

Global Markets Analysis Report

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

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Table of Contents

Table of Contents	i
Highlights	2
1.0 Relative Attractiveness of US Fixed Income and Ginnie Mae MBS	4
1.1 Barclays US Aggregate and Global Indices	4
1.2 Global 10-Year Treasury Yields	5
1.3 Ginnie Mae Yields – USD	6
1.4 Ginnie Mae Yield Spreads – Intermediate Credit	7
1.5 Global Treasury Yield Per Duration	8
1.6 Monthly REMIC Demand for Ginnie Mae MBS	9
2.0 State of the US Housing Market	10
2.1 National HPI	10
2.2 Size and Value of the US Housing Market	12
2.3 Serious Delinquency Rates	13
2.4 Characteristics of Ginnie Mae Loans in Forbearance	14
2.5 Ginnie Mae Agency Issuance and Agency Outstanding by State	17
2.6 Outstanding Single-Family Agency MBS	18
2.7 Outstanding Ginnie Mae MBS Volume by Coupon and Vintage Over Time	19
2.8 Origination Volume and Share Over Time	20
3.0 US Agency Market, Single-Family Issuance	21
3.1 Percent Refi at Issuance	24
4.0 High LTV Loans: Ginnie Mae vs. GSEs	25
5.0 Holders of Ginnie Mae Mortgage Servicing Rights	26
6.0 Agency Nonbank Originators	27
6.1 Agency Nonbank Originator Share (All, Purchase, Refi)	27
6.2 Ginnie Mae Nonbank Originator Share (All, Purchase, Refi)	28
6.3 Bank vs. Nonbank Originators Historical Credit Box, Ginnie Mae vs. GSE (FICO, LTV, DTI)	29
7.0 Fixed Income Market Conditions	33
7.1 Average Daily Trading Volume and Turnover by Sector	33
8.0 Prepayments	34
8.1 Aggregate Prepayments	34
9.0 MBS Ownership	35
9.1 Commercial Bank Holdings of Agency MBS	35
9.2 Bank and Thrift Residential MBS Holdings	36
9.3 Foreign Ownership of MBS	38
9.4 Foreign Ownership of Agency Debt and Agency MBS	39

Highlights

In the first quarter of calendar year 2022 (2022 Q1), the U.S. housing market experienced significant changes in market factors that have resulted in changes to investor projections for the mortgage-backed securities (MBS) market. Despite recent market uncertainty, Ginnie Mae has continued to link the US housing market to global capital markets and provide low-cost financing for consumers throughout the United States. Ginnie Mae closely monitors market factors to determine how best to continue its mission while also providing full faith and credit liquid securities to fixed income investors around the globe. As discussed in the [January 2022 edition of the Global Market Analysis Report](#), in 2022 the U.S. mortgage market would experience higher mortgage rates, fewer refinances, more purchase volume, and home-price appreciation. With 2022 Q1 complete, the April 2022 edition of the **Highlights** section in the **Global Market Analysis Report** revisits those expectations and presents data that either supports expectations or has resulted in changes to mortgage market estimates.

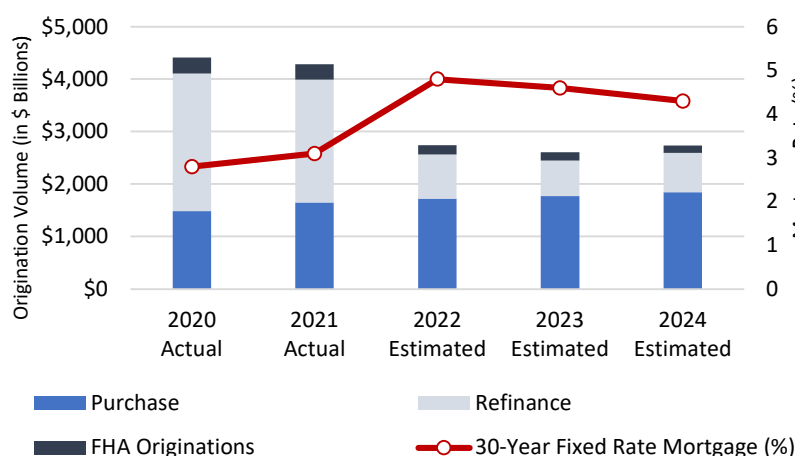


Figure 1. MBA Mortgage Finance Forecast, April 13, 2022¹

On April 13th, 2022, Mortgage Bankers Association (MBA) released an updated Mortgage Finance Forecast which recorded a decrease in estimated origination volumes for 2022 and 2023 while showing a rebound in estimated origination volumes for 2024.¹ Most notable was the change in expected 30-Year fixed rate mortgage for 2022. In December 2021, MBA estimated that the 30-Year Fixed Rate Mortgage would reach 4% by the end of 2022, however, as of April 14th, 2022, the 30-Year Fixed Rate Mortgage Average in the U.S. reached 5%.² MBA now

predicts that the 30-Year Fixed Rate Mortgage will end 2022 at 4.8%.

Rising mortgage rates and an estimated decrease in origination volume may result in reduced collateral available for securitization into MBS. However, despite indicators that MBS production may decline of available collateral in 2022, Ginnie Mae MBS issuance volume January 2022 to March 2022 was \$167.2 billion, which is a slight increase from the pre-pandemic MBS issuance volume of \$165.7 billion for January 2020 to March 2020. Figure 2, on the following page, shows Ginnie Mae MBS issuance levels returning to a pre-pandemic level, driven by an estimated 60% reduction in refinance activity from a year ago³. Additionally, while collateral availability may decline due to reduced refinance activity, “MBA continues to expect purchase originations to reach a new record in 2022,”⁴ which may continue to provide MBS collateral availability.

¹ https://www.mba.org/docs/default-source/research-and-forecasts/forecasts/mortgage-finance-forecast-apr-2022.pdf?sfvrsn=983665d9_2

² <https://fred.stlouisfed.org/series/MORTGAGE30US>

³ <https://www.housingwire.com/articles/purchase-mortgages-cross-dreaded-5-threshold/>

⁴ https://www.mba.org/docs/default-source/research-and-forecasts/forecasts/forecast-commentary-april-2022.pdf?sfvrsn=a5365ab7_2

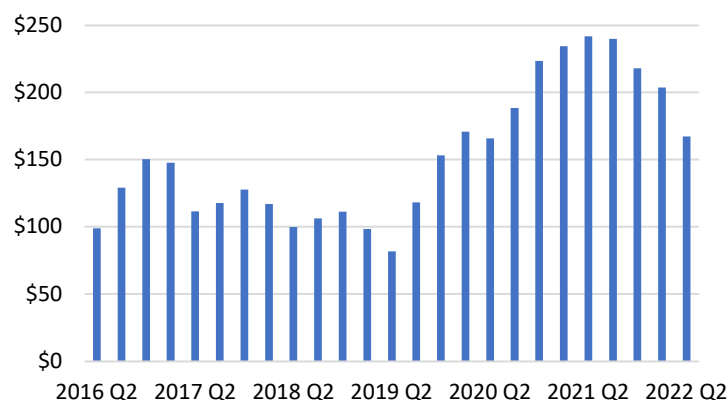


Figure 2. Ginnie Mae MBS Issuance (in \$ Billions)

A key driver in the faster than anticipated mortgage rate rise has been the Federal Reserve action, and market expectations around planned action, as it relates to the increasing of the target range for the federal funds rate. Following the most recent Federal Open Market Committee (FOMC) meeting, the Committee announced an increase to the target range for the federal funds rate from 0 to 25 basis points (bps) to 25 to 50 bps, and one member of the Committee voted to raise the target range even further to 50 to 75 bps. With inflation running higher than the Fed's target of

2%, market participants are anticipating more rate increases throughout 2022. In the March FOMC meeting minutes, Committee members indicated that, "futures prices implied that the federal funds rate would increase around 170 basis points through year-end, about 70 basis points more than had been priced in at the time of the January meeting."⁵ Throughout the meeting minutes, conversation among committee members demonstrates that market participants predict that the federal funds target range at the end of 2022 will be above 1% and perhaps closer to 1.5%.⁵ The March 2022 increase in the federal funds rate, and anticipated increases in 2022, may continue to drive refinancing activity and purchase volume down in the origination market.

Home price appreciation (HPA) will continue to play a large role in the mortgage origination market as home prices nationwide increased 20% in February 2022, year-over-year.⁶ New home construction continues to lag due to supply chain disruptions and inflationary pressure, which has contributed to the continued increase in home prices across the United States and limited mortgage origination volume. Michael Fratantoni, MBA's Senior Vice President and Chief Economist, stated in [MBA's April Forecast Commentary](#) that, "higher home prices and rates as well as ongoing supply constraints are now expected to lead to an annual decline in existing home sales. Even though existing sales volume will be slightly lower than last year, the continued growth in new home sales and the rapid rise in home prices should deliver a smaller, but solid, 4-percent annual growth in purchase origination volume."⁷ However, [Wells Fargo's Housing Chartbook](#) states that sales of new homes, "should hold up reasonably well thanks to significant pent-up demand and a rising tide of Millennial buyers."⁸

Federal Reserve actions, inflationary pressure, and rising rates have generated uncertainty in the fixed income market over the first quarter of calendar year 2022. Ginnie Mae continues to work with the Federal Housing Administration, Department of Veteran Affairs, and Rural Housing Services to increase homeownership in the U.S. while also providing liquid high-quality securities for investors. Ginnie Mae's President, Alanna McCargo, stated that, "with rising interest rates, we expect [MBS] volumes to decline as affordability is challenged. In this current environment, we are steadfast in our mission to remain a consistent source of finance for affordable housing and to find innovative ways to expand access to credit."

⁵ <https://www.federalreserve.gov/monetarypolicy/files/fomcminutes20220316.pdf>

⁶ <https://www.corelogic.com/intelligence/u-s-home-price-insights/>

⁷ https://www.mba.org/docs/default-source/research-and-forecasts/forecasts/forecast-commentary-april-2022.pdf?sfvrsn=a5365ab7_2

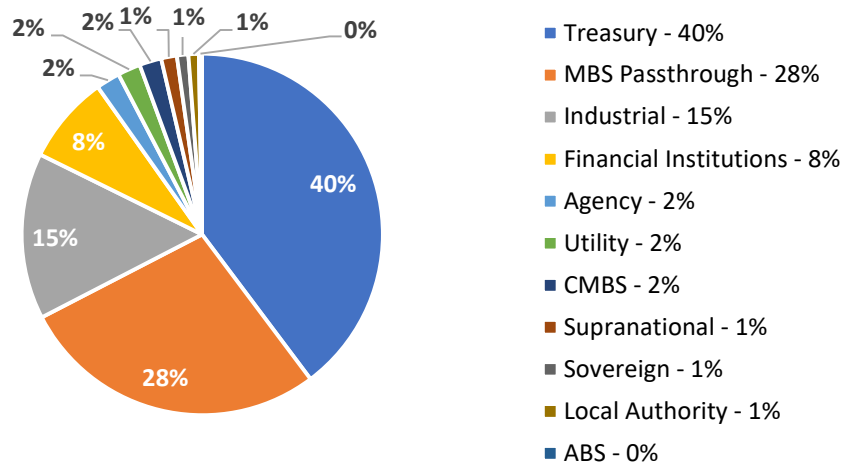
⁸ <https://wellsfargo.bluematrix.com/links2/html/b1f2bb0d-a1ee-4acf-b560-b04aa265a61f>

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

1.0 Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

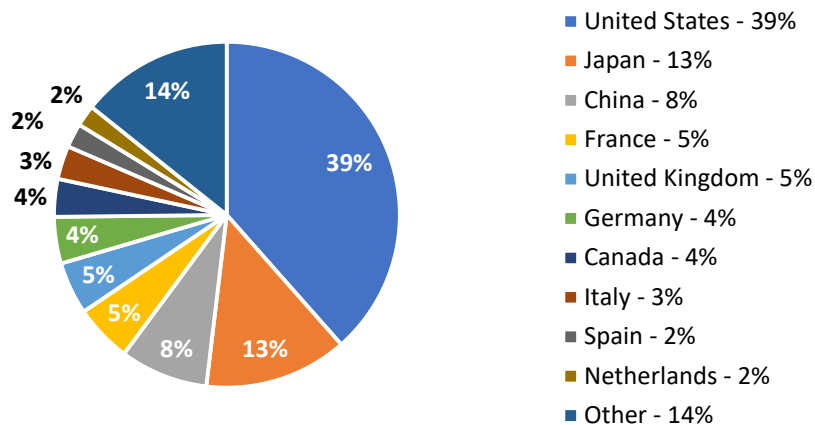
1.1 Barclays US Aggregate and Global Indices

Barclays US Aggregate Index



US Treasuries contribute approximately 40% to the Barclays US Aggregate Index. US MBS (Ginnie Mae, Fannie Mae, and Freddie Mac) contribute approximately 28% to the Barclays US Aggregate Index. For the US Aggregate Index, the month over month (MoM) changes to the index components were no larger than 1%.

Barclays Global Aggregate Index by Country



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 39% of the total Barclays Global Aggregate Index. All categories remained stable when compared to the prior month.

Source: Bloomberg. Note: Data as of March 2022. Figures in charts may not add to 100% due to rounding.

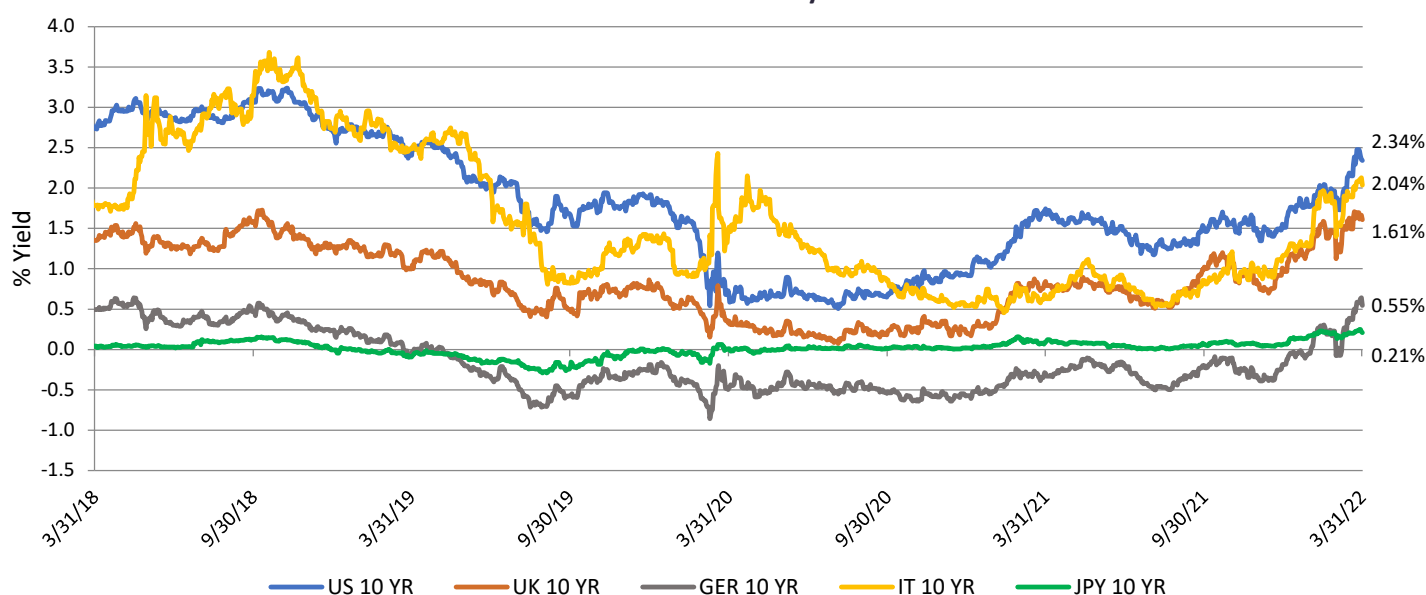
Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

1.2 Global 10-Year Treasury Yields

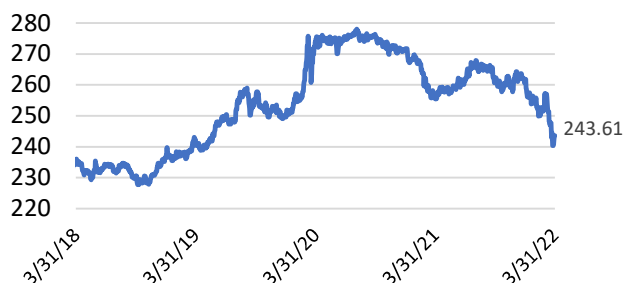
The US 10-year Treasury yield moved to 2.34% at month end March 2022, a MoM increase of 51 bps. US Treasury yields remain the highest of all the government treasury yields depicted in the figure below.

- The yield on the UK 10-year government notes increased to 1.61% at month-end March, a MoM increase of 20 bps.
- The yield on the German 10-year note increased to 0.55% at month-end March, a MoM increase of 41 bps.
- The yield on the Italian 10-year note increased to 2.04% at month-end March, a MoM increase of 33 bps.
- The yield on the Japanese 10-year government notes increased to 0.21% at month-end March, a MoM increase of 2 bps.
- The hedged yield for the 10-year Treasury JPY decreased to 2.44% at month-end March, a MoM decrease of 9 bps.
- The hedged yield for the 10-year Treasury EUR decreased to 1.39% at month-end March, a MoM decrease of 6 bps.

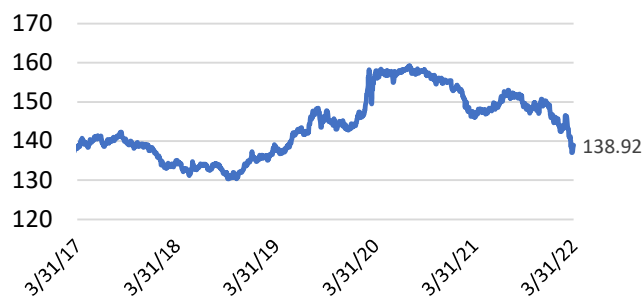
Global 10-Year Treasury Yields



7–10yr Total Return Hedged Index, JPY



7–10yr Total Return Hedged Index, EUR



Source: Bloomberg. Note: Data as of March 2022

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

1.3 Ginnie Mae Yields – USD

Ginnie Mae fixed rate MBS yields increased MoM in March 2022. Ginnie Mae II yields were at 3.34% at month end March, up by 82 bps MoM. Ginnie Mae I yields were at 3.39%, up by 81 bps MoM. At month end March, Ginnie Mae II SF yields were 100 bps higher than the US 10-year Treasury yield, an increase in spread of 31 bps MoM. The yields on the Ginnie Mae I SF were 105 bps higher than the US 10-year Treasury yield at month end March, an increase in spread of 29 bps MoM.



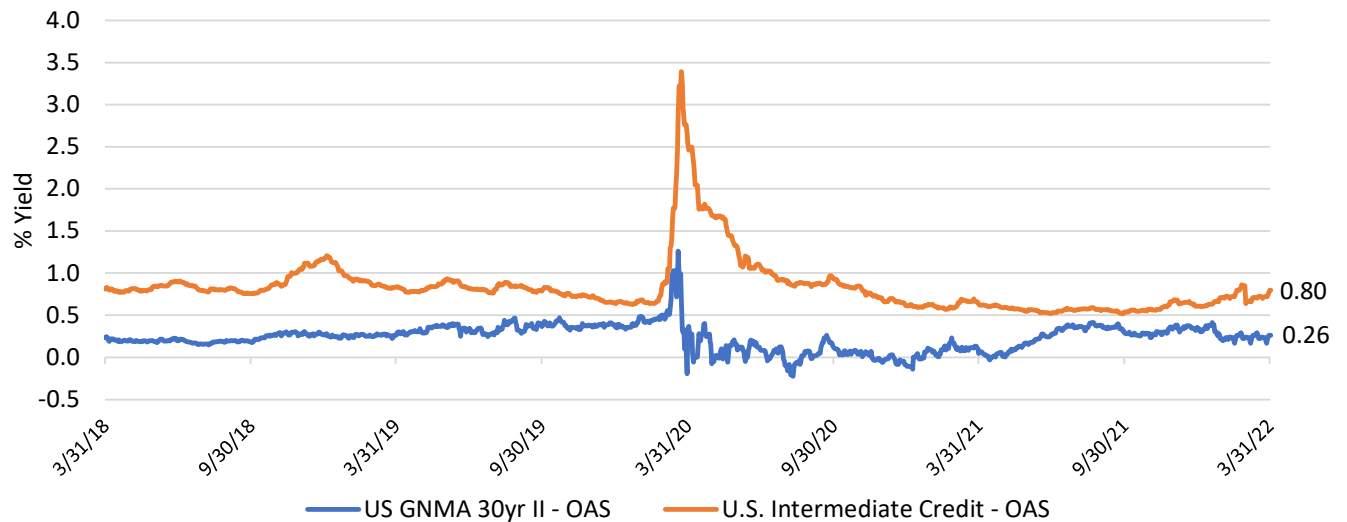
Sources: Bloomberg. Note: Data as of March 2022

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

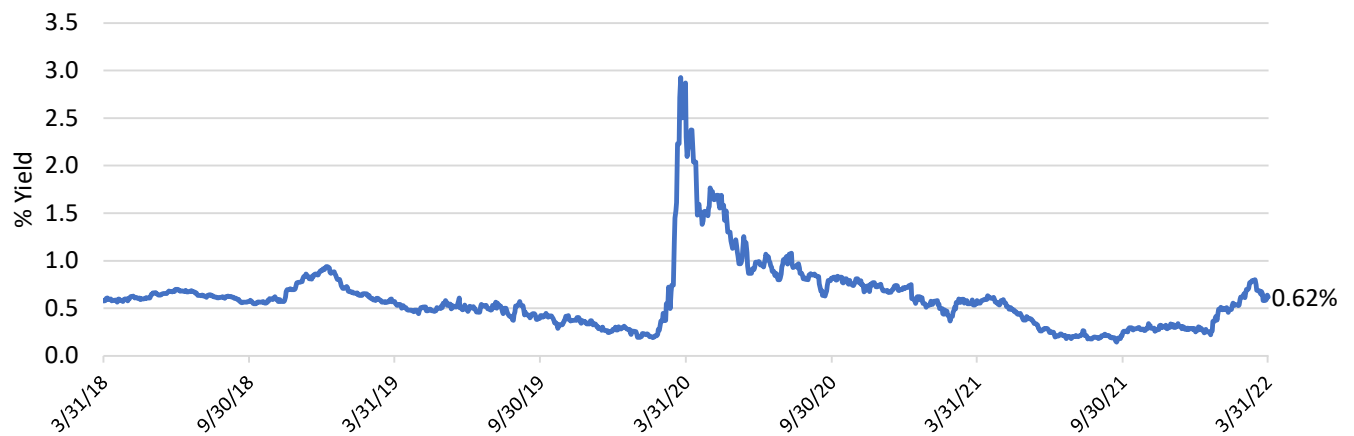
1.4 Ginnie Mae Yield Spreads – Intermediate Credit

The yield differential between US Intermediate Credit and GNMA II 30-year OAS remained stable at 0.62% at month end March. The Ginnie Mae II 30-year OAS increased 4 bps MoM. The US Intermediate credit OAS has decreased 5 bps MoM.

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



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



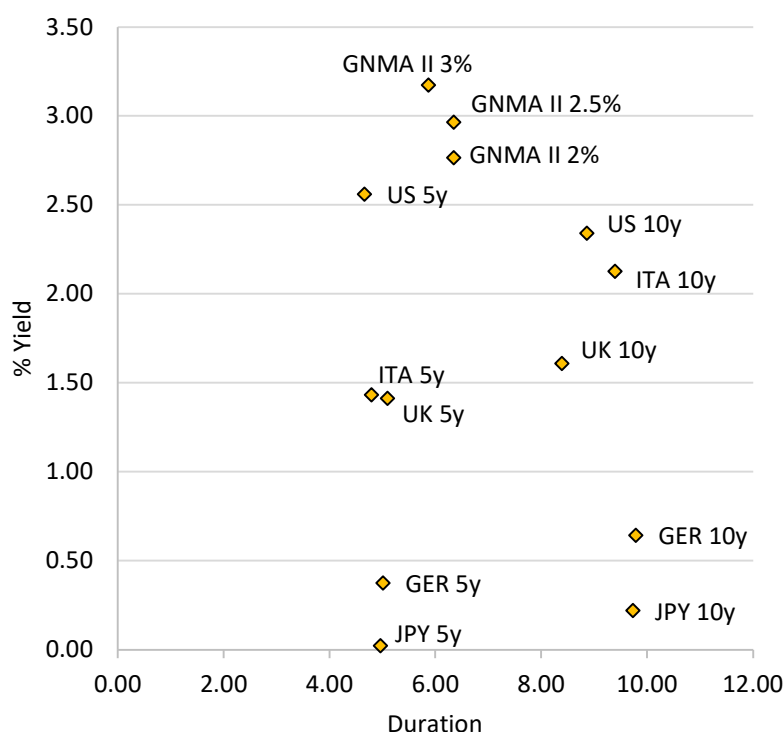
Source: Bloomberg. Note: Data as of March 2022.

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

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. In March, the GNMA II 2.5% securities duration increased MoM by 0.10 units and yield increased MoM by 47 bps. In March, the GNMA II 3% securities duration increased MoM by 0.16 units and yield increased MoM by 49 bps.

Yield vs. Duration



Security	Duration	Yield
US 5y	4.66	2.56
US 10y	8.86	2.34
JPY 5y	4.96	0.02
JPY 10y	9.73	0.21
GER 5y	5.01	0.37
GER 10y	9.79	0.55
ITA 5y	4.79	1.43
ITA 10y	9.39	2.04
UK 5y	5.10	1.41
UK 10y	8.39	1.61
GNMA II 2%	6.35	2.77
GNMA II 2.5%	6.35	2.96
GNMA II 3%	5.87	3.17

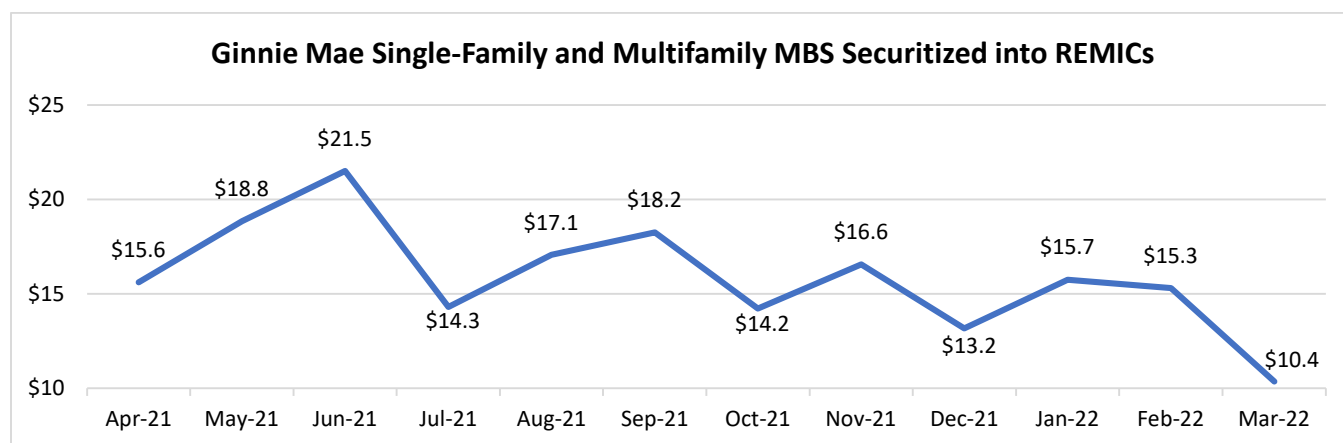
Source: Bloomberg. Note: Yield and modified duration for GNMA II securities is from illustrative TBA using base prepayment assumptions and an assumed settlement of 4/20. All other data is as of March 2022. Yields are in base currency of security and unhedged.

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

1.6 Monthly REMIC Demand for Ginnie Mae MBS

In March 2022, \$10.4 billion of Ginnie Mae MBS were securitized into Real Estate Mortgage Investment Conduits (REMICs) as underlying collateral. Of that \$10.4 billion, approximately \$3.0 billion were Multifamily MBS, all having coupons between 2% and 3%. \$7.4 billion were Single-Family MBS with over 75-percent of the Single-Family MBS having coupons between 2.5% and 3.5%.

The \$10.4 billion of Ginnie Mae MBS securitized into REMICs was the lowest level of MBS securitized into REMICs since May 2020.



March 2022 REMIC Collateral Coupon Distribution

Net Coupon (%)	Approx. Ginnie Mae MBS amount securitized into REMIC Deals (\$MM) ⁹	% Breakdown of REMIC Collateral by coupon ¹⁷
Multifamily		
2.01-2.50	649.1	38%
2.51-3.00	2,337.6	62%
Subtotal	2,986.7	100%
Single Family		
<2.00	-	0%
2.01-2.50	10.1	0%
2.51-3.00	1,586.7	22%
3.01-3.50	3,898.4	53%
3.51-4.00	1,495.3	20%
4.01-4.50	217.3	3%
4.51-5.00	166.7	2%
Subtotal	7,374.5	100%
Grand Total	10,361.2	

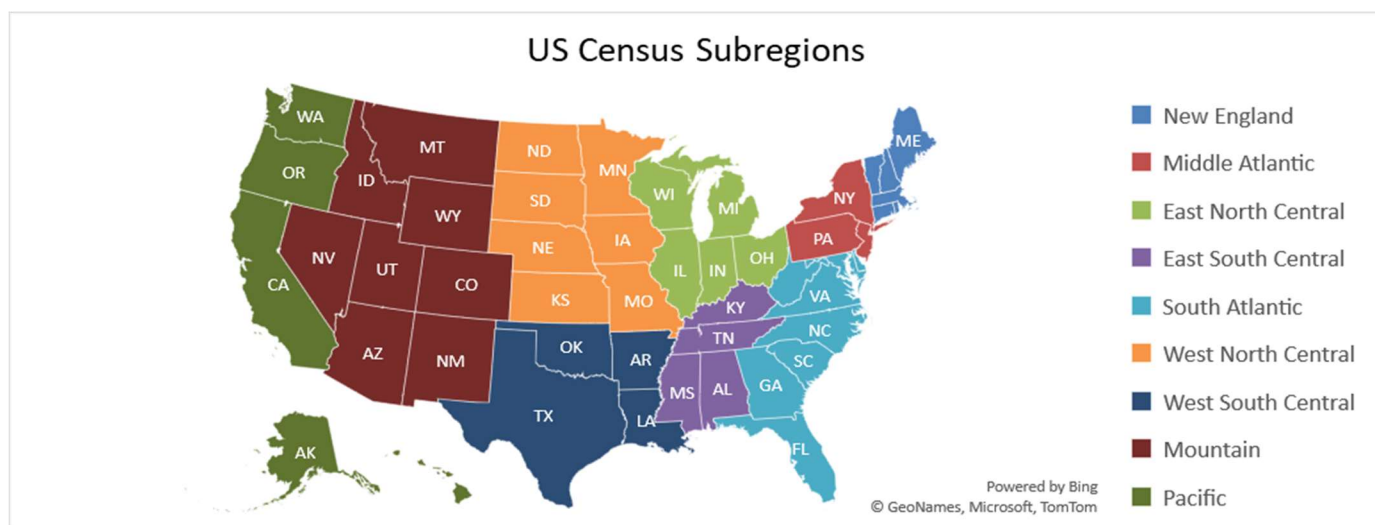
⁹Totals may not sum due to rounding.

2.0 State of the US Housing Market

2.1 National HPI

Home prices have increased rapidly during the pandemic, with Compound Annual Growth Rate (CAGR) for HPI at 15.1% between March 2020 and January 2022. Over that same period, the Mountain region has had the greatest home price appreciation (18.6% CAGR), while in the West North Central region, increases in home values have been the slowest (12.6% CAGR).

U.S. Census Subregion	New England	Middle Atlantic	East North Central	East South Central	South Atlantic	West North Central	West South Central	Mountain	Pacific	National
2000 to Peak CAGR	10.5%	8.7%	4.0%	4.6%	8.7%	5.0%	4.3%	8.3%	13.9%	7.1%
Peak to Trough CAGR	-8.3%	-5.3%	-9.7%	-5.5%	-14.1%	-5.7%	-2.1%	-15.1%	-17.9%	-9.7%
Trough to Pandemic CAGR	3.7%	3.6%	4.8%	4.5%	5.9%	4.7%	5.1%	8.3%	8.1%	5.5%
Pandemic CAGR	14.5%	12.9%	13.1%	15.8%	17.0%	12.6%	14.3%	18.6%	16.6%	15.1%
12-Month Period of Max HPI Growth During Pandemic	7-2020 to 6-2021	8-2020 to 7-2021	7-2020 to 6-2021	2-2021 to 1-2022	2-2021 to 1-2022	6-2020 to 5-2021	2-2021 to 1-2022	9-2020 to 8-2021	8-2020 to 7-2021	8-2020 to 7-2021
Max 12-Month Period Change, During Pandemic	21.7%	18.1%	17.1%	20.4%	21.2%	16.3%	18.1%	25.8%	22.1%	19.2%
12-Month Period of Max HPI Growth, Pre-Pandemic	12-2001 to 11-2002	12-2003 to 11-2004	2-2017 to 1-2018	2-2005 to 1-2006	9-2004 to 8-2005	4-1993 to 3-1994	3-2005 to 2-2006	11-2004 to 10-2005	5-2004 to 4-2005	10-2004 to 9-2005
Max 12-Month HPI Growth, Pre-Pandemic	14.0%	12.4%	6.9%	8.5%	15.3%	7.4%	7.5%	18.0%	22.4%	10.7%



Source: HPI data from FHFA. US Census Subregions as defined by the US Census Bureau.

Notes: HPI data as of December 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 region/US after the housing bust, ranging from 2009 to 2012. Pandemic Period refers to March 2020 to the current period, 10/2021. $CAGR = (End\ Value/Starting\ Value)^{1/n} - 1$

State of the US Housing Market

S&P's Corelogic Case-Shiller US National Housing Price Index's March 29, 2022 reporting data indicated that home prices had increased by 17.9% YoY as of January 2022. This latest reported YoY HPI appreciation value is just 135 bps lower than the historical maximum value (19.2%) observed in July of 2021, suggesting a sustained pace of home price increases.

State National	2000 to Peak 59.6%	Peak to Trough -21.1%	Trough to Current 92.0%	YOY 14.4%	Current HPI % Above Peak 51.4%
AK	66.9%	-5.2%	42.3%	10.6%	35.0%
AL	41.8%	-15.0%	68.0%	15.7%	42.8%
AR	39.8%	-11.0%	60.4%	16.0%	42.8%
AZ	110.1%	-49.5%	186.6%	24.6%	44.8%
CA	145.0%	-47.0%	142.0%	19.0%	28.2%
CO	32.4%	-10.3%	144.4%	18.2%	119.2%
CT	72.7%	-19.6%	38.5%	17.0%	11.3%
DC	162.4%	-11.7%	113.4%	10.1%	88.5%
DE	88.6%	-23.5%	53.9%	15.3%	17.7%
FL	130.0%	-46.5%	152.2%	21.0%	34.9%
GA	36.0%	-27.1%	118.4%	18.0%	59.2%
HI	138.7%	-27.0%	101.3%	14.8%	46.9%
IA	28.0%	-5.4%	56.2%	11.5%	47.7%
ID	73.2%	-32.2%	206.7%	30.9%	107.9%
IL	49.9%	-23.8%	48.2%	12.3%	13.0%
IN	19.1%	-8.7%	79.6%	15.1%	64.0%
KS	31.0%	-7.8%	68.2%	14.2%	55.2%
KY	29.0%	-5.4%	66.7%	14.4%	57.6%
LA	51.6%	-6.7%	46.6%	9.6%	36.8%
MA	69.8%	-18.2%	79.0%	16.1%	46.4%
MD	126.4%	-26.5%	53.3%	12.7%	12.7%
ME	72.2%	-12.4%	79.9%	20.7%	57.5%
MI	18.4%	-31.5%	113.8%	15.6%	46.4%
MN	52.5%	-23.0%	85.7%	13.4%	43.0%
MO	39.2%	-15.0%	76.8%	15.3%	50.3%
MS	38.6%	-12.8%	47.4%	12.8%	28.6%
MT	80.0%	-13.6%	102.5%	22.5%	75.0%
NC	39.8%	-14.1%	88.4%	19.2%	61.7%
ND	51.3%	-0.9%	72.2%	9.4%	70.8%
NE	24.3%	-5.9%	79.8%	14.8%	69.2%
NH	72.7%	-21.9%	84.4%	19.4%	44.0%
NJ	102.3%	-22.7%	52.3%	16.5%	17.8%
NM	66.7%	-17.9%	58.2%	14.8%	29.8%
NV	117.4%	-59.3%	211.5%	20.1%	26.9%
NY	75.7%	-10.5%	58.3%	14.9%	41.6%
OH	19.5%	-16.6%	79.8%	14.8%	50.1%
OK	36.9%	-4.6%	63.1%	14.2%	55.5%
OR	85.6%	-28.6%	133.5%	18.3%	66.7%
PA	68.8%	-10.9%	59.3%	14.2%	41.9%
RI	108.0%	-28.0%	82.1%	18.9%	31.1%
SC	40.5%	-16.0%	89.6%	17.4%	59.2%
SD	40.2%	-2.4%	76.8%	17.7%	72.6%
TN	38.4%	-12.6%	105.6%	20.5%	79.6%
TX	35.8%	-3.0%	101.2%	17.1%	95.1%
UT	65.1%	-26.1%	158.9%	26.3%	91.4%
VA	95.1%	-18.8%	61.6%	14.3%	31.3%
VT	77.9%	-10.3%	58.7%	19.2%	42.4%
WA	83.4%	-27.3%	149.2%	19.9%	81.2%
WI	38.6%	-14.2%	72.0%	14.2%	47.5%
WV	38.7%	-5.7%	42.5%	12.8%	34.4%
WY	85.1%	-9.7%	55.8%	13.4%	40.8%

Source: FHFA/S&P Corelogic Case-Shiller US National Housing Price Index Data; Notes: HPI State-level data is provided quarterly by FHFA and presented here as of December 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; S&P Corelogic Case-Shiller US National Housing Price Index reported for January 2022 in its Report dated March 29, 2022

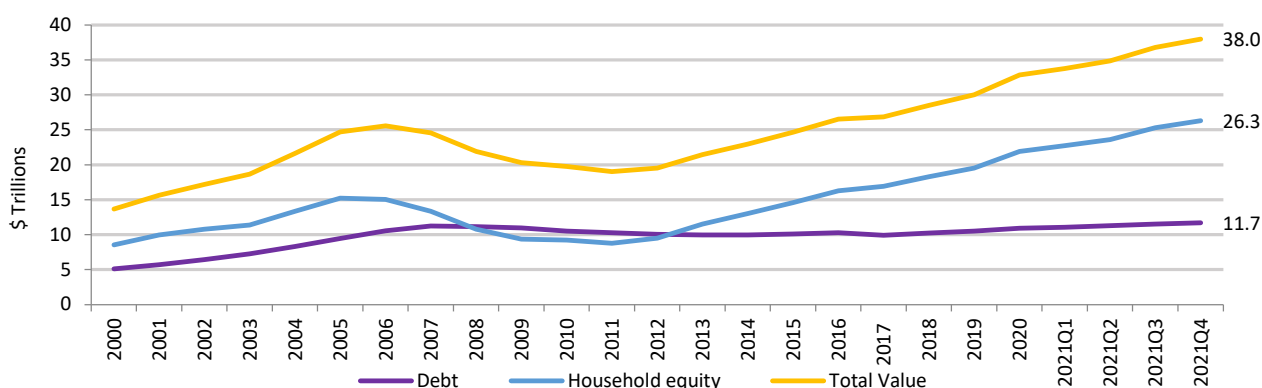
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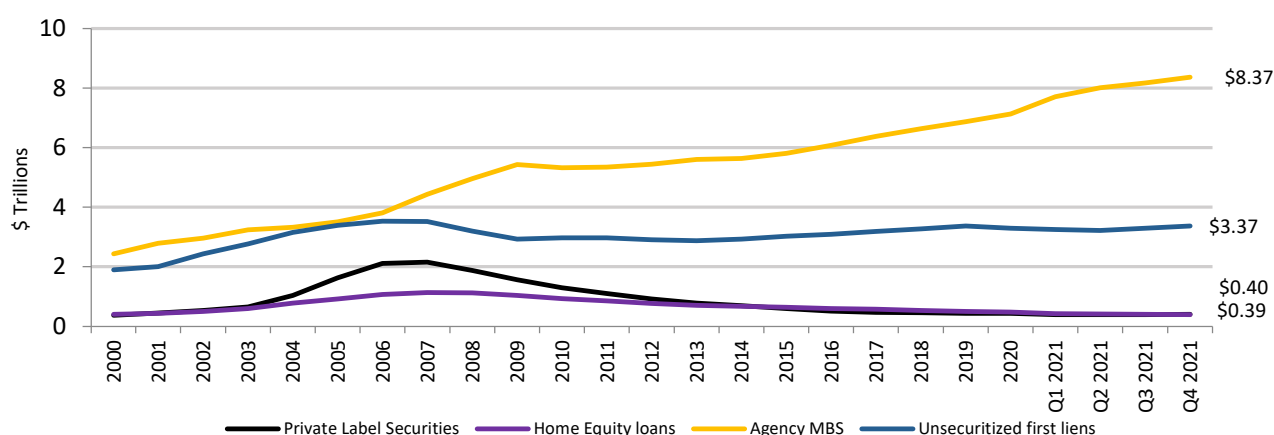
2.2 Size and Value of the US Housing Market

The total value of the single-family housing market reached \$38 trillion in Q4 2021. The total value of the US housing market is up 100% from its trough in 2011. Over that same period, mortgage debt outstanding has increased just 14%, approximately seven times less rapidly. From Q3 2021 to Q4 2021 mortgage debt outstanding has increased from \$11.5 trillion to \$11.7. However, according to Jim Reid, head of Thematic Research at Deutsche Bank, for the first time in 30 years household cash on hand exceeded total household debt. Agency SF MBS account for a growing percentage of the total mortgage debt outstanding, up to 67% of total mortgage debt from just 52% in 2011.

Value of the US Housing Market



Size of the US Residential Mortgage Market



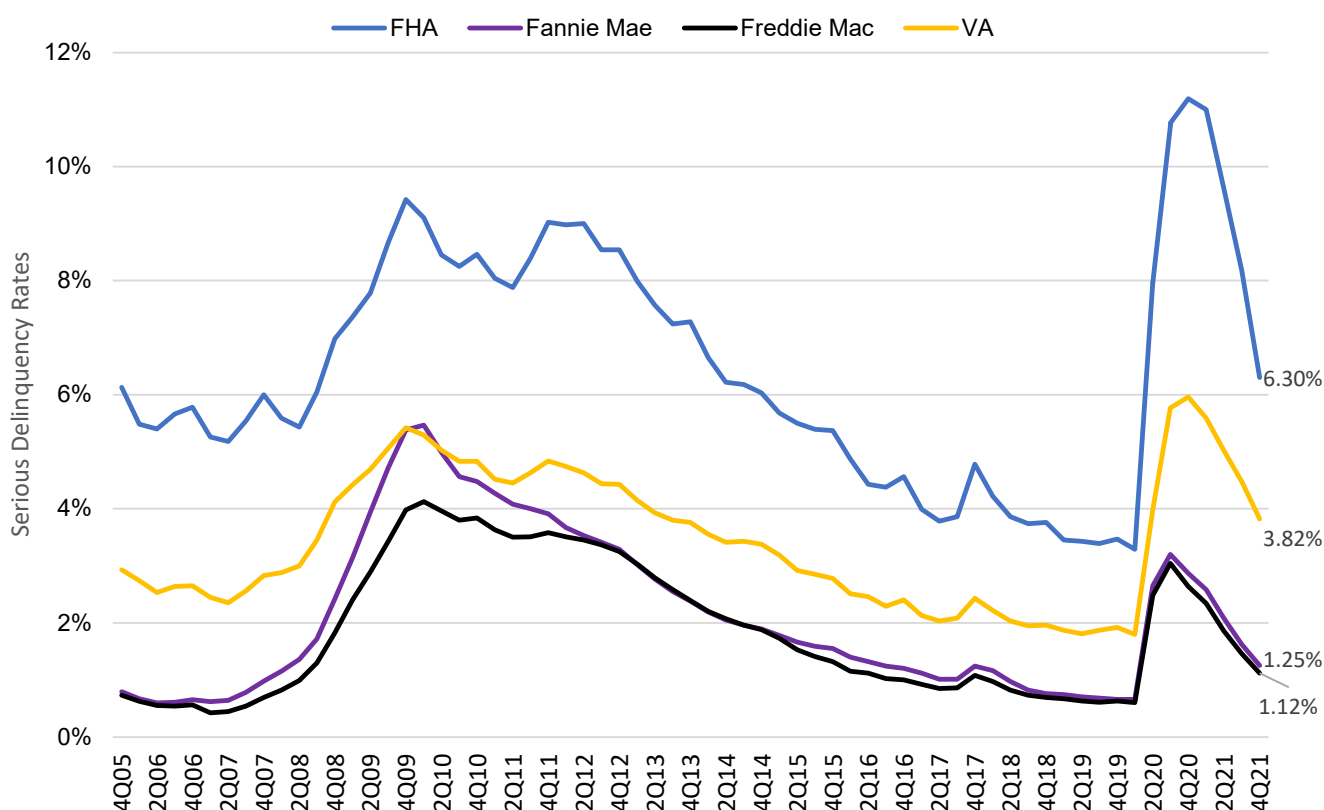
Sources:

1. Federal Reserve Flow of Funds Data. Notes: Data as of Q4 2021.
2. Idzelis, Christine. "Fed May Need to Be Even More Aggressive Fighting Inflation as U.S. Household Cash Exceeds Debt for First Time in Three Decades, Warns Deutsche Bank." *MarketWatch*, MarketWatch, 20 Apr. 2022, <https://www.marketwatch.com/story/fed-may-need-to-be-even-more-aggressive-fighting-inflation-as-u-s-household-cash-exceeds-debt-for-first-time-in-three-decades-warns-deutsche-bank-11650474606>.

2.3 Serious Delinquency Rates

Serious delinquency rates for single-family GSE, FHA, and VA loans all fell sharply in Q4 2021. From Q3 2021 to Q4 2021, Fannie and Freddie serious delinquencies decreased 37 and 34 bps, respectively, or 23% each as a percentage change. Ginnie Mae collateral's serious delinquency rates decreased more than the GSE rates in absolute terms, with FHA and VA dropping 188 and 66 bps respectively. This decline in serious delinquency rates is consistent with the decrease in the number of loans in forbearance captured in [Section 2.4 below](#).

Serious Delinquency Rates: Single-Family Loans



Sources:

1. Fannie Mae and Freddie Mac Monthly Summary Reports
2. MBA Delinquency Survey.

Note: Serious delinquency is defined as 90 days or more past due or in the foreclosure process. Data as of Q4 2021.

2.4 Characteristics of Ginnie Mae Loans in Forbearance

154,685 Ginnie Mae loans were in forbearance as of the end of February 2022. This represents a 1.6% decrease MoM. 5,467 of loans in forbearance were removed from MBS pools and 149,218 loans in forbearance still actively remain in pools. Most liquidated loans (3,930) were FHA and within that subset, 2,035 of those loans were originated by nonbanks. As of February 2022 month-end, the number of loans in forbearance due to COVID-19 circumstances decreased YoY by 78%.

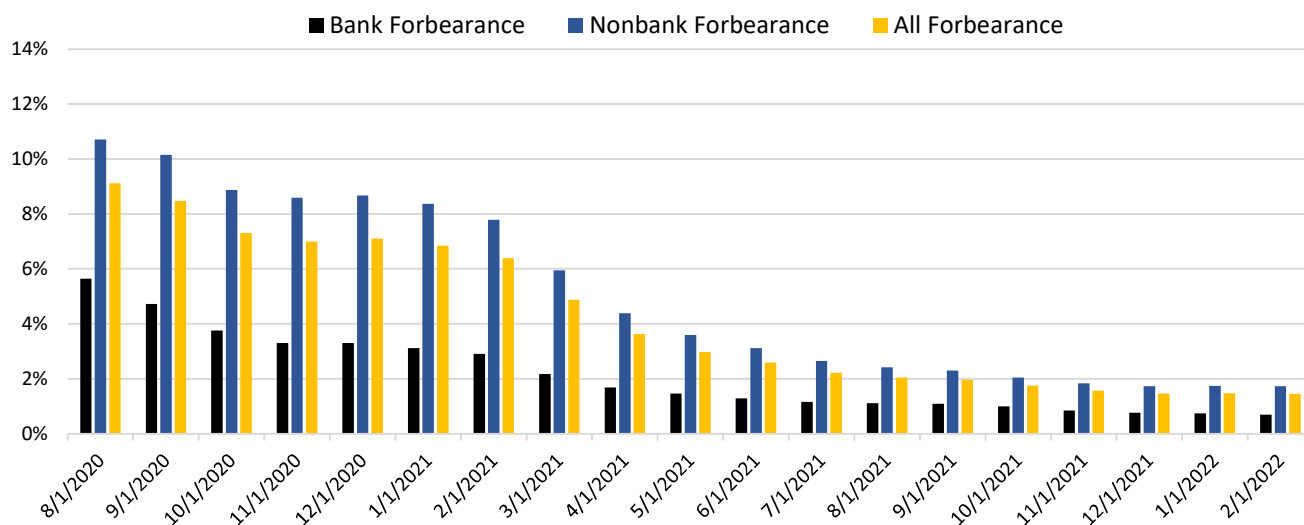
All Loans in Forbearance – February 2022						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
Ginnie	658	3.4	\$ 180,546.80	77.0	70.3	154,685
Bank	672	3.8	\$ 128,879.49	77.5	80.0	19,842
Nonbank	657	3.4	\$ 188,473.77	77.0	69.4	134,843
FHA	654	3.5	\$ 176,000.00	79.8	76.0	109,665
Bank	667	3.9	\$ 120,228.22	81.2	82.9	14,759
Nonbank	652	3.4	\$ 185,017.18	79.6	75.4	94,906
VA	668	3.1	\$ 230,327.01	63.9	49.7	31,744
Bank	683	3.5	\$ 178,457.85	65.3	70.5	3,782
Nonbank	666	3.1	\$ 237,022.58	63.7	47.5	27,962
Loans in Forbearance and Removed from Pools – February 2022						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
Ginnie	662	3.9	\$ 142,091.29	74.7	71.1	5,467
Bank	673	4.1	\$ 107,602.58	75.1	77.7	2,395
Nonbank	658	3.8	\$ 173,725.74	74.5	68.6	3,072
FHA	657	4.1	\$ 130,213.83	78.2	77.0	3,930
Bank	672	4.2	\$ 103,625.16	77.2	76.9	1,895
Nonbank	651	4.0	\$ 160,283.42	78.6	77.1	2,035
VA	672	3.4	\$ 211,416.37	62.4	55.5	1,194
Bank	677	3.6	\$ 153,109.32	58.7	73.9	328
Nonbank	671	3.4	\$ 234,508.48	63.2	52.3	866
Loans in Forbearance that Remain in Pools – February 2022						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
Ginnie	658	3.4	\$ 181,985.86	77.1	70.3	149,218
Bank	672	3.8	\$ 132,011.34	77.7	80.3	17,447
Nonbank	657	3.4	\$ 188,807.80	77.0	69.4	131,771
FHA	653	3.5	\$ 177,836.64	79.8	76.0	105,735
Bank	666	3.9	\$ 123,063.60	81.7	83.5	12,864
Nonbank	652	3.4	\$ 185,619.20	79.7	75.4	92,871
VA	668	3.1	\$ 231,130.12	64.0	49.5	30,550
Bank	683	3.5	\$ 182,350.67	65.6	70.3	3,454
Nonbank	666	3.1	\$ 237,157.45	63.7	47.4	27,096

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 February 2022; *Averages weighted by remaining principal balance of the loans.

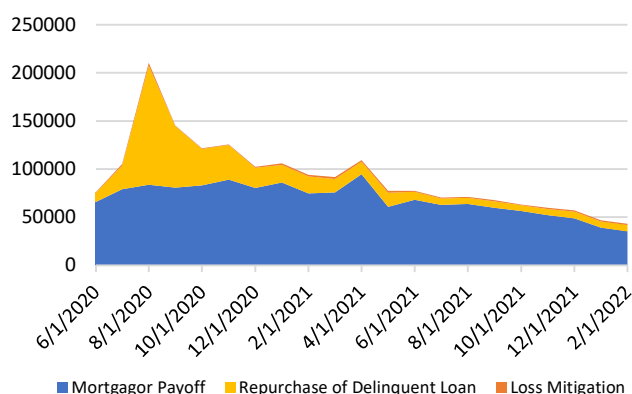
The current share of Ginnie Mae loans in forbearance stands at 1.45% as of the end of February 2022, a 2 bp MoM decline from 1.47% observed as of the end of January 2022. The forbearance rate remains significantly higher than the forbearance rate prevailing in the period prior to the pandemic between January 2019 and February 2020 (approximately 0.1%), and the rate of convergence to pre-pandemic rates slowed down in February 2022.

Share of Ginnie Mae Loans in Forbearance

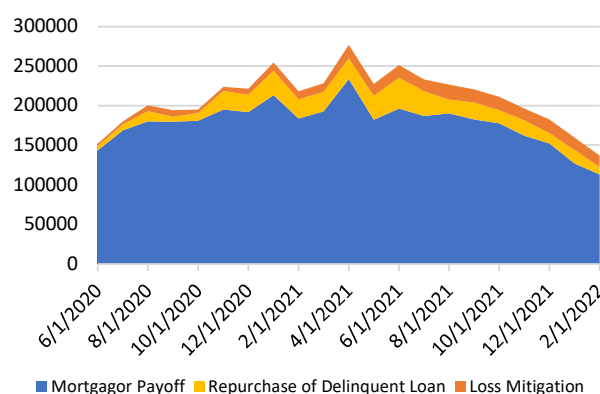


Sources: eMBS and Urban Institute. Data beginning May 2021 sourced from Ginnie Mae forbearance disclosure files and IOPP Peer Group list. Notes: Data as of February 2022.

Number of Loans Removed from Pools: Bank



Number of Loans Removed from Pools: Nonbank

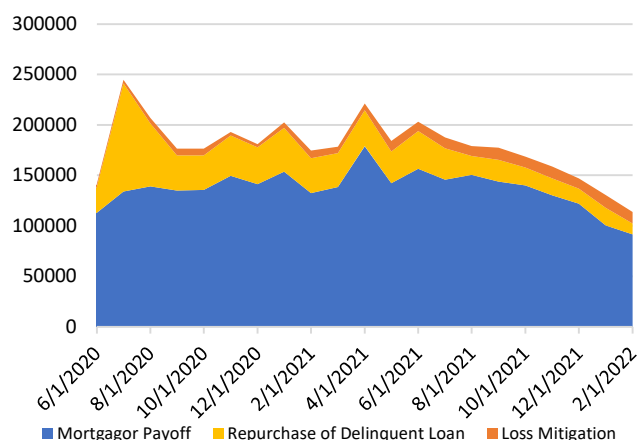


Sources: eMBS and Urban Institute. Data beginning June 2021 sourced from Ginnie Mae Loan Level MBS disclosure files and IOPP Peer Group list. Notes: Data as of February 2022.

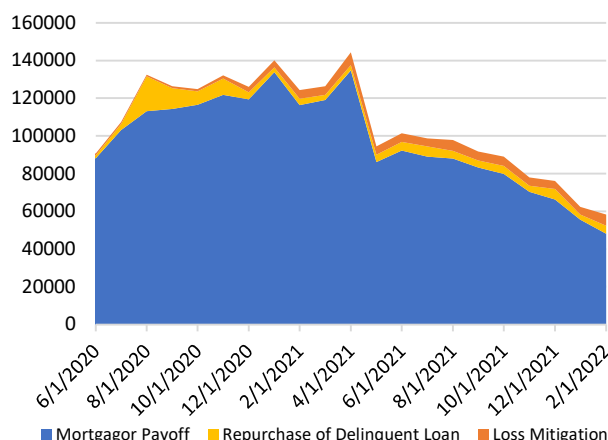
State of the US Housing Market

Of the Ginnie Mae loans that were liquidated from pools due to mortgage delinquency (these counts include all delinquent buyouts, regardless of forbearance status), 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: “Number of Loans Removed from Pools by Coupon”). In February 2022, the number of loans repurchased due to delinquency decreased 37% to 10,832 for FHA and decreased 42% to 2,432 for VA loans.

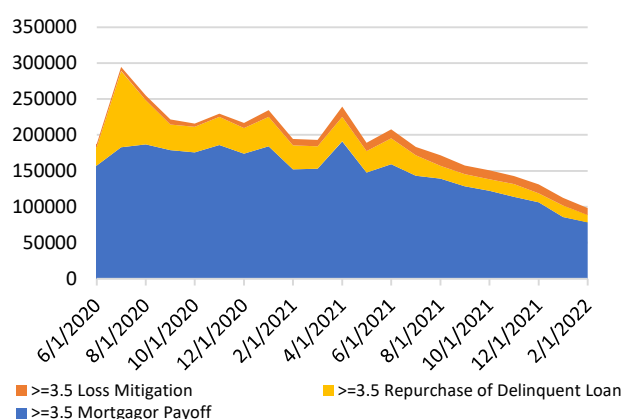
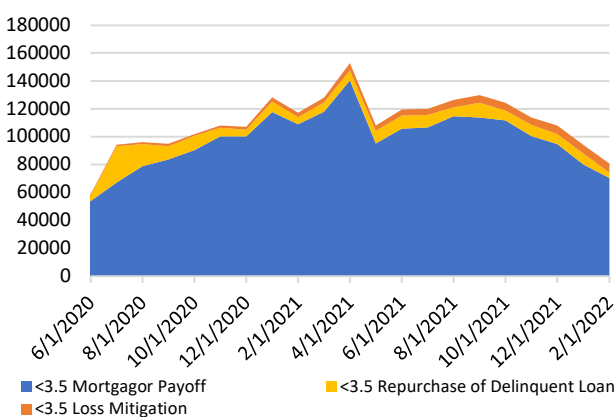
Number of Loans Removed from Pools: FHA



Number of Loans Removed from Pools: VA



Number of Loans Removed from Pools by Coupon



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 February 2022.

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

2.5 Ginnie Mae Agency Issuance and Agency Outstanding by State

Ginnie Mae MBS represent approximately 20% of new Agency issuance over the past year. The share of Ginnie Mae new Agency issuance varies across states, with the highest Ginnie Mae share in Alaska (51%) and the lowest in the District of Columbia (14%). The same holds true for Agency issuance outstanding, with the highest issuance share over the past year in Alaska (47%) and the lowest in the District of Columbia (12%). The difference between Ginnie Mae share of new Agency issuance (20%) and Ginnie Mae share of Agency outstanding (25%) is in large part reflective of the decline in origination volume of first lien FHA and VA insured loans as shown below in [Section 2.8](#).

National	Agency Issuance (past 1 year)				Agency Outstanding (past 1 year)			
	GNMA Share	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)	GNMA Share by UPB	GNMA Loan Count	GNMA Avg. Loan Size (000)	GSE Avg. Loan Size (000)
	20%	2,739,826	273.33	292.74	25%	10,540,689	189.75	220.09
AK	51%	9,655	332.75	286.16	47%	37,010	255.68	219.47
AL	37%	56,213	212.96	227.82	40%	231,318	148.91	174.08
AR	35%	30,106	183.77	207.78	39%	135,194	126.26	157.26
AZ	23%	88,289	284.78	287.13	24%	270,371	204.76	218.60
CA	17%	222,520	428.59	415.16	16%	666,448	314.98	319.89
CO	24%	72,913	368.28	348.40	23%	212,404	276.95	271.70
CT	22%	25,209	248.36	274.59	25%	103,262	196.65	208.35
DC	14%	2,431	539.59	452.43	12%	8,574	370.51	352.53
DE	29%	13,490	262.52	270.55	31%	50,148	198.14	207.72
FL	30%	237,344	273.69	269.92	32%	827,745	199.83	203.84
GA	31%	129,081	241.40	265.94	33%	488,366	169.38	200.15
HI	35%	11,209	593.49	470.16	31%	32,825	457.50	355.65
IA	20%	17,418	184.82	195.99	21%	81,499	129.18	148.50
ID	22%	18,364	302.45	292.94	23%	63,706	202.20	216.42
IL	19%	84,187	212.82	240.07	21%	351,408	155.13	177.98
IN	27%	62,782	186.07	196.94	30%	275,345	127.28	147.58
KS	26%	21,816	196.89	215.86	29%	96,008	135.07	161.49
KY	29%	38,486	183.94	204.43	34%	161,088	137.36	153.36
LA	39%	45,567	209.42	230.95	39%	190,931	153.11	175.82
MA	16%	32,498	363.18	354.89	15%	110,739	274.55	269.37
MD	32%	81,672	341.39	321.76	33%	282,837	258.91	248.62
ME	24%	9,672	233.31	251.57	25%	37,393	170.85	189.16
MI	17%	62,215	182.70	207.35	20%	271,481	128.25	155.29
MN	16%	35,950	249.13	257.87	18%	158,537	176.83	196.40
MO	25%	55,288	195.51	210.81	29%	242,279	136.10	159.91
MS	43%	25,648	200.49	209.66	47%	118,190	137.16	158.51
MT	23%	8,798	284.76	284.43	24%	32,785	199.63	211.01
NC	26%	108,233	237.66	262.55	29%	410,381	166.49	196.32
ND	24%	4,621	247.58	238.13	23%	16,639	188.82	184.64
NE	23%	13,560	214.62	208.17	26%	65,054	142.68	158.63
NH	20%	10,084	295.43	281.87	22%	38,349	218.72	212.35
NJ	20%	58,928	314.52	329.48	21%	224,418	231.96	253.52
NM	34%	20,934	232.42	235.78	38%	93,962	159.71	174.63
NV	29%	41,852	318.78	298.93	30%	129,812	235.55	228.39
NY	17%	54,825	315.68	342.11	20%	301,300	201.27	245.63
OH	25%	90,201	181.33	199.22	29%	416,369	125.21	147.16
OK	38%	38,773	197.44	210.81	42%	187,462	135.14	158.37
OR	19%	33,830	328.72	327.59	19%	109,494	242.91	248.30
PA	21%	77,065	205.10	241.78	26%	383,265	145.33	179.93
RI	29%	9,694	304.73	276.67	29%	34,629	223.54	210.79
SC	32%	64,965	240.87	247.02	34%	227,365	173.95	187.32
SD	28%	6,907	231.63	227.89	29%	29,071	165.96	175.24
TN	27%	67,315	241.16	260.28	32%	270,568	165.31	197.71
TX	28%	254,125	252.36	276.37	32%	1,063,199	172.87	204.73
UT	18%	31,156	331.88	331.11	18%	95,681	243.44	256.32
VA	35%	127,278	337.92	321.72	35%	435,920	249.59	249.65
VT	18%	2,825	238.97	250.03	18%	12,028	177.40	178.80
VI	16%	102	380.87	417.26	21%	232,333	272.39	284.95
WA	21%	72,015	374.33	372.50	17%	121,944	151.25	162.58
WI	15%	31,018	201.87	217.39	43%	57,195	139.46	143.79
WV	40%	13,486	195.98	195.82	35%	24,872	200.39	199.33

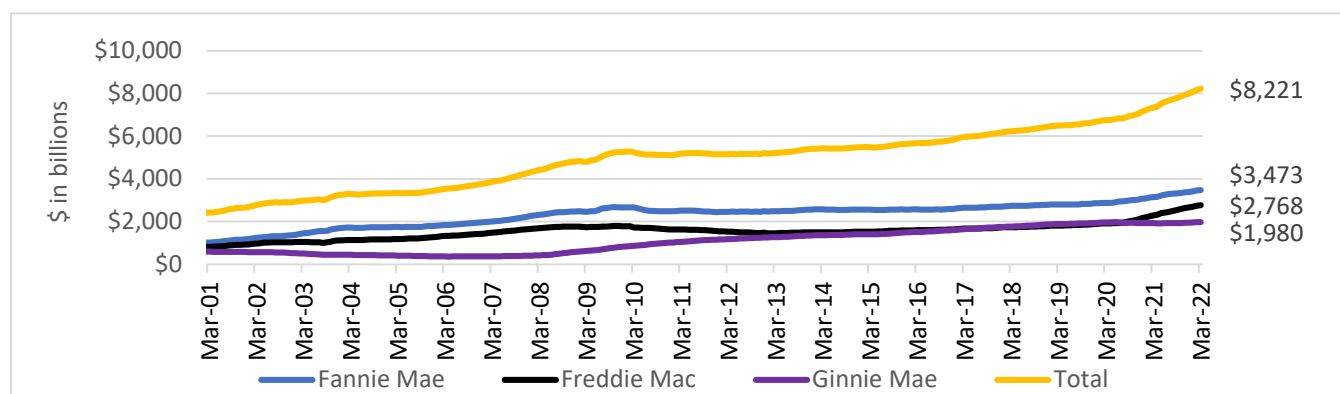
Sources: eMBS, Ginnie Mae/Freddie Mac/Fannie Mae Loan Level MBS Disclosure Files. Notes: Outstanding balance is based on loan balance as of February 2022. Ginnie Mae issuance is based on the last 12 months, from January 2021 to February 2022.

2.6 Outstanding Single-Family Agency MBS

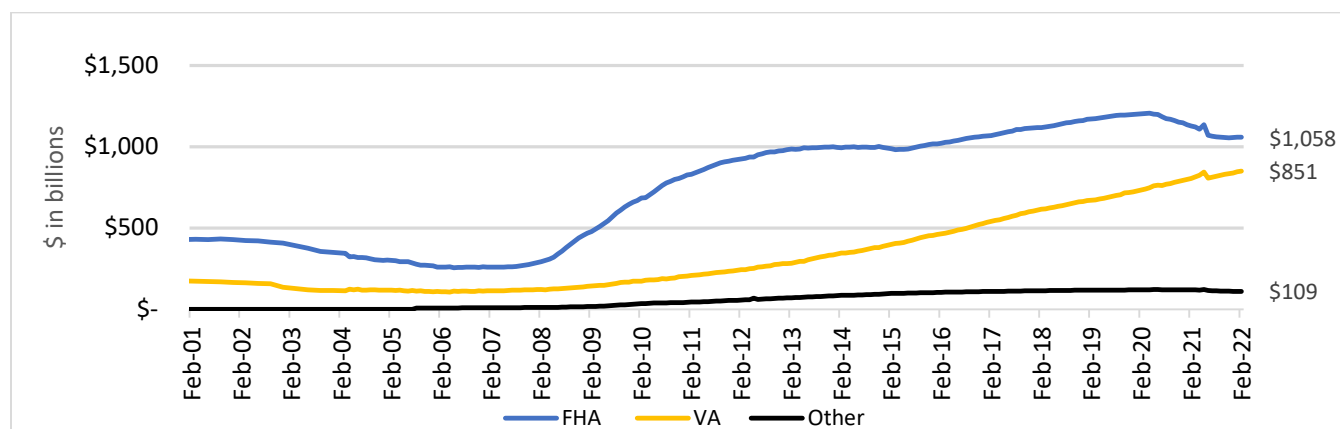
As of March 2022, outstanding single-family MBS in the Agency market totaled \$8.22 trillion: 42.2% Fannie Mae, 33.7% Freddie Mac, and 24.1% Ginnie Mae MBS. Over the past twelve months, Freddie Mac's, Fannie Mae's and Ginnie Mae's total outstanding MBS increased by approximately 21%, 11% and 3%, respectively. Despite this, Fannie outstanding MBS remains larger than either Freddie or Ginnie by approximately \$0.7 trillion and \$1.5 trillion, respectively.

Ginnie Mae MBS collateral composition has changed dramatically over the past ten years. In December 2011, 76% of Ginnie Mae outstanding collateral was FHA and 19.5% was VA. In February 2022, FHA collateral comprised 53% of Ginnie Mae MBS outstanding and VA collateral comprised 42% of Ginnie Mae MBS outstanding.

Outstanding Agency Mortgage-Backed Securities



Composition of Outstanding Ginnie Mae Mortgage-Backed Securities

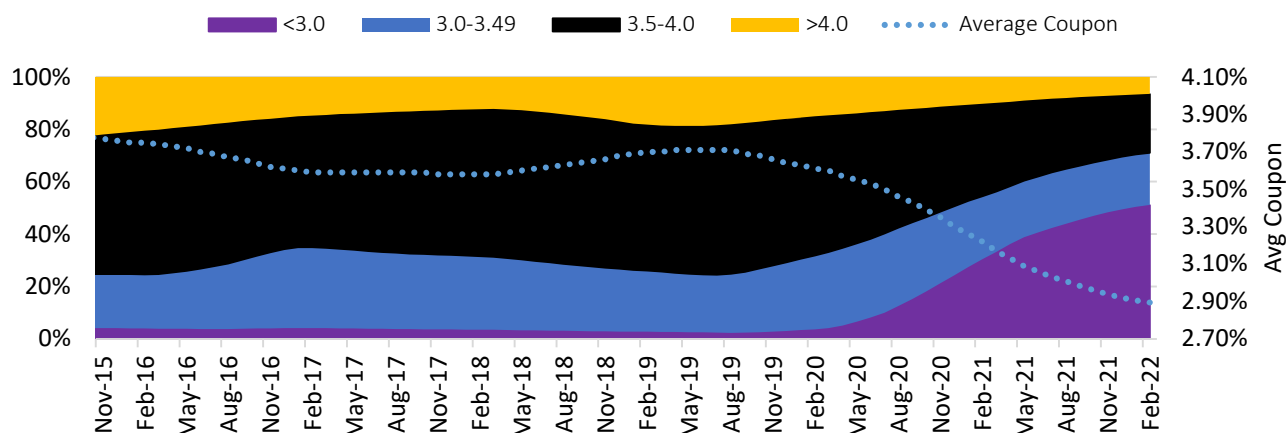


Sources: Data beginning in May 21 is based on outstanding balances in the Ginnie Mae/Freddie Mac/Fannie Mae Loan Level MBS Disclosure Files. Note: Data as of February 2022. Beginning with the October 2021 GMAR, the Fannie Mae and Freddie Mac data within the Outstanding Agency MBS graph have been updated to reflect the Current UPB of the portfolio. July 2021 through November 2021 GMAR reflect the UPB at Security issuance for Fannie Mae and Freddie Mac for data from May 2021 through July 2021.

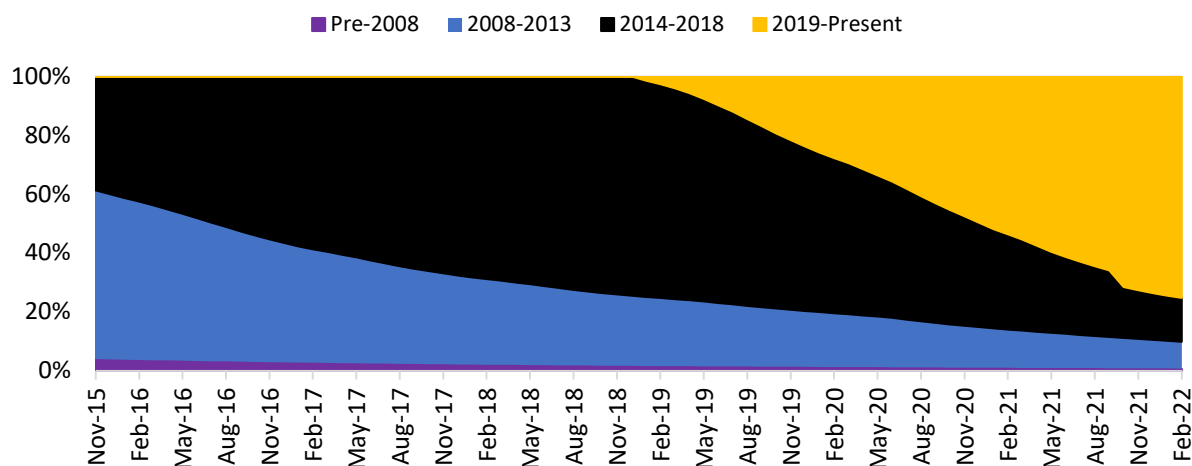
2.7 Outstanding Ginnie Mae MBS Volume by Coupon and Vintage Over Time

As of February 2022, the weighted average coupon on outstanding Ginnie Mae pools was 2.89%, down 2 bps since January 2022, down 3 bps since December 2021 and 41 bps since December 2020. The share of outstanding MBS pools with coupons below 3.0% (51% as of December 2021) began a rapid expansion in 2020. Approximately 27% of the outstanding MBS coupons are between 2.5 and 3.0%, 23% have coupons between 2.0 and 2.5%, while approximately 0.64% have coupons under 2.0%. The proportion with coupons under 2.0% has increased approximately 13% (percent change). The bottom chart illustrates that loans originated since 2019 accounting for 74% of Ginnie MBS collateral outstanding.

Outstanding Ginnie Mae MBS Balance, by Coupon



Outstanding Ginnie Mae MBS Balance, by Vintage

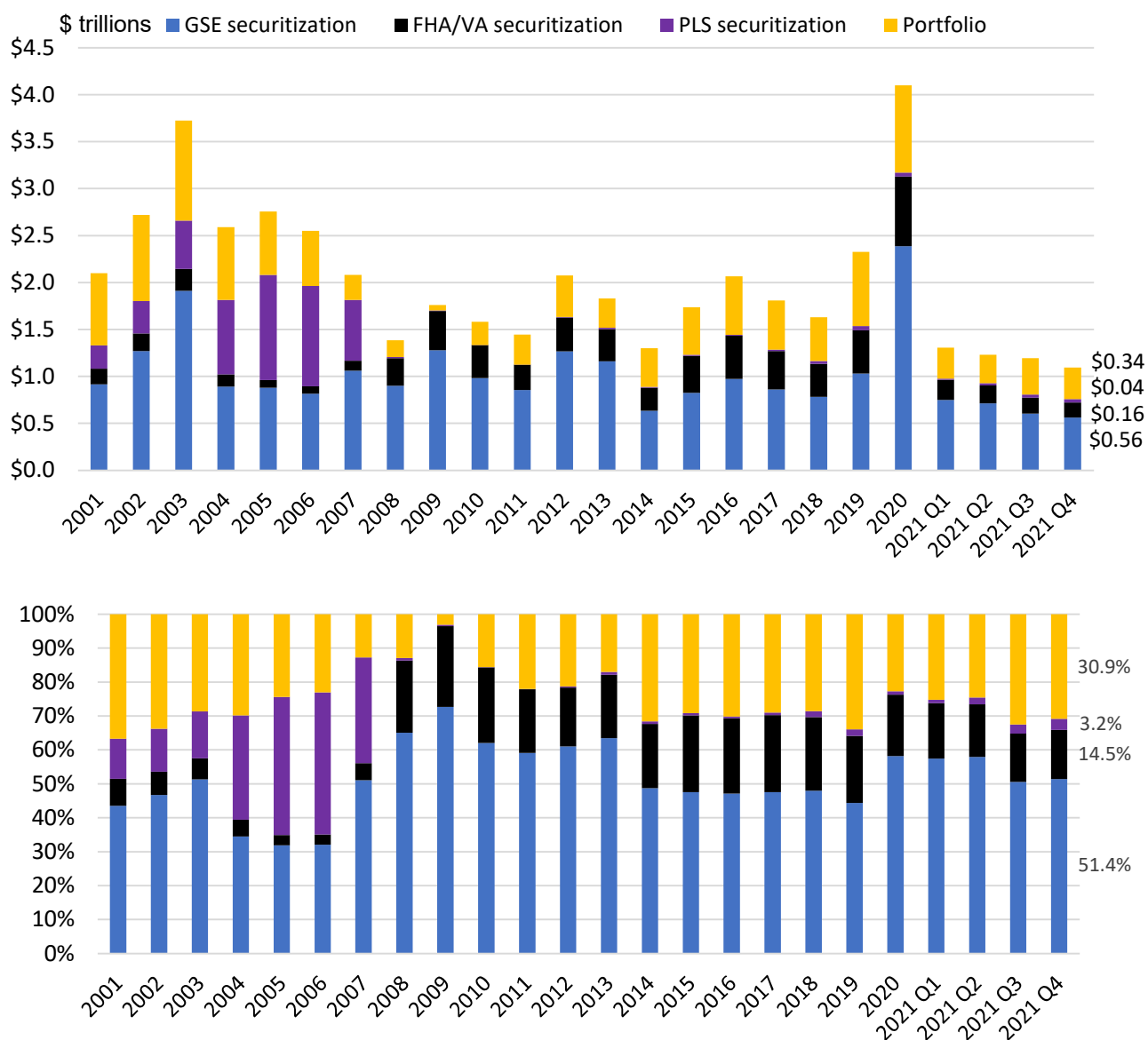


Sources: Ginnie Mae Pool Level MBS Disclosure Files. Note: February 2022 data points reflect the current composition of balances by coupon and vintage; factor data is not applied to prior date balance compositions. Average coupon is weighted by remaining principal balance.

2.8 Origination Volume and Share Over Time

Strong origination volume trends continued in Q4 2021, with \$3.73 trillion in originations in 2021, which outpaced 2020 issuance by approximately 32%. Ginnie Mae's share of total origination declined to under 15% in Q4 2021.

First Lien Origination Volume & Share



Source: Inside Mortgage Finance. Note: Data as of Q4 2021.

3.0 US Agency Market, Single-Family Issuance

Agency gross MBS issuance decreased MoM by 11.3% (from January to February). Each of the Agencies saw decreases in gross issuance as compared to January, with Fannie's 21% decline in February being the largest. Ginnie Mae's \$47 billion in gross issuance in February was approximately 32% below the average monthly issuance for 2021.

Agency Gross Issuance (\$ in billions)					
Issuance Year	Fannie Mae	Freddie Mac	GSE Total	Ginnie Mae	Total
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	\$1,388.7	\$1,244.9	\$2,633.7	\$838.3	\$3,471.9
2022 YTD	\$166.4	\$126.4	\$292.8	\$96.2	\$389.0

Ginnie Mae Gross Issuance Collateral Composition (\$ in billions)				
Issuance Year	FHA	VA	Other	Total
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	\$389.7	\$370.9	\$175.7	\$614.5
2022 YTD	\$49.6	\$43.8	\$2.9	\$96.2

US Agency Market, Issuance

Agency net issuance in February was approximately \$61.2 billion, which represents a 37.9% MoM decrease in net issuance. Ginnie Mae net issuance was \$4.2 billion in February. As noted in [Section 2.6](#), VA net issuance continues to outpace FHA.

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	\$384.9	\$498.0	\$882.9	\$2.7	\$885.6
2022 YTD	\$72.7	\$74.5	\$147.2	\$12.5	\$159.7

Ginnie Mae Net Issuance Collateral Composition (\$ 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	-\$64.2	\$74.2	-\$7.3	\$2.7
2022 YTD	\$1.5	\$12.0	-\$1.0	\$12.5

US Agency Market, Issuance

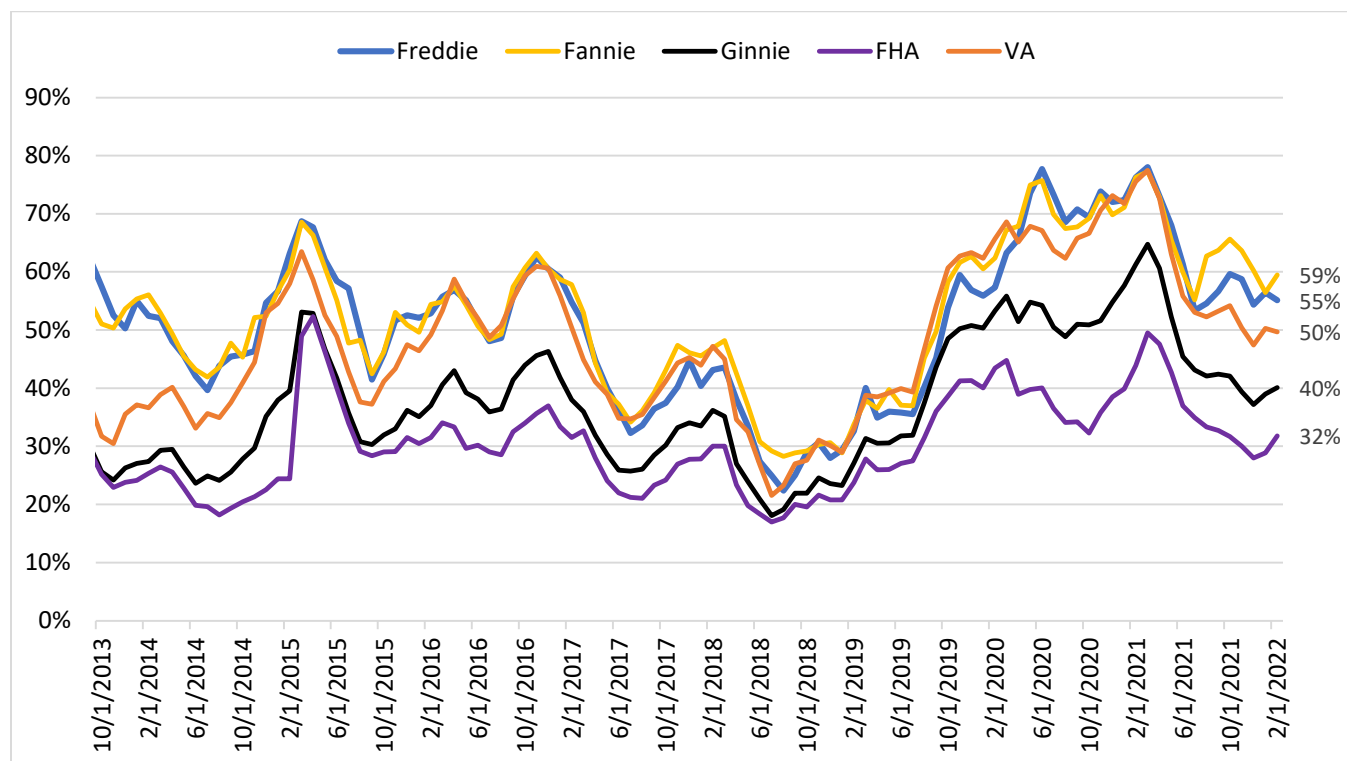
Agency Gross Issuance Amount (in \$ Billions)						Agency Net Issuance Amount (in \$ Billions)				
Month	Fannie Mae	Freddie Mac	Ginnie Mae	GSEs	Total	Fannie Mae	Freddie Mac	Ginnie Mae	GSEs	Total
Sep-17	\$47.3	\$27.9	\$40.2	\$75.3	\$115.5	\$7.7	\$3.8	\$10.6	\$11.4	\$22.0
Oct-17	\$42.9	\$34.6	\$38.4	\$77.6	\$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	\$91.2	\$67.7	\$199.7	\$267.4	\$34.0	\$33.7	\$2.6	\$67.8	\$70.4
Jul-21	\$95.4	\$84.6	\$69.0	\$180.0	\$249.0	\$27.6	\$31.9	-\$1.4	\$59.5	\$58.0
Aug-21	\$104.8	\$109.3	\$66.6	\$214.1	\$280.8	\$27.5	\$48.5	\$1.4	\$76.1	\$77.4
Sep-21	\$102.9	\$105.3	\$68.0	\$208.3	\$276.3	\$26.4	\$45.6	\$3.1	\$72.0	\$75.1
Oct-21	\$105.1	\$102.7	\$62.5	\$207.8	\$270.3	\$34.6	\$46.9	\$1.9	\$81.5	\$83.4
Nov-21	\$93.6	\$81.1	\$60.8	\$174.7	\$235.5	\$29.5	\$34.9	\$3.1	\$64.4	\$67.6
Dec-21	\$93.7	\$85.4	\$58.9	\$179.1	\$238.0	\$33.8	\$34.4	\$5.7	\$68.3	\$73.9
Jan-22	\$93.1	\$64.1	\$49.0	\$157.2	\$206.2	\$44.0	\$46.2	\$8.3	\$90.2	\$98.6
Feb-22	\$73.3	\$62.3	\$47.3	\$135.6	\$182.8	\$28.7	\$28.3	\$4.2	\$57.0	\$61.2

Source: Beginning May 2021, data for Gross and Net Issuance was sourced from Fannie Mae, Freddie Mac, and Ginnie Mae loan level disclosure files. Net issuance is defined here as the difference between prior period UPB and current period UPB. Data as of February 2022. Beginning with the October 2021 GMAR, the Fannie Mae and Freddie Mac net issuance data have been updated to reflect the current UPB of the portfolios. July 2021 through February 2022 GMAR net issuance data reflect the UPB at security issuance for Fannie Mae and Freddie Mac.

3.1 Percent Refi at Issuance

The Ginnie Mae refinance share was 40% in February:

- The FHA refinance share was at 32% in February 2022, below the 59% share for Fannie, the 55% refi share for Freddie originations, and the 50% share for the VA.
- Refinances as a share of all Agency originations decreased 6% to 53% in February.



Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: Data as of February 2022

4.0 High LTV Loans: Ginnie Mae vs. GSEs

The share of high-LTV Agency loans going to borrowers with FICO scores above 750 has decreased by approximately 7% between periods January 2020 – March 2020 and January 2022 - March 2022. The share of borrowers with DTIs below 35% increased by approximately 3.7% over the same period. From the period between January 2020 – March 2020 to the period between January 2022 – March 2022, the share of high-LTV loans decreased in the Ginnie Mae guarantee book by approximately 3.4% and the GSE portfolios increased by approximately 2%. 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 60.44% of its issuances between January 2022 and March 2022 having LTVs of 95 or above, compared to 12.58% for the GSEs.

Share of Loans with LTV \geq 95

	Ginnie Mae	GSE	All
Jan 2020 - March 2020	62.58%	12.34%	29.04%
Jan 2022 - March 2022	60.44%	12.58%	24.75%

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

Jan 2020-Mar 2020

DTI	FICO				NA	All
	<650	650-700	700-750	\geq 750		
<35	3.35%	4.33%	3.05%	3.86%	0.85%	15.45%
35-45	7.32%	8.65%	5.24%	4.22%	0.24%	25.67%
\geq 45	7.99%	10.88%	7.07%	4.60%	0.10%	30.64%
NA	4.02%	5.35%	4.23%	4.14%	10.51%	28.24%
All	22.68%	29.21%	19.58%	16.83%	11.69%	100.0%

Jan 2022-Mar 2022

DTI	FICO				NA	All
	<650	650-700	700-750	\geq 750		
<35	3.72%	5.03%	3.04%	4.12%	0.10%	16.01%
35-45	9.02%	11.52%	5.87%	4.86%	0.07%	31.34%
\geq 45	10.58%	15.40%	8.77%	5.84%	0.08%	40.67%
NA	1.82%	1.47%	0.96%	0.80%	6.92%	11.97%
All	25.14%	33.42%	18.65%	15.62%	7.17%	100.0%

Sources: eMBS, Recursion and Ginnie Mae. Data as of March 2022

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 loans collateralizing Ginnie Mae MBS. The top 30 firms collectively own 82.9% of Ginnie Mae MSRs (see Cumulative Share). Twenty-two of these top 30 are non-depository institutions, the remaining 8 are depository institutions. As of February 2022, over half (50.5%) of the Ginnie Mae MSRs are owned by the top six firms.

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

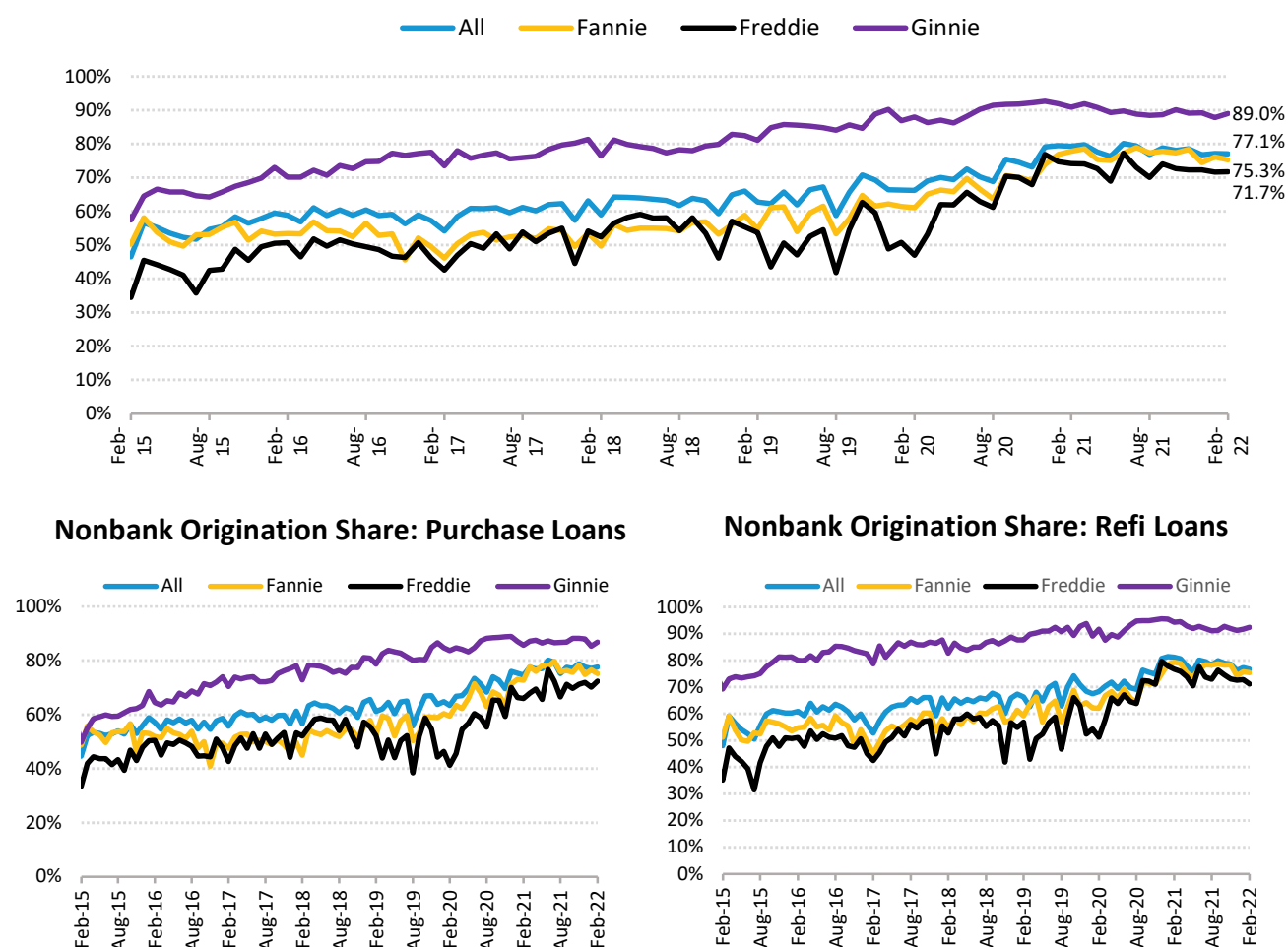
Rank	MSR Holder	UPB (\$ millions)	Share	Cumulative Share
1	DBA FREEDOM HOME MOR	\$255,701,668,758	12.9%	12.9%
2	PENNYMAC LOAN SERVIC	\$227,070,622,422	11.4%	24%
3	LAKEVIEW LOAN SERVIC	\$210,193,014,112	10.6%	34.8%
4	WELLS FARGO BANK, NA	\$120,230,775,304	6.0%	40.9%
5	ROCKET MORTGAGE, LLC	\$98,363,920,942	4.9%	45.8%
6	NATIONSTAR MORTGAGE,	\$92,402,404,485	4.6%	50.5%
7	NEWREZ LLC	\$61,027,714,165	3.1%	53.5%
8	CARRINGTON MORTGAGE	\$60,988,160,204	3.1%	56.6%
9	UNITED WHOLESALE MOR	\$50,631,033,548	2.5%	59.1%
10	CALIBER HOME LOANS,	\$50,175,568,931	2.5%	61.7%
11	U. S. BANK, NA	\$48,618,927,451	2.4%	64.1%
12	LOANDEPOT.COM, LLC	\$35,351,897,695	1.8%	65.9%
13	MORTGAGE RESEARCH CE	\$32,165,944,326	1.6%	67.5%
14	USAA FEDERAL SAVINGS	\$30,918,562,293	1.6%	69.1%
15	PLANET HOME LENDING,	\$30,900,583,284	1.6%	70.6%
16	NAVY FEDERAL CREDIT	\$28,397,276,128	1.4%	72.0%
17	TRUIST BANK	\$21,401,818,405	1.1%	73.1%
18	THE MONEY SOURCE INC	\$21,094,622,271	1.1%	74.2%
19	GUILD MORTGAGE COMPA	\$20,528,875,455	1.0%	75.2%
20	AMERIHOME MORTGAGE C	\$18,705,215,380	0.9%	76.1%
21	CROSSCOUNTRY MORTGAG	\$15,952,422,354	0.8%	76.9%
22	NEW AMERICAN FUNDING	\$15,020,755,512	0.8%	77.7%
23	VILLAGE CAPITAL & IN	\$14,450,771,119	0.7%	78.4%
24	CITIZENS BANK N.A.	\$13,294,803,780	0.7%	79.1%
25	IDAHO HOUSING AND FI	\$13,154,496,861	0.7%	79.8%
26	MIDFIRST BANK	\$12,971,338,665	0.7%	80.4%
27	RUSHMORE LOAN MANAGE	\$12,870,831,714	0.6%	81.1%
28	MOVEMENT MORTGAGE, LL	\$12,656,167,151	0.6%	81.7%
29	CMG MORTGAGE, INC.	\$12,459,128,674	0.6%	82.3%
30	PHH MORTGAGE CORPORA	\$11,298,174,688	0.6%	82.9%

Source: Deloitte and Ginnie Mae. Data as of February 2022.

6.0 Agency Nonbank Originators

Total Agency nonbank origination experienced its fifth consecutive month of declines, down approximately 2% since September 2021. This decline in nonbank origination share was driven primarily by Freddie Mac (nonbank origination share down 3% MoM). The Ginnie Mae nonbank share reached 89.0% as of February 2022 and has been consistently higher than the GSEs since September 2021 (88.6%). Ginnie Mae nonbank origination share of refinance mortgage loans has continued to drive Ginnie Mae's relatively higher nonbank origination share. GSE origination volume of purchase mortgage loans has been the primary driver in the MoM decline of Agency nonbank origination share.

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

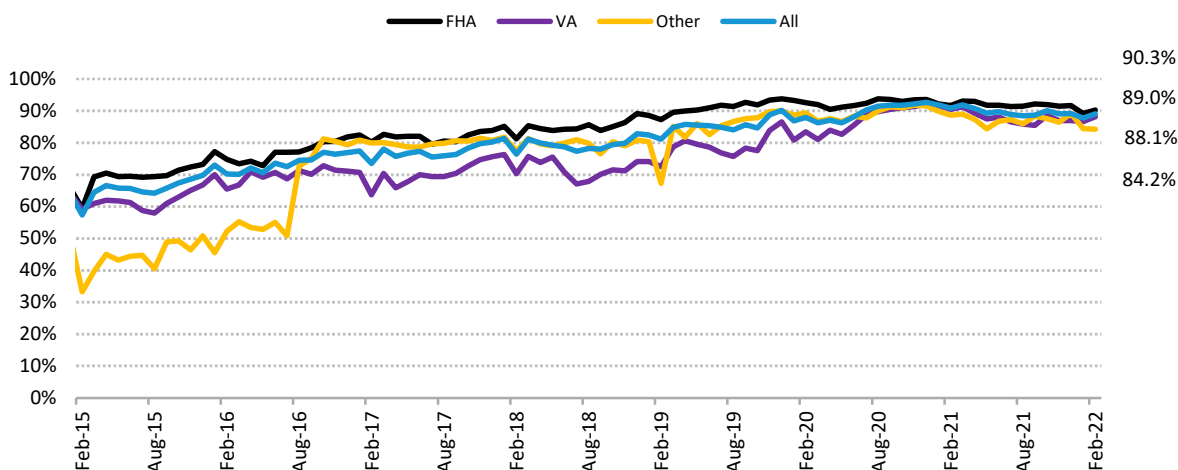


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: Data as of February 2022.

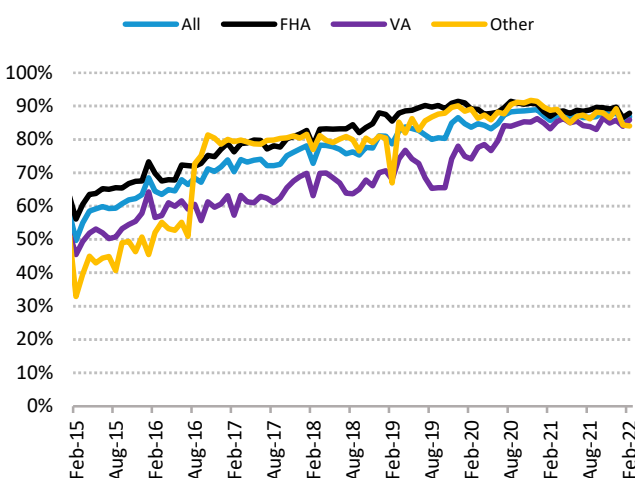
Holders of Ginnie Mae Mortgage Servicing Rights

Ginnie Mae's total nonbank originator share increased in February 2022, up 1.4% MoM. This increase in Ginnie Mae nonbank origination share was driven primarily by FHA insured and VA guaranteed loans, while PIH and RD-guaranteed ("Other") origination declined at nonbanks in February. The increase in nonbank origination share of refi loans was primarily driven by Other loans and VA guaranteed loans, with increases of approximately 1.6% and 1.2% MoM, respectively.

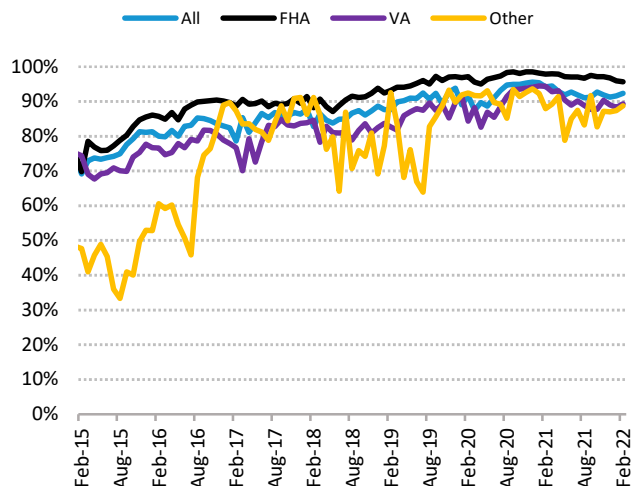
6.2 Ginnie Mae Nonbank Originator Share (All, Purchase, Refi)



Ginnie Mae Nonbank Share: Purchase Loans



Ginnie Mae Nonbank Share: Refi Loans



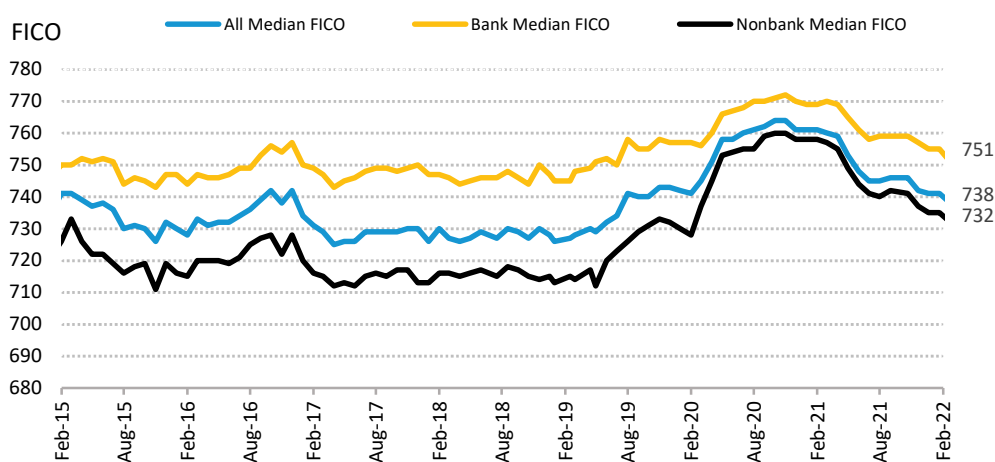
Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: "Other" refers to loans guaranteed by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of February 2022.

Holders of Ginnie Mae Mortgage Servicing Rights

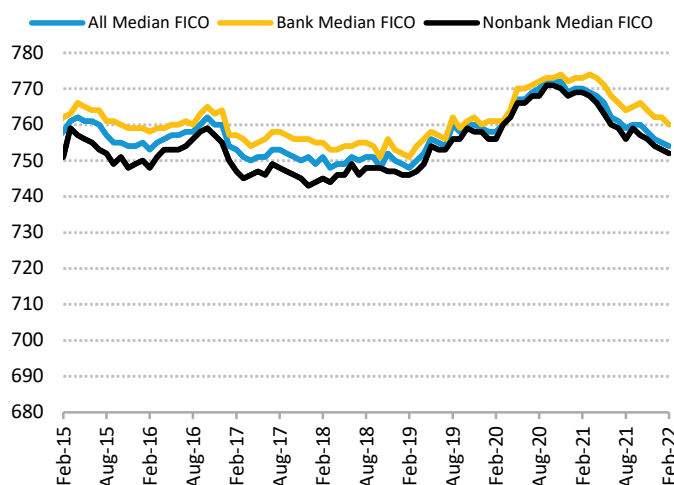
6.3 Bank vs. Nonbank Originators Historical Credit Box, Ginnie Mae vs. GSE (FICO, LTV, DTI)

The mortgage loan originations of nonbanks continue to have a consistently lower median FICO score than their bank counterparts across all Agencies. The spread between nonbank and bank FICO scores decreased by 1 FICO score point from January 2022 to February 2022. The Agency median FICO decreased by 3 FICO score points to 738 MoM.

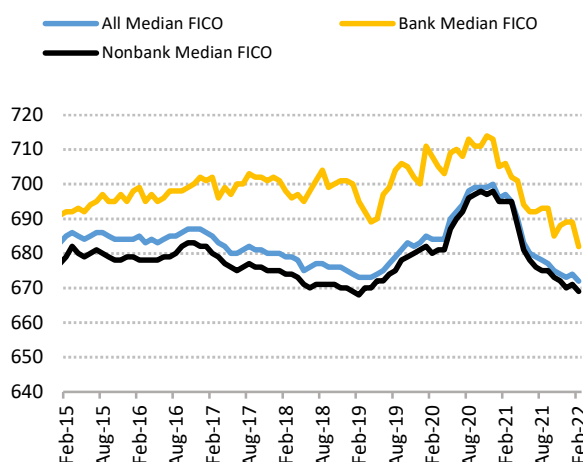
Agency FICO: Bank vs. Nonbank



GSE FICO: Bank vs. Nonbank



Ginnie Mae FICO: Bank vs. Nonbank

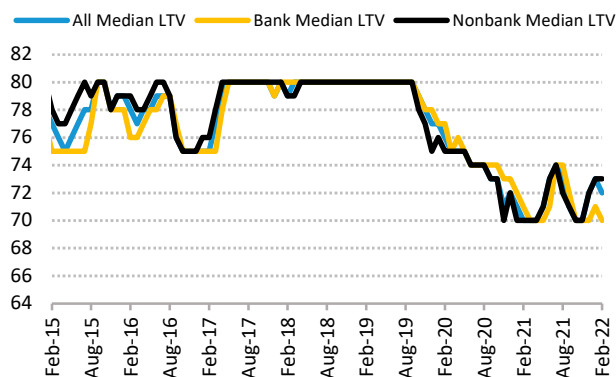


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: Data as of February 2022.

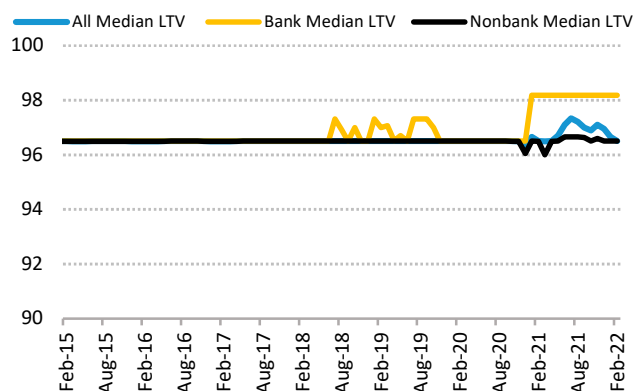
Holders of Ginnie Mae Mortgage Servicing Rights

The median LTV for all GSE originators declined by 1.4% in February 2022 MoM to 72%. While Ginnie Mae Median Bank LTV has been very flat at 98.19% since January 2021, Nonbank Median LTV has fluctuated more, although remaining within 20 bps of 96.5% since April of 2021. Ginnie Mae median DTI experienced a slight MoM uptick of 0.16% in February 2022, driven by both bank and nonbank originations.

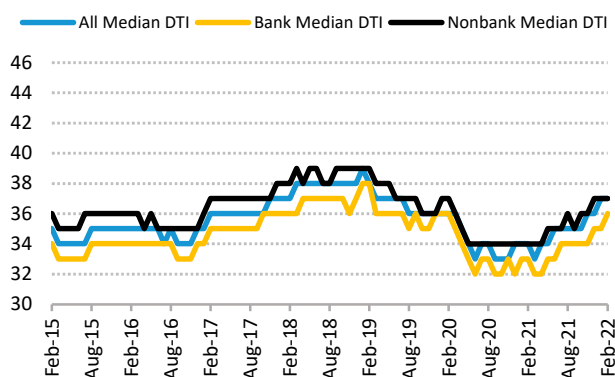
GSE LTV: Bank vs Nonbank



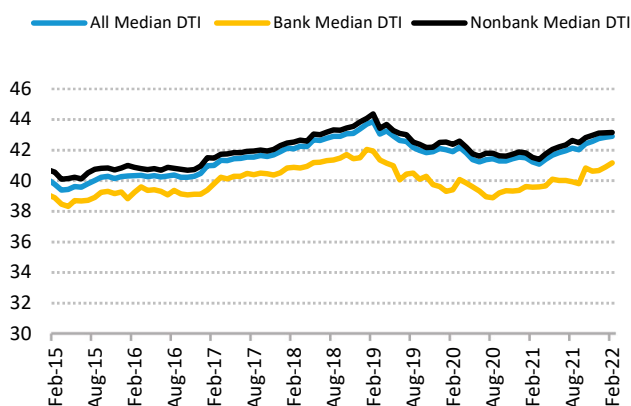
Ginnie Mae LTV: Bank vs. Nonbank



GSE DTI: Bank vs Nonbank



Ginnie Mae DTI: Bank vs. Nonbank

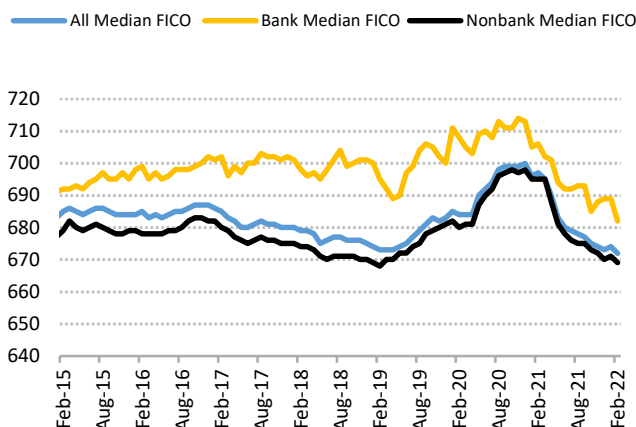


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: Data as of February 2022.

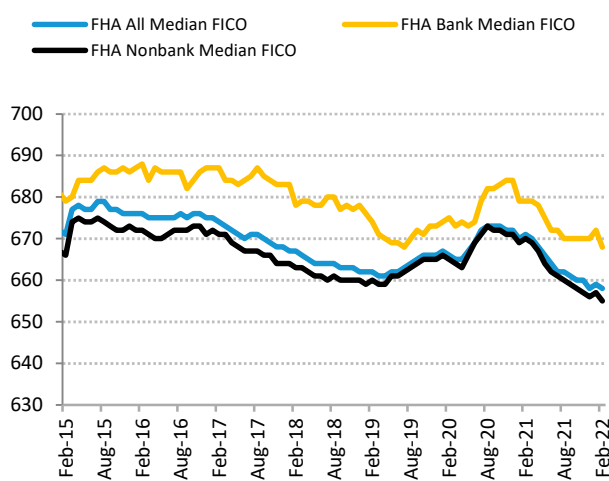
Holders of Ginnie Mae Mortgage Servicing Rights

In February 2022, the median FICO score for Ginnie Mae bank and nonbank originators remained stable MoM after twelve consecutive months of declines between December 2021 and December 2022. The median FICO for all Ginnie originations declined to 672 MoM. The gap between banks and non-banks continues and is most apparent in VA lending (13-point spread).

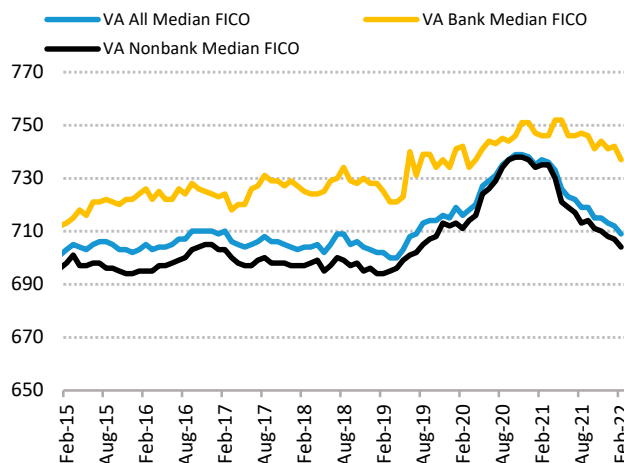
Ginnie Mae FICO Score: Bank vs. Nonbank



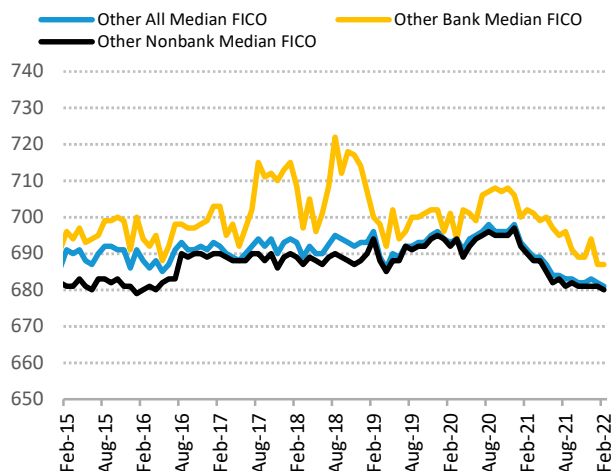
Ginnie Mae FHA FICO Score: Bank vs. Nonbank



Ginnie Mae VA FICO Score: Bank vs. Nonbank



Ginnie Mae Other FICO Score: Bank vs. Nonbank

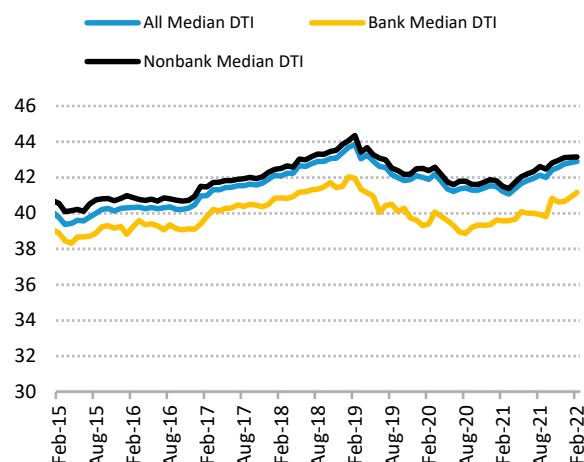


Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: "Other" refers to loans guaranteed by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of February 2022.

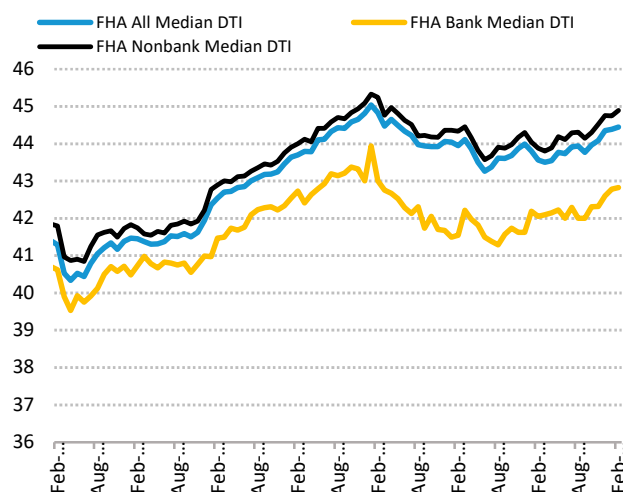
Holders of Ginnie Mae Mortgage Servicing Rights

Median DTI for Ginnie Mae nonbank originations has been consistently higher than the median DTI for Ginnie Mae bank originations. This is a trend evident for all Ginnie Mae-eligible loan types except for the “Other” category, where the spread between median bank and nonbank DTI is relatively small.

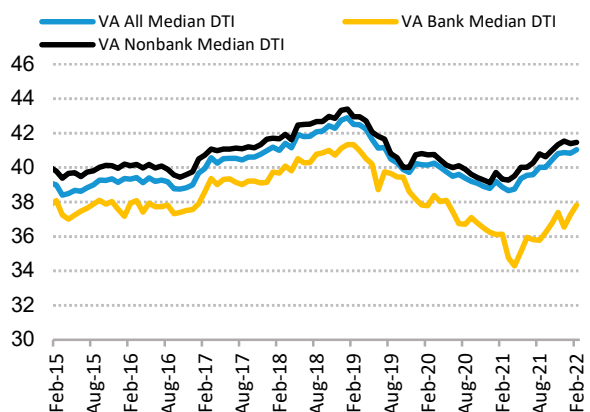
Ginnie Mae DTI: Bank vs. Nonbank



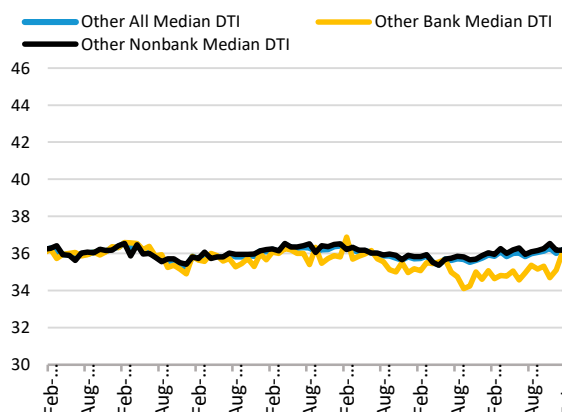
Ginnie Mae FHA DTI: Bank vs. Nonbank



Ginnie Mae VA DTI: Bank vs. Nonbank



Ginnie Mae Other DTI: Bank vs. Nonbank



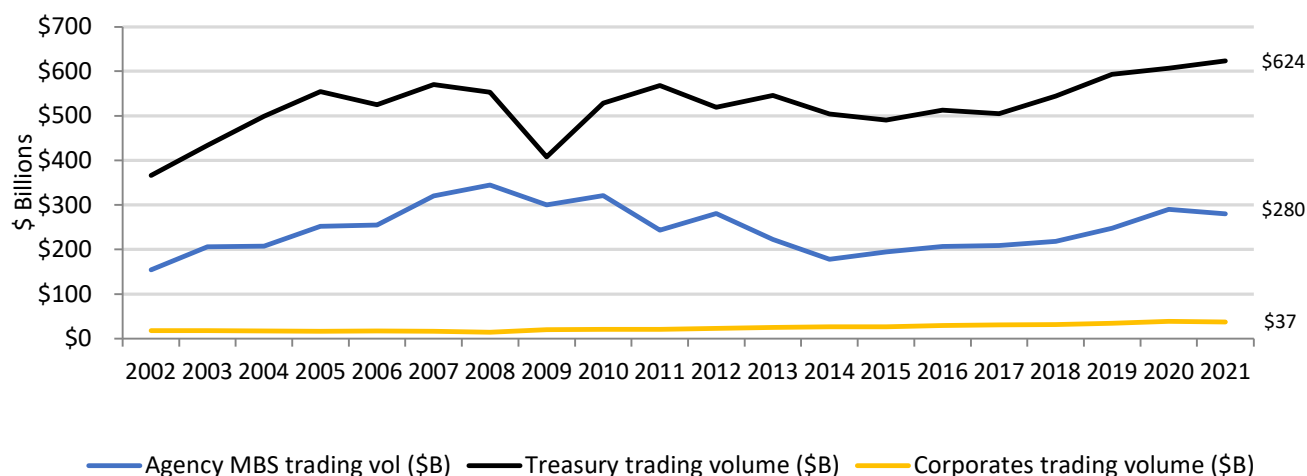
Sources: eMBS and Urban Institute; Beginning January 2021 data sourced from Ginnie Mae loan level disclosure files and IOPP. Notes: “Other” refers to loans insured by HUD’s Office of Public and Indian Housing and the Department of Agriculture’s Rural Development. Notes: Data as of February 2022 for Ginnie Mae DTI and as of October 2021 for all FHA, VA and Others.

7.0 Fixed Income Market Conditions

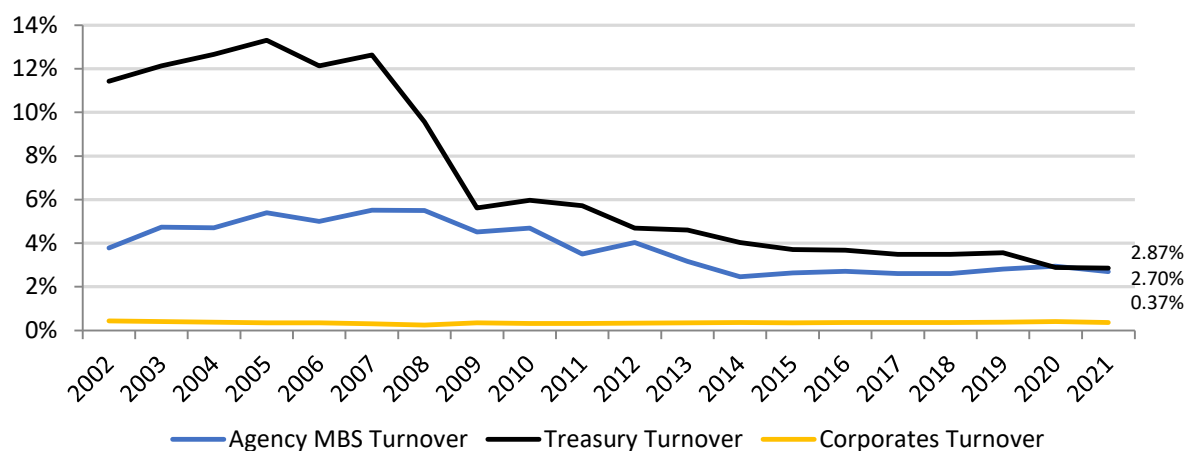
Agency MBS average daily trading volume was \$292 billion from January 2021 to August 2021. August 2021 was the lowest month of Agency MBS trading volume since June 2020. Agency MBS turnover in 2021 is 8 basis points lower than its 2020 average, at 2.87%. 2021 YTD Agency MBS turnover and US Treasury turnover are both 2.87%. Corporates turnover remains minimal relative to either Agency MBS or Treasury turnover.

7.1 Average Daily Trading Volume and Turnover by Sector

Average Daily Trading Volume by Sector



Average Daily Turnover by Sector

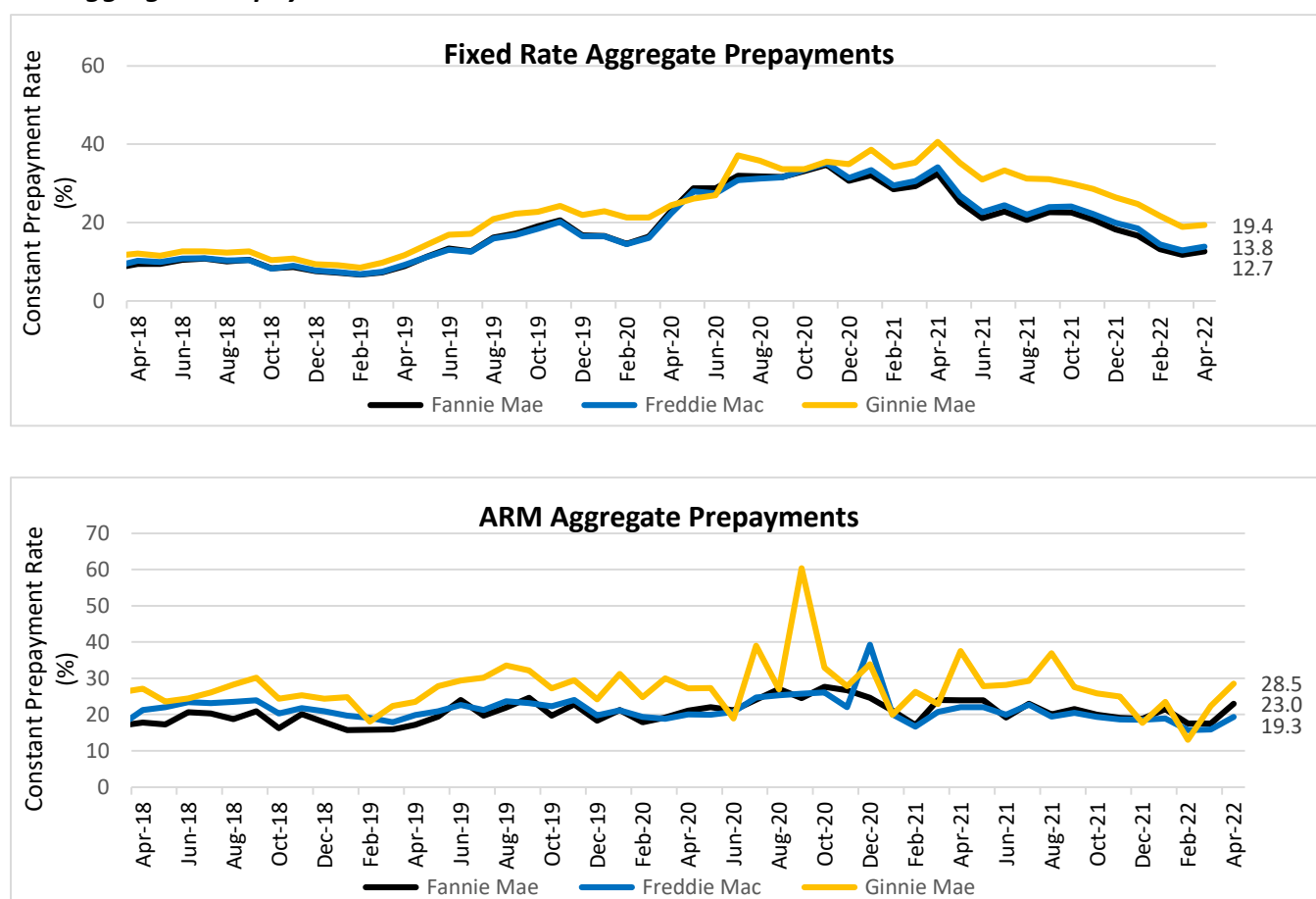


Source: SIFMA. Note: Data as of December 2021 for Average Daily Trading Volume by Sector and as of October 2021 for Average Daily Turnover by Sector.

8.0 Prepayments

In March 2022, Ginnie Mae fixed rate prepayment speed increased slightly by 2.4%, to 19.4 CPR. Comparatively, Fannie Mae and Freddie Mac fixed rate prepayment speeds increased by 8.1% and 7.5% MoM, respectively. ARM MBS prepayments for Ginnie Mae increased by 27% MoM, while Freddie Mac and Fannie Mae posted increases in ARM prepayment speeds of 21% and 31% MoM respectively.

8.1 Aggregate Prepayments



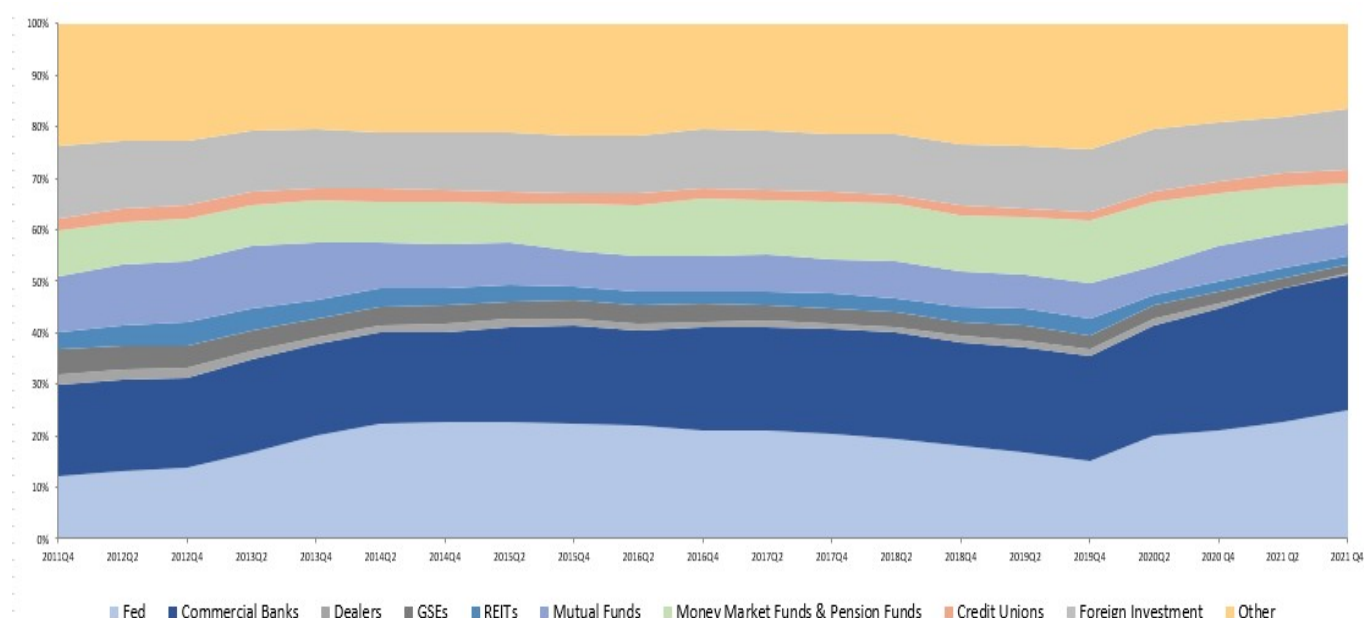
Source: eMBS; Note: Data as of March 2022.

⁵ Ahlgren R and Ichaso M (2022, December 7). *US Structured Products Trading Desk Strategy | RMBS Strategy | Drop in VPRs Only Post Modest Slowdown, Buyouts Fall*, pp. 1.

9.0 MBS Ownership

As of Q4 2021, the largest holders of Agency debt (Agency MBS + Agency notes and bonds) included commercial banks (26%), the Federal Reserve (25%), and foreign investors (12%). The Federal Reserve's share increased to 25% in the fourth quarter of 2021, the highest it has been since 2015. Despite large Federal Reserve purchases, commercial banks continue to be the largest holders of Agency MBS. Out of their \$3.7 trillion in holdings as of the end of February 2022, \$2.9 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 Q4 2021.

9.1 Commercial Bank Holdings of Agency MBS

	Commercial Bank Holdings (\$Billions)								Week Ending			
	Feb-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	2-Mar	9-Mar	16-Mar	23-Mar
Largest 25 Domestic Banks	2,001.3	2,125.1	2,129.5	2,139.7	2,129.9	2,143.1	2,178.3	2,189.2	2,190.7	2,184.0	2,175.5	2,172.3
Small Domestic Banks	593.0	690.3	704.8	722.3	731.8	741.3	752.9	759.4	755.5	757.4	755.0	756.9
Foreign Related Banks	52.9	47.9	48.0	47.9	46.2	44.0	43.3	40.7	39.3	37.7	35.8	35.0
Total, Seasonally Adjusted	2,647.2	2,863.3	2,882.3	2,909.9	2,907.9	2,928.4	2,974.5	2,989.3	2,985.5	2,979.1	2,966.3	2,964.2

Source: Federal Reserve Bank. Note: Small domestic banks include all domestically chartered commercial banks not included in the top 25. Data as of April 2022.

9.2 Bank and Thrift Residential MBS Holdings

In Q4 2021, MBS holdings at banks and thrifts increased for the thirteenth 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. Ginnie Mae pass-throughs declined by less than 1%. Total bank and thrift MBS holdings increased by 2% from Q3 2021. Out of the \$2.9 trillion in MBS holdings at banks and thrifts as of Q4 2021, \$2.3 trillion were Agency pass-throughs, including \$1.9 trillion of GSE pass-throughs and \$353 billion of Ginnie Mae pass-throughs. In addition, another \$578 billion in bank and thrift holdings were Agency CMOs, while holdings of Private MBS and Private CMOs totaled \$60 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
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
3Q21	2,858.59	1,886.78	353.12	4.24	565.51	48.95	2,487.32	371.27
4Q21	2,906.07	1,915.48	352.71	4.45	578.01	55.42	2,529.81	376.26
Change:								
3Q21-4Q21	2%	2%	0%	5%	2%	13%	2%	1%
4Q20-4Q21	15%	25%	-10%	13%	5%	38%	14%	21%

Source: Inside Mortgage Finance. Notes: Data as of Q4 2021.

Global Markets Analysis Report

Bank and Thrift Residential MBS Holdings

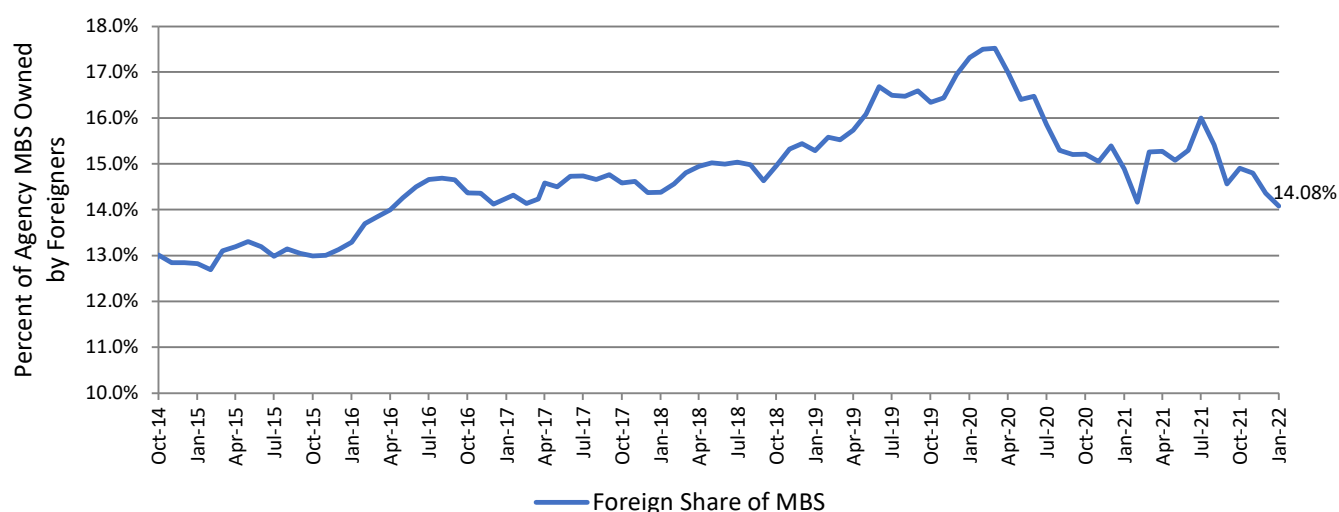
Top Bank & Thrift Residential MBS Investors (\$ in millions)	Institution	Total	GSE PT	GNMA PT	Agency CMO	Non-Agency	Share
1	BANK OF AMERICA CORPORATION	599,912.0	518,605.0	71,466.0	9,675.0	166.0	21%
2	WELLS FARGO & COMPANY	290,952.0	216,803.0	69,862.0	3,963.0	324.0	10%
3	CHARLES SCHWAB	230,495.0	122,754.0	9,208.0	98,533.0	-	8%
4	JPMORGAN CHASE & CO.	166,570.0	98,276.0	54,898.0	115.0	13,281.0	6%
5	Truist Bank	139,783.0	66,766.0	16,573.0	52,186.0	4,258.0	5%
6	U.S. BANCORP	118,800.9	81,370.7	20,818.8	16,611.0	0.4	4%
7	CITIGROUP INC.	89,216.0	82,756.0	2,006.0	3,336.0	1,118.0	3%
8	Silicon Valley Bank	83,437.0	62,391.0	9,874.0	11,172.0	-	3%
9	CAPITAL ONE FINANCIAL CORPORATION	73,102.1	40,027.5	12,506.1	20,086.3	482.2	3%
10	PNC Bank, National Association	68,787.6	53,187.7	5,880.7	8,561.4	1,157.8	2%
11	BANK OF NEW YORK MELLON CORP	53,526.0	40,889.0	1,845.0	7,999.0	2,793.0	2%
12	USAA Federal Savings Bank	46,889.1	38,965.2	2,616.5	5,307.4	-	2%
13	State Street Bank and Trust Company	40,144.8	16,734.0	3,631.0	17,748.8	2,031.0	1%
14	MORGAN STANLEY	33,912.0	21,773.0	5,933.0	6,206.0	-	1%
15	The Huntington National Bank	30,336.2	15,947.0	7,018.4	7,265.2	105.5	1%
16	E*TRADE Bank	30,194.2	24,473.3	4,099.2	1,621.8	-	1%
17	KeyBank National Association	28,640.4	4,994.6	297.5	23,348.3	-	1%
18	HSBC Bank USA, National Association	25,866.4	8,068.9	9,558.6	8,237.5	1.5	1%
19	Ally Bank	23,771.0	16,454.0	764.0	2,322.0	4,231.0	1%
20	BMO Harris Bank National Association	23,723.8	3,637.7	369.6	19,711.0	5.6	1%
Total Top 20		2,198,059.6	1,534,873.5	309,225.4	324,005.6	29,955.0	76%

Source: Inside Mortgage Finance. Notes: Data as of Q4 2021.

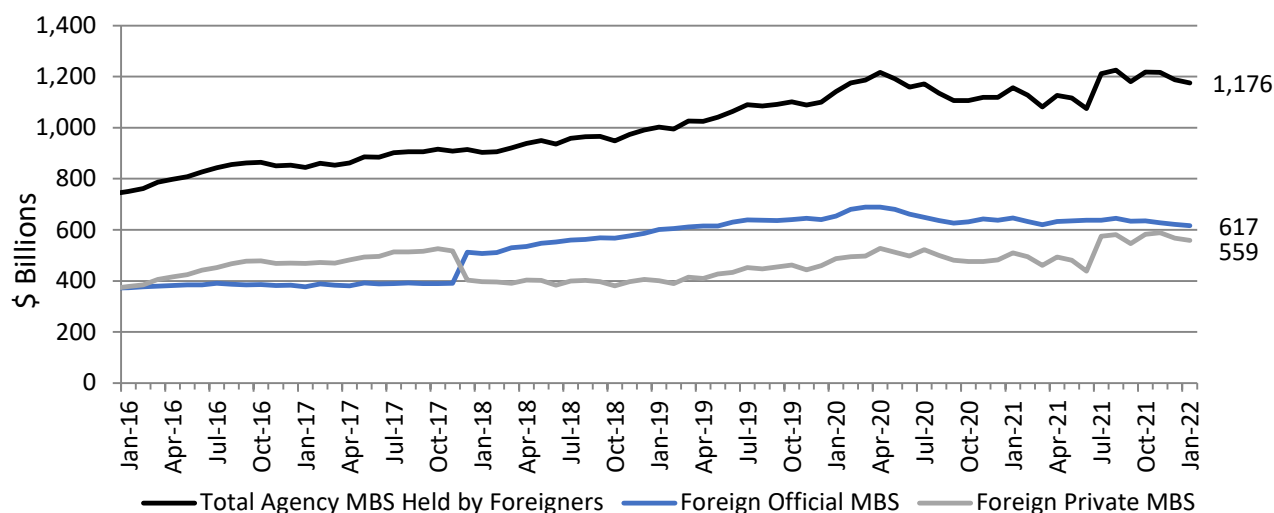
9.3 Foreign Ownership of MBS

For the month of January 2022, foreign ownership of MBS represents \$1.18 trillion in Agency MBS, which includes \$559 billion held by foreign private institutions and \$617 billion held by foreign official institutions. This represents a 2% overall increase in foreign holdings of Agency MBS YoY and a 0.28% decrease MoM.

Foreign Share of Agency MBS Market



Monthly Foreign MBS Holdings



Sources: eMBS [Top Chart], Treasury International Capital (TIC) [Bottom Chart] 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 January 2022.

9.4 Foreign Ownership of Agency Debt and Agency MBS

The largest non-US holders of Agency MBS are in Japan, Taiwan, and China. As of December 2021, these three own 60% 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)			
	3/1/2021	6/1/2021	9/1/2021	12/1/2021	Q1 2021	Q2 2021	Q3 2021	Q4 2021
Japan	319,771	311,375	311,892	301,979	11,738	-8,396	517	-9,913
Taiwan	253,036	250,081	247,341	244,375	-9,417	-2,955	-2,740	-2,966
China	200,972	217,842	215,102	202,659	-11,345	16,870	-2,740	-12,443
Luxembourg	34,371	35,497	33,339	34,277	-1,852	1,126	-2,158	938
Ireland	26,965	21,453	22,617	21,305	-4,099	-5,512	1,164	-1,312
South Korea	43,032	43,201	43,208	42,051	404	169	7	-1,157
Cayman Islands	37,111	36,027	36,160	35,004	2,847	-1,084	133	-1,156
Bermuda	26,443	23,806	24,411	23,209	-1,545	-2,637	605	-1,202
Netherlands	13,049	12,544	17,435	16,249	705	-505	4,891	-1,186
Malaysia	19,047	19,089	19,445	18,830	-100	42	356	-615
Other	173,905	166,009	268,746	302,816	-23,557	-7,896	102,737	34,070
Total	1,147,702	1,136,924	1,239,696	1,242,754	-36,221	-10,778	102,772	3,058

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 Q4 2021. Agency MBS as of June 2021. Revised to include top 10 holders of Agency debt listed as of June 2018.

Disclosure:

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