

Global Markets Analysis Report

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

SEPTEMBER
2021



 **GinnieMae**
Our Guaranty Matters



Table of Contents

1.0	Relative Attractiveness of US Fixed Income and Ginnie Mae MBS	5
2.0	State of the US Housing Market	10
2.1	National HPI	10
2.2	Size and Value of the US Housing Market.....	11
2.3	Serious Delinquency Rates	12
2.4	Characteristics of Ginnie Mae Loans in Forbearance.....	13
2.5	Ginnie Mae Agency Issuance and Agency Outstanding by State	16
2.6	Outstanding Single Family Agency MBS.....	17
2.7	Outstanding Ginnie Mae MBS Volume by Coupon and Vintage Over Time	18
2.8	Origination Volume and Share Over Time	19
3.0	US Agency Market, Originations.....	20
4.0	High LTV Loans: Ginnie Mae vs. GSEs.....	24
5.0	Holder of Ginnie Mae Mortgage Servicing Rights	25
6.0	Agency Nonbank Originators.....	26
6.1	Agency Nonbank Originator Share (All, Purchase, Refi)	26
6.2	Ginnie Mae Nonbank Originator Share (All, Purchase, Refi).....	27
6.3	Bank vs. Nonbank Originators Historical Credit Box, Ginnie Mae vs. GSE (FICO, LTV, DTI)	28
7.0	Market Conditions	32
7.1	Average Daily Trading Volume and Turnover by Sector	32
8.0	Prepayments.....	33
8.1	Aggregate Prepayments.....	33
9.0	MBS Ownership	36
9.1	Commercial Bank Holdings of Agency MBS	36
9.2	Bank and Thrift Residential MBS Holdings	37
9.3	Foreign Ownership of MBS	39
9.4	Foreign Ownership of Agency Debt and Agency MBS	40
9.5	Federal Reserve Absorption of Agency MBS.....	41

Highlights

Ginnie MBS issuance has continued to thrive with over \$70 billion of issuance for 14 consecutive months in an evolving capital markets environment. For the September 2021 **Global Market Analysis Report**, Ginnie Mae posed a series of questions to Wall Street mortgage-backed securities (MBS) experts, including Bank of America's Satish Mansukhani as well as Steven Abrahams and Brian Landy from Amherst Pierpont Securities, to provide perspective on the Agency MBS market and the relative value of Ginnie Mae MBS.

1. Effects of Fed tapering of MBS purchases on Ginnie Mae securities?

Mr. Mansukhani: Bank of America is currently neutral on the mortgage basis. Under the assumption that the Fed taper will begin in 7 months, our proprietary mortgage basis pricing framework breaks even the expected carry relative to a post-taper Option Adjusted Spread (OAS). If the COVID-19 delta variant pushes the timeline of a taper, the conventional basis will strengthen as these timelines extend. Basis strengthening would be negative for Ginnie Mae MBS. If the basis on conventional MBS tightens on the longer time frame, then dollar rolls appreciate and GN 2s lag. The opposite will happen if conventional MBS spreads widen. If the taper is announced sooner than what we see priced in, that could help Ginnie Mae MBS, as a counter-basis asset.

Mr. Abrahams and Mr. Landy: Losing a buyer as big as the Fed must soften pricing in Ginnie Mae MBS and all other assets the Fed buys. From March 2020 to the end of taper, the Fed share of outstanding agency MBS will probably rise from the low 20 percent to the low 30 percent. All that buying, along with heavy buying from banks, has helped tighten all MBS spreads. Once the Fed hits "pause", other buyers will have to step in to soak up any added net supply. Bank buying will likely slow along with Fed tapering due to deposit growth slowing. So, the most likely suspect is mutual funds, which are currently heavily invested in corporate debt. MBS spreads must widen enough to compel a movement into MBS.

Global Market Analysis Report: In July 2021, the Fed purchased \$98.2 billion of Ginnie Mae MBS (39.1% of monthly gross issuance) which was a slight decline from the \$110.8 billion purchased in June 2021 (41% of monthly gross issuance). For further information regarding the ownership of Ginnie Mae MBS and purchasing trends related to Ginnie Mae MBS please see section [9.0 MBS Ownership](#).

2. Current differences in drivers of demand for Ginnie Mae MBS products versus GSE MBS products?

Mr. Mansukhani: The sole buyer of Ginnie Mae assets has been the Fed. The absence of domestic banks and overseas investors, which we estimate pay up for the sovereign guarantee by about half a point, has resulted in G2s trading closer to conventional MBS prices. We see G2s trading closer to conventional MBS until domestic banks see a turn higher in their loan books, which would spur demand for Level 1 high-quality liquid assets (HQLAs). This could coincide with a turn higher in real rates, and, at the back end of which, we see some potential for overseas buyers, notably Japanese investors, to step back in. Until then, we see private investors continuing to favor conventional MBS.

Mr. Abrahams and Mr. Landy: It is the usual list of differences with a couple of new entrants. At the top of the list is the ability of Ginnie Mae MBS to qualify as HQLA Level 1 for banks subject to the Liquidity Coverage Ratio while GSE MBS comes in as HQLA Level 2. Ginnie Mae MBS also qualifies as a 0% risk-weighted asset for banks while GSE MBS is 20%. Both factors help bank demand and tip the scale towards Ginnie Mae MBS. Market liquidity is also on the list, with GSE MBS trading in much higher volume, which tips the balance back a bit toward the GSEs. Servicers also may appear on the list of usual differences in recent years. Ginnie Mae MBS is disproportionately serviced by non-banks, which tend to have faster prepayment speeds. There are also

differences in policy across FHA, VA, and the GSEs—such as changes in Mortgage Insurance Premiums (MIPs) or Loan Level Price Adjustments (LLPAs)—and the impact on prepayments. Among some of the new factors in the mix are differences in pandemic policy and resulting differences in prepayments. Ginnie Mae MBS saw much higher levels of forbearance than GSE MBS, and there are differences in approach to loans coming out of forbearance. Additionally, there is some concern that servicer buy-outs might add to prepayment risk in Ginnie Mae.

3. Are these differences in drivers affecting the demand among different institutional investor types, including overseas investors?

Mr. Mansukhani: With the Fed as the sole buyer of GNMA MBS, clearly most of the private investors, from banks and overseas, to the money managers, are all underweight GNMA exposures. As we have penciled in the views for the banks and overseas investors already, the outlook for demand from money managers, who are already underweight mortgages, will be critical for sector sponsorship. Until clarity emerges on the taper, but also on potential risks of a FHA MIP cut, once the MMI funds financials are disclosed in the new fiscal year, starting October, that should help impart clarity on policy risks that the GNMA sector is exposed to. The bigger picture risk is the housing policy agenda under the Biden Administration, orchestrated via HUD. Rising home prices put the FHAs MMI fund in a good position that could be leveraged to further the Administration’s housing policy goals.

Mr. Abrahams and Mr. Landy: Having Ginnie Mae MBS backed by the full faith and credit of the US makes it the go-to exposure for overseas investors these days, especially central banks and sovereign wealth funds. The favorable HQLA treatment and favorable risk-weighted capital treatment give Ginnie Mae special value to banks. Asset managers, on the other hand, usually are very sensitive to liquidity, so they tend to prefer GSE MBS. Servicer differences and evolving prepayment differences have impact across the buyer base. Banks usually dislike prepayment surprises and consequently try to buy MBS within a sociable distance of par. Fast prepayments in all MBS in 2020 made many banks particularly wary of prepayment risk. Mutual funds and other total returns accounts, on the other hand, will take prepayment risk at the right price; they are much more willing to buy MBS trading at premiums to par and to take the embedded risk of prepayment.

Global Market Analysis Report: 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, the *Global Market Analysis Report* estimates that these top three have decreased their Agency MBS holdings by over \$4 billion. For further information regarding overseas ownership of Ginnie Mae MBS please see sections [9.3 Foreign Ownership of MBS](#) and [9.4 Foreign Ownership of Agency Debt and Agency MBS](#).

4. VA loan issuance surpassed FHA loan issuance in 2020 and 2021 YTD. How has the shift of FHA and VA loan composition in Ginnie Mae MBS collateral impacted Ginnie MBS relative value?

Mr. Abrahams and Mr. Landy: VA borrowers typically have stronger credit than FHA borrowers, and the VA refinancing program is a bit more efficient than FHA. Both factors contribute to the likelihood of VA borrowers refinancing, so the higher VA loan issuance has added to prepayment risk in Ginnie Mae MBS. On the margin, that softens Ginnie Mae pricing a bit. It becomes another factor in balancing the fundamentals of Ginnie Mae MBS—the HQLA treatment, bank capital treatment, liquidity, policy, the servicers and prepayment risk—against the potential returns in the asset and in alternative investments.

Global Market Analysis Report: The composition of Ginnie Mae issuance has shifted in the last decade, as FHA outstanding has decreased and VA outstanding has increased. In July 2011, close to 77% of Ginnie Mae

outstanding collateral was FHA and under 20% was VA. In July 2021, FHA collateral comprised 53.5% of Ginnie Mae outstanding and VA collateral comprised 40.8% of Ginnie Mae outstanding. For further information regarding increase in VA loan issuance please see section [2.6 Outstanding Single Family Agency MBS](#).

Mr. Mansukhani is the head of Agency MBS Research for Bank of America's Global Banking & Markets division where he shapes and delivers mortgage-backed securities strategy and securitization research to 100+ global institutional investors. Mr. Mansukhani recently participated in a podcast hosted by Ginnie Mae, [Capital Markets Live - MBS market outlook](#)¹.

Mr. Abrahams is a Senior Managing Director and Head of Investment Strategy at Amherst Pierpont Securities with 29 years of experience in markets and investment strategy. His team provides analysis and advice for institutional investors in rates, financing markets, corporate credit and securitized products. He is also the author of [Competitive Advantage in Investing: Building Winning Professional Portfolios](#), published by John Wiley & Sons.

Mr. Landy is a Managing Director and Amherst Pierpont's agency MBS strategist, with more than 19 years of mortgage research, modeling, and capital markets experience.

The featured commentators provided responses to our questions during the week of September 10th, 2021.

Ginnie Mae would like to thank Mr. Mansukhani, Mr. Abrahams, and Mr. Landy for their perspectives on these important topics. The **Global Market Analysis Report** will continue to bring its readers current perspectives from MBS capital markets participants.

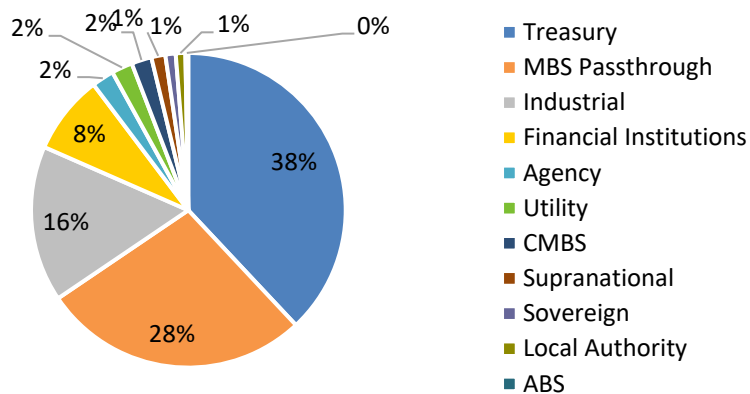
¹ <https://www.ginniemae.gov/newsroom/Pages/PressReleaseDispPage.aspx?ParamID=213>

1.0 Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

US MBS (Ginnie Mae, Fannie Mae, and Freddie Mac) contribute approximately 28% of the Barclays US Aggregate Index. US MBS follow only US Treasuries, which contribute approximately 38% of the Barclays US Aggregate Index. For the US Aggregate Index, the month-to-month changes of the index components were no bigger than 1%. In the Barclays Global Aggregate Index by Country, the US share of fixed income still represents the largest share of total outstanding issuance, representing approximately 34% of the total Barclays Global Aggregate Index. This is a decrease of 3% from the previous month. The “Other” bucket increased its share by 8%.

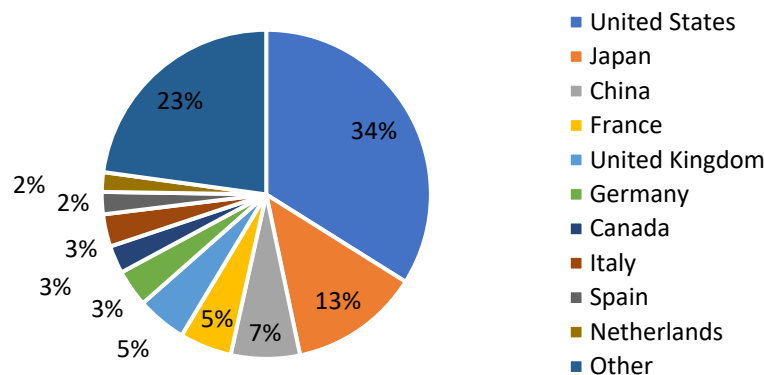
1.1 Barclays US Aggregate and Global Indices

Barclays US Aggregate Index



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

Barclays Global Aggregate Index by Country



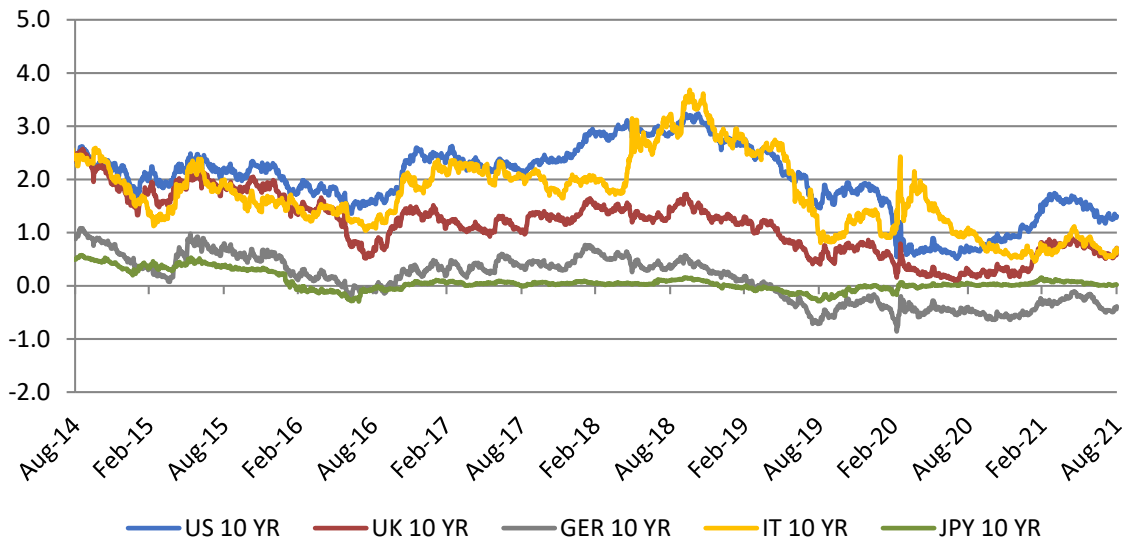
Sources: Bloomberg. Note: Data as of August 2021. Figures in charts may not add to 100 % due to rounding.

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

1.2 Global 10-Year Treasury Yields

The US 10-year Treasury yield moved to 1.31% in August 2021, a slight increase month over month of 9 bps. US Treasury yields remain the highest of all the government treasury yields depicted in the figure below. The yields on the Italian 10-year, the German 10-year and the UK 10-year note increased by 9 bps to 0.71%, 8 bps to -0.39% and 15 bps to 0.71%, respectively. The yield on the Japanese 10-year government notes remained at 0.02% in August. At the end of August 2021, the hedged yield for the 10-year Treasury JPY held at 2.66%, no change from the previous month. The hedged yield for the 10-year Treasury EUR held at 1.51%, a decrease of 1 bps from the previous month.

Global 10-Year Treasury Yields



7 – 10yr Total Return Hedged Index, JPY



6 – 10yr Total Return Hedged Index, EUR



Sources: Bloomberg. Note: Data as of August 2021

1.3 Ginnie Mae Yields– USD

Ginnie Mae MBS yields slightly increased in August 2021. GNMA II yields were at 1.69% and GNMA I yields at 1.88%, both up by 10 bps and 9 bps, respectively, from the prior month. At the end of August, Ginnie Mae II SF yields were 38 bps higher than the US 10-year Treasury yield, representing an increase in spread of 1 bp since last month. The yields on the Ginnie Mae I SF were 57 bps higher than the US 10-year Treasury yield at the end of August, also representing an increase in spread of 1 bp since last month.

Ginnie Mae II SF Yield, USD



Ginnie Mae I SF Yield, USD



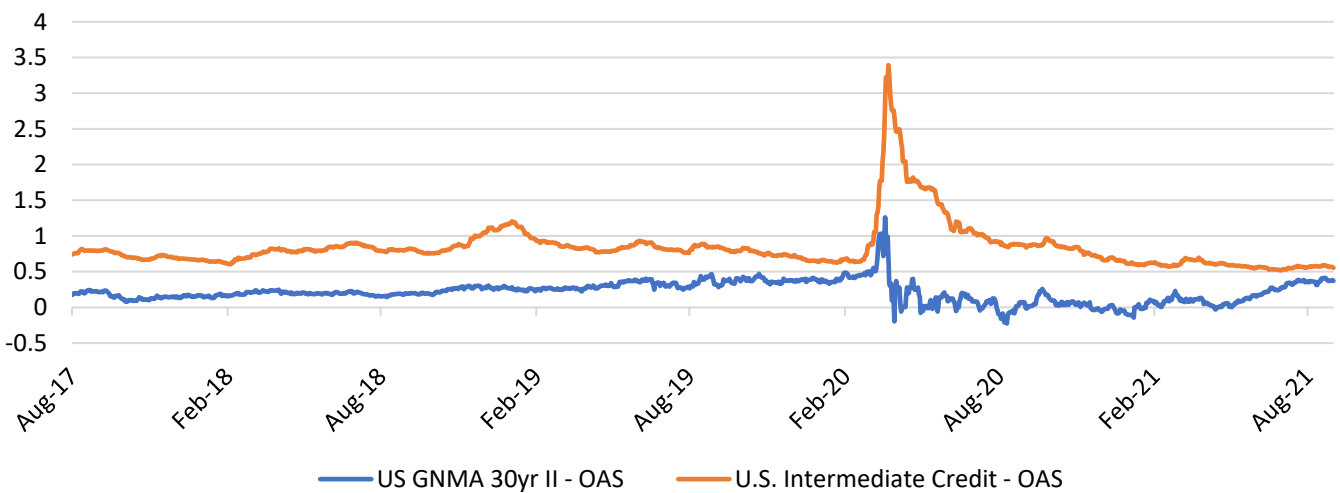
Sources: Bloomberg. Note: Data as of August 2021

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

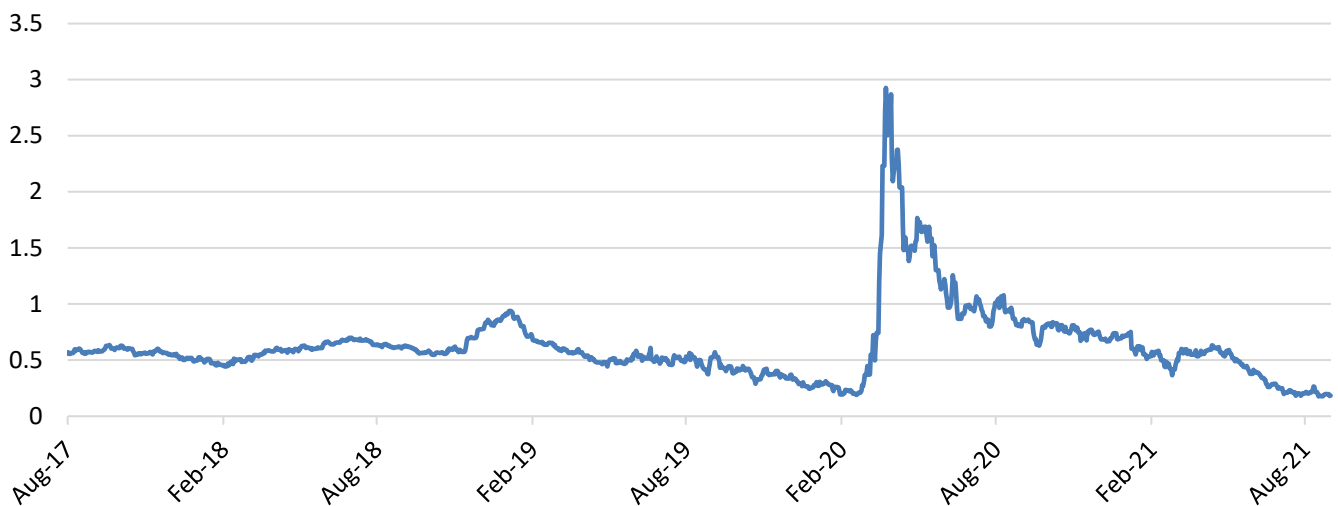
1.4 Ginnie Mae Yield Spreads – Intermediate Credit

The yield differential between US Intermediate Credit and GNMA II 30-year OAS decreased slightly when compared to the previous month, ending at 0.18%, a slight decrease of 2 bps since the previous month. The Ginnie Mae II 30-year OAS has been stable, increasing by 1 bp since the previous month. The US Intermediate credit OAS has also remained stable, decreasing by 1 bp since last month.

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



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

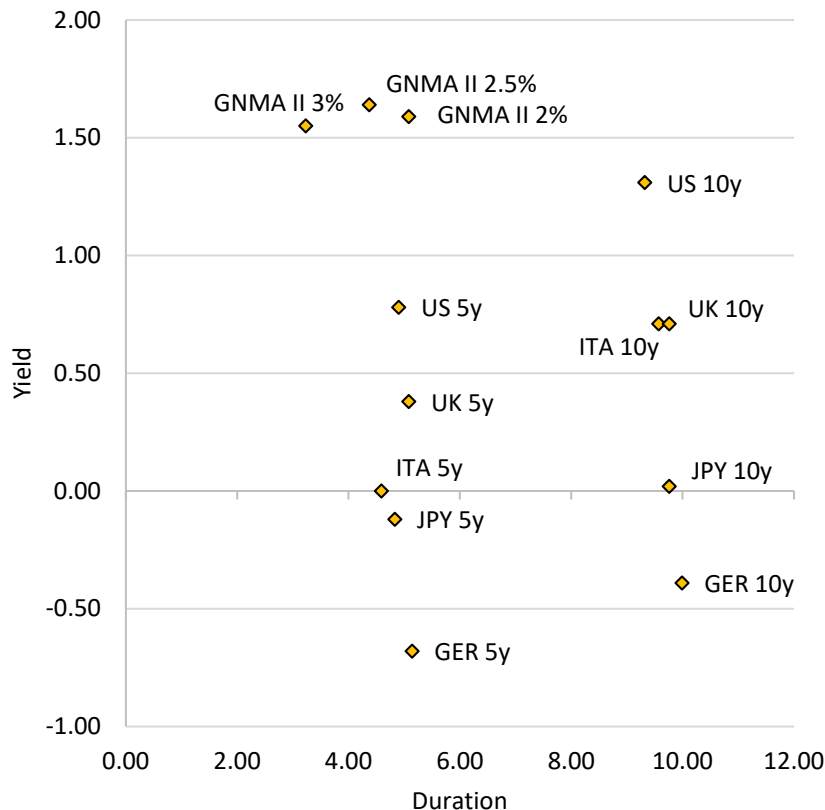


Sources: Bloomberg. Note: Data as of August 2021.

1.5 Global Treasury Yield Per Duration

GNMA MBS continue to offer a higher yield in comparison to other government fixed income securities of various tenors with similar or longer duration. Prepayment risk is a feature of MBS. The GNMA MBS 2.5% and 3% products have increased their yield and duration in August. The GNMA II 2.5% securities duration and yield increased by 0.70 and 23 bps, respectively, when compared to the previous month. Additionally, the GNMA II 3% securities duration and yield increased by 0.20 and 12 bps when compared to the previous month.

Yield vs. Duration



Security	Duration	Yield
US 5y	4.90	0.78
US 10y	9.32	1.31
JPY 5y	4.83	-0.12
JPY 10y	9.76	0.02
GER 5y	5.14	-0.68
GER 10y	9.99	-0.39
ITA 5y	4.59	0.00
ITA 10y	9.57	0.71
UK 5y	5.08	0.38
UK 10y	9.76	0.71
GNMA II 2%	5.08	1.59
GNMA II 2.5%	4.37	1.64
GNMA II 3%	3.23	1.55

Sources: Bloomberg. Note: Yield and modified duration for GNMA II securities is from illustrative TBA using base prepayment assumptions and an assumed settlement of 9/19. All other data is as of August 2021. Yields are in base currency of security and unhedged.

2.0 State of the US Housing Market

2.1 National HPI

Nationally, home prices now exceed their pre-crisis peak on a nominal basis by 45.3%. The extent of the HPI rebound since the Global Economic Crisis (GEC) has varied from state to state. For example, Colorado's HPI is over double its 2007 peak, up 110.6%; Connecticut and Illinois just surpassed their 2007 peak in March of 2021 and currently (as of June 2021) are 8.4% and 9.7%, respectively, above their peaks.

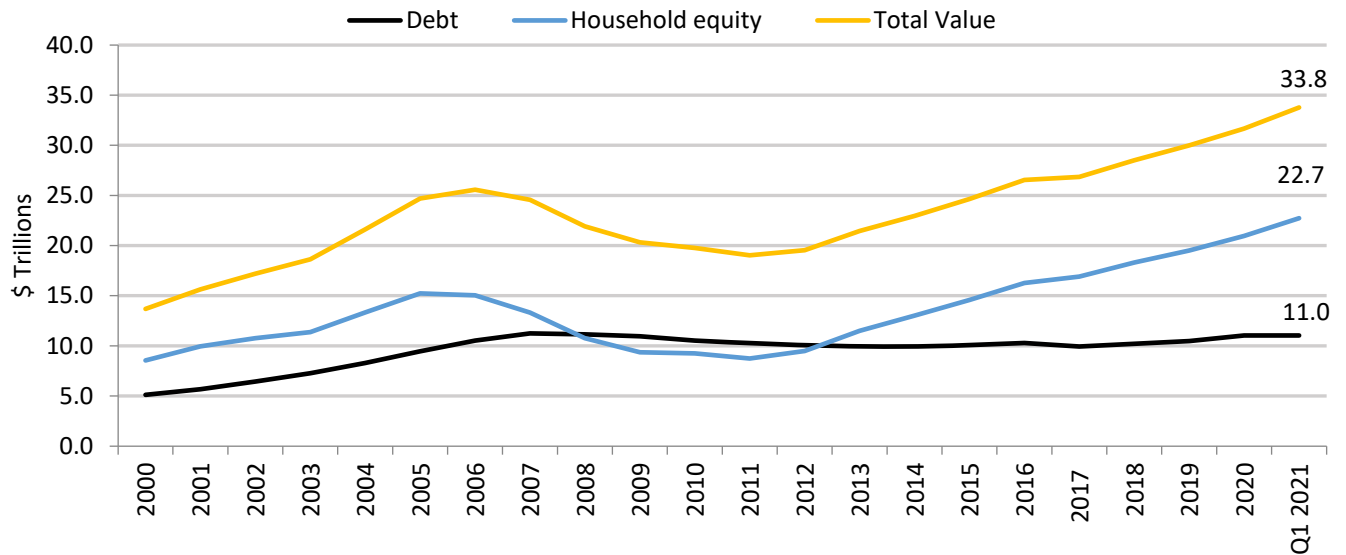
State	2000 to Peak	Peak to Trough	Trough to Current	YOY	Current HPI % Above Peak
National	59.6%	-21.1%	84.2%	10.5%	45.3%
AK	66.9%	-5.2%	37.4%	6.4%	30.3%
AL	41.7%	-15.0%	60.6%	10.0%	36.5%
AR	39.8%	-11.0%	52.7%	10.3%	35.8%
AZ	110.3%	-49.5%	167.9%	16.4%	35.3%
CA	144.8%	-47.0%	132.1%	13.8%	23.0%
CO	32.4%	-10.2%	134.5%	13.1%	110.6%
CT	72.9%	-19.6%	34.9%	13.7%	8.4%
DC	162.7%	-11.8%	114.6%	10.2%	89.3%
DE	88.7%	-23.5%	50.4%	12.0%	15.1%
FL	130.2%	-46.5%	135.8%	12.8%	26.0%
GA	35.9%	-27.1%	106.5%	11.2%	50.6%
HI	138.9%	-26.9%	91.0%	8.9%	39.6%
IA	27.9%	-5.4%	51.6%	8.0%	43.4%
ID	73.3%	-32.3%	190.6%	23.8%	96.6%
IL	49.9%	-23.8%	44.0%	8.7%	9.7%
IN	19.1%	-8.6%	73.5%	11.0%	58.5%
KS	31.0%	-7.7%	63.6%	10.8%	51.1%
KY	28.9%	-5.5%	60.7%	9.9%	51.9%
LA	51.6%	-6.6%	42.7%	6.5%	33.3%
MA	69.9%	-18.1%	73.4%	12.1%	41.9%
MD	126.4%	-26.4%	50.2%	10.2%	10.5%
ME	72.0%	-12.4%	71.3%	14.6%	50.1%
MI	18.4%	-31.5%	107.0%	11.6%	41.8%
MN	52.6%	-23.0%	81.1%	10.4%	39.5%
MO	39.2%	-15.0%	71.2%	11.2%	45.5%
MS	38.9%	-12.9%	40.8%	7.7%	22.7%
MT	79.3%	-13.8%	91.1%	14.8%	64.8%
NC	39.8%	-14.1%	78.0%	12.3%	52.9%
ND	51.8%	-0.8%	66.7%	5.8%	65.3%
NE	24.4%	-6.0%	73.9%	10.6%	63.5%
NH	72.7%	-21.9%	76.8%	14.5%	38.0%
NJ	102.2%	-22.6%	48.1%	12.8%	14.6%
NM	66.7%	-18.0%	52.7%	10.5%	25.3%
NV	117.4%	-59.2%	192.8%	13.0%	19.4%
NY	75.8%	-10.5%	53.8%	11.4%	37.6%
OH	19.6%	-16.5%	74.8%	11.3%	45.9%
OK	36.9%	-4.7%	56.2%	8.8%	48.8%
OR	85.7%	-28.6%	124.6%	13.6%	60.4%
PA	69.0%	-10.9%	54.7%	10.7%	37.9%
RI	108.2%	-28.0%	75.4%	14.4%	26.2%
SC	40.6%	-16.0%	79.8%	11.0%	51.1%
SD	40.1%	-2.4%	68.1%	11.7%	64.2%
TN	38.5%	-12.6%	93.7%	13.4%	69.3%
TX	35.8%	-3.0%	92.0%	11.4%	86.3%
UT	65.2%	-26.1%	144.5%	19.1%	80.7%
VA	95.2%	-18.8%	57.2%	10.6%	27.7%
VT	78.2%	-10.2%	51.6%	14.0%	36.1%
WA	83.5%	-27.3%	139.2%	14.8%	73.9%
WI	38.6%	-14.2%	66.5%	10.4%	43.0%
WV	39.2%	-5.8%	37.9%	8.9%	29.9%
WY	84.7%	-9.6%	50.5%	8.9%	36.0%

Source: FHFA. Notes: HPI data as of June 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 6/2021, the latest HPI data period.

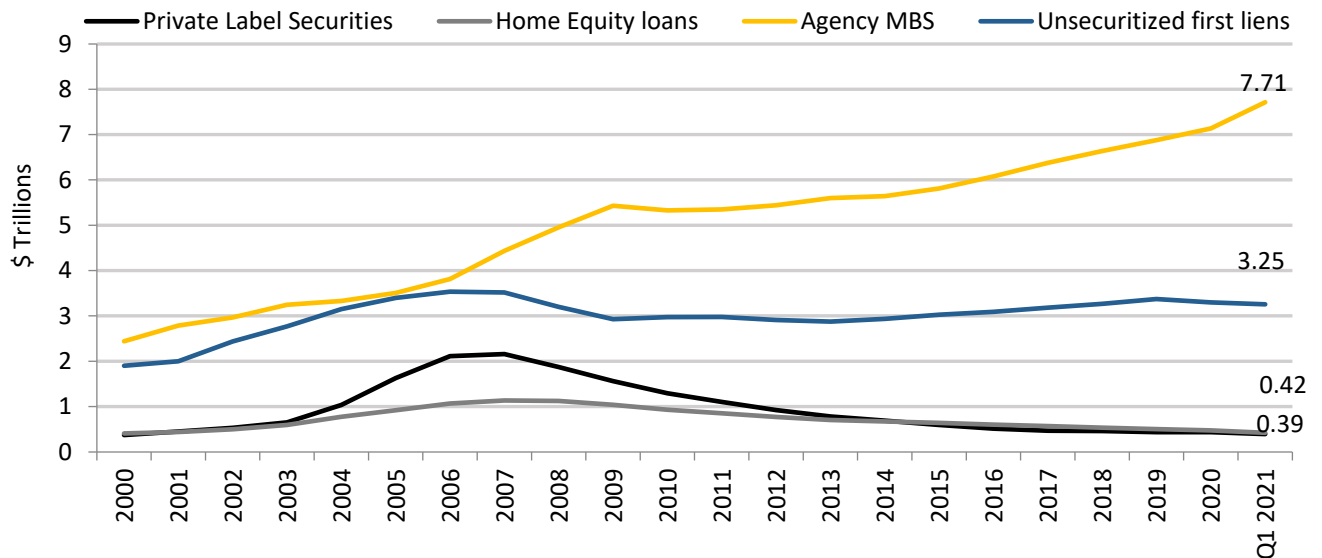
2.2 Size and Value of the US Housing Market

The trending increase in total value of the US housing market has been driven 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

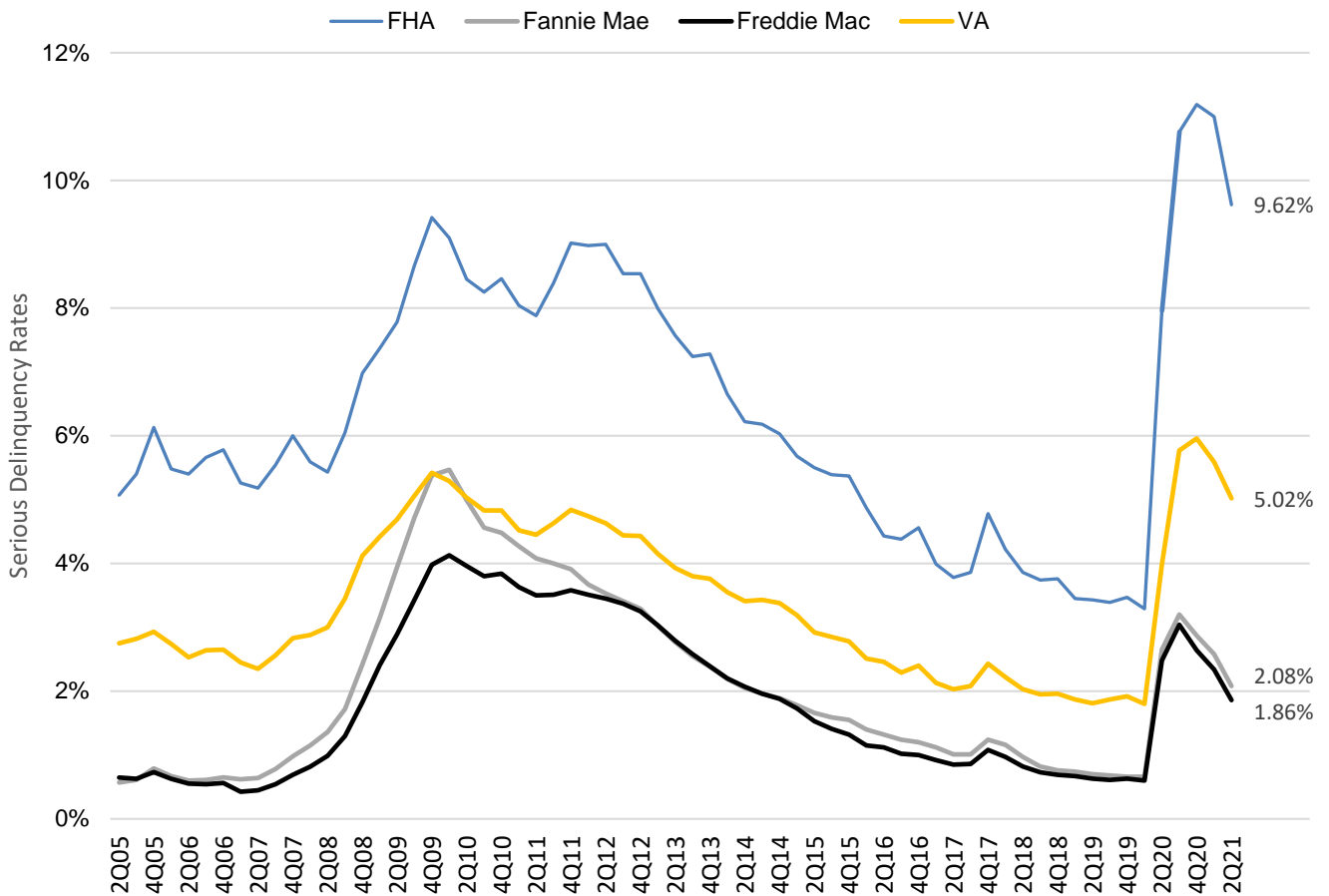


Source: Federal Reserve Flow of Funds Data. Notes: Data as of Q1 2021.

2.3 Serious Delinquency Rates

Serious delinquency rates for single family GSE, FHA, and VA loans all fell sharply in Q2 2021. From Q1 to Q2 2021, Fannie and Freddie dropped 50 and 48 bps, respectively, or 19% and 21%, respectively, as a percentage change. Ginnie Mae collateral serious delinquency rates dropped more than the GSE rates in absolute terms, with FHA and VA dropping 138 and 57 bps respectively. Due to their higher starting delinquency rates, however, the relative change from Q1 2021 to Q2 2021 at FHA and VA is lower than GSE relative change over the quarter, at approximately 13 and 10% respectively.

Serious Delinquency Rates: Single Family Loans



Sources: Fannie Mae and Freddie Mac Monthly Summary Reports, and MBA Delinquency Survey.

Note: Serious delinquency is defined as 90 days or more past due or in the foreclosure process. Data as of Q2 2021.

2.4 Characteristics of Ginnie Mae Loans in Forbearance

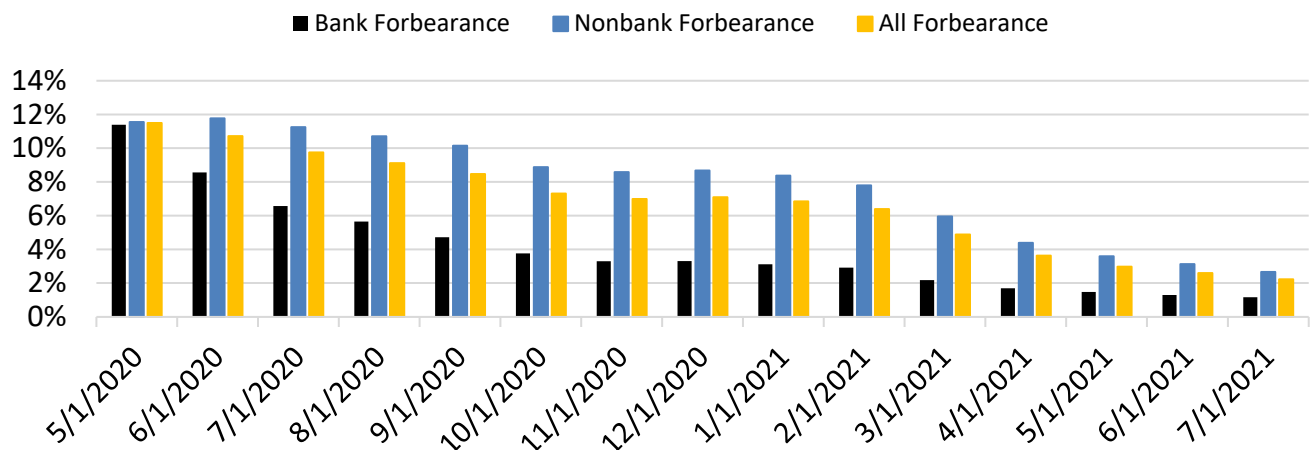
A total of 242,099 Ginnie Mae loans were in forbearance as of the end of July 2021. This represents a 15% decrease MoM, continuing the trend of steep decline in forbearance observed in June 2021. 13,424 of loans in forbearance were removed from pools and 228,675 still actively remain in pools. Most liquidated loans (10,737) were FHA and within that subset, 8,300 of those loans were originated by nonbanks. 97% of the loans in forbearance are due to COVID-19 circumstances. Despite a drop of over 41,000 loans currently in forbearance from June to July, the 97% proportion of loans in forbearance due to COVID-19 circumstances has stayed constant between June and July.

All Loans in Forbearance – July 2021						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
Ginnie	658	3.8	\$170,445	76.7	66.5	242,099
Bank	672	4.0	\$126,804	74.0	77.8	36,229
Nonbank	657	3.8	\$178,161	77.0	65.3	205,870
FHA	654	3.9	\$165,082	78.9	72.5	167,922
Bank	664	4.2	\$115,744	77.1	82.3	26,983
Nonbank	653	3.8	\$174,632	79.1	71.5	140,939
VA	668	3.5	\$219,143	65.9	46.5	52,930
Bank	685	3.7	\$188,284	65.9	67.8	7,438
Nonbank	665	3.5	\$224,024	65.9	43.6	45,492
Loans in Forbearance and Removed from Pools – July 2021						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
Ginnie	656	4.0	\$156,237	76.8	68.0	13,424
Bank	674	4.0	\$121,853	78.9	78.0	3,202
Nonbank	652	4.0	\$168,343	76.2	65.9	10,222
FHA	653	4.0	\$154,499	78.1	70.0	10,737
Bank	672	4.1	\$116,503	80.4	84.2	2,437
Nonbank	649	4.0	\$167,249	77.5	67.3	8,300
VA	668	3.9	\$196,110	68.4	53.4	1,900
Bank	680	3.8	\$159,423	71.0	55.3	559
Nonbank	665	3.9	\$206,733	67.7	52.8	1,341
Loans in Forbearance that Remain in Pools – July 2021						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
Ginnie	659	3.8	\$171,213	76.6	66.5	228,675
Bank	672	4.0	\$127,429	73.5	77.8	33,027
Nonbank	657	3.7	\$178,786	77.0	65.3	195,648
FHA	654	3.9	\$165,746	79.0	72.6	157,185
Bank	663	4.2	\$115,692	76.7	82.1	24,546
Nonbank	653	3.8	\$175,129	79.2	71.8	132,639
VA	668	3.5	\$220,181	65.8	46.3	51,030
Bank	685	3.7	\$190,016	65.7	68.6	6,879
Nonbank	665	3.5	\$224,658	65.9	43.4	44,151

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 July 2021; *Averages weighted by remaining principal balance of the loans.

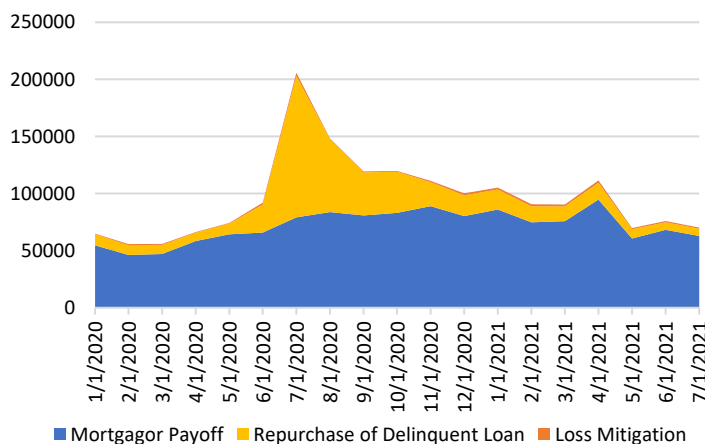
The share of Ginnie Mae loans in forbearance continued to decline to a record low since the pandemic (2.2% in July 2021). The forbearance rate for Ginnie Mae MBS issued by nonbanks continues to be higher than that of Ginnie Mae MBS issued by banks. This is partly due to banks continuing to buy out loans in forbearance more aggressively than nonbanks. In July 2021 of the 36,229 Ginnie Mae bank loans in forbearance, approximately 9% were liquidated from pools, whereas, of the 205,870 Ginnie Mae nonbank loans in forbearance, approximately 5% were liquidated. This trend of more rapid bank buyouts is a continuation of patterns observed in prior months. The total number of loans liquidated from pools decreased in July 2021 from the previous month, however the proportion of loans in forbearance liquidated has increased slightly, from 5.2% to 5.5%.

Share of Ginnie Mae Loans in Forbearance

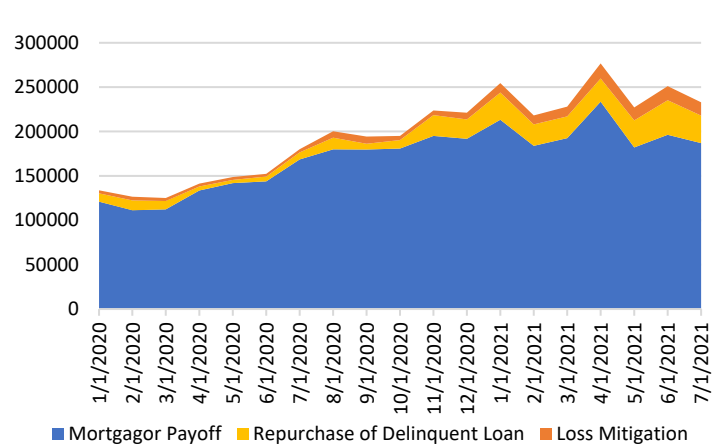


Sources: eMBS and Urban Institute. Data beginning May 2021 sourced from Ginnie Mae forbearance disclosure files and IOPP Peer Group list. Notes: Data as of July 2021.

Number of Loans Removed from Pools: Bank



Number of Loans Removed from Pools: Nonbank

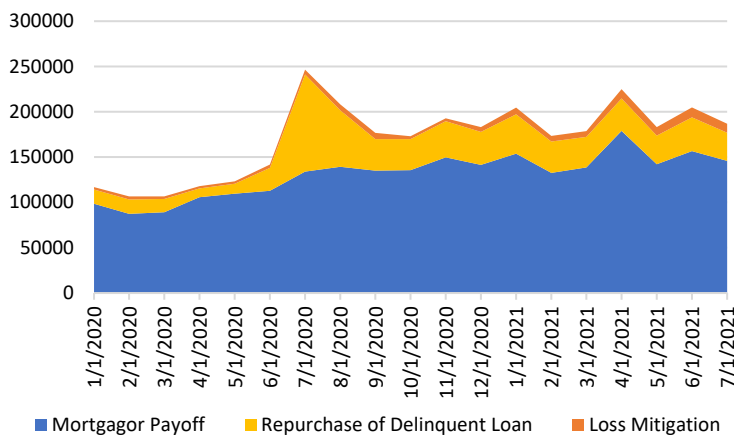


Additionally, a small number of loans were removed due to 'Foreclosure with Claim' and 'Other' reasons in July 2021.

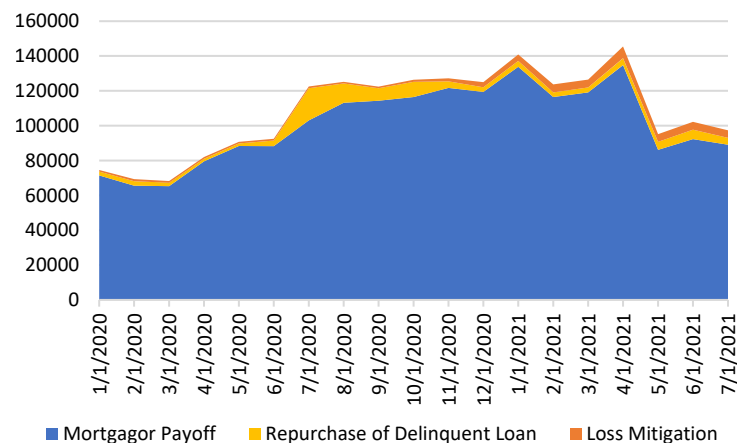
Sources: eMBS and Urban Institute. Data beginning June 2021 sourced from Ginnie Mae Loan Level MBS disclosure files and IOPP Peer Group list. Notes: Data as of July 2021.

Of the Ginnie Mae loans that were liquidated from pools due to mortgage delinquency, a higher share of the loans were 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 July 2021, the number of loans repurchased due to delinquency decreased 17% to 30,952 for FHA and 26% 3,995 VA loans (these counts include all delinquent buyouts, regardless of forbearance status). The vast majority of loans removed from pools continue to be payoffs triggered by the high refinance activity (blue areas).

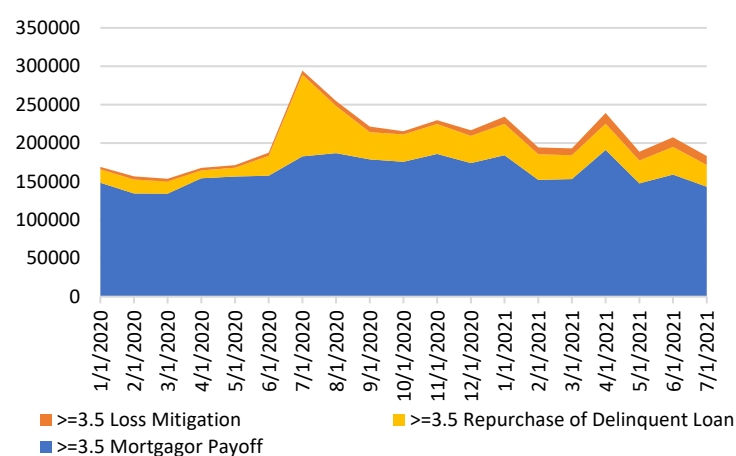
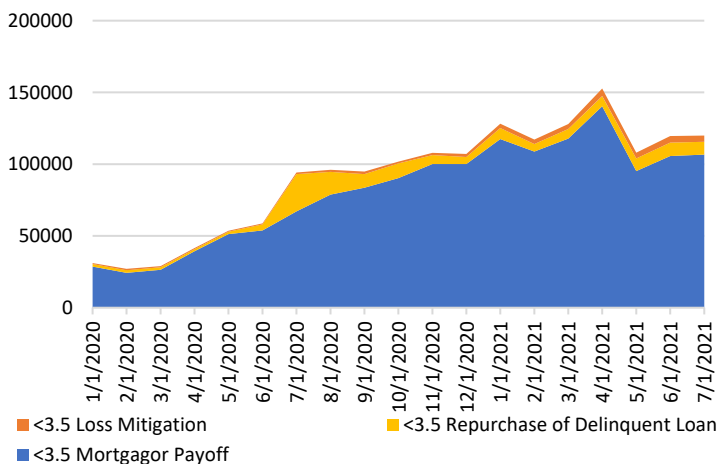
Number of Loans Removed from Pools: FHA



Number of Loans Removed from Pools: VA



Number of Loans Removed from Pools by Coupon



Additionally, a small number of loans were removed due to 'Foreclosure with Claim' and 'Other' reasons in July 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 July 2021.

2.5 Ginnie Mae Agency Issuance and Agency Outstanding by State

Ginnie Mae MBS represent approximately 23% of new Agency issuance over the past year. The share of Ginnie Mae outstanding varies across states, with the highest Ginnie Mae shares in Mississippi and Alaska (48%) and the lowest in the District of Columbia (13%). The same holds true for Agency issuance share, with the highest issuance share over the past year in Alaska (49%) and the lowest in the District of Columbia (12%).

National	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
	23%	3,000,642	276,857.69	297,762.15	27%	10,740,972	184,046.14	213,453.46
AK	49%	11,255	331,903.15	292,986.64	48%	37,009	249,249.71	214,614.24
AL	36%	58,082	215,913.33	231,577.20	42%	233,685	143,256.00	168,526.55
AR	33%	30,588	183,872.64	209,440.48	41%	136,574	121,767.97	152,027.24
AZ	24%	106,742	271,995.55	273,135.31	26%	287,181	194,586.98	207,488.88
CA	15%	265,440	423,104.30	417,376.77	17%	697,302	304,065.88	310,182.48
CO	23%	89,452	355,520.28	339,981.30	25%	220,576	263,909.49	261,364.43
CT	21%	25,438	262,631.42	285,103.12	26%	104,109	191,431.58	203,392.90
DC	12%	2,870	562,706.28	473,825.28	13%	8,794	354,284.48	346,154.48
DE	28%	13,887	262,580.19	270,942.71	33%	50,476	192,958.39	201,051.89
FL	32%	263,368	267,956.30	263,894.44	34%	838,625	192,030.30	194,624.74
GA	30%	136,385	240,093.53	266,198.27	35%	497,879	162,743.38	192,164.27
HI	37%	15,106	580,320.58	463,034.24	32%	32,828	441,282.87	345,523.21
IA	16%	17,070	183,062.65	201,405.32	22%	82,595	124,846.09	145,245.93
ID	21%	21,488	281,502.30	271,779.72	25%	68,583	188,767.22	204,019.76
IL	17%	82,537	222,408.26	245,036.66	22%	351,149	151,010.05	173,958.20
IN	25%	65,077	187,802.27	199,953.21	32%	282,892	122,715.68	142,432.12
KS	24%	22,337	200,165.21	221,745.43	31%	98,215	130,876.92	156,567.38
KY	29%	39,481	194,811.68	206,663.14	35%	163,170	132,772.29	148,209.98
LA	34%	45,469	211,230.85	238,072.14	40%	190,084	149,127.47	172,618.95
MA	13%	34,522	363,122.28	360,109.65	16%	113,351	263,493.67	262,107.58
MD	31%	90,392	352,663.36	330,813.49	35%	285,523	251,851.25	242,191.54
ME	21%	10,439	212,670.35	250,262.71	27%	38,293	164,788.02	182,086.35
MI	15%	62,561	188,669.13	211,403.27	21%	279,909	123,770.10	150,303.38
MN	15%	40,665	253,502.93	258,262.33	19%	164,207	171,047.86	190,693.99
MO	23%	57,046	198,492.30	214,478.53	30%	248,640	131,687.57	155,070.87
MS	41%	24,647	199,846.87	214,228.04	48%	117,427	132,492.68	154,212.83
MT	23%	10,345	275,891.56	276,032.95	26%	34,178	191,417.00	201,921.02
NC	26%	117,666	238,083.62	262,487.41	31%	421,011	160,317.31	188,474.65
ND	22%	4,995	251,103.00	240,597.43	24%	16,424	183,598.39	180,838.71
NE	21%	14,922	219,598.87	211,433.14	28%	66,947	137,200.55	154,119.68
NH	20%	11,813	291,726.10	279,147.72	24%	40,123	211,290.30	204,115.32
NJ	17%	61,547	307,724.28	340,661.35	22%	228,196	224,744.59	246,494.13
NM	34%	22,915	227,952.81	237,130.46	39%	95,384	154,718.79	168,644.86
NV	31%	50,804	308,632.35	285,343.43	32%	133,656	225,781.65	217,749.54
NY	15%	50,451	311,112.64	338,595.86	21%	307,032	195,444.29	237,299.52
OH	23%	88,259	187,239.38	204,984.09	31%	424,232	121,465.03	142,023.12
OK	37%	40,162	200,252.53	214,301.41	44%	190,016	130,896.20	153,448.68
OR	19%	40,672	320,713.05	317,960.10	20%	114,773	232,422.07	238,350.69
PA	20%	80,629	212,444.58	249,367.76	28%	391,887	142,640.80	174,478.24
RI	25%	9,945	293,405.05	274,383.24	30%	34,873	213,088.30	204,178.89
SC	32%	68,805	237,334.23	246,939.97	35%	229,156	167,308.13	180,597.08
SD	25%	8,249	228,444.04	224,864.50	30%	29,575	159,392.68	170,184.58
TN	28%	73,930	238,928.73	257,717.79	34%	281,149	158,661.61	189,012.64
TX	30%	283,195	253,542.89	271,969.33	33%	1,069,658	166,667.41	196,170.21
UT	18%	37,824	318,662.00	309,545.03	21%	104,084	229,683.20	244,568.05
VA	34%	145,732	349,168.86	338,263.82	37%	437,510	242,121.35	237,670.59
VT	17%	3,062	236,666.67	249,572.58	19%	12,289	173,026.25	172,177.73
WA	20%	88,542	362,858.27	370,571.27	23%	242,620	259,171.03	273,761.61
WI	14%	32,489	212,546.82	219,137.64	18%	125,156	146,281.91	157,577.56
WV	39%	13,207	196,819.08	199,263.28	44%	56,594	135,877.14	139,137.33
WY	33%	8,138	257,283.42	255,730.17	36%	25,373	194,214.84	193,786.34

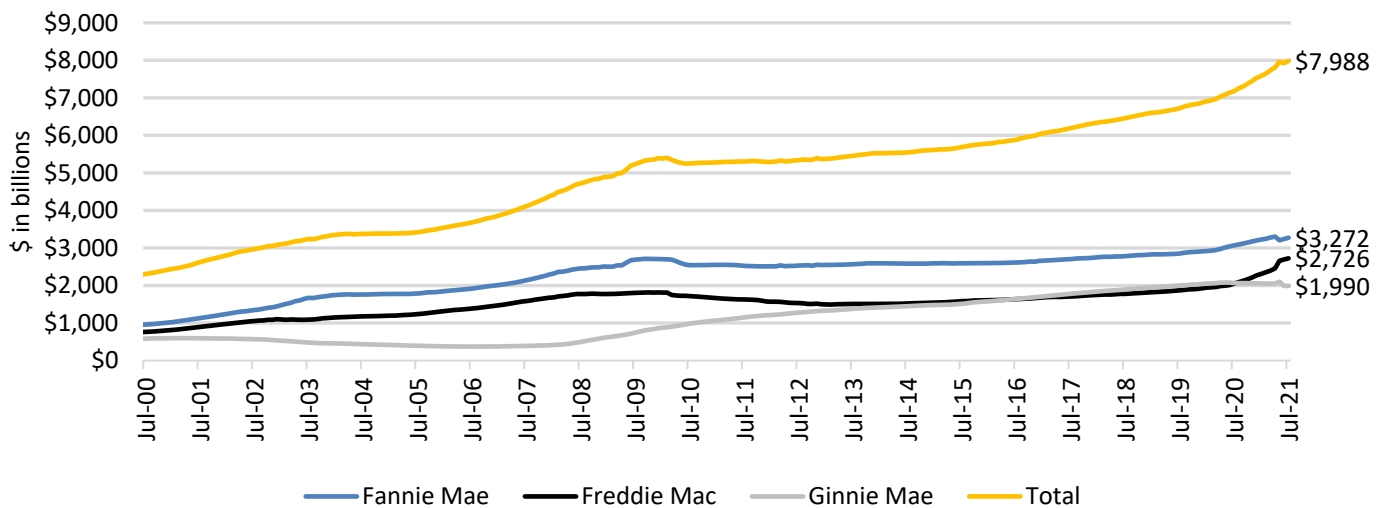
Sources: eMBS, Ginnie Mae/Freddie Mac/Fannie Mae Loan Level MBS Disclosure Files.

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

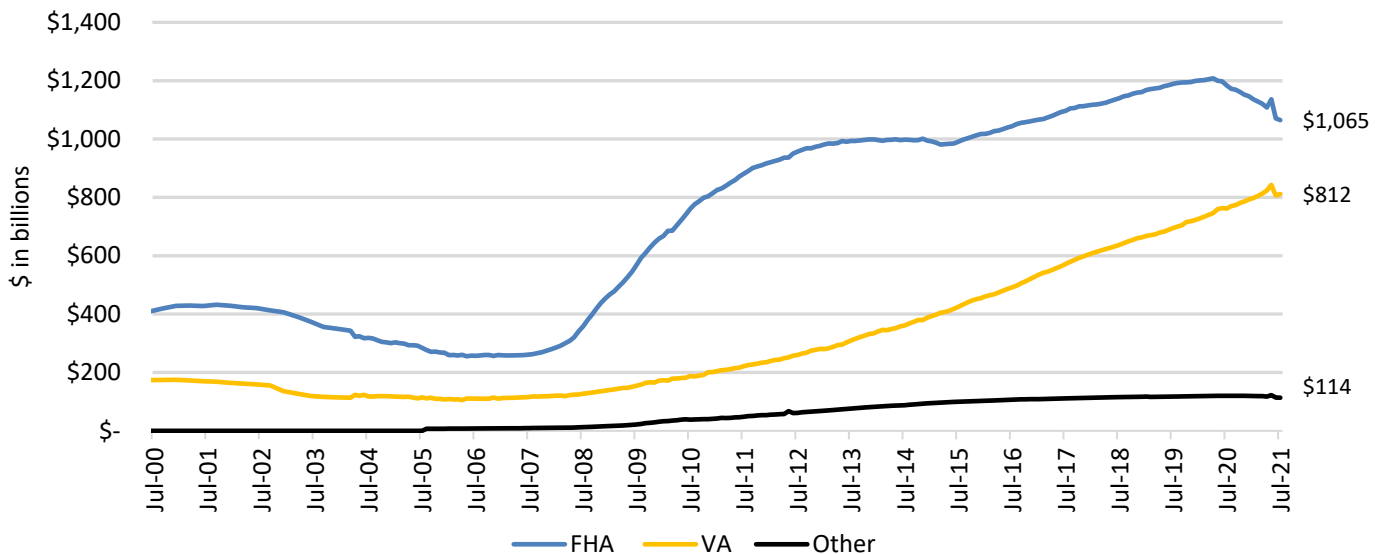
2.6 Outstanding Single Family Agency MBS

As of July 2021, according to the Agency MBS disclosure files, outstanding single family securities in the Agency market totaled \$7.99 trillion: 41.0% Fannie Mae, 34.1% Freddie Mac, and 24.9% Ginnie Mae MBS. Within the Ginnie Mae market the composition of issuance has shifted in the past ten years, as FHA-insured single family loans as a percentage of MBS collateral have declined and VA-guaranteed loan share has increased significantly. In July 2011, close to 77% of Ginnie Mae outstanding collateral was FHA and under 20% was VA. In July 2021, FHA collateral comprised 53.5% of Ginnie Mae outstanding and VA collateral comprised 40.8% of Ginnie Mae outstanding.

Outstanding Agency Mortgage-Backed Securities



Composition of Outstanding Ginnie Mae Mortgage-Backed Securities

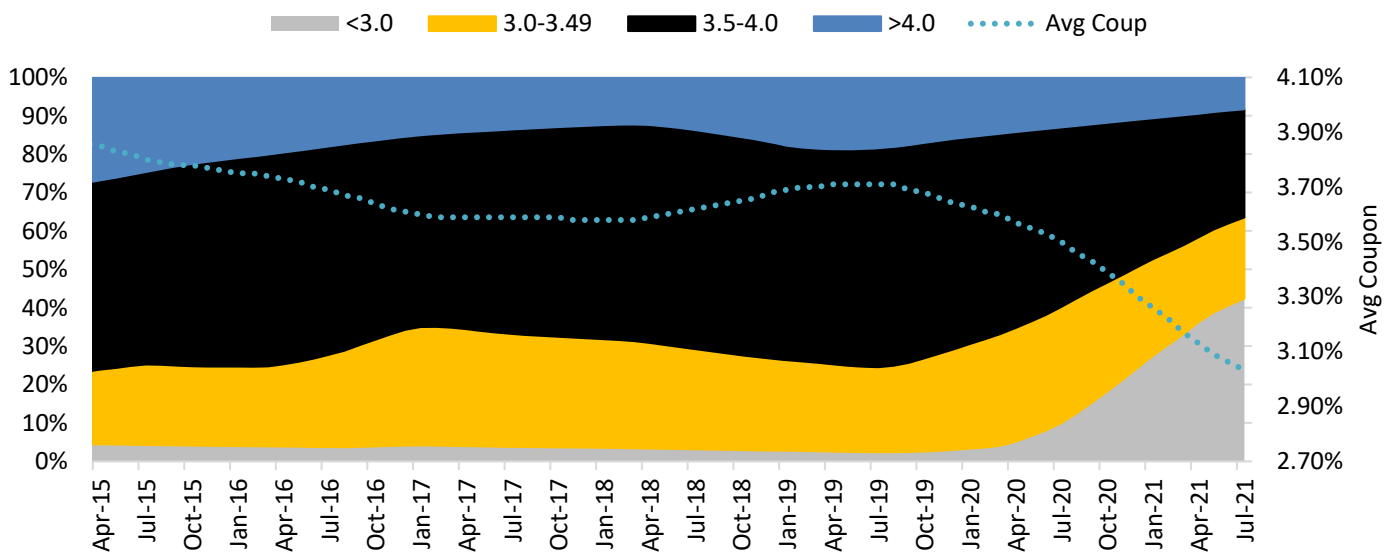


Sources: Data as of July 2021 is based on outstanding balances in the Ginnie Mae/Freddie Mac/Fannie Mae Loan Level MBS Disclosure Files.

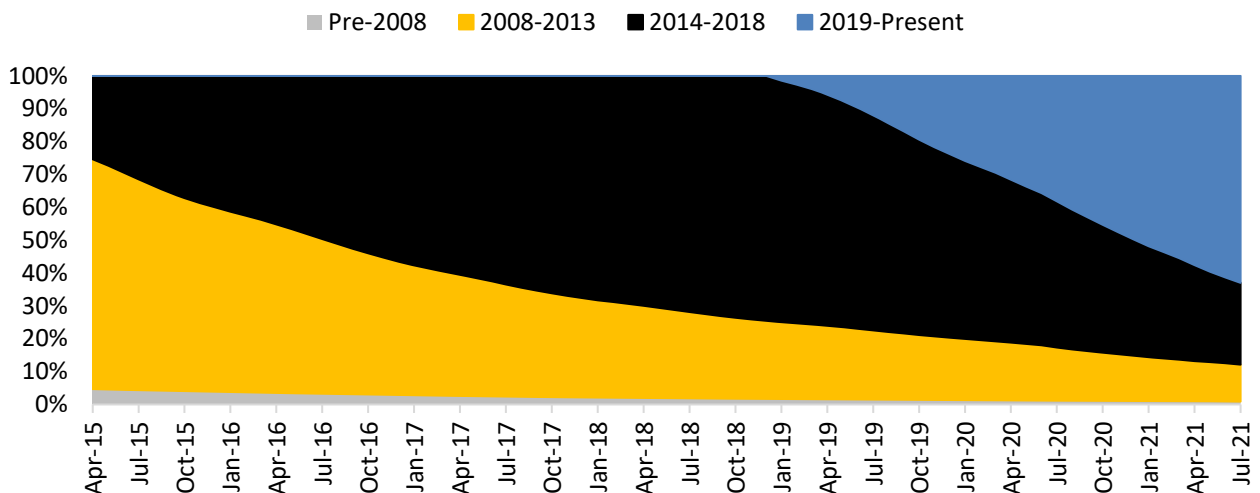
2.7 Outstanding Ginnie Mae MBS Volume by Coupon and Vintage Over Time

As of July 2021, the weighted average coupon on outstanding Ginnie Mae pools was 3.03%, down 3 bps since June. 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 2014 comprise almost 90% of Ginnie MBS collateral outstanding, with loans originated since 2019 accounting for 63% of Ginnie MBS collateral outstanding. The weighted average coupon of loans originated after 2019 is 2.66%, a 1 bp MoM drop for this cohort.

Outstanding Ginnie Balance, by Coupon



Outstanding Ginnie Balance, by Vintage

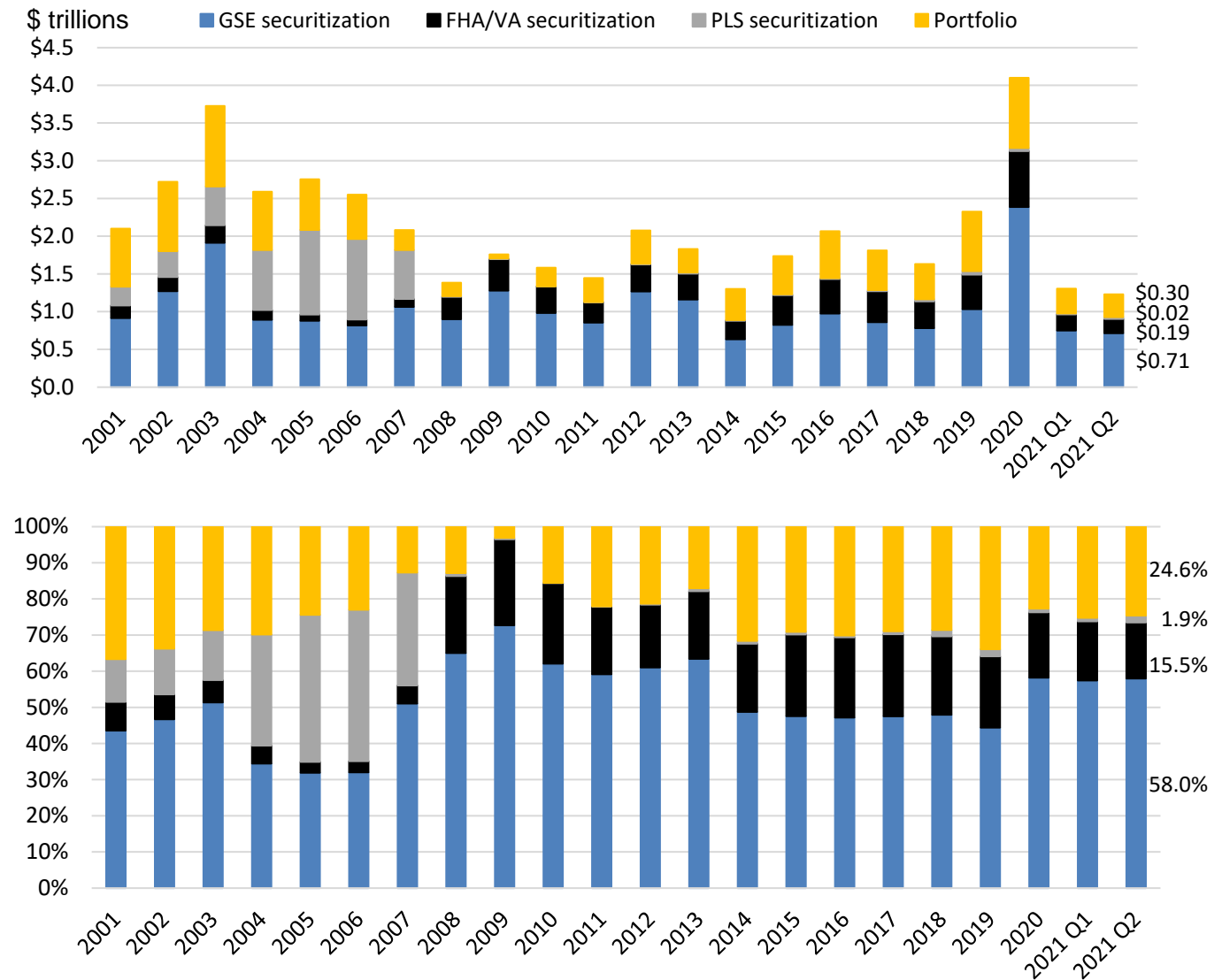


Sources: Ginnie Mae Pool Level MBS Disclosure Files. Note: July 2021 data points reflect the current composition of balances by coupon and vintage; factor data is not applied to prior date balance compositions. Average coupon is weighted by remaining principal balance.

2.8 Origination Volume and Share Over Time

Strong origination volume trends have continued in the first half of 2021, with \$2.54 trillion in originations, which outpaces Q1-Q2 2020 issuance by approximately 51%. Securitized first lien originations have increased from an 18-year low of 66% of total first lien originations in 2019 up to 75% in Q2 2021 with first lien origination of Ginnie Mae collateral dropping from approximately 20% of total first lien origination to under 16% in Q2 2021. GSE securitized first lien debt accounts for much of the increase in the share of securitized first lien originations since 2019, having increased from 44% in 2019 to 58% in Q2 2021.

First Lien Origination Volume & Share



Source: Inside Mortgage Finance. Note: Data as of Q2 2021.

3.0 US Agency Market, Originations

Agency gross issuance has decreased approximately 7% MoM and net issuance has decreased 14% in July. Despite this decline, year to date Agency gross issuance continues to exceed Agency gross issuance for the same period in 2020 by approximately 42%. Ginnie Mae gross issuance year to date outpaces that of the first seven months of 2020, \$521.4 billion to \$407.3 billion. Agency net issuance year to date also exceeds that of the same period in 2020 by close to 71%. This is despite a drop in Ginnie Mae net issuance to below zero in 2021; Ginnie Mae net issuance between January and July 2020 fell from \$26.1 billion down to \$-12.5 billion over the same period in 2021. Within Ginnie Mae, VA production continues to outpace FHA.

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	\$888.6	\$761.1	\$1,649.7	\$521.4	\$2,171.1

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	\$228.7	\$277.3	\$15.4	\$521.4



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	\$238.2	\$290.0	\$528.2	-\$12.5	\$515.7

Ginnie Mae Net Issuance (\$ in billions)				
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	\$131.2
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	-\$12.5



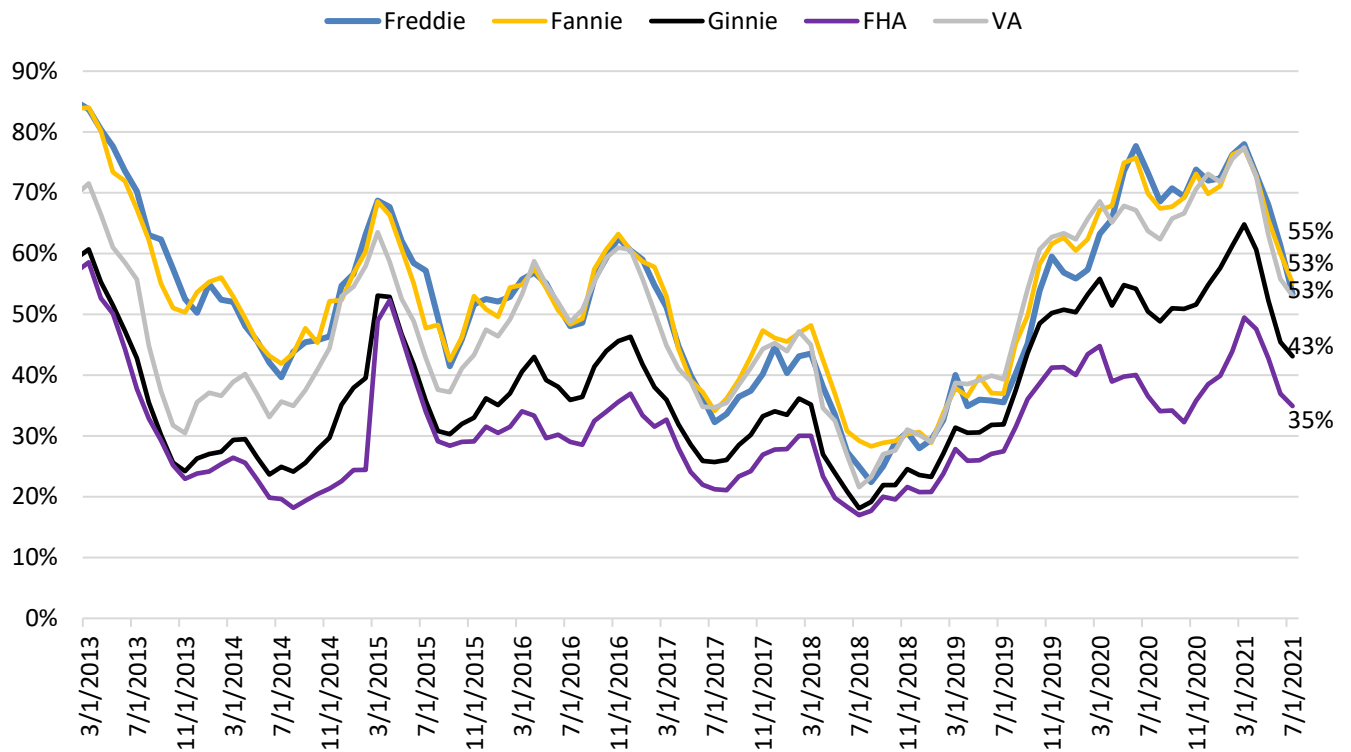
US Agency Market, Originations

Agency Gross Issuance Amount (in \$ Billions)						Agency Net Issuance Amount (in \$ Billions)				
Month	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
Jul-21	\$95.4	\$84.6	\$69.0	\$180.0	\$249.0	\$30.7	\$33.5	-\$1.4	\$64.2	\$62.8

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 35% in July 2021, below the 53% refi share for Freddie originations, the 55% share for Fannie, and the 53% share for the VA. The total Ginnie refinance share stood at 43% in July. Refinances as a share of all originations dropped from June to July from 57% to 51%. This continues a trend of refinances representing a smaller proportion of overall issuance since recent refinance peaks in early 2021 and mid 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 July 2021.

4.0 High LTV Loans: Ginnie Mae vs. GSEs

The share of high-LTV Agency loans going to highest FICO borrowers (i.e. above 750) has increased by 4% from the June 2019-August 2019 period to the June 2021-August 2021 period, and the share of lower DTI borrowers (below 35) has decreased by approximately 2% over the same period. While Ginnie Mae has decreased high-LTV lending share by approximately 3% from June 2019– August 2019 to June 2021 –August 2021, the GSEs have increased high-LTV lending share over the same period. Still, Ginnie Mae maintains its key role of expanding credit access to low-to-moderate income borrowers as it continues to dominate high-LTV lending, with 62.72% of its issuances in the April 2021-July 2021 period having LTVs of 95 or above, compared to 9.53% for the GSEs.

Share of Loans with LTV ≥ 95

	Ginnie Mae	GSE	All
June 2019-Aug 2019	64.49%	6.55%	26.69%
June 2021 - Aug 2021	62.72%	9.53%	21.74%

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

June – Aug 2021

DTI	FICO				NA	All
	<650	650-700	700-750	≥750		
<35	4.36%	6.00%	3.18%	5.09%	1.18%	19.80%
35-45	6.44%	8.50%	3.87%	3.95%	0.24%	22.99%
≥45	5.11%	7.85%	3.70%	3.12%	0.16%	19.93%
NA	5.09%	6.72%	4.37%	7.19%	13.90%	37.28%
All	21.00%	29.07%	15.12%	19.35%	15.48%	100.00%

June - August 2019

DTI	FICO				NA	All
	<650	650-700	700-750	≥750		
<35	4.45%	6.15%	3.39%	4.94%	1.30%	20.22%
35-45	6.61%	8.69%	4.26%	4.29%	0.20%	24.05%
≥45	5.21%	7.98%	4.05%	3.45%	0.12%	20.82%
NA	5.54%	7.13%	4.30%	5.94%	11.99%	34.91%
All	21.81%	29.95%	16.00%	18.62%	13.61%	100.00%

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 August 2021, over half (51.2%) of the Ginnie Mae MSRs are owned by the top six firms. The top 30 firms collectively own 81.68% (see Cumulative Share). Twenty-two of these top 30 are non-depository institutions, the remaining 8 are depository institutions.

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

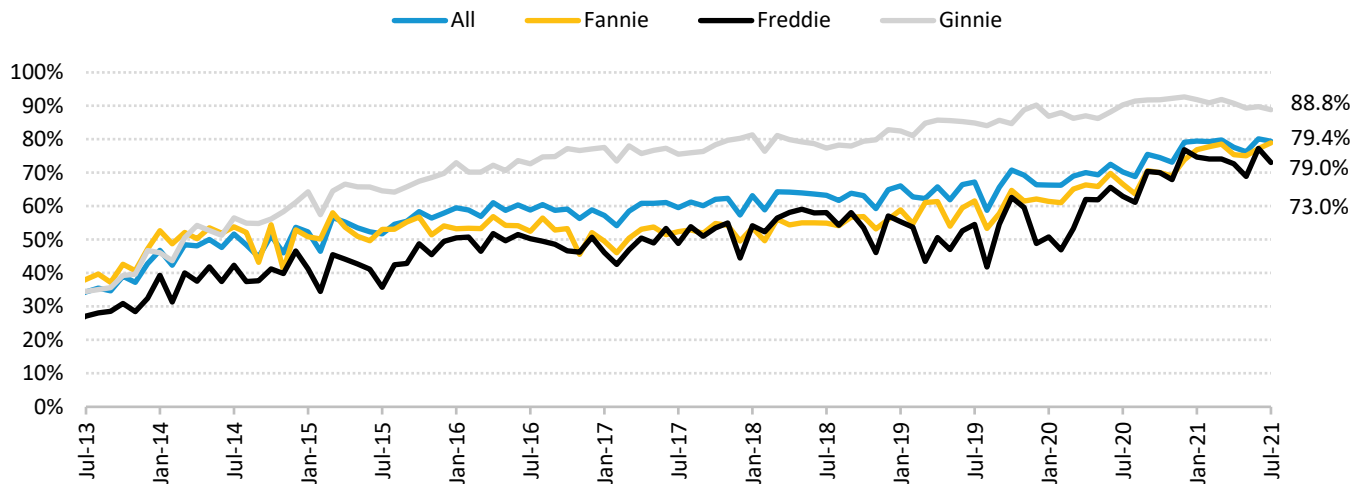
Rank	MSR Holder	UPB (\$ millions)	Share	Cumulative Share
1	Freedom Home Mortgage	\$240,385	12.45%	12.45%
2	PennyMac	\$214,613	11.11%	23.56%
3	Lakeview	\$198,476	10.28%	33.84%
4	Wells Fargo	\$132,674	6.87%	40.71%
5	Rocket Mortgage	\$96,879	5.02%	45.73%
6	Nationstar	\$86,491	4.48%	50.21%
7	Newrez	\$58,530	3.03%	53.24%
8	US Bank	\$47,345	2.45%	55.69%
9	Caliber Home Loans	\$46,020	2.38%	58.07%
10	Carrington Mortgage	\$44,549	2.31%	60.38%
11	United Wholesale Mortgage	\$36,861	1.91%	62.29%
12	USAA Federal Savings Bank	\$34,587	1.79%	64.08%
13	Loan Depot	\$30,870	1.60%	65.68%
14	Navy Federal Credit Union	\$27,949	1.45%	67.13%
15	Mortgage Research Center	\$27,528	1.43%	68.55%
16	Home Point Financial Corporation	\$26,916	1.39%	69.94%
17	Planet Home Lending	\$25,642	1.33%	71.27%
18	Truist Bank	\$23,459	1.21%	72.49%
19	The Money Source	\$22,067	1.14%	73.63%
20	Guild Mortgage	\$20,154	1.04%	74.67%
21	Amerihome Mortgage	\$17,126	0.89%	75.56%
22	Midfirst Bank	\$14,741	0.76%	76.32%
23	New American Funding	\$14,139	0.73%	77.06%
24	Crosscountry Mortgage	\$13,934	0.72%	77.78%
25	Village Capital	\$13,245	0.69%	78.46%
26	Citizens Bank	\$12,762	0.66%	79.12%
27	JP Morgan Chase	\$12,474	0.65%	79.77%
28	CMG Mortgage, INC	\$12,440	0.64%	80.41%
29	Idaho Housing and Finance Association	\$12,323	0.64%	81.05%
30	PHH Mortgage Corporation	\$12,023	0.62%	81.68%

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

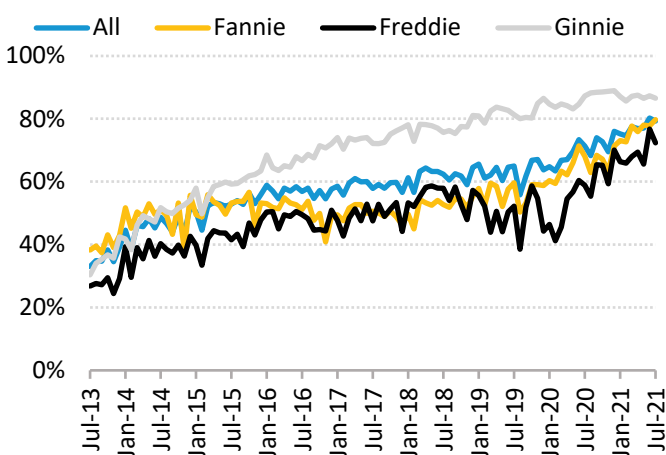
6.0 Agency Nonbank Originators

From 2013 through July 2021 there has been a steady increase in nonbank origination share for the GSEs, however total Agency nonbank origination experienced a slight decline of approximately 1.0% in July 2021 compared to June 2021. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 88.8% in July 2021, approximately 22% and 12% greater than Freddie and Fannie’s nonbank shares, respectively. And while July saw a slight decline in nonbank share for Freddie Mac to 73.0% compared to 77.2% in June 2021, Fannie’s nonbank share bounced back to 79.0% from 77.2% in June 2021.

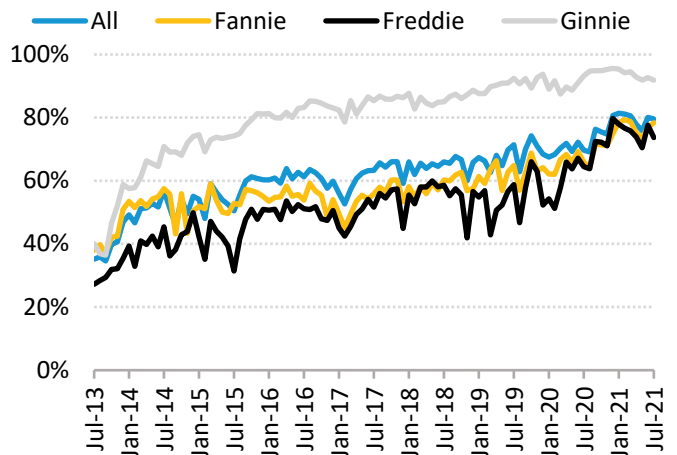
6.1 Agency Nonbank Originator Share (All, Purchase, Refi)



Nonbank Origination Share: Purchase Loans



Nonbank Origination Share: Refi Loans

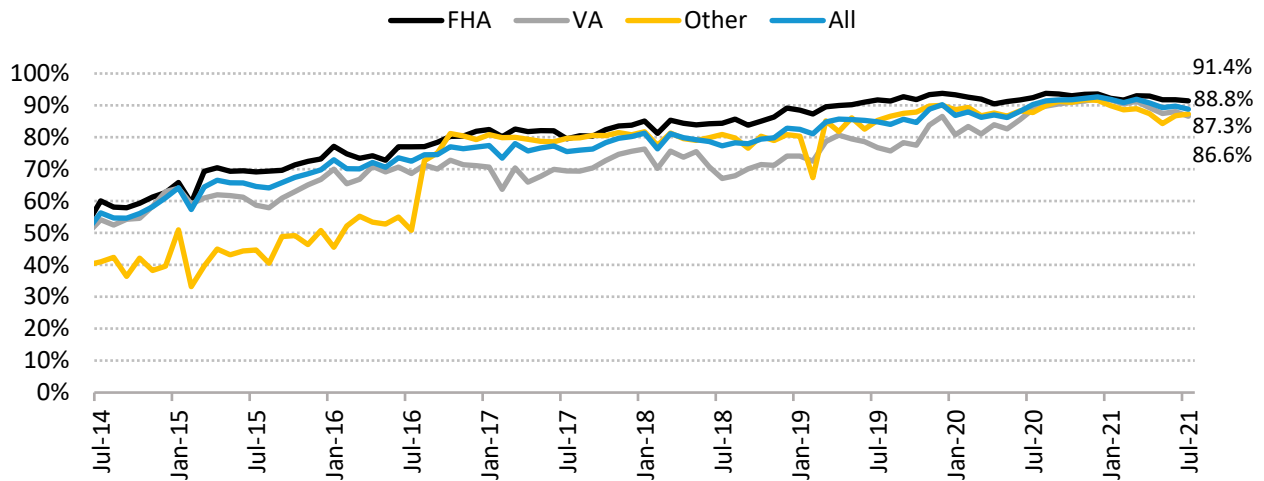


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: Data as of July 2021.

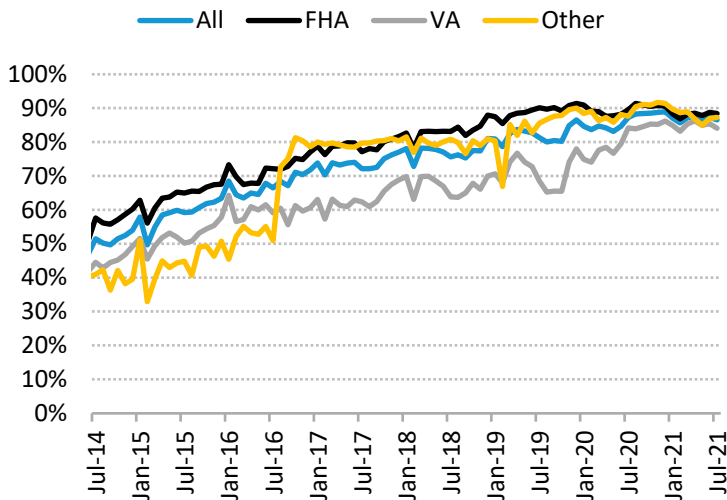
Agency Nonbank Originators

After a half a point increase in June 2021, Ginnie Mae’s July 2021 total nonbank originator share declined by approximately 92 bps from the prior month. In July 2021 there was a slight decline in nonbank origination share for both purchase and refi loans. Nonbank origination share for refi loans from FHA and VA experienced a slight decline in July 2021. However, nonbank shares of “Other” (see footnote) refis and purchases increased slightly in July 2021 and have continued to increase on a MoM basis since May 2021.

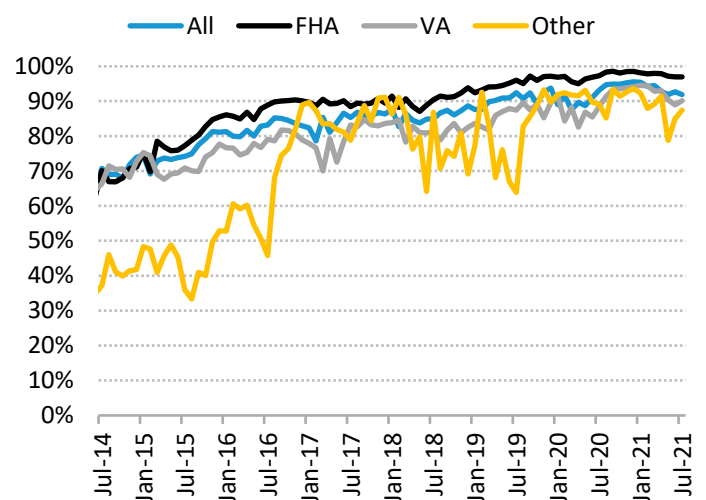
6.2 Ginnie Mae Nonbank Originator Share (All, Purchase, Refi)



Ginnie Mae Nonbank Share: Purchase Loans



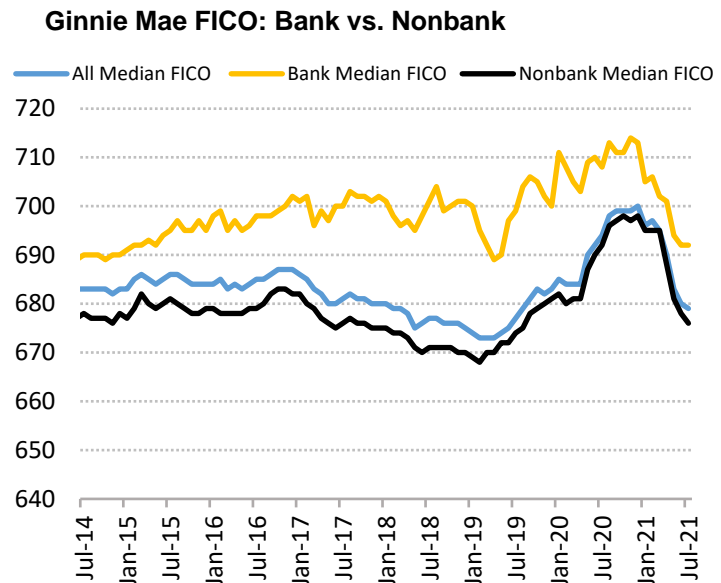
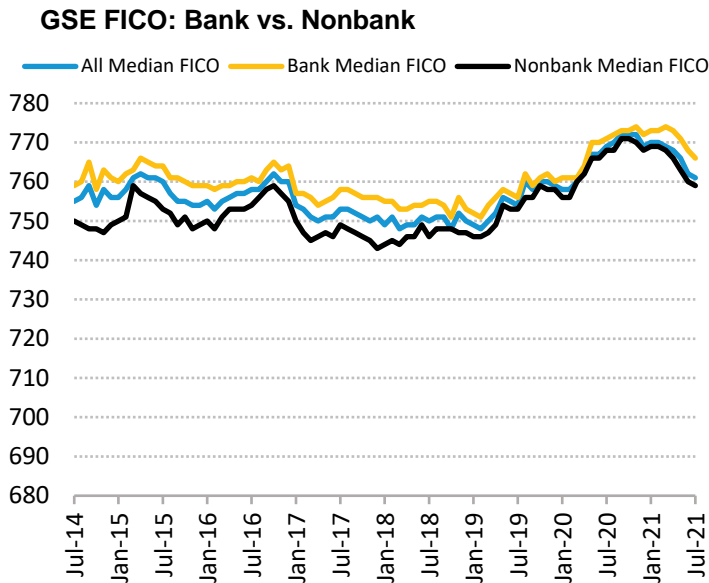
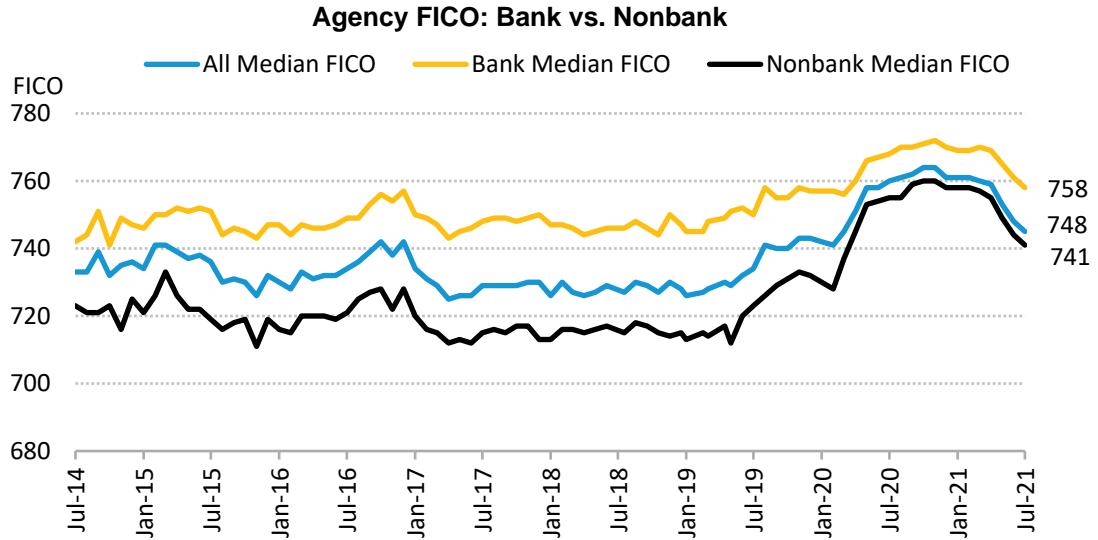
Ginnie Mae Nonbank Share: Refi Loans



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

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

Nonbank originators continue to have a consistently lower median FICO score than their bank counterparts across all Agencies. The Agency median FICO continued to decline in July 2021 for banks and nonbanks.

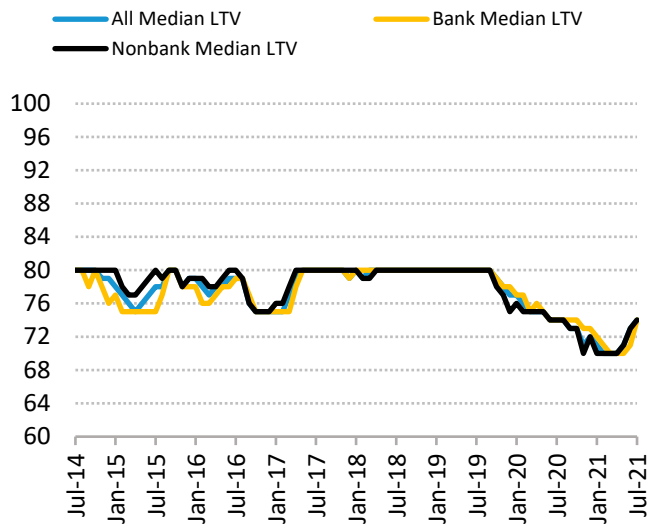


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: Data as of July 2021.

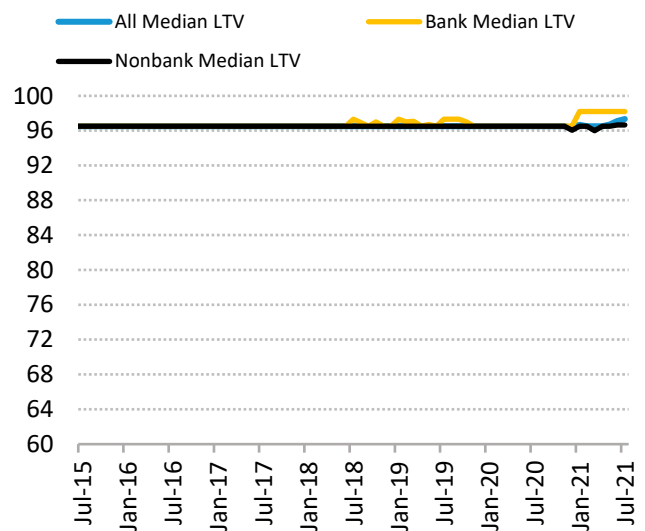
Agency Nonbank Originators

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 decline in median LTV occurred during the recent increase in refinance share (see Section 3.0). The slight uptick in recent months in Ginnie Mae median LTV is attributable to an increase in the Bank median LTVs. The substantial increase in Ginnie Mae DTIs between 2017 and 2019 has mostly been reversed. However, Ginnie Mae median DTI experienced a slight uptick in July 2021.

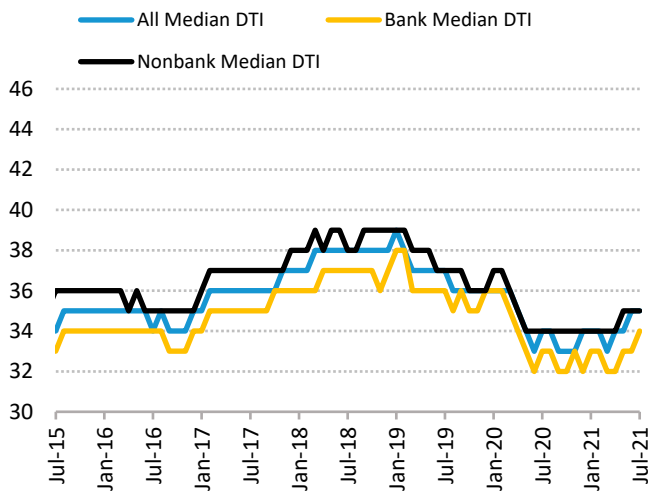
GSE LTV: Bank vs Nonbank



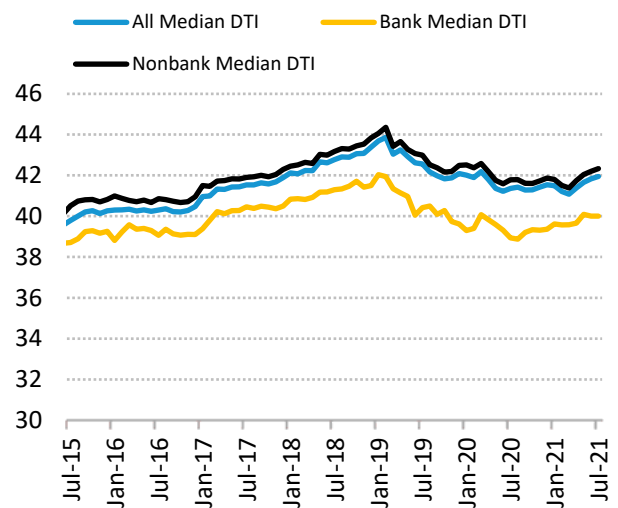
Ginnie Mae LTV: Bank vs. Nonbank



GSE DTI: Bank vs Nonbank



Ginnie Mae DTI: Bank vs. Nonbank

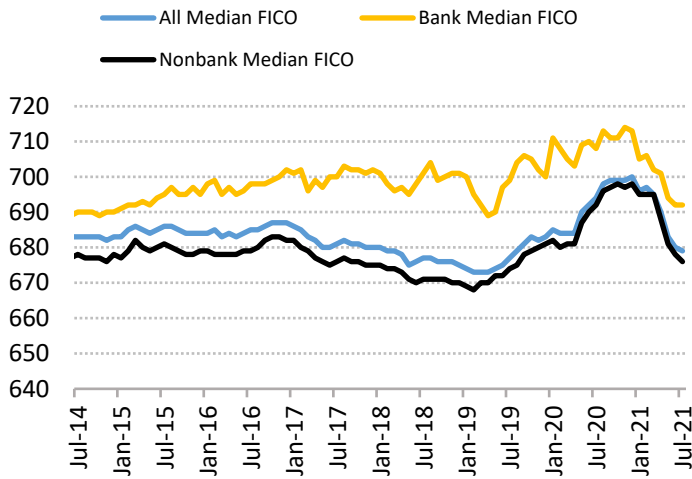


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: Data as of July 2021.

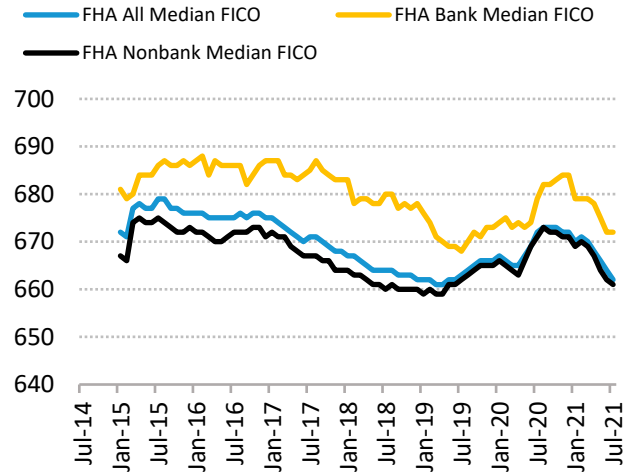
Agency Nonbank Originators

The median FICO score for Ginnie Mae bank and nonbank originators has been on a steady decline since the beginning of Q1 2021. July continued this pattern with the median FICO for all Ginnie originations dropping to 676. The gap between banks and non-banks continues to be very apparent for all categories of government mortgage loan lending. While VA nonbank median FICO has been declining since Q4 2020, the bank VA median FICO has remained flat MoM.

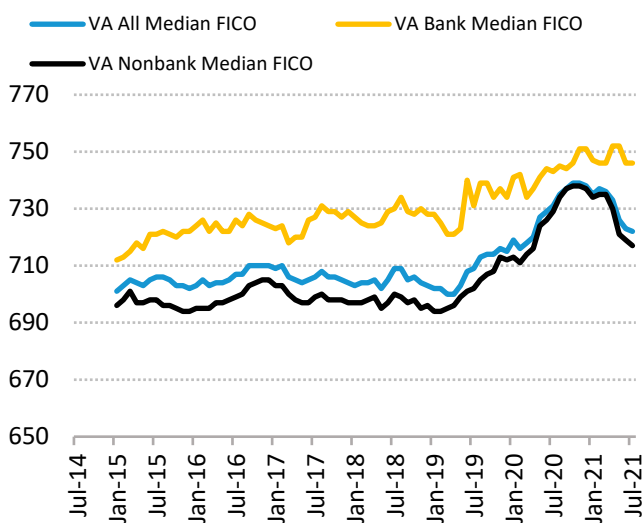
Ginnie Mae FICO Score: Bank vs. Nonbank



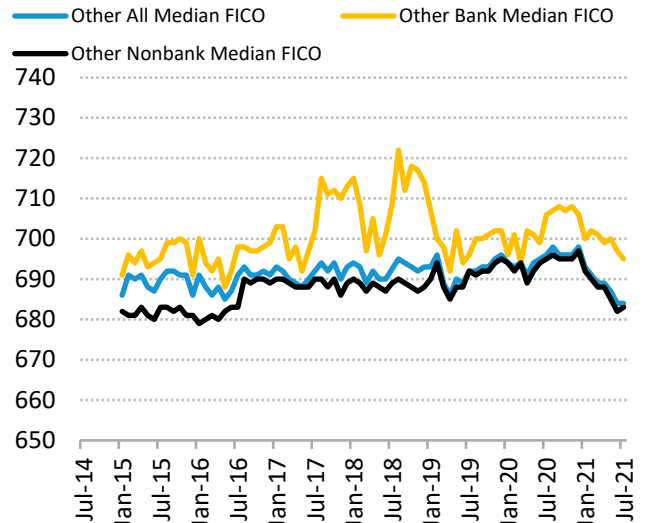
Ginnie Mae FHA FICO Score: Bank vs. Nonbank



Ginnie Mae VA FICO Score: Bank vs. Nonbank



Ginnie Mae Other FICO Score: Bank vs. Nonbank

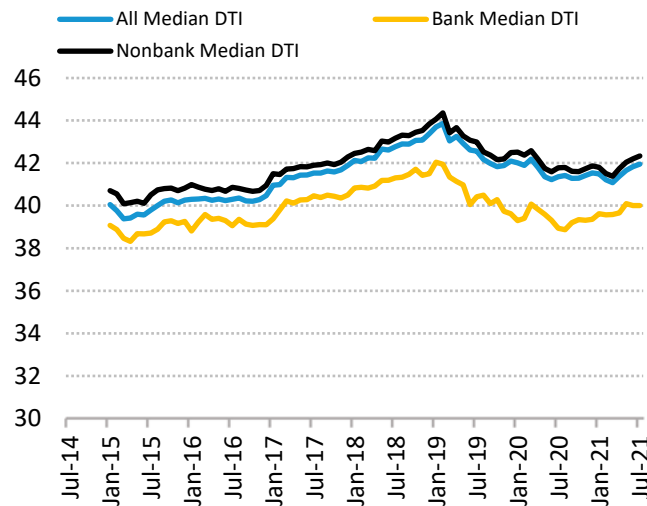


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: "Other" refers to loans guaranteed by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of July 2021.

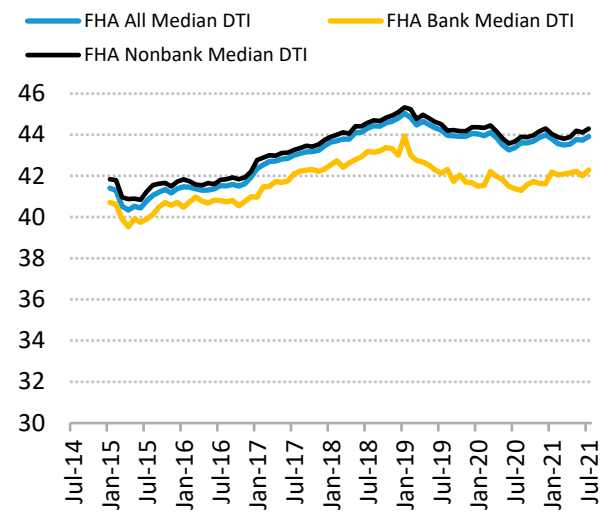
Agency Nonbank Originators

Median DTI for Ginnie Mae nonbank originations has been consistently higher than median bank DTI. This is a trend evident for all loan types except for the “Other” category, where the spread between median bank and nonbank DTI is relatively small. DTIs dipped slightly during the pandemic but have rebounded to pre-COVID level in recent months.

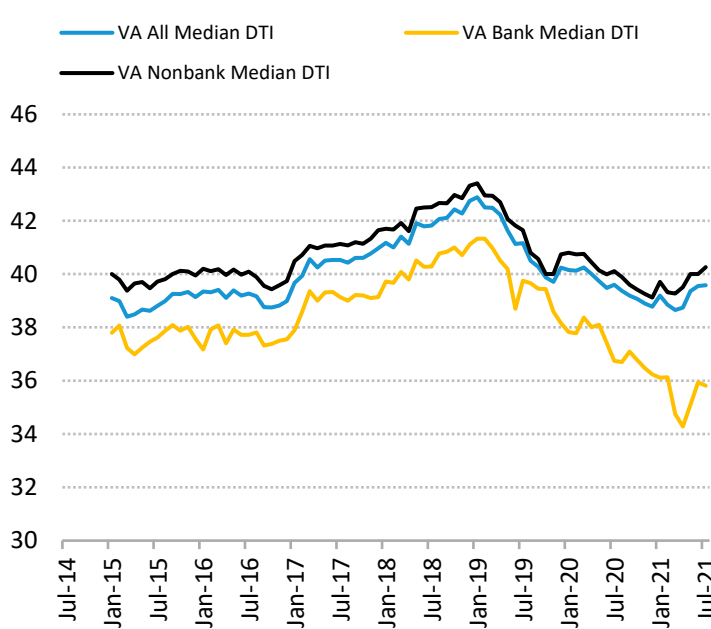
Ginnie Mae DTI: Bank vs. Nonbank



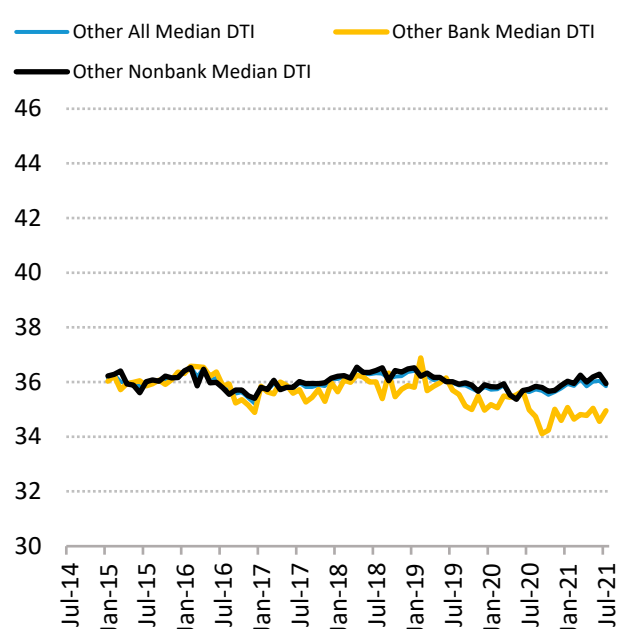
Ginnie Mae FHA DTI: Bank vs. Nonbank



Ginnie Mae VA DTI: Bank vs. Nonbank



Ginnie Mae Other DTI: Bank vs. Nonbank

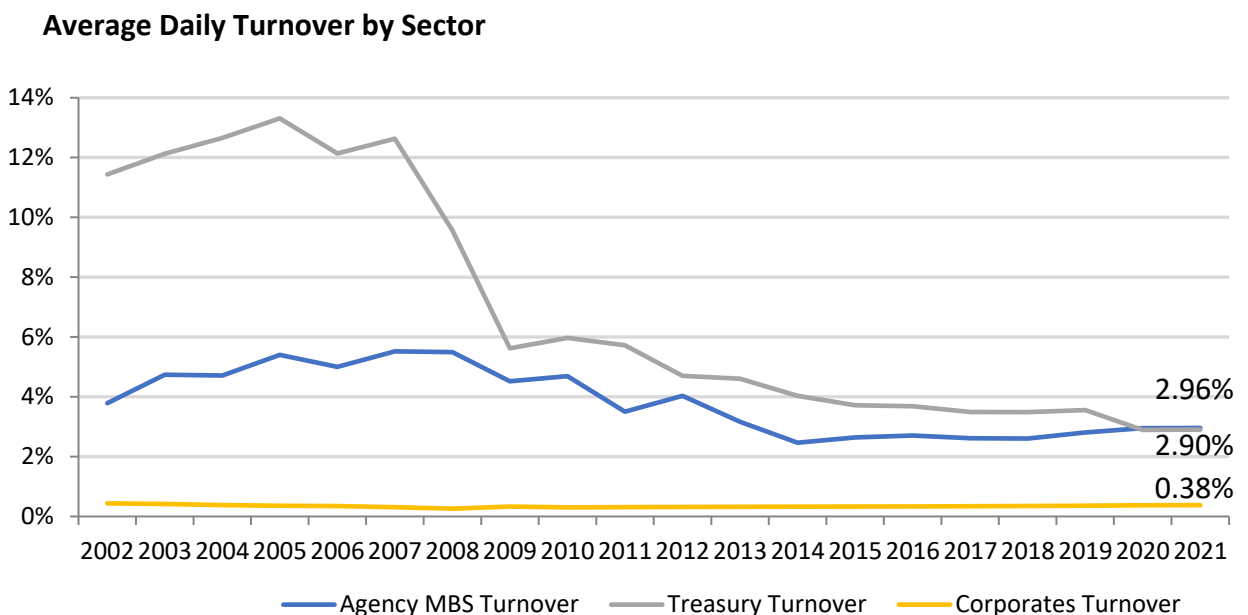
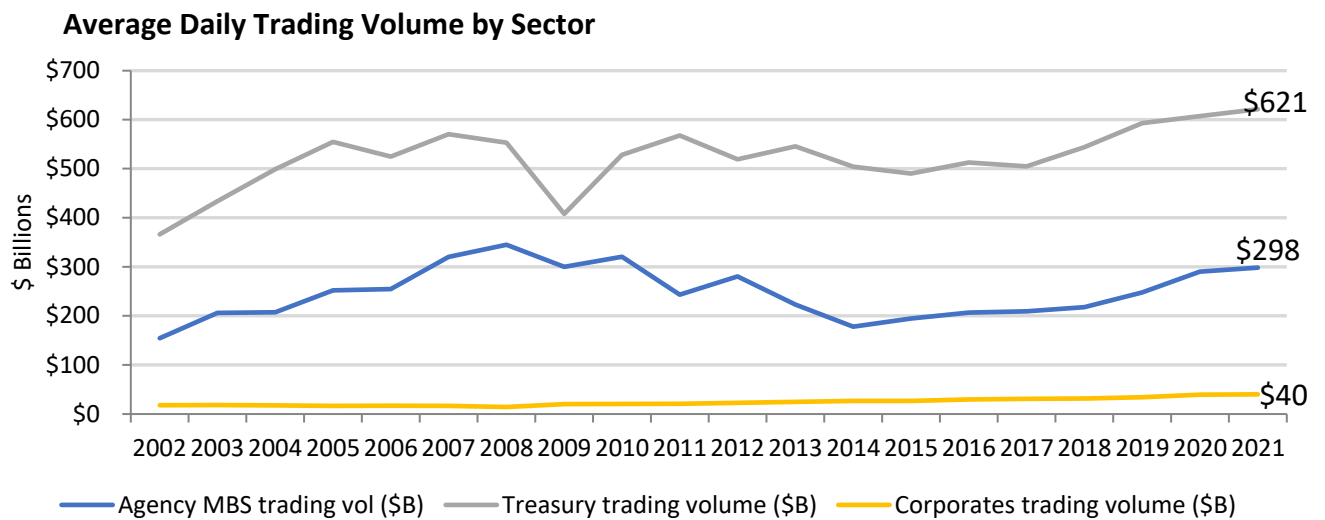


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: “Other” refers to loans insured by HUD’s Office of Public and Indian Housing and the Department of Agriculture’s Rural Development. Data as of July 2021.

7.0 Fixed Income 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 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

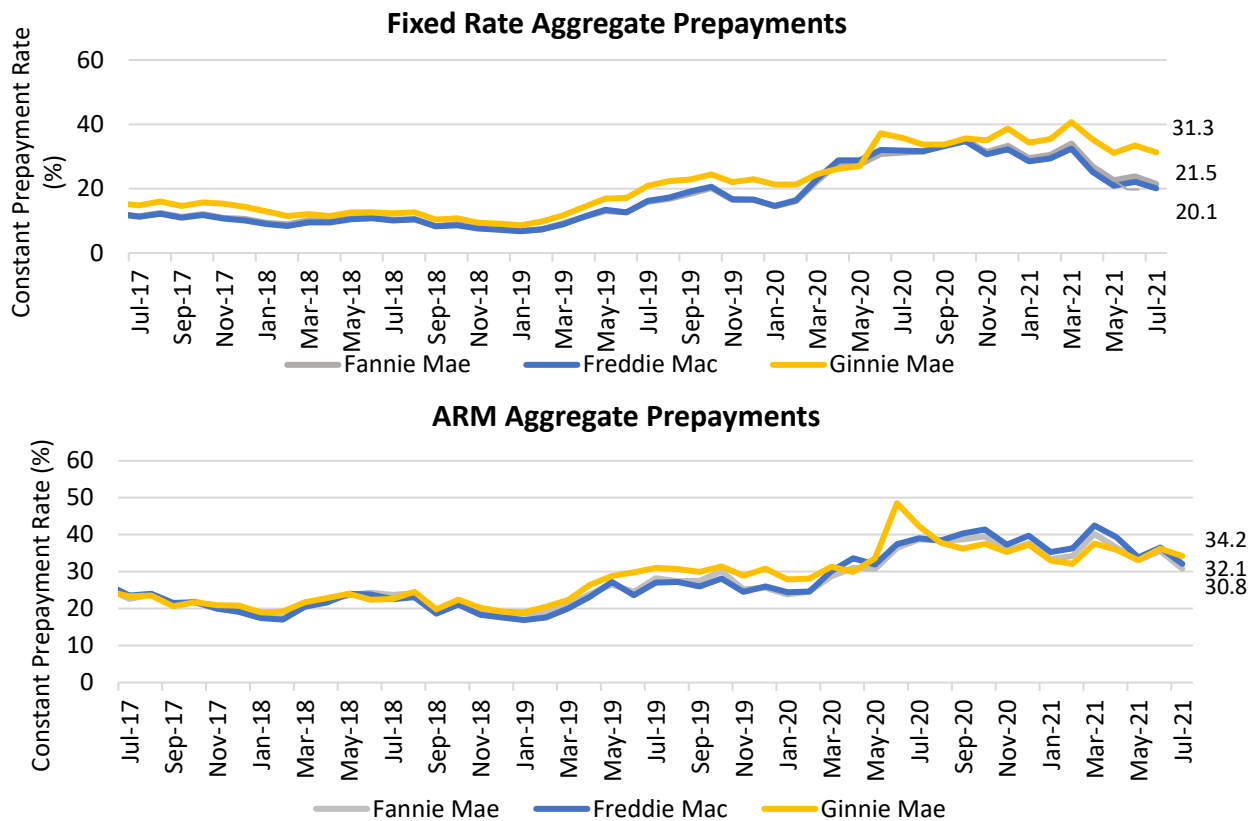


Source: SIFMA. Note: Data as of July 2021.

8.0 Prepayments

After a brief increase in June 2021, Fannie Mae and Freddie Mac fixed rate prepayment speeds continued their downward trending, posting 10% and 9% decrease, respectively. In July 2021, Ginnie Mae fixed rate prepayment speeds posted a 6% MoM decrease. Ginnie Mae 30-year buyout rates dropped by 1.5 Conditional Buyout Rate (CBR).² ARM MBS prepayments for both Ginnie Mae and the GSEs also posted an average 10% decrease across all products. With the recent termination of the FHFA refinance fee on August 1, 2021, the volume of GSE refi activity could 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.³

8.1 Aggregate Prepayments

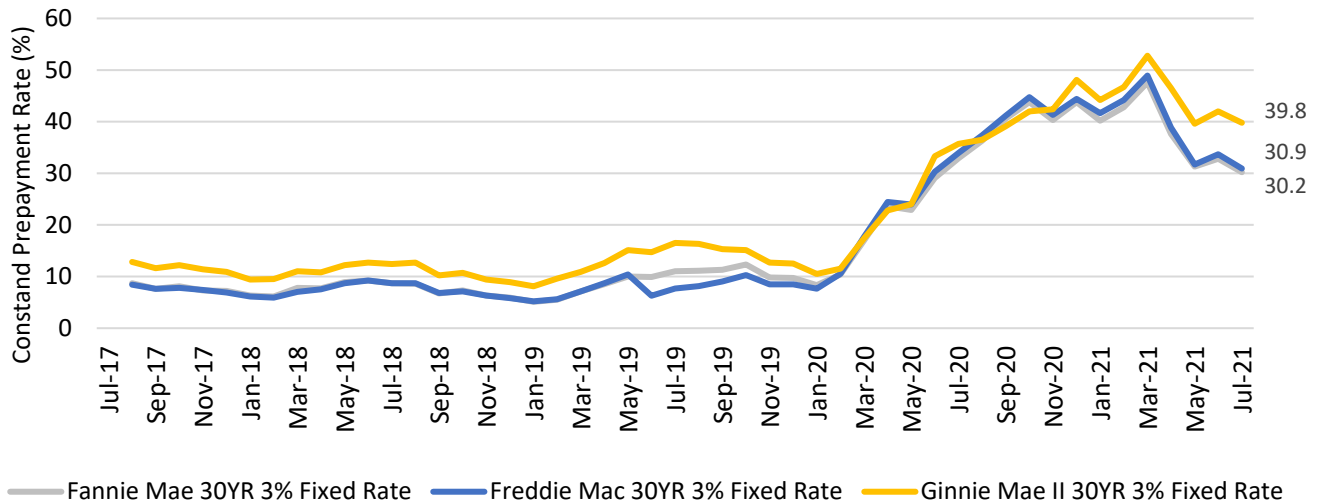


Source: eMBS; Note: Data as of July 2021.

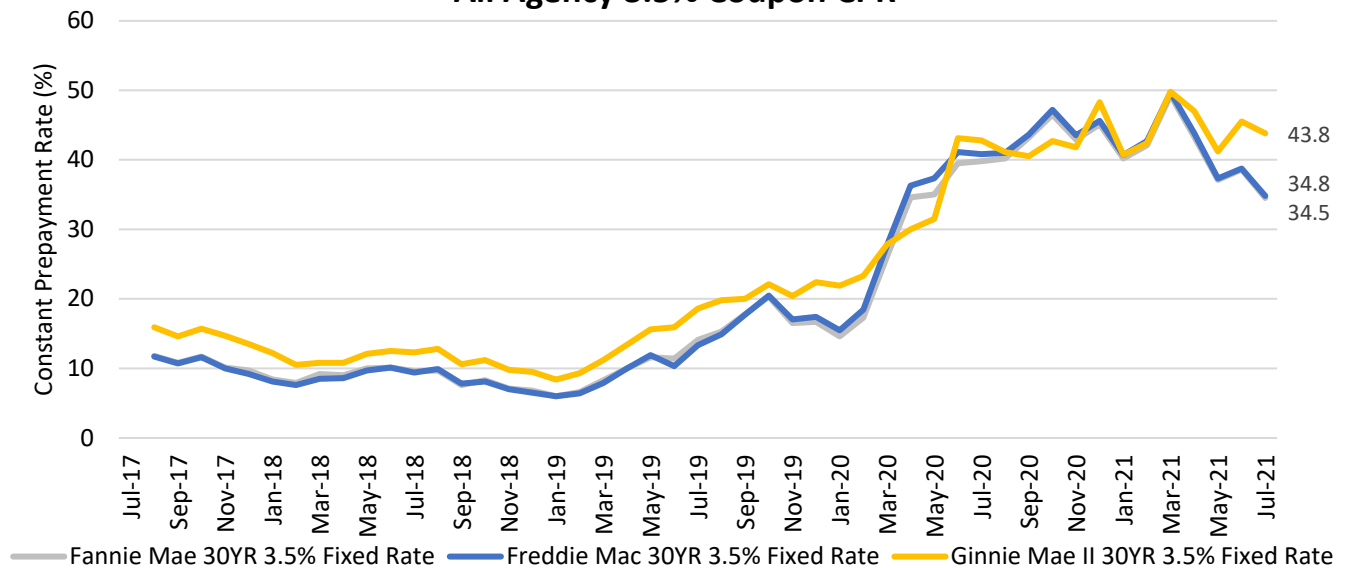
² Ahlgren R and Hong P (2021, August 6). US Structured Products Trading Desk Strategy | RMBS Strategy | Speeds Drop, in Line With Our Forecast, pp. 1. Ahlgren R and Hong P (2021, September 8). US Structured Products Trading Desk Strategy | RMBS Strategy | Speeds Slower Than Forecast as Originators Shift Focus, pp. 1.
³ <https://www.insidemortgagefinance.com/articles/221930-the-amrf-is-dead-reaction-better-profits-coming-blend-finally-goes-public-a-goldman-wells-deal-what-waters-legislative-package-means-for-lenders?v=preview>

Since the inversion in Q1 2020 and Q3 2020, the prepayment rate gap between Ginnie Mae and the GSEs has widened. Of the 2-4% coupon cohorts, the prepayment differential is the most evident in the 3-3.5% coupon cohorts where the difference widened by 9.2% CPR in July.

All Agency 3% Coupon CPR

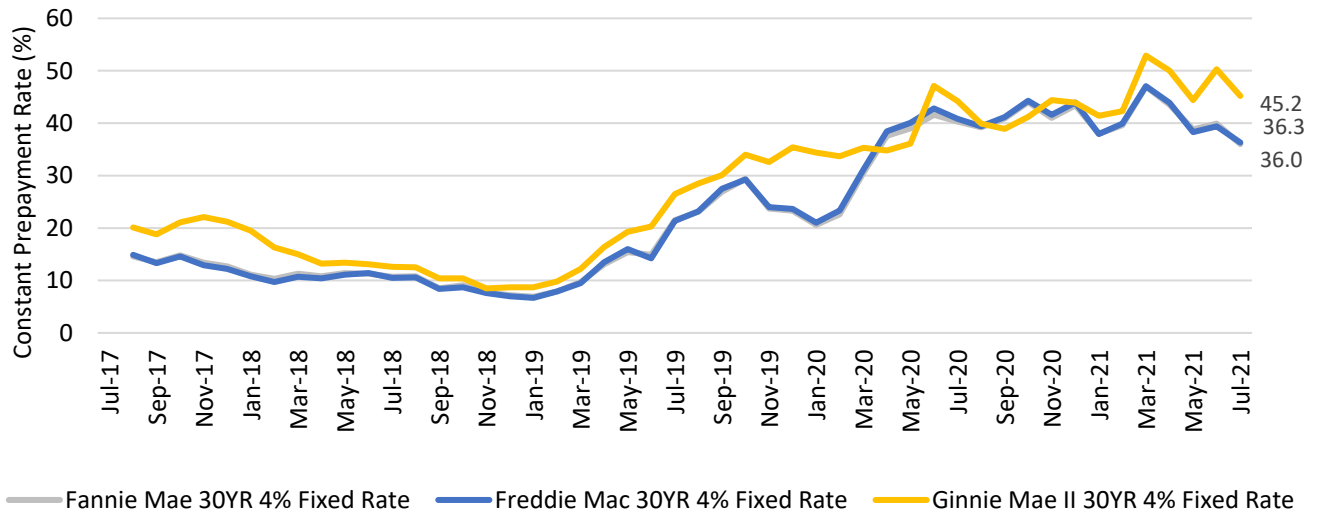


All Agency 3.5% Coupon CPR



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

All Agency 4% Coupon CPR

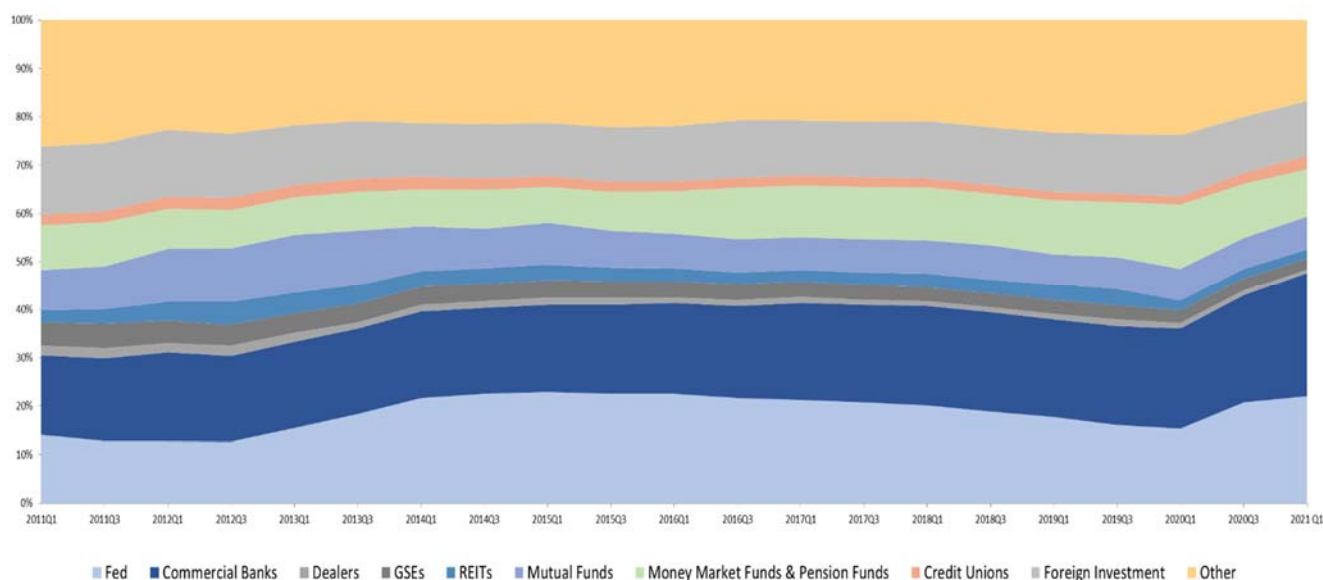


Source: eMBS. Note: Data as of July 2021. Freddie prepayment data is aggregated from 55-day UMBS and 45-day Gold PC, weighted average by July 2021 remaining principal balance.

9.0 MBS Ownership

As of Q1 2021, the largest holders of Agency debt (Agency MBS + Agency notes and bonds) included 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 \$2.9 trillion in holdings as of the end of August 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			
	Aug-20	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	4-Aug	11-Aug	18-Aug	25-Aug
Largest 25 Domestic Banks	1,751.8	1,970.9	2,000.3	2,023.3	2,053.8	2,060.2	2,081.1	2,098.4	2,083.6	2,086.4	2,106.0	2,106.6
Small Domestic Banks	540.3	621.0	639.7	656.0	674.4	683.5	695.8	711.8	704.1	709.5	711.4	710.4
Foreign Related Banks	42.7	52.3	50.6	51.0	49.3	46.4	46.0	48.4	49.3	47.6	47.0	47.2
Total, Seasonally Adjusted	2,334.8	2,644.2	2,690.6	2,730.3	2,777.5	2,790.1	2,822.9	2,858.6	2,837.0	2,843.5	2,864.4	2,864.2

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

9.2 Bank and Thrift Residential MBS Holdings

In Q2 2021, MBS holdings at banks and thrifts increased for the eleventh consecutive quarter. The increase was driven by both GSE pass-throughs and Private CMO holdings, with the increase in GSE pass-throughs making the larger contribution. Total bank and thrift MBS holdings increased by 3% from Q1 2021. Out of the \$2.8 trillion in MBS holdings at banks and thrifts as of Q2 2021, \$2.2 trillion were Agency pass-throughs. \$1.8 trillion were GSE pass-throughs and \$353 billion were Ginnie Mae pass-throughs. Another \$555 billion were Agency CMOs, while non-Agency holdings totaled \$48 billion.

Bank and Thrift Residential MBS Holdings

Year	All Banks & Thrifts (\$ in billions)						All MBS (\$ in billions)	
	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
2Q21	2,781.91	1,825.80	352.77	4.77	555.45	43.12	2,431.76	350.15
Change:								
1Q21-2Q21	3%	7%	-6%	-2%	0%	2%	3%	3%
2Q20-2Q21	27%	49%	-20%	-5%	16%	2%	25%	41%

Source: Inside Mortgage Finance. Notes: Data as of Q2 2021.

Bank and Thrift Residential MBS Holdings

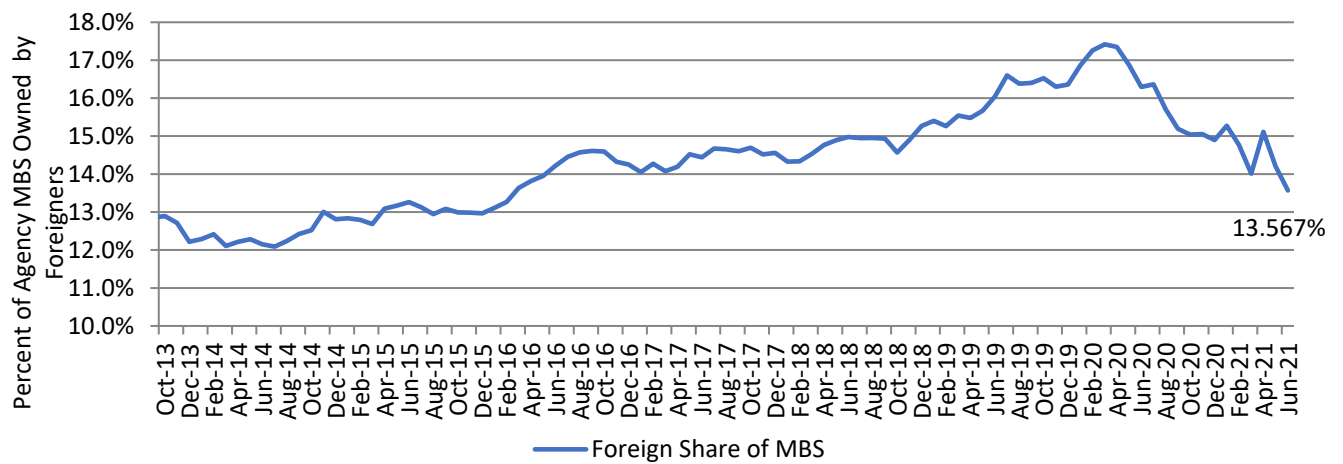
Top Bank & Thrift Residential MBS Investors (\$ in millions)							
	Institution	Total	GSE PT	GNMA PT	Agency CMO	Non-Agency	Share
1	Bank of America Corporation	611,942.0	510,382.0	89,844.0	11,484.0	232.0	22%
2	Wells Fargo & Company	277,627.0	206,837.0	65,204.0	5,170.0	416.0	10%
3	Charles Schwab Bank	180,800.0	91,697.0	10,560.0	78,543.0	-	7%
4	JPMorgan Chase & Co.	170,868.0	97,339.0	59,649.0	135.0	13,745.0	6%
5	Truist Bank	124,588.0	53,308.0	11,609.0	59,164.0	507.0	5%
6	U.S. Bancorp	120,203.0	84,365.2	21,545.5	14,291.9	0.4	4%
7	Citigroup Inc.	96,396.0	89,447.0	1,784.0	4,004.0	1,161.0	4%
8	Capital One Financial Corporation	77,750.4	45,284.1	9,903.8	22,018.6	543.9	3%
9	PNC Bank, National Corporation	57,478.7	48,260.8	6,794.5	1,100.7	1,322.7	2%
10	Bank of New York Mellon Corp	56,473.0	42,325.0	2,415.0	9,203.0	2,530.0	2%
11	Silicon Valley Bank	54,124.3	45,380.0	2,797.2	5,947.1	-	2%
12	USAA Federal Savings Bank	45,810.4	39,747.6	1,985.5	4,077.4	-	2%
13	State Street Bank and Trust Company	41,711.7	17,771.0	4,976.0	16,559.7	2,405.0	2%
14	E*Trade Bank	34,917.2	27,426.9	5,270.2	2,220.1	-	1%
15	Morgan Stanley	32,548.0	21,163.0	3,910.0	7,475.0	-	1%
16	The Huntington National Bank	24,589.1	16,904.6	2,600.0	4,942.2	142.2	1%
17	Ally Bank	24,144.0	18,093.0	868.0	2,297.0	2,886.0	1%
18	HSBC Bank USA, National Association	23,563.2	7,776.0	7,591.4	8,194.3	1.6	1%
19	TD Bank USA/TD Bank NA	23,494.6	1,379.5	122.8	21,895.8	96.4	1%
20	BMO Harris Bank National Association	23,258.0	4,410.4	391.7	18,450.3	5.6	1%
Total Top 20		2,102,286.60	1,469,297.1	309,821.6	297,173.1	25,994.8	76%

Source: Inside Mortgage Finance. Notes: Data as of Q2 2021.

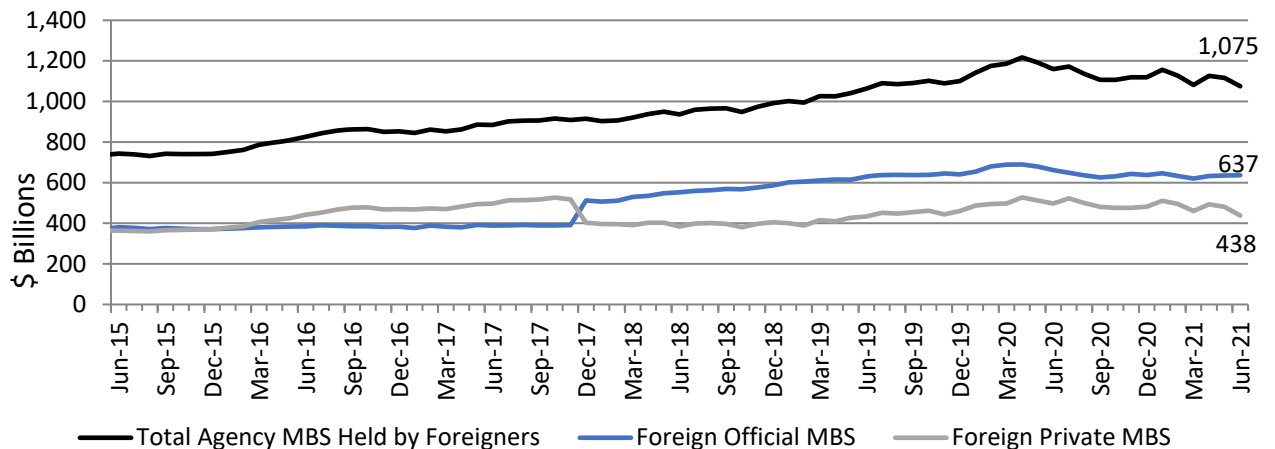
9.3 Foreign Ownership of MBS

For the month of June 2021, foreign ownership of MBS represents \$1.08 trillion in Agency MBS, which includes \$438 billion held by foreign private institutions and \$637 billion held by foreign official institutions. This represents an overall decrease of \$41 billion in foreign holdings of Agency MBS since May 2021. Foreign investors held approximately 14% of Agency MBS in June 2021.

Foreign Share of Agency MBS Market



Monthly Foreign MBS Holdings



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 June 2021.

9.4 Foreign Ownership of Agency Debt and Agency MBS

The largest non-US holders of Agency MBS are in Japan, Taiwan, and China. These three own 70% of all US MBS held by investors outside of the United States. Between June 2020 and June 2021, these top three have decreased their Agency MBS holdings by over \$4.6 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
Total	1,171,603	1,183,923	1,147,702	1,136,924	12,320	-36,221	-10,778

Agency MBS

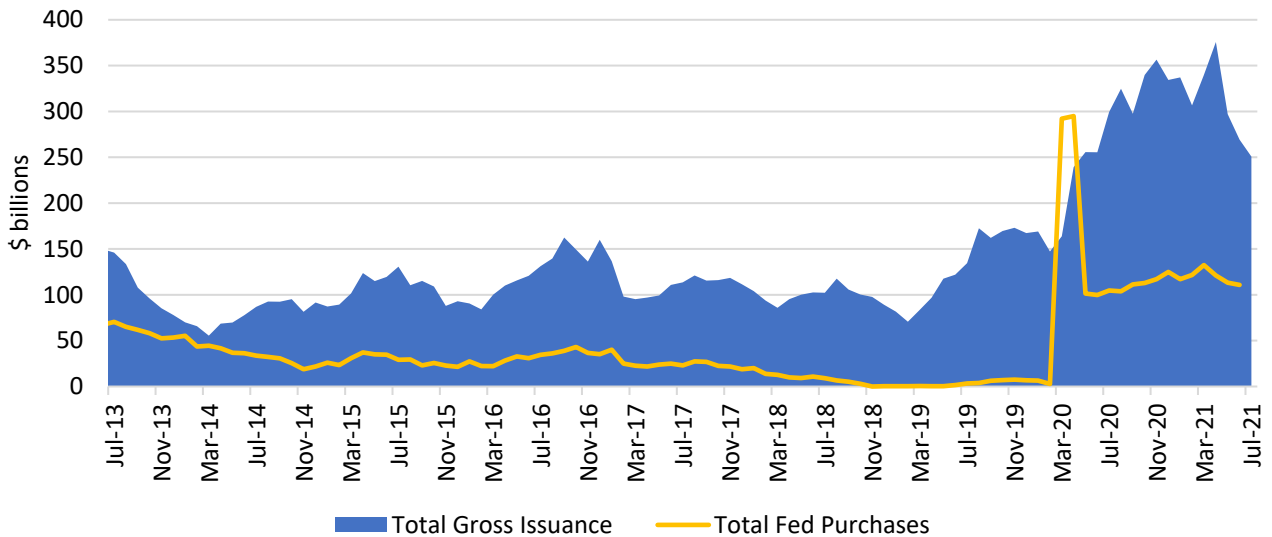
Country	Level of Holdings (\$ Millions)		
	6/1/2020	6/1/2021	YoY Change in Holdings (\$ Millions)
Japan	306,963	305,580	-1,383
Taiwan	267,700	267,492	-208
China	235,078	232,076	-3,002
Luxembourg	40,207	34,255	-5,952
Ireland	21,091	25,336	4,245
South Korea	28,743	34,313	5,570
Cayman Islands	28,431	29,682	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
Total	1,159,809	1,156,341	-3,468

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.

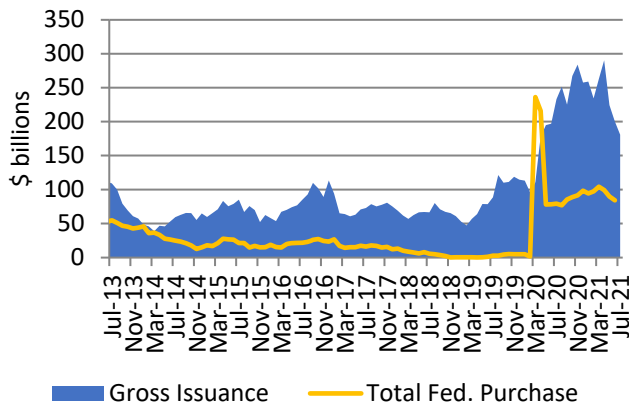
9.5 Federal Reserve Absorption of Agency MBS

The Fed purchased \$98.2 billion in July 2021 (39.1% of monthly gross issuance) which was a slight decline from the \$110.8 billion purchased in June 2021 (41% of monthly gross issuance). Fed purchases of Ginnie Mae MBS decreased MoM, with \$19.5 billion (27.8% of gross Ginnie Mae Issuance) compared to \$26.6 billion in Fed purchases (38.8% of gross Ginnie Mae issuance) in June 2021. As of July 2021, according to the Federal Reserve, total Agency MBS owned by the Fed equaled \$2.4 trillion. Prior to the COVID-19 intervention, the Fed was winding down its MBS portfolio from its 2014 prior peak.

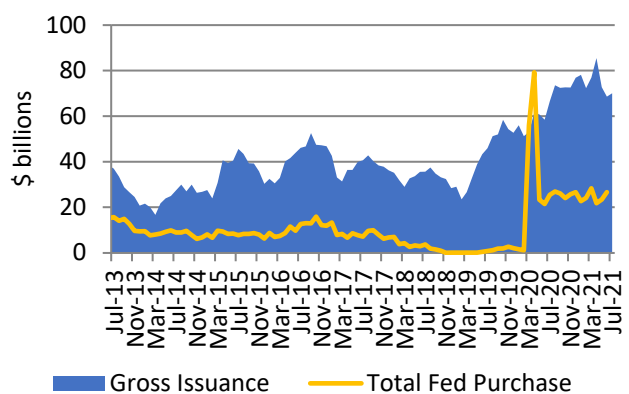
Total Fed Absorption



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 July 2021.

Disclosure:

“The data provided in the Global Markets Analysis Report (hereinafter, the “report”) should be considered as general information only and is current only as of its specified date, unless otherwise noted. No information contained herein is, and should not be construed to be, investment advice. Nor does any information contained herein constitute an offer to sell, or is a solicitation of an offer to buy, securities.

The information contained herein is based upon information generally available to the public from sources believed to be reliable as of the specified date. The accuracy of the information contained herein is based on the corresponding accuracy of the issuer data as reported to the Government National Mortgage Association (hereinafter, “Ginnie Mae”).

Therefore, if there is insufficient or inaccurate data to support calculations of any specific disclosure information, Ginnie Mae disclaims any and all liability relating to that information, including, without limitation, any express or implied representations or warranties for statements or errors contained in, or omissions from, the report.

The forward-looking statements, and underlying assumptions, speak only as of the date of September 21, 2021. Ginnie Mae expressly disclaims any obligation or undertaking to update or revise any forward-looking statement or underlying assumption contained in the report to reflect any change in its expectations or any change in circumstances upon which such statement is based.

Past performance is not a guarantee of future results. Accordingly, there are no assurances given, nor representations or warranties made, that all estimated returns or projections will be realized, or that actual returns or performance results will not materially differ from those estimated herein.”