

# Global Markets Analysis Report

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

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 **GinnieMae**  
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# Global Markets Analysis Report

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## Highlights

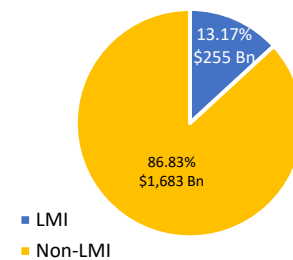
Ginnie Mae, with approximately \$2 trillion of Ginnie Mae mortgage-backed securities (MBS) outstanding, has taken steps to align their MBS program and data reporting with emerging Environmental, Social, and Governance (ESG) investment data demanded by fixed income investors; while keeping a strong focus on maintaining liquidity for its securities and attracting a wide group of global investors.

Global ESG investment requirements have shifted over the last decade and will continue to evolve as investors, institutions, and markets work to define how ESG investing aligns with the needs of each individual and organizations’ ESG strategy. Market participants, standard setters, and industry groups are also working together as ESG reporting standards continue to evolve. In the MBS market, the process to establish ESG investment criteria is driven by the ongoing exercise of identifying relevant ESG data, the requirements to collect that data, and how to present the data in useable form.

### **Ginnie Mae ESG Data Disclosure Leadership**

As demand for Environmental, Social, and Governance data has emerged, Ginnie Mae has taken tangible steps to lead the market in disclosing data related to “Social” ESG factors. For instance, In May 2021, Ginnie Mae added new ESG data to its Single Family Supplemental File, which investors may use to analyze Ginnie Mae securities at the pool level. With the new ESG disclosure, Investors can review exposure at the pool level to loans in low and moderate income (LMI) areas.

The data discloses key metrics such as the number of LMI area loans in the pool, the percentage of LMI area loans within the pool, the unpaid principal balance (UPB) of LMI area loans within the pool, and the percentage of LMI area loans within the pool by UPB. LMI areas are defined by the Department of Housing and Urban Development (HUD) (as delineated by HUD’s Community Development Block Grant (CDBG) Program) which is the key differentiator for loans in Ginnie Mae MBS pools designated as LMI.<sup>1</sup> As of June 11, 2021 approximately \$255 billion of Ginnie Mae loans were categorized as LMI area loans as defined by HUD’s CDBG Program.<sup>2</sup> Socially responsible investors have the opportunity to leverage this new data to better target their investment dollars into pools with higher concentrations of LMI area loans.<sup>3</sup>



**Figure 1. Ginnie Mae Loans LMI vs. Non-LMI<sup>2</sup>**

While each ESG investor may have their own parameters of what constitutes an ESG investment and overall ESG investment strategy, Ginnie Mae pools with a higher concentration of LMI area loans may be more likely to fall under the definition of an ESG investment.<sup>2</sup> As of the end of June 2021, “per the new data disclosure, more than 1.7 million government loans outstanding were originated in LMI areas, comprising 15.9% of the roughly 10.7 million loans.”<sup>3</sup>

Ginnie Mae’s – “Social” – LMI data disclosure provides MBS investors with increased detail on mortgage pool characteristics, allowing Investors to make informed ESG decisions when investing in Ginnie Mae MBS. By

<sup>1</sup> <https://catalog.data.gov/dataset/hud-low-and-moderate-income-areas>

<sup>2</sup> Barrow, J., & Zhao, Z. (2021, June 11). Agency MBS Weekly | North America | Looking Into Low Income. Data is as of June 11, 2021.

<sup>3</sup> <https://www.ginniemae.gov/newsroom/GinnieInBrief/Pages/Post.aspx?PostID=56>. Data is as of June 30, 2021.

examining pool level data, analysis shows that “lower loan sizes generally correlate with higher LMI pool percentages”<sup>4</sup>. Lower Loan Balances (LLB) can also drive positive convexity through reduced prepay risk and reduced refinance risk. MBS originators have been pooling low loan balances in GNMA II Custom pools for a long time due to their attractive prepay profile. There are incremental benefits to Ginnie Mae adding the LMI data disclosure for pools, which include providing investors the ability to determine if an MBS investment aligns with their organization's ESG goals and investment profile. By examining pool level data using Ginnie Mae’s – “Social” – LMI data, MBS Investors can identify and invest in Ginnie Mae securities with a readily identifiable LMI percentage, thereby increasing the likelihood of capturing positive convexity while potentially fulfilling internal ESG investing goals.

### **ESG Data Disclosure and Investment: Future Considerations**

Many global investors agree on the environmental factors that influence ESG investment, but the societal differences across global markets require further study to develop industry specific standardization of ESG “Social” reporting.<sup>5</sup> Organizations in different parts of the world are working to promote ESG considerations in investments across all asset classes. ESG fixed income investment policy standards are in development across the globe, particularly in the context of social investing.

MBS investors will continue to incorporate ESG data into their investment decisions as new ESG data becomes available. A 2020 survey conducted with organizations that use ESG principles in their investment strategy indicated that up to 60% of those organizations incorporate ESG principles into their management of fixed income investments.<sup>6</sup> Established ESG investment criteria may provide a roadmap for investors and organizations to consider ESG principles when managing fixed income investments. Part of establishing ESG investment criteria for fixed income investors comes with developing ESG metrics and considering evolving data sets that are available and reported by organizations.

Ginnie Mae is already adapting to the demand for ESG investment information as evidenced by the addition of new ESG data to their Single Family Supplemental Files. With the newly available data, investors can see that the UPB outstanding for LMI area loans is, as of June 2021, about \$259 billion representing 13.5% of the \$2 trillion Ginnie Mae MBS outstanding.<sup>7</sup> Additionally, on July 15<sup>th</sup>, 2021, Ginnie Mae announced the implementation of ESG data within the Platinum Portfolio Enhanced Supplemental File, with the first production file being available on October 13<sup>th</sup>, 2021. The new ESG record will provide platinum pool level aggregate information about the extent of UPB dollars that are in Low- and Moderate-Income areas.<sup>8</sup>

Ginnie Mae will continue efforts to lead the MBS market in the identification of relevant “Social” data to present to investors in a usable format. As more global investors consider ESG factors in investment decisions, globalized standards will continue to be developed to align ESG investor sentiment with industry specific reporting guidelines, including mortgage finance standards. Ginnie Mae is supportive of the advancement of global ESG initiatives and standards and continues to lead by providing data to help boards of directors, regulators, investors, and others make decisions with transparency into ESG investment criteria and regular reporting of that data.

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<sup>4</sup> Barrow, J., & Zhao, Z. (2021, June 11). Agency MBS Weekly | North America | Looking Into Low Income. Data is as of June 11, 2021.

<sup>5</sup> <https://thedocs.worldbank.org/en/doc/375981604591250621-0340022020/original/WorldBankESGGuide2020FINAL.11.5.2020.pdf>

<sup>6</sup> <https://www.rbcgam.com/documents/en/other/esg-executive-summary.pdf>

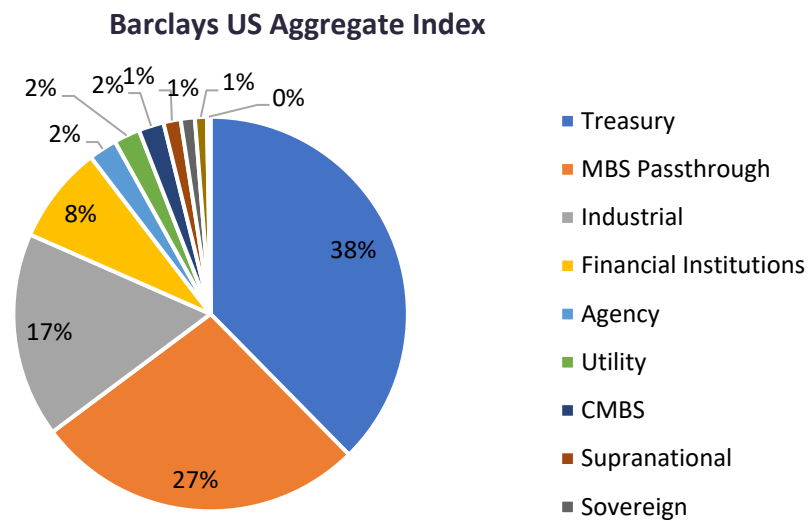
<sup>7</sup> <https://www.ginniemae.gov/newsroom/GinnieInBrief/Pages/Post.aspx?PostID=56>

<sup>8</sup> [https://www.ginniemae.gov/investors/disclosures\\_and\\_reports/Pages/BulletinsDispPage.aspx?ParamID=514&Ident=2021-038](https://www.ginniemae.gov/investors/disclosures_and_reports/Pages/BulletinsDispPage.aspx?ParamID=514&Ident=2021-038)

## 1.0 Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

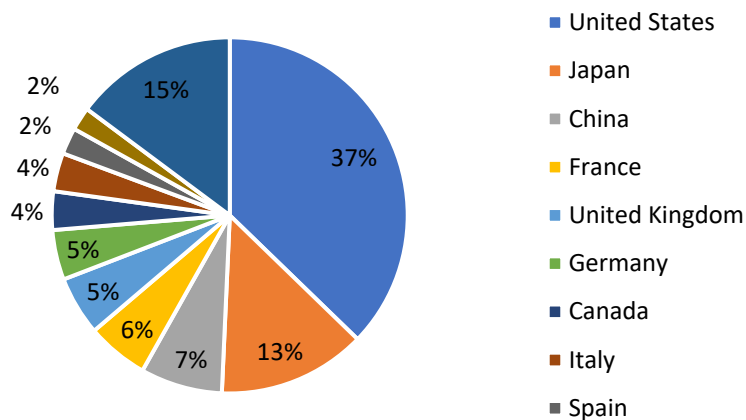
US MBS (Ginnie Mae, Fannie Mae, and Freddie Mac) contribute approximately 27% of the Barclays US Aggregate Index. US MBS follow only US Treasuries which contribute approximately 38% of the Barclays US Aggregate Index. In Global Markets, the US share of fixed income still represents the largest share of total outstanding issuance, representing approximately 37% of the total Barclays Global Aggregate Index.

### 1.1 Barclays US Aggregate and Global Indices



Sources: Bloomberg. Note: Data as of July 2021. Numbers in chart may not add to 100 % due to rounding.

### Barclays Global Aggregate Index by Country

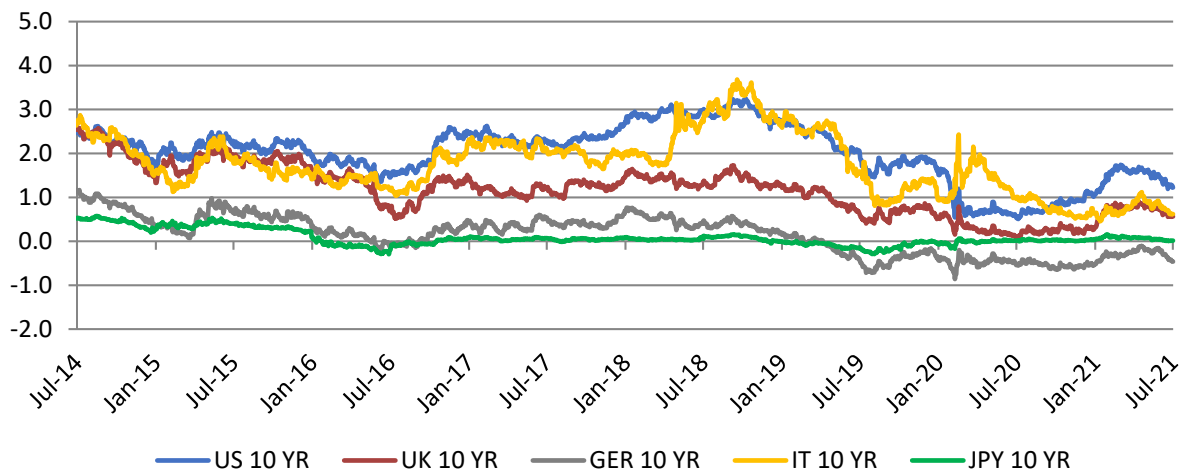


Sources: Bloomberg. Note: Data as of July 2021. Figures in charts may not add to 100 % due to rounding.

## 1.2 Global 10-Year Treasury Yields

US 10-year treasury yields decreased by 25 basis points (“bps”) to 1.22% in July 2021, maintaining the decreasing yield trend of the last 4 months. US Treasury yields remain the highest of all the government treasury yields depicted in the figure below. The yield on the Italian 10-year note decreased by 20 bps to 0.62%. The yields on the UK 10-year and Japanese 10-year government notes decreased to 0.56% and 0.02%, respectively, in July; also, a MoM decrease of 15 bps and 4 bps. The German 10-year yield decreased to -0.4%, decreasing by 25 bps in July. At the end of July 2021, the hedged yield for the 10-year Treasury JPY stood at 266 bps, an increase of 4 bps from the previous month. The hedged yield for the 10-year Treasury EUR stood at 152 bps, an increase of 2 bps from the previous month.

Global 10-Year Treasury Yields



7– 10yr Total Return Hedged Index, JPY



7 – 10yr Total Return Hedged Index, EUR



Sources: Bloomberg. Note: Data as of July 2021

# Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

## 1.3 Ginnie Mae Yields– USD

Ginnie Mae MBS yields slightly decreased in July 2021. GNMA II yields were at 1.59% and GNMA I yields at 1.79%, down by 12 bps and 10 bps respectively from the prior month. At the end of July, Ginnie Mae II SF yields were 37 bps higher than the US 10-year Treasury yield, representing an increase in spread of 13 bps since last month. The security yields on the Ginnie Mae I SF were 57 bps higher than the US 10-year Treasury yield at the end of July, representing an increase in spread of 14 bps since last month.

**Ginnie Mae II SF Yield, USD**



**Ginnie Mae I SF Yield, USD**



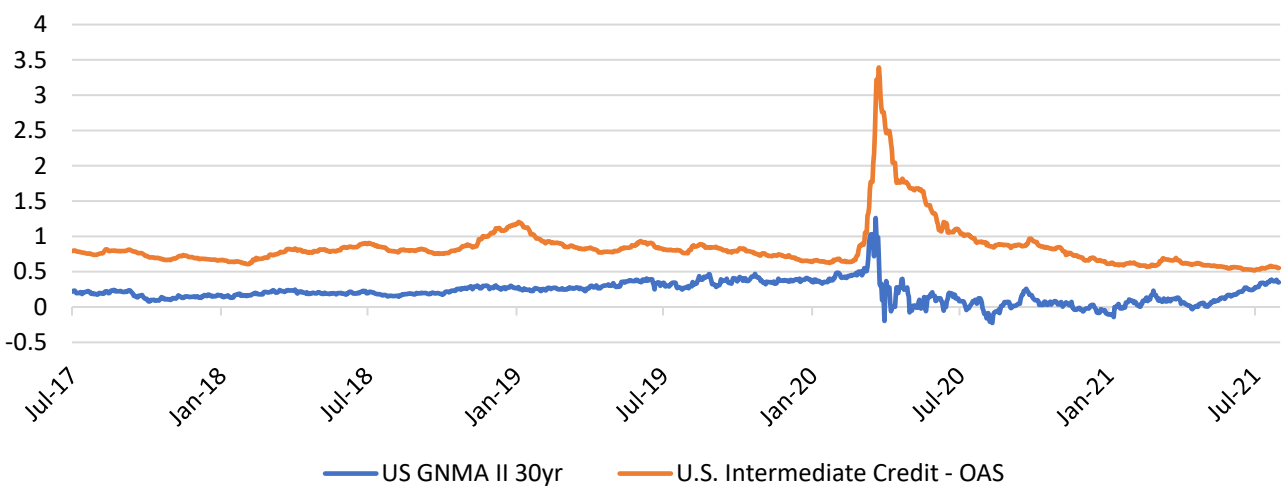
Sources: Bloomberg. Note: Data as of July 2021



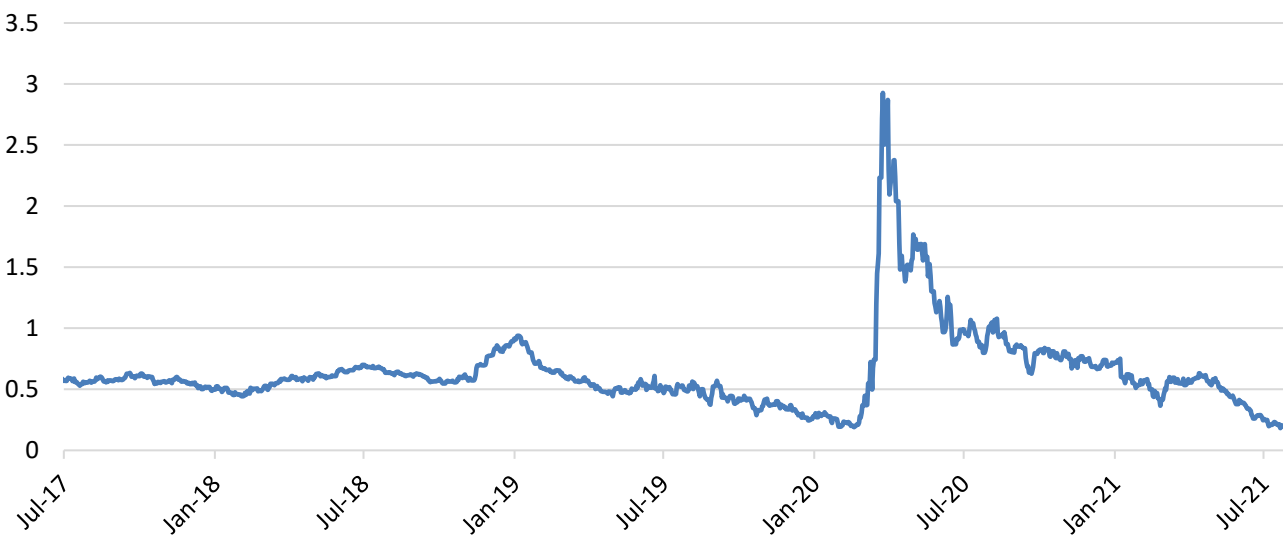
## 1.4 Ginnie Mae Yield Spreads – Intermediate Credit

The yield differential between US Intermediate Credit and GNMA II 30-year OAS increased in February 2020 in response to the COVID-19 pandemic. This was followed by tightening over the remainder of 2020 and into July of 2021, finally reaching pre-pandemic levels during July. At the same time, the Ginnie Mae II 30-year yield differential fell to multi-year lows, recovering at a slower pace than the US intermediate credit curve and surpassing pre-pandemic levels during July 2021. The differential between the two decreased 4bps, ending July 2021 at 20 bps and reaching pre-COVID levels.

**US GNMA II 30yr MBS versus Intermediate Credit**



**Spread between Intermediate Credit and US GNMA II 30yr MBS OAS**



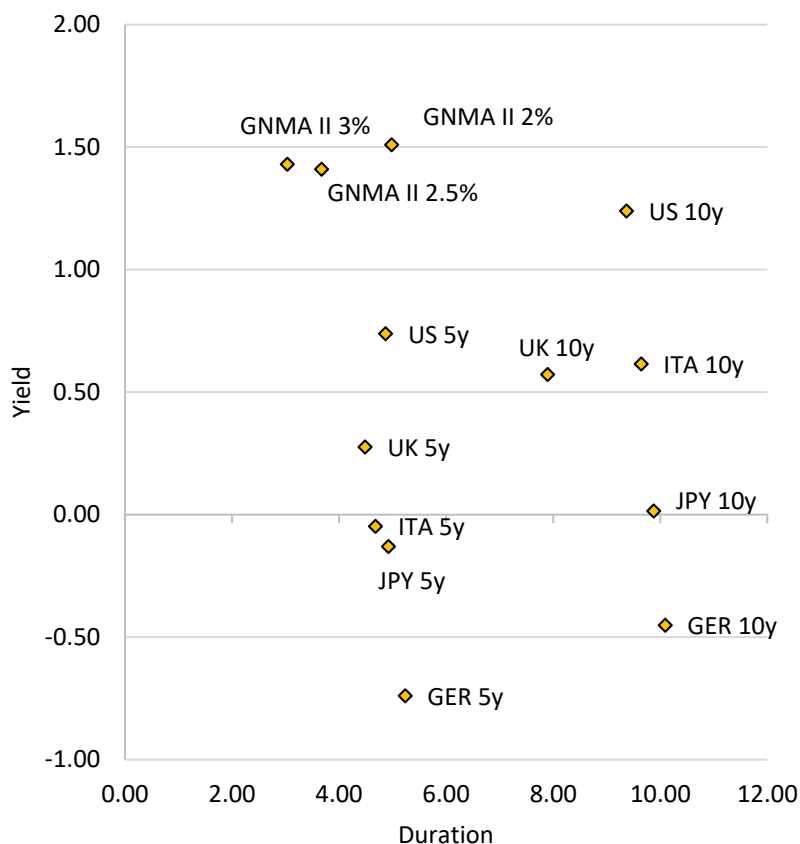
Sources: Bloomberg. Note: Data as of July 2021.



## 1.5 Global Treasury Yield Per Duration

GNMA MBS, due to prepayment risk, continues to offer a higher yield in comparison to other government fixed income securities of various tenors with similar or longer duration. However, some of the GNMA MBS products have decreased their yield and duration while others have increased. The GNMA II 2.5% securities duration and yield decreased by 0.22 and 9 bps when compared to the previous month, while the GNMA II 3% securities duration and yield increased by 0.3 and 11 bps when compared to the previous month.

**Yield vs. Duration**



Security	Duration	Yield
US 5y	4.87	0.74
US 10y	9.37	1.24
JPY 5y	4.92	-0.13
JPY 10y	9.88	0.02
GER 5y	5.23	-0.74
GER 10y	10.09	-0.45
ITA 5y	4.68	-0.05
ITA 10y	9.64	0.62
UK 5y	4.48	0.28
UK 10y	7.89	0.56
GNMA II 2%	4.98	1.51
GNMA II 2.5%	3.67	1.41
GNMA II 3%	3.03	1.43

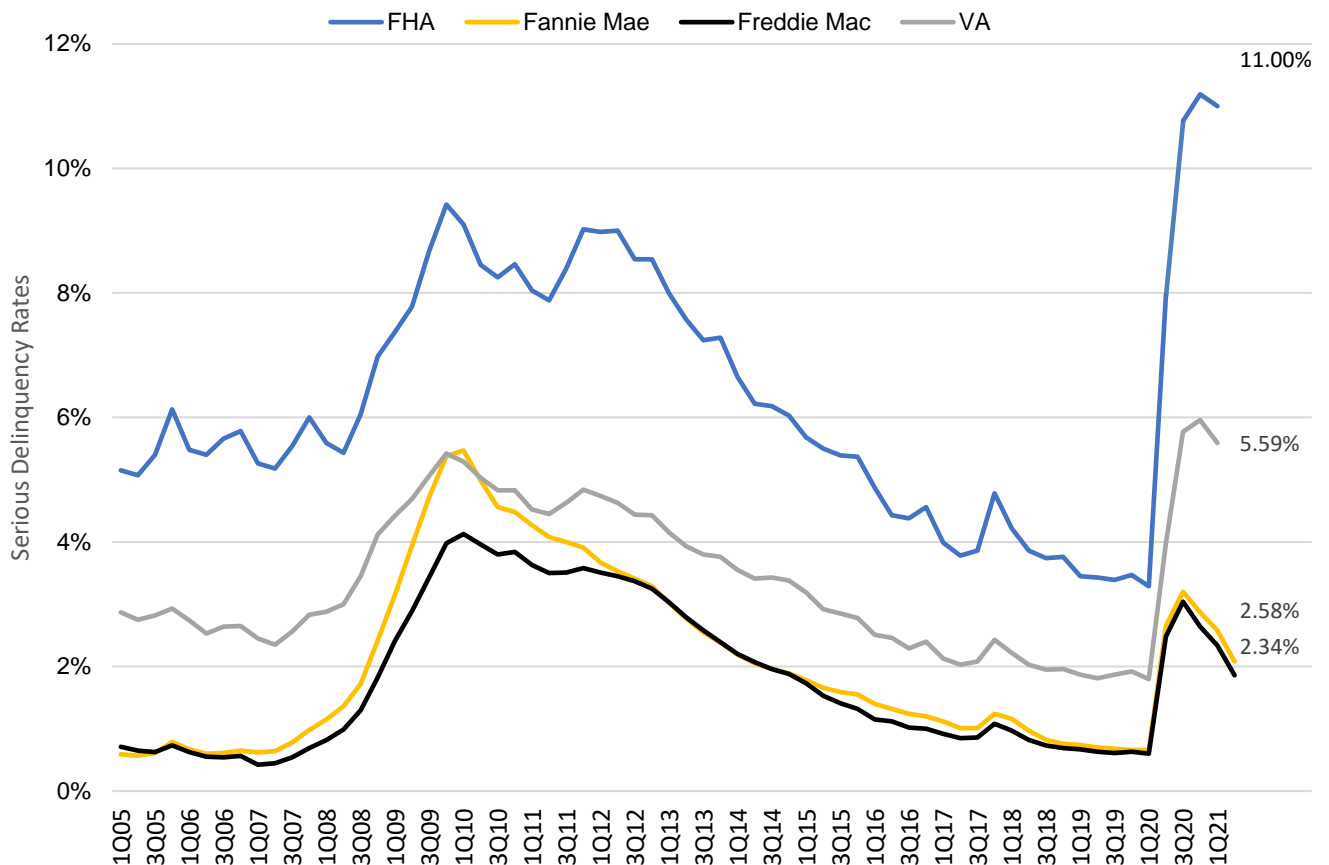
Sources: Bloomberg. Note: Yield and modified duration for GNMA II securities is from illustrative TBA using base prepayment assumptions and an assumed settlement of 8/19. All other data is as of July 2021. Yields are in base currency of security and unhedged.

## 2.0 State of the US Housing Market

### 2.1 Serious Delinquency Rates

Serious delinquency rates for single family GSE, FHA, and VA loans all fell slightly in Q1 2021. The increase in delinquencies from Q2 2020 to Q1 2021 reflects the impact of the pandemic on mortgage payments. Data as of 2021 Q2 will be included in the September 2021 edition of the report.

#### Serious Delinquency Rates: Single Family Loans



Sources: Fannie Mae and Freddie Mac Monthly Summary Reports, FHA Single Family Loan Performance Trends Report, and MBA Delinquency Survey.  
Note: Serious delinquency is defined as 90 days or more past due or in the foreclosure process. Data as of Q1 2021.

## 2.2 National HPI

Nationally, nominal home prices have increased by 79.1% since the trough (see footnote), and now exceed their pre-crisis peak valuation on a nominal basis by 41.4%. Two states, Connecticut and Illinois, surpassed their 2007 peak only recently in March of 2021, currently 6.1% and 8% above their respective peaks. Data as of 2021 Q2 will be included in the September 2021 edition of the report.

State	2000 to Peak	Peak to Trough	Trough to Current	YOY	Current HPI % Above Peak
National	59.6%	-21.1%	79.1%	8.6%	41.4%
AK	66.9%	-5.0%	37.5%	6.6%	30.6%
AL	41.7%	-15.0%	56.3%	6.9%	32.8%
AR	39.8%	-11.0%	48.6%	7.3%	32.3%
AZ	110.2%	-49.5%	157.4%	11.7%	30.1%
CA	144.8%	-47.0%	124.8%	10.2%	19.2%
CO	32.4%	-10.1%	127.1%	9.6%	104.1%
CT	72.9%	-19.6%	32.0%	11.1%	6.1%
DC	162.5%	-12.1%	110.7%	7.7%	85.3%
DE	88.5%	-23.4%	47.7%	10.1%	13.2%
FL	130.1%	-46.5%	127.5%	8.8%	21.6%
GA	35.9%	-27.0%	102.1%	8.8%	47.5%
HI	138.5%	-26.8%	82.0%	3.9%	33.2%
IA	27.8%	-5.3%	48.5%	5.7%	40.5%
ID	73.3%	-32.2%	170.8%	15.8%	83.6%
IL	49.9%	-23.8%	41.7%	6.8%	8.0%
IN	19.1%	-8.7%	70.0%	8.7%	55.2%
KS	31.0%	-7.6%	59.1%	7.7%	47.0%
KY	28.9%	-5.4%	56.6%	7.1%	48.1%
LA	51.5%	-6.5%	40.0%	4.4%	30.9%
MA	69.8%	-18.1%	68.3%	8.9%	37.9%
MD	126.5%	-26.4%	48.8%	9.0%	9.5%
ME	72.0%	-12.3%	63.9%	9.9%	43.8%
MI	18.4%	-31.5%	101.8%	8.6%	38.2%
MN	52.6%	-23.0%	76.6%	7.5%	36.0%
MO	39.2%	-14.9%	66.2%	7.9%	41.4%
MS	38.9%	-12.8%	37.8%	5.3%	20.2%
MT	79.3%	-13.8%	85.1%	11.2%	59.6%
NC	39.8%	-14.0%	72.8%	9.0%	48.6%
ND	51.7%	-0.8%	64.6%	4.4%	63.3%
NE	24.3%	-6.0%	70.2%	8.1%	60.0%
NH	72.7%	-21.9%	70.9%	10.6%	33.5%
NJ	102.3%	-22.6%	43.7%	9.3%	11.2%
NM	66.6%	-18.0%	50.5%	8.7%	23.3%
NV	117.5%	-59.2%	181.4%	8.8%	14.8%
NY	75.8%	-10.4%	49.9%	8.4%	34.2%
OH	19.6%	-16.5%	70.5%	8.6%	42.4%
OK	36.9%	-4.7%	53.2%	6.8%	46.0%
OR	85.8%	-28.6%	117.6%	10.0%	55.4%
PA	69.1%	-10.8%	50.9%	8.0%	34.6%
RI	108.1%	-28.0%	69.7%	10.6%	22.3%
SC	40.5%	-15.9%	73.4%	7.0%	45.9%
SD	40.1%	-2.4%	66.1%	10.1%	62.0%
TN	38.6%	-12.8%	87.9%	9.7%	63.9%
TX	35.8%	-3.0%	87.0%	8.3%	81.4%
UT	65.2%	-26.1%	133.8%	13.9%	72.9%
VA	95.1%	-18.8%	53.9%	8.2%	25.0%
VT	78.0%	-10.0%	42.8%	7.6%	28.6%
WA	83.5%	-27.3%	130.8%	10.7%	67.8%
WI	38.6%	-14.1%	61.8%	7.2%	38.9%
WV	39.4%	-5.7%	36.3%	7.5%	28.5%
WY	85.0%	-9.7%	45.6%	5.2%	31.4%

Source: FHFA. Notes: HPI data as of March 2021. Peak refers to the month when HPI reached the highest level for each state/US during the housing boom period, ranging from 2005 to 2008. Trough represents the month when HPI fell to the lowest level for each state/US after the housing bust, ranging from 2009 to 2012. Current period is 3/2021, the latest HPI data period.



# State of the US Housing Market

## 2.3 Ginnie Mae Agency Issuance and Agency Outstanding by State

Ginnie Mae MBS represent 25% of overall outstanding Agency issuance by unpaid loan balance and approximately 22% of new Agency issuance over the past year. The share of Ginnie Mae issuance varies across states, with the highest Ginnie Mae share in Mississippi (45%) and the lowest in the District of Columbia (12%). There continues to be a strong correlation between home prices and Ginnie Mae share, with the Ginnie Mae share higher in states with lower home prices.

	Agency Issuance (past 1 year)				Agency Outstanding			
	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size	GSE Avg. Loan Size	GNMA Share by UPB	GNMA Loan Count	GNMA Avg. Loan Size	GSE Avg. Loan Size
<b>National</b>	22%	2,954,490	277,114.78	295,981.06	25%	10,799,661	183,182.09	219,584.73
AK	49%	11,316	333,485.33	292,342.38	45%	37,202	248,513.63	246,856.81
AL	35%	56,900	210,393.26	230,743.62	39%	234,030	142,398.55	166,613.80
AR	33%	30,119	184,691.95	208,977.61	25%	289,975	193,293.36	214,679.42
AZ	24%	106,366	271,911.72	271,174.86	38%	136,768	121,238.59	147,073.21
CA	15%	262,730	422,549.82	412,987.66	16%	704,432	302,564.71	329,822.35
CO	23%	89,086	354,785.40	337,508.27	23%	222,480	262,145.34	275,557.14
CT	21%	24,792	262,331.87	283,038.60	24%	104,447	190,804.59	219,858.24
DC	10%	2,798	472,331.73	469,537.90	12%	8,847	350,961.66	372,759.32
DE	27%	13,577	262,548.85	269,658.94	31%	50,699	192,214.76	214,208.17
FL	32%	258,940	268,671.39	262,285.70	32%	842,129	190,960.87	205,582.03
GA	30%	133,637	241,423.40	265,171.94	33%	500,311	161,857.82	192,131.57
HI	37%	15,075	581,599.77	460,145.86	30%	32,912	438,902.58	396,190.91
IA	16%	16,708	194,716.25	200,756.50	20%	82,861	124,095.21	153,663.62
ID	21%	21,596	280,754.79	268,258.29	24%	69,656	186,963.50	210,089.77
IL	16%	80,533	223,501.35	243,962.71	20%	352,331	150,446.32	184,796.55
IN	24%	63,891	188,422.90	199,169.45	30%	284,880	122,154.32	146,016.90
KS	21%	21,897	178,910.72	221,334.75	28%	98,639	130,195.64	159,888.09
KY	28%	38,517	195,158.45	206,164.92	33%	163,633	132,115.21	153,562.02
LA	33%	44,098	206,022.26	238,475.25	37%	189,880	148,436.80	173,774.86
MA	12%	33,744	362,778.35	357,059.50	15%	114,216	262,099.25	284,820.60
MD	31%	88,420	353,101.36	328,888.76	32%	286,762	250,766.80	262,760.29
ME	22%	10,187	229,603.67	248,785.33	25%	38,508	164,108.33	191,274.37
MI	15%	61,046	189,207.95	210,573.07	19%	282,558	123,249.84	157,471.13
MN	14%	40,399	254,114.79	256,977.00	17%	165,706	170,121.70	203,411.95
MO	22%	56,151	198,708.27	213,713.93	28%	250,018	131,046.99	158,737.59
MS	40%	24,037	200,822.13	213,392.46	45%	117,383	131,814.73	151,437.96
MT	20%	10,314	234,131.96	274,346.76	24%	34,453	190,099.01	213,331.62
NC	26%	116,064	236,263.55	261,221.89	29%	422,860	159,409.10	191,569.03
ND	21%	4,889	252,398.02	240,688.66	22%	16,531	182,917.54	197,340.00
NE	19%	14,758	204,255.25	210,821.26	26%	67,391	136,449.97	161,028.77
NH	20%	11,725	291,012.36	277,291.27	22%	40,521	210,413.62	223,025.49
NJ	17%	59,938	311,927.80	337,865.77	21%	230,154	223,922.65	262,230.00
NM	34%	22,621	232,187.58	236,044.93	37%	95,663	154,165.49	174,846.81
NV	31%	50,642	308,676.18	283,283.53	31%	134,341	224,419.09	231,083.02
NY	15%	48,620	310,360.46	336,462.24	19%	309,065	195,022.84	252,027.68
OH	23%	86,534	188,168.11	204,129.55	28%	426,602	121,035.37	146,711.34
OK	37%	39,466	201,556.46	214,140.41	41%	190,693	130,342.57	152,220.59
OR	19%	40,553	320,424.43	315,486.31	19%	115,870	230,938.24	252,295.64
PA	20%	78,282	212,966.54	248,185.61	25%	394,232	142,328.90	179,793.92
RI	25%	9,756	292,106.83	272,626.26	28%	35,082	211,607.54	221,670.17
SC	32%	67,333	240,500.42	246,300.31	33%	229,772	166,300.93	186,768.75
SD	24%	8,258	228,265.50	224,295.04	29%	29,684	158,531.59	178,353.35
TN	28%	73,254	242,012.79	256,782.29	32%	282,795	157,768.11	187,796.82
TX	29%	278,836	254,750.56	270,658.23	31%	1,072,696	165,881.80	198,033.62
UT	17%	37,680	317,176.83	306,440.94	20%	105,794	227,937.02	253,503.45
VA	33%	143,262	349,555.27	336,447.09	35%	438,951	240,710.05	258,589.17
VT	17%	2,949	238,001.29	248,567.25	18%	12,346	172,707.73	192,005.01
WA	20%	89,240	362,693.49	366,790.64	21%	244,756	257,168.78	285,716.21
WI	13%	32,017	212,868.97	217,904.38	16%	126,162	145,466.81	171,125.75
WV	38%	12,969	196,936.46	198,189.19	41%	56,461	135,369.39	148,095.59
WY	32%	7,970	257,910.77	254,643.56	34%	25,523	193,462.50	206,495.27

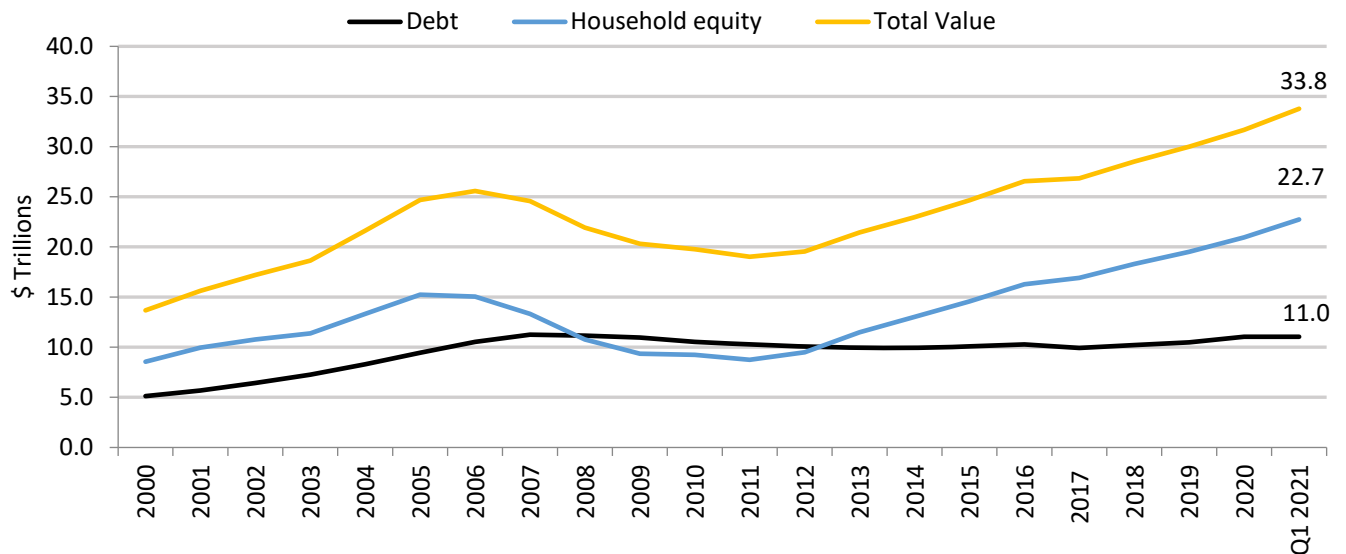
Sources: eMBS, Ginnie Mae/Freddie Mac/Fannie Mae Loan Level MBS Disclosure Files.

Notes: Outstanding balance is based on loan balance as of June 2021. Ginnie Mae issuance is based on the last 12 months, from July 2020 to June 2021.

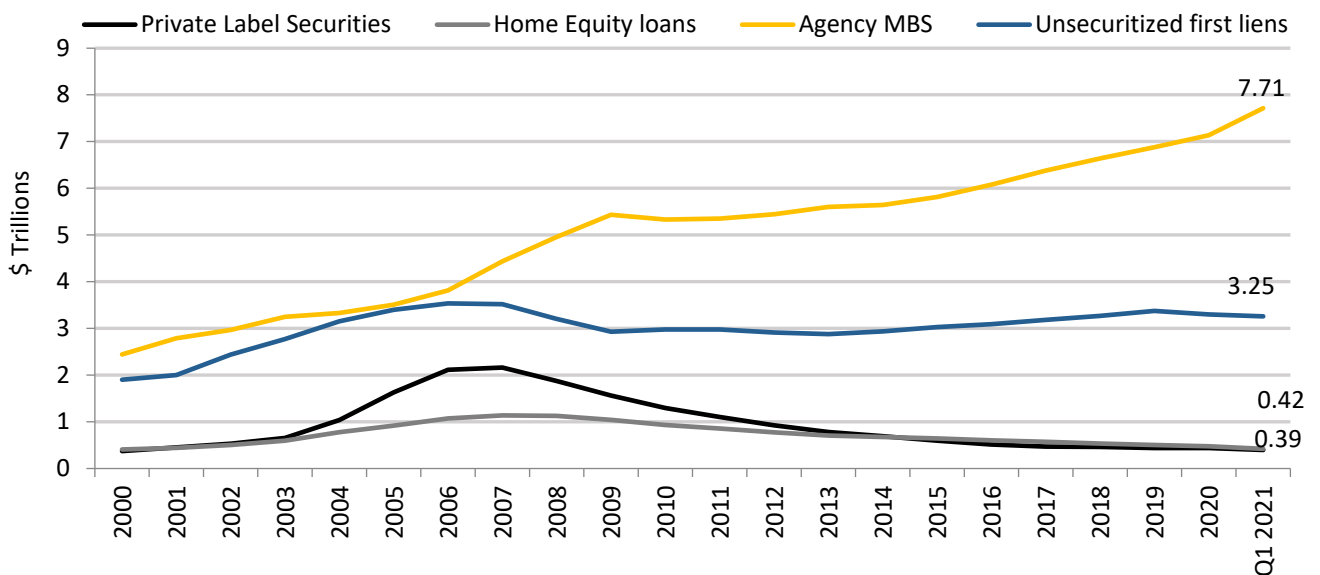
## 2.4 Size and Value of the US Housing Market

The trending increase in total value of the US housing market has been driven primarily by growing home equity since the recovery from the Global Financial Crisis. Mortgage debt outstanding has been relatively flat, increasing from \$10.8 trillion in Q3 2020 to \$11.0 trillion in Q1 2021 while total household equity increased from \$21.2 trillion to \$22.7 trillion. The total value of the single-family housing market reached \$33.8 trillion in Q1 2021. Agency MBS account for 65.5% of the total mortgage debt outstanding.

**Value of the US Housing Market**



**Size of the US Residential Mortgage Market**

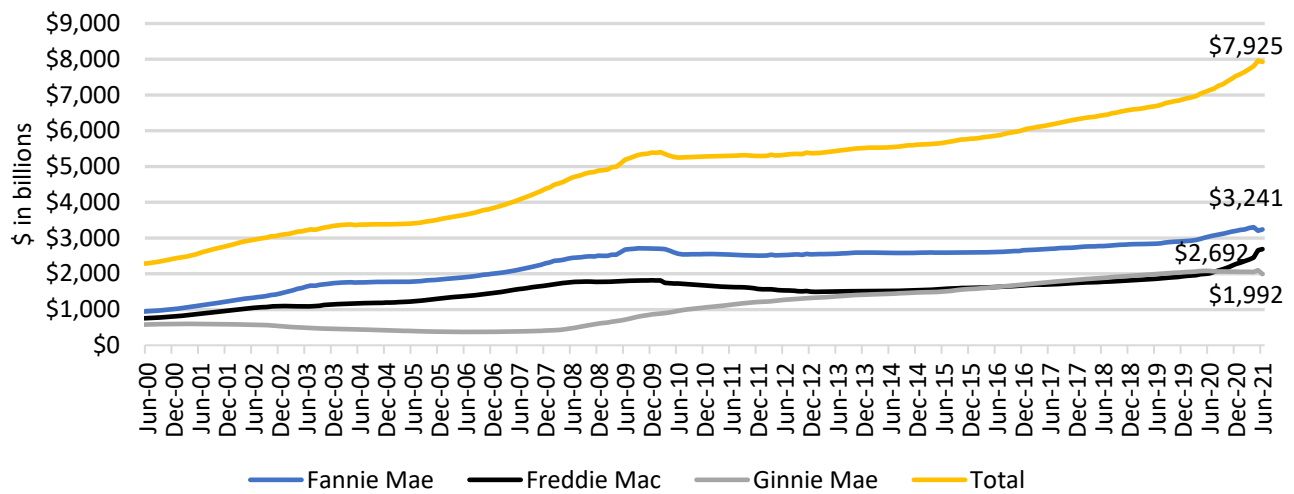


Source: Federal Reserve Flow of Funds Data. Notes: Data as of Q1 2021.

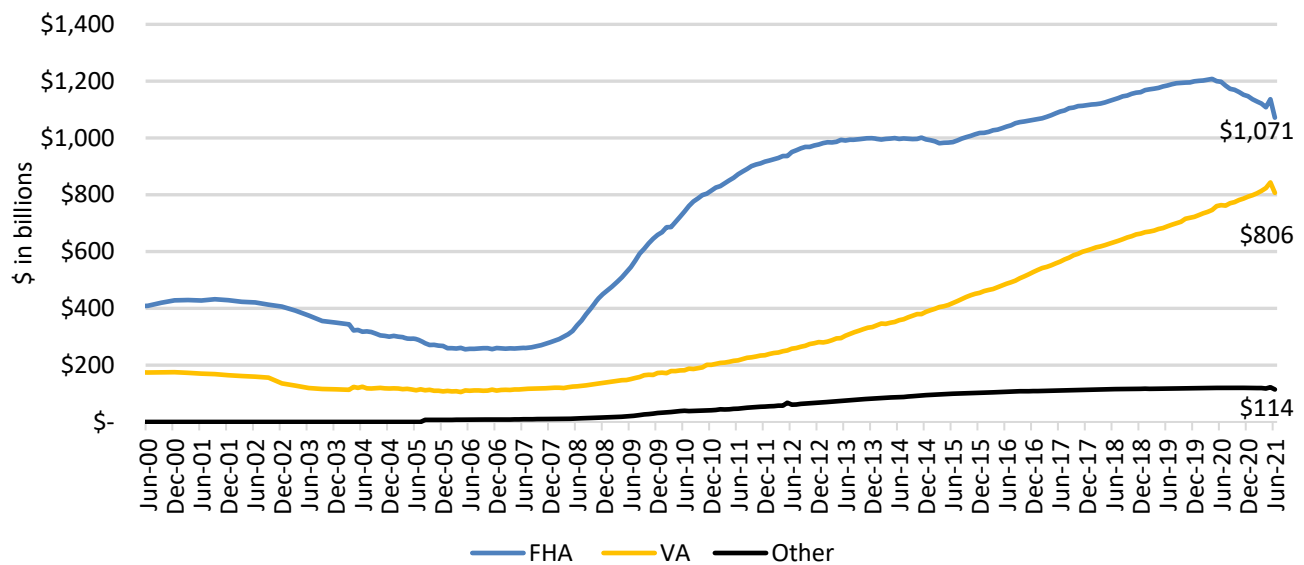
## 2.5 Outstanding Single Family Agency MBS

As of June 2021, according to the Agency MBS disclosure files, outstanding single family securities in the Agency market totaled \$7.93 trillion: 40.9% Fannie Mae, 34.0% Freddie Mac, and 25.1% Ginnie Mae MBS. Within the Ginnie Mae market the composition of issuance by Agency has shifted in the past ten years, as FHA outstanding has slowed and VA outstanding has increased significantly. In June 2011, over 76% of Ginnie Mae outstanding collateral was FHA and under 20% was VA. In June 2021, FHA collateral comprises 54% of Ginnie Mae outstanding and VA collateral comprises 40% of Ginnie Mae outstanding.

### Outstanding Agency Mortgage-Backed Securities



### Composition of Outstanding Ginnie Mae Mortgage-Backed Securities

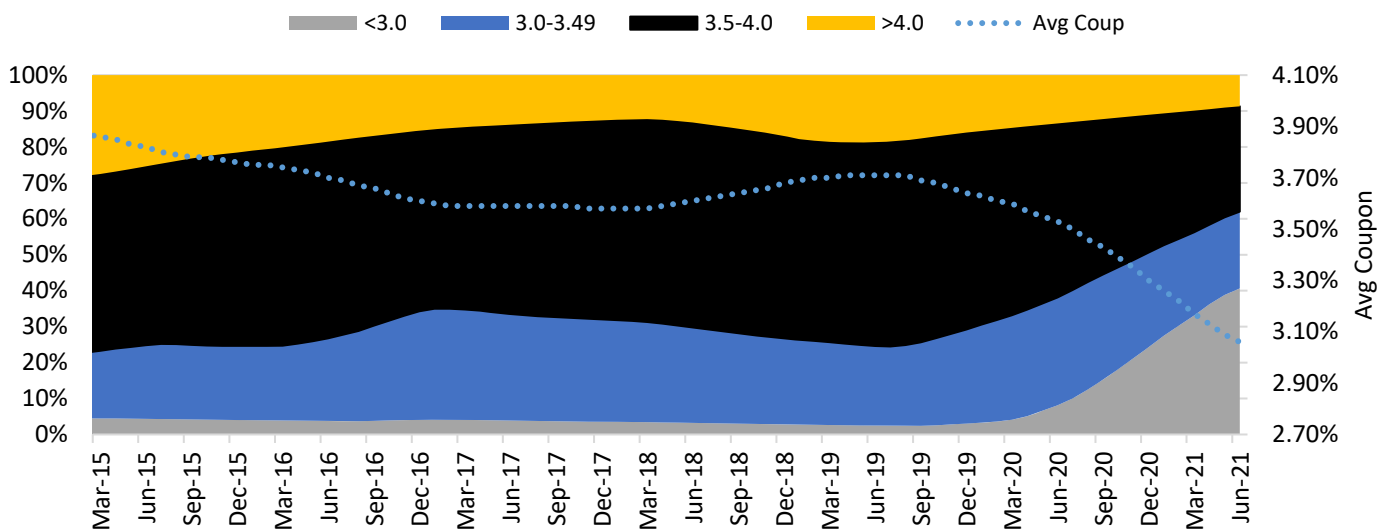


Sources: Data as of June 2021 is based on outstanding balances in the Ginnie Mae/Freddie Mac/Fannie Mae Loan Level MBS Disclosure Files.

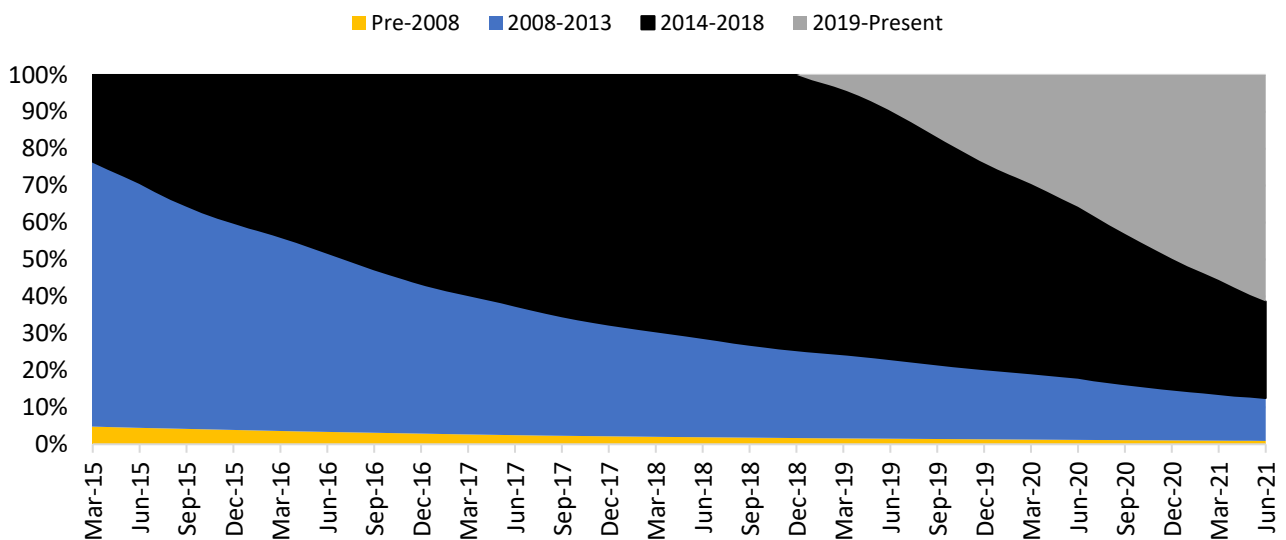
## 2.6 Outstanding Ginnie Mae MBS Volume by Coupon and Vintage Over Time

As of June 2021, the weighted average coupon on outstanding Ginnie Mae pools was 3.06%. The share of outstanding MBS pools with coupons below 3.0% has grown significantly since 2020 due to low interest rates and attendant refinance opportunities. The bottom chart shows that loans originated since 2019 now comprise over 60% of Ginnie MBS collateral outstanding, as older vintages continue to refinance in substantial numbers. The weighted average coupon of loans in the 2019 cohort is 2.67%.

### Outstanding Ginnie Balance, by Coupon



### Outstanding Ginnie Balance, by Vintage



Sources: Ginnie Mae Pool Level MBS Disclosure Files. Note: June 2021 data points reflect the current composition of balances by coupon and vintage; factor data is not applied to prior date balance compositions. Average coupon is weighted by remaining principal balance.



## 2.7 Characteristics of Ginnie Mae Loans in Forbearance

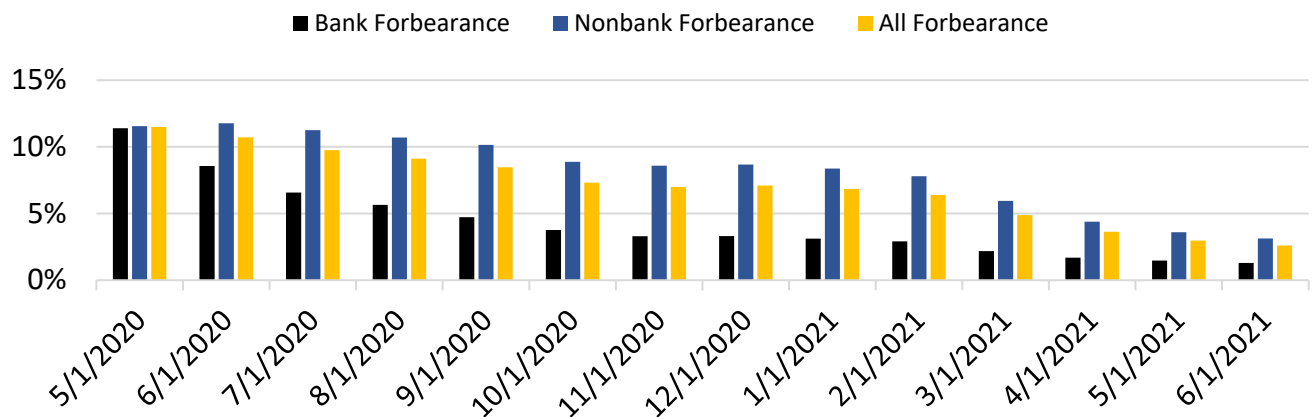
In June 2021, a total of 283,406 Ginnie Mae loans were in forbearance, a decline of approximately 40% MoM and the lowest since October 2020. In June 2021, 14,657 of loans in forbearance were removed from pools and 268,749 still actively remain in pools. Most liquidated loans (11,850) were FHA and within that subset, 9,441 of those loans were originated by nonbanks. Of the 283,406 Ginnie Mae loans in forbearance, 97% of the loans are in forbearance due to COVID-19 circumstances.

All Loans in Forbearance – June 2021						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
<b>Ginnie</b>	658	3.8	\$ 169,399.65	76.6	66.7	283,406
<b>Bank</b>	673	4.0	\$ 129,350.18	73.2	77.7	40,786
<b>Nonbank</b>	657	3.8	\$ 175,955.17	77.0	65.5	242,620
<b>FHA</b>	654	3.9	\$ 164,290.73	78.8	72.2	197,880
<b>Bank</b>	664	4.2	\$ 117,000.00	77.3	82.4	29,733
<b>Nonbank</b>	653	3.9	\$ 172,662.76	79.0	71.2	168,147
<b>VA</b>	668	3.6	\$ 217,707.96	65.8	47.2	60,651
<b>Bank</b>	685	3.7	\$ 191,878.07	63.9	68.2	9,015
<b>Nonbank</b>	665	3.5	\$ 222,050.10	66.2	44.1	51,636
Loans in Forbearance and Removed from Pools – June 2021						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
<b>Ginnie</b>	654	4.2	\$ 155,281.68	75.6	68.7	14,657
<b>Bank</b>	674	4.1	\$ 125,100.62	76.8	79.4	3,141
<b>Nonbank</b>	651	4.2	\$ 164,459.69	75.3	66.8	11,516
<b>FHA</b>	650	4.2	\$ 152,209.39	77.4	71.6	11,850
<b>Bank</b>	669	4.2	\$ 119,391.53	80.3	84.3	2,409
<b>Nonbank</b>	647	4.3	\$ 161,127.97	76.9	69.6	9,441
<b>VA</b>	673	3.8	\$ 197,037.50	64.4	51.0	2,049
<b>Bank</b>	688	3.8	\$ 163,732.62	59.5	62.1	542
<b>Nonbank</b>	668	3.8	\$ 209,735.92	65.9	48.1	1,507
Loans in Forbearance that Remain in Pools – June 2021						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
<b>Ginnie</b>	659	3.8	\$ 170,123.78	76.7	66.6	268,749
<b>Bank</b>	673	4.0	\$ 129,808.50	72.9	77.5	37,645
<b>Nonbank</b>	657	3.8	\$ 176,528.77	77.1	65.5	231,104
<b>FHA</b>	654	3.9	\$ 165,000.00	78.9	72.2	186,030
<b>Bank</b>	664	4.2	\$ 116,789.91	77.0	82.3	27,324
<b>Nonbank</b>	653	3.9	\$ 173,312.26	79.1	71.3	158,706
<b>VA</b>	668	3.5	\$ 218,324.94	65.8	47.1	58,602
<b>Bank</b>	685	3.7	\$ 193,843.92	64.1	68.5	8,473
<b>Nonbank</b>	665	3.5	\$ 222,385.24	66.2	44.0	50,129

Sources: Ginnie Mae loan level MBS disclosure and forbearance file and Ginnie Mae Issuer Operational Performance Profile (IOPP) -Peer Group Listings.  
Notes: Data as of June 2021; \*Averages weighted by remaining principal balance of the loans.

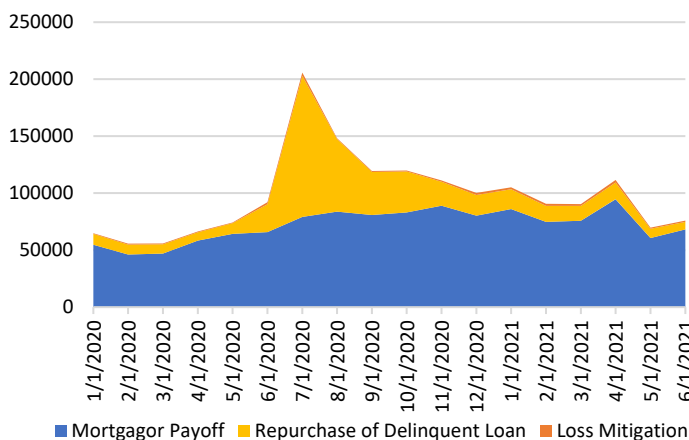
The share of Ginnie Mae loans in forbearance continued to decline from its record low since the pandemic to 2.6% in June 2021. The forbearance rate for Ginnie Mae MBS issued by nonbanks continues to be higher than that of Ginnie Mae MBS issued by banks. This is partly due to banks continuing to buy out loans in forbearance more aggressively than nonbanks. In June 2021 of the 40,786 Ginnie Mae bank loans in forbearance, approximately 8% were liquidated from pools; whereas, of the 242,620 nonbank Ginnie Mae loans in forbearance, approximately 5% were liquidated. The number of loans liquidated from pools increased for both bank and nonbank issuers in June 2021 from the previous month (charts below). The number of loans that have been repurchased due to delinquency for nonbank issuers increased 27% MoM.

## Share of Ginnie Mae Loans in Forbearance



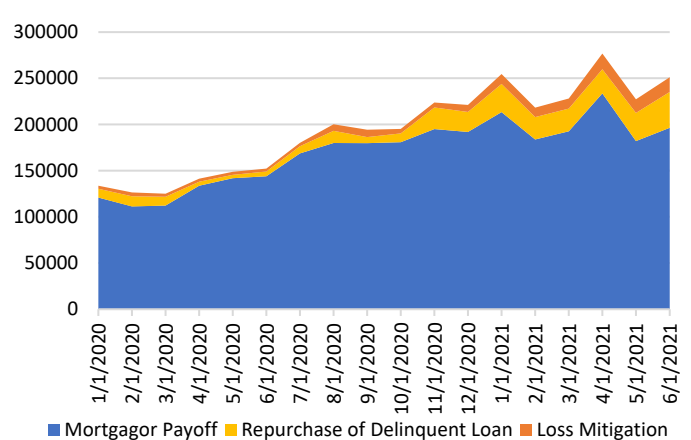
Sources: eMBS and Urban Institute. Data beginning May 2021 sourced from Ginnie Mae forbearance disclosure files and IOPP Peer Group list. Notes: Data as of June 2021.

## Number of Loans Removed from Pools: Bank



Additionally, 9 loans removed due to 'Foreclosure with Claim', 1 loan removed due to 'Substitution' and 152 loans removed due to 'Other' in June 2021.

## Number of Loans Removed from Pools: Nonbank

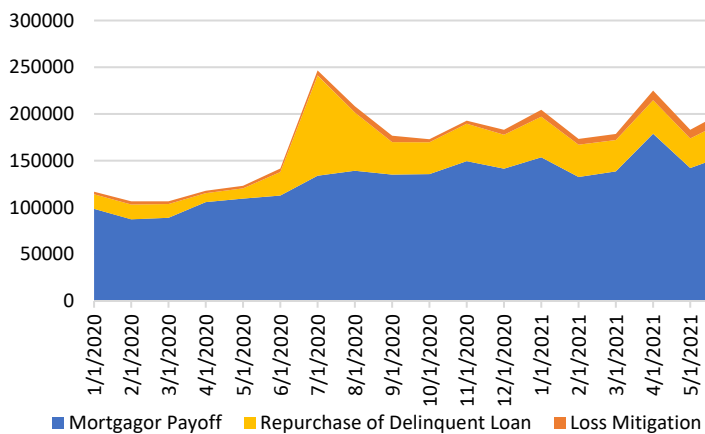


Additionally, 450 loans removed due to 'Foreclosure with Claim', 5 loans removed due to 'Substitution' and 108 loans removed due to 'Other' in June 2021.

Sources: eMBS and Urban Institute. Data beginning June 2021 sourced from Ginnie Mae Loan Level MBS disclosure files and IOPP Peer Group list. Notes: Data as of June 2021.

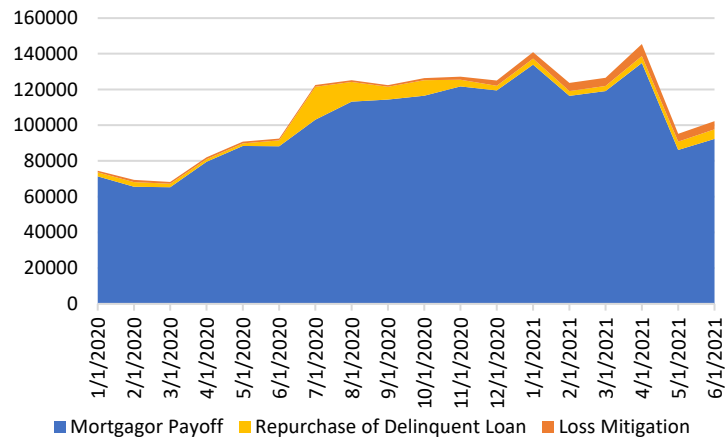
Of the Ginnie Mae loans that are liquidated from pools due to mortgage delinquency, a higher share of the loans are FHA versus VA loans (top charts, yellow areas). Liquidated loans across FHA and VA are also more likely to have coupons greater than or equal to 3.5% (bottom charts). In June 2021, 37,367 FHA and 5,434 VA loans were bought out of pools (these counts include all delinquent buyouts, regardless of forbearance status). Despite the increase in buyout activity during the pandemic, the vast majority of loans removed from pools have been payoffs triggered by ultra-low interest rates (blue areas).

### Number of Loans Removed from Pools: FHA



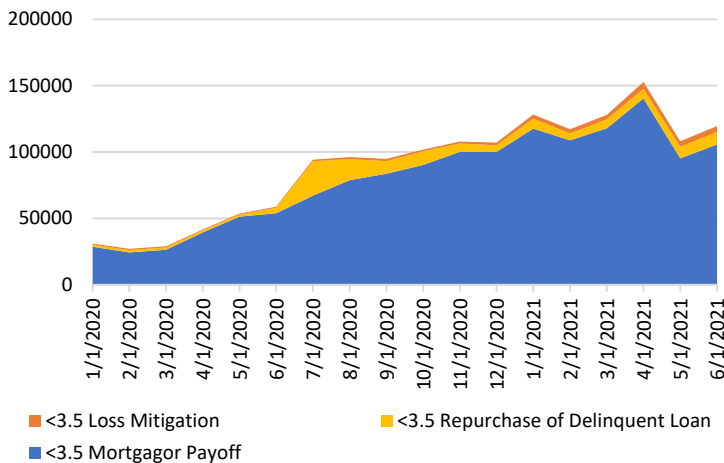
Additionally, 207 loans removed due to 'Foreclosure with Claim', 6 loans removed due to 'Substitution' and 177 loans removed due to 'Other' in June 2021.

### Number of Loans Removed from Pools: VA

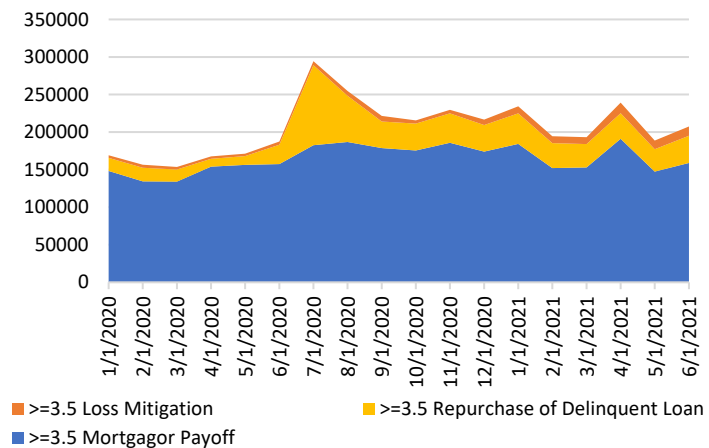


Additionally, 177 loans removed due to 'Foreclosure with Claim' and 70 loans removed due to 'Other' in June 2021.

### Number of Loans Removed from Pools by Coupon



Additionally, 114 loans removed due to 'Foreclosure with Claim', 6 loans removed due to 'Substitution' and 134 loans removed due to 'Other' in June 2021.



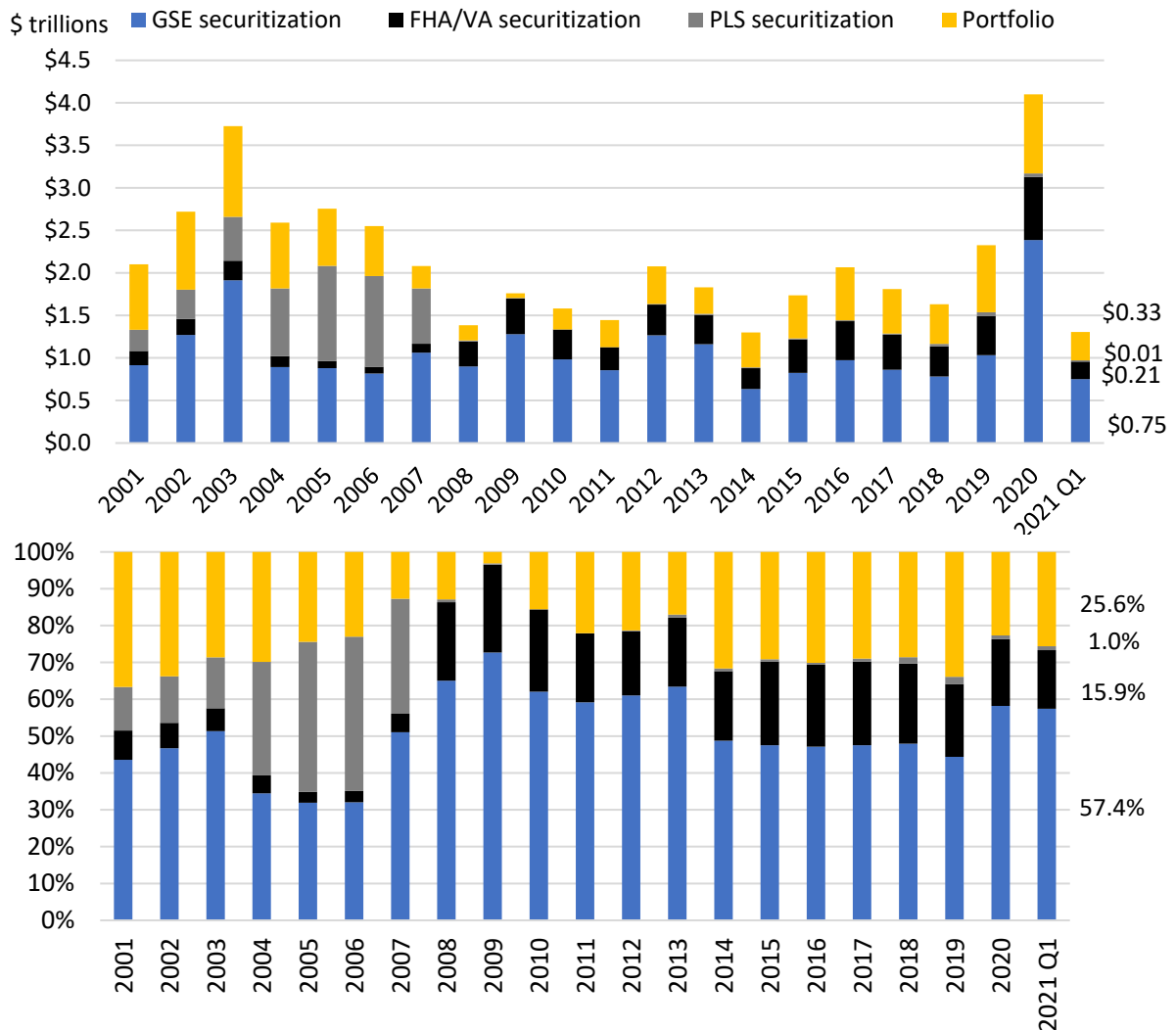
Additionally, 345 loans removed due to 'Foreclosure with Claim' and 126 loans removed due to 'Other' in June 2021.

Sources: eMBS and Urban Institute. Data beginning June 2021 sourced from Ginnie Mae Loan Level MBS disclosure files, Ginnie Mae Pool Level MBS disclosure files and IOPP Peer Group list. Notes: Data as of June 2021.

## 2.8 Origination Volume Over Time

2020 was a record year for first-lien mortgage originations with \$4.1 trillion during the year. This mortgage loan origination number exceeds the 2003 volume of \$3.73 trillion, the previous record holder, by \$375 billion. Strong origination volume trends have continued into Q1 2021, with \$1.3 trillion in originations, which outpaces Q1 2020 issuance by approximately 89%. At this rate, 2021 originations would be set to outpace record-level origination volume of 2020. As of Q1 2021, the share of private label securitizations (PLS) is up approximately 84% from Q4 2020 and is at its highest level (\$13.4 billion) since Q4 2019. While GSE securitization share is down by 6.7% Q4 2020-Q1 2021, GSE share is still up 137.8% from Q1 2020-Q1 2021, which reflects the large number of refinances done through this channel.

### First Lien Origination Volume & Share



Source: Inside Mortgage Finance. Note: Data as of Q1 2021.

## 3.0 US Agency Market, Originations

Total Agency gross issuance has decreased approximately 10% MoM and total net issuance has decreased 27%. Despite the MoM decline, 2021 year to date Agency gross issuance is still on pace to exceed the historic issuance observed in 2020 of \$3.18 trillion. Within the Ginnie Mae market, VA production is outpacing FHA's significantly.

Agency Gross Issuance (\$ in billions)					
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	\$1,195.6
2019	\$597.4	\$445.2	\$1,042.6	\$508.6	\$1,551.2
2020	\$1,343.4	\$1,064.1	\$2,407.5	\$775.4	\$3,182.9
2021 YTD	\$793.2	\$676.5	\$1,469.7	\$452.4	\$1,922.0

Ginnie Mae Gross Issuance (\$ in billions)					
Issuance Year	FHA	VA	Other	Total	
2000	\$80.2	\$18.8	\$3.2	\$102.2	
2001	\$133.8	\$34.7	\$3.1	\$171.5	
2002	\$128.6	\$37.9	\$2.5	\$169.0	
2003	\$147.9	\$62.7	\$2.5	\$213.1	
2004	\$85.0	\$31.8	\$2.5	\$119.2	
2005	\$55.7	\$23.5	\$2.1	\$81.4	
2006	\$51.2	\$23.2	\$2.3	\$76.7	
2007	\$67.7	\$24.2	\$3.0	\$94.9	
2008	\$221.7	\$39.0	\$6.9	\$267.6	
2009	\$359.9	\$74.6	\$16.8	\$451.3	
2010	\$304.9	\$70.6	\$15.3	\$390.7	
2011	\$216.1	\$82.3	\$16.9	\$315.3	
2012	\$253.4	\$131.3	\$20.3	\$405.0	
2013	\$239.2	\$132.2	\$22.2	\$393.6	
2014	\$163.9	\$111.4	\$21.0	\$296.3	
2015	\$261.5	\$155.6	\$19.2	\$436.3	
2016	\$281.8	\$206.5	\$19.9	\$508.2	
2017	\$257.6	\$177.8	\$20.2	\$455.6	
2018	\$222.6	\$160.8	\$17.2	\$400.6	
2019	\$266.9	\$225.7	\$16.0	\$508.6	
2020	\$327.0	\$423.5	\$24.9	\$775.4	
2021 YTD	\$194.5	\$244.8	\$13.1	\$452.4	



# US Agency Market, Originations

Agency Net Issuance (\$ in billions)					
Issuance Year	Fannie Mae	Freddie Mac	GSE	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	\$165.7
2016	\$60.5	\$66.8	\$127.4	\$126.1	\$253.5
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	\$197.7	\$95.7	\$293.5
2020	\$289.3	\$343.5	\$632.8	\$19.9	\$652.7
2021 YTD	\$207.6	\$256.5	\$464.0	-\$11.1	\$453.0

Ginnie Mae Net Issuance (\$ in billions)				
Issuance Year	FHA	VA	Other	Total
2000	\$29.0	\$0.3	\$0.000	\$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	\$131.2
2018	\$49.2	\$61.2	\$3.5	\$113.9
2019	\$35.9	\$58.0	\$1.9	\$95.7
2020	-\$52.5	\$71.0	\$1.3	\$19.9
2021 YTD	-\$49.4	\$41.7	-\$3.4	-\$11.1



# US Agency Market, Originations

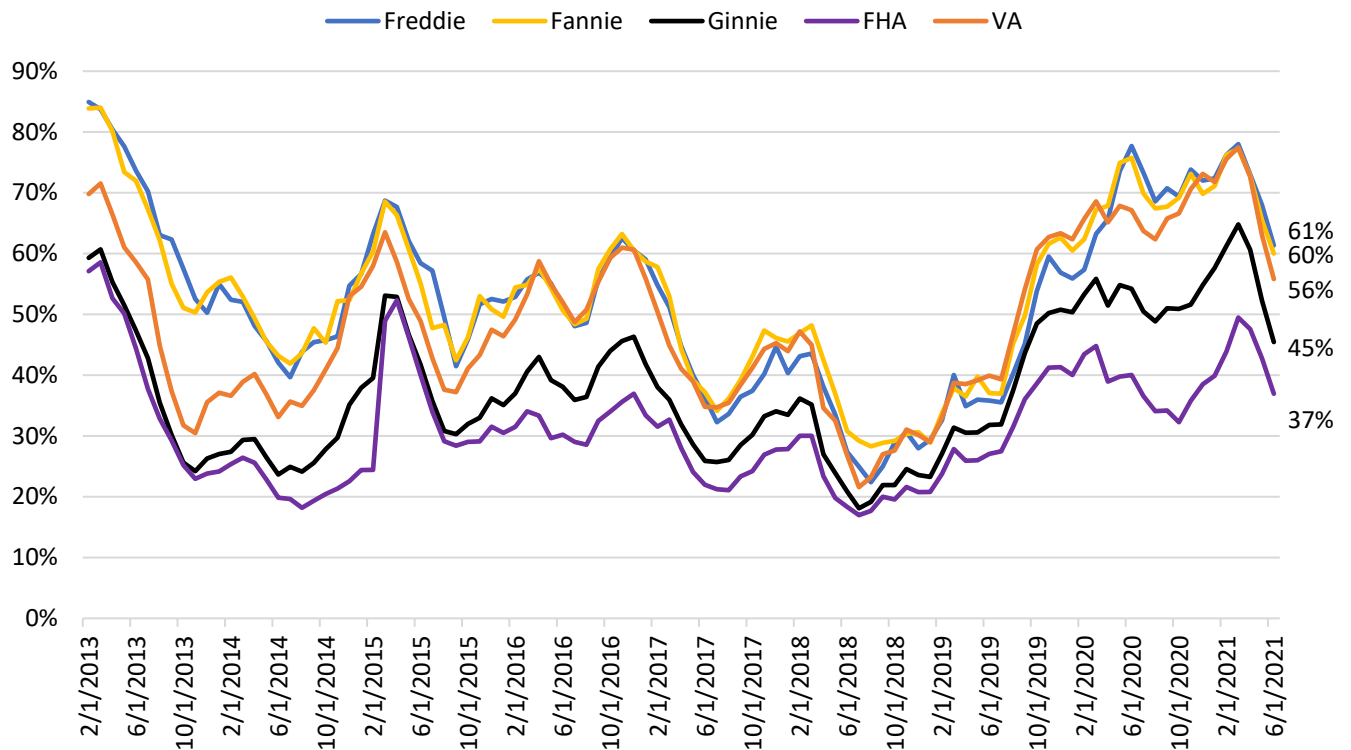
Month	Agency Gross Issuance Amount (in \$ Billions)					Agency Net Issuance Amount (in \$ Billions)				
	Fannie Mae	Freddie Mac	Ginnie Mae	GSEs	Total	Fannie Mae	Freddie Mac	Ginnie Mae	GSEs	Total
Jan-17	\$55.6	\$38.5	\$42.6	\$94.1	\$136.6	\$8.5	\$10.7	\$10.3	\$19.2	\$29.5
Feb-17	\$37.6	\$27.4	\$33.1	\$65.0	\$98.1	\$2.5	\$6.5	\$9.4	\$9.0	\$18.5
Mar-17	\$39.5	\$24.4	\$31.3	\$63.9	\$95.2	\$9.7	\$6.2	\$9.7	\$15.9	\$25.6
Apr-17	\$39.3	\$21.2	\$36.4	\$60.6	\$97.0	\$3.3	\$0.4	\$11.7	\$3.7	\$15.4
May-17	\$40.3	\$22.6	\$36.4	\$62.9	\$99.3	\$7.7	\$2.7	\$13.3	\$10.4	\$23.8
Jun-17	\$45.7	\$25.1	\$39.9	\$70.8	\$110.7	\$7.9	\$2.4	\$13.3	\$10.3	\$23.5
Jul-17	\$45.3	\$27.6	\$40.6	\$72.9	\$113.5	\$5.6	\$3.5	\$12.3	\$9.2	\$21.5
Aug-17	\$49.1	\$29.3	\$42.8	\$78.4	\$121.1	\$12.0	\$6.7	\$15.4	\$18.7	\$34.1
Sep-17	\$47.3	\$27.9	\$40.2	\$75.3	\$115.5	\$7.7	\$3.8	\$10.6	\$11.4	\$22.0
Oct-17	\$42.9	\$34.6	\$38.4	\$77.6	\$115.9	\$5.5	\$12.5	\$11.0	\$17.9	\$28.9
Nov-17	\$43.5	\$37.2	\$37.8	\$80.7	\$118.5	\$3.9	\$13.6	\$8.3	\$17.5	\$25.8
Dec-17	\$45.3	\$30.0	\$36.2	\$75.3	\$111.5	\$9.2	\$8.1	\$7.0	\$17.4	\$24.4
Jan-18	\$47.4	\$21.4	\$35.4	\$68.8	\$104.2	\$12.1	\$0.2	\$7.7	\$12.3	\$20.0
Feb-18	\$40.3	\$21.5	\$32.0	\$61.8	\$93.8	\$8.3	\$2.2	\$7.1	\$10.5	\$17.6
Mar-18	\$35.6	\$21.3	\$29.1	\$56.9	\$86.0	\$4.9	\$3.0	\$6.3	\$7.9	\$14.1
Apr-18	\$36.3	\$26.2	\$32.8	\$62.5	\$95.3	\$1.7	\$6.0	\$8.8	\$7.7	\$16.5
May-18	\$38.9	\$27.5	\$33.8	\$66.4	\$100.2	\$5.1	\$7.2	\$10.5	\$12.3	\$22.8
Jun-18	\$38.2	\$28.8	\$35.6	\$67.0	\$102.6	\$2.5	\$6.8	\$10.3	\$9.3	\$19.6
Jul-18	\$40.3	\$26.2	\$35.6	\$66.5	\$102.2	\$4.2	\$3.7	\$10.4	\$7.8	\$18.3
Aug-18	\$50.4	\$29.9	\$37.5	\$80.3	\$117.8	\$15.8	\$7.9	\$12.5	\$23.6	\$36.1
Sep-18	\$41.8	\$30.1	\$34.8	\$71.8	\$106.6	\$5.9	\$6.2	\$9.0	\$12.1	\$21.1
Oct-18	\$39.8	\$27.4	\$33.2	\$67.1	\$100.3	\$9.7	\$7.1	\$11.4	\$16.8	\$28.2
Nov-18	\$35.1	\$30.1	\$32.4	\$65.2	\$97.6	\$3.6	\$11.0	\$9.8	\$14.6	\$24.4
Dec-18	\$36.9	\$23.9	\$28.4	\$60.7	\$89.1	\$8.2	\$6.4	\$8.2	\$14.6	\$22.8
Jan-19	\$33.3	\$19.2	\$29.0	\$52.6	\$81.6	\$5.9	\$2.5	\$9.2	\$8.3	\$17.6
Feb-19	\$27.3	\$19.9	\$23.5	\$47.2	\$70.7	\$1.4	\$3.4	\$4.6	\$4.7	\$9.3
Mar-19	\$29.6	\$27.3	\$26.6	\$56.9	\$83.5	\$1.8	\$10.3	\$5.6	\$12.0	\$17.6
Apr-19	\$33.1	\$30.8	\$32.9	\$63.9	\$96.8	\$1.3	\$10.8	\$8.3	\$12.0	\$20.4
May-19	\$44.5	\$34.3	\$38.8	\$78.8	\$117.6	\$6.7	\$9.8	\$9.4	\$16.6	\$26.0
Jun-19	\$44.6	\$34.0	\$43.3	\$78.6	\$121.9	\$1.9	\$5.9	\$9.0	\$7.8	\$16.8
Jul-19	\$51.7	\$36.9	\$45.9	\$88.6	\$134.5	\$10.9	\$10.1	\$11.0	\$21.0	\$32.0
Aug-19	\$71.1	\$50.4	\$51.2	\$121.4	\$172.6	\$20.8	\$17.1	\$8.7	\$37.9	\$46.6
Sep-19	\$67.1	\$43.0	\$52.0	\$110.1	\$162.1	\$14.1	\$7.5	\$6.5	\$21.5	\$28.0
Oct-19	\$65.0	\$46.2	\$58.4	\$111.2	\$169.6	\$7.4	\$7.1	\$11.9	\$14.6	\$26.5
Nov-19	\$68.1	\$50.7	\$54.3	\$118.7	\$173.1	\$5.2	\$8.6	\$4.1	\$13.8	\$18.0
Dec-19	\$62.1	\$52.5	\$52.7	\$114.6	\$167.3	\$10.1	\$17.3	\$7.4	\$27.3	\$34.7
Jan-20	\$61.7	\$51.4	\$56.0	\$113.1	\$169.0	\$9.1	\$16.5	\$8.6	\$25.6	\$34.2
Feb-20	\$56.5	\$39.5	\$51.2	\$96.0	\$147.2	\$9.4	\$7.9	\$7.1	\$17.4	\$24.4
Mar-20	\$69.5	\$41.4	\$53.0	\$110.8	\$163.9	\$17.9	\$6.3	\$8.8	\$24.2	\$33.0
Apr-20	\$101.6	\$76.3	\$61.4	\$177.9	\$239.3	\$30.5	\$27.5	\$10.2	\$58.0	\$68.2
May-20	\$124.3	\$70.6	\$60.8	\$194.9	\$255.7	\$35.2	\$8.2	\$5.7	\$43.4	\$49.1
Jun-20	\$118.9	\$78.1	\$58.5	\$197.0	\$255.4	\$30.0	\$15.9	\$1.3	\$45.9	\$47.2
Jul-20	\$125.0	\$108.1	\$66.5	\$233.1	\$299.5	\$23.4	\$38.0	-\$15.5	\$61.4	\$45.9
Aug-20	\$137.6	\$113.6	\$73.6	\$251.3	\$324.8	\$34.2	\$43.4	-\$4.1	\$77.6	\$73.5
Sep-20	\$122.9	\$102.1	\$72.4	\$225.0	\$297.5	\$16.5	\$29.9	\$1.0	\$46.5	\$47.5
Oct-20	\$142.3	\$124.8	\$72.6	\$267.1	\$339.7	\$28.9	\$48.3	-\$0.3	\$77.2	\$76.9
Nov-20	\$152.4	\$131.5	\$72.6	\$283.9	\$356.5	\$31.4	\$48.4	-\$4.5	\$79.8	\$75.3
Dec-20	\$130.8	\$126.7	\$76.9	\$257.5	\$334.4	\$22.8	\$53.1	\$1.7	\$75.8	\$77.5
Jan-21	\$141.6	\$117.3	\$78.2	\$258.9	\$337.1	\$25.9	\$37.9	-\$6.5	\$63.8	\$57.3
Feb-21	\$118.8	\$115.5	\$72.3	\$234.3	\$306.6	\$16.8	\$44.3	-\$0.9	\$61.1	\$60.2
Mar-21	\$143.9	\$118.9	\$76.9	\$262.8	\$339.7	\$37.6	\$44.0	\$1.0	\$81.6	\$82.6
Apr-21	\$148.0	\$142.3	\$85.6	\$290.3	\$375.9	\$26.2	\$57.0	-\$4.2	\$83.3	\$79.0
May-21	\$132.3	\$91.4	\$71.7	\$223.7	\$295.4	\$64.9	\$38.8	-\$3.1	\$103.7	\$100.6
Jun-21	\$108.5	\$91.1	\$67.7	\$199.6	\$267.3	\$36.1	\$34.4	\$2.6	\$70.6	\$73.2

Source: Beginning May 2021, data for Gross and Net Issuance was sourced from Fannie Mae, Freddie Mac, and Ginnie Mae loan level disclosure files. Prior month data was sourced from eMBS and Urban Institute.



The FHA refinance share stood at 37% in June 2021, below the 61% refi share for Freddie originations, the 60% share for Fannie, and the 56% share for the VA. The total Ginnie refinance share stood at 45% in June. Refinances as a share of all originations grew during 2019 and 2020 as interest rates fell. Thus far in 2021, refinance as a share has begun to drop off from the increase witnessed in 2019 and 2020.

## Percent Refi at Issuance



Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: Data as of June 2021.

## 4.0 High LTV Loans: Ginnie Mae vs. GSEs

Ginnie Mae dominates high-LTV lending, with 62.83% of its issuances in the April 2021- July 2021 period having LTVs of 95 or above, compared to 9.67% for the GSEs. While Ginnie Mae has decreased high-LTV lending share from April 2019– July 2019, the GSEs have increased high-LTV lending share over the same period. The share of high-LTV agency loans going to highest FICO borrowers (i.e. above 750) has decreased by 57% from the May 2019-July 2019 period to the May 2021- July 2021 period, and the share of lower DTI borrowers (below 35) has decreased by 50% over the same period.

### Share of Loans with LTV $\geq$ 95

	Ginnie Mae	GSE	All
April 2019-July 2019	64.36%	6.55%	26.67%
April 2021 - July 2021	62.83%	9.67%	21.96%

### Agency Market Share by DTI and FICO for Loans with LTV $\geq$ 95

#### May - July 2021

DTI	FICO				NA	All
	<650	650-700	700-750	$\geq$ 750		
<35	4.36%	6.00%	3.18%	5.06%	1.19%	19.79%
35-45	6.44%	8.49%	3.88%	3.94%	0.15%	22.90%
$\geq$ 45	5.11%	7.83%	3.70%	3.10%	0.24%	19.98%
NA	5.13%	6.77%	4.40%	7.20%	13.83%	37.33%
All	21.04%	29.09%	15.16%	19.30%	15.41%	100.00%

#### May - July 2019

DTI	FICO				NA	All
	<650	650-700	700-750	$\geq$ 750		
<35	2.63%	5.75%	6.95%	24.33%	0.59%	40.25%
35-45	3.28%	6.89%	6.99%	14.11%	0.13%	31.40%
$\geq$ 45	2.19%	3.89%	3.01%	4.85%	0.16%	14.10%
NA	2.18%	2.80%	1.80%	2.62%	4.87%	14.27%
All	10.28%	19.33%	18.75%	45.91%	5.75%	100.02%

Sources: eMBS, Recursion and Ginnie Mae.



# Holders of Ginnie Mae Mortgage Servicing Rights

## 5.0 Holders of Ginnie Mae Mortgage Servicing Rights

This table shows the 30 largest owners of mortgage servicing rights (MSR) by UPB for Ginnie Mae MBS. As of July 2021, almost half (49.9%) of the Ginnie Mae MSRs are owned by the top six firms. The top 30 firms collectively own 81.2% (see Cumulative Share). Twenty-two of these top 30 are non-depositories, the remaining 9 are depository institutions.

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

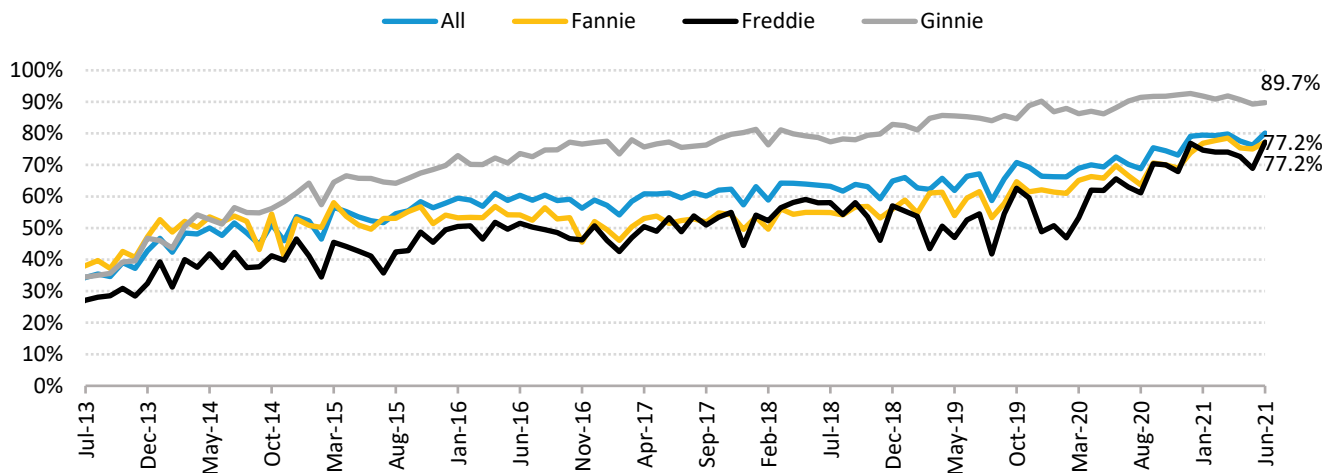
Rank	MSR Holder	UPB (\$ millions)	Share	Cumulative Share
1	Freedom Home Mortgage	\$232,733	12.1%	12.1%
2	PennyMac	\$215,447	11.2%	23.2%
3	Lakeview	\$200,379	10.4%	33.6%
4	Wells Fargo	\$135,477	7.0%	40.6%
5	Rocket Mortgage	\$95,669	5.0%	45.6%
6	Nationstar	\$83,190	4.3%	49.9%
7	Newrez	\$58,609	3.0%	52.9%
8	US Bank	\$47,328	2.5%	55.4%
9	Caliber Home Loans	\$44,981	2.3%	57.7%
10	Carrington Mortgage	\$38,599	2.0%	59.7%
11	United Wholesale Mortgage	\$35,576	1.8%	61.6%
12	USAA Federal Savings Bank	\$34,970	1.8%	63.4%
13	Loan Depot	\$30,253	1.6%	65.0%
14	Navy Federal Credit Union	\$27,752	1.4%	66.4%
15	Home Point Financial Corporation	\$26,698	1.4%	67.8%
16	Mortgage Research Center	\$26,382	1.4%	69.1%
17	Planet Home Lending	\$24,734	1.3%	70.4%
18	Amerihome Mortgage	\$24,498	1.3%	71.7%
19	Truist Bank	\$23,799	1.2%	72.9%
20	The Money Source	\$22,527	1.2%	74.1%
21	Guild Mortgage	\$20,125	1.0%	75.1%
22	Midfirst Bank	\$15,015	0.8%	75.9%
23	New American Funding	\$13,977	0.7%	76.6%
24	Crosscountry Mortgage	\$13,430	0.7%	77.3%
25	Village Capital	\$12,875	0.7%	78.0%
26	JP Morgan Chase	\$12,764	0.7%	78.7%
27	Citizens Bank	\$12,610	0.7%	79.3%
28	Idaho Housing and Finance Association	\$12,238	0.6%	80.0%
29	CMG Mortgage, INC	\$12,027	0.6%	80.6%
30	PHH Mortgage Corporation	\$12,026	0.6%	81.2%

Source: Deloitte and Ginnie Mae. Data as of July 2021.

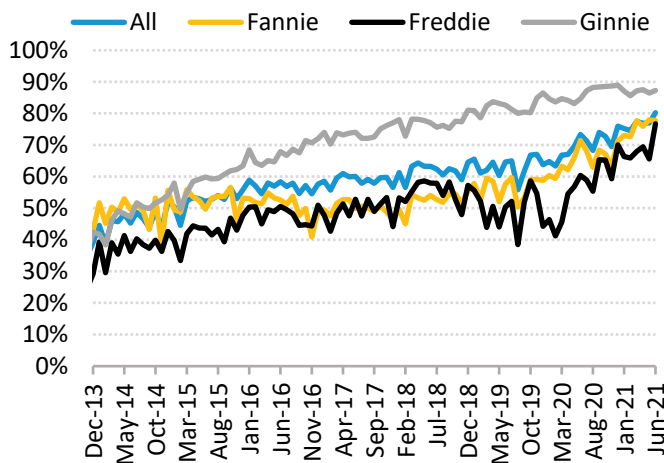
## 6.0 Agency Nonbank Originators

Since 2013 there has been a steady increase in nonbank origination share for the GSEs, which continues through June 2021, up nearly 5% from the prior month. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 89.7% in June 2021, approximately 13% greater than Fannie or Freddie’s nonbank share. This represents a MoM increase of 46 basis points for Ginnie Mae nonbank origination share. And while May saw a decline in nonbank share for Freddie Mac, Freddie’s nonbank share bounced back to 77.24%, and slightly higher than Fannie’s 77.21% rate.

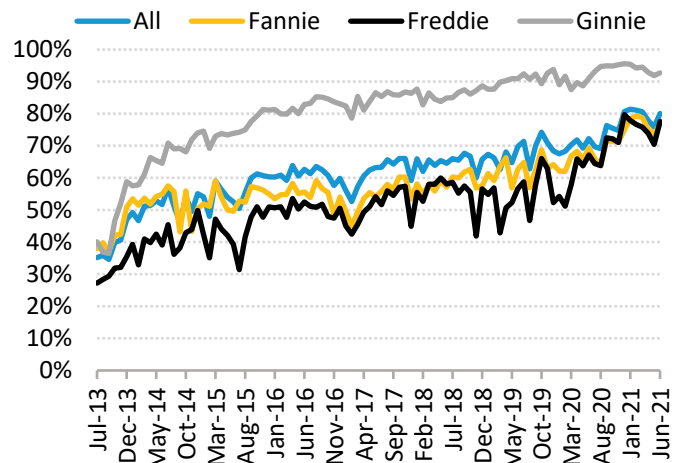
### 6.1 Agency Nonbank Originator Share (All, Purchase, Refi)



#### Nonbank Origination Share: Purchase Loans



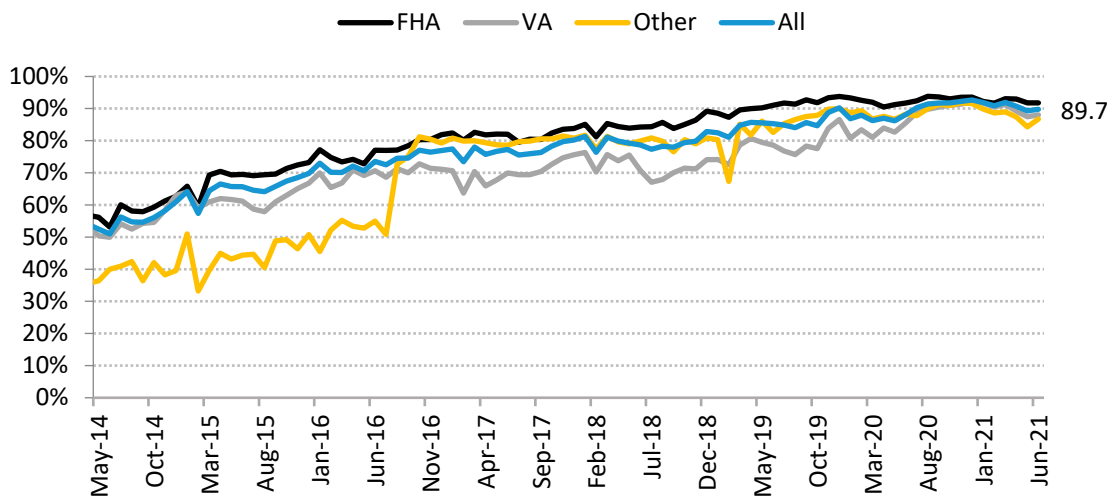
#### Nonbank Origination Share: Refi Loans



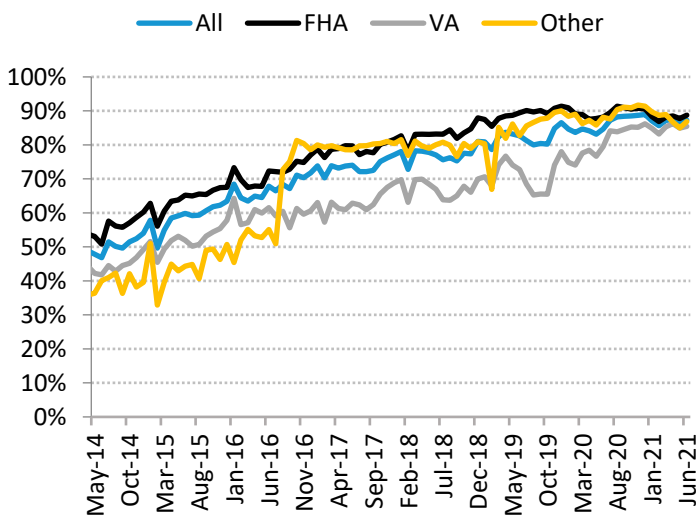
Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: Data as of June 2021.

After a 150 basis point drop in May 2021 over the rate in April, in June 2021, Ginnie Mae’s total nonbank originator share rebounded with an approximately 46 basis point increase from the prior month. In June 2021 there was a slight increase in nonbank origination share for both purchase and refi loans. After a sharp decline in the nonbank origination share for refi loans from agencies other than FHA or VA in May, nonbank shares of “Other” Agency refis bounced back significantly, leading to increases in the nonbank share of refinance transactions.

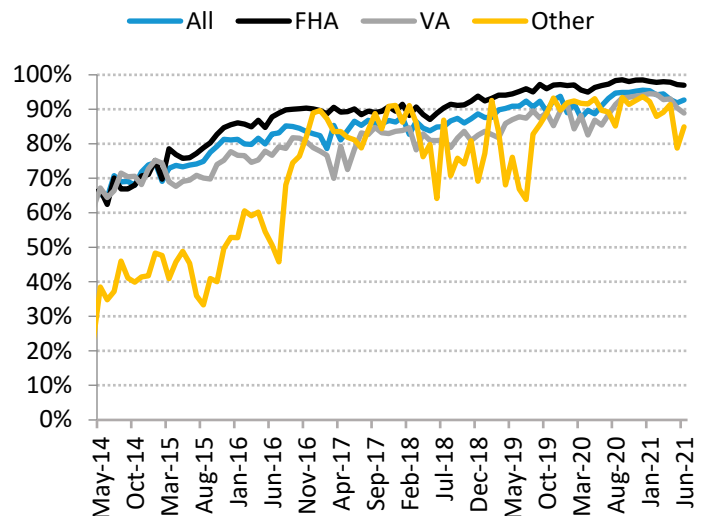
## 6.2 Ginnie Mae Nonbank Originator Share (All, Purchase, Refi)



**Ginnie Mae Nonbank Share: Purchase Loans**



**Ginnie Mae Nonbank Share: Refi Loans**

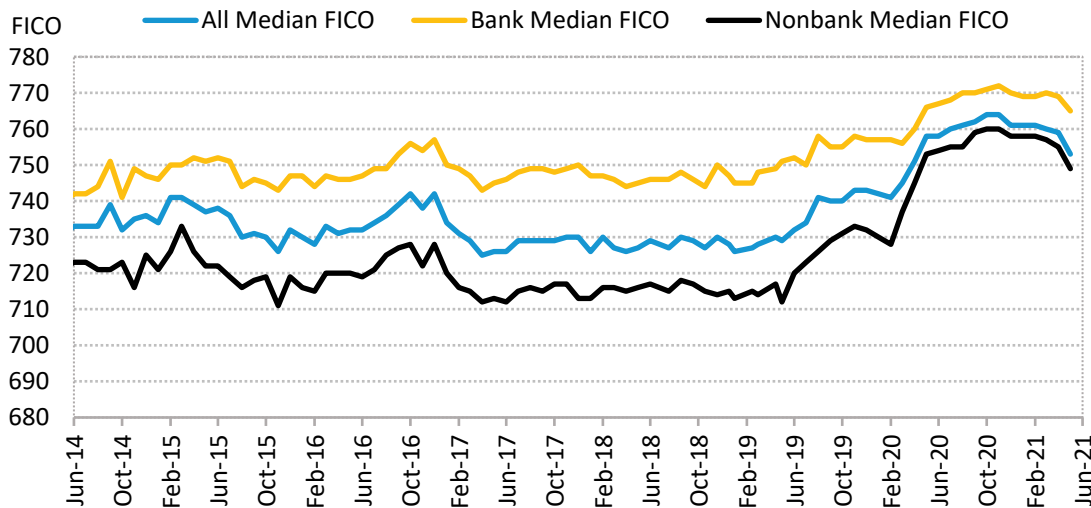


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: “Other” refers to loans insured by HUD’s Office of Public and Indian Housing and the Department of Agriculture’s Rural Development. Data as of June 2021.

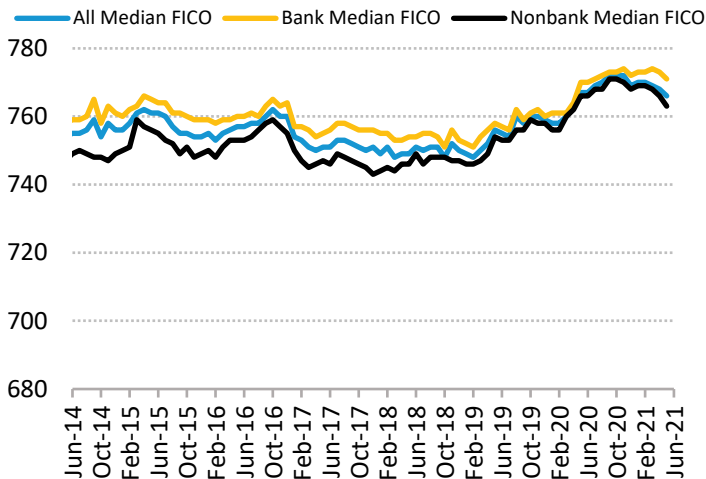
## 6.3 Bank vs. Nonbank Originators Historical Credit Box, Ginnie Mae vs. GSE (FICO, LTV, DTI)

Nonbank originators continue to have consistently lower median FICO score across all Agencies. Agency median FICOs have declined this year for both banks and nonbanks. According to an Urban Institute study (see footnote), borrowers across the Agencies with higher credit scores are more likely to take advantage of refi opportunities. This trend has been narrowing the bank/nonbank FICO differential over the past 2 years, as nonbanks are relatively more active in refi lending.

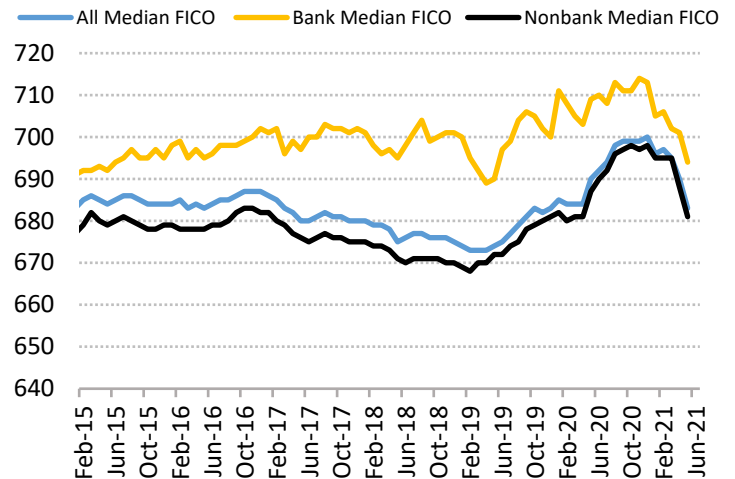
**Agency FICO: Bank vs. Nonbank**



**GSE FICO: Bank vs. Nonbank**



**Ginnie Mae FICO: Bank vs. Nonbank**

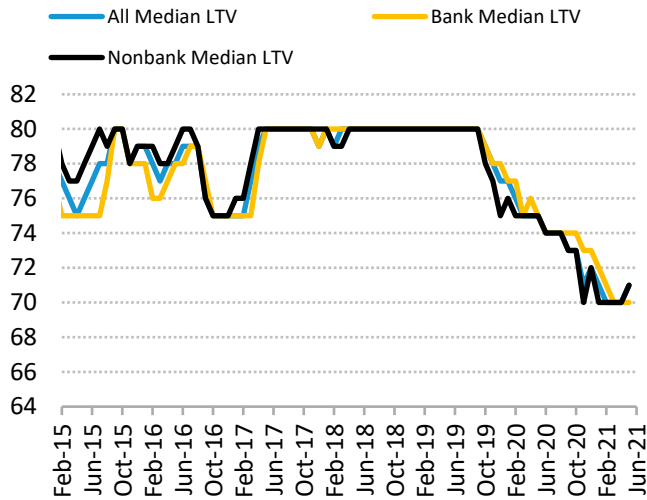


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: Data as of June 2021. <https://www.urban.org/urban-wire/streamlined-home-refinancing-program-would-lower-monthly-payments-and-prevent-defaults>

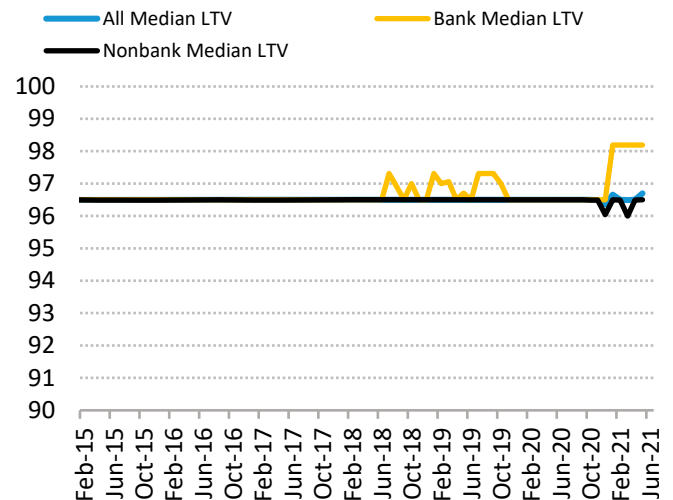
# Agency Nonbank Originators

The median LTV for GSE bank and nonbank originators has been on a steady decline since Q3 2019 with a slight uptick in recent months. The substantial increase in Ginnie Mae DTIs between 2017 and 2019 have mostly been reversed, due largely to the drop in interest rates.

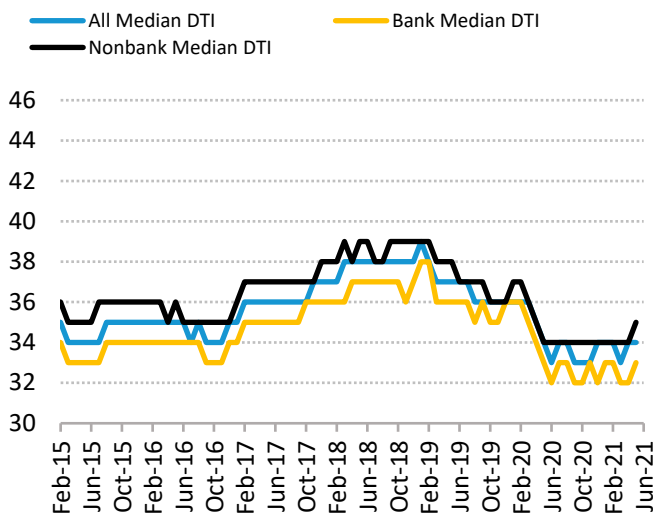
**GSE LTV: Bank vs Nonbank**



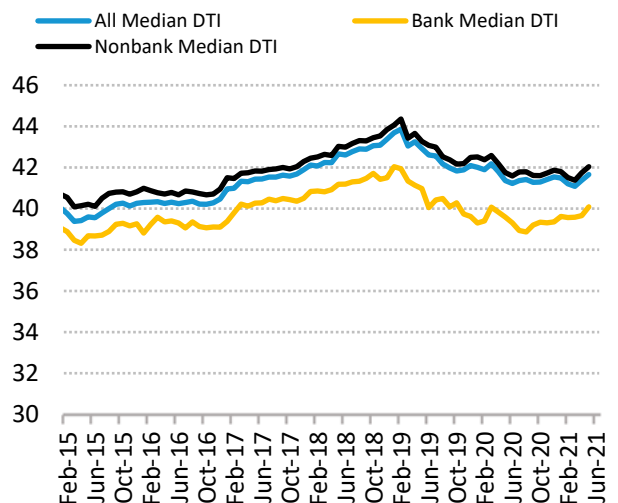
**Ginnie Mae LTV: Bank vs. Nonbank**



**GSE DTI: Bank vs Nonbank**



**Ginnie Mae DTI: Bank vs. Nonbank**



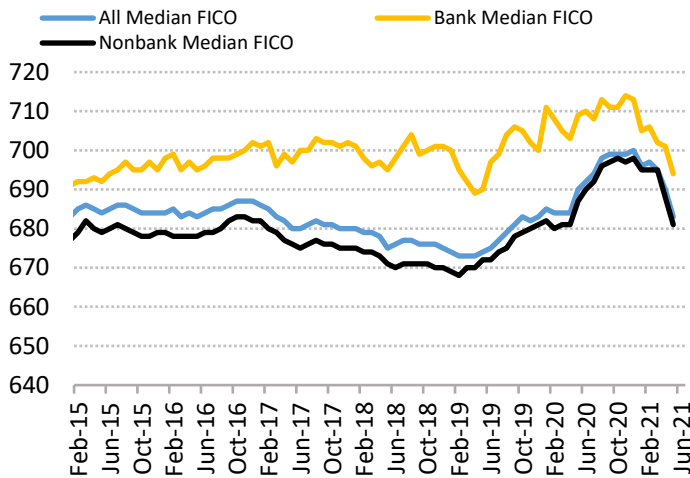
Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: Data as of June 2021.



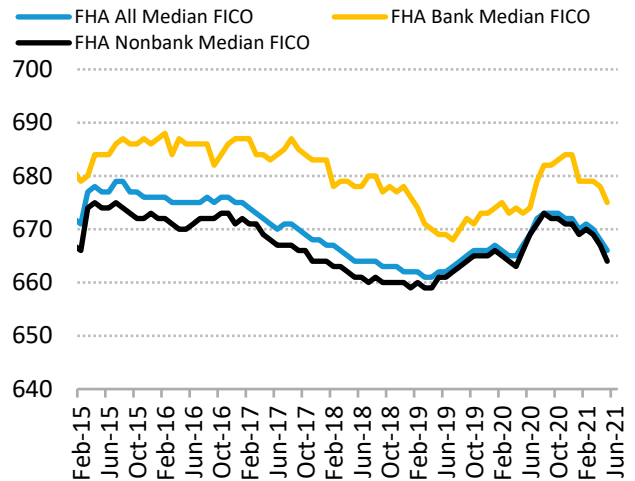
# Agency Nonbank Originators

The median FICO score for Ginnie Mae bank and nonbank originators has been on a steady decline since the beginning of Q1 2021. June continued this pattern with median FICOs for all Ginnie originations dropping to 680. The gap between banks and non-banks continues to be very apparent for all categories of government mortgage loan lending. While VA nonbank median FICOs have been declining since Q4 2020, Bank VA FICOs have remained flat MoM.

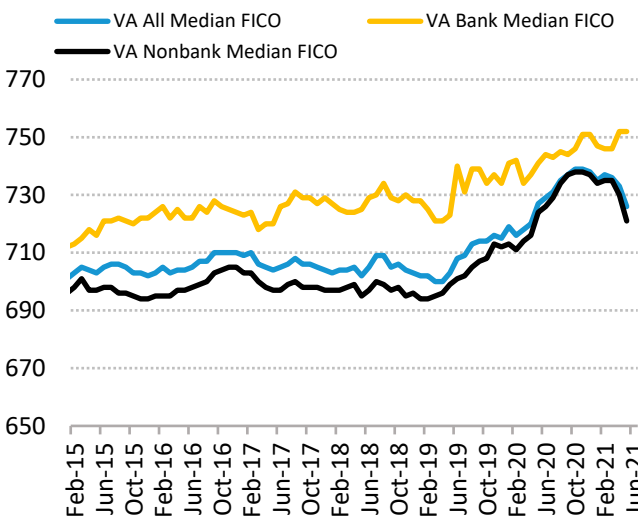
**Ginnie Mae FICO Score: Bank vs. Nonbank**



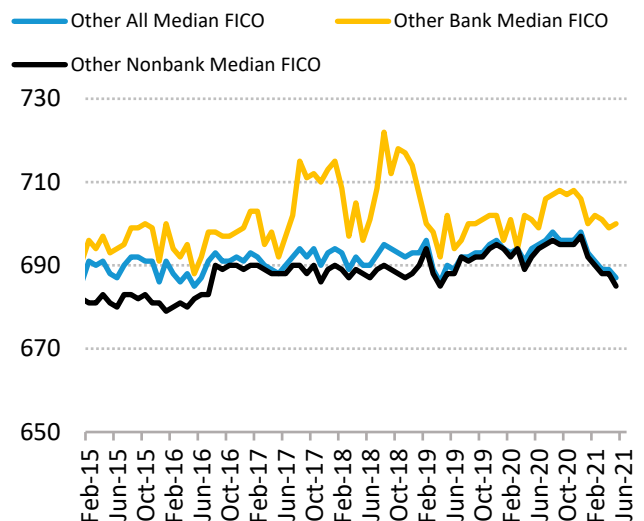
**Ginnie Mae FHA FICO Score: Bank vs. Nonbank**



**Ginnie Mae VA FICO Score: Bank vs. Nonbank**



**Ginnie Mae Other FICO Score: Bank vs. Nonbank**

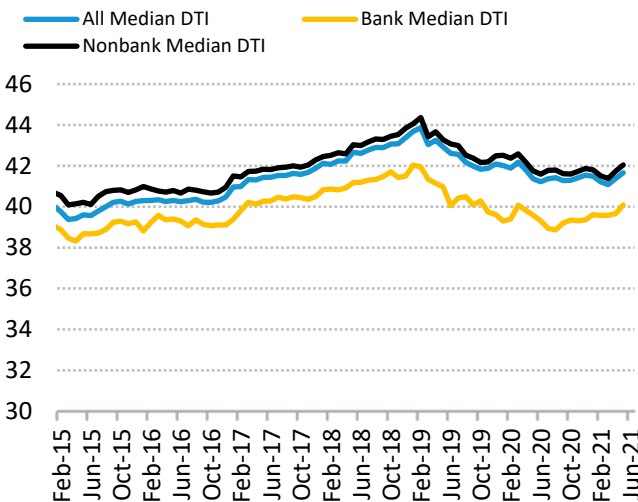


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of June 2021.

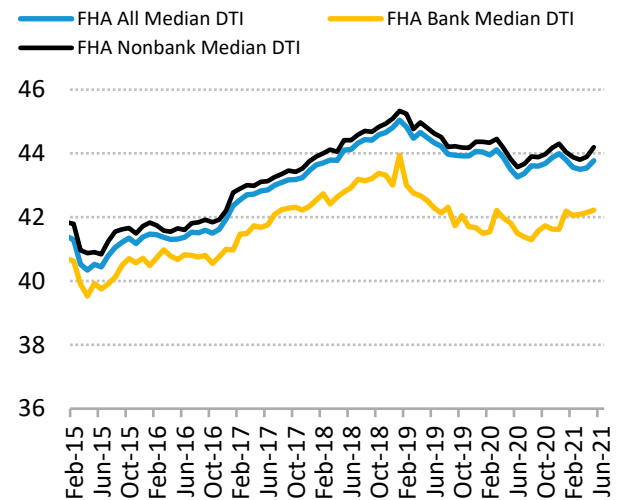
# Agency Nonbank Originators

Median DTI's for Ginnie Mae nonbank originations have been consistently higher than bank DTIs. This is a trend evident for all loans except for the "Other" category, where the spread between bank and nonbank DTI is relatively small. The spread between nonbank and bank DTIs has been most prominent in FHA and VA originations. Median DTIs dipped slightly during the pandemic but have rebounded to pre-COVID level in recent months.

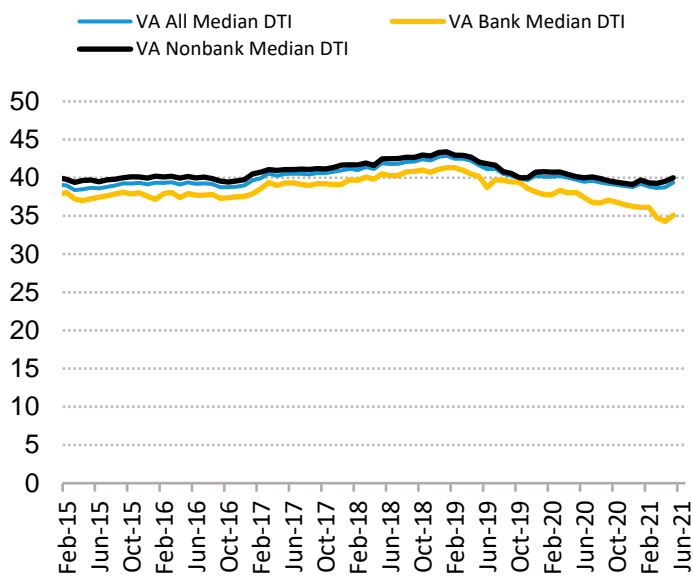
**Ginnie Mae DTI: Bank vs. Nonbank**



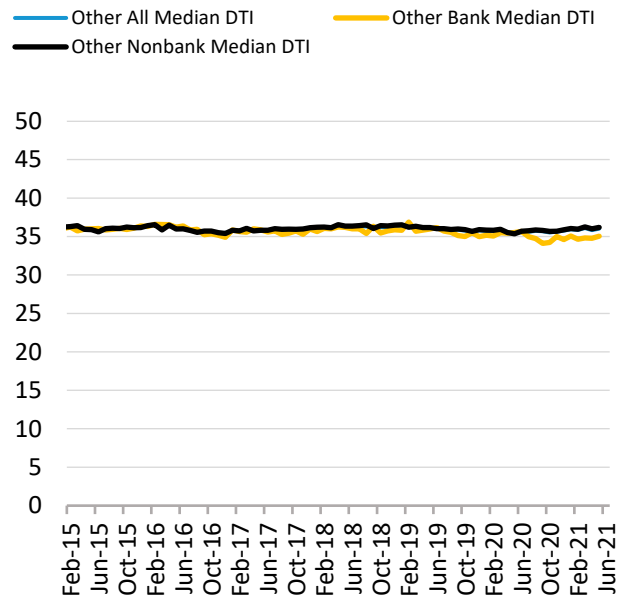
**Ginnie Mae FHA DTI: Bank vs. Nonbank**



**Ginnie Mae VA DTI: Bank vs. Nonbank**



**Ginnie Mae Other DTI: Bank vs. Nonbank**

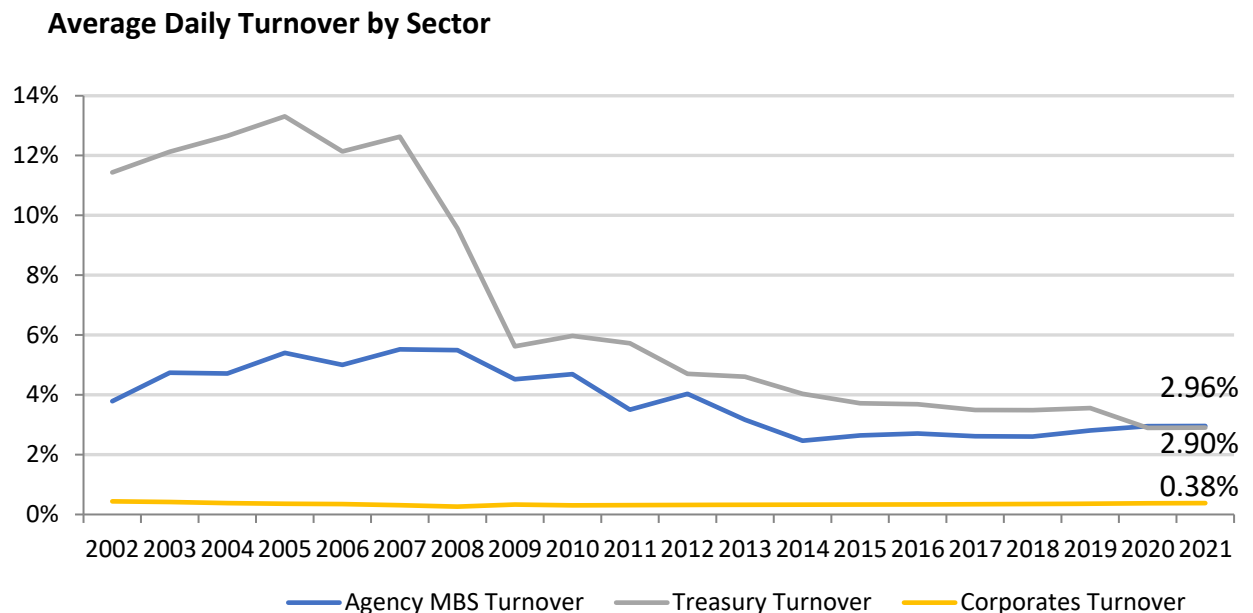
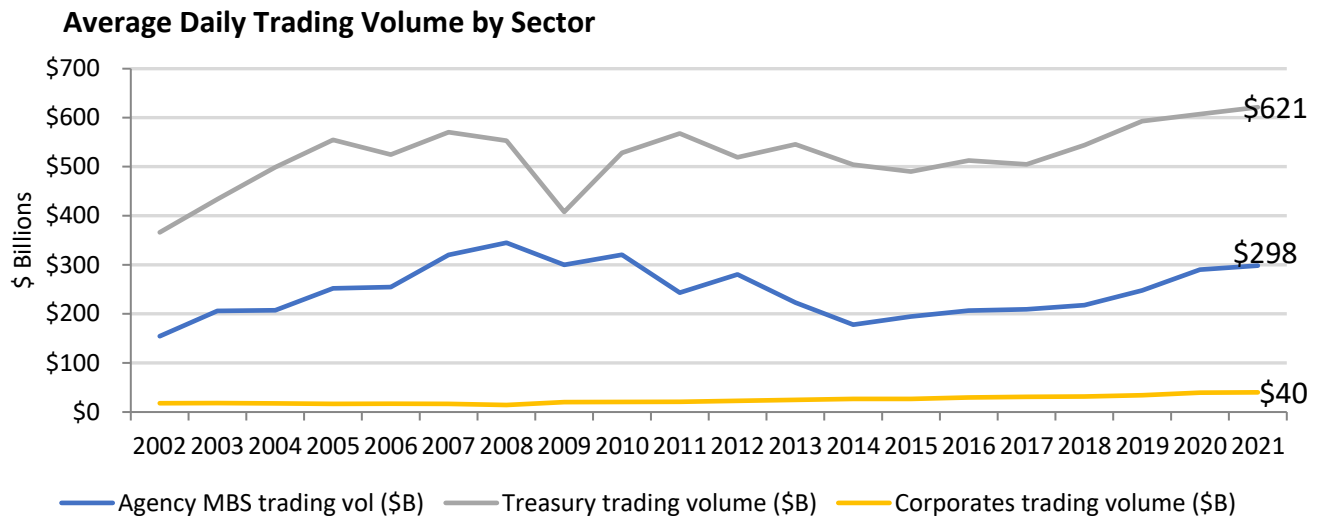


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of June 2021.

## 7.0 Market Conditions

Agency MBS average daily trading volume was \$298 billion from January 2021 to July 2021. Agency MBS turnover is hovering around its 2020 average at 2.96%. As of July 2021, year to date Agency MBS average turnover was 1 basis point higher than the 2020 average. In 2020 and thus far in 2021 Agency MBS turnover has been higher than US Treasury turnover, which has not occurred since the reporting of this data in 2002. Both average daily mortgage and Treasury turnover are down from their pre-crisis peaks. Corporate turnover remains minimal relative to either Agency MBS or Treasury turnover.

### 7.1 Average Daily Trading Volume and Turnover by Sector



Source: SIFMA. Note: Data as of July 2021.

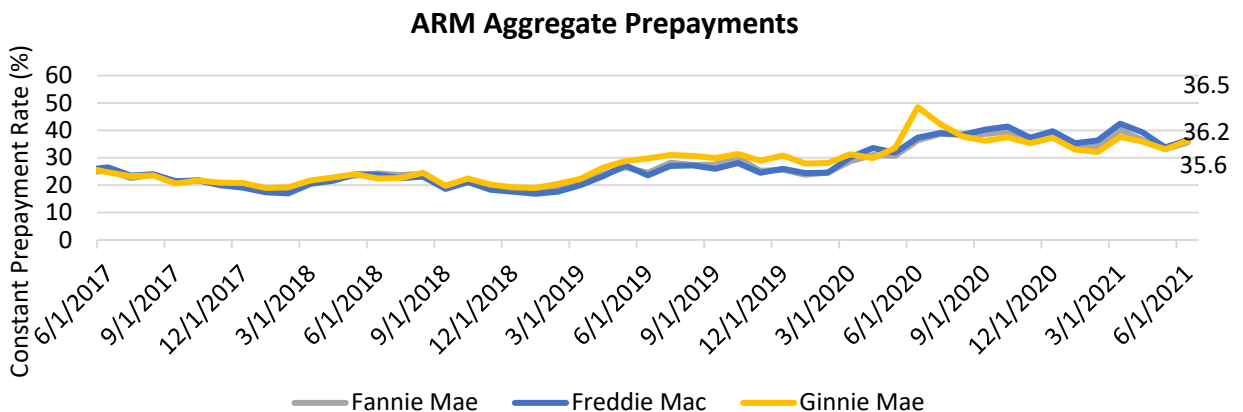
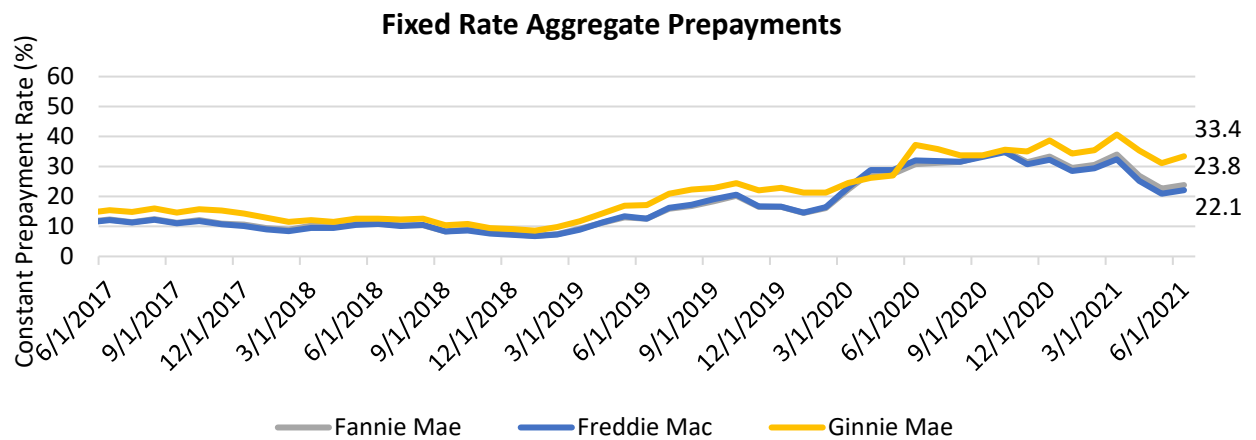
## 8.0 Prepayments

Ginnie Mae prepayment rates have been historically higher than the GSEs over the past four years. The trend inverted briefly in Q1 2020 and Q3 2020 as GSE borrowers were more responsive to refinance opportunities. After two consecutive months of declining speeds, in June 2021, Fannie Mae and Freddie Mac fixed rate prepayment speeds increased by 5% and 6% respectively, primarily driven by refi activity. This increase is relatively modest when compared to the Ginnie Mae and GSE June 2020 MoM uptick of 38% and 18%, respectively. In June 2021, Ginnie Mae fixed rate prepayment speeds posted a 7% MoM increase.

ARM MBS prepayments for both Ginnie Mae and the GSEs also posted an average 8-9% increase across all products, led by Treasury-indexed loans.

With the recent termination of the FHFA refinance fee on August 1, 2021, the volume of GSE refi activity is expected to increase in the coming months. The terminated FHFA refinance fee is estimated to have added an additional 10 basis points to the mortgage rate for conventional buyers.

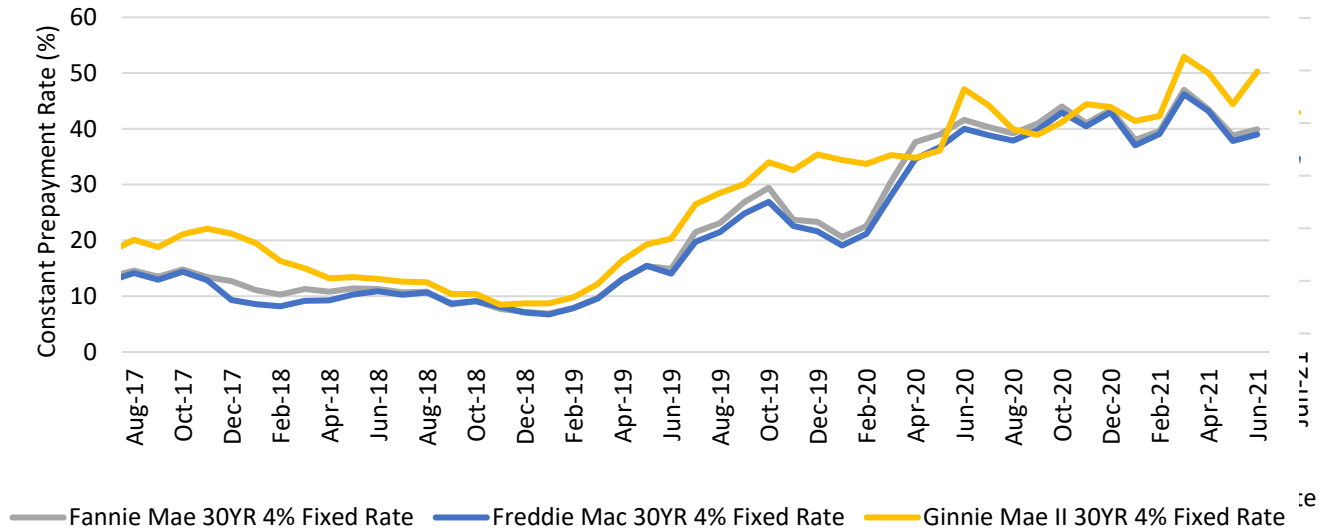
### 8.1 Aggregate Prepayments



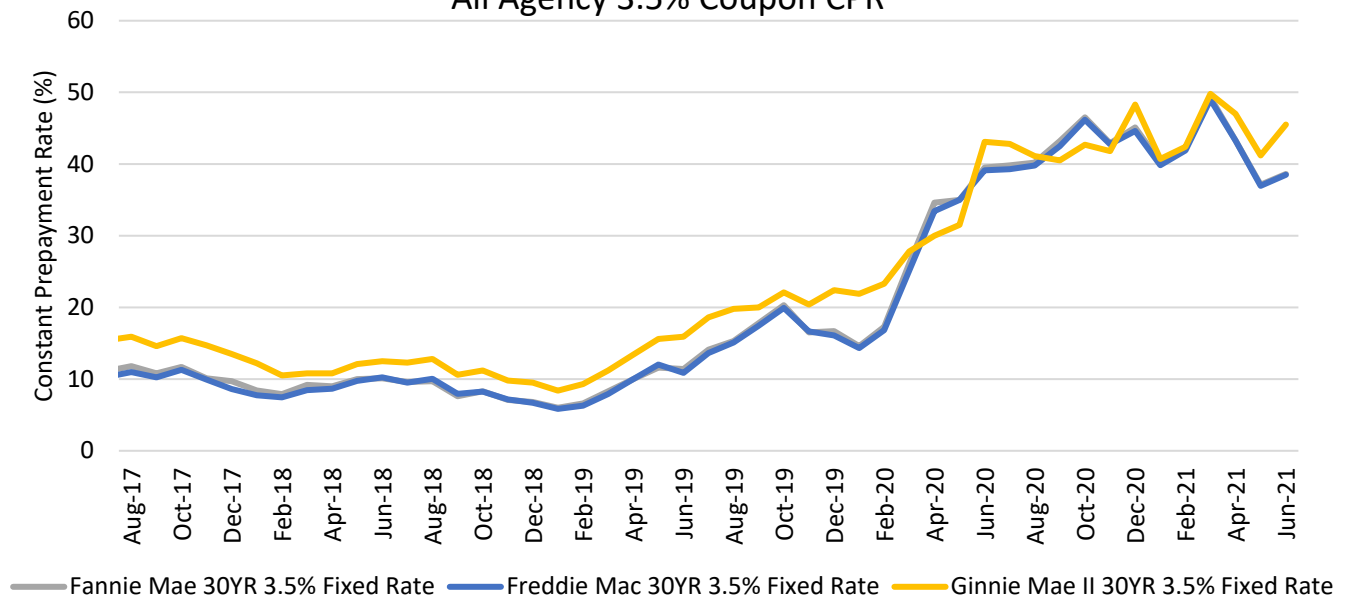
Source: eMBS. Note: Data as of June 2021.

Since the inversion in Q1 2020 and Q3 2020, the prepayment rate gap between Ginnie Mae and the GSEs has widened. This is most evident in the 4% coupon cohorts where prepayment gap widened by 10.9% CPR, driven mainly by Ginnie Mae buyout rates.

### All Agency 4% Coupon CPR



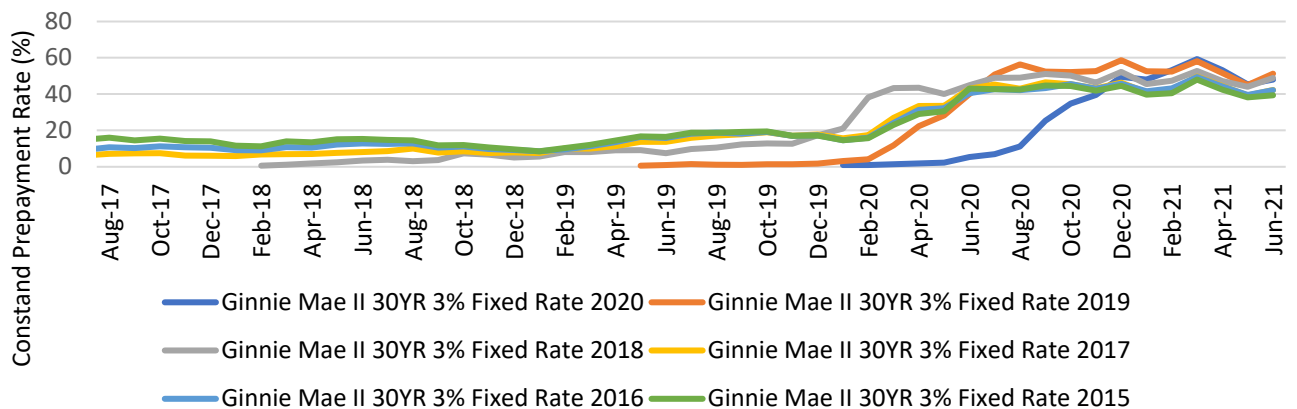
### All Agency 3.5% Coupon CPR



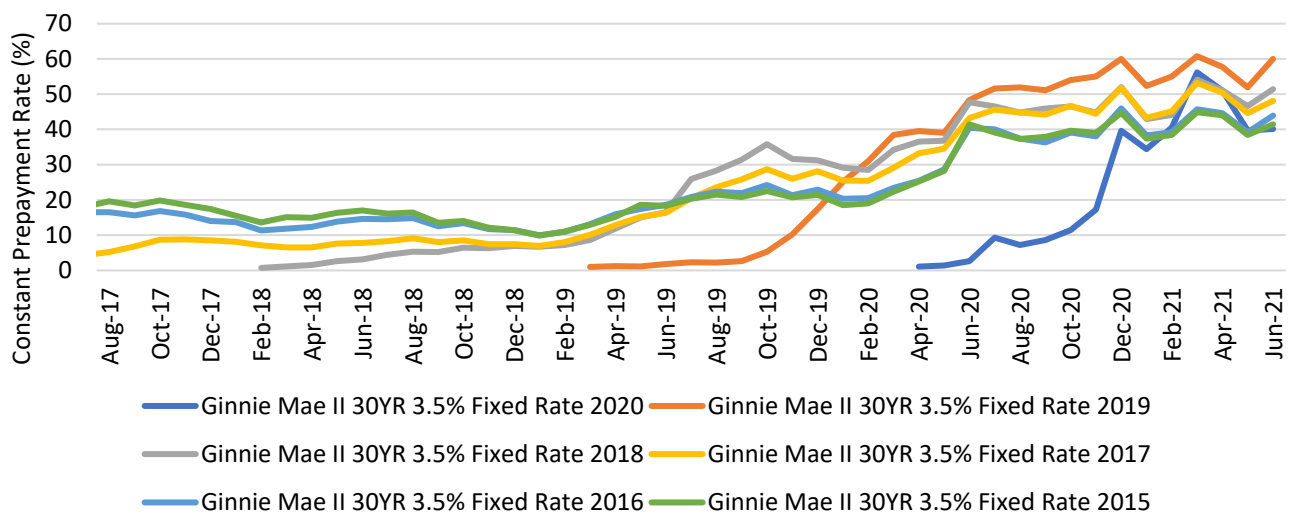
Source: eMBS. Note: Data as of June 2021. Freddie prepayment data is aggregated from 55-day UMBS and 45-day Gold PC, weighted average by June 2021 remaining principal balance.

Ginnie Mae II Multi-issuer pools in the 3%, 3.5% and 4% coupon cohorts account for 37% of total Ginnie Mae outstanding balance. Within those coupon cohorts, prepayments of 2019 vintage stands out among the 2015-2020 cohorts due to elevated buyout rates as well as voluntary prepayment rates. According to Wells Fargo<sup>9</sup>, the 2019 vintage has the highest buyout rates among the 2.5%-4.5% coupon cohorts. This cohort vintage also contains the highest weighted average coupon since the 2010 vintage. Among the vintages examined, prepayments of the 2015 and 2016 vintage cohorts are very similar and are the second lowest prepay speed. And, as illustrated in section 4.3, these cohorts have the lowest original DTI.

### Ginnie Multi-Issuer Pools 3% Coupon CPR

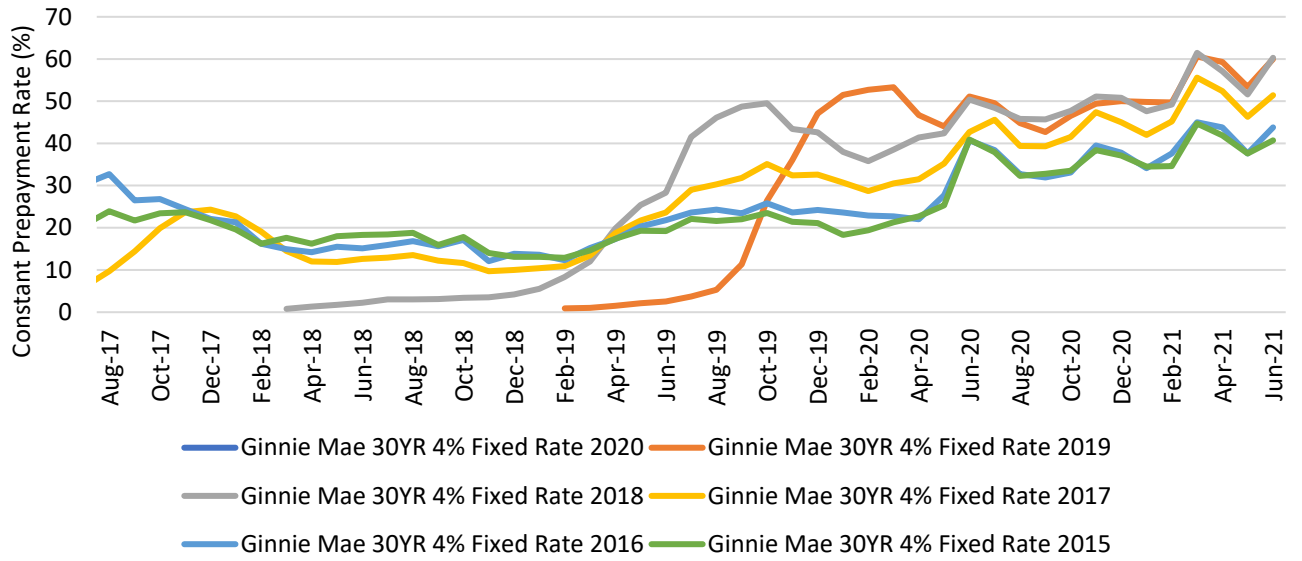


### Ginnie Multi-Issuer Pools 3.5% Coupon CPR



<sup>9</sup> Ahlgren R and Hong P (2021, July 8). *US Structured Products Trading Desk Strategy | RMBS Strategy | FHA Catches Up, Reverses VPR Gap With VA*, pp. 4.

Ginnie Multi-Issuer Pools 4% Coupon CPR



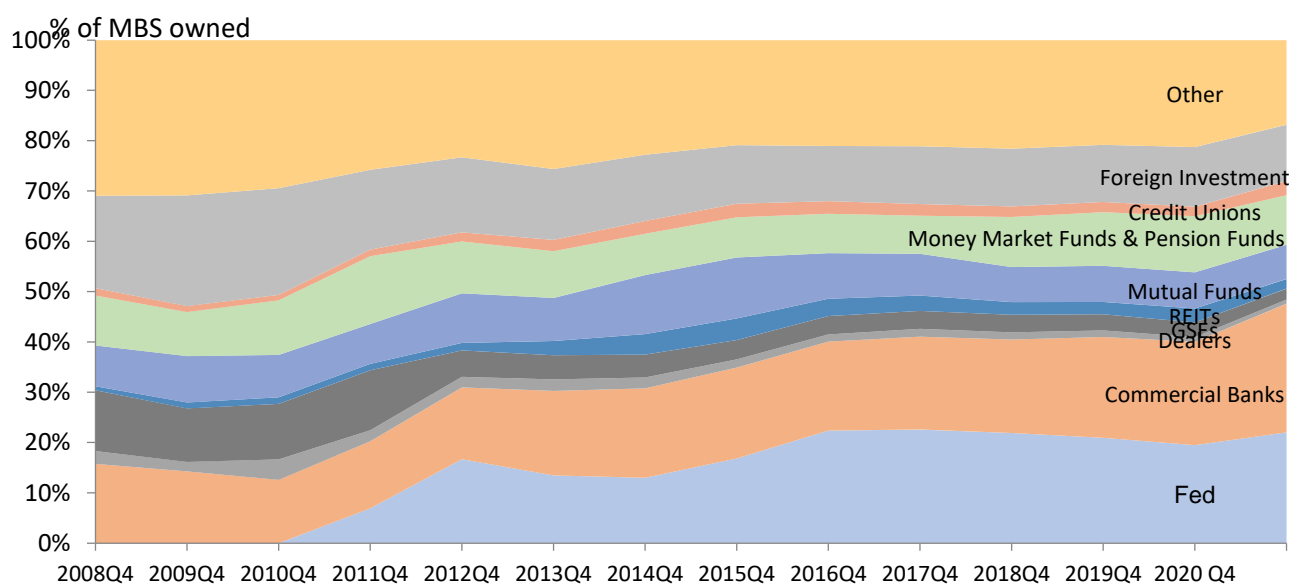
Source: eMBS Note: Data as of June 2021.



## 9.0 MBS Ownership

The largest holders of Agency debt (Agency MBS + Agency notes and bonds) include commercial banks (26%), the Federal Reserve (22%), and foreign investors (11%). The Federal Reserve’s share increased from 15% in the first quarter of 2020 to 22% in the first quarter of 2021 due to substantial purchases of MBS in response to the COVID-19 crisis (\$1.8 trillion in Fed purchases during this time period). Despite large Federal Reserve purchases, commercial banks continue to be the largest holders of Agency MBS. Out of their \$2.8 trillion in holdings as of the end of July 2021, \$2.1 trillion was held by the top 25 domestic banks.

### Who Owns Total Agency Debt?



Source: Federal Reserve Flow of Funds. Note: The “other” category includes primarily life insurance companies, state and local governments, households and nonprofits. Data as of Q1 2021.

### 9.1 Commercial Bank Holdings of Agency MBS

	Commercial Bank Holdings (\$Billions)									Week Ending			
	Jun-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	July 07	July 14	July 21	July 28
Largest 25 Domestic Banks	1,655.1	1,886.2	1,929.2	1,970.1	1,999.5	2,022.5	2,053.0	2,060.3	2,081.0	2,082.7	2,078.9	2,079.0	2,083.8
Small Domestic Banks	520.7	595.0	609.7	621.7	640.4	656.6	675.0	683.5	695.8	693.2	698.1	692.4	695.1
Foreign Related Banks	43.9	47.7	49.0	52.3	50.6	51.0	49.3	46.4	46.9	47.9	44.5	45.9	48.1
<b>Total, Seasonally Adjusted</b>	<b>2,219.7</b>	<b>2,528.9</b>	<b>2,587.9</b>	<b>2,644.1</b>	<b>2,690.5</b>	<b>2,730.1</b>	<b>2,777.3</b>	<b>2,790.2</b>	<b>2,823.7</b>	<b>2,823.8</b>	<b>2,821.5</b>	<b>2,817.3</b>	<b>2,827.0</b>

Source: Federal Reserve Bank. Note: Small domestic banks include all domestically chartered commercial banks not included in the top 20. Data as of July 2021.

## 9.2 Bank and Thrift Residential MBS Holdings

Out of the \$2.7 trillion in MBS holdings at banks and thrifts as of Q1 2021, \$2.1 trillion were Agency pass-throughs, \$1.7 trillion were GSE pass-throughs and \$374 billion were Ginnie Mae pass-throughs. Another \$555 billion were Agency CMOs, while non-Agency holdings totaled \$47 billion. In Q1 2021, MBS holdings at banks and thrifts increased for the tenth 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. Total bank and thrift MBS holdings increased by 7% from Q4 2020.

### Bank and Thrift Residential MBS Holdings

All Banks & Thrifts (\$ in billions)							All MBS (\$ in billions)	
Year	Total	GSE PT	GNMA PT	Private MBS	Agency CMO	Private CMO	Banks	Thrifts
2000	683.90	234.01	84.26	21.57	198.04	71.43	470.47	212.65
2001	810.50	270.59	109.53	37.62	236.91	76.18	606.91	203.37
2002	912.36	376.11	101.46	20.08	244.98	89.88	702.44	209.66
2003	982.08	461.72	75.11	19.40	236.81	106.86	775.66	206.45
2004	1,113.89	572.40	49.33	20.55	208.18	160.55	879.75	234.31
2005	1,033.77	566.81	35.92	29.09	190.70	211.25	897.06	242.69
2006	1,124.46	628.52	31.13	42.32	179.21	243.28	983.49	223.42
2007	1,149.10	559.75	31.58	26.26	174.27	357.24	971.42	264.59
2008	1,218.77	638.78	100.36	12.93	207.66	259.04	1,088.00	211.73
2009	1,275.52	629.19	155.00	7.53	271.17	212.64	1,161.67	184.07
2010	1,433.38	600.80	163.13	7.34	397.30	181.61	1,233.28	200.09
2011	1,566.88	627.37	214.81	3.28	478.82	167.70	1,359.24	207.64
2012	1,578.86	707.87	242.54	17.16	469.27	138.67	1,430.63	148.22
2013	1,506.60	705.97	231.93	26.11	432.60	114.15	1,363.65	142.94
2014	1,539.32	733.71	230.45	20.33	449.90	104.94	1,409.84	129.48
2015	1,643.56	823.10	292.30	11.14	445.39	71.63	1,512.67	130.89
2016	1,736.93	930.67	323.46	7.40	419.80	55.60	1,576.07	160.86
2017	1,844.15	1,010.83	367.70	4.63	413.97	47.01	1,672.93	171.22
1Q18	1,809.98	991.57	360.71	3.92	412.41	41.37	1,635.52	174.46
2Q18	1,806.58	976.92	368.88	7.45	414.41	38.92	1,631.65	174.93
3Q18	1,794.39	966.52	373.21	2.42	416.20	36.04	1,618.29	176.10
4Q18	1,814.97	980.56	380.43	2.69	416.59	34.69	1,634.99	179.98
1Q19	1,844.99	1,001.61	383.49	3.06	422.18	34.65	1,673.40	171.59
2Q19	1,907.13	1,037.93	407.97	2.90	421.56	36.76	1,727.65	179.47
3Q19	1,975.78	1,079.82	427.10	4.74	428.69	35.44	1,786.74	189.04
4Q19	1,985.38	1,089.41	426.85	4.62	428.99	35.52	1,796.29	189.09
1Q20	2,107.66	1,173.36	448.34	4.65	443.73	37.57	1,907.02	200.64
2Q20	2,195.19	1,228.87	441.06	5.00	478.11	42.14	1,946.36	248.83
3Q20	2,310.42	1,349.48	415.24	4.43	499.50	41.78	2,040.61	269.81
4Q20	2,520.90	1,537.54	390.66	3.94	548.65	40.10	2,210.22	310.68
1Q21	2,690.92	1,713.78	374.63	4.88	555.35	42.28	2,350.94	339.98
<b>Change:</b>								
<b>4Q20-1Q21</b>	<b>7%</b>	<b>11%</b>	<b>-4%</b>	<b>24%</b>	<b>1%</b>	<b>5%</b>	<b>6%</b>	<b>9%</b>
<b>1Q20-1Q21</b>	<b>28%</b>	<b>46%</b>	<b>-16%</b>	<b>5%</b>	<b>25%</b>	<b>13%</b>	<b>23%</b>	<b>69%</b>

Source: Inside Mortgage Finance. Notes: Data as of Q1 2021.

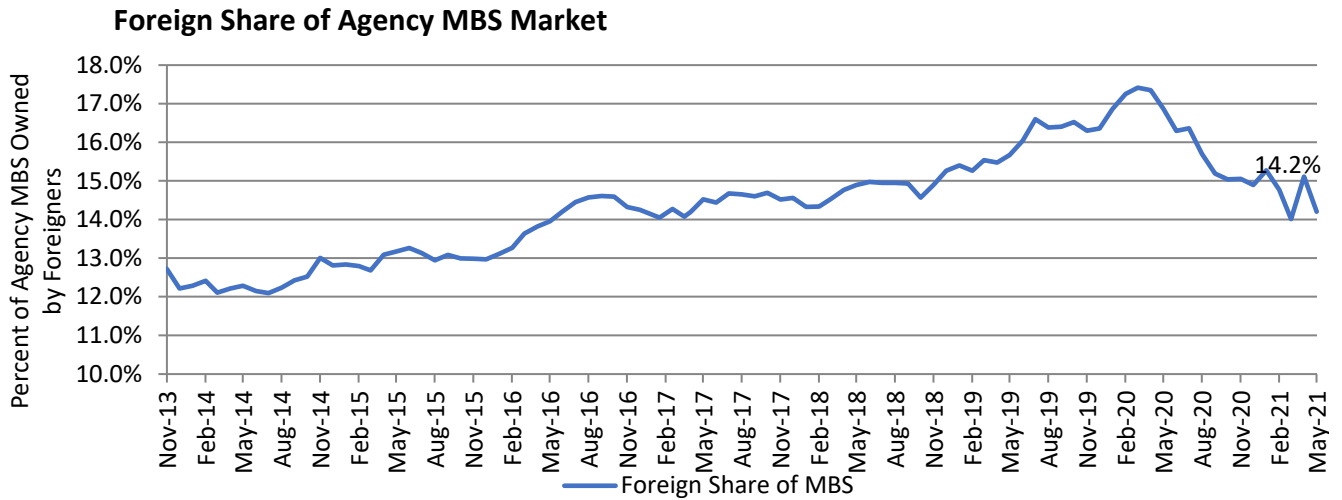
## Bank and Thrift Residential MBS Holdings

Top Bank & Thrift Residential MBS Investors (\$ in millions)	Institution	Total	GSE PT	GNMA PT	Agency CMO	Non-Agency	Share
1	Bank Of America Corporation	562,474.00	449,150.00	101,103.00	11,969.00	252.00	21%
2	Wells Fargo & Company	259,187.00	188,326.00	64,441.00	5,994.00	426.00	10%
3	Jpmorgan Chase & Co.	204,088.00	118,246.00	70,487.00	154.00	15,201.00	8%
4	Charles Schwab Bank	171,739.00	84,782.00	13,336.00	73,621.00	-	6%
5	Truist Bank	116,435.00	46,913.00	13,485.00	56,037.00	-	4%
6	U.S. Bancorp	116,049.72	82,567.06	17,779.43	15,702.78	0.45	4%
7	Citigroup Inc.	98,691.00	90,354.00	2,390.00	4,402.00	1,545.00	4%
8	Capital One Financial Corporation	75,021.92	42,658.39	9,173.50	22,612.89	577.14	3%
9	Bank Of New York Mellon Corp	61,338.00	45,554.00	2,891.00	10,384.00	2,509.00	2%
10	Pnc Bank, National Association	52,989.33	44,323.35	5,950.69	1,292.15	1,423.13	2%
11	Silicon Valley Bank	44,909.40	35,394.54	534.68	8,980.18	-	2%
12	Usaa Federal Savings Bank	44,529.10	39,219.05	2,064.33	3,245.72	-	2%
13	State Street Bank And Trust Company	43,141.84	17,869.00	5,849.00	16,928.84	2,495.00	2%
14	E*Trade Bank	38,091.08	28,463.36	6,156.67	3,471.05	-	1%
15	Morgan Stanley	33,957.00	21,722.00	3,981.00	8,254.00	-	1%
16	Td Bank Usa/Td Bank Na	26,046.00	1,526.53	133.02	24,290.02	96.42	1%
17	Ally Bank	24,197.00	18,367.00	961.00	2,594.00	2,275.00	1%
18	Bmo Harris Bank National Association	23,317.94	4,777.27	431.34	18,107.47	1.85	1%
19	Hsbc Bank Usa, National Association	23,285.77	7,790.54	7,486.95	8,006.48	1.80	1%
20	Keybank National Association	22,140.05	3,852.79	419.30	17,867.96	-	1%
<b>Total Top 20</b>		<b>2,041,628.14</b>	<b>1,371,855.89</b>	<b>329,053.91</b>	<b>313,914.54</b>	<b>26,803.80</b>	<b>76%</b>

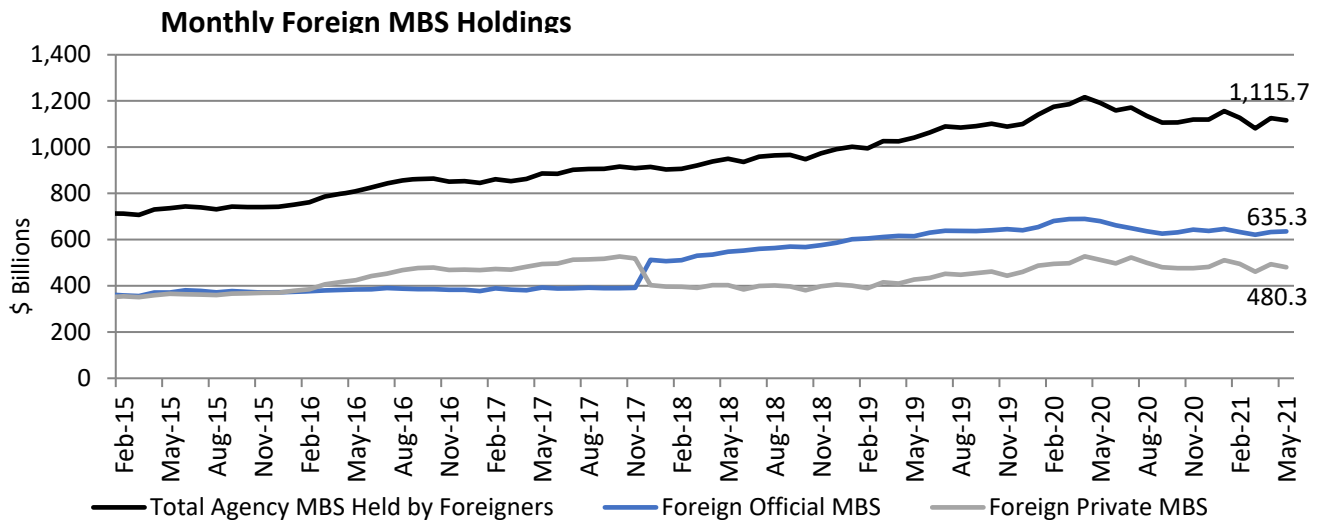
Source: Inside Mortgage Finance. Notes: Data as of Q1 2021.

### 9.3 Foreign Ownership of MBS

Foreign investors held approximately 14% of Agency MBS in May 2021, up from a low of 12% since July 2014, but down from 17% in spring 2020. For the month of May 2021, foreign ownership of MBS represents \$1.12 trillion in Agency MBS, which includes \$480 billion held by foreign private institutions and \$635 billion held by foreign official institutions. This represents an overall increase of \$34 billion in foreign holdings of Agency MBS since March 2021.



Sources: SIFMA and Treasury International Capital (TIC) and eMBS. Beginning April 2021 MBS outstanding sourced from eMBS. Note: Data as of May 2021.



Sources: Treasury International Capital (TIC). Notes: 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. Data as of May 2021.

## 9.4 Agency Debt + Agency MBS

The largest foreign holders of Agency MBS are Japan, Taiwan, and China; these three comprise 70% of all foreign MBS holdings. Between June 2020 and June 2021, we estimate that these top three have decreased their Agency MBS holdings by over \$4 billion. Japan has decreased their holdings by \$1.4 billion, Taiwan has decreased their holdings by \$208 million and China has decreased their holdings by \$3.0 billion.

### All Agency Debt

Country	Level of Holdings (\$ Millions)				Change in Holdings (\$ Millions)		
	9/1/2020	12/1/2020	3/1/2021	6/1/2021	Q4 2020	Q1 2021	Q2 2021
Japan	305,064	308,033	319,771	311,375	2,969	11,738	-8,396
Taiwan	264,270	262,453	253,036	250,081	-1,817	-9,417	-2,955
China	206,861	212,317	200,972	217,842	5,456	-11,345	16,870
Luxembourg	35,626	36,223	34,371	35,497	597	-1,852	1,126
Ireland	28,286	31,064	26,965	21,453	2,778	-4,099	-5,512
South Korea	40,303	42,628	43,032	43,201	2,325	404	169
Cayman Islands	34,495	34,264	37,111	36,027	-231	2,847	-1,084
Bermuda	35,751	27,988	26,443	23,806	-7,763	-1,545	-2,637
Netherlands	10,964	12,344	13,049	12,544	1,380	705	-505
Malaysia	19,808	19,147	19,047	19,089	-661	-100	42
Other	190,175	197,462	173,905	166,009	7,287	-23,557	-7,896
<b>Total</b>	<b>1,171,603</b>	<b>1,183,923</b>	<b>1,147,702</b>	<b>1,136,924</b>	<b>12,320</b>	<b>-36,221</b>	<b>-10,778</b>

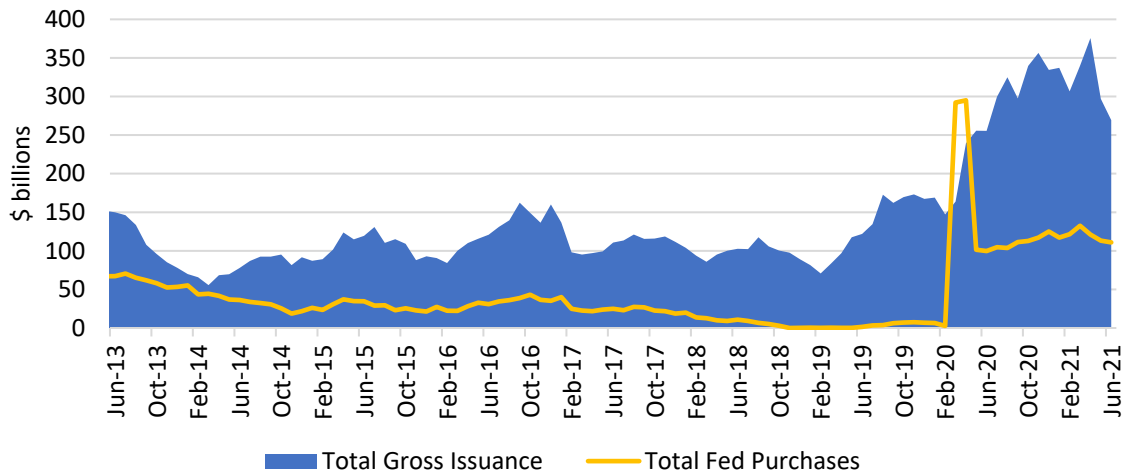
### Agency MBS

Country	Level of Holdings (\$ Millions)		
	6/1/2020	6/1/2021	YoY Change in Holdings (\$ Millions)
Japan	306,963	305,580	-1,383
Taiwan	267,700	267,492	-208
China	235,078	232,076	-3,002
Luxembourg	40,207	34,255	-5,952
Ireland	21,091	25,336	4,245
South Korea	28,743	34,313	5,570
Cayman Islands	28,431	29,682	1,251
Bermuda	25,111	24,245	-866
Netherlands	12,739	13,351	612
Malaysia	20,028	19,949	-79
Other	173,716	170,062	-3,654
<b>Total</b>	<b>1,159,809</b>	<b>1,156,341</b>	<b>-3,468</b>

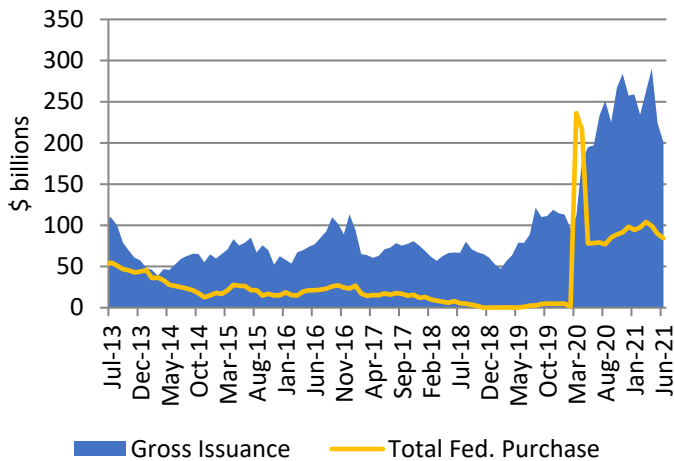
Sources: Treasury International Capital (TIC). Notes: Level of Agency debt Holdings by month data as of Q2 2021. Agency MBS as of June 2021. Revised to include top 10 holders of Agency debt listed as of June 2018.

In March 2020, the Fed bought \$292.2 billion in Agency MBS, and April 2020 reached \$295.1 billion, the largest two months of mortgage purchases by the Fed ever. The Fed slowed its purchases to approximately \$100 billion per month in May through August of 2020. More recently, Fed purchases ramped up again slightly; purchases totaled \$110.8 billion in June 2021 (41% of monthly gross issuance). Fed purchases of Ginnie Mae MBS increased MoM, with \$26.6 billion in Fed purchases (38.8% of gross Ginnie Mae issuance). As of June 2021, according to the Federal Reserve, total Agency MBS owned by the Fed equaled \$2.32 trillion (see footnote). Prior to the COVID-19 intervention, the Fed was winding down its MBS portfolio from its 2014 prior peak.

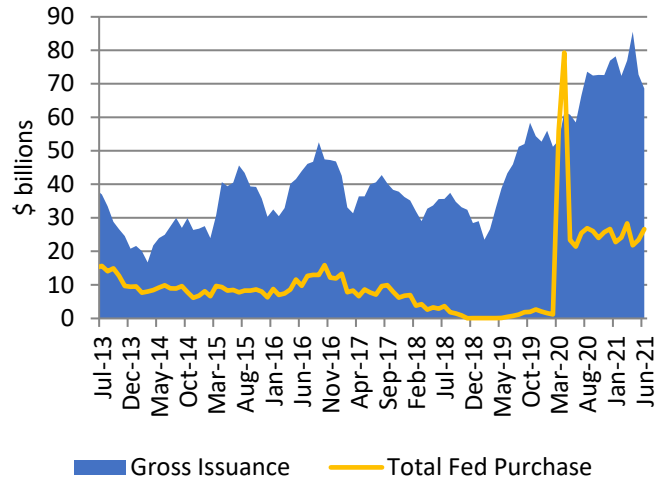
### Total Fed Absorption



### Fed Absorption of GSE MBS



### Fed Absorption of Ginnie Mae MBS



Sources: eMBS, Federal Reserve Bank of New York and <https://fred.stlouisfed.org/series/WSHOMCB>. Notes: Data as of June 2021.

Disclosure:

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