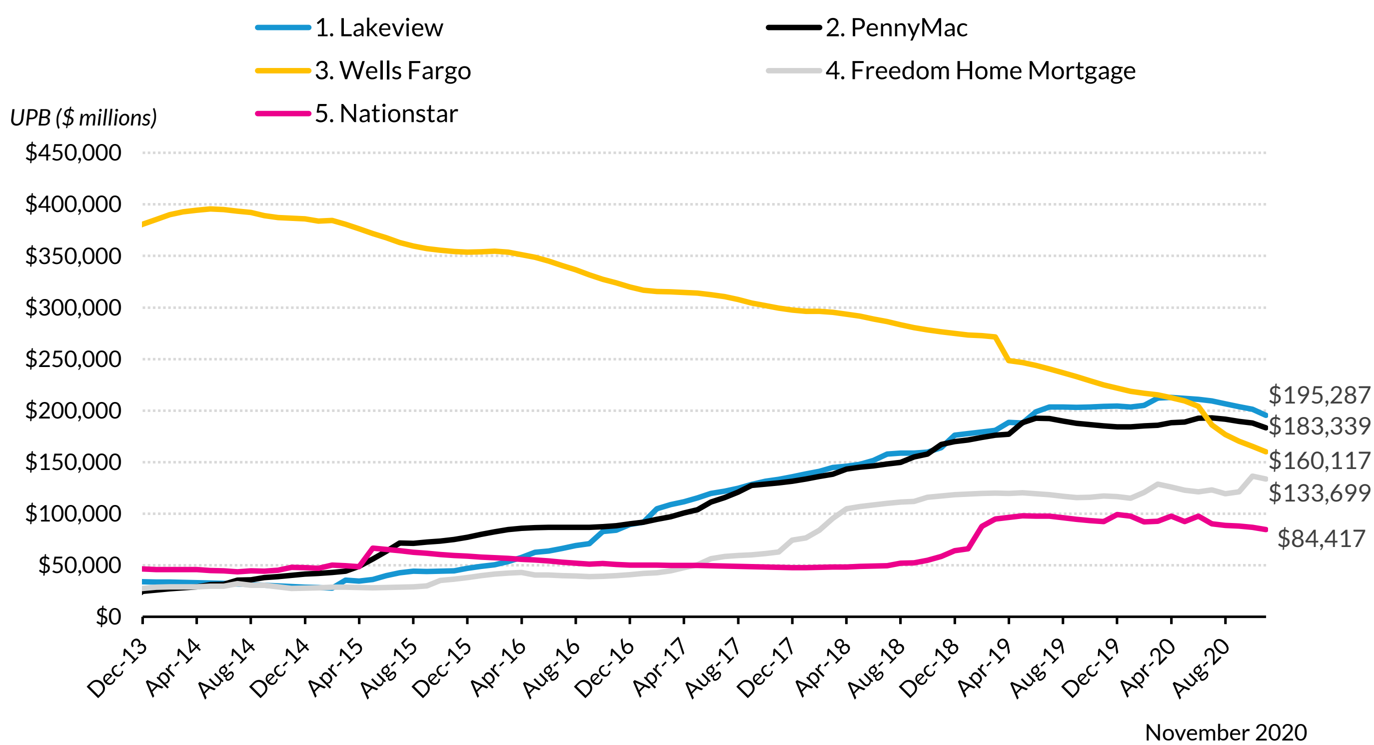
Rank	MSR Holder	UPB ($ millions)	Share	Cumulative Share
1	**Lakeview**	$195,287	12.2%	12.2%
2	**PennyMac**	$183,339	11.5%	23.7%
3	**Wells Fargo**	$160,117	10.0%	33.8%
4	**Freedom Home Mortgage**	$133,699	8.4%	42.1%
5	**Nationstar**	$97,684	5.3%	47.4%
6	**Quicken Loans**	$69,732	4.4%	51.8%
7	**Newrez**	$49,589	3.1%	54.9%
8	**US Bank**	$46,340	2.9%	57.8%
9	**Carrington Mortgage**	$41,090	2.6%	60.4%
10	**USAA Federal Savings Bank**	$37,484	2.3%	62.7%
11	**Caliber Home Loans**	$36,982	2.3%	65.1%
12	**Amerihome Mortgage**	$29,307	1.8%	66.9%
13	**Truist Bank**	$27,846	1.7%	68.6%
14	**Navy Federal Credit Union**	$26,987	1.7%	70.3%
15	**Home Point Financial Corporation**	$22,670	1.4%	71.8%
16	**Shore Financial**	$20,485	1.3%	73.0%
17	**The Money Source**	$20,461	1.3%	74.3%
18	**Loan Depot**	$19,090	1.2%	75.5%
19	**JP Morgan Chase**	$16,221	1.0%	76.5%
20	**Midfirst Bank**	$16,125	1.0%	77.5%
21	**Guild Mortgage**	$16,048	1.0%	78.6%
22	**Citizens Bank**	$13,546	0.8%	79.4%
23	**M&T Bank**	$13,387	0.8%	80.2%
24	**Planet Home Lending**	$13,022	0.8%	81.1%
25	**Flagstar Bank**	$12,601	0.8%	81.8%
26	**PHH Mortgage Corporation**	$12,600	0.8%	82.6%
27	**Pingora**	$9,617	0.6%	83.2%
28	**New American Funding**	$8,971	0.6%	83.8%
29	**Bank of America**	$8,827	0.6%	84.4%
30	**Idaho Housing and Finance Association**	$8,737	0.5%	84.9%

Sources: *eMBS and Urban Institute*. **Note:** *Data as of November 2020.*

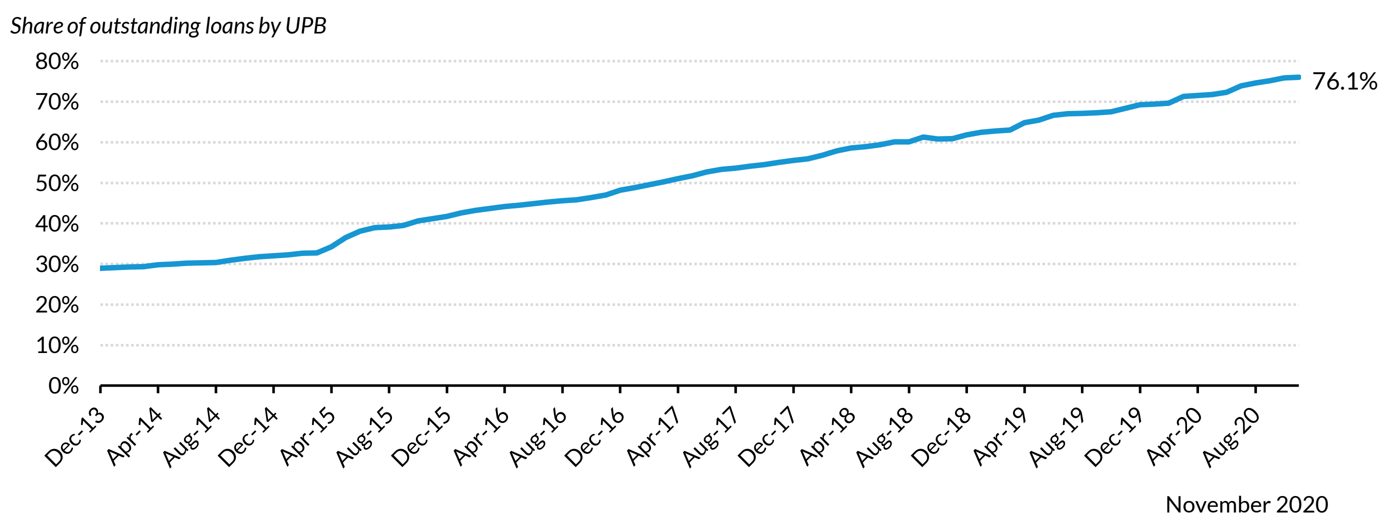
Holders of Ginnie Mae MSRs

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 November 2020, Wells Fargo's holdings of MSRs dipped to $160.1 billion, below the $195.3 and $183.3 billion held by Lakeview and PennyMac, respectively (both nonbanks). Freedom Home Mortgage and Nationstar (also both nonbanks) make up the remainder of the top five largest holders of MSRs, owning $133.7 billion and $84.4 billion respectively as of November 2020. Nonbanks collectively owned servicing rights for 76.1 percent of all outstanding unpaid principal balance guaranteed by Ginnie Mae in November 2020. 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

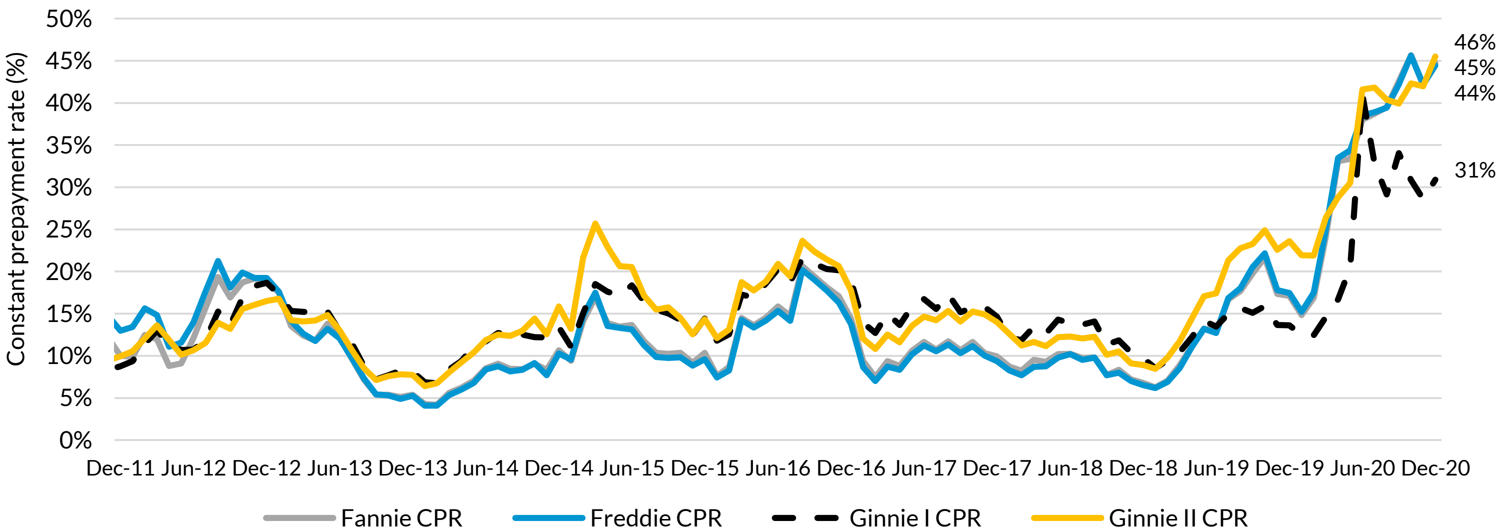


Sources: *eMBS and Urban Institute.* **Note:** *Data as of November 2020.*

Prepayments

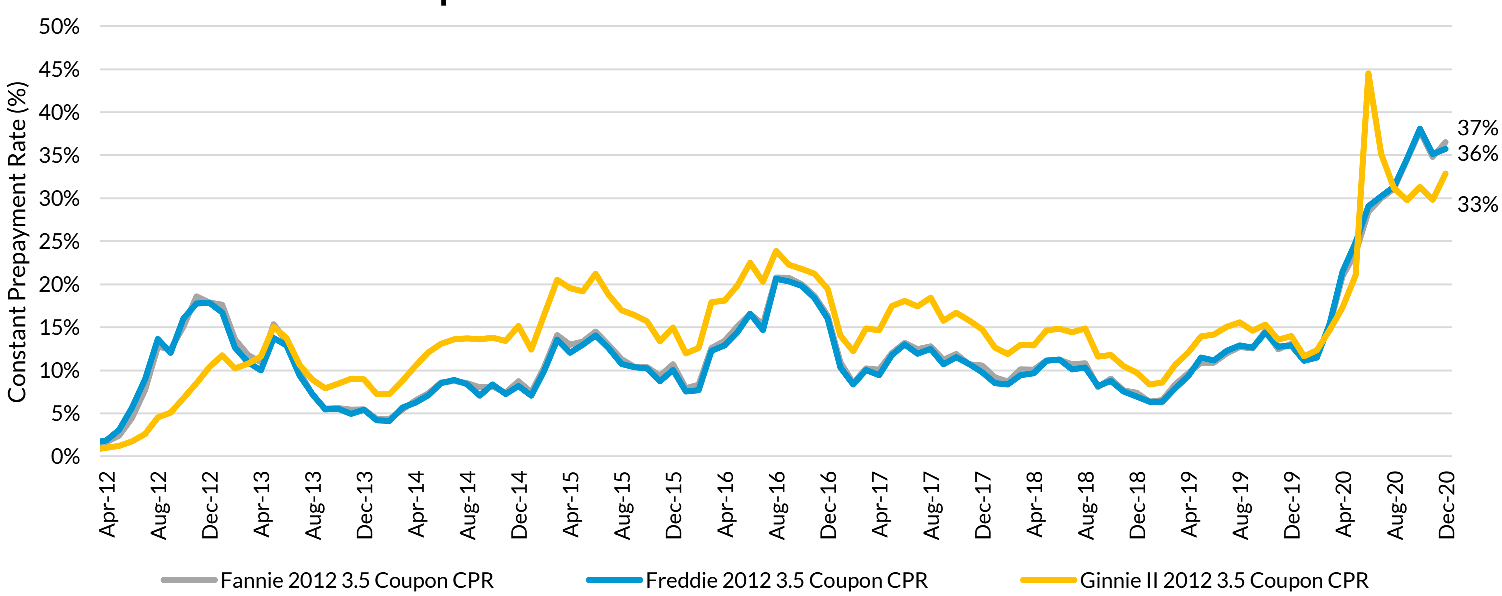
While prepayment speeds on all securities have risen since early 2019, the speed increase has been especially dramatic in 2020, with speeds on both Ginnie II and GSE securities rising rapidly due to a sharp drop in rates. At this point, the speeds on GSE securities have largely converged with those on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

Aggregate Prepayments



Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of December 2020.*

2012 Issued 3.5 Coupon CPR

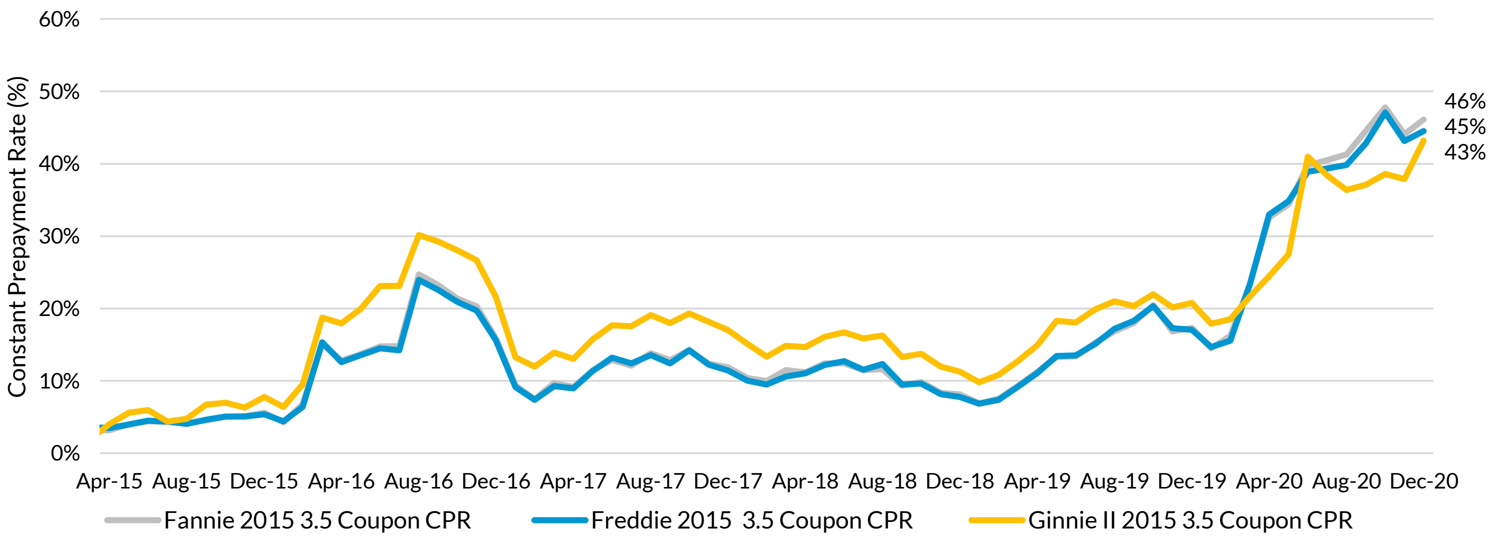


Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of December 2020.*

Prepayments

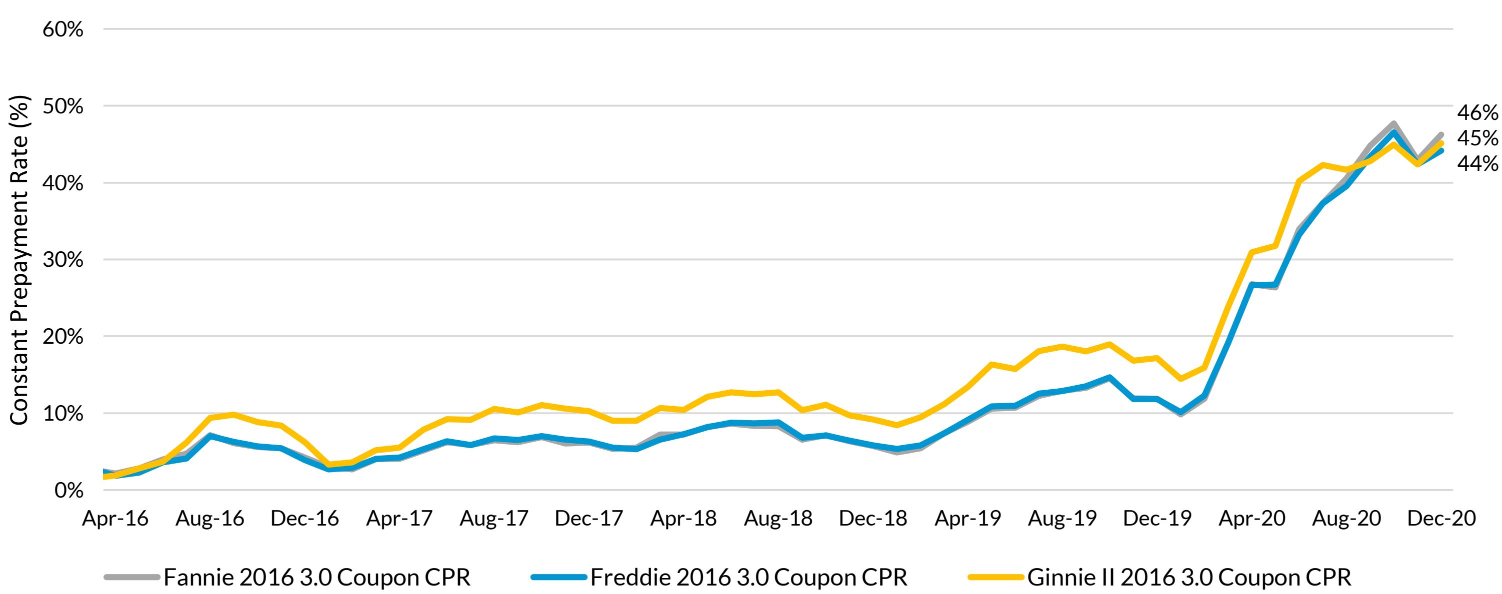
Speeds on the 2015 3.5s and the 2016 3.0s, the largest coupon cohorts of those vintage years, have been increasing since early 2019; the speed increases have been especially dramatic in 2020 due to a sharp drop in rates, with speeds on both Ginnie II and GSE securities rising rapidly. The speeds on the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

2015 Issued 3.5 Coupon CPR



Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of December 2020.*

2016 Issued 3.0 Coupon CPR

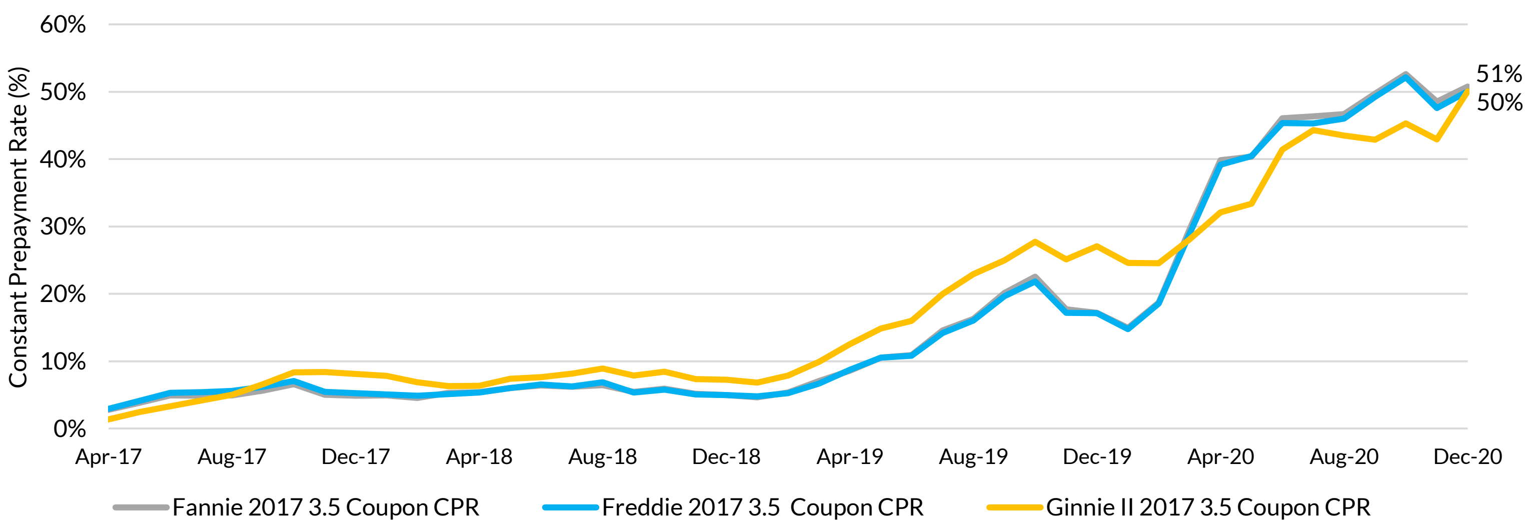


Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of December 2020.*

Prepayments

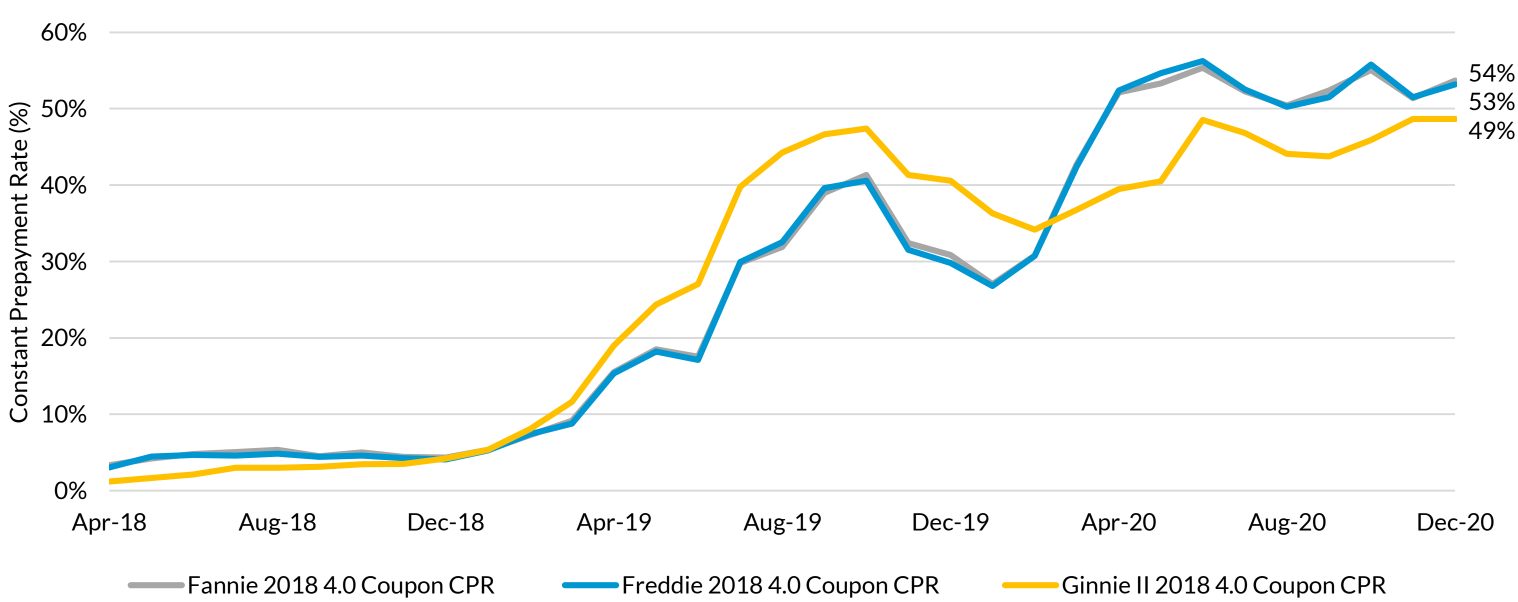
The charts below show the behavior of the 2017-issued 3.5s and the 2018-issued 4.0s, the largest coupon cohorts of those vintage years. Despite slower seasoning, 2017 Ginnie II 3.5s were prepaying faster than their conventional counterparts from late 2017 to March 2020, due primarily to fast VA prepayment speeds. Similarly, the 2018 Ginnie II 4.0s prepaid more slowly than their conventional counterparts until January of 2019. In 2019, speeds of 2018 4.0s and 2017 3.5s accelerated, and Ginnie II speeds accelerated more than their conventional counterparts. However, in early 2020 conventional speeds accelerated more than Ginnie speeds. Since March 2020, conventional speeds have exceeded those of the Ginnie cohorts; the expanded use of GSE appraisal waivers has played a role in this.

2017 Issued 3.5 Coupon CPR



Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of December 2020.*

2018 Issued 4.0 Coupon CPR

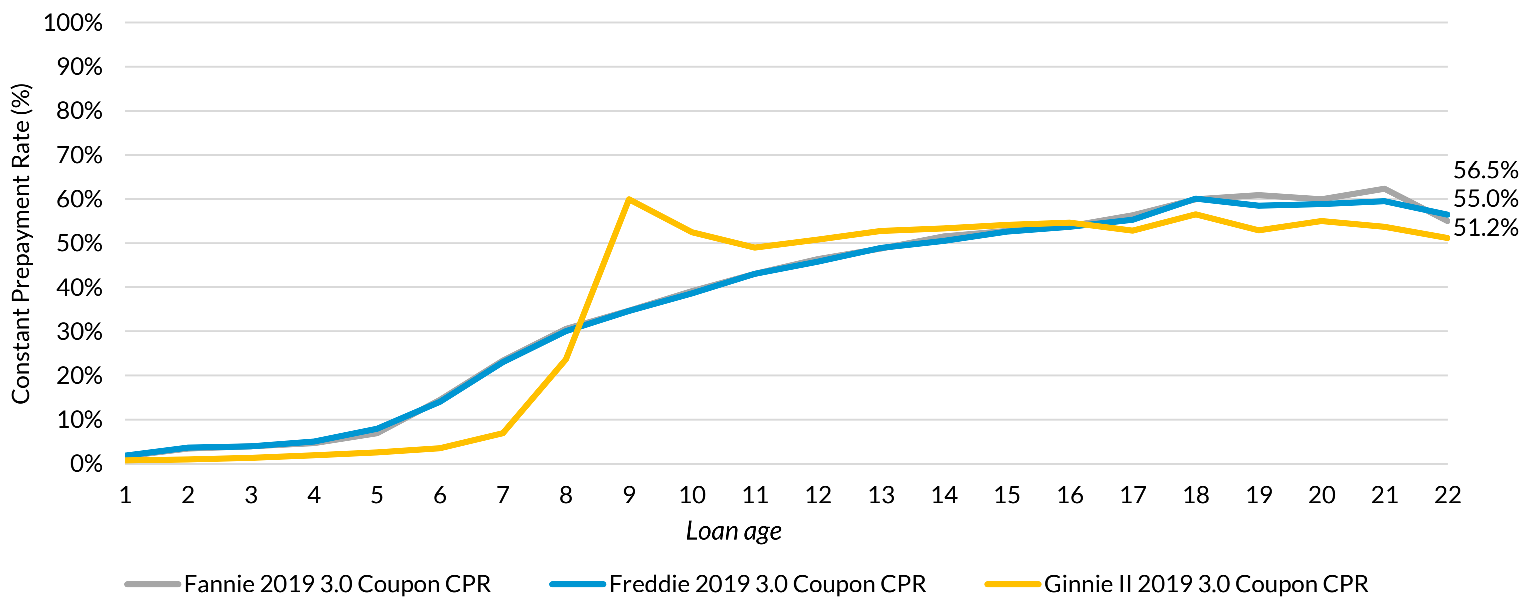


Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of December 2020.*

Prepayments

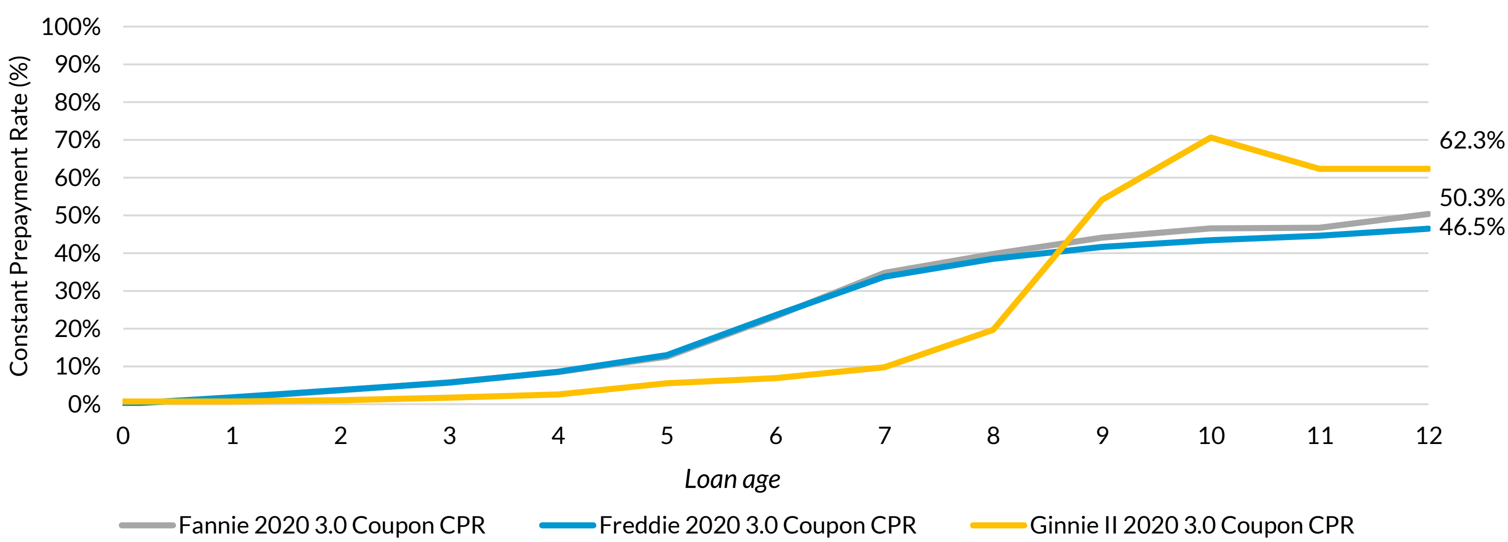
The charts below show prepayment speeds by loan age for 2019 and 2020 Ginnie II 3.0s. Prepayment speeds on both cohorts jumped at the 8-10 month loan age, a more muted jump than earlier cohorts at the same age; they then began to converge with conventional speeds more quickly, as a result of Ginnie Mae 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 running below their conventional counterparts 17 month loan age onwards. 2020 Ginnie II 3.0s show a similar 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 December 2020.*

2020 Issued 3.0 Coupon CPR, by Loan Age

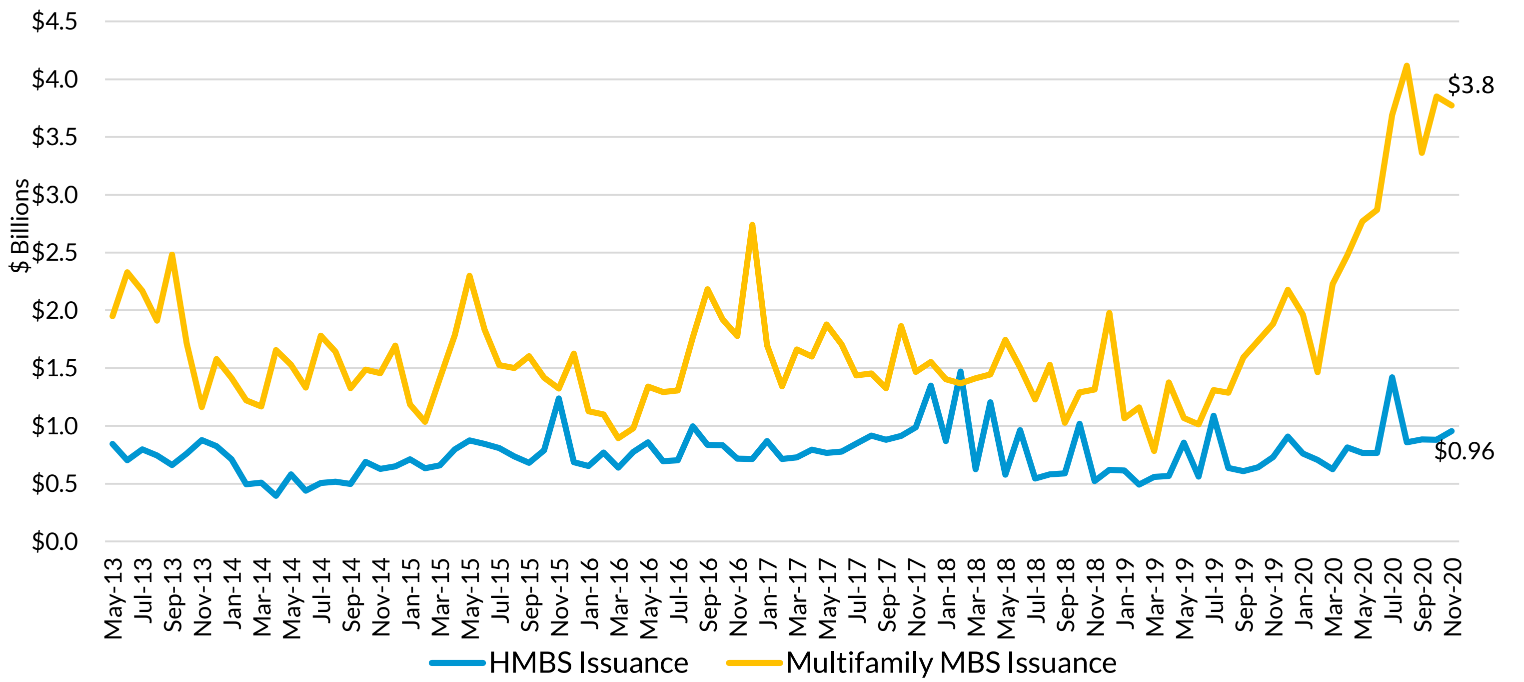


Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of December 2020.*

Other Ginnie Mae Programs Reverse and Multifamily Mortgages

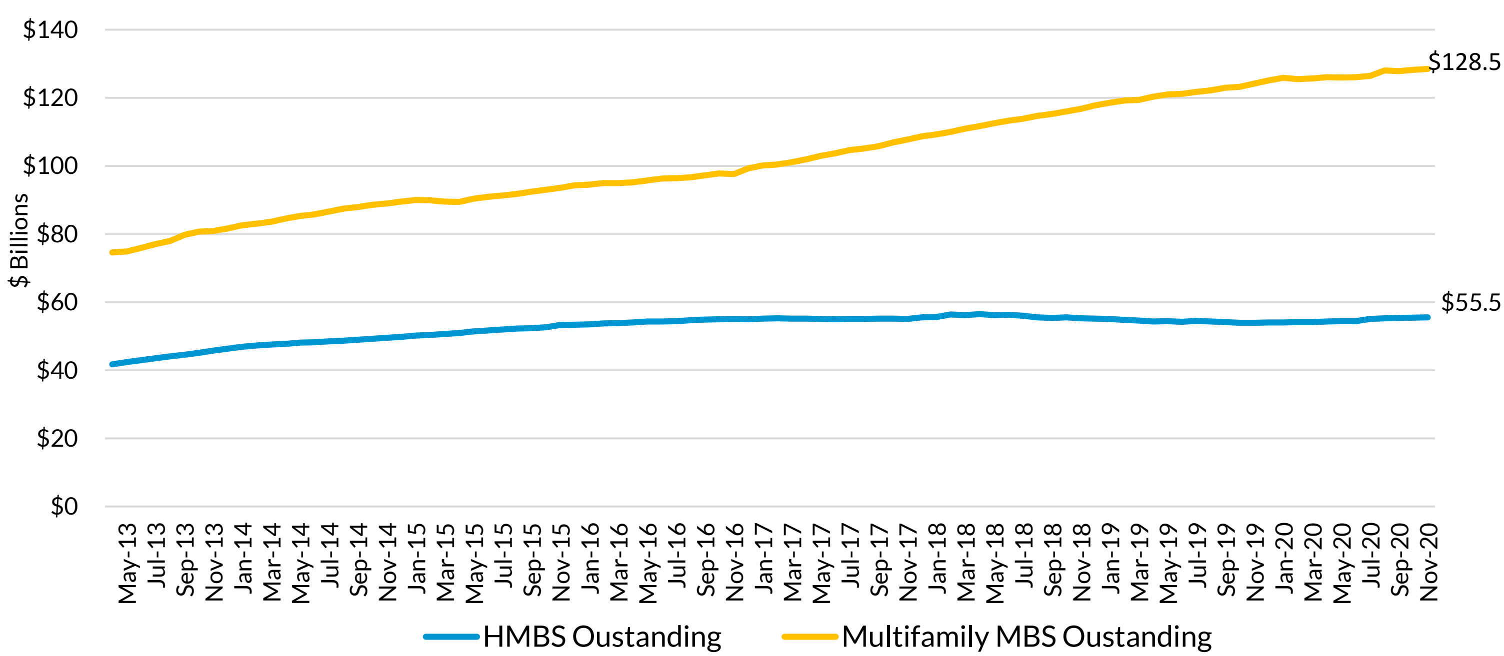
Ginnie Mae reverse mortgage issuance has been volatile over the past two years. After declining in 2018, volume has slowly improved over the course of 2019 and 2020. In November 2020, issuance grew mildly to $0.96 billion. Outstanding reverse mortgage securities totaled $55.5 billion in November 2020, up slightly from the previous month, reflecting a higher volume of new issuances relative to paydowns. After growing in October, Ginnie Mae multifamily issuance volume fell slightly in November 2020 to $3.8 billion. Outstanding multifamily securities totaled $128.5 billion as of the eleventh month of 2020.

Issuance Volume



Sources: *Ginnie Mae and Urban Institute.* ***Note:*** *Data as of November 2020.*

Outstanding Volume

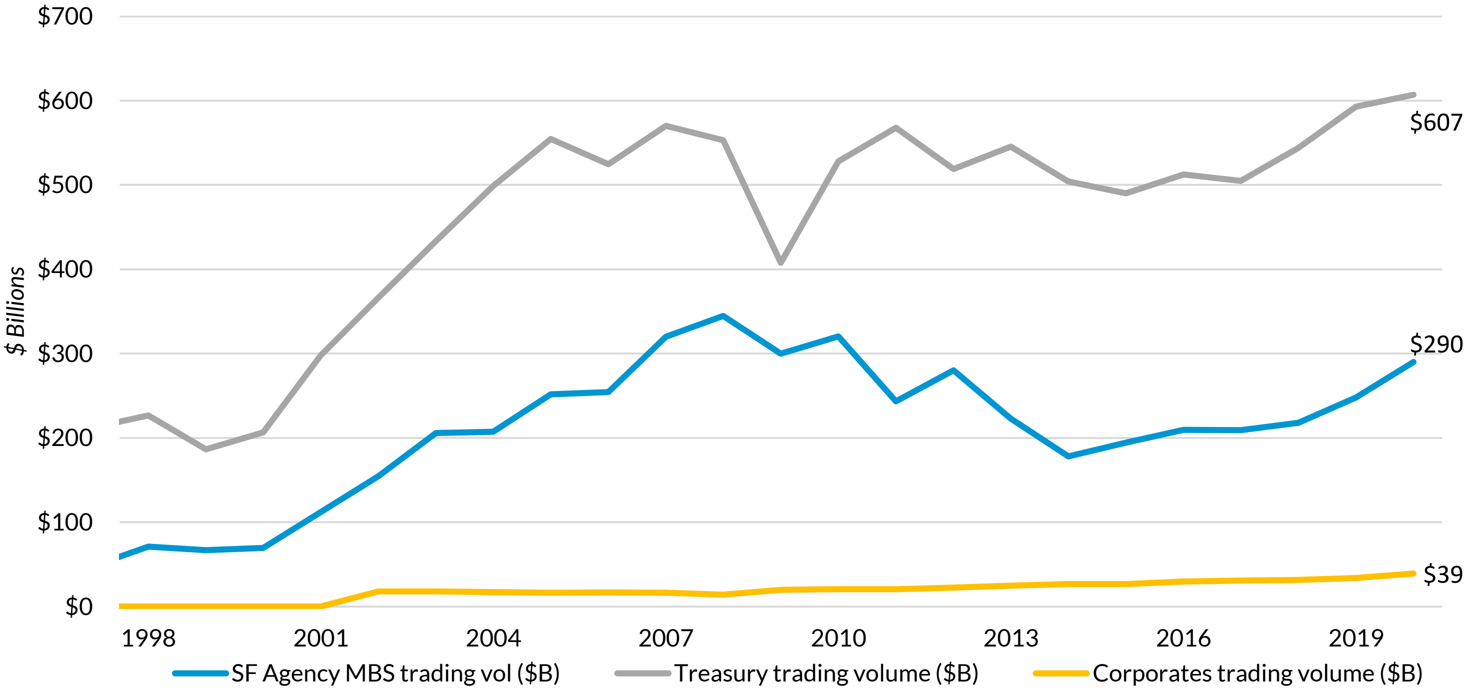


Sources: *Ginnie Mae and Urban Institute.* ***Note****: Data as of November 2020.*

Market Conditions

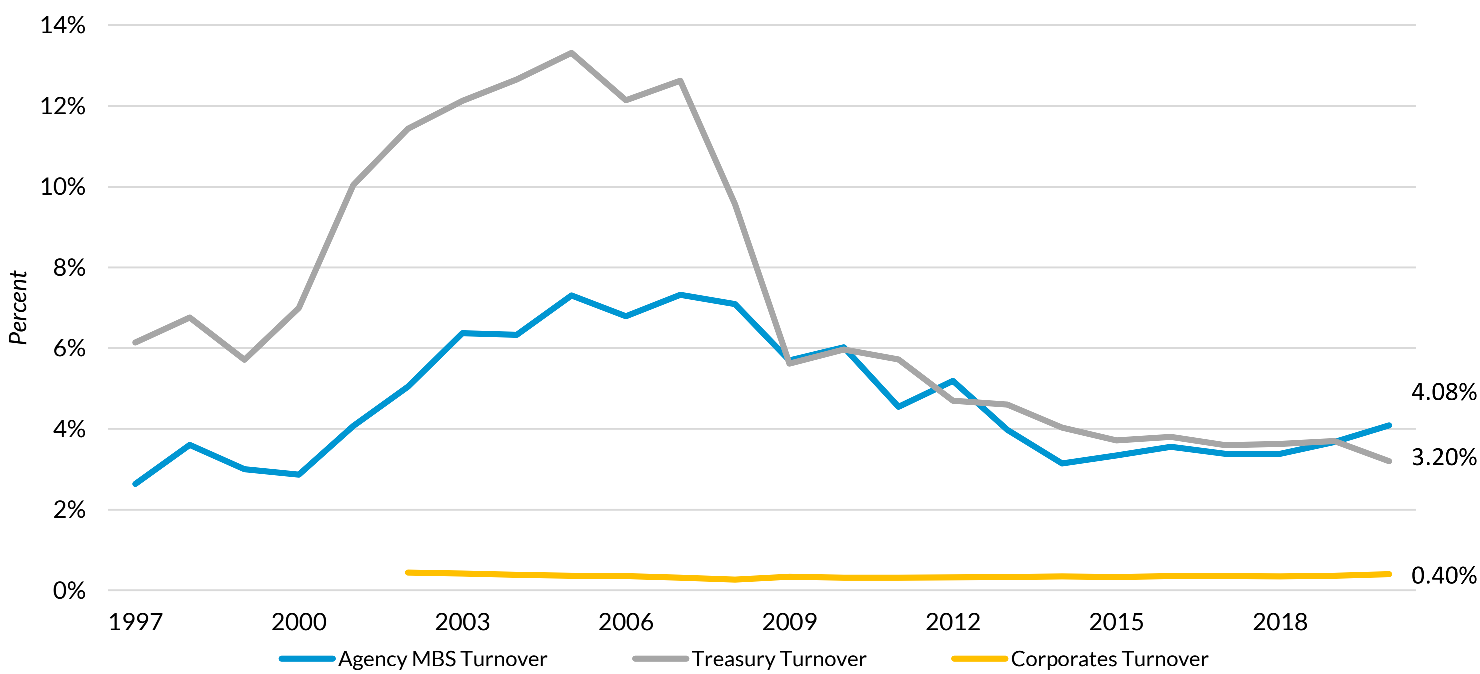
Agency MBS trading volume is $290 billion per day on average for the first eleven months of 2020, more robust than in the 2014-2019 period, but still below the pre-crisis peak of $345 billion in 2008. Average daily trading volume for Treasuries now exceeds the pre-crisis peak. Agency MBS turnover in 2020 YTD (through November) has also been higher than the 2014-2019 period; in 2020, average daily MBS turnover was 4.08 percent, above the 2019 average of 3.67 percent. Note that agency MBS turnover in the first eleven months of 2020 has been higher than US Treasury turnover, a 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 January 2020.*

Average Daily Turnover by Sector

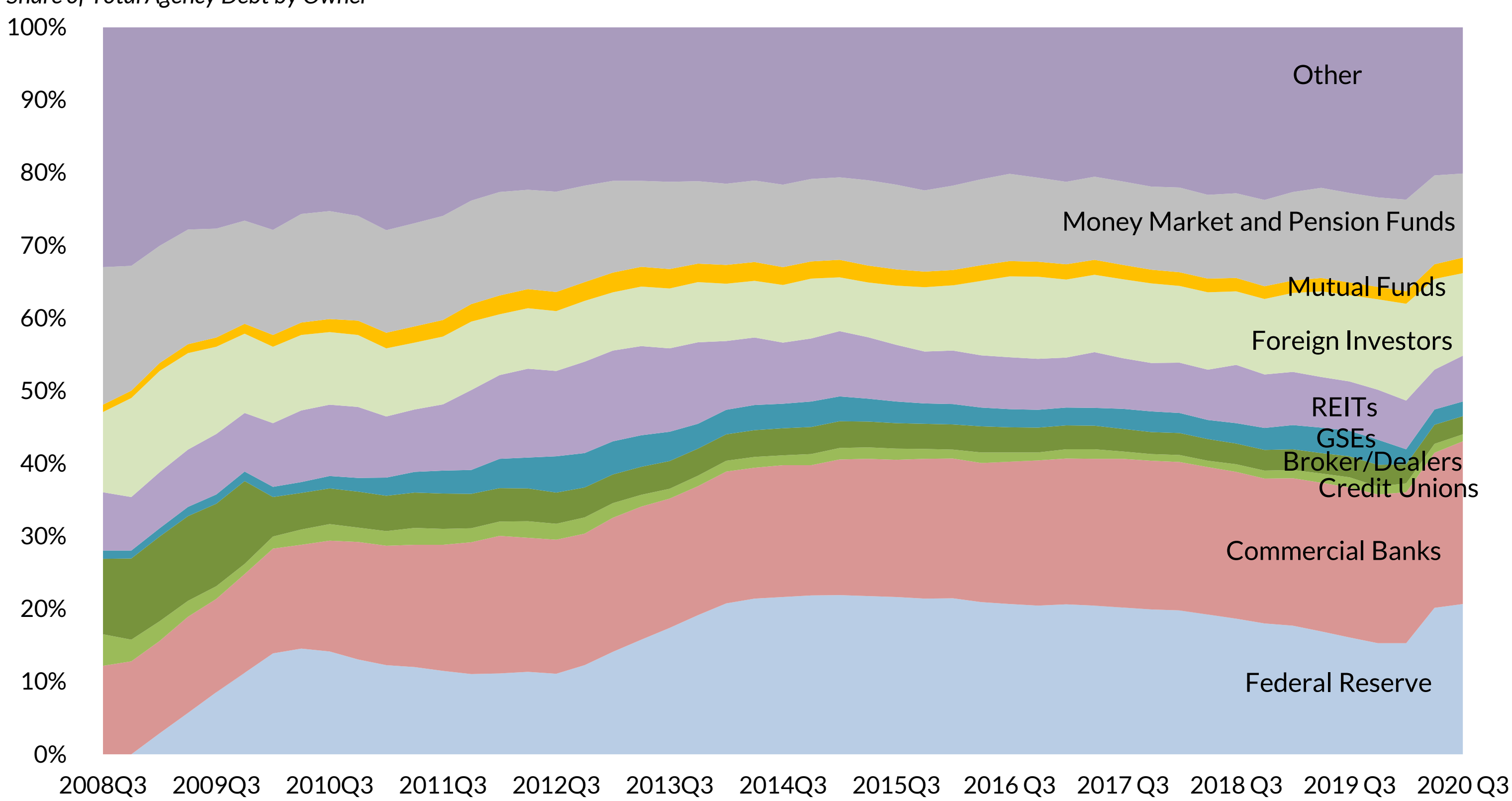


Sources: *SIFMA and Urban Institute.* ***Note:*** *Updated January 2020.*

MBS Ownership

The largest holders of agency debt (Agency MBS + Agency notes and bonds) include the Federal Reserve (21 percent), commercial banks (22 percent), foreign investors (12 percent), and money market & pension funds (11 percent). The broker/dealer and GSE shares are a fraction of what they once were. The Federal Reserve's share increased from 15 percent in the first quarter of 2020 to 21 percent in the third quarter due to substantial purchases of MBS in response to the COVID-19 crisis. Despite large Federal Reserve purchases, commercial banks continue to be the largest holders of Agency MBS. Out of their $2.5 trillion in holdings as of the end of December 2020, $1.9 trillion was held by the top 25 domestic banks.

Who owns Total Agency Debt?



Sources: *Federal Reserve Flow of Funds and Urban Institute.* **Note**: *The "other" category includes primarily life insurance companies, state and local govts, households, and nonprofits. Data as of Q3 2020.*

Commercial bank holdings of agency MBS

`	Commercial Bank Holdings ($Billions)								Week Ending			
	Nov-19	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec 09	Dec 16	Dec 23	Dec 30
Largest 25 Domestic Banks	1507.6	1618.5	1613.5	1649.0	1703.9	1693.5	1740.8	1797.7	1803.0	1812.3	1843.0	1853.2
Small Domestic Banks	532.2	559.8	569.6	577.5	588.8	599.2	611.0	626.8	641.1	650.9	641.2	645.7
Foreign Related Banks	38.7	43.5	43.7	43.2	41.7	40.2	39.3	45.3	48.4	47.3	44.9	46.9
Total, Seasonally Adjusted	2078.5	2221.8	2226.8	2269.7	2334.4	2332.9	2391.1	2469.8	2492.5	2510.5	2529.1	2545.8

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 December 2020.*

MBS Ownership

Out of the $2.3 trillion in MBS holdings at banks and thrifts as of Q3 2020, $1.8 trillion was agency pass-throughs: $1.3 trillion in GSE pass-throughs and $415 billion in Ginnie Mae pass-throughs. Another $500 billion was agency CMOs, while non-agency holdings totaled $46 billion. In Q3 2020, MBS holdings at banks and thrifts increased for the ninth consecutive quarter. The increase was driven by both GSE pass-throughs and agency CMO holdings, with the increase in GSE pass-throughs making the larger contribution.

Bank and Thrift Residential MBS Holdings

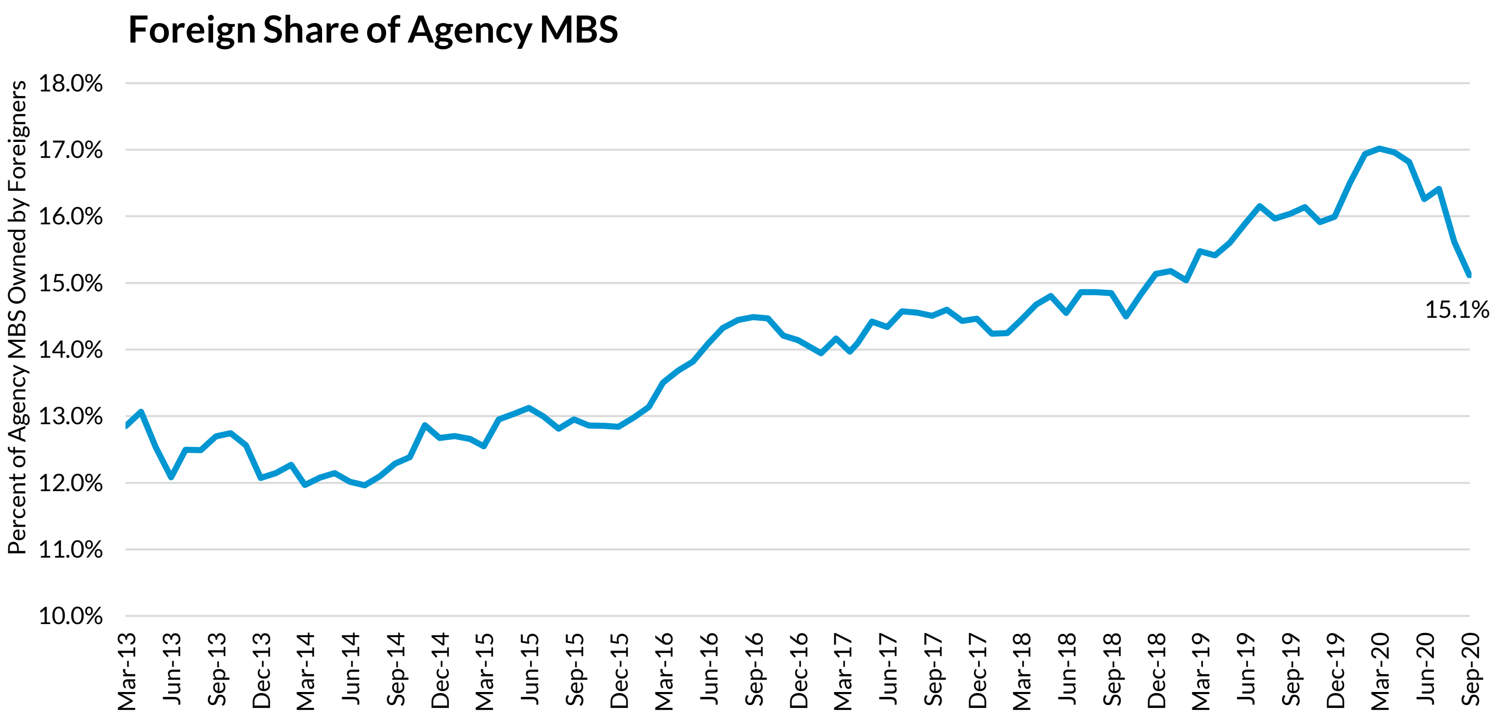
	All Banks & Thrifts ($Billions)						
	Total	Agency MBS PT	GSE PT	GNMA PT	Agency CMO	Private MBS PT	Private CMO
2000	$683.90	$392.85	$234.01	$84.26	$198.04	$21.57	$71.43
2001	$810.50	$459.78	$270.59	$109.53	$236.91	$37.62	$76.18
2002	$912.36	$557.43	$376.11	$101.46	$244.98	$20.08	$89.88
2003	$982.08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

	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	$395,969.0	$256,271.0	$127,087.0	$12,327.0	$284.0	17.10
2	Wells Fargo & Company	$254,767.0	$181,758.0	$65,210.0	$7,244.0	$555.0	11.00
3	JP Morgan Chase & Co.	$196,629.0	$118,144.0	$62,066.0	$202.0	$16,217.0	8.50
4	Charles Schwab Bank	$142,727.0	$78,139.0	$16,680.0	$47,908.0	$0.0	6.20
5	U.S. Bancorp.	$98,302.0	$66,924.5	$16,077.8	$15,299.2	$0.5	4.30
6	Citigroup Inc.	$81,852.0	$72,727.0	$2,201.0	$5,244.0	$1,680.0	3.50
7	Truist Bank	$78,975.0	$31,335.0	$17,222.0	$30,418.0	$0.0	3.40
8	Capital One Financial Corporation	$76,011.5	$40,069.0	$10,906.5	$24,390.1	$645.9	3.30
9	Bank Of New York Mellon Corp.	$64,932.0	$46,335.0	$3,742.0	$12,843.0	$2,012.0	2.80
10	PNC Bank, National Association	$54,529.5	$45,555.4	$5,647.3	$1,724.0	$1,602.7	2.40
11	State Street Bank And Trust Company	$47,135.4	$22,085.0	$7,813.0	$14,870.4	$2,367.0	2.00
12	Morgan Stanley	$34,185.0	$20,304.0	$5,100.0	$8,781.0	$0.0	1.50
13	USAA Federal Savings Bank	$30,027.0	$24,676.1	$2,679.4	$2,671.6	$0.0	1.30
14	TD Bank	$27,154.6	$1,772.7	$151.0	$25,134.4	$96.5	1.20
15	HSBC Bank Usa, National Association	$26,482.1	$6,951.0	$10,655.6	$8,873.4	$2.2	1.10
16	E*TRADE Bank	$25,672.8	$14,338.2	$3861.9	$7,472.6	$0.0	1.10
17	Silicon Valley Bank	$24,800.4	$15,257.0	$143.2	$9,400.2	$0.0	1.10
18	Ally Bank	$23,949.0	$16,658.0	$1488.0	$2,820.0	$2983.0	1.00
19	BMO Harris Bank National Association	$19,964.2	$5,101.8	$533.3	$14329.0	$0.0	0.90
20	KeyBank National Association	$19,812.6	$1,126.0	$524.7	$18,162.0	$0.0	0.90
	Total Top 20	**$1,723,877**	**$1,065,528**	**$359,790**	**$270,114**	**$28,446**	**74.60%**

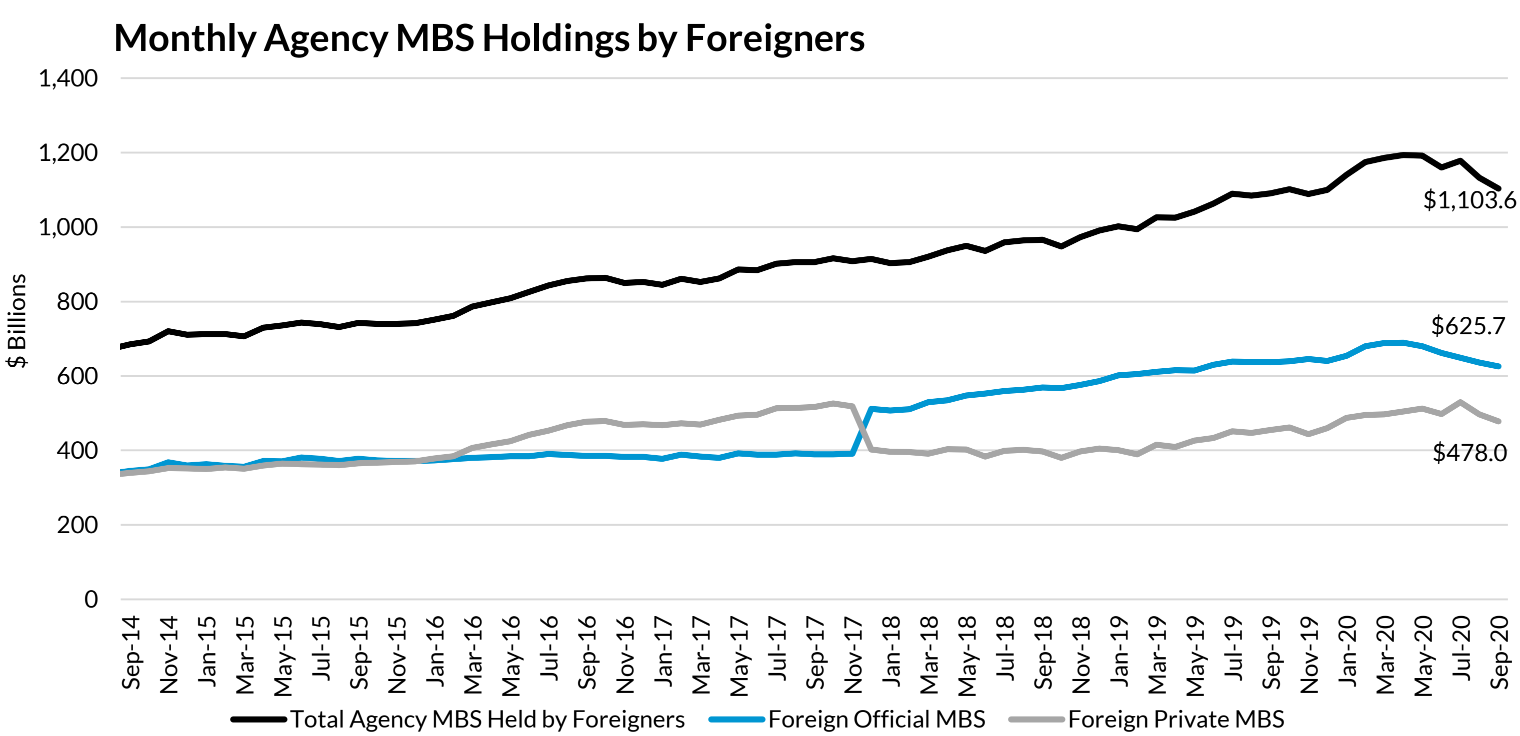
***Sources:** Inside Mortgage Finance and Urban Institute. **Note:** Data as of Q3 2020.*

MBS Ownership

Foreign investors held 15.1 percent of agency MBS in September 2020, up from a low of 12.0 percent in July 2014, but down from 17.0 percent in spring 2020. For the month of September 2020, this represents $1.10 trillion in Agency MBS, $478 billion held by foreign private institutions and $626 billion held by foreign institutions. This represents a $90.0 billion drop in Agency MBS from the peak in spring 2020, all in official holdings.



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



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

MBS Ownership

The largest foreign holders of Agency MBS are Japan, Taiwan, and China; these three comprise just under 70 percent of all foreign holdings. Between June 2019 and September 2020, we estimate that Japan has increased their agency MBS holdings by $7.96 billion, Taiwan has decreased their holdings by $1.19 billion and China has decreased their holdings by $19.0 billion. All three countries have experienced declines since March of 2020; the declines in Chinese holdings have been especially dramatic, we estimate Chinese holdings of MBS are down by more than 20 percent from April through September of 2020.

Agency MBS+ Agency Debt

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

Agency MBS Only (Estimates)

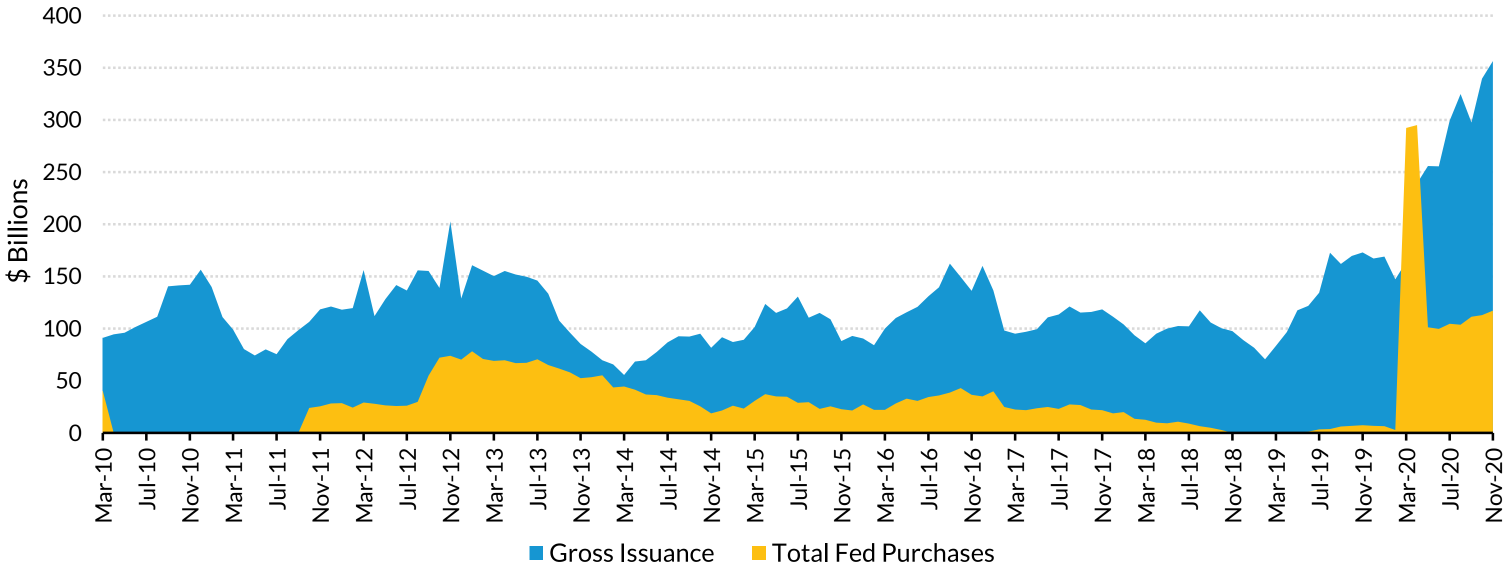
	Level of Holdings ($Millions)*						Change in Holdings ($Millions)*				
Country	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020
Japan	293,662	307,738	302,212	319,241	306,963	301,622	14,076	-5,526	16,823	-12,278	-5,341
Taiwan	265,234	262,732	261,470	268,881	267,700	264,043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

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 September 2020.*

MBS Ownership

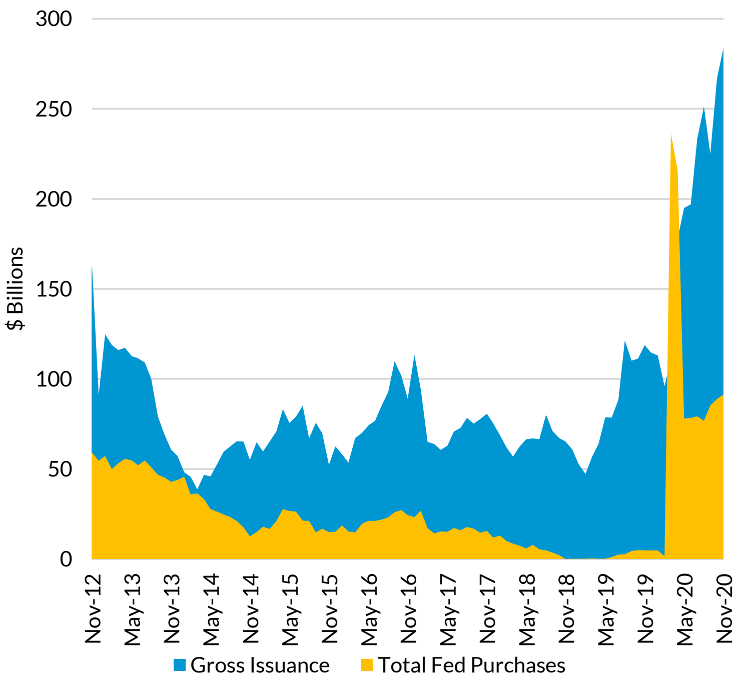
On March 23, 2020, in response to the market dislocations caused by the coronavirus pandemic, the Fed announced they would purchase Treasuries and agency MBS in an amount necessary to support smooth functioning markets. In March the Fed bought $292.2 billion in agency MBS, and April clocked in at $295.1 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. Recently, Fed purchases have ramped up again slightly; purchases totaled $117.1 billion in November 2020. November Fed purchases totaled 33 percent of monthly issuance. Prior to the COVID-19 intervention, the Fed was winding down its MBS portfolio from its 2014 prior peak.

Total Fed Absorption



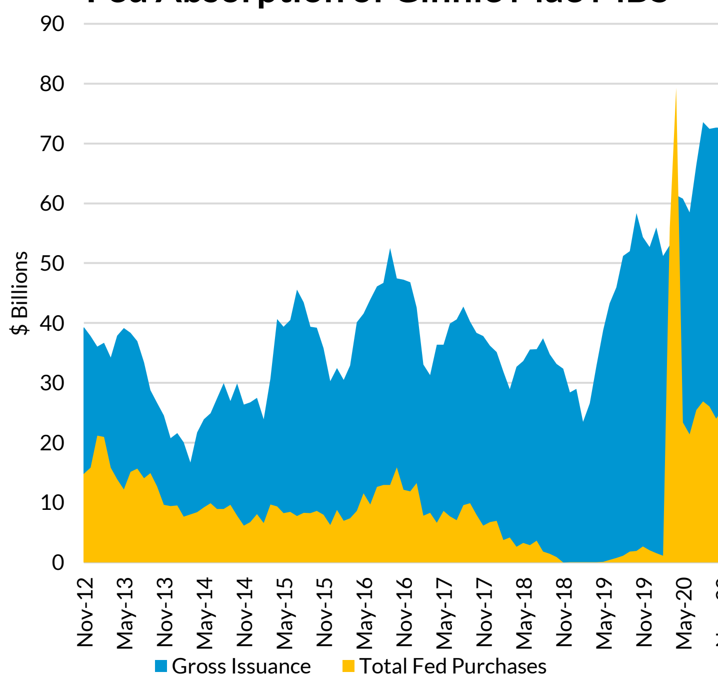
Sources: *eMBS, Federal Reserve Bank of New York and Urban Institute.* ***Note:*** *Data as of November 2020.*

Fed Absorption of GSE MBS



Sources: *eMBS, Federal Reserve Bank of New York and Urban Institute.* ***Note:*** *Data as of November 2020.*

Fed Absorption of Ginnie Mae MBS



Sources: *eMBS, Federal Reserve Bank of New York and Urban Institute.*
Note: *Data as of November 2020.*

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 January 13th, 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.

United States: State Street Global Advisors, 1 Iron Street, Boston, MA 02210-1641.

Tracking Code: 3404709.2.1.AM.INST

Expiration Date: 1/31/2022