Global Markets Analysis Report

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

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Ginnie Mae
Our Guaranty Matters

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

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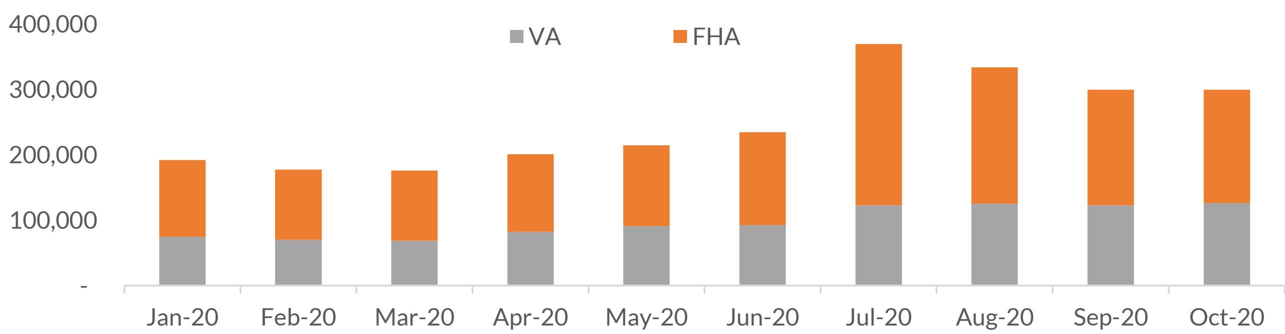
HIGHLIGHTS

A Closer Look at Loans Removed from Ginnie Mae MBS Pools

Since the beginning of the pandemic there has been a large increase in the number of loans removed from Ginnie Mae MBS pools. Ginnie Mae releases detailed loan data that can be instructive in understanding the reason behind the removals. Broadly speaking, loans can be removed from pools for the following reasons: Mortgagor Payoff (i.e. refinance), delinquent loan buyout, completion of foreclosure, and loss mitigation. As a reminder, Ginnie Mae's policy allows issuers an option to purchase seriously delinquent loans from MBS pools at a price equal to the remaining loan balance plus accrued interest.

Figure 1 shows the monthly count of FHA and VA loans removed from pools in 2020. This number was quite stable during the pre-pandemic period of January to March, generally ranging from 175,000 to 190,000 loans per month. It increased substantially in July to nearly 370,000 loans to coincide with several depository issuers electing the buyout option, but has trended down ever since. Note that the increase was driven primarily by FHA loans, which have a higher delinquency rate than VA loans (page 13.) The number of VA loans removed from pools is also up slightly driven mostly by a large increase refinance activity and to a much lesser extent by increased buyout activity since July.

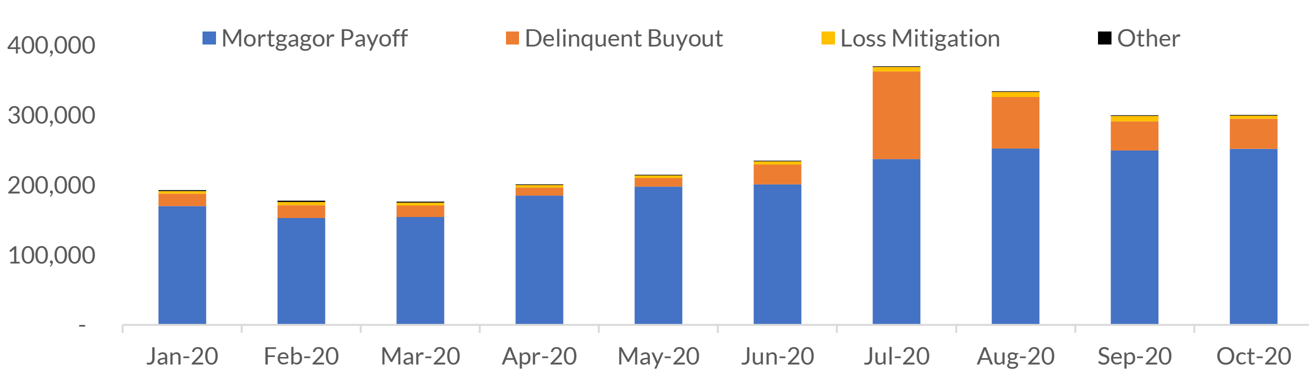
Figure 1: FHA and VA Loans removed from GNMA pools (Number of loans)



Source: eMBS and Urban Institute

Further insights can be gleaned by breaking this data out by removal reason, i.e. liquidation type. While delinquent buyouts have been prominently discussed in recent months, the Figure 2 shows that vast majority of loans removed from pools have in fact been refinances. With the exception of July and August, well over 80 percent – and in some months over 90 percent – of removals have been refinances triggered by steep declines in mortgage rates in 2020. The share of buyouts ranged from 5 to 10 percent of all liquidations until May this year. After hitting a peak of 34 percent in July, it fell to 14 percent in September and October. While loans bought out for loss mitigation comprised a tiny fraction, generally 1.5 to 2 percent of monthly liquidations, this number could rise after March or April of next year when the first wave of 12- month forbearance plans expire.

Figure 2: FHA and VA removed from pools, by liquidation type



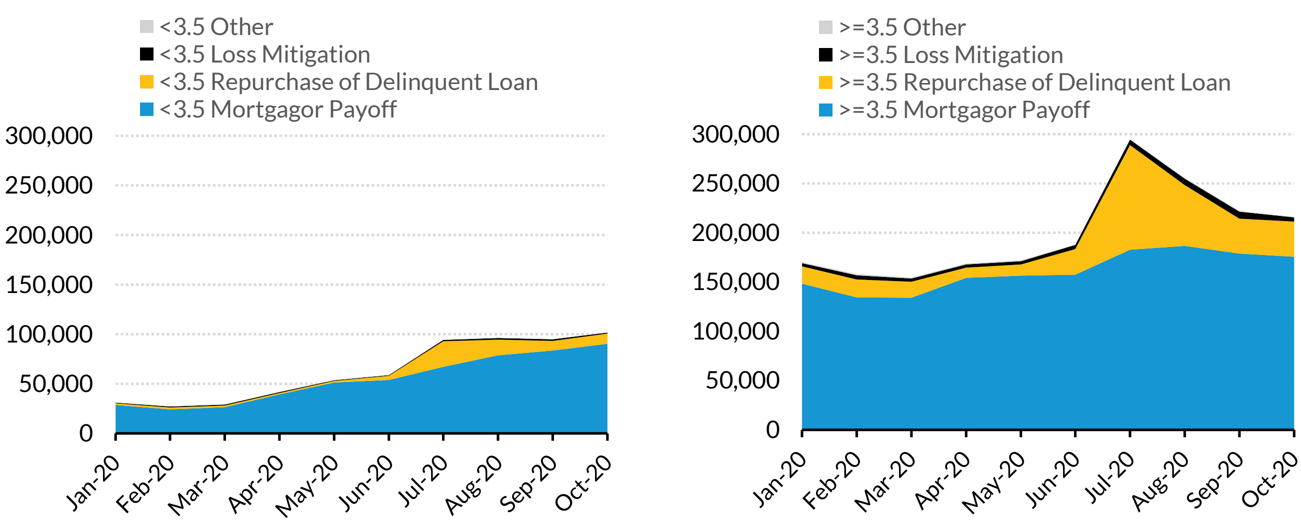
Source: eMBS and Urban Institute

HIGHLIGHTS

Finally, we look at the breakout of loans removed from pools by coupon. Figure 3 shows the liquidation composition for two Ginnie Mae coupon buckets: <3.5 percent and => 3.5 percent. As before, refinances have comprised vast majority of liquidations in both coupon buckets. The larger number of loans in the => 3.5 percent reflects the larger size of this coupon bucket going into 2020. This is also one of the likely reasons why delinquent buyout activity was much more concentrated in this coupon bucket.

The decline in buyout activity since September reflects the partial impact of Ginnie Mae's new policy disallowing delinquent loans that are bought out from being re-pooled into Ginnie II TBA pools. Additionally, much of the increase in buyout activity over summer was driven by depository issuers opting to repurchase. As a result, the overwhelming majority of remaining buyout-eligible loans are serviced by non-depositories. Because of their higher capital costs and focus on preserving liquidity, non-depositories have shown less inclination to exercise the buyout option. While future buyout activity is inherently unpredictable, Ginnie Mae's new policy on the pooling of re-performing loans and the heavier non-depository footprint could help mitigate any potential increases.

Figure 3: Loans Removed from Pools, by liquidation type and coupon



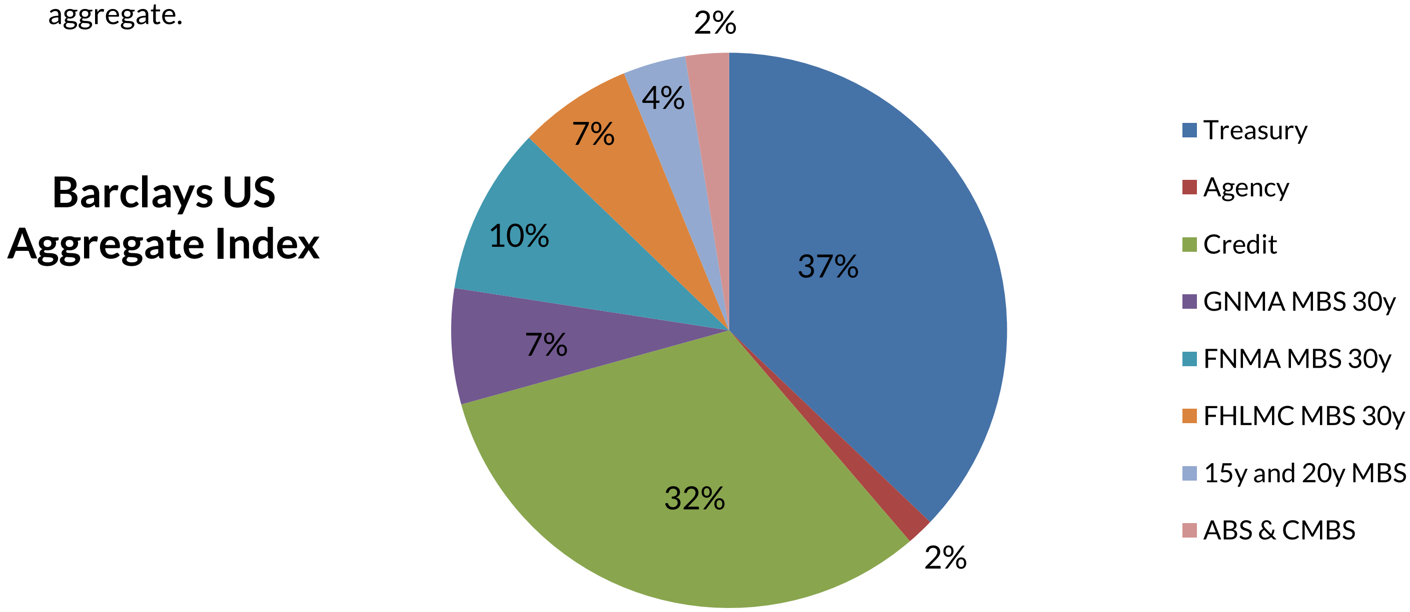
Source: eMBS and Urban Institute

***Highlights this month*:**

- The first time homebuyer (FTHB) share of VA purchase lending fell to 50.4 percent in September 2020, the lowest level since October 2015. This reflects a bigger increase in VA repeat buyers than FTHBs YTD 2020 (page 25).
- The nonbank share of agency originations reached new records in September 2020, with Fannie's share reaching 70.6 percent, Freddie's 70.4 percent, and Ginnie Mae's 91.7 percent (page 35).
- The difference between bank and nonbank median FICO scores in the agency space has narrowed considerably (to 11 points) in 2020. This reflects substantial increase in nonbank FICOs, whose volume is more refinance heavy than banks (page 37).

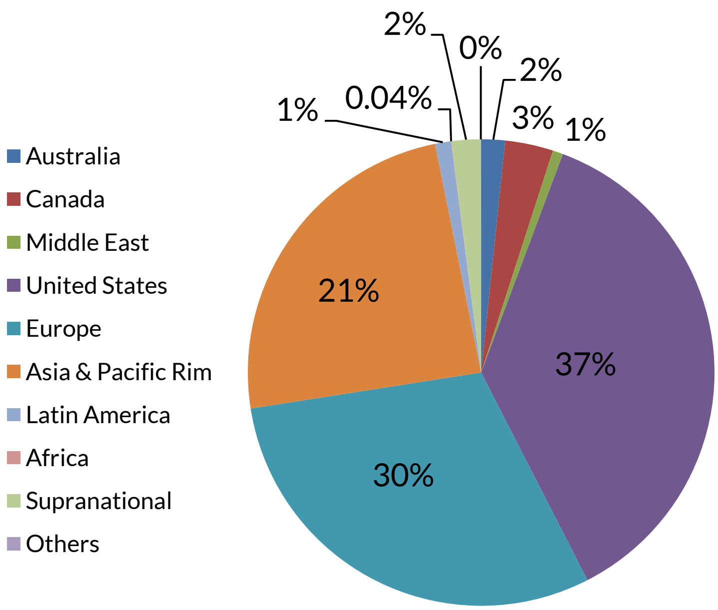
Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

US MBS (Ginnie Mae, Fannie Mae, and Freddie Mac) comprise 28 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 Ginnie Mae 30-year MBS and Freddie Mac 30-year MBS both comprise 7 of the market. 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 37 percent of the global total. US MBS comprises 10 percent of the global aggregate.



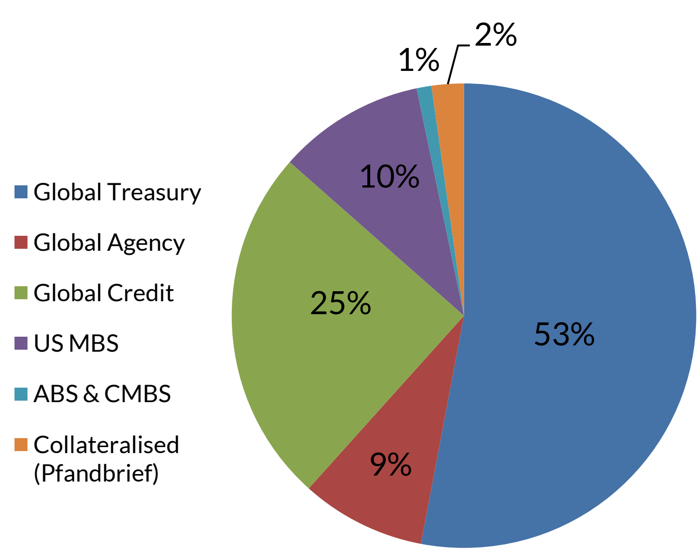
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of September 2020.*
Note*: Numbers in chart may not add to 100 percent due to rounding.*

Barclays Global Aggregate Index by Country



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

Barclays Global Aggregate Index by Sector

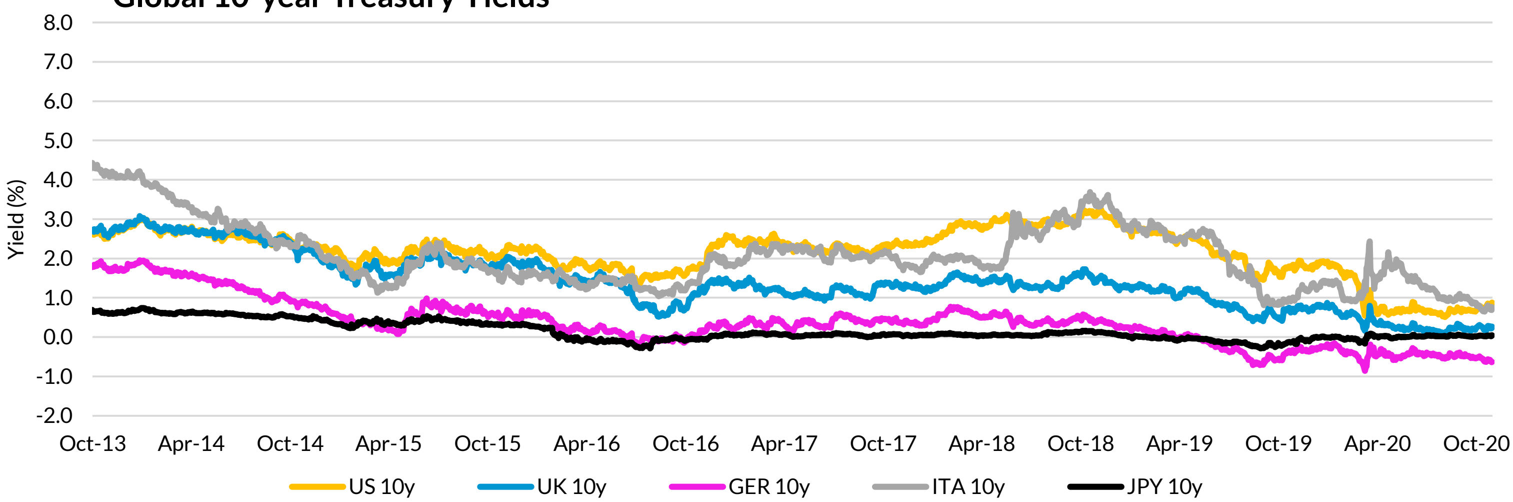


Sources: *Bloomberg and State Street Global Advisors*
Note*: Data as of September 2020.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

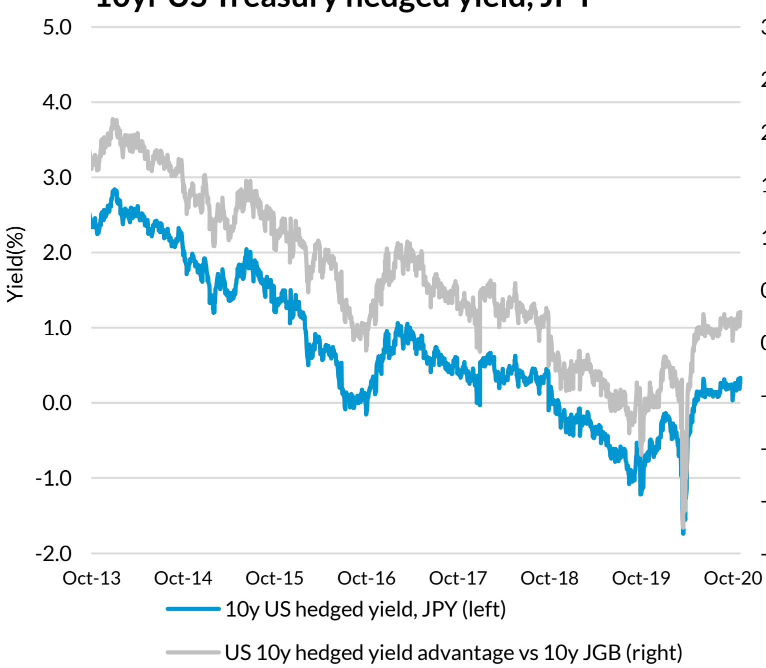
After experiencing COVID-19 related volatility in March and April of this year, government bond yields across the globe stabilized. The United States stood out from the pack in October, with the yield on the 10-year treasury increasing by 19 bps to 0.87 percent, surpassing Italy for the highest spot in the developed world. The yield on the Italian 10-year note, which has been an outlier for much of 2020, fell by 11 bps to 0.76 percent. The yield on the UK 10-year bond and the Japanese 10-year government bond both grew by a modest 3 bps in October, to 0.26 and 0.04 percent, respectively. The German 10-year yield fell by 11 bps to negative 0.63 percent in October. At the end of October, the hedged yield differential between the 10-year Treasury and the 10-year JGB stood at 29 bps, a widening of 21 bps since September 2020. The hedged yield differential between the 10-year Treasury and the 10-year Bund stood at 61 bps, an expansion of 31 bps since the end of September 2020.

Global 10-year Treasury Yields



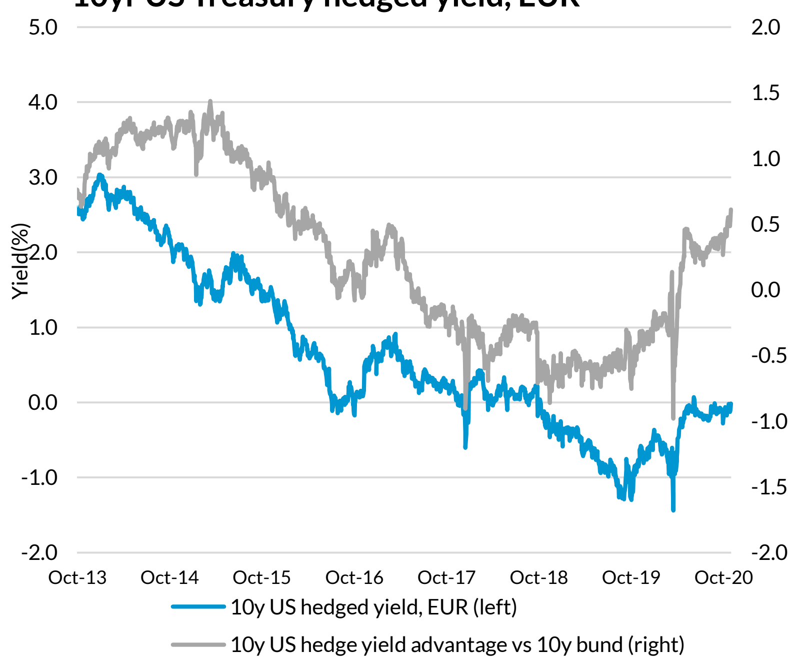
Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of October 2020.*

10yr US Treasury hedged yield, JPY



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

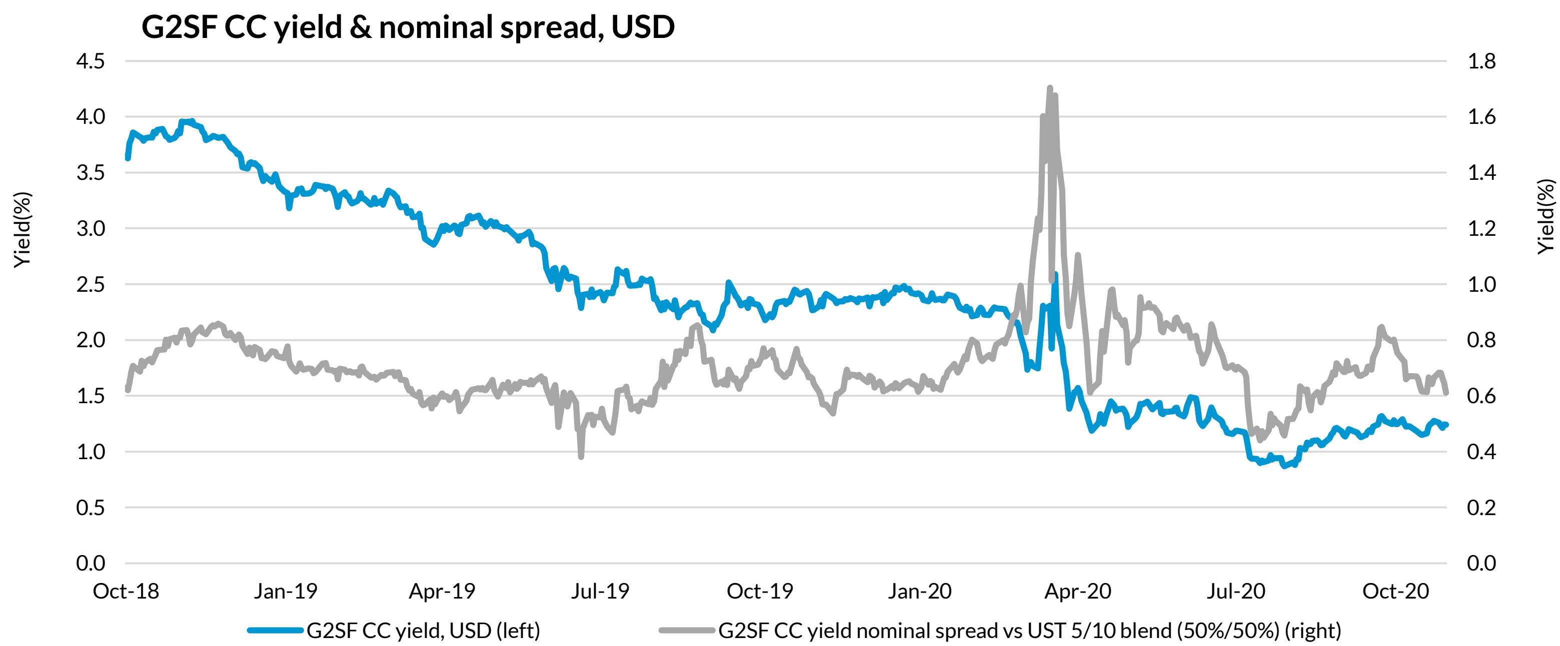
10yr US Treasury hedged yield, EUR



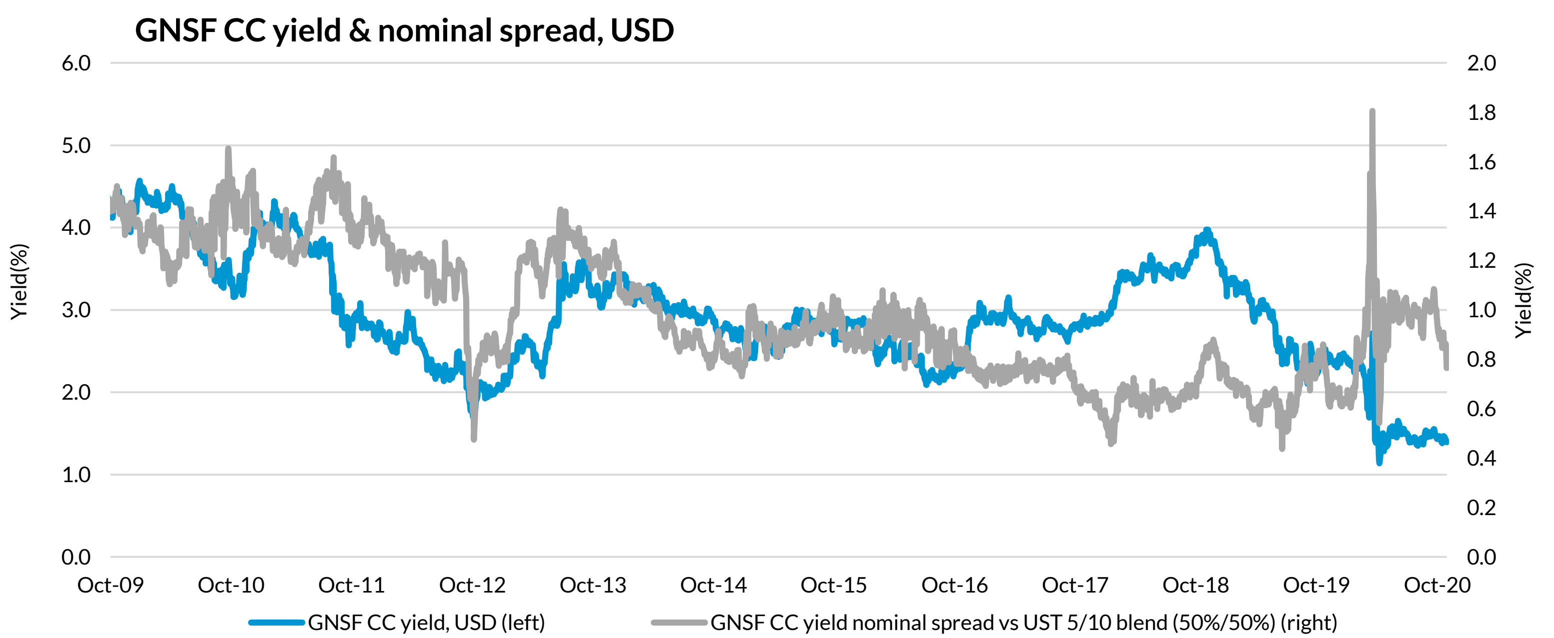
Sources: *Bloomberg and State Street Global Advisors*
Note*: Data as of October 2020.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

Nominal yields fell in October 2020, with GNMA II yields decreasing 4 bps to 1.24 percent and GNMA I yields down 5 bps to 1.39 percent. At the end of October, current coupon Ginnie Mae securities outyield their Treasury counterparts (relative to the average of 5- and 10-year Treasury yields) by 61 bps on the G2SF and 76 bps on the GNSF, a decrease of 19 and 20 bps, respectively, since last month.



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

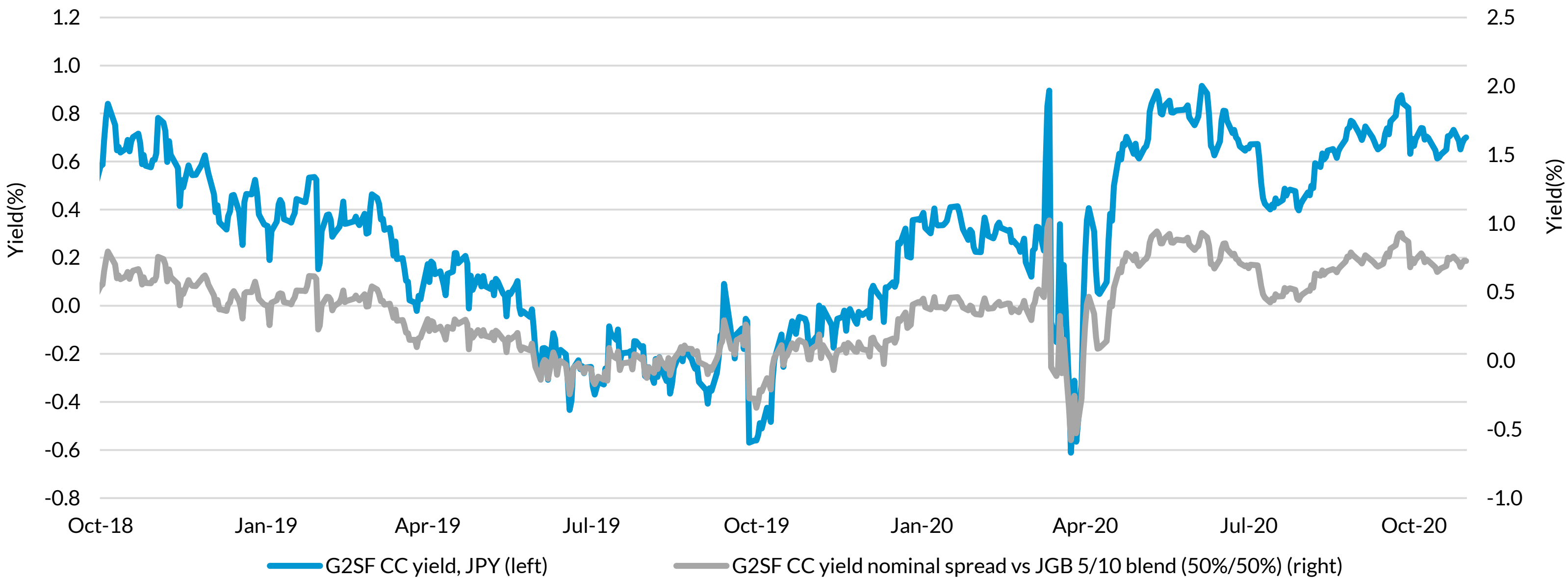


Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of October 2020.*

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

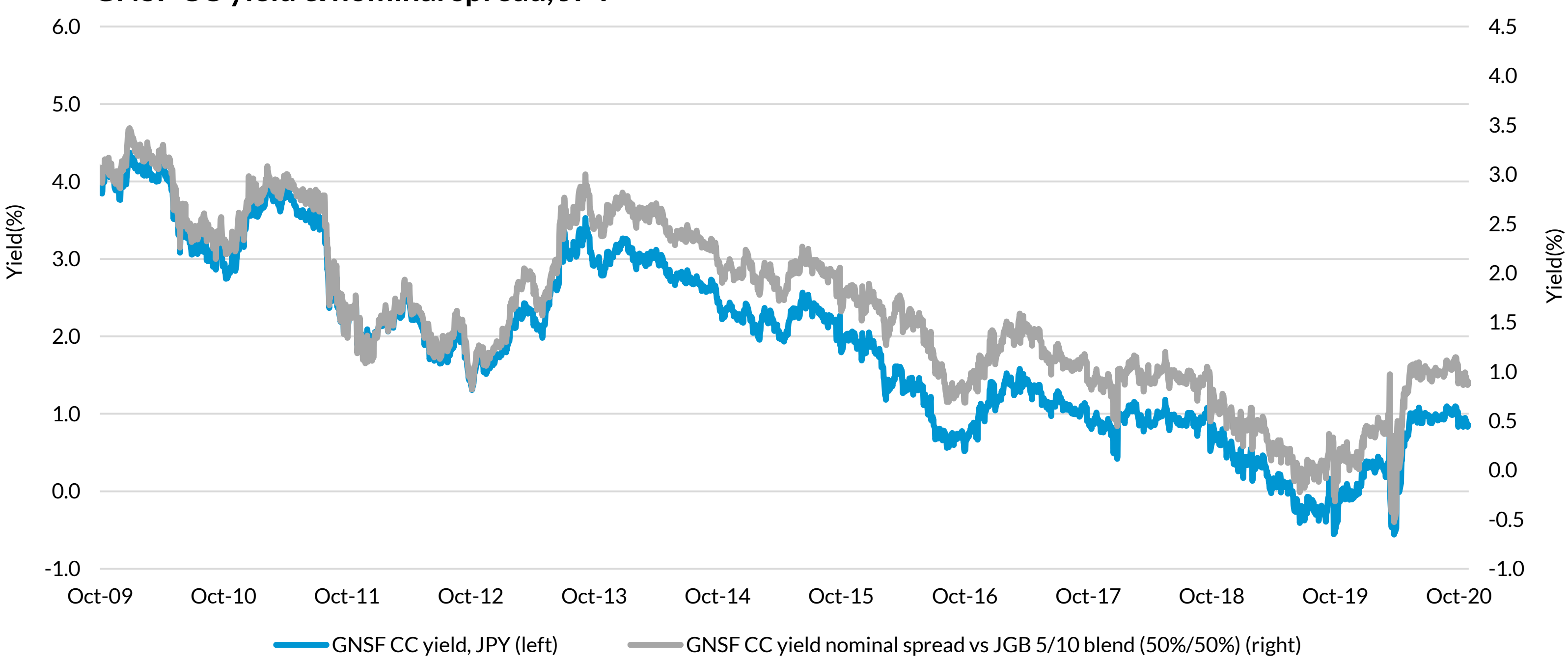
If Ginnie Mae securities are hedged into Japanese Yen, they look favorable on a yield basis versus the JGB 5/10 blend at the end of October. More precisely, hedged into Japanese yen, the G2SF and GNSF have a 73 and 88 bp yield versus the JGB 5/10 blend. This represents a 2 bp tightening for G2SF and a 3 bp tightening for GNSF since the end of September 2020.

G2SF CC yield & nominal spread, JPY



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

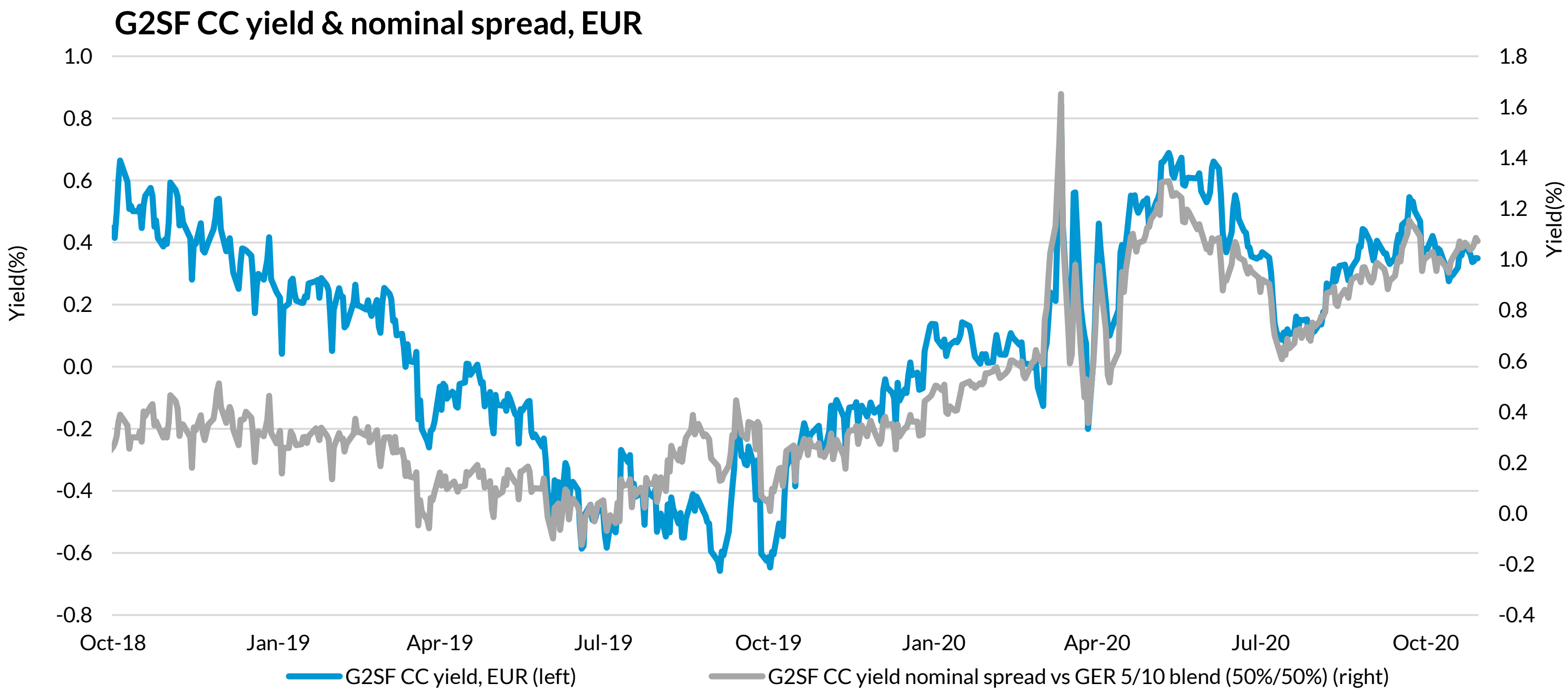
GNSF CC yield & nominal spread, JPY



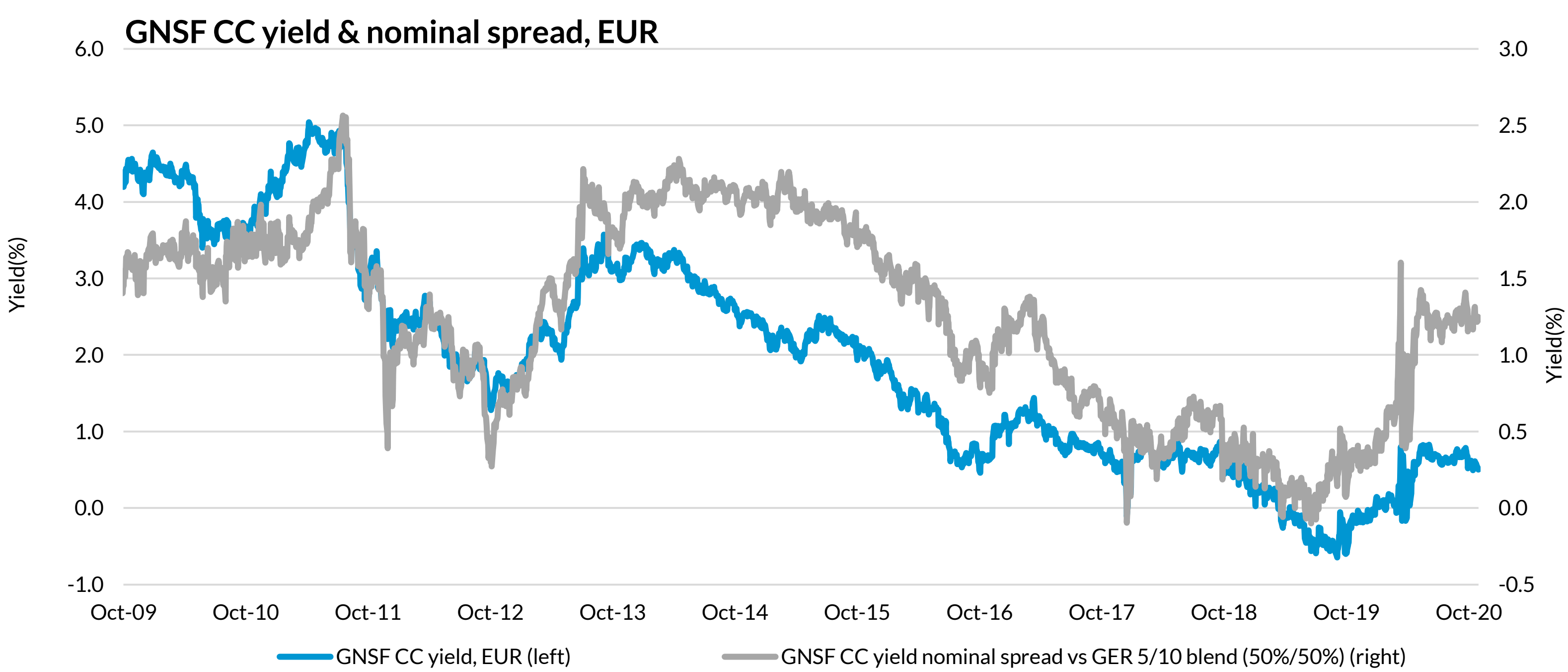
***Sources:** Bloomberg and State Street Global Advisors. **Note:** Data as of October 2020.*

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 October, the current coupon G2SF and GNSF hedged into euros have a 107 and 123 bp higher yield than the average of the German 5/10, respectively. This represents an 8 and 6 bp widening for the G2SF and GNSF, respectively, since the end of last month.



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

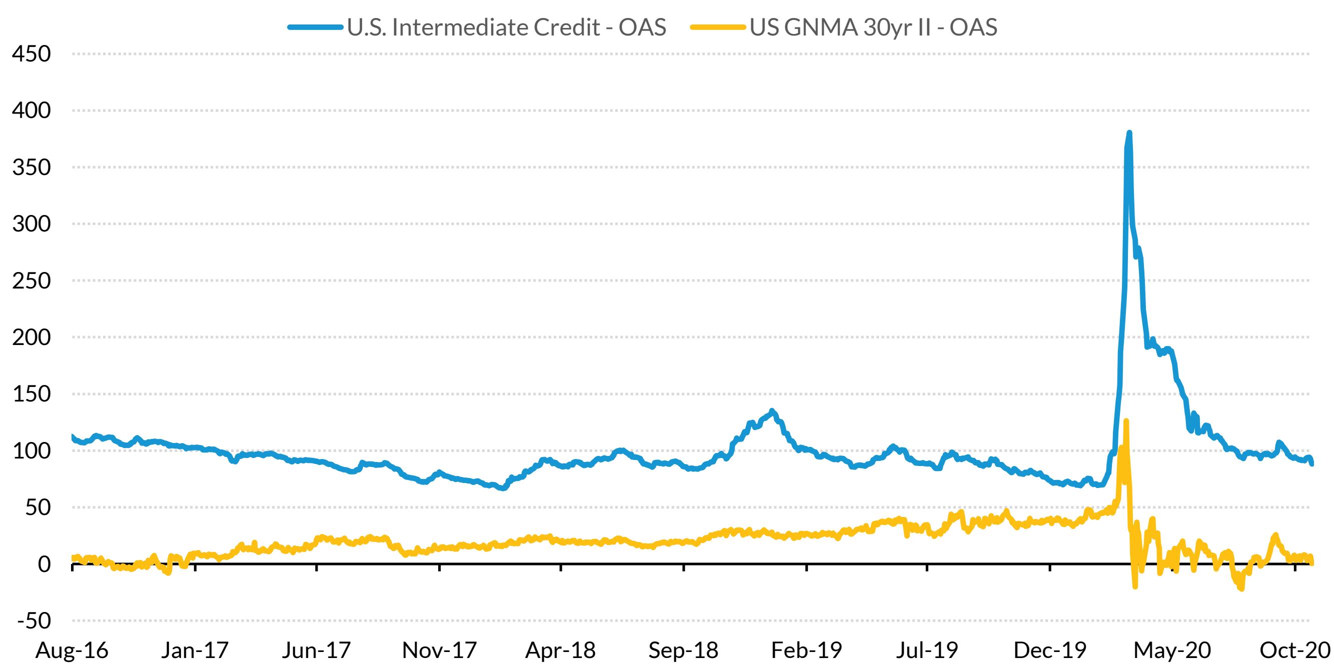


Sources: *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of October 2020.*

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 period of March-October 2020. The OAS on intermediate credit partially recovered from its enormous widening early in the year, while the Ginnie Mae II 30-year fell to multi-year lows. Despite this tightening, the spread between the two remains much elevated, ending October 2020 at 91 basis points in comparison to 21 basis points at the end of January, reflecting heightened investor concern about corporate credit risk.

G2 30 MBS versus Intermediate Credit



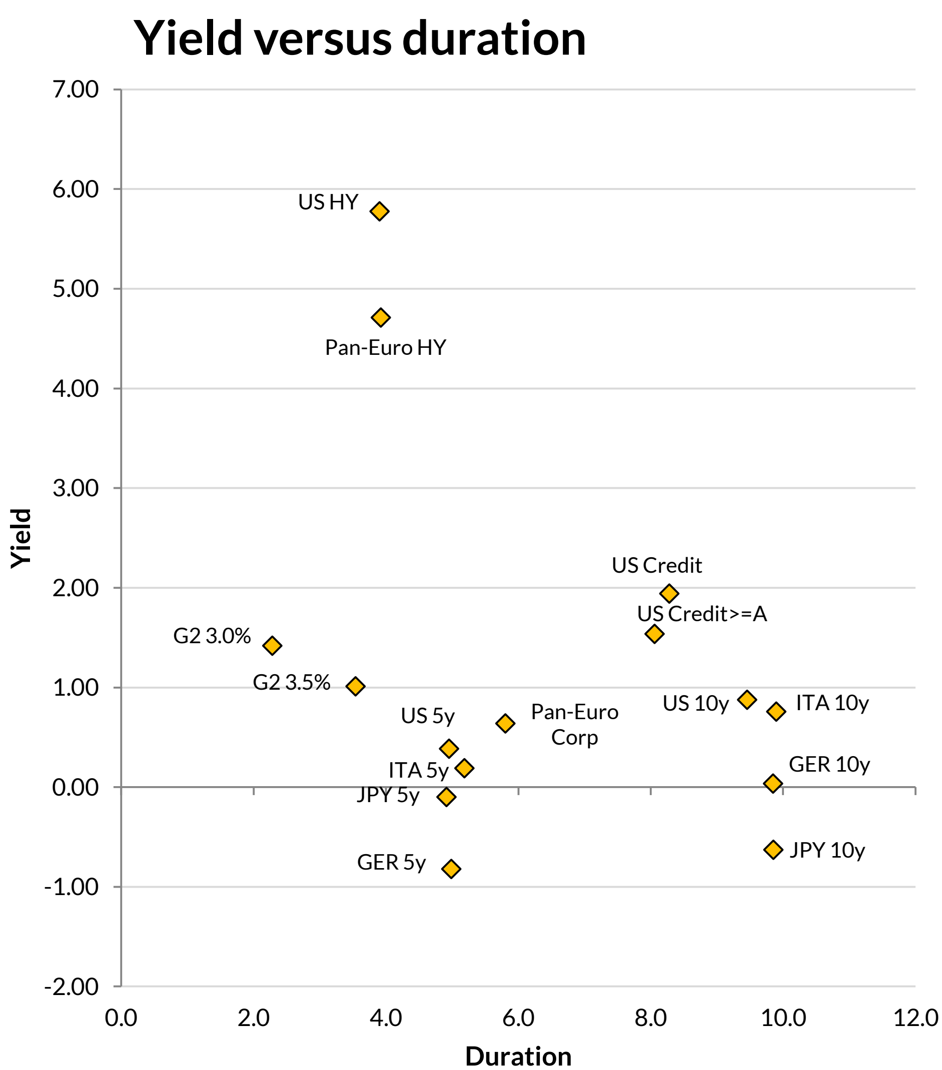
Sources: *State Street Global Advisors.* ***Note:*** *Data as of October 2020.*

Spread between Intermediate credit and 30-year GNMA MBS OAS

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



Security	Duration	Yield
US 5y	5.0	0.39
US 10y	9.5	0.88
GNMA II 3.0%	3.5	1.01
GNMA II 3.5%	2.3	1.42
JPY 5y	4.9	-0.10
JPY 10y	9.9	0.04
GER 5y	5.0	-0.82
GER 10y	9.9	-0.63
ITA 5y	5.2	0.19
ITA 10y	9.9	0.76
US credit	8.3	1.94
US credit >= A	8.1	1.54
US HY	3.9	5.78
Pan-Euro Corp	5.8	0.64
Pan-Euro HY	3.9	4.71

***Sources:** Bloomberg and State Street Global Advisors. **Note**: Yields are in base currency of security and unhedged. Data as of October 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 and 10-year horizons and second highest over 3 and 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	0.28	0.57	0.61	0.13	0.37	0.03
3 year	0.28	0.43	0.52	0.21	0.38	0.16
5 year	0.22	0.30	0.49	0.20	0.54	0.29
10 year	0.23	0.26	0.43	0.35	0.53	0.49

	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	0.24	0.53	0.57	0.18	0.32	0.08
3 year	0.16	0.31	0.40	0.26	0.26	0.21
5 year	0.13	0.21	0.40	0.26	0.45	0.35
10 year	0.18	0.21	0.38	0.38	0.48	0.52

	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	0.54	1.40	3.00	2.74	4.27	4.76
3 year	0.66	1.24	1.97	1.63	2.63	2.83
5 year	0.60	1.14	1.66	1.41	2.28	2.36
10 year	0.64	1.05	1.46	1.37	2.02	2.02

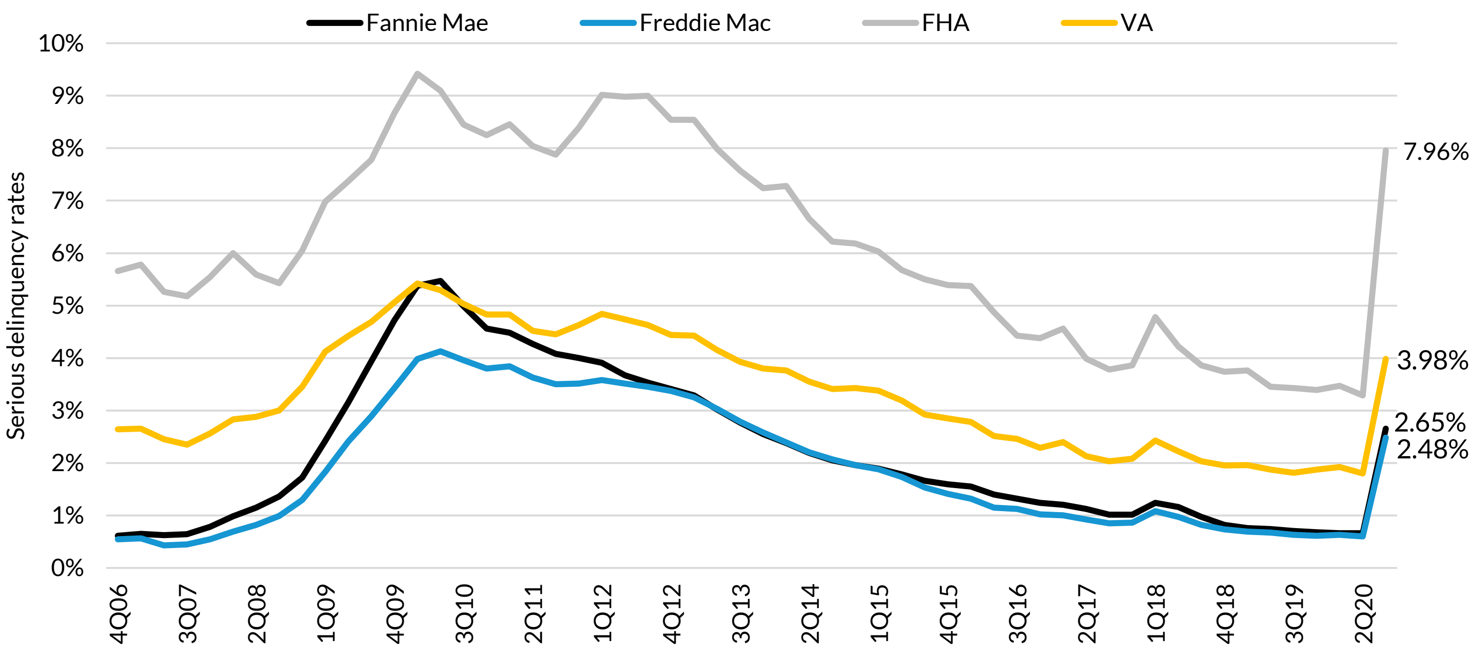
	Sharpe Ratio					
Time Period	**US MBS Ginnie Mae**	**US Treasury**	**US Credit Corp**	**Pan Euro Credit Corp**	**US High Yield**	**Pan Euro High Yield***
1 year	0.44	0.38	0.19	0.07	0.08	0.02
3 year	0.24	0.25	0.20	0.16	0.10	0.08
5 year	0.22	0.19	0.24	0.18	0.20	0.15
10 year	0.29	0.20	0.26	0.27	0.24	0.26

**Assumes 2% capitalization max per issuer on high yield indices*
***Sources:** Barclays Indices, Bloomberg and State Street Global Advisors* ***Note:** Data as of October 2020.*

State of the US Housing Market

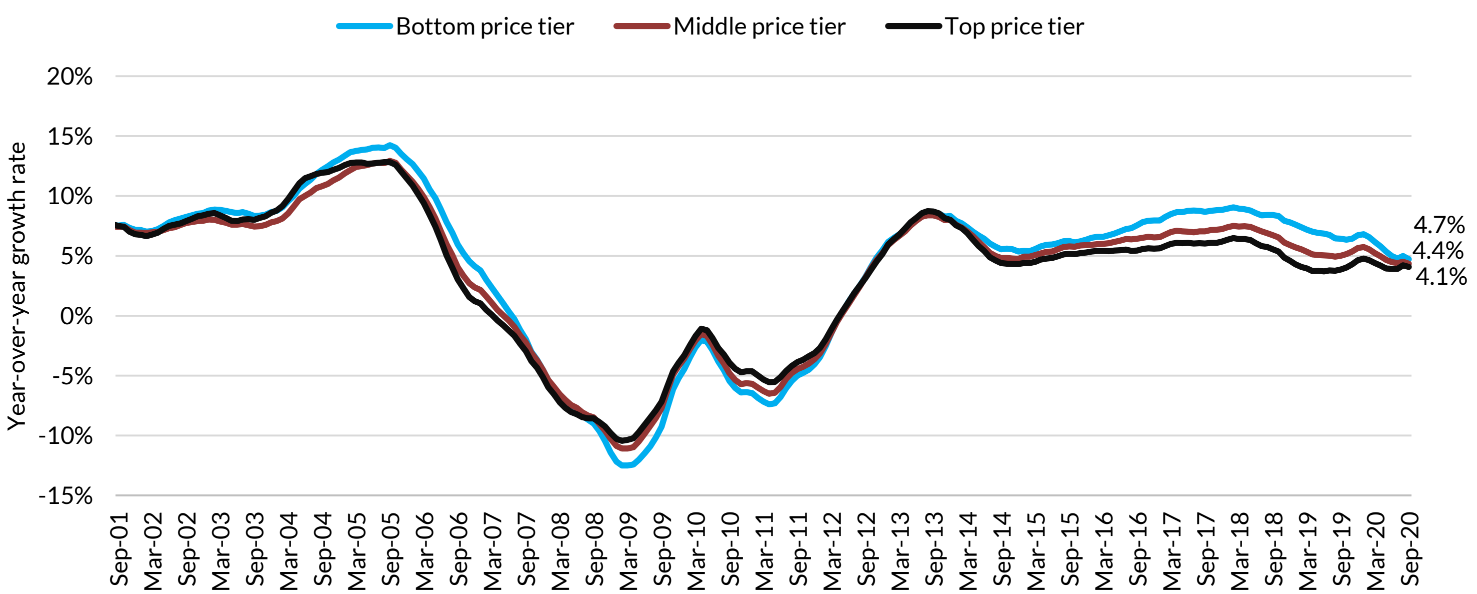
Serious delinquency rates for single-family GSE loans, FHA loans and VA loans spiked in Q2 2020, reflecting the impact of the COVID-19 pandemic. These delinquency numbers include loans in COVID-19 forbearance. The bottom chart shows nationwide house prices for the bottom, middle and the top quintiles 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 September 2020, higher than the 4.1 percent for the top end of the market. Year-over-year price growth in September was lower than in August 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 Q2 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 September 2020.*

State of the US Housing Market

Nationally, nominal home prices have increased by 59.8 percent since the trough, and now exceed their pre-crisis peak valuation on a nominal basis by 19.5 percent. The picture is very different across states, with many states well in excess of the prior peak, while Connecticut remains 10.7 percent below peak level.

State	2000 to Peak	Peak to Trough	Trough to Current	HPI Changes YOY	Current HPI % Above Peak
National	74.9%	-25.2%	59.8%	4.0%	19.5%
Alabama	36.1%	-15.4%	36.5%	4.7%	15.5%
Alaska	69.5%	-3.0%	26.5%	2.9%	22.6%
Arizona	109.9%	-47.8%	92.8%	5.8%	0.6%
Arkansas	41.4%	-9.8%	28.7%	3.6%	16.2%
California	154.7%	-43.3%	97.6%	4.0%	12.1%
Colorado	40.3%	-12.9%	86.2%	3.9%	62.2%
Connecticut	92.2%	-24.7%	18.6%	3.1%	-10.7%
Delaware	94.6%	-23.5%	35.0%	4.5%	3.3%
District of Columbia	174.4%	-13.7%	62.0%	5.2%	39.9%
Florida	128.2%	-46.8%	79.9%	5.5%	-4.3%
Georgia	38.4%	-31.3%	71.1%	3.9%	17.5%
Hawaii	163.1%	-22.5%	57.3%	4.3%	21.9%
Idaho	71.9%	-28.7%	100.6%	7.5%	43.0%
Illinois	61.6%	-34.4%	41.1%	1.7%	-7.4%
Indiana	21.5%	-7.9%	41.3%	3.4%	30.2%
Iowa	28.2%	-4.7%	30.4%	2.1%	24.3%
Kansas	34.6%	-9.1%	50.5%	5.9%	36.7%
Kentucky	29.6%	-7.5%	36.5%	3.3%	26.3%
Louisiana	48.7%	-5.1%	26.7%	3.0%	20.2%
Maine	82.0%	-12.4%	46.8%	5.4%	28.7%
Maryland	129.2%	-28.6%	31.3%	3.2%	-6.2%
Massachusetts	92.3%	-22.4%	60.6%	3.7%	24.6%
Michigan	23.8%	-39.3%	82.3%	2.9%	10.7%
Minnesota	66.4%	-27.7%	61.8%	3.6%	17.0%
Mississippi	41.0%	-13.8%	32.2%	4.3%	14.0%
Missouri	42.6%	-15.3%	41.2%	3.2%	19.6%
Montana	82.3%	-11.3%	59.2%	4.5%	41.2%
Nebraska	26.7%	-6.7%	46.9%	3.1%	37.0%
Nevada	126.9%	-59.0%	129.1%	4.3%	-6.1%
New Hampshire	90.5%	-23.1%	47.9%	4.6%	13.7%
New Jersey	117.7%	-28.0%	31.6%	3.6%	-5.2%
New Mexico	66.7%	-16.3%	32.7%	6.5%	11.1%
New York	98.3%	-15.2%	47.0%	4.3%	24.6%
North Carolina	40.6%	-15.8%	42.9%	4.5%	20.3%
North Dakota	53.5%	-4.0%	58.5%	3.1%	52.1%
Ohio	21.1%	-18.3%	42.6%	3.4%	16.5%
Oklahoma	37.4%	-2.5%	24.8%	4.5%	21.7%
Oregon	81.8%	-28.0%	86.5%	3.9%	34.2%
Pennsylvania	70.0%	-11.7%	28.7%	2.8%	13.6%
Rhode Island	130.4%	-34.1%	61.3%	5.9%	6.3%
South Carolina	44.9%	-19.4%	41.4%	4.4%	13.9%
South Dakota	45.3%	-3.9%	52.4%	4.9%	46.5%
Tennessee	35.0%	-11.9%	52.2%	5.0%	34.2%
Texas	33.5%	-5.8%	56.4%	3.9%	47.3%
Utah	54.8%	-22.1%	84.8%	5.4%	43.9%
Vermont	83.5%	-7.5%	40.7%	4.4%	30.2%
Virginia	99.6%	-22.8%	32.3%	4.0%	2.2%
Washington	85.1%	-28.6%	97.7%	6.1%	41.1%
West Virginia	40.3%	-5.9%	24.7%	0.4%	17.4%
Wisconsin	44.7%	-16.4%	39.8%	1.9%	16.9%
Wyoming	77.6%	-7.2%	39.2%	5.4%	29.1%

Sources: *Black Knight and Urban Institute.* ***Note:*** *HPI data as of September 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 09/2020, the latest HPI data period.*

State of the US Housing Market

Ginnie Mae MBS constitute 26.1 percent of outstanding agency issuance by loan balance and 27.5 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 12.2 percent in the District of Columbia and as high as 46.9 percent in Mississippi. In general, the Ginnie Mae share is higher in states with lower home prices.

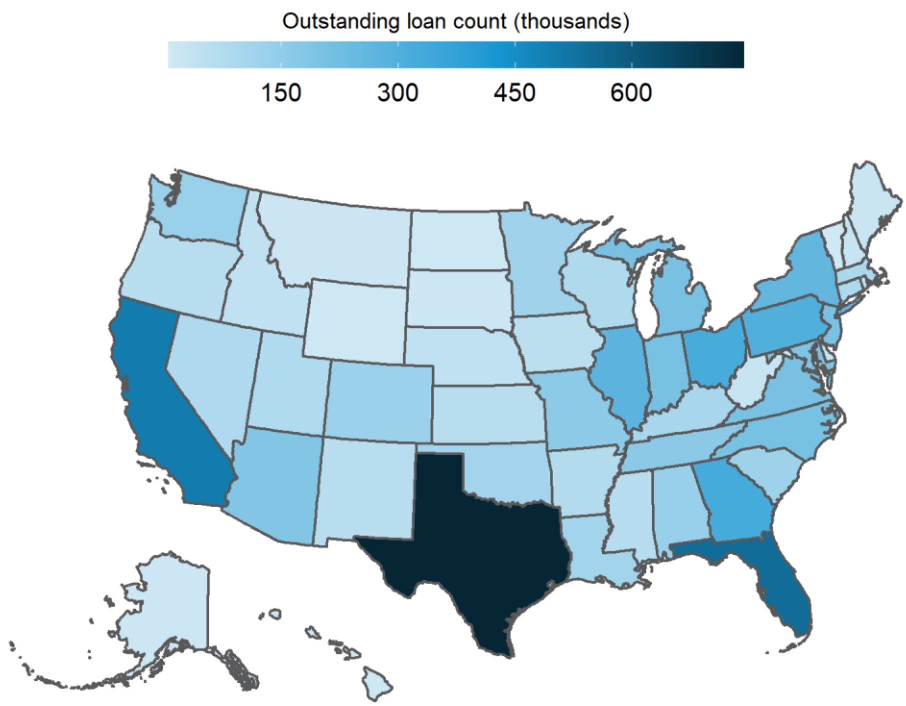
State	Agency Issuance (past 1 year)				Agency Outstanding			
	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)
National	27.5%	2,719,007	252.6	275.9	26.1%	11,255,805	164.8	198.2
Alabama	40.2%	49,777	194.2	218.8	40.3%	237,943	128.5	158.6
Alaska	49.6%	8,739	310.0	279.3	45.8%	37,704	229.9	205.6
Arizona	28.3%	102,897	247.3	254.6	25.0%	310,987	168.1	191.4
Arkansas	37.6%	26,330	165.8	197.6	40.0%	139,471	110.9	143.3
California	20.6%	252,431	390.7	384.7	16.7%	764,242	269.5	283.9
Colorado	26.9%	85,029	330.5	318.8	22.2%	234,627	227.7	242.5
Connecticut	27.1%	21,493	236.9	261.1	26.4%	108,593	180.8	192.7
Delaware	33.9%	12,055	239.0	256.8	32.6%	52,308	179.7	190.1
District of Columbia	15.2%	2,365	489.2	433.0	12.2%	9,529	296.9	318.2
Florida	37.8%	232,081	242.3	244.2	31.7%	852,796	170.6	180.7
Georgia	35.7%	123,896	215.2	248.0	33.9%	514,381	145.4	179.2
Hawaii	43.3%	12,004	552.6	441.0	25.9%	32,406	382.1	326.2
Idaho	26.3%	21,360	250.6	246.9	25.5%	77,476	161.3	184.4
Illinois	19.6%	75,108	201.4	234.4	21.5%	366,808	140.1	165.6
Indiana	29.3%	64,011	169.0	190.3	32.2%	301,379	111.6	133.6
Iowa	18.7%	16,918	171.1	195.6	22.1%	86,289	114.3	137.7
Kansas	27.6%	20,042	181.5	211.1	30.8%	103,642	119.6	146.2
Kentucky	32.6%	35,701	176.0	197.9	34.7%	168,600	121.3	139.2
Louisiana	37.5%	39,464	192.3	226.6	38.2%	190,489	137.3	164.4
Maine	27.7%	9,684	210.4	234.0	28.0%	40,629	152.9	169.5
Maryland	38.0%	76,721	319.6	312.0	34.0%	299,559	229.1	226.6
Massachusetts	16.8%	32,885	328.8	336.1	16.2%	122,151	240.4	242.5
Michigan	18.4%	61,138	171.3	202.9	21.6%	301,385	114.1	141.4
Minnesota	18.2%	39,390	228.5	245.9	19.4%	182,166	156.5	179.8
Mississippi	45.8%	22,652	175.8	202.1	46.9%	117,210	121.0	146.6
Missouri	27.2%	54,846	178.5	207.6	30.4%	262,926	120.6	145.7
Montana	26.1%	9,113	251.0	255.2	24.4%	36,226	170.3	188.3
Nebraska	26.0%	14,238	194.8	202.0	28.4%	72,013	123.1	144.2
Nevada	35.8%	47,437	284.3	267.5	29.0%	140,237	195.1	203.8
New Hampshire	25.1%	11,206	264.6	261.5	24.7%	44,033	194.8	190.9
New Jersey	23.1%	55,009	282.3	312.6	23.3%	243,770	210.1	228.0
New Mexico	38.4%	19,095	208.9	222.4	38.6%	98,238	141.2	158.9
New York	21.3%	47,993	278.1	309.0	22.4%	325,319	186.6	221.5
North Carolina	31.1%	103,191	215.1	244.2	29.3%	431,967	142.3	175.1
North Dakota	22.3%	4,080	236.7	231.5	22.2%	16,781	167.0	172.6
Ohio	28.2%	84,767	168.8	189.7	30.9%	446,826	112.1	132.9
Oklahoma	41.6%	34,225	178.7	201.7	43.7%	196,109	119.6	145.3
Oregon	23.3%	38,018	294.7	295.6	19.5%	125,073	204.7	221.1
Pennsylvania	26.3%	71,905	191.9	232.2	28.9%	412,989	135.2	163.7
Rhode Island	30.0%	8,880	261.7	258.7	29.8%	36,732	192.3	191.6
South Carolina	36.9%	60,820	216.5	231.5	33.2%	231,622	148.6	168.9
South Dakota	26.8%	7,339	207.7	218.5	30.2%	30,844	143.1	159.8
Tennessee	34.0%	69,368	217.9	241.4	33.9%	294,827	140.8	175.4
Texas	33.1%	245,112	230.5	253.5	31.2%	1,090,321	146.5	184.5
Utah	20.7%	38,346	287.2	287.8	20.8%	120,121	198.7	226.3
Vermont	21.3%	2,662	215.0	231.2	18.9%	12,789	164.1	163.1
Virginia	39.2%	115,961	316.7	316.0	35.0%	449,565	215.9	226.4
Washington	25.1%	81,802	333.3	340.7	22.1%	265,928	225.1	249.1
West Virginia	45.4%	11,553	179.2	184.2	43.1%	56,270	125.9	131.3
Wisconsin	16.4%	30,986	194.0	210.7	17.3%	134,753	133.3	148.5
Wyoming	36.0%	6,884	239.9	247.7	35.0%	26,756	177.3	184.2

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

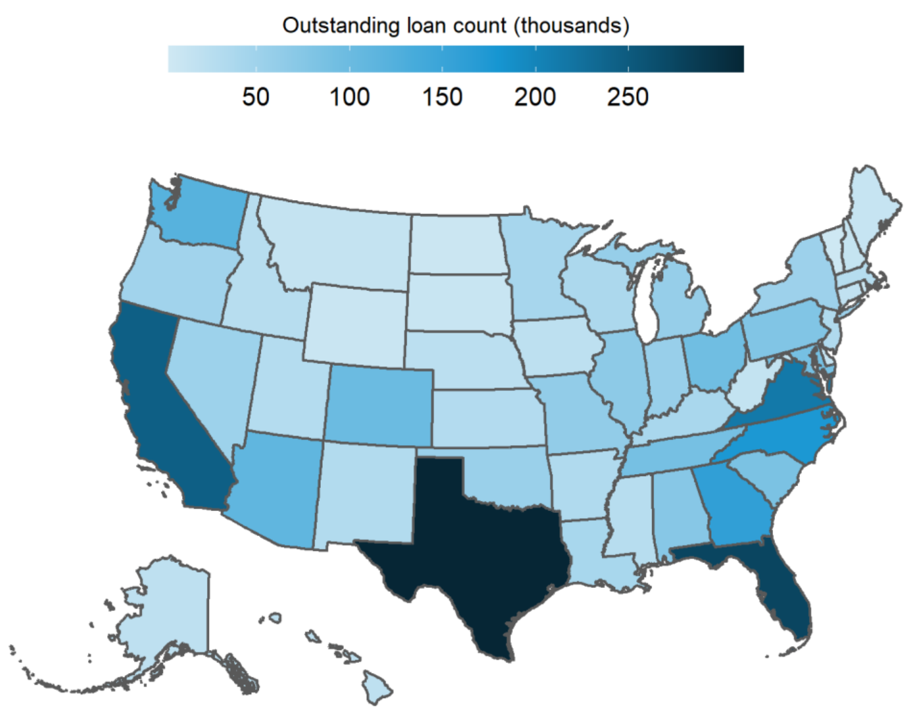
FHA and VA Outstanding Loan Count

Texas , Florida, and California are the top 3 states for FHA and VA lending as measured by the number of loans outstanding. As of August 2020, TX has 740,000 FHA and 310,000 VA loans outstanding, FL had 540,000 FHA and 270,000 VA loans outstanding, and CA had 500,000 FHA and 240,000 VA loans outstanding. Virginia ranks 4th for number of VA loans outstanding and 11th for number of FHA loans outstanding.

FHA Outstanding Loan Count by State



VA Outstanding Loan Count by State

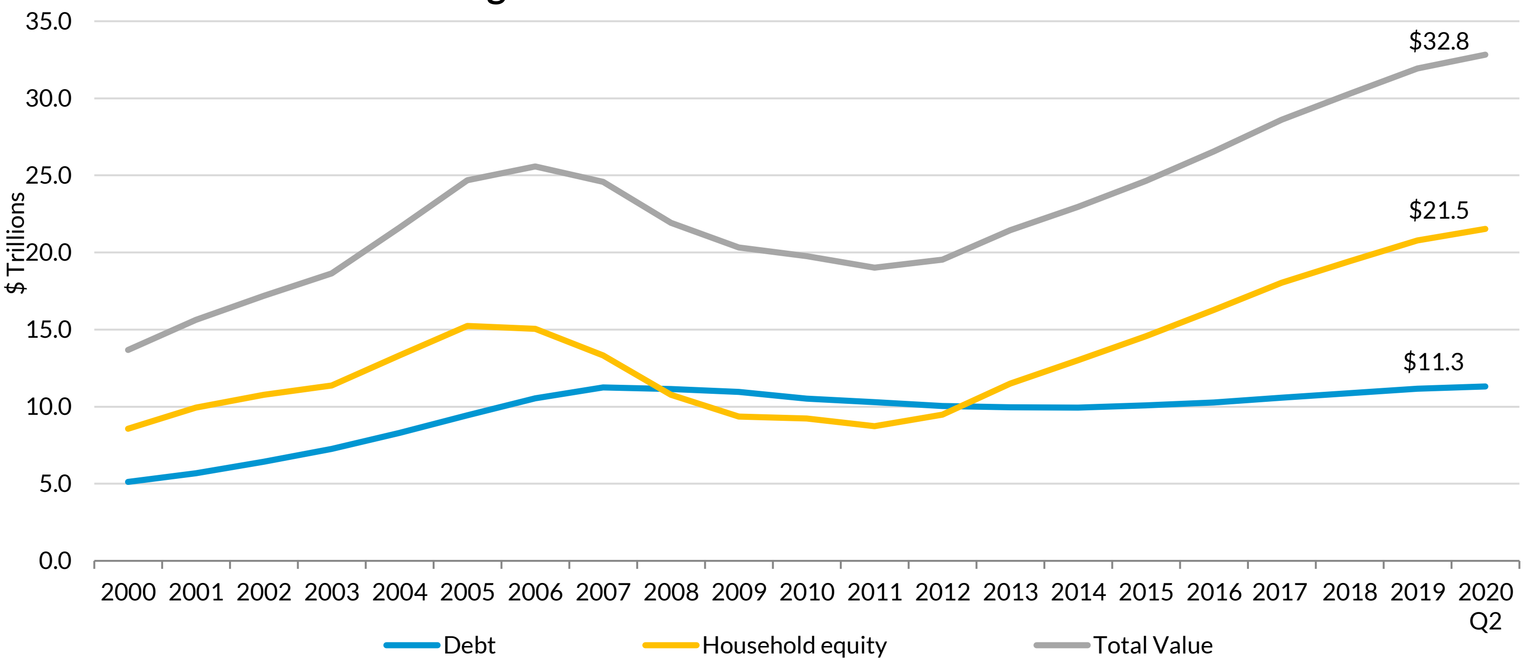


Sources: *eMBS and Urban Institute.* ***Note:*** *Ginnie Mae outstanding share are based on loan balance as of September 2020.*

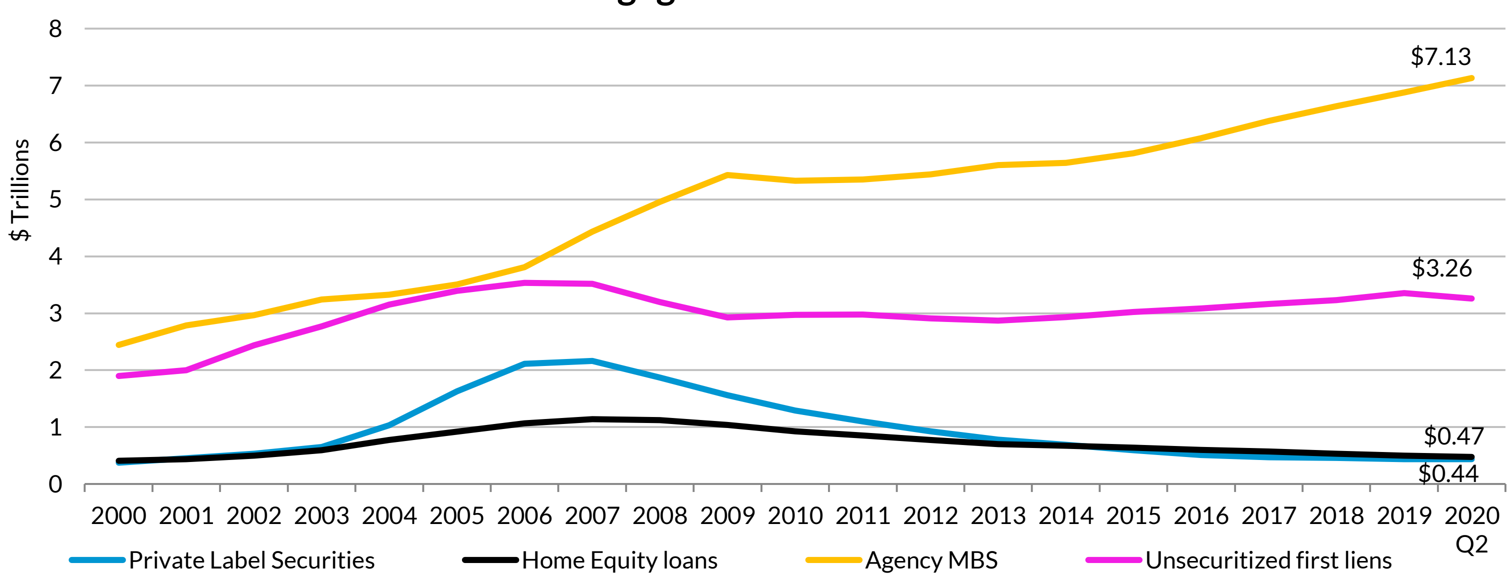
State of the US Housing Market

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 Q2 2020 numbers show that while mortgage debt outstanding remained steady at $11.3 trillion, total home equity grew slightly from $21.1 trillion in Q1 2020 to $21.5 trillion in the second quarter of 2020, bringing the total value of the housing market to $32.8 trillion, 28.4 percent higher than the pre-crisis peak in 2006. Agency MBS account for 63.1 percent of the total mortgage debt outstanding, private-label securities make up 3.9 percent, and unsecuritized first liens make up 28.8 percent. Home equity loans comprise the remaining 4.2 percent of the total.

Value of the US Housing Market



Size of the US Residential Mortgage Market

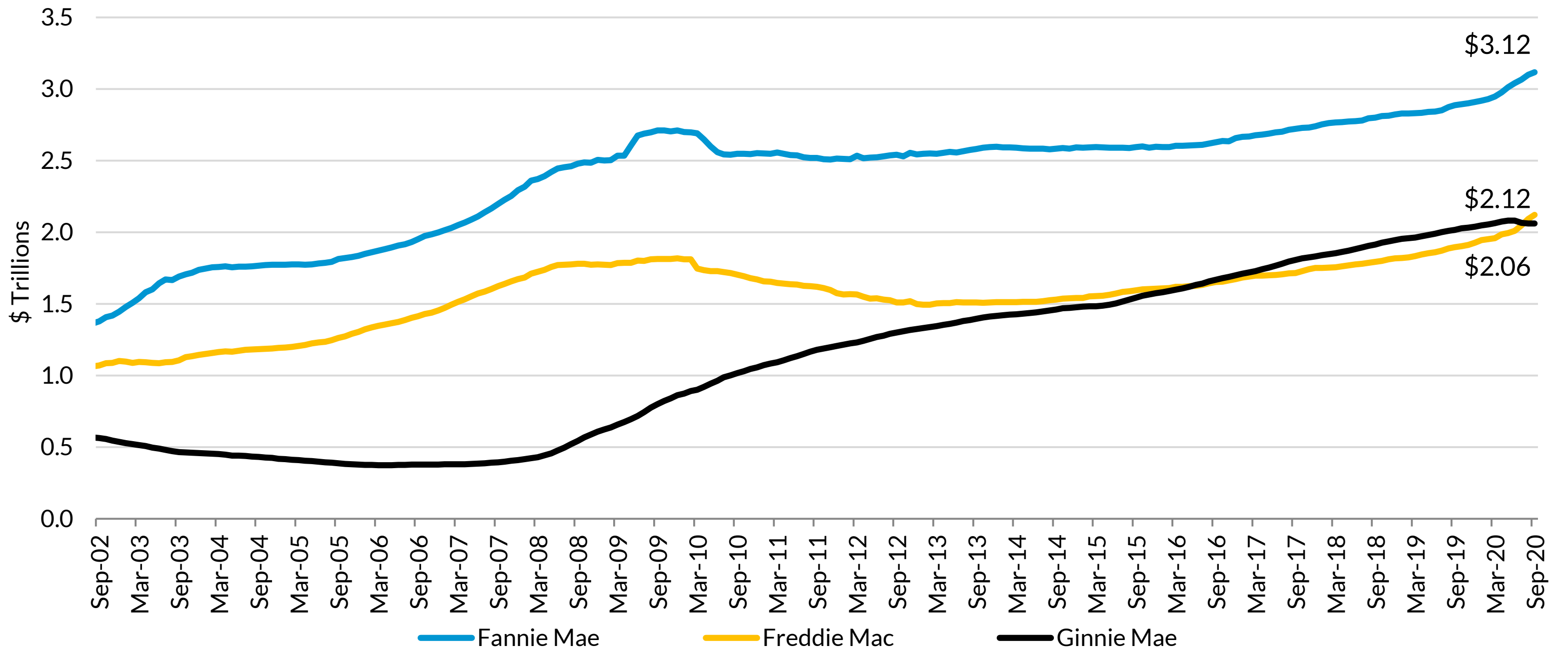


Sources: *Federal Reserve Flow of Funds, eMBS and Urban Institute. Last updated September 2020.*
Note Top: *Single family includes 1-4 family mortgages. The home equity number is grossed up from Fed totals to include the value of households and the non-financial business sector.* **Note Bottom**: *Unsecuritized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

State of the US Housing Market

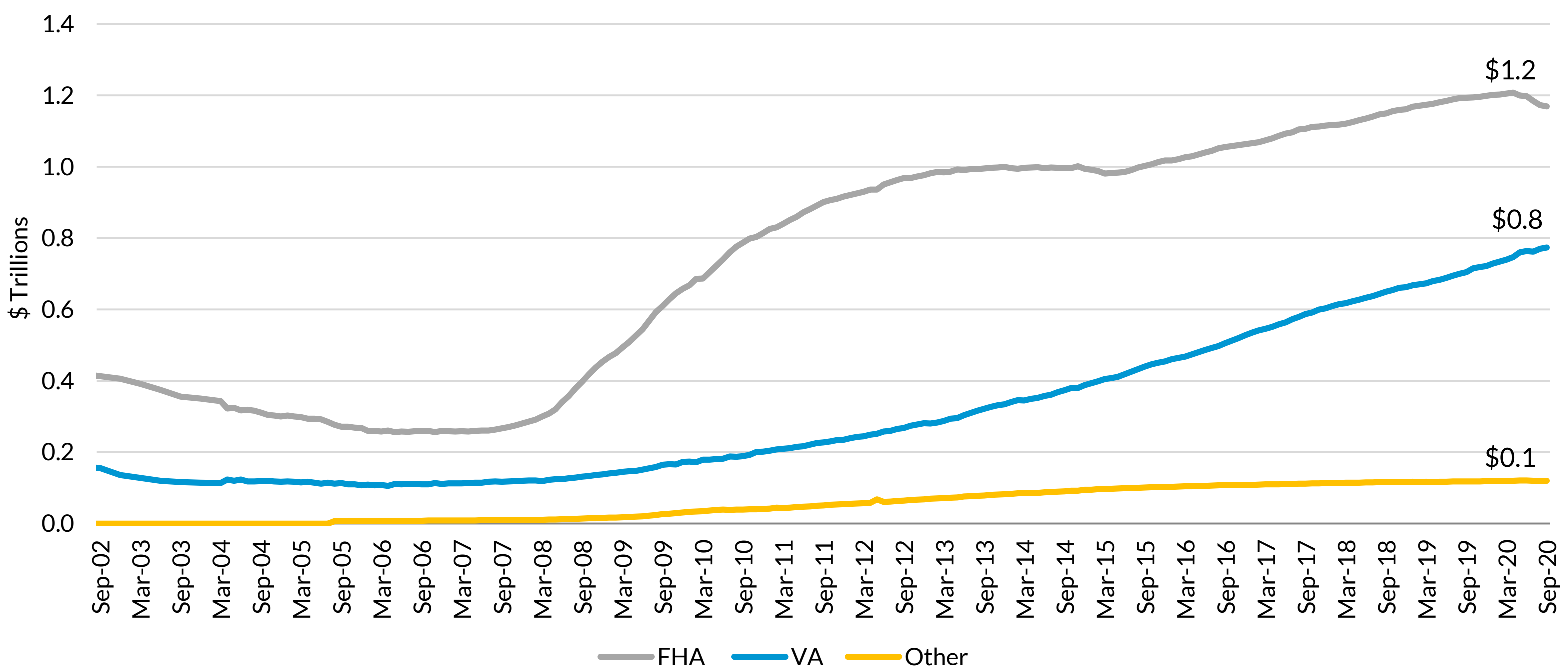
As of September 2020, outstanding securities in the agency market totaled $7.30 trillion: 42.7 percent Fannie Mae, 29.1 percent Freddie Mac, and 28.2 percent Ginnie Mae MBS. Within the Ginnie Mae market, both FHA and VA have grown very rapidly since 2009, although since May 2020, FHA has contracted. FHA comprises 56.7 percent of total Ginnie Mae MBS outstanding, while VA comprises 37.5 percent. Note that during the pandemic the GSEs have been growing faster than Ginnie Mae, courtesy of borrowers with home price 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 September 2020.*

Outstanding Ginnie Mae Mortgage-Backed Securities

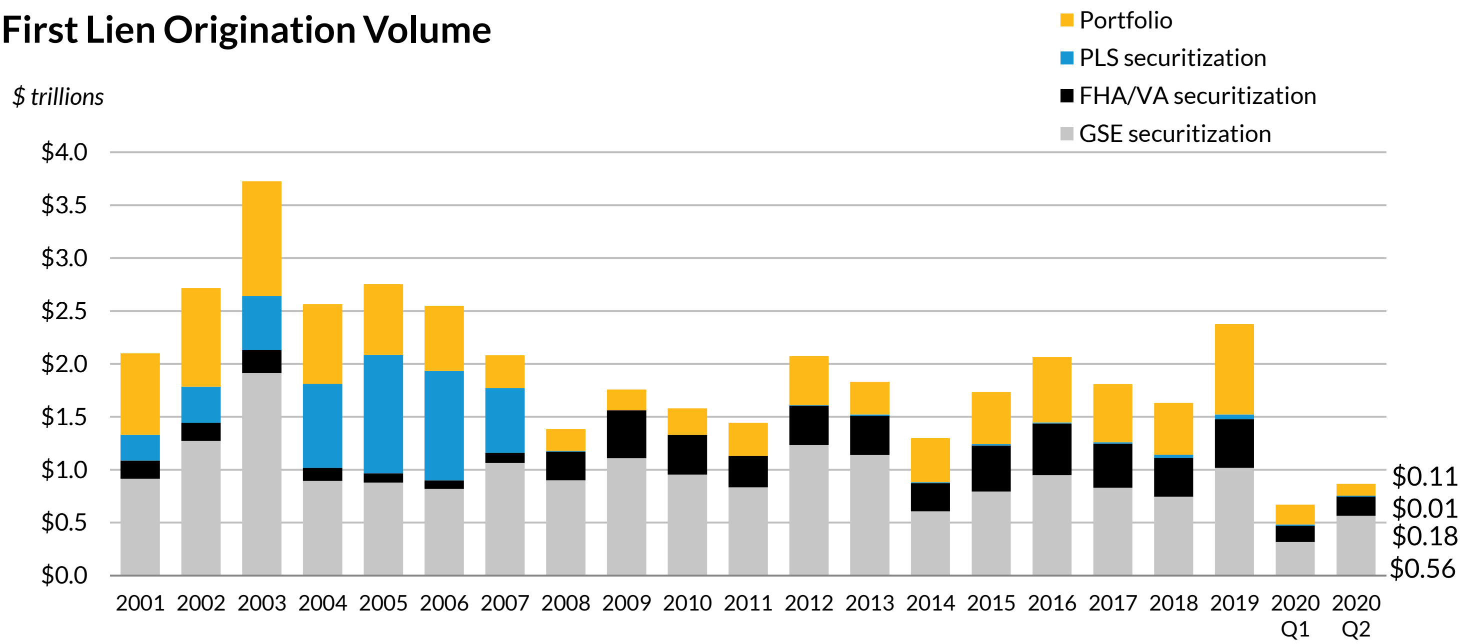


Sources: *eMBS and Urban Institute.* **Note:** *Data as of September 2020.*

State of the US Housing Market

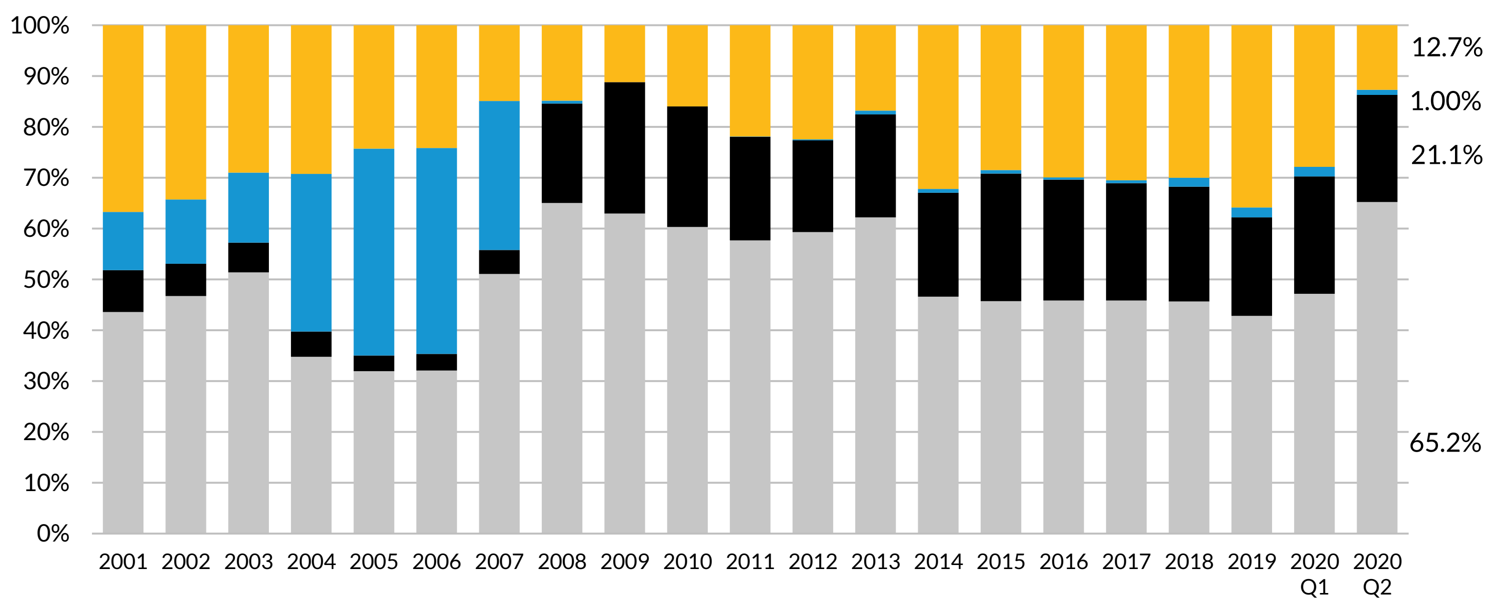
In the second quarter of 2020, first lien originations totaled $865 billion, up from the Q2 2019 volume of $565 billion. The share of portfolio originations was 12.7 percent in Q2 2020, a significant decline from the 42.1 percent share in the same period 2019. The Q2 2020 GSE share was up significantly at 65.2 percent, compared to 38.6 percent in Q2 2019. The FHA/VA share grew to 21.1 percent, also up compared to 17.5 percent last year. Private-label securitization currently tallies 1.0 percent, down from 1.6 percent one year ago, and a fraction of its share in the pre-bubble years. The sharp decline of the portfolio and private label channels in Q2 reflected COVID-19 generated market liquidity issues, which made it difficult to originate mortgages in channels without government support. The sharp increase in the GSE share reflected the huge amount of refinances done through this channel.

First Lien Origination Volume



Sources: *Inside Mortgage Finance and Urban Institute.* ***Note:*** *Data as of Q2 2020.*

First Lien Origination Share



Sources: *Inside Mortgage Finance and Urban Institute.* ***Note:*** *Data as of Q2 2020.*

US Agency Market, Originations

Agency gross issuance in the first nine months of 2020 was a very large $2.15 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 would expect 2020 to come in at about $2.87 trillion, as compared with the 2019 full year volume of $1.55 trillion. Compared to the same period of 2019, agency gross issuance was up 106.7 percent. Ginnie Mae gross issuance was up by 61.2 percent and GSE gross issuance was up by 129.1 percent. Within the Ginnie Mae market, FHA was up by 27.3 percent and VA origination was up by 105.5 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	$918.0	$681.1	$1,599.1	$553.3	$2,152.4
2020 % Change YOY	128.2%	130.3%	129.1%	61.2%	106.7%
2020 Ann.	$1,224.0	$908.1	$2,132.1	$737.7	$2,869.9

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	$237.8	$298.5	$17.0	$553.3
2020 % Change YOY	27.3%	105.5%	53.9%	61.2%
2020 Ann.	$317.1	$398.0	$22.7	$737.7

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 September 2020.*

US Agency Market, Originations

The first nine months of 2020 have been very robust for agency net issuance, with $422.9 billion of net new supply, up 97.3 percent compared with the same period of 2019. 2020 YTD Ginnie Mae net issuance is $23.0 billion, comprising 5.4 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	$206.2	$193.7	$399.9	$23.0	$422.9
2020 % Change YOY	218.3%	150.7%	181.5%	-68.2%	97.3%
2020 Ann.	$274.9	$258.3	$533.3	$30.6	$563.9

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	-$29.8	$51.7	$1.1	$23.0
2020 % Change YOY	-198.5%	26.9%	-11.7%	-68.2%
2020 Ann.	-$39.8	$68.9	$1.5	$30.6

Sources: *eMBS and Urban Institute.* **Note :** *Dollar amounts are in billions. "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. All data is as of September 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 September 2020 gross agency issuance of $297.5 billion was significantly higher than the same month in 2019, continuing a record setting year of issuance, as lower rates gave borrowers a stronger incentive to refinance.

Monthly Agency Issuance

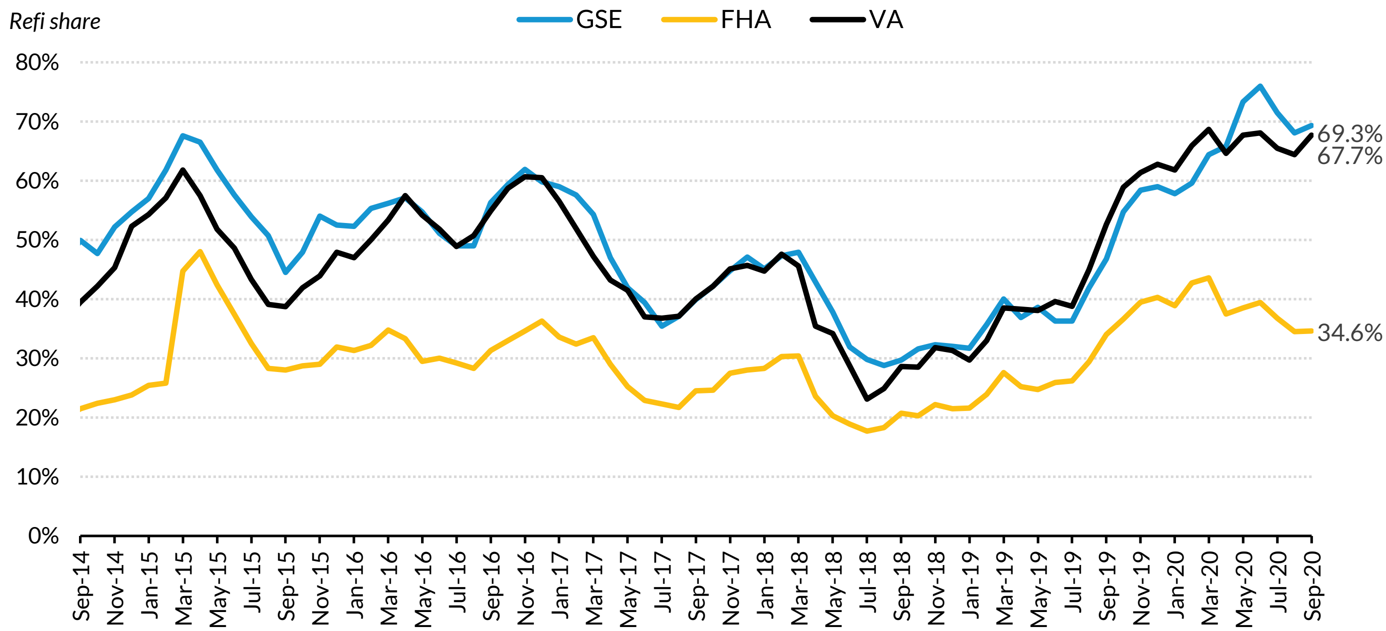
	Gross Issuance				Net Issuance			
Date	Fannie Mae	Freddie Mac	Ginnie Mae	Total	Fannie Mae	Freddie Mac	Ginnie Mae	Total
Jan-17	$55.6	$38.5	$42.6	$136.6	$8.5	$10.7	$10.3	$29.5
Feb-17	$37.6	$27.4	$33.1	$98.1	$2.5	$6.5	$9.4	$18.5
Mar-17	$39.5	$24.4	$31.3	$95.2	$9.7	$6.2	$9.7	$25.6
Apr-17	$39.3	$21.2	$36.4	$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

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 September 2020.*

US Agency Market, Originations

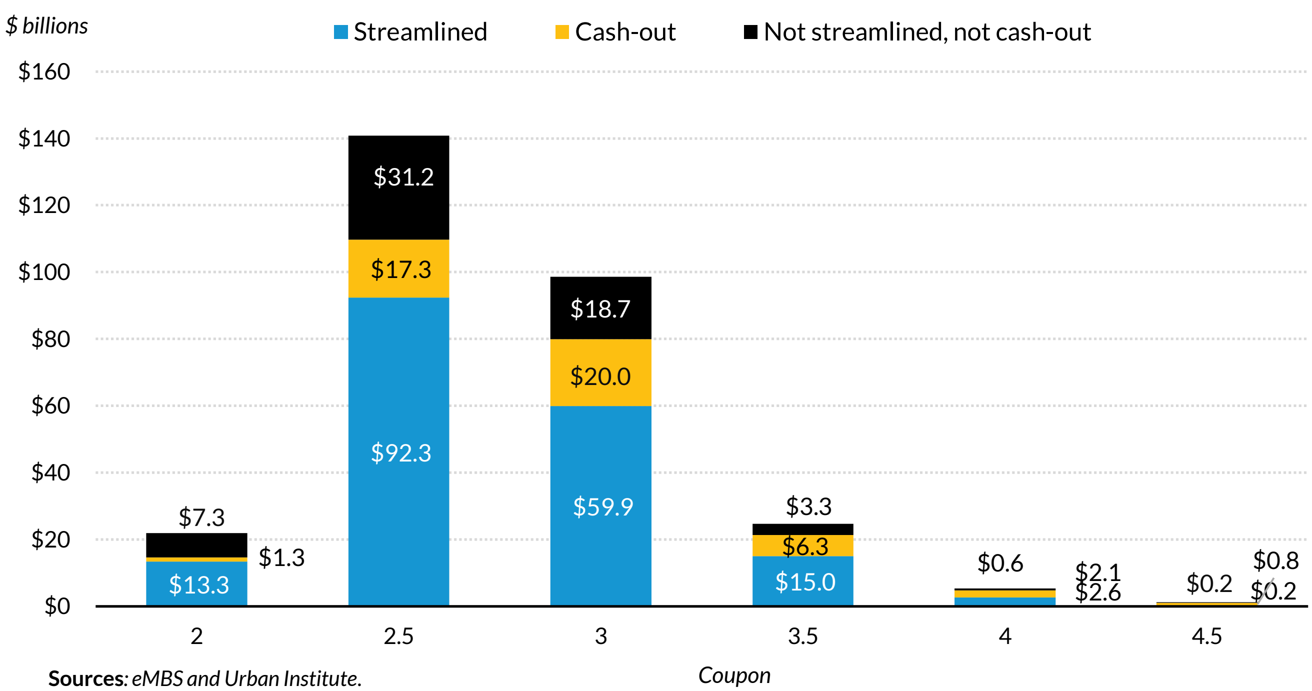
The FHA refinance share stood at 34.6 percent in September 2020, below the 69.3 percent refi share for GSE originations and the 67.7 percent share for the VA. Refinances as a share of all originations grew during 2019 and early 2020 as interest rates fell. Refinances have declined slightly from their 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 in recent months 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 September 2020.*

Ginnie Mae Refinance Issuance by Type: 2020 YTD

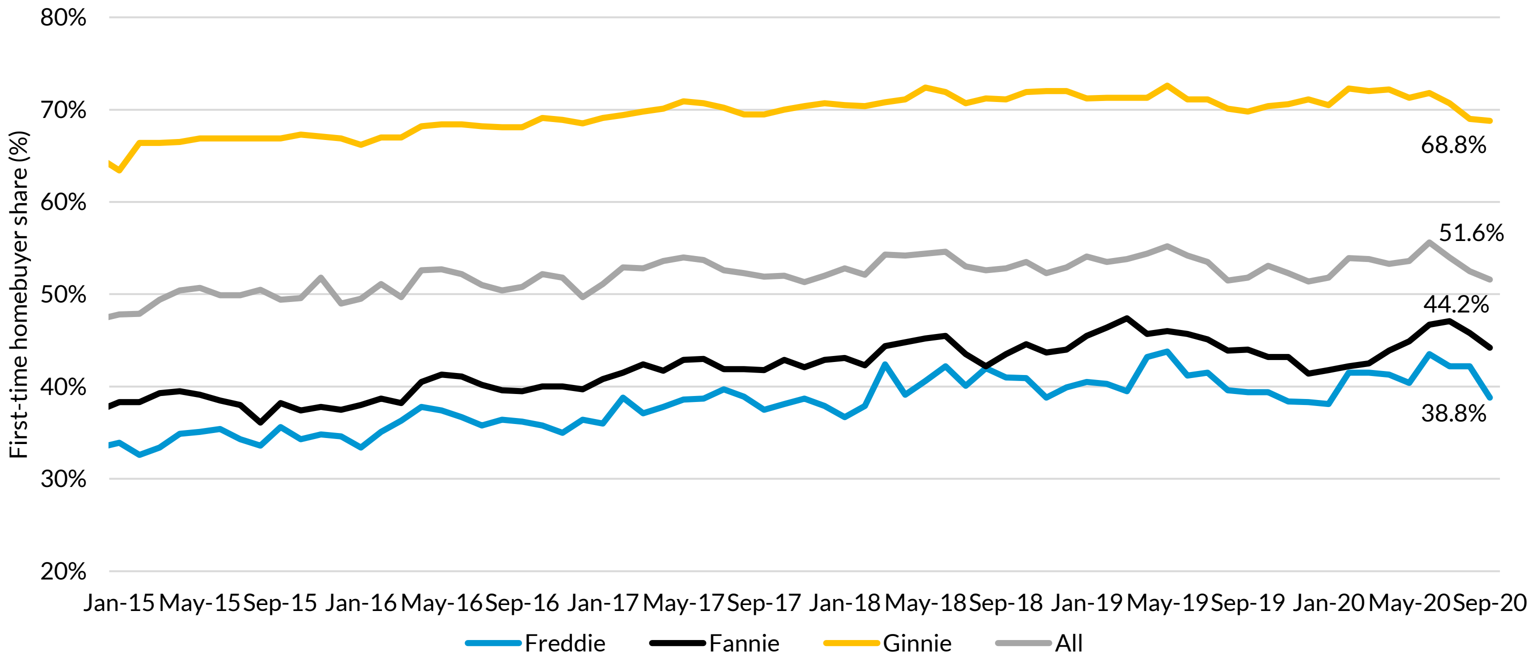


Sources: *eMBS and Urban Institute.*
Note: *Based on at-issuance balance. Data as of September 2020.*

Credit Box

The first time homebuyer share of Ginnie Mae purchase loans was 68.8 percent in September 2020, down slightly from 69.8 percent in September 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 44.2 percent and 38.8 percent of Fannie Mae and Freddie Mac purchase originations, respectively. The bottom table shows that based on mortgages originated in September 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 September 2020.*

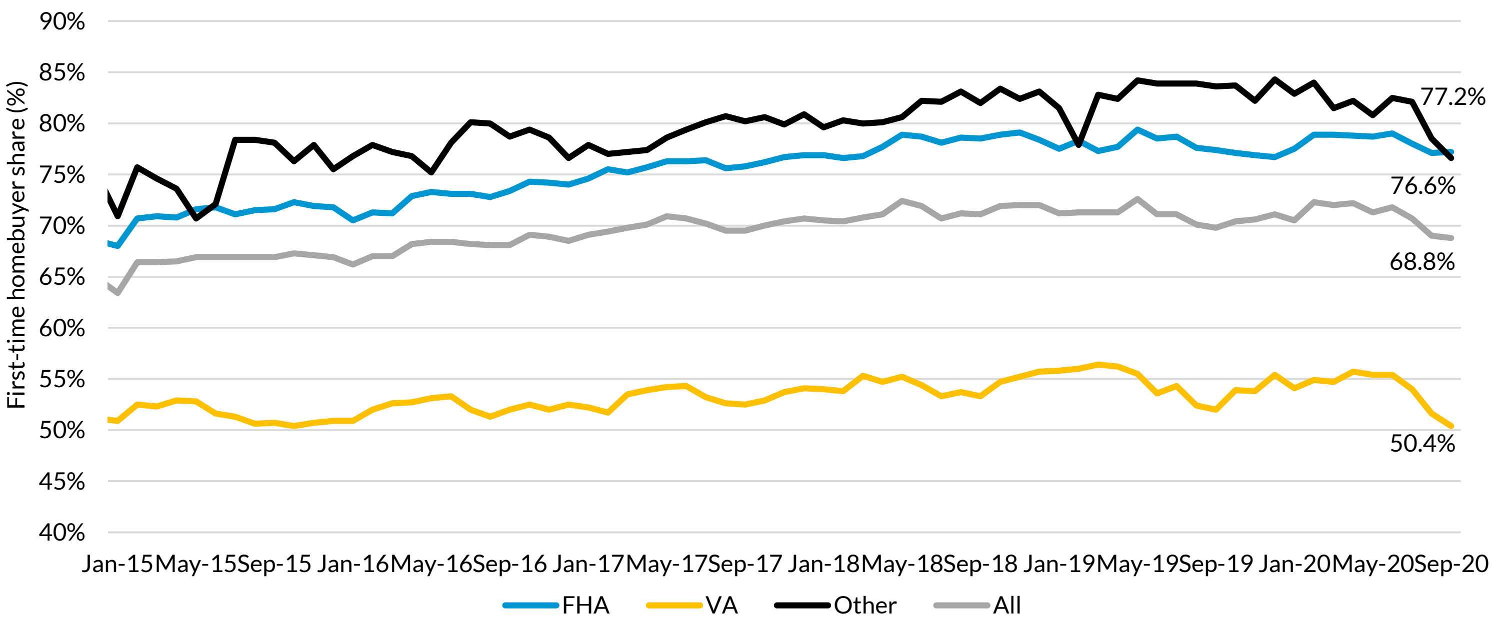
	Fannie Mae		Freddie Mac		Ginnie Mae		All	
	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat
Loan Amount ($)	293,051	316,116	280,021	306,280	240,074	296,084	263,513	306,640
Credit Score	750.7	761.0	747.6	758.4	689.5	707.1	720.5	744.9
LTV (%)	87.1	79.3	87.7	79.2	96.9	96.0	92.0	83.9
DTI (%)	33.8	34.9	34.3	35.4	41.1	41.5	37.4	36.9
Loan Rate (%)	3.1	3.0	3.1	3.0	3.2	3.0	3.1	3.0

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 September 2020.*

Credit Box

Within the Ginnie Mae purchase market, 76.6 percent of FHA loans, 50.4 percent of VA loans and 77.2 percent of other loans represent financing for first-time home buyers in September 2020. The bottom table shows that based on mortgages originated in September 2020, the average first-time homebuyer was more likely than an average repeat buyer to take out a smaller loan, have a higher LTV, lower 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 September 2020.*

	FHA		VA		Other		Ginnie Mae Total	
	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat
Loan Amount ($)	231,899	251,717	298,066	352,585	170,131	178,260	240,074	296,084
Credit Score	679.3	679.3	713.6	732.4	700.7	699.7	689.5	707.1
LTV (%)	95.6	94.3	99.6	97.0	99.5	99.0	96.9	96.0
DTI (%)	42.7	43.5	39.4	40.6	34.9	35.5	41.1	41.5
Loan Rate (%)	3.2	3.1	3.0	2.9	3.1	3.3	3.2	3.0

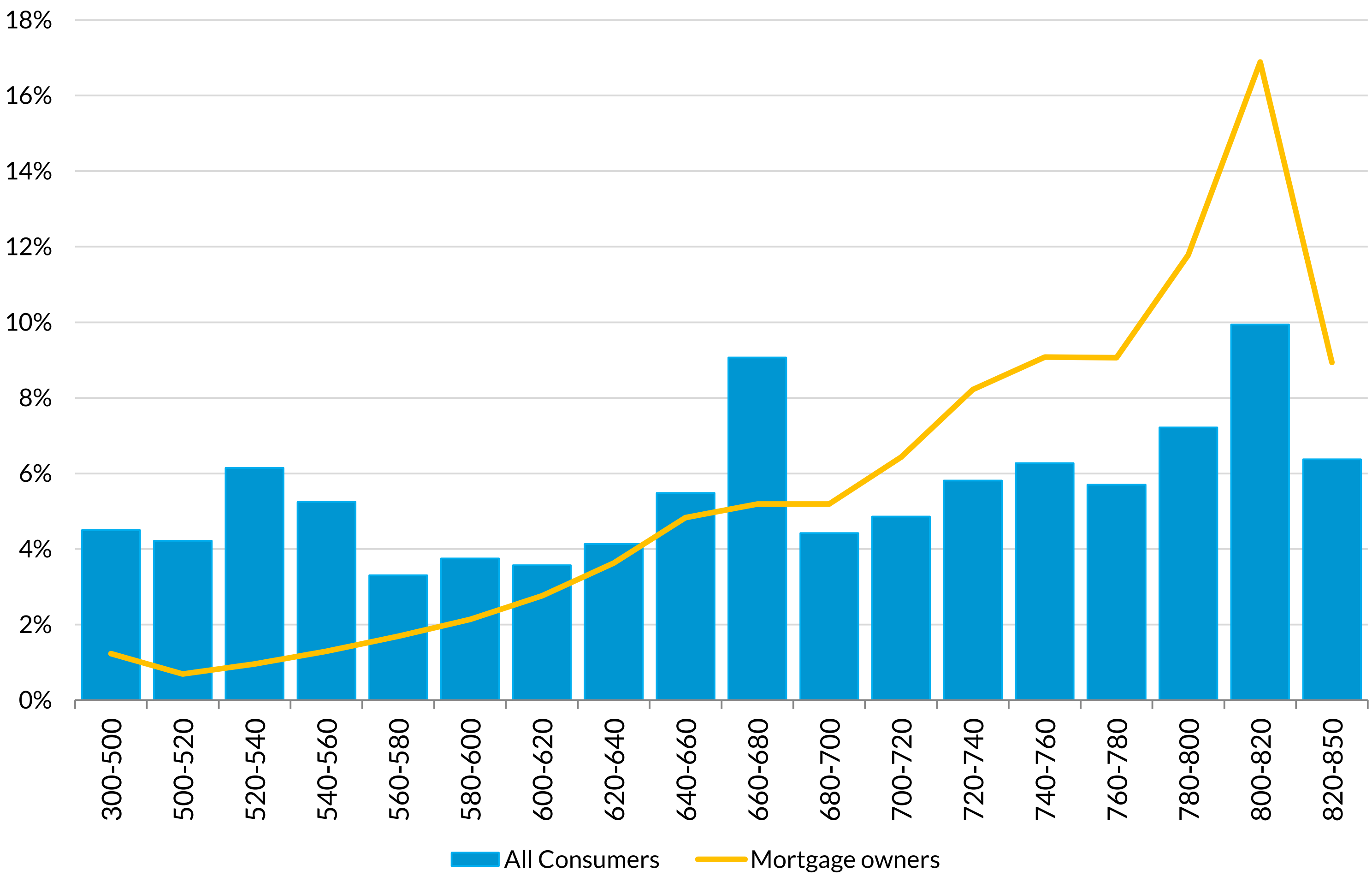
Sources: *eMBS and Urban Institute.* **Note**: *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA loans, which includes the financed upfront mortgage insurance 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 September 2020.*

Credit Box

Consumers who have a mortgage are concentrated at the high end of the general credit score spectrum. The top table shows that the median FICO score for all consumers (682) is equal to the 25th percentile of those with a mortgage (682).

FICO Score Distribution: Mortgage Owners vs All Consumers

All Consumers- Percentiles								
Minimum	**P5**	**P10**	**P25**	**P50**	**P75**	**P90**	**P95**	**Maximum**
300	503	524	587	682	774	813	822	839
Mortgage Owners- Percentiles								
Minimum	**P5**	**P10**	**P25**	**P50**	**P75**	**P90**	**P95**	**Maximum**
300	570	615	682	752	801	818	824	839



Sources: *Credit Bureau Data and Urban Institute.*
Note: *Data as of August 2017.*

September 2020 Credit Box at a Glance

In September 2020, the median Ginnie Mae FICO score was 698 versus 772 for both Fannie Mae and Freddie Mac. Note that the FICO score for the 10th percentile was 638 for Ginnie Mae, versus 701 for Fannie Mae and 702 for Freddie Mac. Within the Ginnie Mae market, FHA loans have a median FICO score of 673, VA loans have a median FICO score of 737 and other loans have a median FICO score of 696.

Purchase FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	370,036	655	715	743	781	800	734
Fannie	138,379	694	736	763	795	804	755
Freddie	98,949	698	731	766	791	804	758
Ginnie	132,708	634	655	685	732	776	695
Refi FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	625,370	690	731	771	795	807	758
Fannie	293,123	705	742	776	797	808	765
Freddie	243,864	704	739	774	796	807	764
Ginnie	88,383	643	676	722	773	799	721
All FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	995,406	672	715	762	791	805	749
Fannie	431,502	701	736	772	795	807	762
Freddie	342,813	702	737	772	794	806	762
Ginnie	221,091	638	661	698	752	789	705

Purchase FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	132,708	634	655	685	732	776	695
FHA	77,963	629	648	672	705	743	679
VA	41,387	647	677	725	773	797	723
Other	13,358	645	664	695	735	767	700
Refi FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	88,383	643	676	722	773	799	721
FHA	23,312	623	647	676	709	747	679
VA	64,162	659	696	745	783	802	736
Other	909	651	672	713	756	784	713
All FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	221,091	638	661	698	752	789	705
FHA	101,275	628	648	673	706	744	679
VA	105,549	653	688	737	780	801	731
Other	14,267	646	664	696	736	768	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 September 2020.*

September 2020 Credit Box at a Glance

In September 2020, the median loan-to-value ratio (LTV) was 96.5 percent for Ginnie Mae, 74 percent for Fannie Mae and 73 percent for Freddie Mac. The 90th percentile was 100.5 percent for Ginnie Mae, versus 90 percent for Freddie and 95 percent for Fannie. Within the Ginnie Mae market, the median LTV was 96.5 for FHA, 95.6 for VA and 101.0 for other programs.

Purchase LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	370,357	72.0	80.0	94.8	96.5	100.0	87.5
Fannie	138,319	65.0	80.0	82.0	95.0	95.0	82.6
Freddie	98,988	64.0	79.0	80.0	95.0	95.0	81.9
Ginnie	133,050	94.4	96.5	96.5	100.0	101.0	96.6
Refi LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	659,796	44.0	58.0	70.0	80.0	91.9	68.7
Fannie	293,124	41.0	54.0	67.0	75.0	80.0	64.0
Freddie	243,878	43.0	56.0	68.0	76.0	81.0	65.0
Ginnie	122,794	69.5	81.4	90.6	97.1	99.8	87.3
All LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	1,030,153	49.0	63.0	79.0	92.6	96.5	75.4
Fannie	431,443	45.0	59.0	74.0	80.0	95.0	69.9
Freddie	342,866	46.0	59.0	73.0	80.0	90.0	69.9
Ginnie	255,844	78.4	89.9	96.5	98.7	100.5	92.2

Purchase LTV: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	133,050	94.4	96.5	96.5	100.0	101.0	96.6
FHA	78,213	94.6	96.5	96.5	96.5	96.5	95.3
VA	41,449	91.9	100.0	100.0	100.0	102.3	98.3
Other	13,388	96.0	99.2	101.0	101.0	101.0	99.4
Refi LTV: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	122,794	69.5	81.4	90.6	97.1	99.8	87.3
FHA	39,092	76.6	82.7	92.6	96.7	97.9	88.9
VA	82,744	66.6	80.0	90.0	97.5	100.5	86.5
Other	958	76.9	87.9	96.8	100.0	101.0	92.2
All LTV: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	255,844	78.4	89.9	96.5	98.7	100.5	92.2
FHA	117,305	83.0	94.1	96.5	96.5	96.6	93.2
VA	124,193	71.3	84.2	95.6	100.0	102.1	90.4
Other	14,346	94.8	99.1	101.0	101.0	101.0	98.9

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 September 2020.*

September 2020 Credit Box at a Glance

In September 2020, the median Ginnie Mae debt-to-income ratio (DTI) was 41.3 percent, considerably higher than the 33.0 percent median DTI for both Freddie Mac and Fannie Mae. The 90th percentile for Ginnie Mae was 53.3 percent, also much higher than the 45.0 percent DTI for both Fannie Mae and Freddie Mac. Within the Ginnie Mae market, the median FHA DTI ratio was 43.6 percent, versus 39.2 percent for VA and 35.7 percent for other lending programs.

Purchase DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	370,084	23.0	30.0	38.0	44.0	49.0	37.0
Fannie	138,458	21.0	28.0	36.0	43.0	46.0	34.8
Freddie	98,986	21.0	27.0	35.0	42.0	46.0	34.3
Ginnie	132,640	28.2	34.9	41.9	48.3	53.4	41.2
Refi DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	564,003	19.0	25.0	32.0	40.0	45.0	32.2
Fannie	293,117	18.0	24.0	32.0	40.0	45.0	31.9
Freddie	243,865	19.0	25.0	32.0	40.0	45.0	32.1
Ginnie	27,021	22.8	30.2	37.6	46.1	52.2	37.6
All DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	934,087	20.0	26.0	35.0	42.0	47.0	34.1
Fannie	431,575	19.0	25.0	33.0	41.0	45.0	32.8
Freddie	342,851	19.0	25.0	33.0	41.0	45.0	32.7
Ginnie	159,661	27.2	33.9	41.3	48.0	53.3	40.6

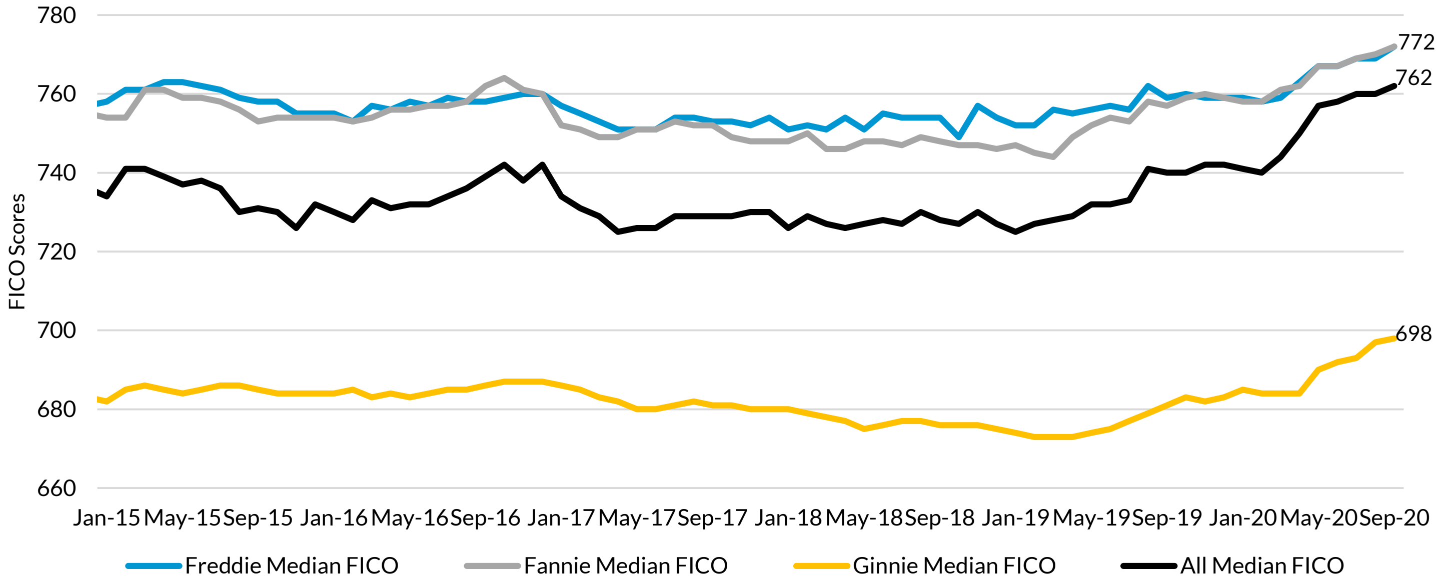
Purchase DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	132,640	28.2	34.9	41.9	48.3	53.4	41.2
FHA	78,167	30.6	37.1	43.8	49.5	54.1	42.9
VA	41,117	26.1	33.0	40.6	47.4	53.2	40.0
Other	13,356	25.4	30.6	35.9	40.2	43.2	35.0
Refi DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	27,021	22.8	30.2	37.6	46.1	52.2	37.6
FHA	11,409	26.9	33.5	41.8	48.6	53.6	40.7
VA	15,029	20.7	28.2	35.0	43.5	50.2	35.6
Other	583	13.9	22.1	29.5	35.7	41.1	28.7
All DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	159,661	27.2	33.9	41.3	48.0	53.3	40.6
FHA	89,576	30.0	36.7	43.6	49.4	54.0	42.6
VA	56,146	24.6	31.7	39.2	46.6	52.6	38.8
Other	13,939	24.8	30.2	35.7	40.2	43.2	34.7

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

Credit Box: Historical

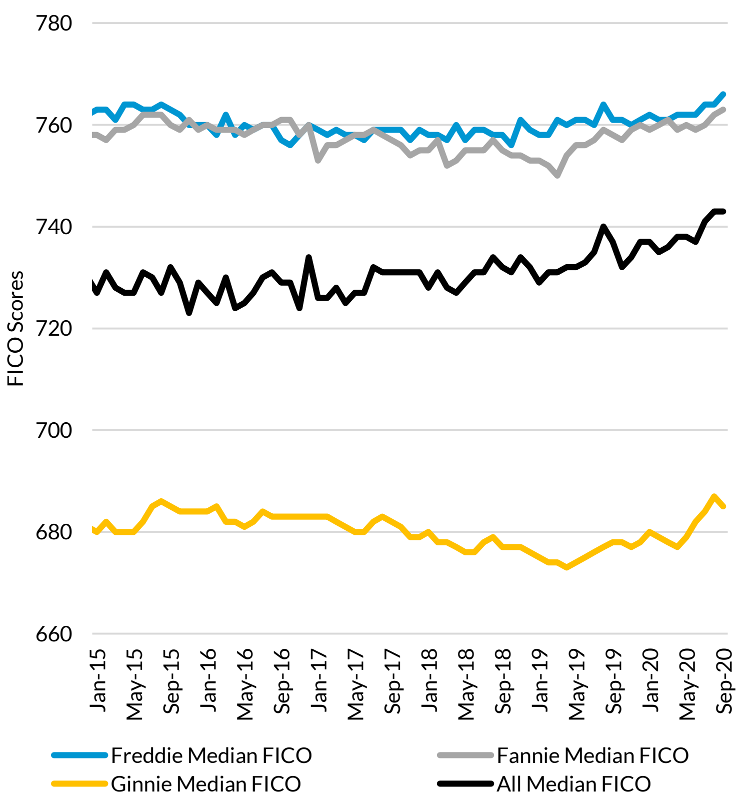
The median FICO score for all agency loans originated in September 2020 was 762, up considerably since the start of last year, owing to the refinance wave, which higher FICO borrowers take advantage of with greater frequency. In addition, the increases in refinance activity have been much more dramatic at the GSEs than at Ginnie Mae, shifting the composition toward higher FICO scores 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 slightly wider for purchase loans than for refi loans.

FICO Scores for All Loans



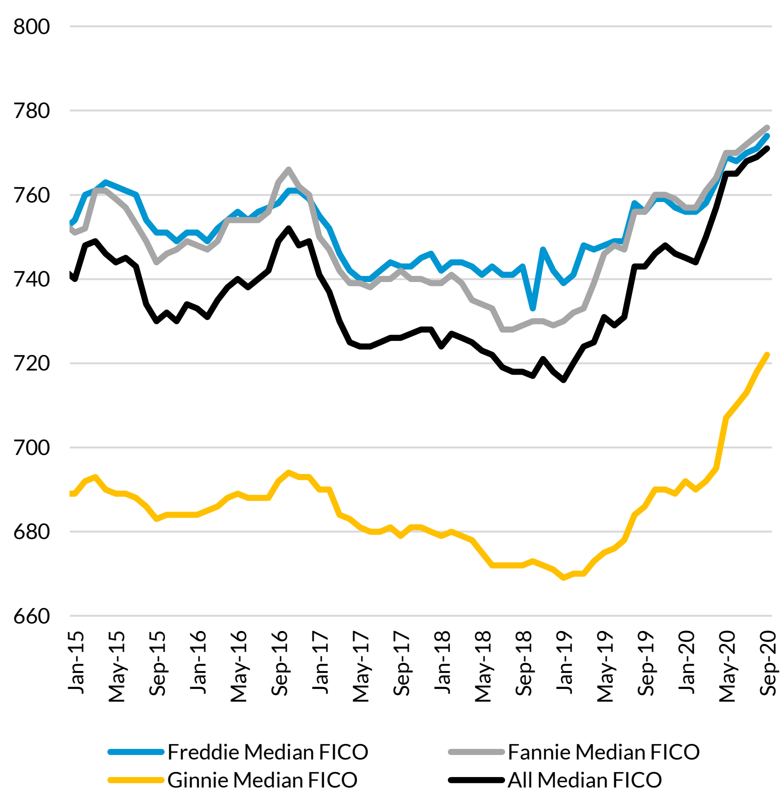
Sources: *eMBS and Urban Institute.* **Note**: *Data as of September 2020.*

FICO Scores for Purchase Loans



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

FICO Scores for Refinance Loans

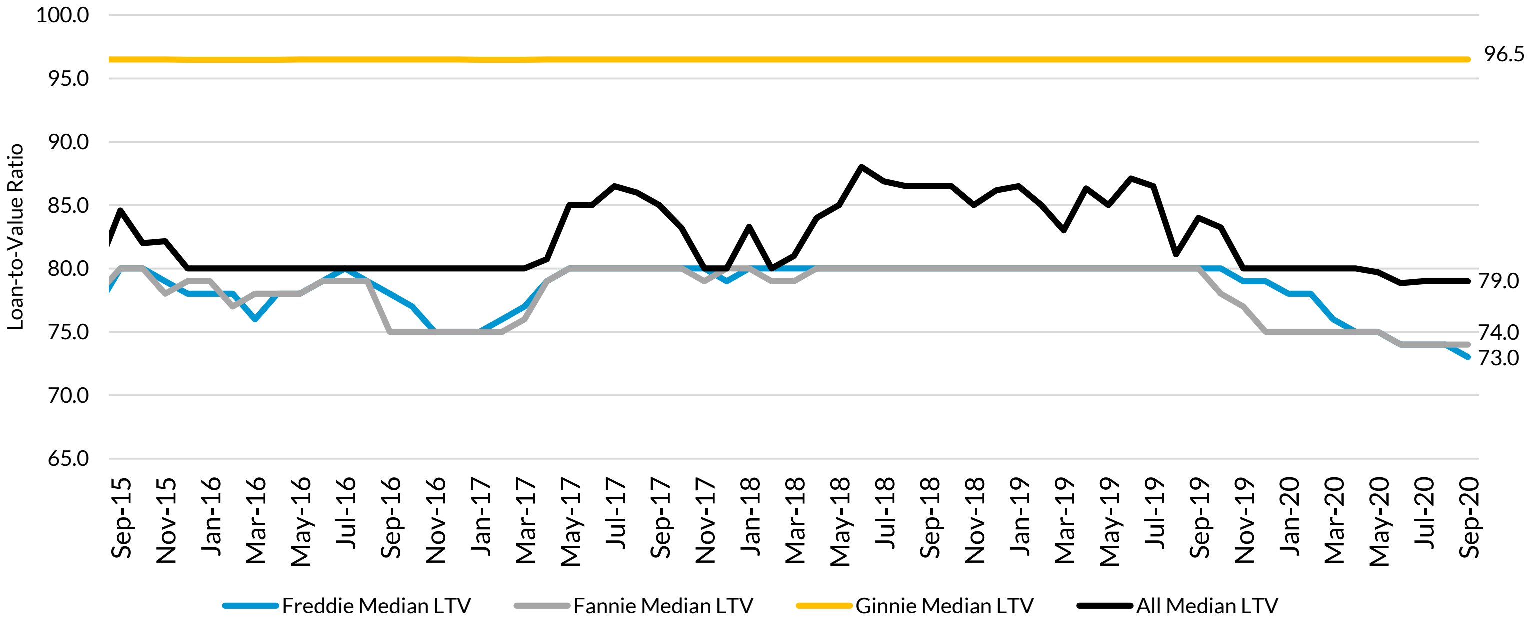


Sources: *eMBS and Urban Institute.* **Note:** *Data as of September 2020.*

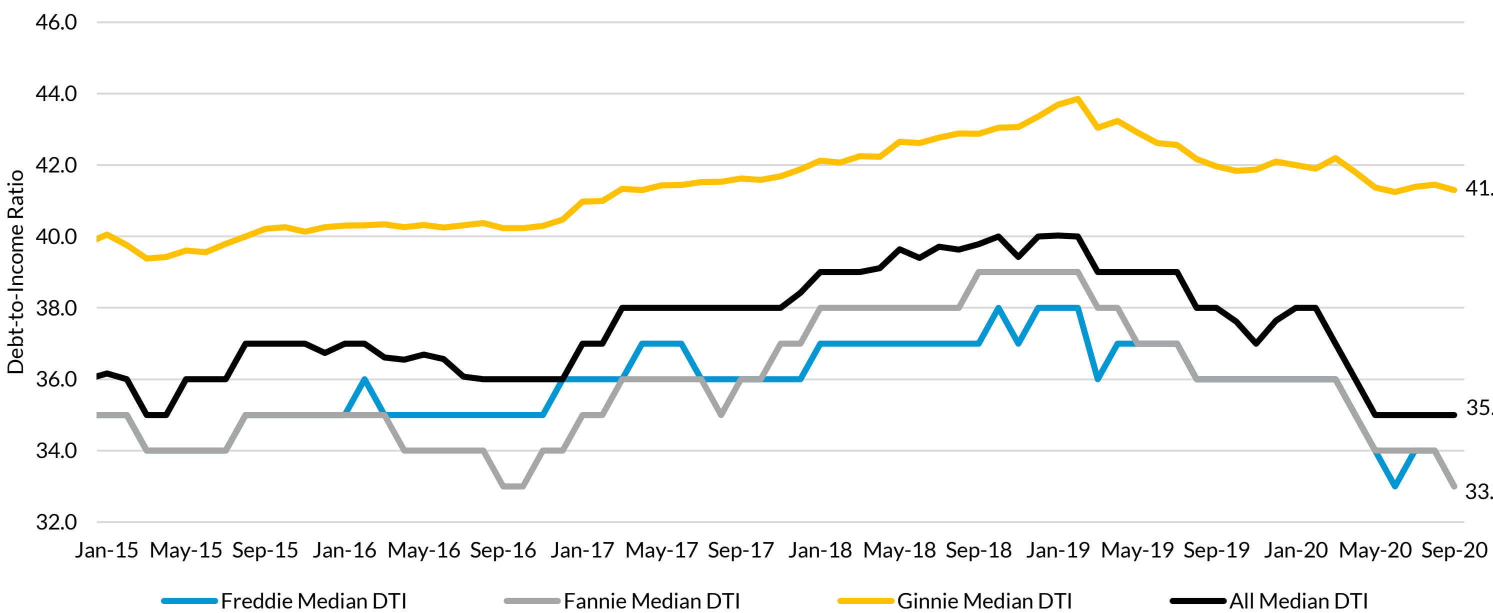
Credit Box: Historical

Median LTVs for Ginnie Mae loans have historically been at 96.5 percent, much higher than the 73–74 LTVs 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.

LTV Ratio for All Loans



DTI Ratio for All Loans

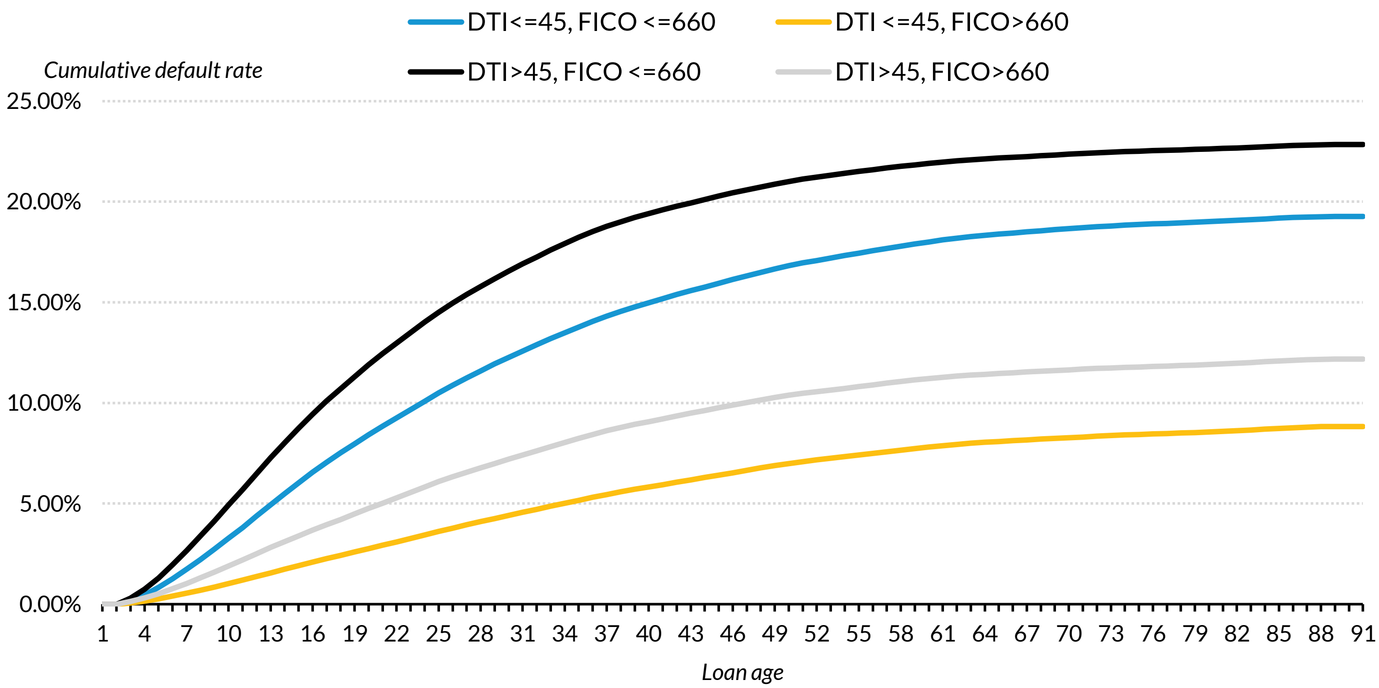


Sources: *eMBS and Urban Institute.* **Note:** *In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA loans, which includes the financed upfront mortgage insurance premium. To make it consistent with the previously reported LTV, we removed the financed upfront mortgage insurance premium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

Credit Box: Historical

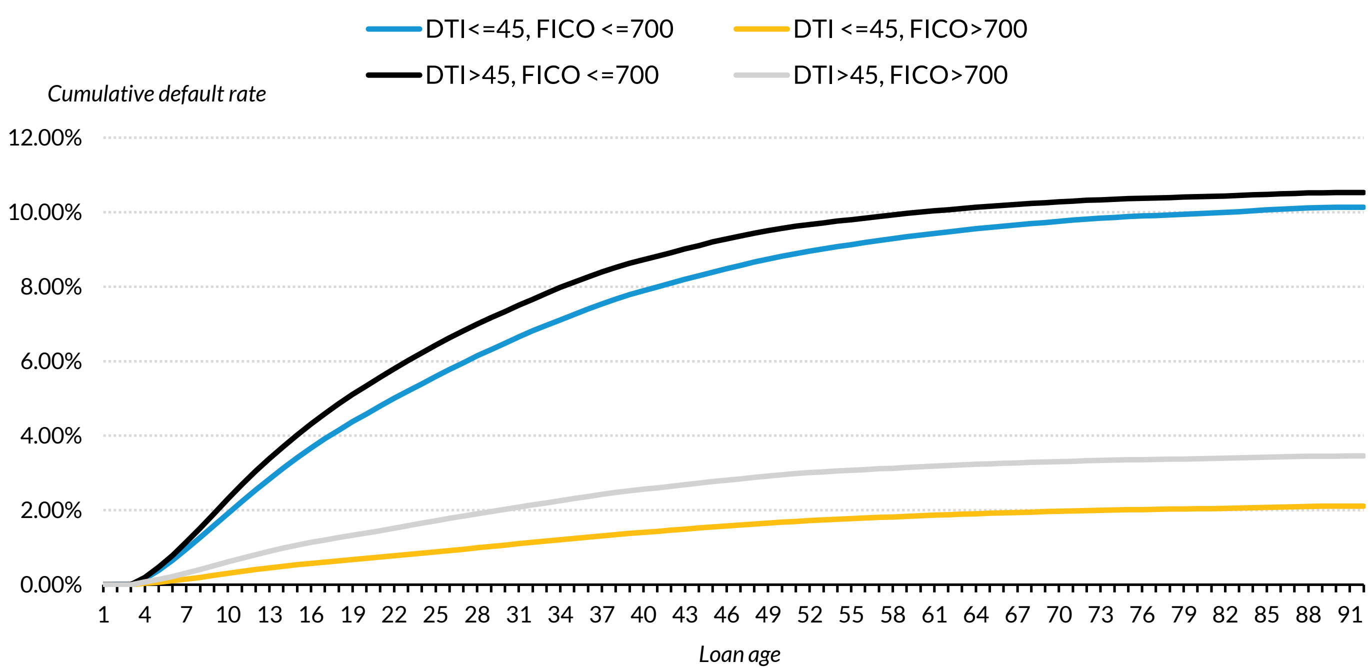
DTI is a much weaker predictor of performance than FICO score. The top chart shows FHA borrowers with higher DTIs do default more than those with lower DTIs, but the differences are modest, as evidenced by the fact that the black line is very close to the blue line and the grey line is not that much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

VA Cumulative Default Rate by DTI and FICO

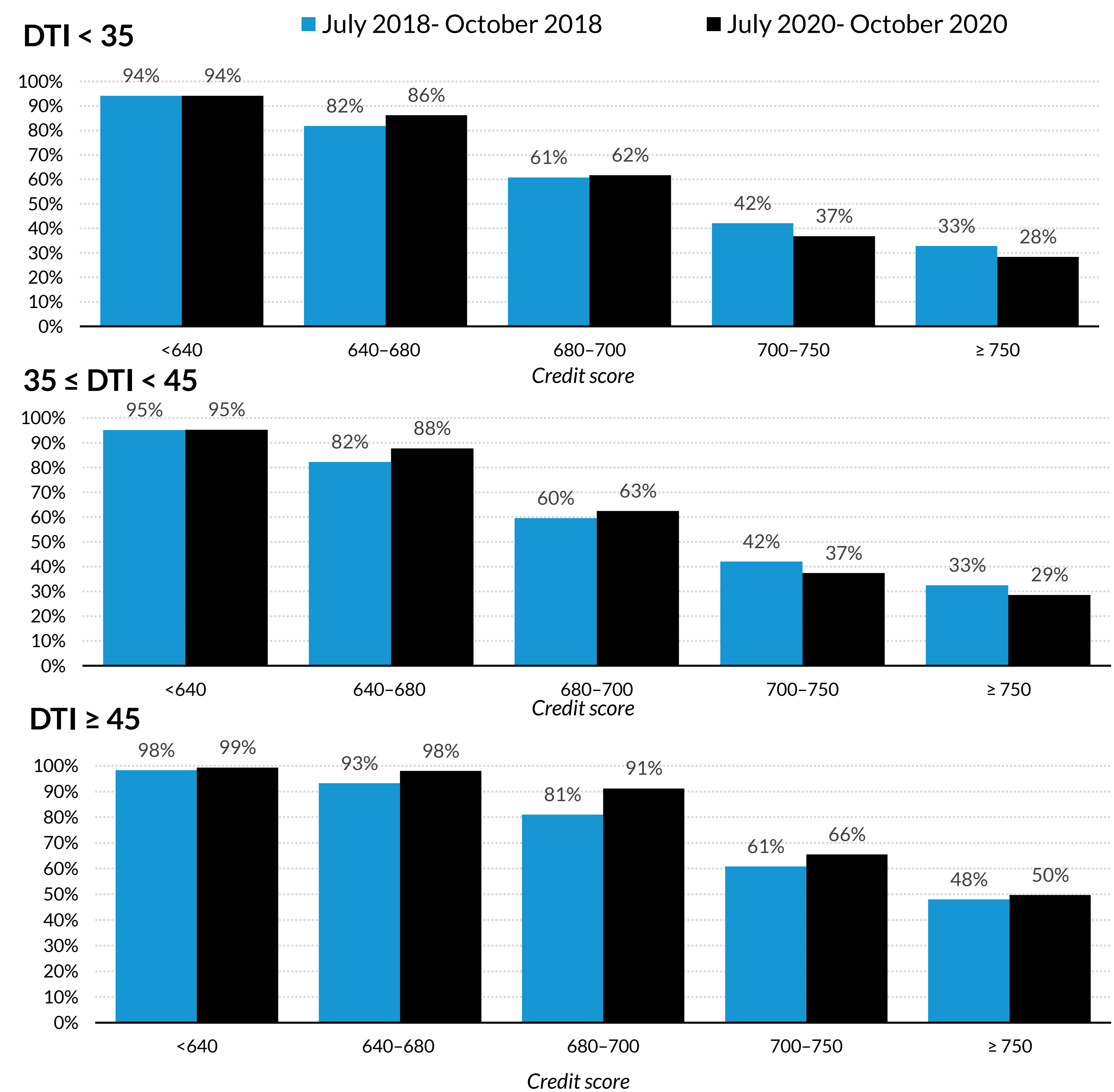


Sources: *eMBS and Urban Institute.* **Note:** Defaults = 180 days delinquent. *Data as of September 2020.*

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 July 2020- October 2020, Ginnie Mae accounted for 94 percent of agency issuance for DTIs under 35 and FICOs below 640, compared to just 28 percent for DTIs below 35 and FICO 750 and higher. The Ginnie/GSE split in the 35-45 DTI bucket looks a lot like the below 35 percent DTI bucket. In July 2020– October 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 91 percent; it was between 62-63 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 73.4 percent of its issuances in the July 2020- October 2020 period having LTVs of 95 or above, compared to 10.6 percent for the GSEs. The GSEs have decreased their high-LTV lending share from 21.7 percent in July 2018– October 2018. Ginnie Mae's high-LTV lending has grown over the same period from 72.2 percent. The share of high-LTV agency loans going to highest FICO borrowers (i.e. above 750) has increased from the July 2018-October 2018 period to the July 2020-October 2020 period, as has the share of lower DTI borrowers (below 35).

Share of Loans with LTV ≥ 95

	Ginnie Mae	GSE	All
July 2018- October 2018	72.2%	21.7%	38.5%
July 2020- October 2020	73.4%	10.6%	20.7%

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

July 2018-October 2018

	FICO					
DTI	<640	640–680	680–700	700–750	≥ 750	All
< 35	2.8%	4.6%	2.6%	6.8%	8.9%	25.7%
35 –45	5.3%	9.0%	4.8%	11.3%	10.0%	40.3%
≥ 45	4.8%	8.9%	4.4%	9.2%	6.6%	34.0%
All	13.0%	22.5%	11.7%	27.3%	25.5%	100.0%

July 2020-October 2020

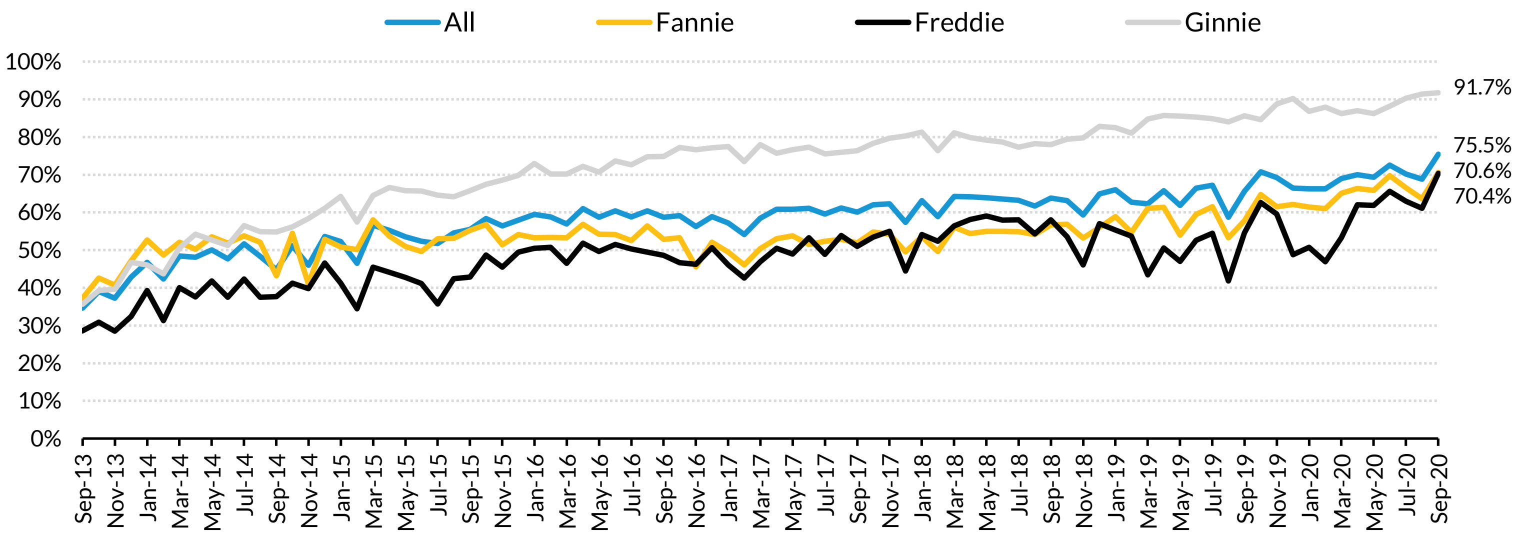
	FICO					
DTI	<640	640–680	680–700	700–750	≥ 750	All
< 35	1.6%	4.8%	2.9%	8.7%	13.0%	31.0%
35 –45	2.9%	8.7%	5.0%	13.0%	12.6%	42.4%
≥ 45	2.3%	7.1%	3.5%	7.7%	6.0%	26.6%
All	6.8%	20.6%	11.4%	29.5%	31.6%	100.0%

Sources: *eMBS and Urban Institute.*

Nonbank Originators

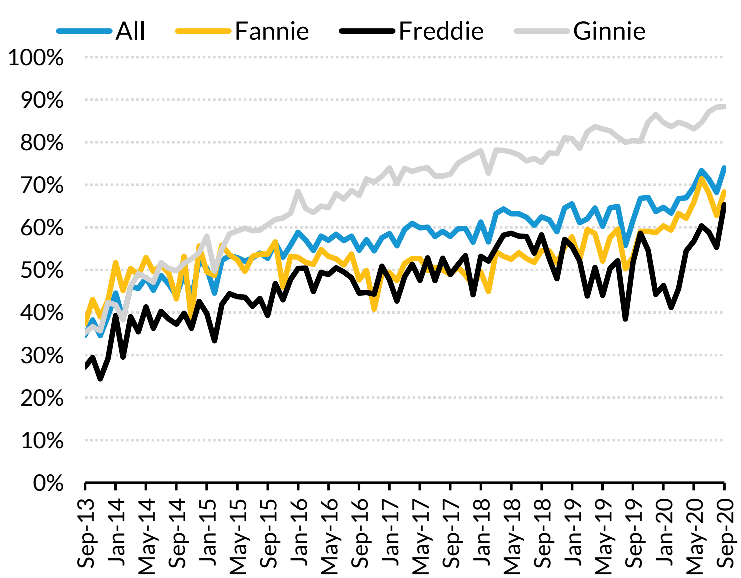
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 91.7 percent in September 2020, a new record high. Freddie's nonbank share rose to 70.4 percent, while Fannie's nonbank share rose to 70.6 percent in September (note that these numbers can be volatile on a month-to-month basis). Ginnie Mae, Fannie Mae, and Freddie Mac all have higher nonbank origination shares for refi activity than for purchase activity. Freddie Mac's nonbank share is the lowest among the three agencies for purchase loans; Fannie Mae has the lowest nonbank share for refi loans.

Nonbank Origination Share: All Loans

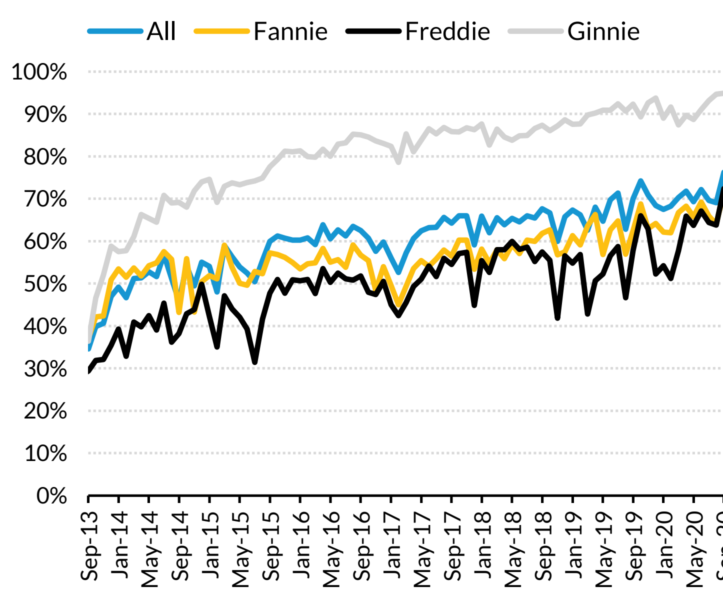


Sources: *eMBS and Urban Institute*
Note: *Data as of September 2020.*

Nonbank Origination Share: Purchase Loans



Nonbank Origination Share: Refinance Loans

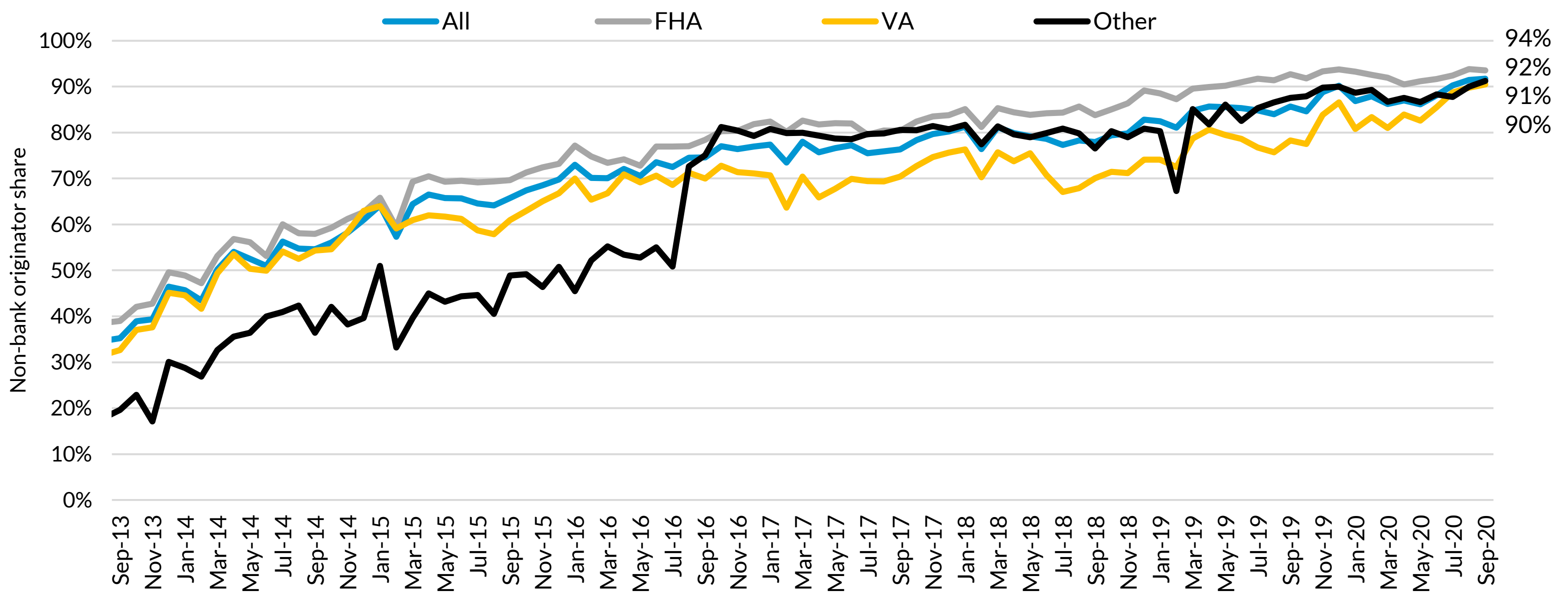


Sources: *eMBS and Urban Institute.* **Note:** *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of September 2020.*

Ginnie Mae Nonbank Originators

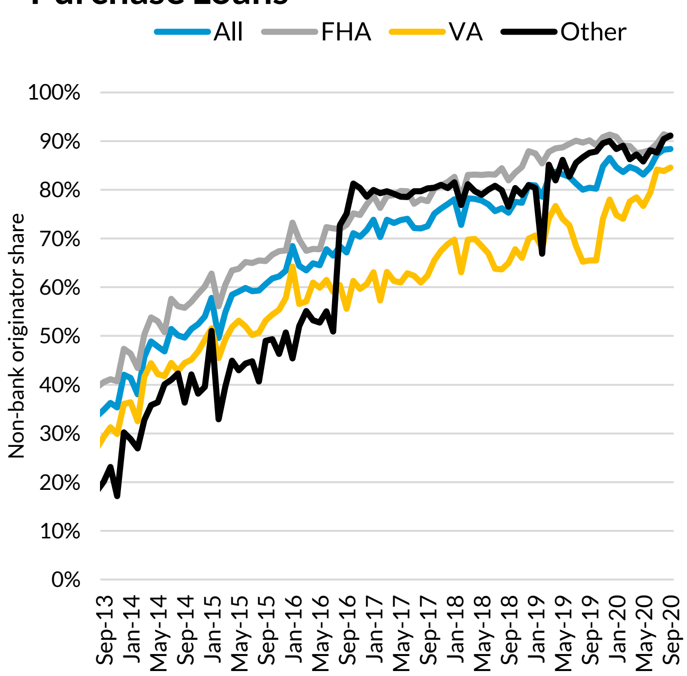
In September 2020, Ginnie Mae's nonbank share rose to 91.7 percent. The nonbank originator share for FHA fell very slightly to 93.6 percent in September, compared to 93.8 percent the previous month. The nonbank originator share for VA was higher than last month at 90.5 percent and the nonbank originator share for other loans, which can fluctuate quite a bit month to month, rose to 91.3 percent.

Ginnie Mae Nonbank Originator Share: All Loans

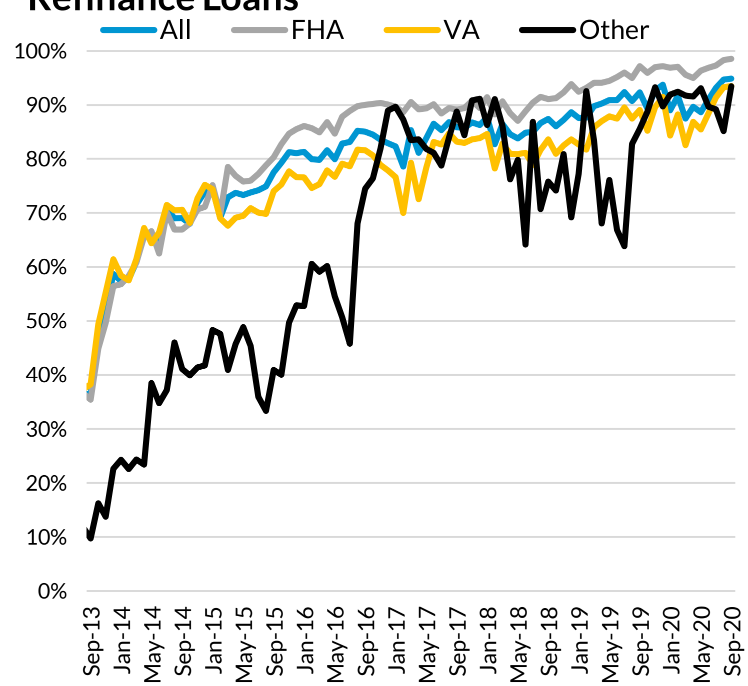


Sources: *eMBS and Urban Institute*
Note: *Data as of September 2020.*

Ginnie Mae Nonbank Share: Purchase Loans



Ginnie Mae Nonbank Share: Refinance Loans

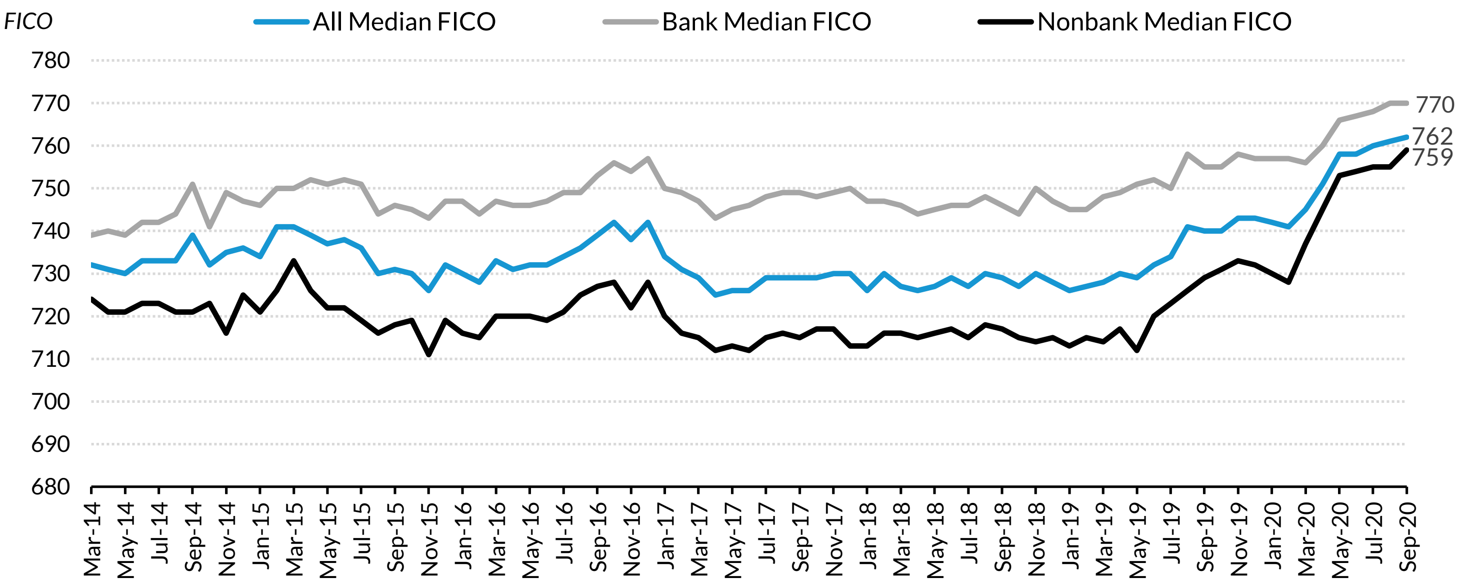


Sources: *eMBS and Urban Institute.* **Note:** *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of September 2020.*

Nonbank Credit Box

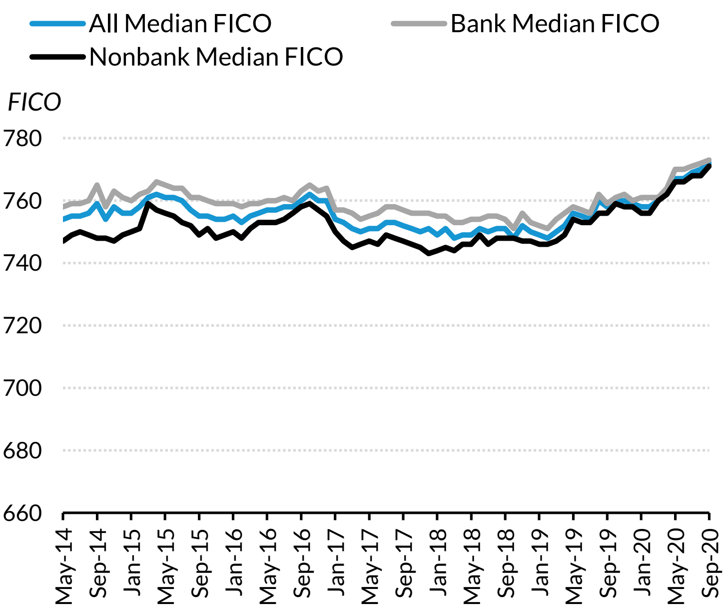
Nonbank originators have played a key role in opening up access to credit. FICO scores for loans originated by nonbanks are lower than their bank counterparts. Within the GSE space, where the differentials between banks and non-banks are small, FICO scores for both have increased since early 2014. The 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 activities. 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



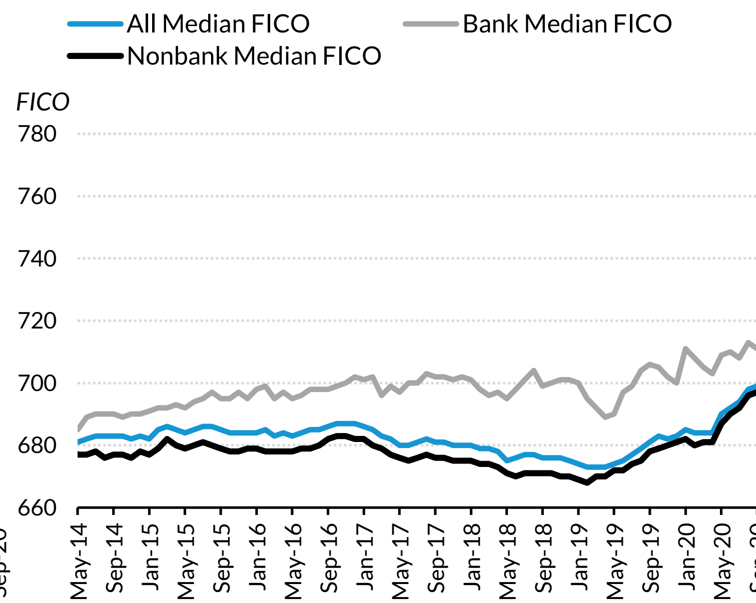
Sources: *eMBS and Urban Institute.* **Note**: *Data as of September 2020.*

GSE FICO: Bank vs. Nonbank



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

Ginnie Mae FICO: Bank vs. Nonbank

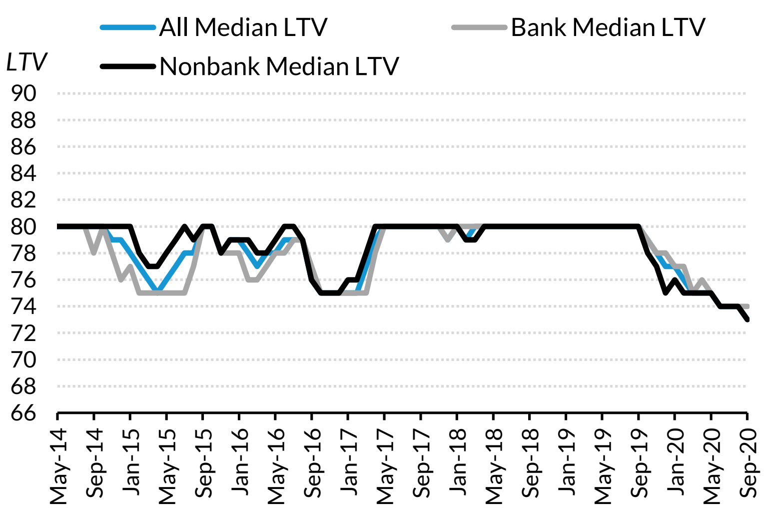


Sources: *eMBS and Urban Institute.*
Note: *Data as of September 2020.*

Nonbank Credit Box

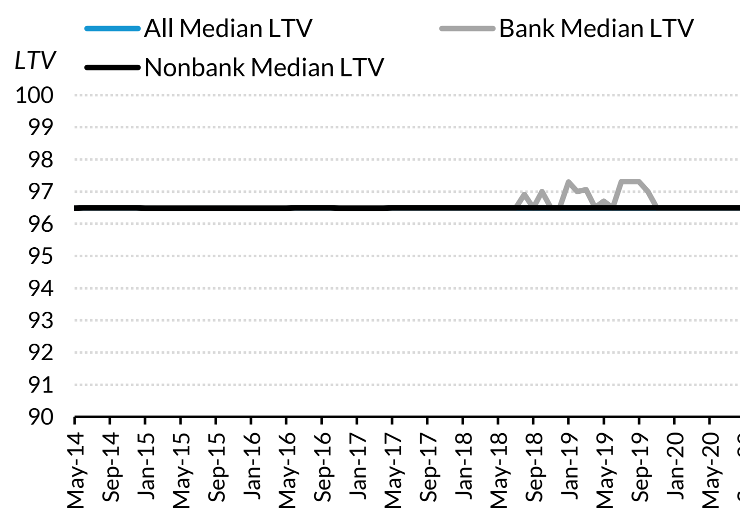
The median LTVs for nonbank and bank originations are comparable, while the median DTI for nonbank loans is higher than for bank loans, indicating that nonbanks are more accommodating in both this and the FICO dimension. Between early 2017 and early 2019, there was a substantial increase in DTIs; over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



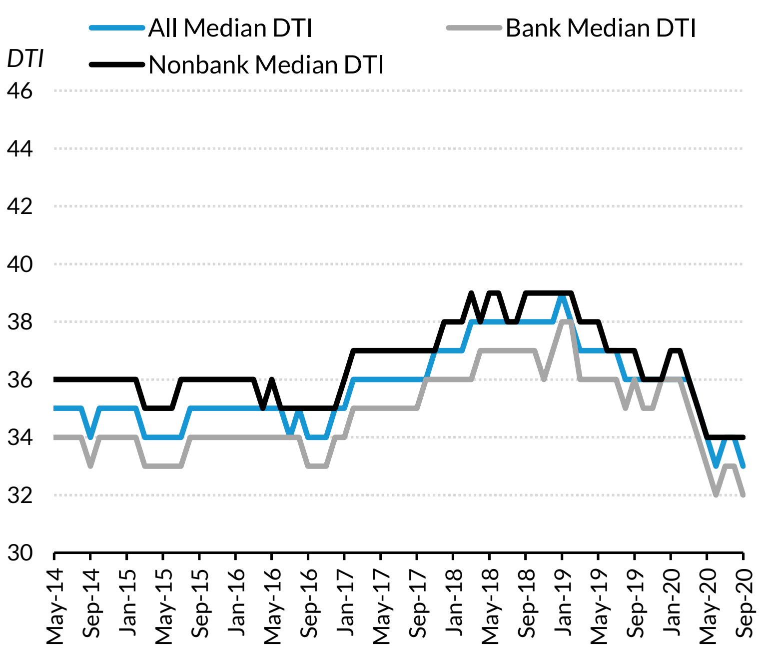
Sources: *eMBS and Urban Institute.* **Note**: *Data as of September 2020.*

Ginnie Mae LTV: Bank vs. Nonbank



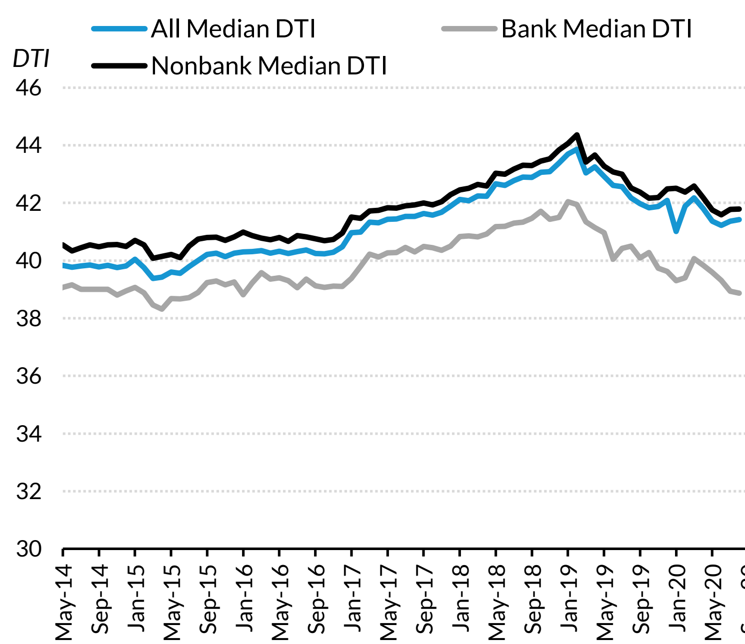
Sources: *eMBS and Urban Institute.* **Note**: *Data as of September 2020.*

GSE DTI: Bank vs. Nonbank



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

Ginnie Mae DTI: Bank vs. Nonbank

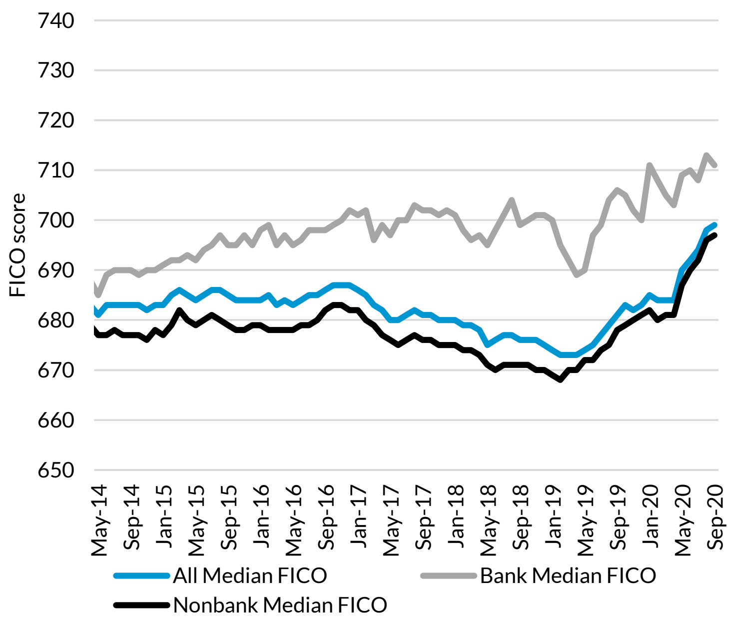


Sources: *eMBS and Urban Institute.* **Note**: *Data as of September 2020.*

Ginnie Mae Nonbank Originators: Credit Box

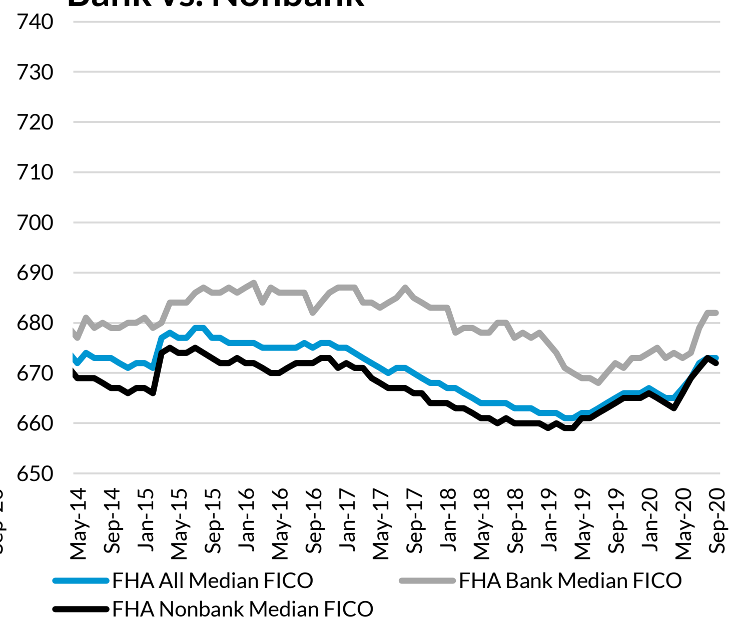
The median FICO score for Ginnie Mae nonbank originators grew slightly in September 2020. Bank FICOs are 14 points above non-banks. The gap between banks and non-banks is very apparent for all categories of government lending.

Ginnie Mae FICO Scores: Bank vs. Nonbank



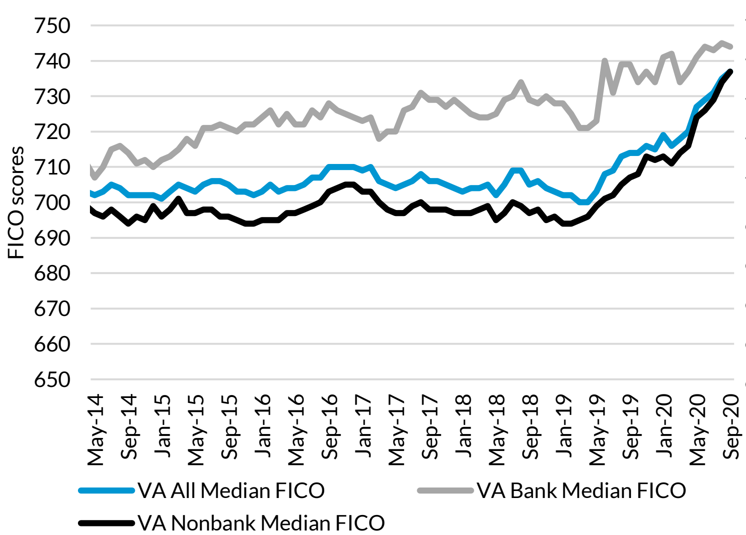
Sources: *eMBS and Urban Institute* **Note:** *Data as of September 2020.*

Ginnie Mae FHA FICO Scores: Bank vs. Nonbank



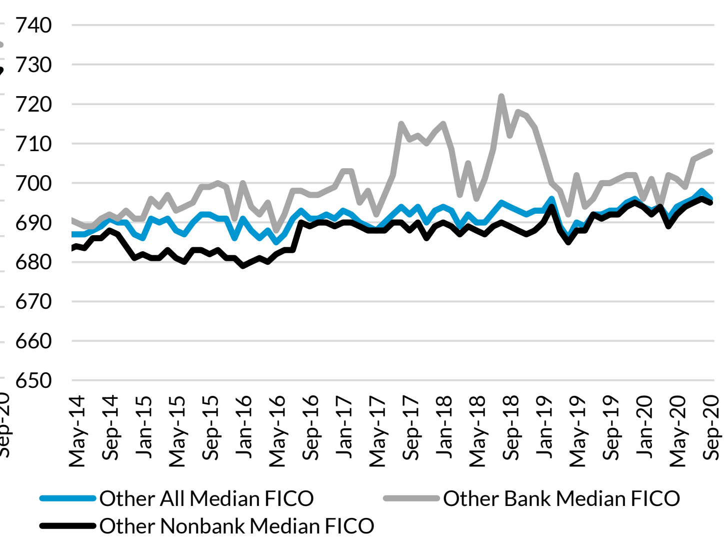
Sources: *eMBS and Urban Institute* **Note:** *Data as of September 2020.*

Ginnie Mae VA FICO Scores: Bank vs. Nonbank



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

Ginnie Mae Other FICO Scores: Bank vs. Nonbank

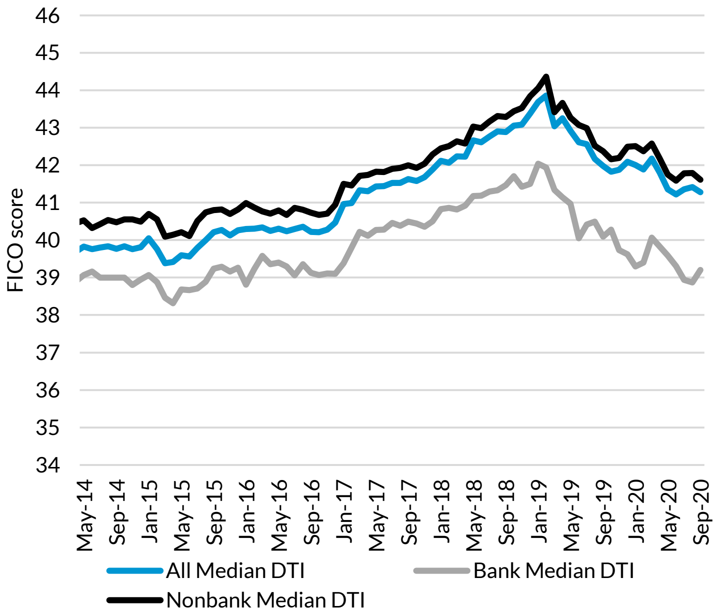


Sources: *eMBS and Urban Institute*
Note: *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of September 2020.*

Ginnie Mae Nonbank Originators: Credit Box

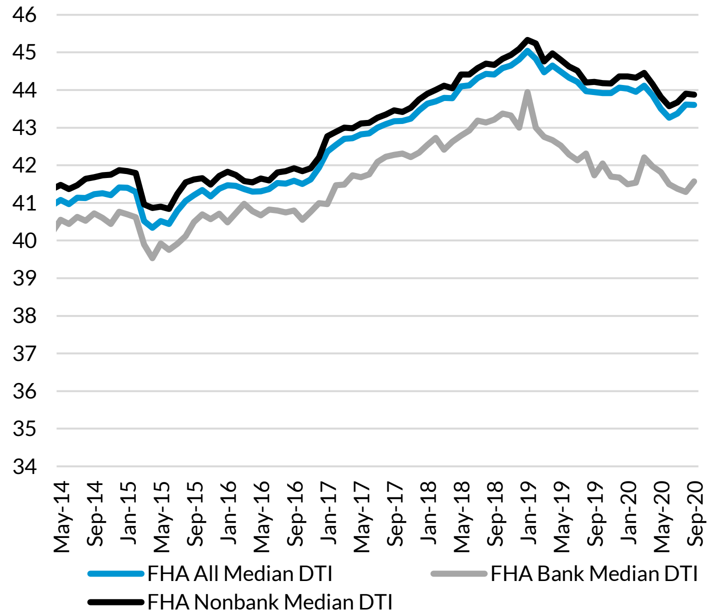
An analysis of borrowers' DTI ratios for bank versus non-bank originators indicates that the former have a lower median DTI. The DTIs for FHA and VA borrowers experienced notable increases during 2017 and 2018 for both banks and nonbank originators, while the Other origination DTIs stayed relatively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



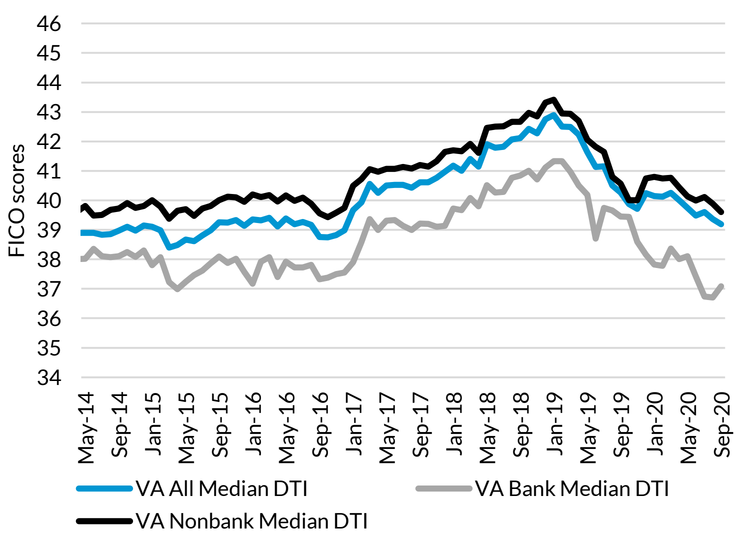
Sources: *eMBS and Urban Institute* **Note:** *Data as of September 2020.*

Ginnie Mae FHA DTI: Bank vs. Nonbank



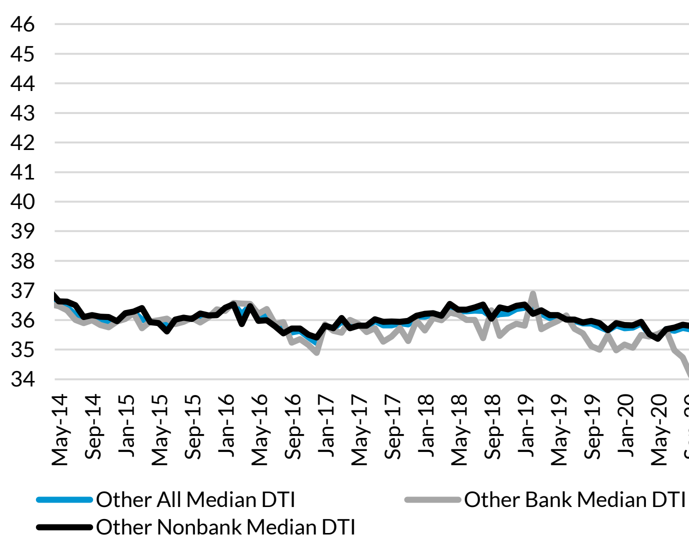
Sources: *eMBS and Urban Institute* **Note:** *Data as of September 2020.*

Ginnie Mae VA DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute*
Note: *Data as of September 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 September 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 September 2020, over half (51.9 percent) of the Ginnie Mae MSRs are owned by the top six firms. The top 30 firms collectively own 85.4 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

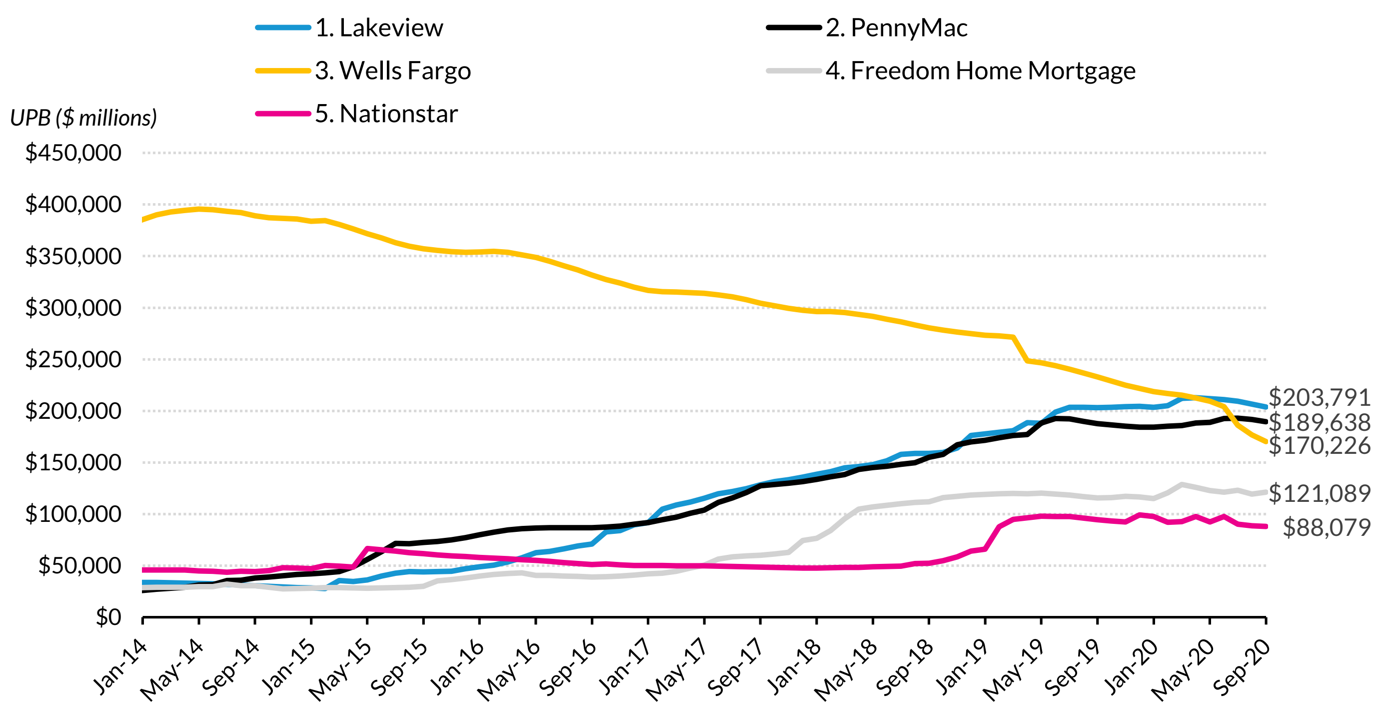
Rank	MSR Holder	UPB ($ millions)	Share	Cumulative Share
1	**Lakeview**	$203,791	12.6%	12.6%
2	**PennyMac**	$189,638	11.7%	24.3%
3	**Wells Fargo**	$170,226	10.5%	34.7%
4	**Freedom Home Mortgage**	$121,089	7.5%	42.2%
5	**Nationstar**	$97,684	5.4%	47.6%
6	**Quicken Loans**	$69,866	4.3%	51.9%
7	**Newrez**	$52,351	3.2%	55.2%
8	**US Bank**	$49,014	3.0%	58.2%
9	**Carrington Mortgage**	$43,207	2.7%	60.9%
10	**USAA Federal Savings Bank**	$38,819	2.4%	63.2%
11	**Caliber Home Loans**	$37,818	2.3%	65.6%
12	**Truist Bank**	$29,286	1.8%	67.4%
13	**Amerihome Mortgage**	$28,510	1.8%	69.1%
14	**Navy Federal Credit Union**	$28,004	1.7%	70.9%
15	**Home Point Financial Corporation**	$22,961	1.4%	72.3%
16	**The Money Source**	$20,453	1.3%	73.5%
17	**Loan Depot**	$18,481	1.1%	74.7%
18	**JP Morgan Chase**	$17,212	1.1%	75.7%
19	**Midfirst Bank**	$16,752	1.0%	76.8%
20	**Guild Mortgage**	$16,173	1.0%	77.8%
21	**Shore Financial**	$15,341	0.9%	78.7%
22	**M&T Bank**	$14,367	0.9%	79.6%
23	**Roundpoint Mortgage**	$14,323	0.9%	80.5%
24	**Citizens Bank**	$13,625	0.8%	81.3%
25	**PHH Mortgage Corporation**	$13,097	0.8%	82.1%
26	**Planet Home Lending**	$12,540	0.8%	82.9%
27	**Flagstar Bank**	$11,883	0.7%	83.6%
28	**Pingora**	$10,329	0.6%	84.3%
29	**Bank of America**	$9,186	0.6%	84.8%
30	**New American Funding**	$8,972	0.6%	85.4%

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

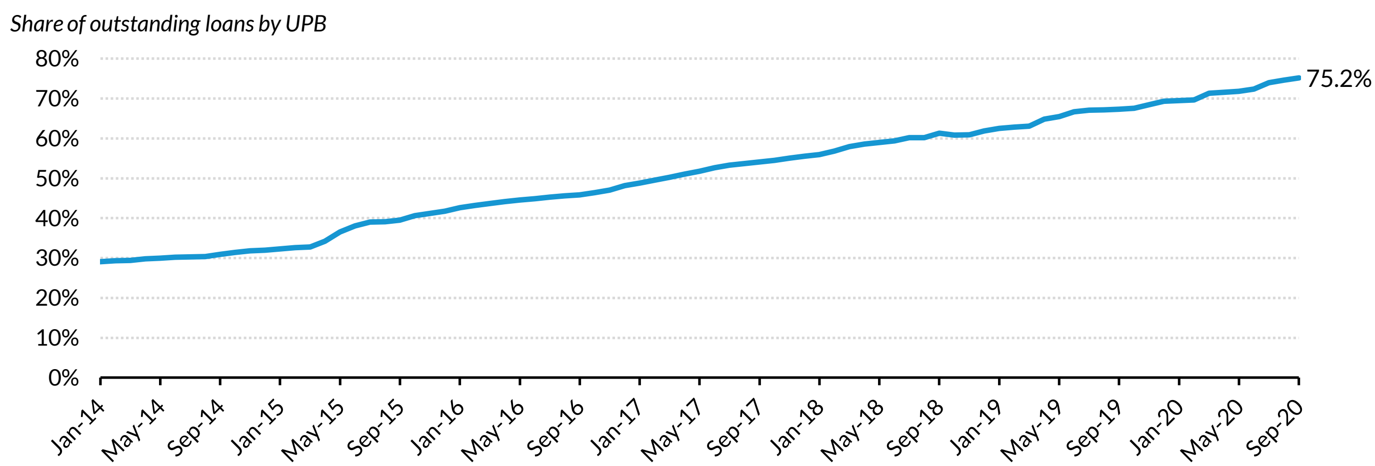
Holders of Ginnie Mae MSRs

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 September 2020, Wells Fargo's holdings of MSRs dipped to $170.2 billion, below the $203.8 and $189.6 billion held by Lakeview and PennyMac, respectively (both nonbanks). Freedom Home Mortgage and Nationstar (both nonbanks) make up the remainder of the top five largest holders of MSRs, owning $121 billion and $88 billion respectively as of September 2020. Nonbanks collectively owned servicing rights for 75.2 percent of all outstanding unpaid principal balance guaranteed by Ginnie Mae in September 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

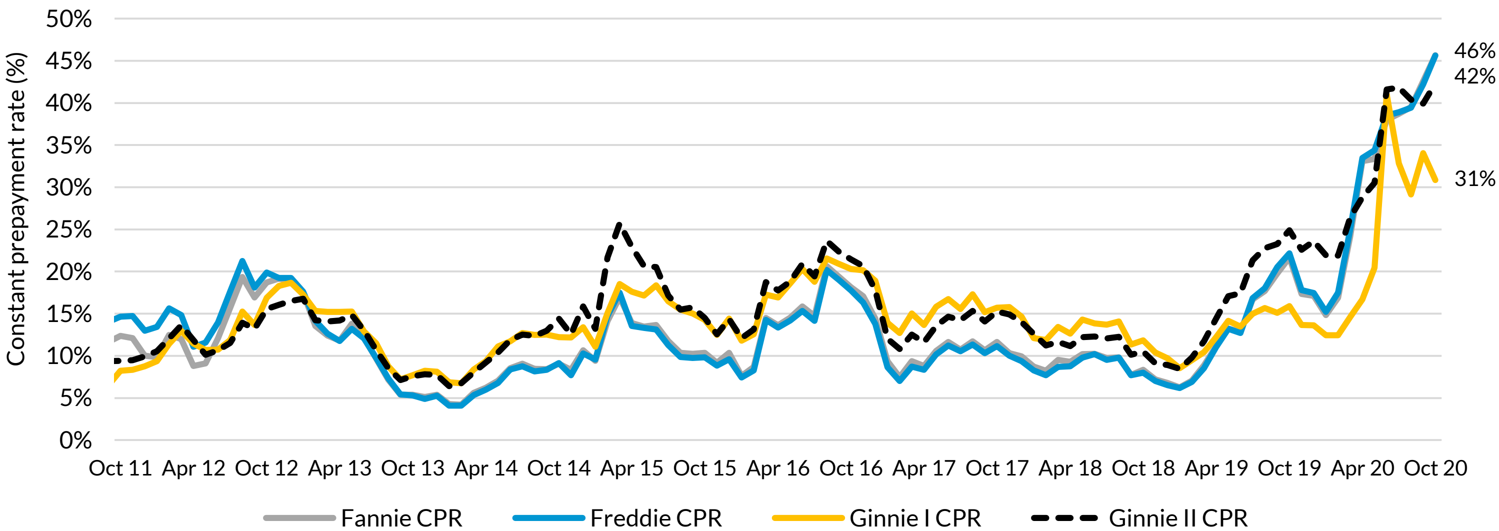


Sources: *eMBS and Urban Institute.* **Note:** *Data as of September 2020.*

Prepayments

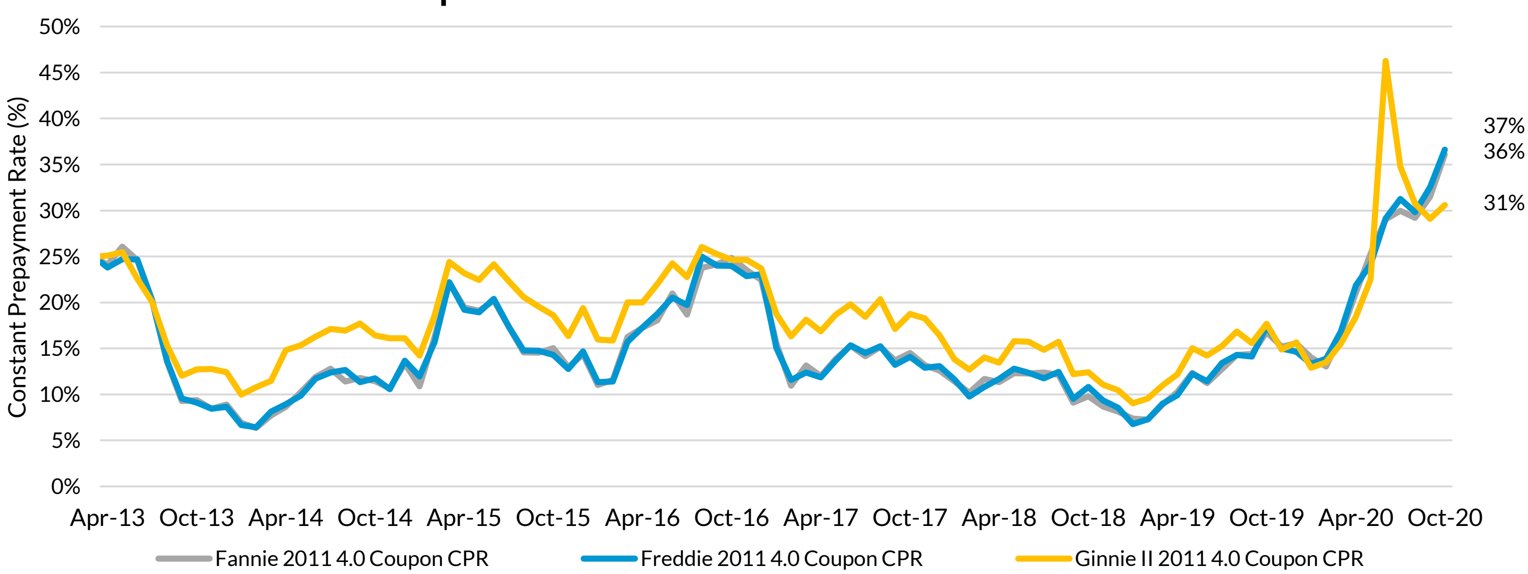
While prepayment speeds on all securities have risen since early 2019, the speed increase has been especially dramatic in 2020, with speeds on both Ginnie II and GSE securities rising rapidly due to a sharp drop in rates. At this point, the speeds on GSE securities have largely converged with those on Ginnie II securities, as the former have ramped up more quickly in the last few months. 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 October 2020.*

2011 Issued 4.0 Coupon CPR

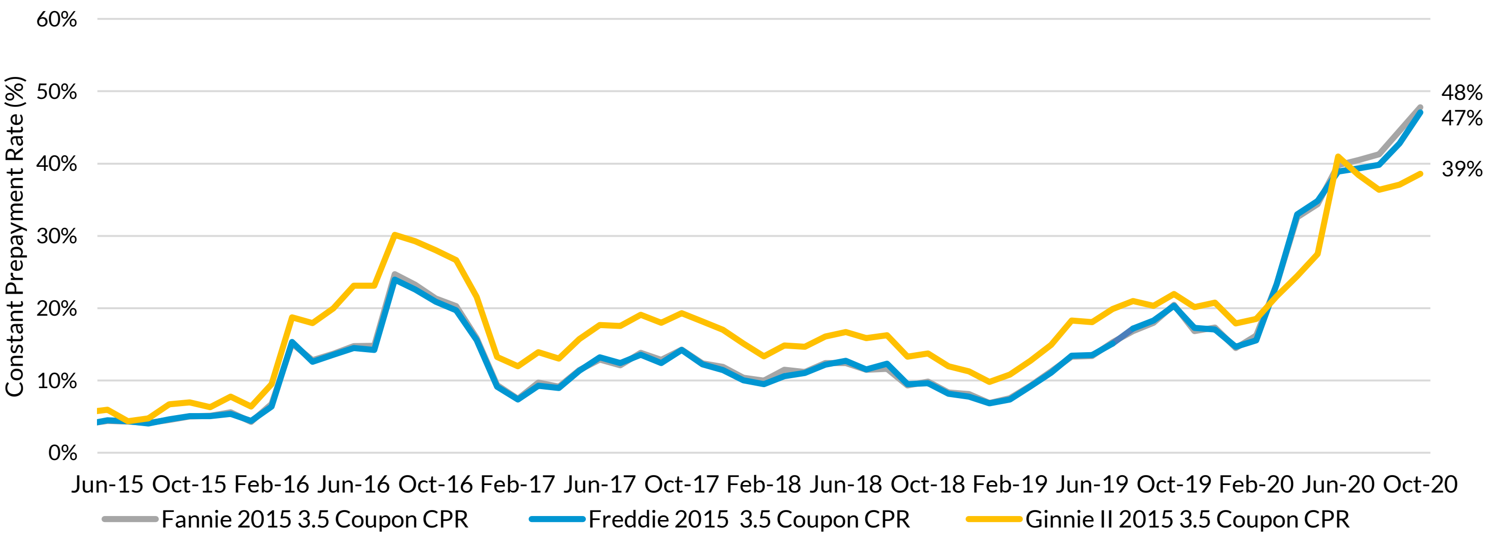


Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of October 2020.*

Prepayments

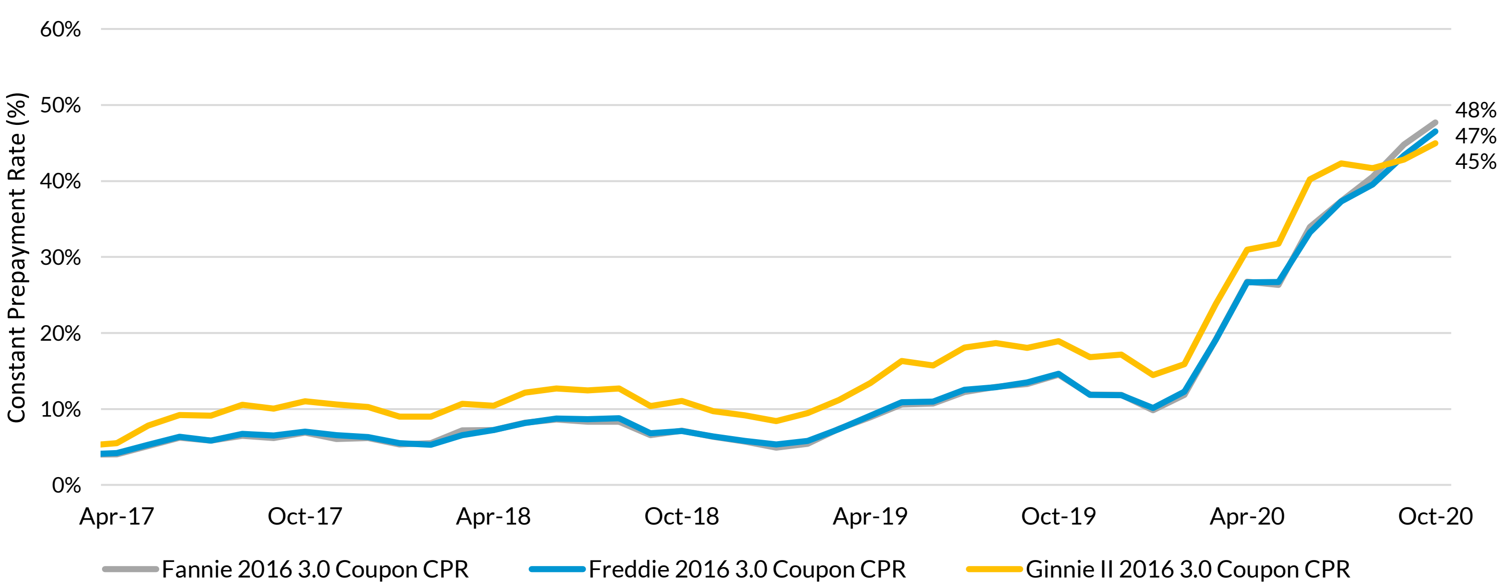
Speeds on the 2015 3.5s and the 2016 3.0s, the largest coupon cohorts of those vintage years, have been increasing since early 2019.; the speed increases have been especially dramatic in 2020 due to a sharp drop in rates, with speeds on both Ginnie II and GSE securities rising rapidly. The speeds on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

2016 Issued 3.0 Coupon CPR

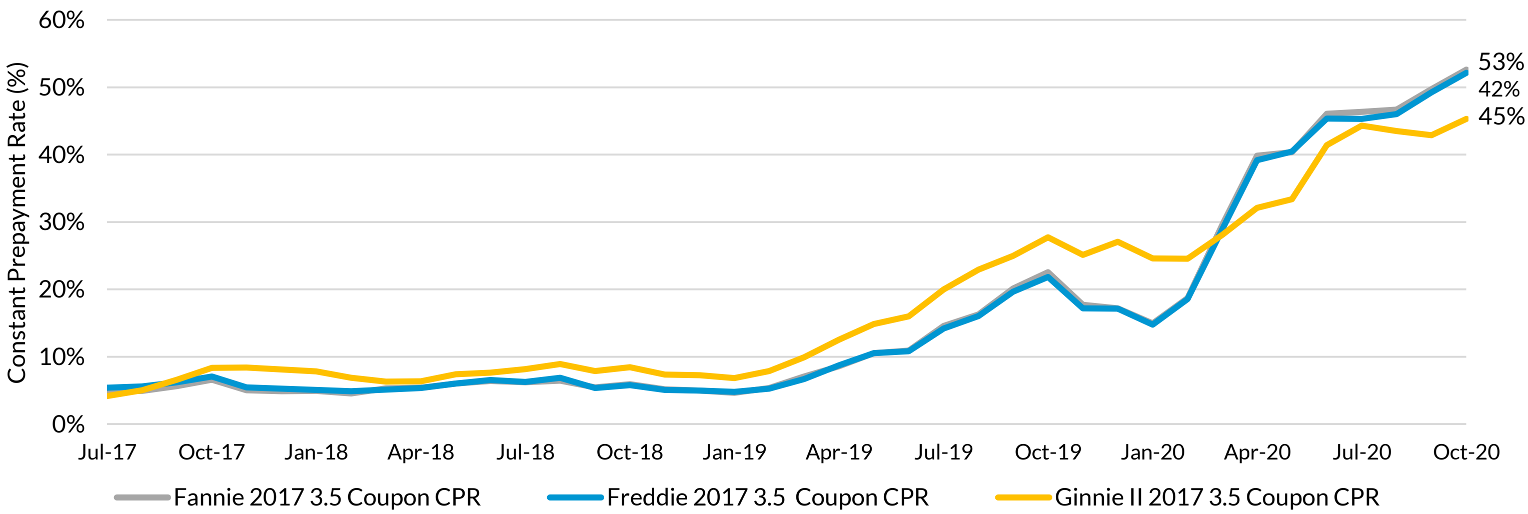


Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of October 2020.*

Prepayments

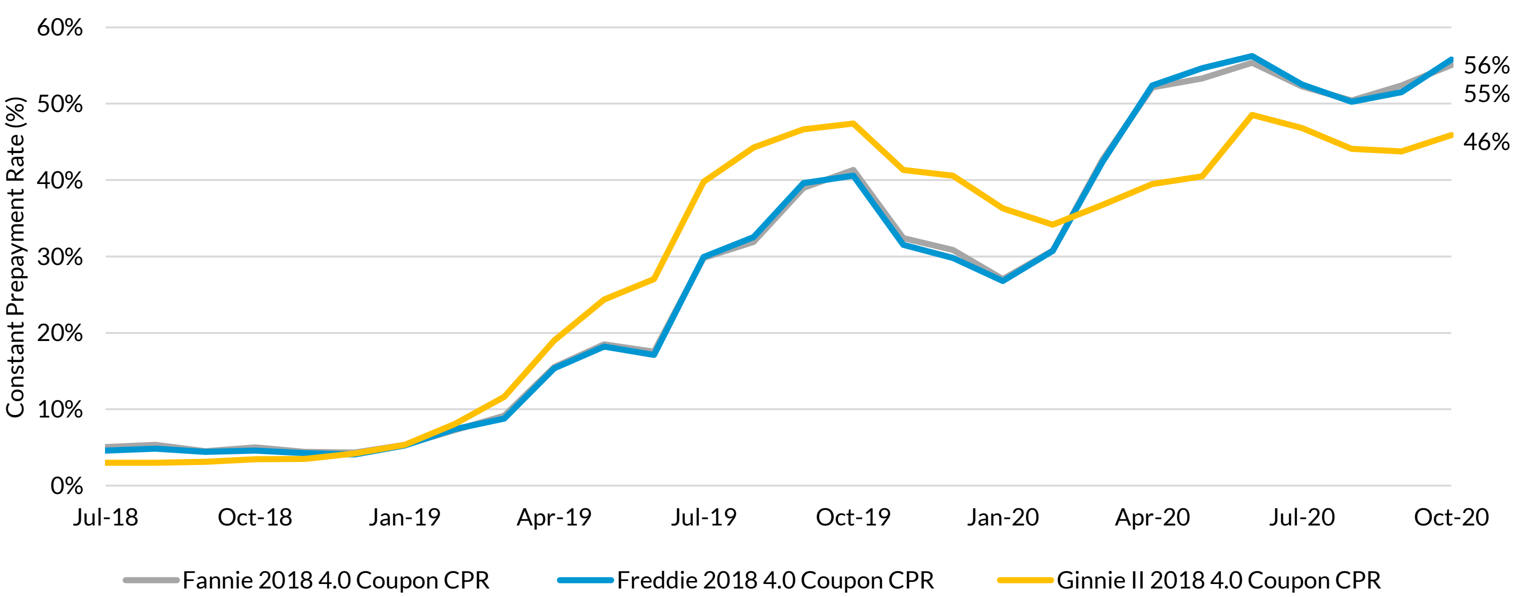
The charts below show the behavior of the 2017-issued 3.5s and the 2018-issued 4.0s, the largest coupon cohorts of those vintage years. Despite slower seasoning, 2017 Ginnie II 3.5s were prepaying faster than their conventional counterparts from late 2017 to March 2020, due primarily to fast VA prepayment 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 October 2020.*

2018 Issued 4.0 Coupon CPR

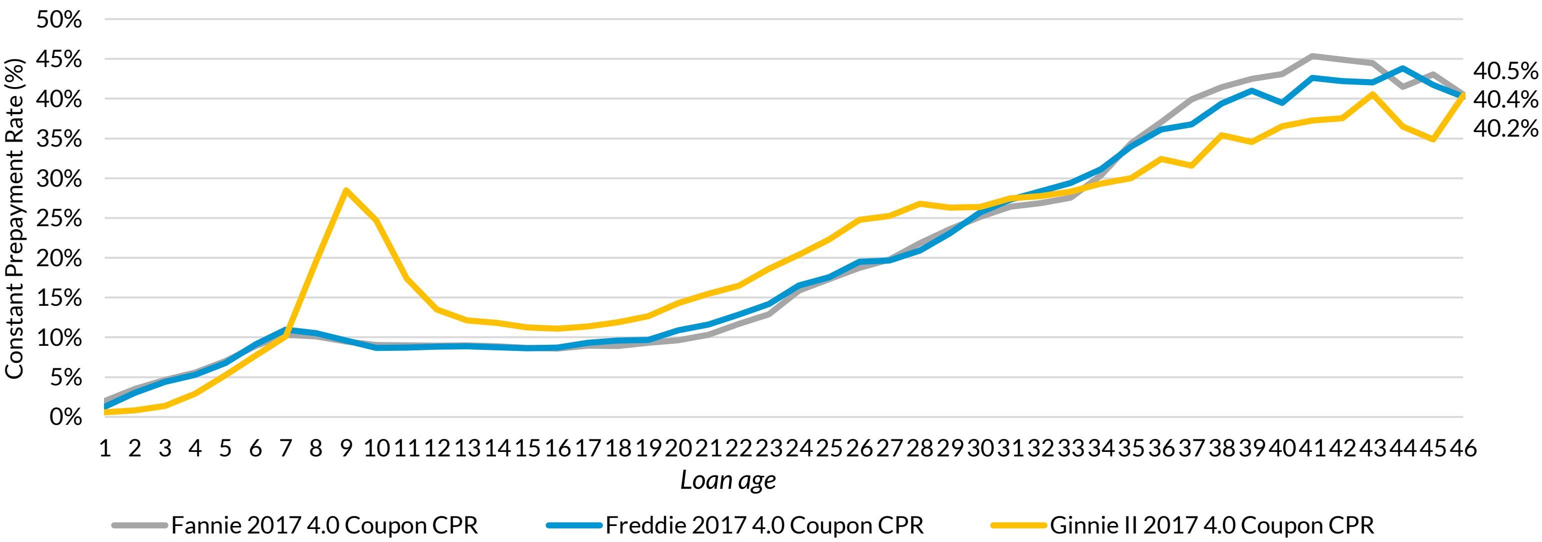


Sources: *Credit Suisse and Urban Institute.* **Note:** *Data as of October 2020.*

Prepayments

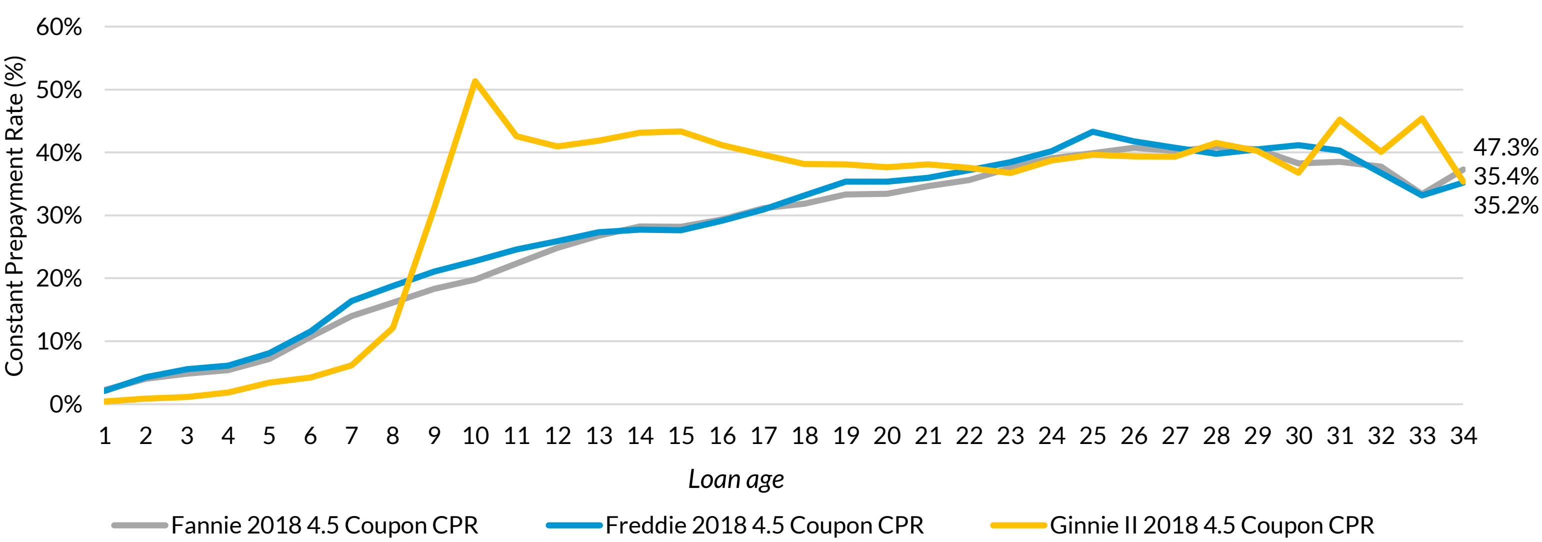
The charts below show the prepayment speeds by loan age for 2017 Ginnie II 4.0s and 2018 Ginnie II 4.5s—the cohorts 50 basis points above the largest coupon cohort for those years. Prepayment speeds on the 2017 Ginnie II 4.0s jumped up sharply at the 7-9 month loan age, reflecting abuse of the VA Streamlined Refi program (IRRRL). The 2018 Ginnie II 4.5s do not show increased speeds until the 9-10 month point; reflecting both the effect of lower rates and the actions taken by both Ginnie Mae and the VA in H1 2018 to curb this abuse. Ginnie Mae actions have included suspending a few servicers whose VA prepayment 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 Nov 1 2019. It bars the securitization of over 90% 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 the borrower has obtained a benefit from the refinance. The recent experience of these cohorts indicates that, as a result of the cumulative actions taken in response to "churning" plus the acceleration of speeds in the conventional market in response to lower rates, Ginnie Mae and conventional speeds on 2017 issues 4.0s and 2018 4.5 have largely converged for mortgages 46 and 34 months old, respectively.

2017 Issued 4.0 Coupon CPR, by Loan Age



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

2018 Issued 4.5 Coupon CPR, by Loan Age

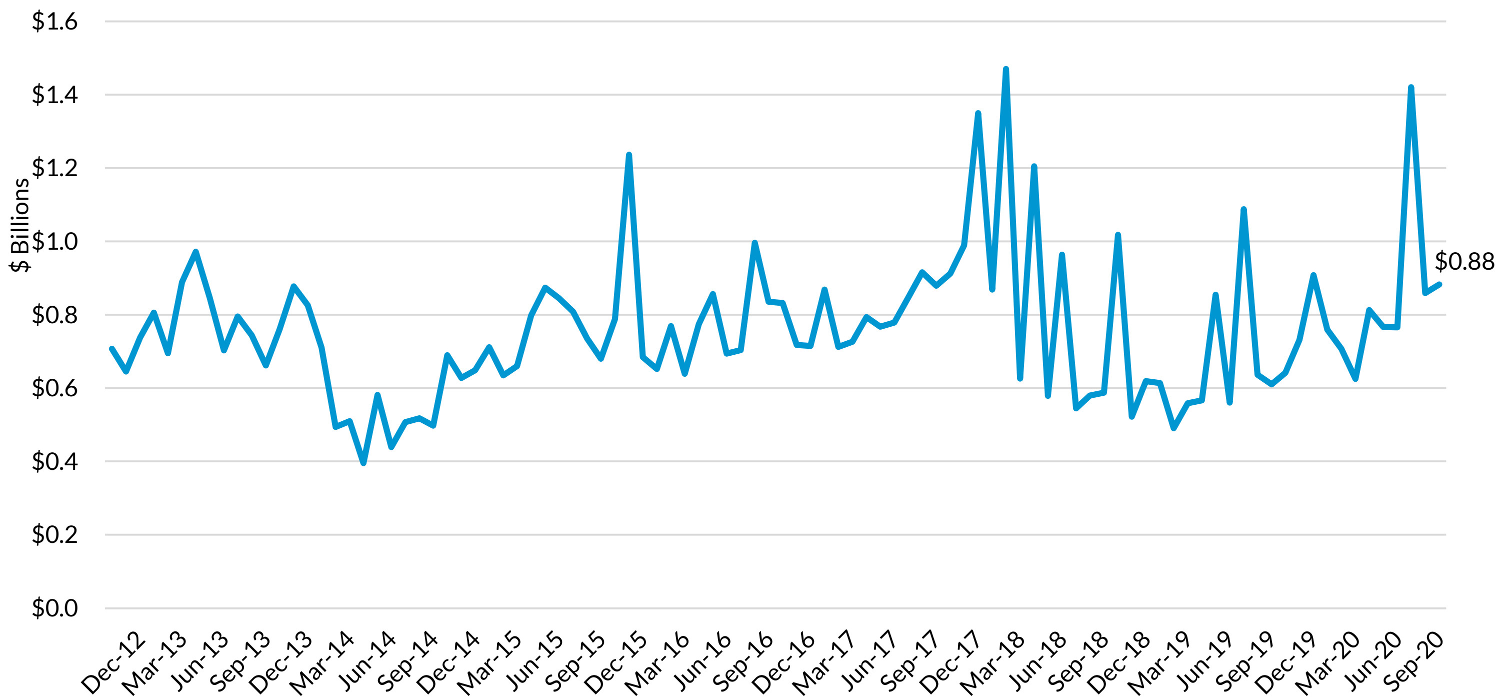


Sources: *Credit Suisse and Urban Institute*. **Note:** *Data as of October 2020.*

Other Ginnie Mae Programs Reverse Mortgage Volumes

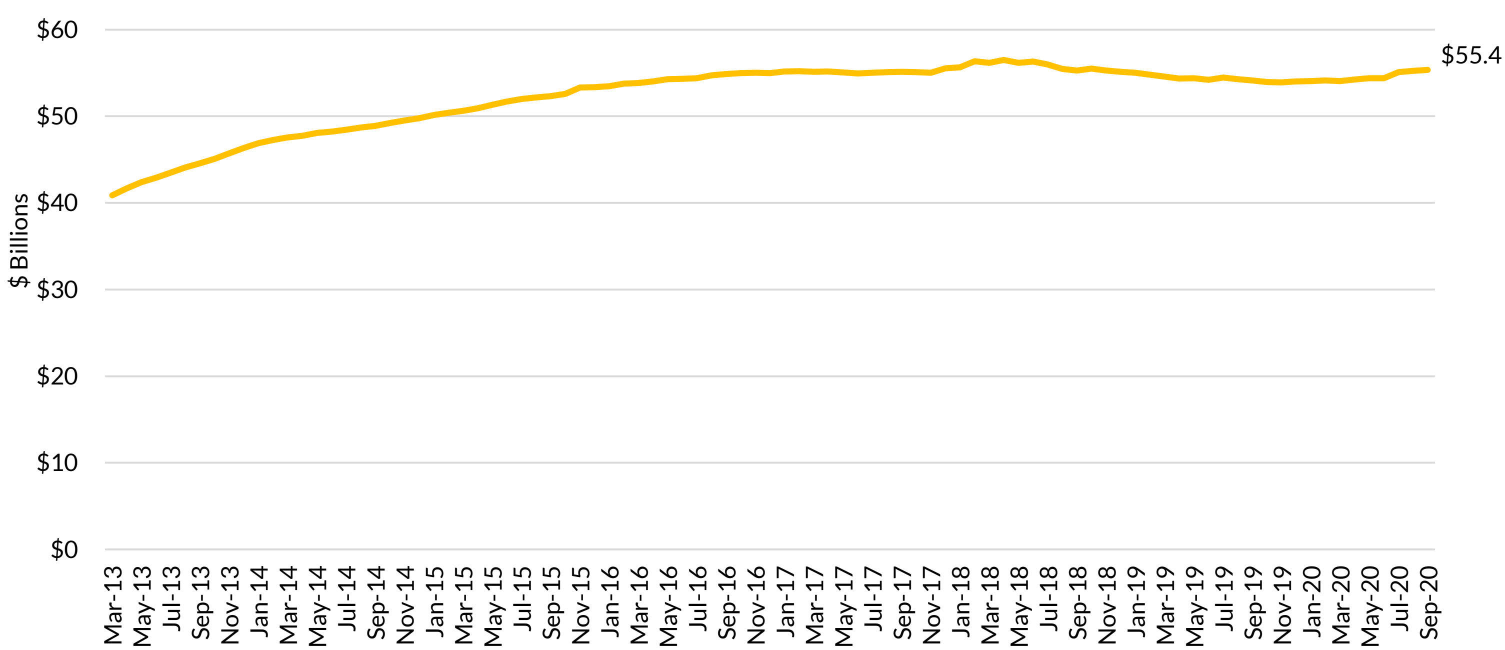
Ginnie Mae reverse mortgage issuance has been volatile over the past two years, but has been generally increasing since early 2019. September showed little variance from August, with issuance increasing slightly to $0.88 billion. In September 2020, outstanding reverse mortgage securities totaled $55.4 billion, up a tad from last month, reflecting a higher volume of new issuances relative to paydowns.

HMBS Issuance Volume



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

HMBS Outstanding

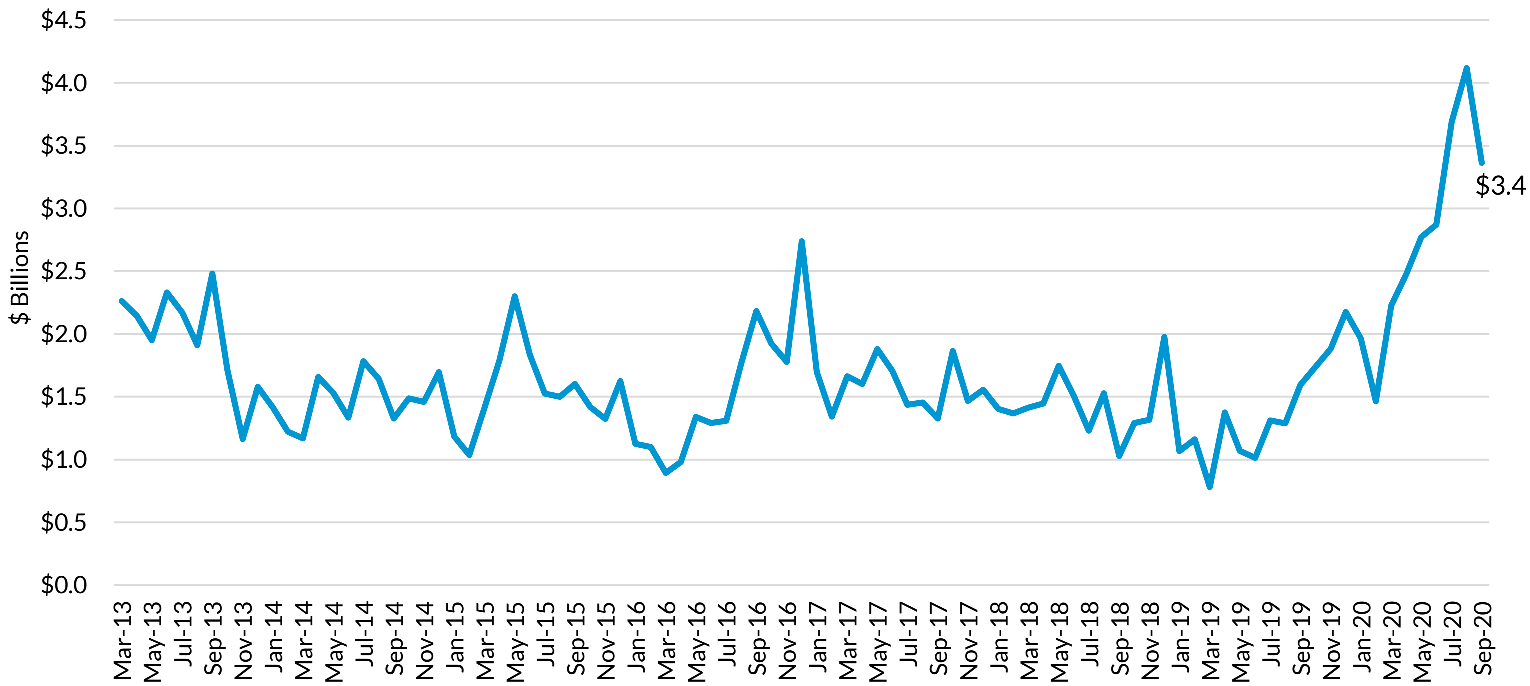


Sources: *Ginnie Mae and Urban Institute.* ***Note****: Data as of September 2020.*

Other Ginnie Mae Programs
Multifamily Market

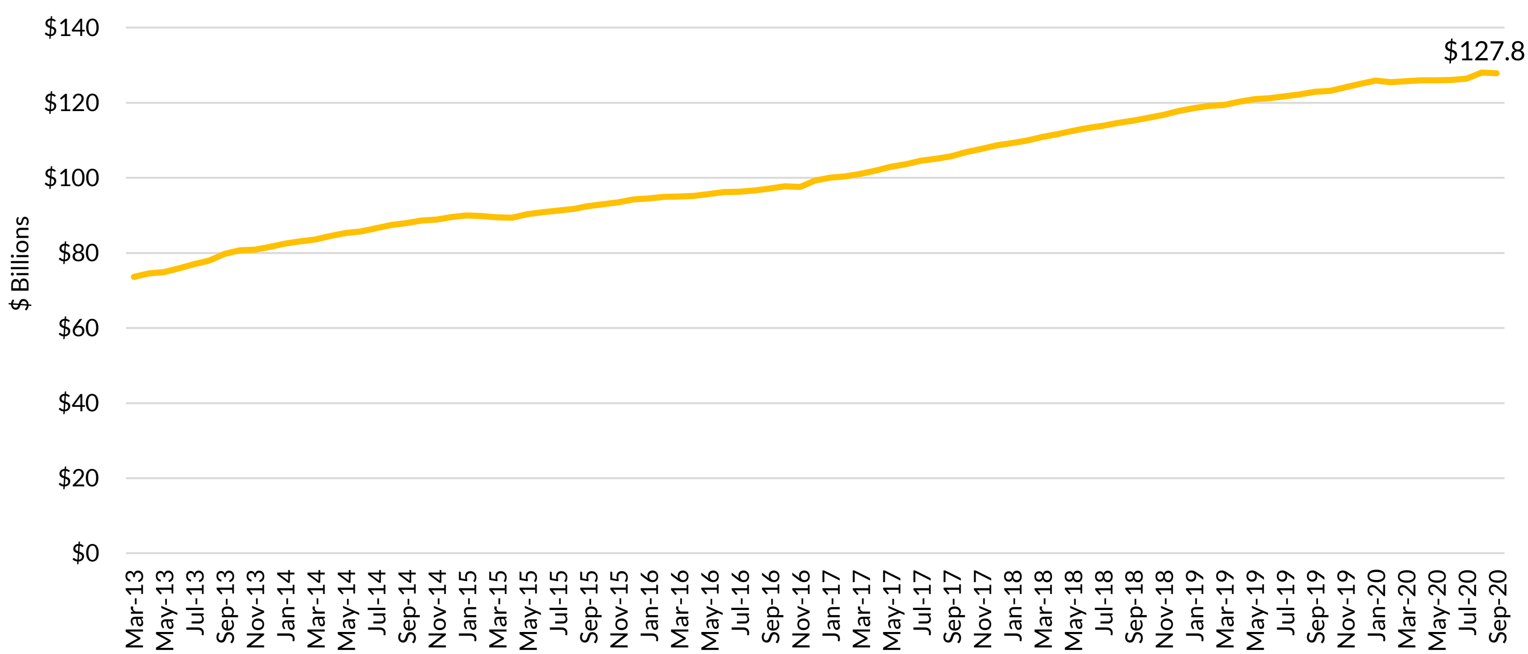
Ginnie Mae multifamily issuance volume in September 2020 totaled $3.4 billion, the first decline after four consecutive months of growth from the prior month. It is important to realize this number is high in a historical context, with monthly issuance averaging $1.7 since March of 2013. Outstanding multifamily securities totaled $127.8 billion as of the ninth month of 2020.

Ginnie Mae Multifamily MBS Issuance



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

Ginnie Mae Multifamily MBS Outstanding

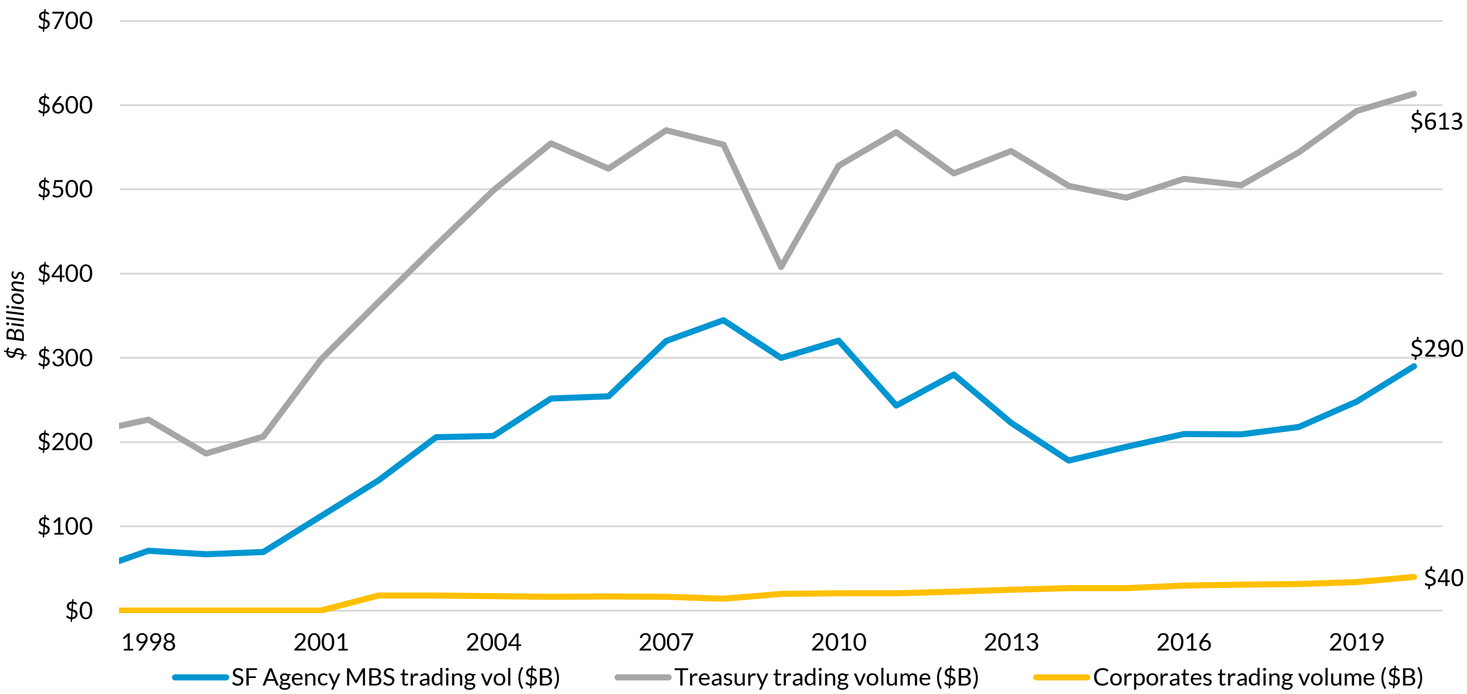


Sources: *Ginnie Mae and Urban Institute.* **Note**: *Data as of September 2020.*

Market Conditions

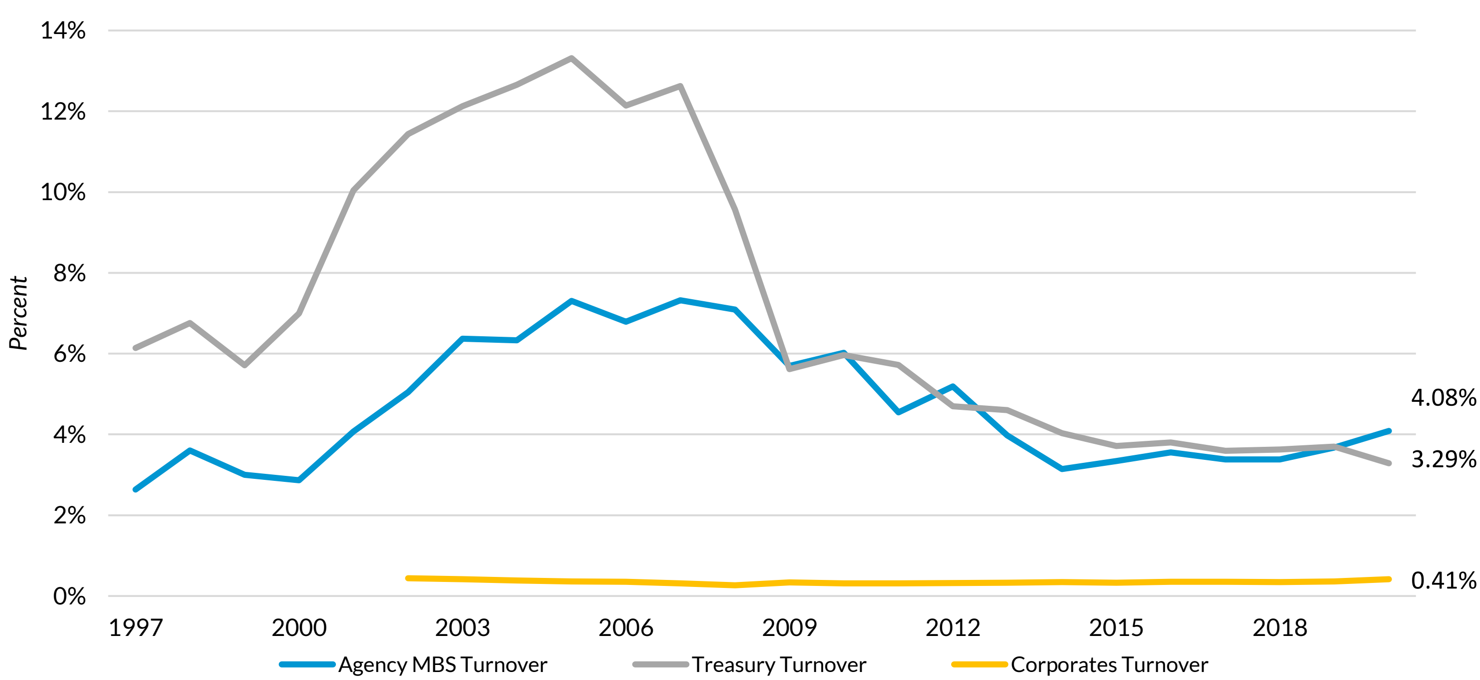
Agency MBS trading volume is $290 billion/day on average for the first nine months of 2020, more robust than in the 2014-2019 period, but still below the pre-crisis peak of $345 billion in 2008. Average daily trading volume for Treasuries now exceeds the pre-crisis peak. Agency MBS turnover in 2020 YTD (through September) 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 nine 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:*** *Data as of November 2020.*

Average Daily Turnover by Sector

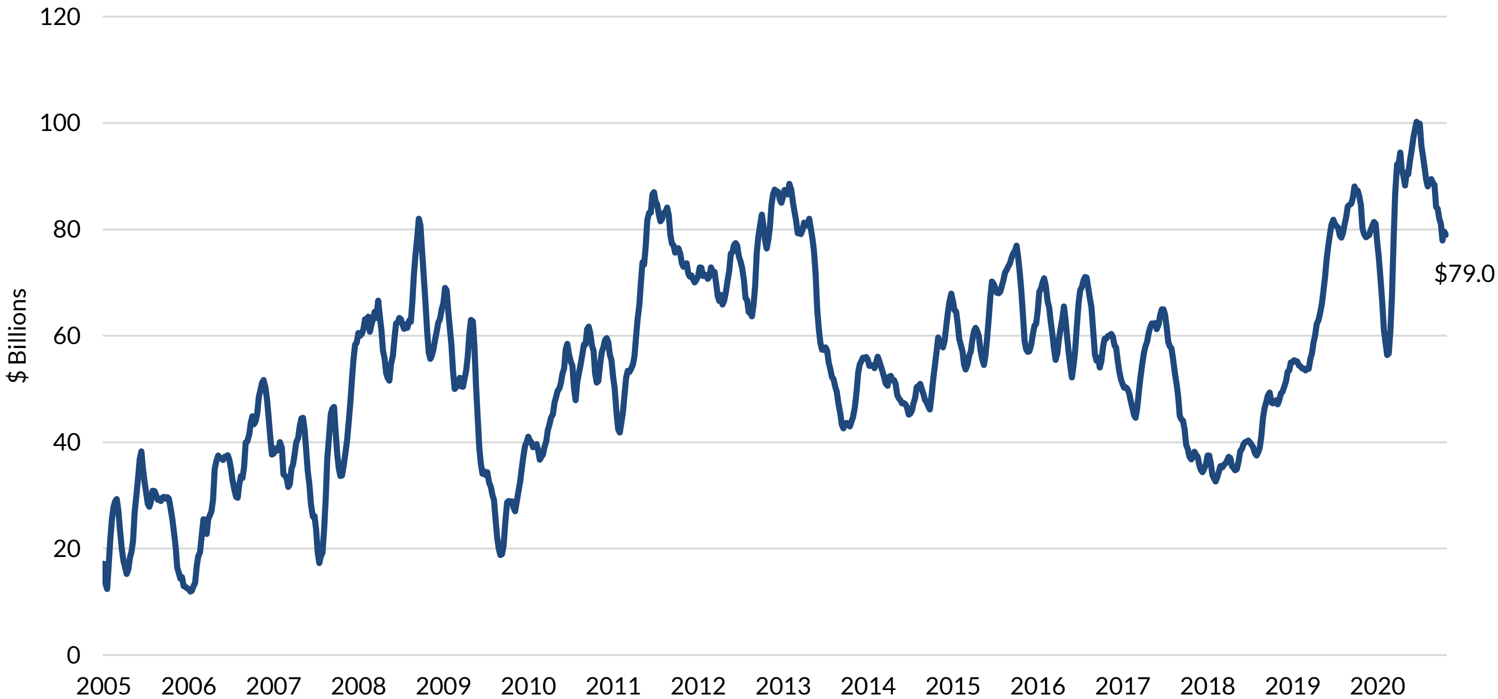


Sources: *SIFMA and Urban Institute.* ***Note:*** *Data as of November 2020.*

Market Conditions

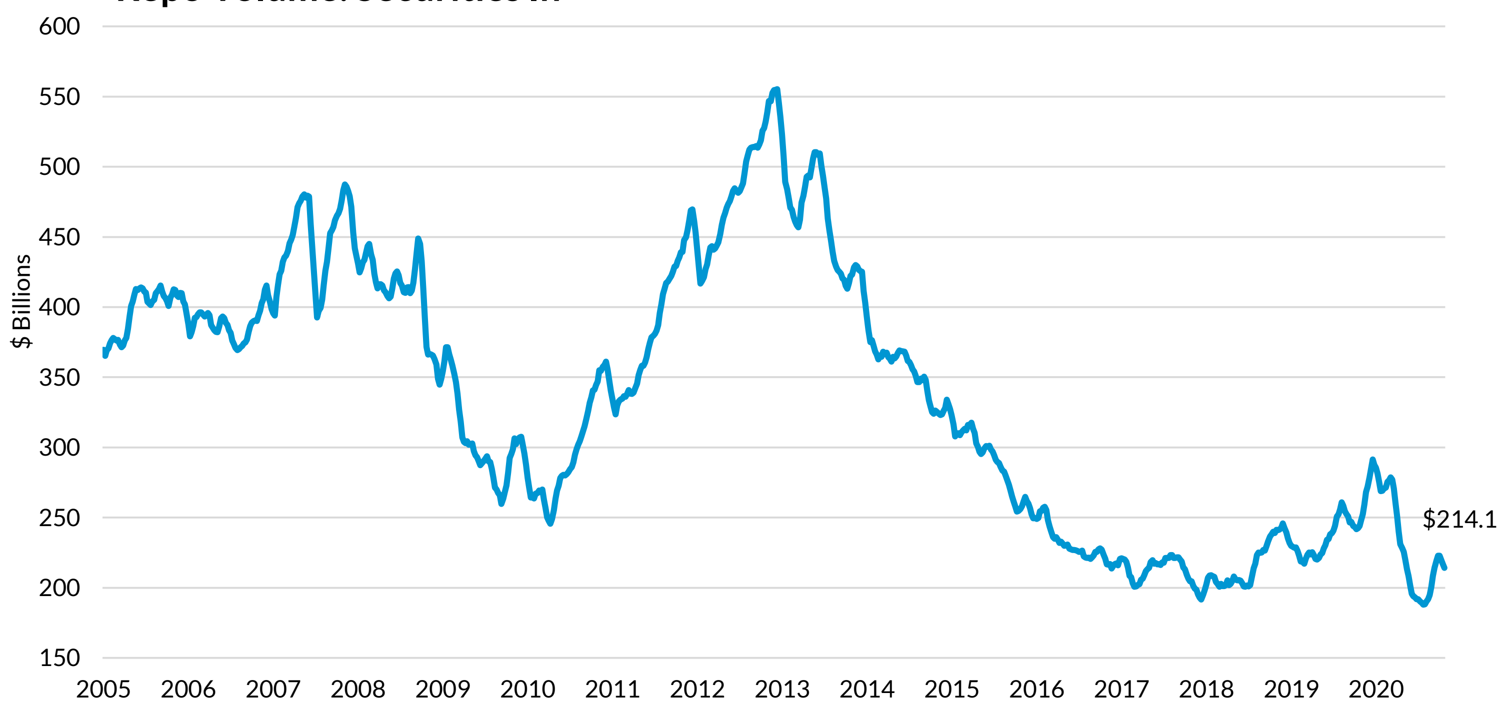
Dealer net positions are at the higher end of their post-crisis range, and very close to their pre-crisis highs. By contrast, dealer gross positions have fallen dramatically. The volume of repurchase activity is at the lower end of the post-crisis range, and much lower than pre-crisis levels. The large decline through time reflects banks cutting back on lower margin businesses.

Dealer Net Positions: Federal Agency and GSE MBS



Sources: *Federal Reserve Bank of New York Primary Dealer Statistics and Urban Institute.* **Note:** *Data as of October 2020.*

Repo Volume: Securities In

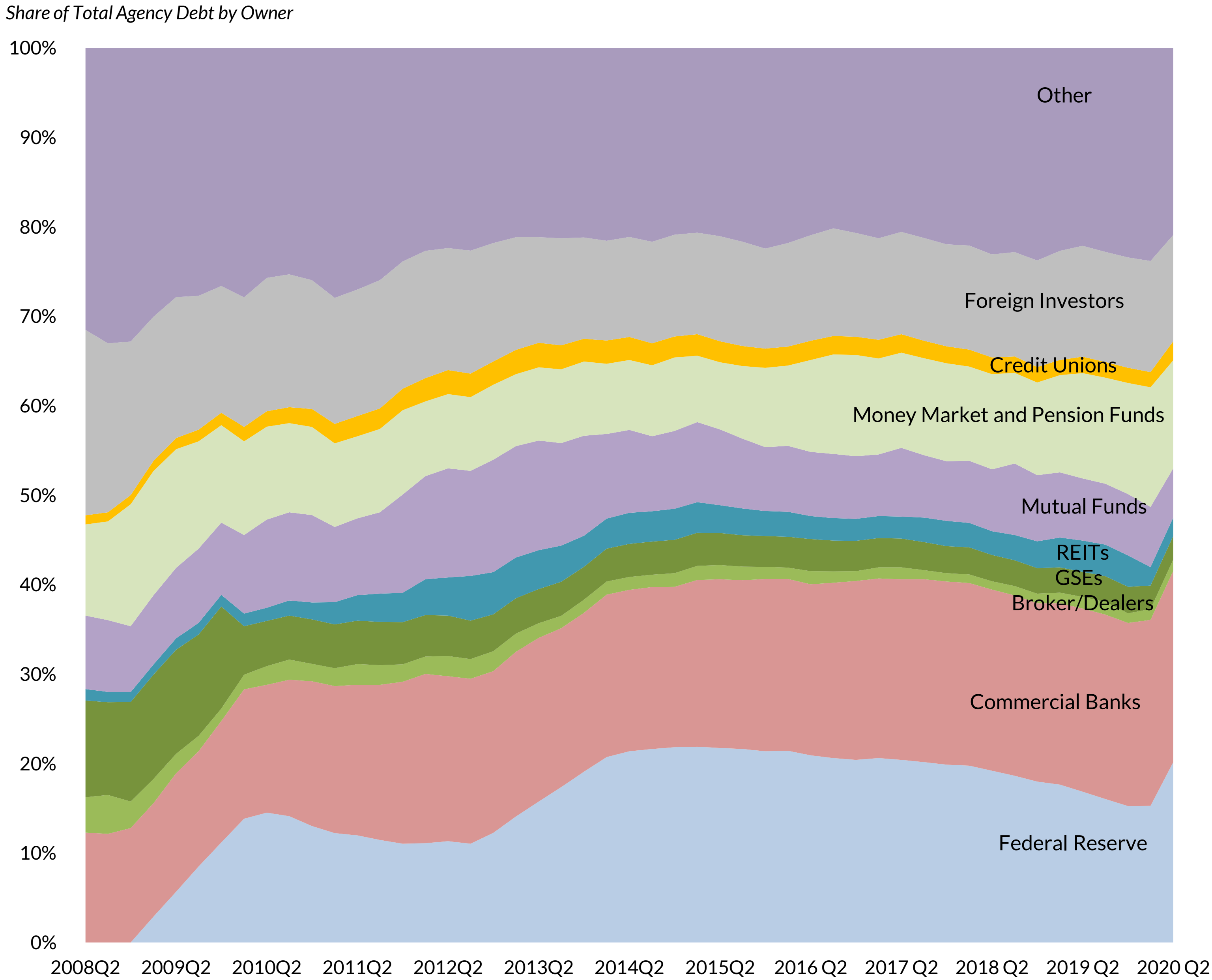


Sources: *Federal Reserve Bank of New York Primary Dealer Statistics and Urban Institute.* **Note:** *Data as of October 2020.*

MBS Ownership

The largest holders of agency debt (Agency MBS + Agency notes and bonds) include the Federal Reserve (20 percent), commercial banks (21 percent), foreign investors (12 percent), and money market & pension funds (12 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 20 percent in the second quarter due to substantial purchases of MBS in response to the COVID-19 crisis.

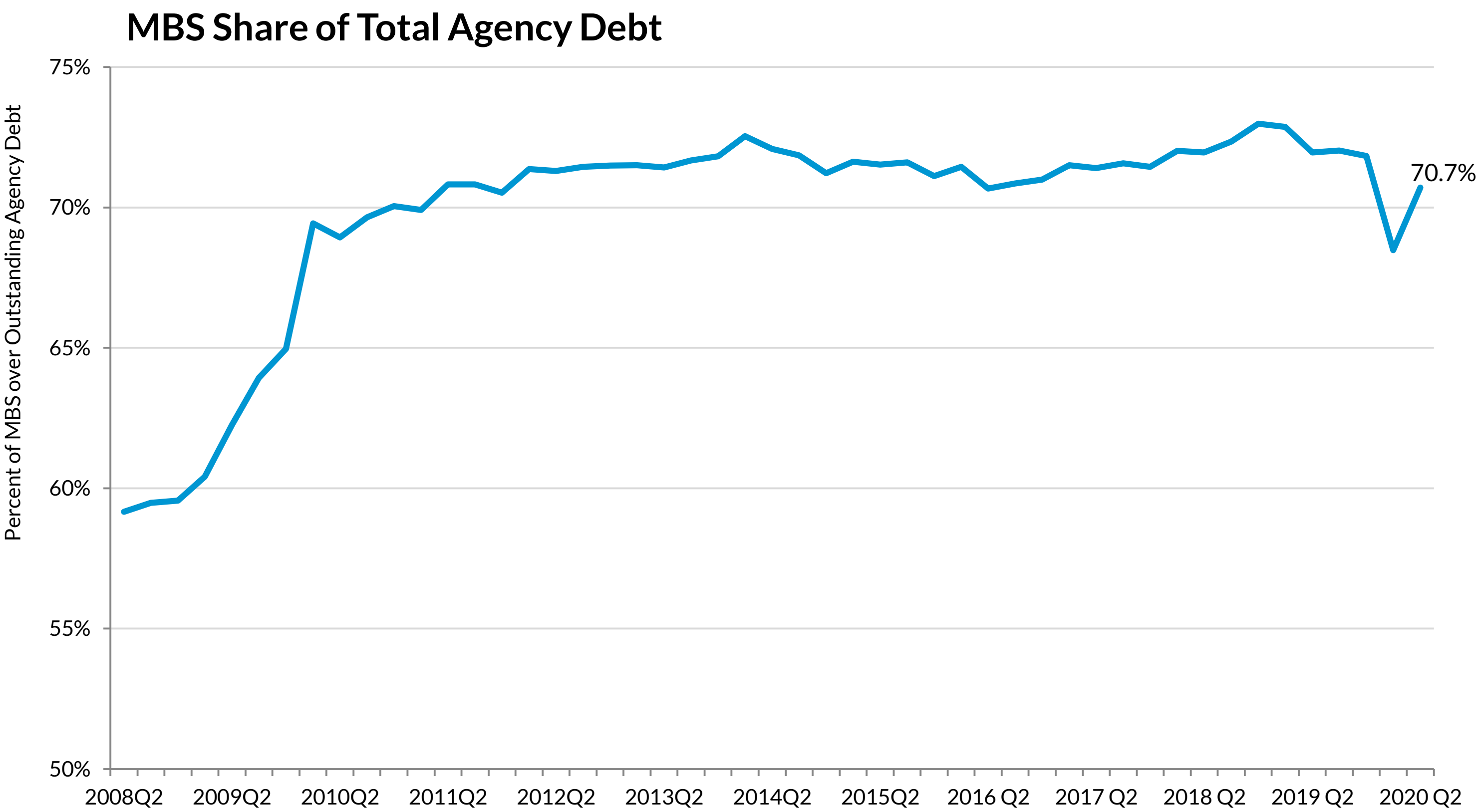
Who owns Total Agency Debt?



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 Q2 2020.*

MBS Ownership

As Fannie and Freddie reduce the size of their retained portfolio post 2008, fewer agency notes and bonds were required to fund that activity. As a result, the MBS share of total agency debt increased over time. Commercial banks are now the largest holders of Agency MBS. Out of their $2.3 trillion in holdings as of the end of September 2020, $1.7 trillion was held by the top 25 domestic banks.



***Sources**: Federal Reserve Flow of Funds and Urban Institute. **Note**: The MBS share of agency debt unexpectedly dropped in Q1 2020 due to a higher than usual, $400 billion discrepancy between agency assets and liabilities, as reported by Fed flow of funds. Data as of Q2 2020.*

`	Commercial Bank Holdings ($Billions)								Week Ending			
	Sep-19	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Sep 30	Oct 07	Oct 14	Oct 21
Largest 25 Domestic Banks	1495.5	1597.0	1637.9	1636.7	1630.5	1662.0	1716.5	1701.6	1697.0	1712.6	1731.8	1742.8
Small Domestic Banks	504.6	538.6	541.1	543.0	551.8	559.7	570.6	583.6	600.2	601.1	606.2	604.3
Foreign Related Banks	34.7	43.9	46.1	43.5	43.7	43.2	41.5	39.5	39.8	39.8	36.0	39.5
Total, Seasonally Adjusted	2034.8	2179.5	2225.1	2223.2	2226.0	2264.9	2328.6	2324.7	2337.0	2353.5	2374.0	2386.6

***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 October 2020.*

MBS Ownership

Out of the $2.2 trillion in MBS holdings at banks and thrifts as of Q2 2020, $1.7 trillion was agency pass-throughs: $1.2 trillion in GSE pass-throughs and $441 billion in Ginnie Mae pass-throughs. Another $478 billion was agency CMOs, while non-agency holdings totaled $47 billion. In Q2, 2020, MBS holdings at banks and thrifts increased for the eighth 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

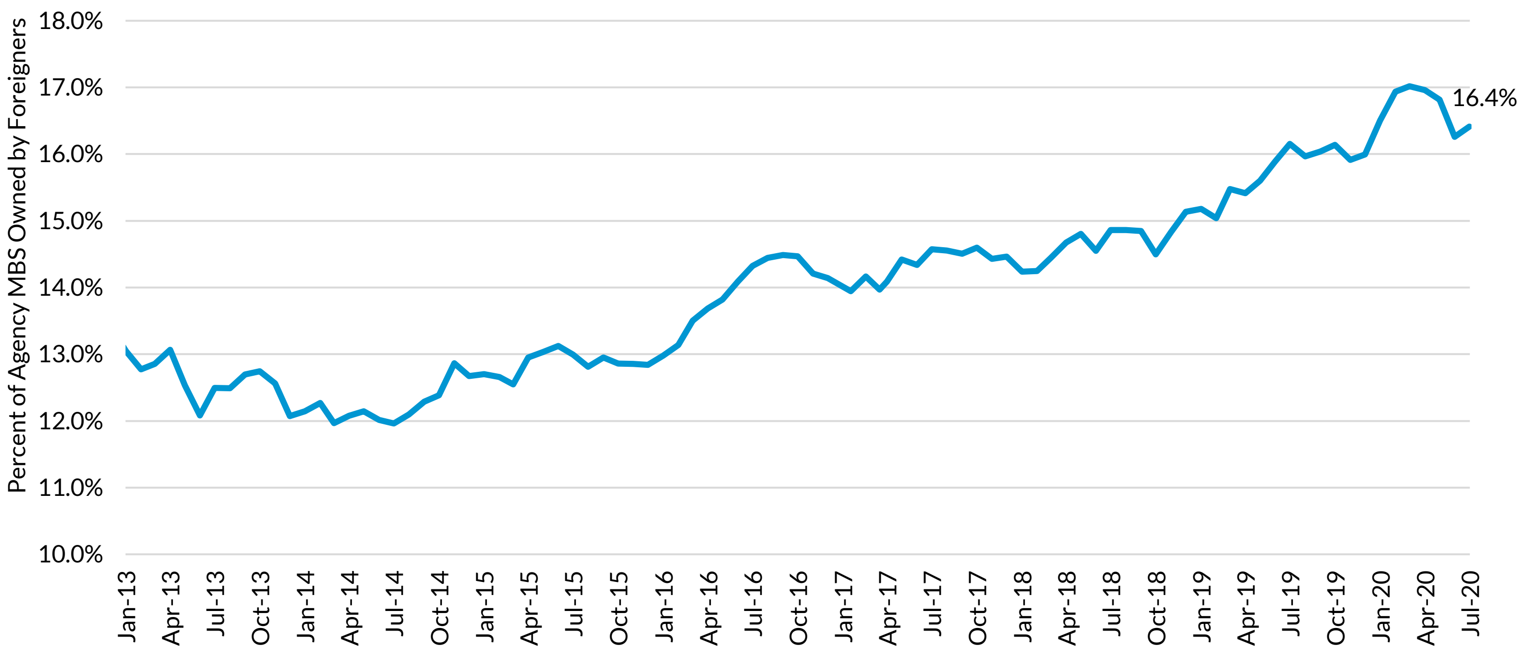
	Top Bank & Thrift Residential MBS Investors	Total ($MM)	GSE PT ($MM)	GNMA PT ($MM)	Agency REMIC ($MM)	Non-Agency ($MM)	Market Share
1	Bank of America Corporation	$335,366.0	$191,632.0	$130,226.0	$13,209.0	$299.0	15.30
2	Wells Fargo & Company	$251,111.0	$174,271.0	$68,543.0	$7,756.0	$541.0	11.40
3	JP Morgan Chase & Co.	$214,143.0	$132,514.0	$63,132.0	$228.0	$18,269.0	9.80
4	Charles Schwab Bank	$132,419.0	$74,363.0	$17,109.0	$40,947.0	$0.0	6.00
5	U S. Bancorp.	$96,324.6	$62,461.2	$18,365.2	$15,497.5	$0.6	4.40
6	Citigroup Inc.	$86,684.0	$75,645.0	$3,298.0	$5,971.0	$1,770.0	3.90
7	Truist Bank	$71,526.0	$25,581.0	$19,903.0	$26,042.0	$0.0	3.30
8	Capital One Financial Corporation	$71,357.3	$33,774.1	$13,105.7	$23,806.7	$670.9	3.30
9	Bank of New York Mellon Corp.	$62,069.0	$42,127.0	$4,314.0	$13,957.0	$1,671.0	2.80
10	PNC Bank, National Association	$59,170.5	$48,983.4	$6,516.4	$1,988.7	$1,682.0	2.70
11	State Street Bank and Trust Company	$42,060.6	$22,424.0	$8,975.0	$8,431.6	$2,230.0	1.90
12	Morgan Stanley	$33,078.0	$19,228.0	$5,754.0	$8,096.0	$0.0	1.50
13	HSBC Banks USA, National Association	$27,422.7	$6,792.2	$11,409.5	$9,218.7	$2.2	1.20
14	TD Bank	$25,549.8	$1,699.1	$176.5	$23,437.3	$236.9	1.20
15	E*TRADE Bank	$24,784.5	$12,280.2	$3,988.5	$8,515.7	$0.0	1.10
16	Ally Bank	$23,701.0	$15,008.0	$2035.0	$3,293.0	$3365.0	1.10
17	USAA Federal Savings Bank	$23,163.0	$19,278.5	$2,623.6	$1,260.9	$0.0	1.10
18	Citizens Bank	$21,301.8	$11,358.1	$3600.9	$5,756.4	$586.5	1.00
19	KeyBank National Association	$18,805.1	$1,229.1	$591.7	$16984.3	$0.0	0.90
20	Silicon Valley Bank	$18,739.9	$13,893.4	$158.5	$4,687.9	$0.0	0.90
	Total Top 20	**$1,638,777**	**$984,542**	**$383,826**	**$239,085**	**$31,324**	**74.80%**

Sources: *Inside Mortgage Finance and Urban Institute.* ***Note:*** *Data as of Q2 2020.*

MBS Ownership

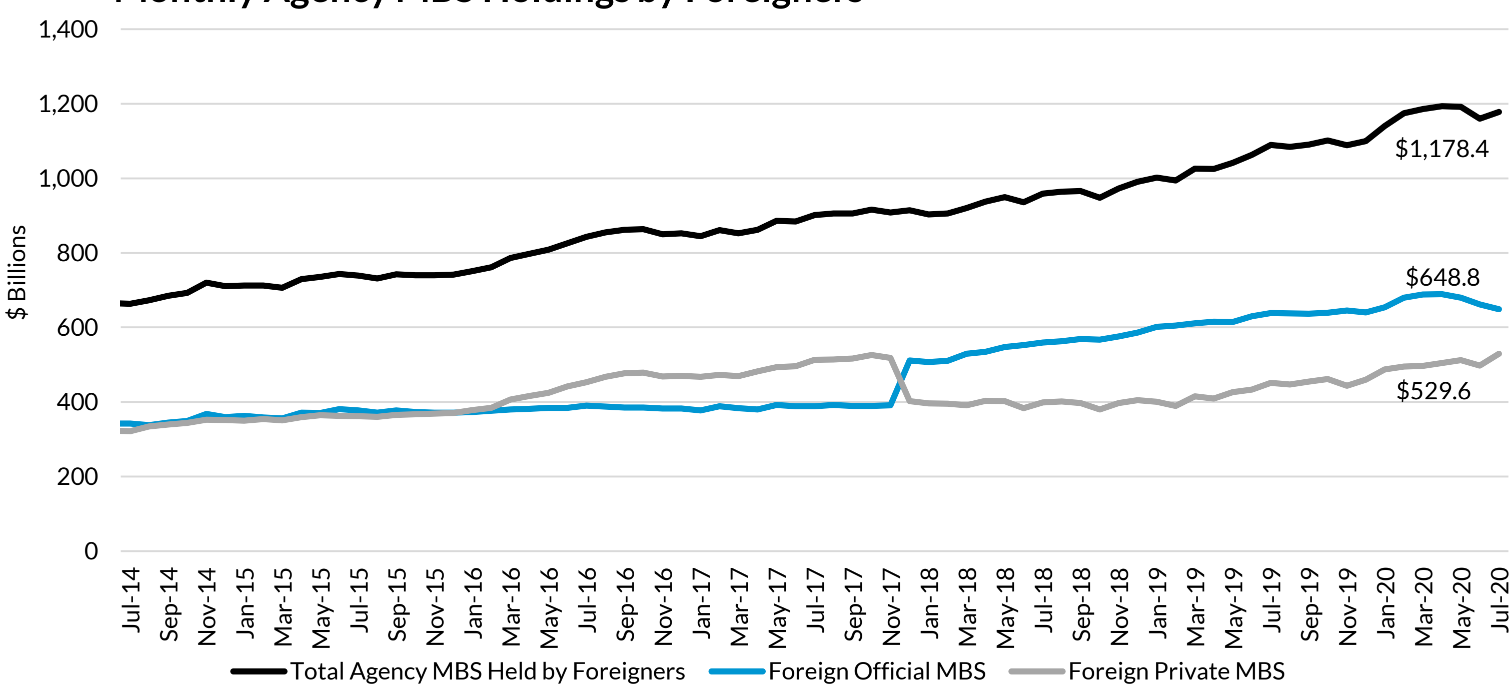
Foreign investors held 16.4 percent of agency MBS in July 2020, up from a low of 12.0 percent in July 2014. For the month of July 2020, this represents $1.18 trillion in Agency MBS, $430 billion held by foreign private institutions and $649 billion held by foreign institutions. This represents a $15.2 billion drop in Agency MBS from the peak in April 2020, all in official holdings.

Foreign Share of Agency MBS



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

Monthly Agency MBS Holdings by Foreigners



Sources: *Treasury International Capital (TIC) and Urban Institute.* ***Note***: *Data as of July 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 July 2020, we estimate that Japan has increased their agency MBS holdings by $16.0 billion, China has increased their holdings by $1.3 billion and Taiwan has increased their holdings by $0.64 billion. All three countries have experienced declines since March.

Agency MBS+ Agency Debt

	Level of Holdings ($Millions)*						Change in Holdings ($Millions)*				
Country	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Jul-20	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Jul-20
Japan	297,016	311,047	305,332	322,155	310,268	312,967	14,031	-5,715	16,823	-11,887	2,699
Taiwan	265,524	263,018	261,740	269,133	267,918	266,096	-2,506	-1,278	7,393	-1,215	-1,822
China	227,357	233,783	231,753	260,479	239,045	227,007	6,426	-2,030	28,726	-21,434	-12,038
Luxembourg	47,646	46,641	39,015	36,789	42,389	38,099	-1,005	-7,626	-2,226	5,600	-4,290
Ireland	45,829	41,367	38,731	26,131	29,399	28,602	-4,462	-2,636	-12,600	3,268	-797
South Korea	42,879	41,485	40,810	40,964	38,891	39,478	-1,394	-675	154	-2,073	587
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	29,182	-181	4,713	-6,107	0	1,392
Netherlands	14,074	10,549	10,902	10,886	13,255	12,937	-3,525	353	-16	2,369	-318
Malaysia	12,167	15,585	16,600	21,399	20,390	19,375	3,418	1,015	4,799	-1,009	-1,015
Rest of world	128,142	135,515	152,489	202,143	201,165	235,979	7,373	16,974	49,654	-978	34,814
Total	1,144,971	1,157,714	1,163,096	1,245,023	1,225,074	1,244,217	12,743	5,382	81,927	-19,949	19,143

Agency MBS Only (Estimates)

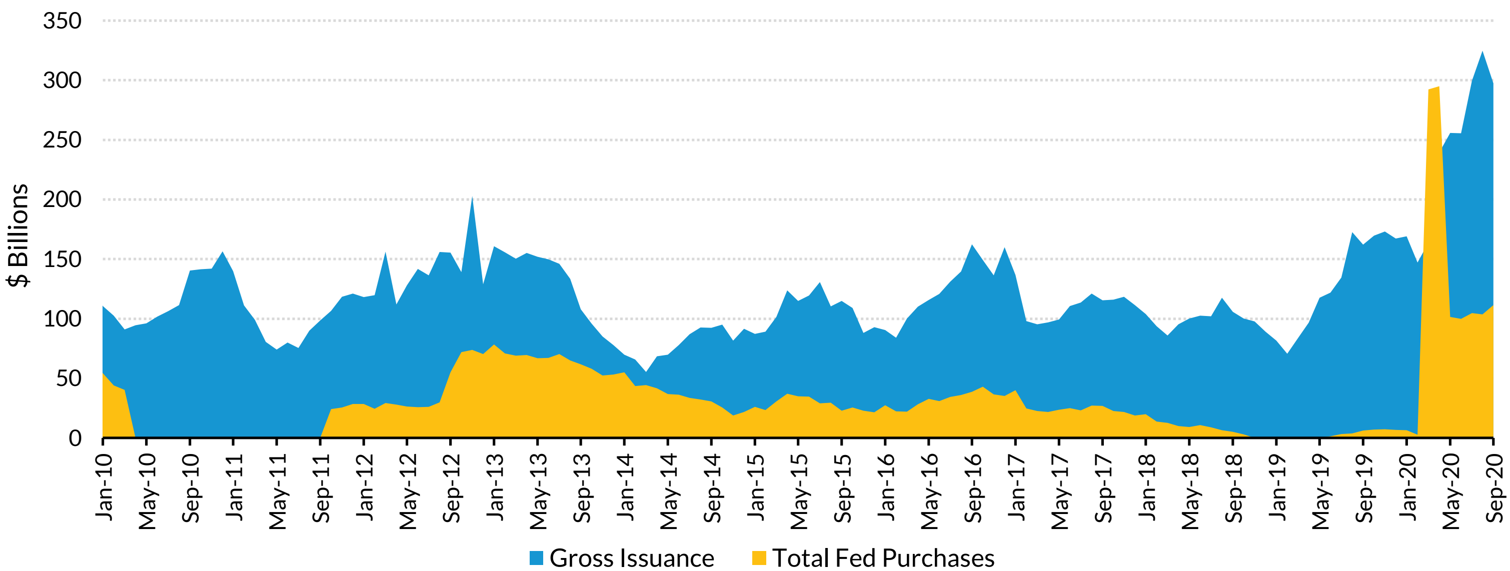
	Level of Holdings ($Millions)*						Change in Holdings ($Millions)*				
Country	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Jul-20	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Jul-20
Japan	293,662	307,738	302,212	319,241	306,963	309,635	14,076	-5,526	16,823	-12,278	-12,278
Taiwan	265,234	262,732	261,470	268,881	267,700	265,876	-2,502	-1,262	7,393	-1,181	-1,181
China	221,738	228,240	226,526	255,596	235,078	223,008	6,502	-1,714	28,726	-20,518	-20,518
Luxembourg	43,978	43,023	35,603	33,602	40,207	35,899	-955	-7,420	-2,226	6,605	6,605
Ireland	37,674	33,322	31,145	19,045	21,091	20,227	-4,352	-2,177	-12,600	2,047	2,047
South Korea	34,969	33,682	33,452	34,091	28,743	29,248	-1,287	-230	154	-5,347	-5,347
Cayman Islands	29,896	24,538	27,110	22,748	28,431	28,312	-5,358	2,572	-4,673	5,684	5,684
Bermuda	26,394	26,253	31,133	25,208	25,111	26,482	-141	4,880	-6,107	-97	-97
Netherlands	13,904	10,381	10,744	10,738	12,739	12,417	-3,523	363	-16	2,001	2,001
Malaysia	11,881	15,303	16,334	21,150	20,028	19,011	3,422	1,031	4,799	-1,122	-1,122
Rest of world	97,585	105,371	124,063	175,591	173,716	208,307	7,786	18,692	49,654	-1,874	-1,874
Total	1,076,916	1,090,579	1,099,788	1,185,887	1,159,808	1,178,419	13,663	9,209	81,927	-26,079	-26,079

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 July 2020.*

MBS Ownership

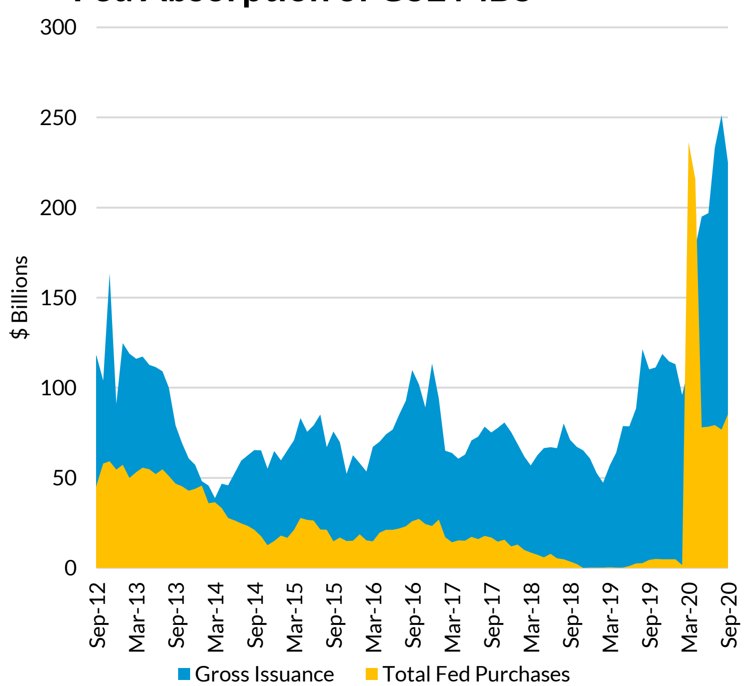
On March 23, 2020, in response to the market dislocations caused by the coronavirus pandemic, the Fed announced they would purchase Treasuries and agency MBS in an amount necessary to support smooth functioning markets. In March the Fed bought $292.2 billion in agency MBS, and April clocked in at $295.1 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 -$104 billion per month in May, June, July, and August. In September, Fed purchases were up slightly at $111.3 billion, 37 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



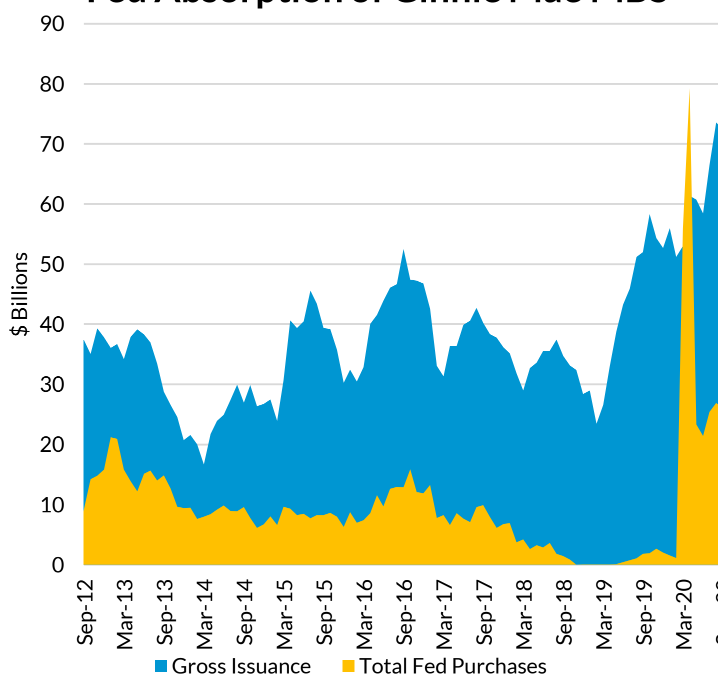
Sources: *eMBS, Federal Reserve Bank of New York and Urban Institute.* ***Note:*** *Data as of September 2020.*

Fed Absorption of GSE MBS



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

Fed Absorption of Ginnie Mae MBS



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

Disclosures:

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