

Global Markets Analysis Report

A MONTHLY PUBLICATION OF GINNIE MAE'S
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Highlights

The June edition of the *Global Markets Analysis Report's* "Highlights" section presents a compendium of quotes and written remarks from Ginnie Mae President [Alanna McCargo](#), who was sworn in as Ginnie Mae's 18th president in December 2021. The selected quotes and written remarks, which have been edited for readability purposes, are structured in a question-and-answer format, with the questions constructed based upon the topics that Ginnie Mae President McCargo discussed in two recent public forums, the Ginnie Mae Past Presidents Roundtable held on April 28, 2022, and the Urban Institute Ginnie Mae Presidents Event held on June 2, 2022. There are four topics that President McCargo discusses in this *Highlights* section: Current Market Conditions; Technological Modernization; Environmental, Social, and Governance (ESG); and the Community Reinvestment Act (CRA).

1. What are Ginnie Mae's goals related to ensuring stakeholders are prepared to succeed in volatile economic cycles?

"We are looking ahead at another cycle of change in the housing market. One of the key aspects of the Ginnie Mae strategic plan for the future is our commitment to innovation, business transformation, technology, mount modernization, digitalization, and a focus on an equitable and accessible housing finance system that serves the current and future needs of all our citizens, and especially our underserved communities: our seniors; our service members and veterans; and first-time homebuyers in cities, rural communities, tribal lands. We are here to make sure that our Guaranty and the program remains viable."¹

"We have weathered decades of ups and downs in the business cycle. And despite what many have correctly described as a history of underfunding, we always found ways to enhance the program and the platform so that Ginnie Mae continues to deliver low-cost financing for Americans who need it the most. Today, our guaranty extends over \$2.2 trillion in outstanding securities, held by investors worldwide, and representing an equal amount of mortgage servicing rights administered by over 300 Issuers."

Our mission and what we are at our core, is a social impact enterprise, and, when you look at the millions of homeowners and renters we serve, the global markets we support and engage with, and the interaction with mortgage lenders and servicers/issuers, we are, without question, one of the most successful."²

"President Biden has made clear his commitment to housing America and ensuring an equitable path forward. So our mission is to connect capital from around the globe to local communities. We make sure that liquidity is available so that affordable home ownership and quality rental housing is accessible through FHA, VA, USDA Rural Housing Services and HUD's Public and Indian Housing Programs."³

2. What does Ginnie Mae see coming out of its modernization efforts? How does Ginnie Mae think their modernization efforts will impact the overall housing market and secondary market?

"We are driving innovation in the capital markets for the public good. In the past decade, we completely overhauled our internal accounting systems, to ensure they support all the activities needed, especially, if we have to execute on our security guaranty and take over portfolios in the event of an issuer default."

"We have also maintained a steady program of modernization of our core business applications... For example, by the end of 2022 we will have migrated all our data and applications to the cloud. It is the most significant technological development in our history. Becoming a fully cloud-based corporation clears the way for our long-term investment in the digitalization and optimization of our MBS platform – which is also a key strategic

¹ Ginnie Mae President's Roundtable, April 28, 2022

² Urban Institute, Ginnie Mae Presidents Event, June 2, 2022

³ Ginnie Mae President's Roundtable, April 28, 2022

objective for Ginnie Mae in HUD's 4-year Strategic Plan. Our flagship investment in digitalization – enabling the securitization of electronic mortgages, or “eNotes”, commenced in January 2021. We just announced the rollout of enhancements to our Digital Collateral Program and a major update of our “eGuide” for managing digital pool collateral within the MBS program.”

“The enhancements, include the ability to perform eModifications to eNotes and have streamlined processes. On June 20, 2022, the program re-opened to new issuer applicants. This expansion of the Digital Collateral Program has been applauded by the servicing industry and highly anticipated.”

“eMortgages bring efficiency and resilience to mortgage lending, lowering costs to families and improving access to homeownership for borrowers who are not well served by the traditional mortgage lending approach.”

“Into the future, Ginnie Mae’s transformational investment will carry enormous benefits for our government program participants, ensuring the value of the Ginnie Mae MBS platform as a funding and liquidity vehicle for decades to come. Over the Summer, we plan to engage with stakeholders on how our Ginnie Mae MBS ecosystem can achieve higher levels of performance as an essential component of the housing finance system.”

“Recently, Ginnie Mae was acknowledged with a prestigious CIO 100 Award for our technology teams’ innovation in transforming our systems. Not bad for “government work.” And a testament to making sure we are staying cutting edge and that our securitization platform and applications that support our issuers and investors remain current with technological change.”⁴

3. How is Ginnie Mae establishing increased transparency with their investors regarding new social impact data and policies?

“We believe that the growing interest in Environmental, Social, and Governance (ESG) investing presents a unique opportunity for Ginnie Mae. We are now engaging with market participants and experts to better understand this emerging source of demand so we can continue to develop additional disclosures that highlight the social impact of an investment in Ginnie Mae securities.”

“I had no idea until I began meeting with investors, especially foreign investors and the Asian central banks and sovereign funds, how much interest there is in ensuring the inherent value of our securities as vessels for environmental and social investment.”

“Better technology enables us to provide better information to our stakeholders. An example is our enhanced environment and social, ESG, disclosures to investors.”⁵

4. How does Ginnie Mae envision its role as it relates to ESG policies in the secondary market?

“On our Social Bonds, Ginnie Mae can be a Market Leader in setting true transparent and real standards and criteria for defining what a Social Bond is and we are excited about the groundwork laid so far and what is ahead.”

“We have already started offering investors better visibility into the extent our MBS support homeownership in low- and moderate-income (LMI) communities. Single-family MBS LMI-GEO level indicators were implemented in November 2021. Work is underway to disclose LMI borrower income as a pool level indicator by the end of the year.”⁶

⁴ Urban Institute, Ginnie Mae Presidents Event, June 2, 2022

⁵ Urban Institute, Ginnie Mae Presidents Event, June 2, 2022

⁶ Urban Institute, Ginnie Mae Presidents Event, June 2, 2022

5. The green bond market is still relatively small, how will Ginnie Mae enter this market and at what magnitude?

“On our Green Bonds, thanks to FHA’s Multi-family Green and Energy Efficient Housing Program, we offer environmentally friendly or “Green” collateralized properties underlying our multifamily MBS. Our “Green” field in our disclosures gives investors the transparency they want when making investment decisions. Since going live with our “Green” disclosures in January 2022, Ginnie Mae has averaged over \$1 billion a month in Green Bonds. As of May 1, Ginnie Mae has issued \$4.2 billion in “Green” multi-family bonds. Almost 40% of new issuances.”⁷

6. If implemented how would the newly proposed CRA rule impact Ginnie Mae?

“We are excited about the opportunities for Ginnie Mae Bonds as a vehicle for banks to obtain CRA credit under the newly [Office of the Comptroller of the Currency, Federal Deposit Insurance Corporation, and Federal Reserve Board jointly] proposed CRA rules. As you know, Ginnie Mae MBS pools contain large numbers of mortgages originated to LMI borrowers.”

“The newly published proposed rule is complex, [we strongly support the mandate of the rule writers to modernize the CRA to reflect current challenges and opportunities in housing finance. We are reviewing, with particular interest, how the proposed rule assigns CRA credit to investments in mortgage-backed securities. We know the secondary market is an invaluable tool in improving housing outcomes for lower-to-moderate income households. We applaud the rule writers for recognizing this critical area in their policymaking. If banks can get credit for investing in Ginnie Mae securities in new and innovative ways, this treatment could yield more liquidity for government mortgage products, providing access to affordable homeownership for a greater number of households across the country.]”

“Finding new ways to support homeownership and making sure that its benefits are spread as widely and fairly as possible, has been an animating force in my entire career, and will be central to my term as president of Ginnie Mae - because it is Ginnie Mae’s founding principle.”

I know that we share these motivating goals and that our best chance of achieving them lies in continued close collaboration. And speaking of collaboration, I am thrilled that we finally have FHA Commissioner Julia Gordon onboard to steer FHA through these uncharted waters. As a long-time colleague and collaborator, I look forward to opportunities with her to think outside the box on solutions to the crisis-level problems we are facing such as the need for small dollar mortgages, increasing affordable housing supply, and expanding access to the Ginnie Mae MBS platform and the benefit of our guaranty.”⁸

⁷ Urban Institute, Ginnie Mae Presidents Event, June 2, 2022

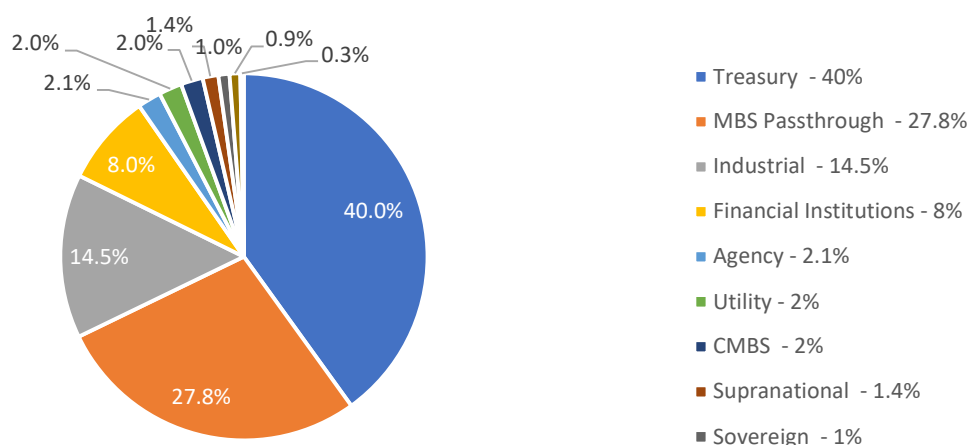
⁸ Urban Institute, Ginnie Mae Presidents Event, June 2, 2022

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

1.0 Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

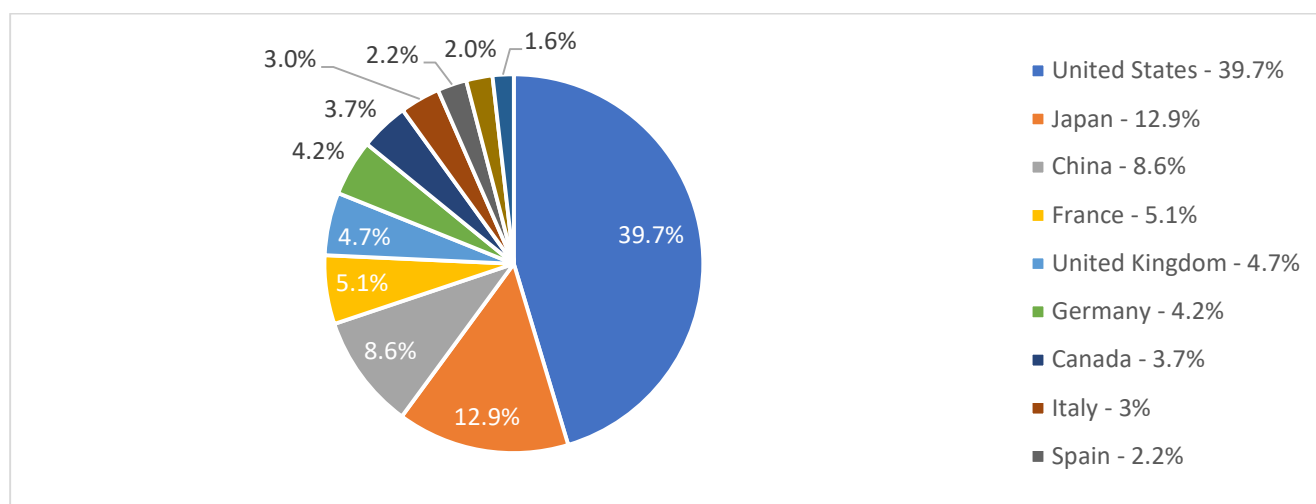
1.1 Bloomberg US Aggregate and Global Bond Indices

Bloomberg US Aggregate Index



US Treasuries contribute approximately 40% to the Bloomberg 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%.

Bloomberg Global Aggregate Index by Country



In the Bloomberg Global Aggregate Index by Country, the US share of fixed income still represents the largest share of total outstanding issuance, representing approximately 40% of the total Barclays Global Aggregate Index. All categories remained stable when compared to the prior month.

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

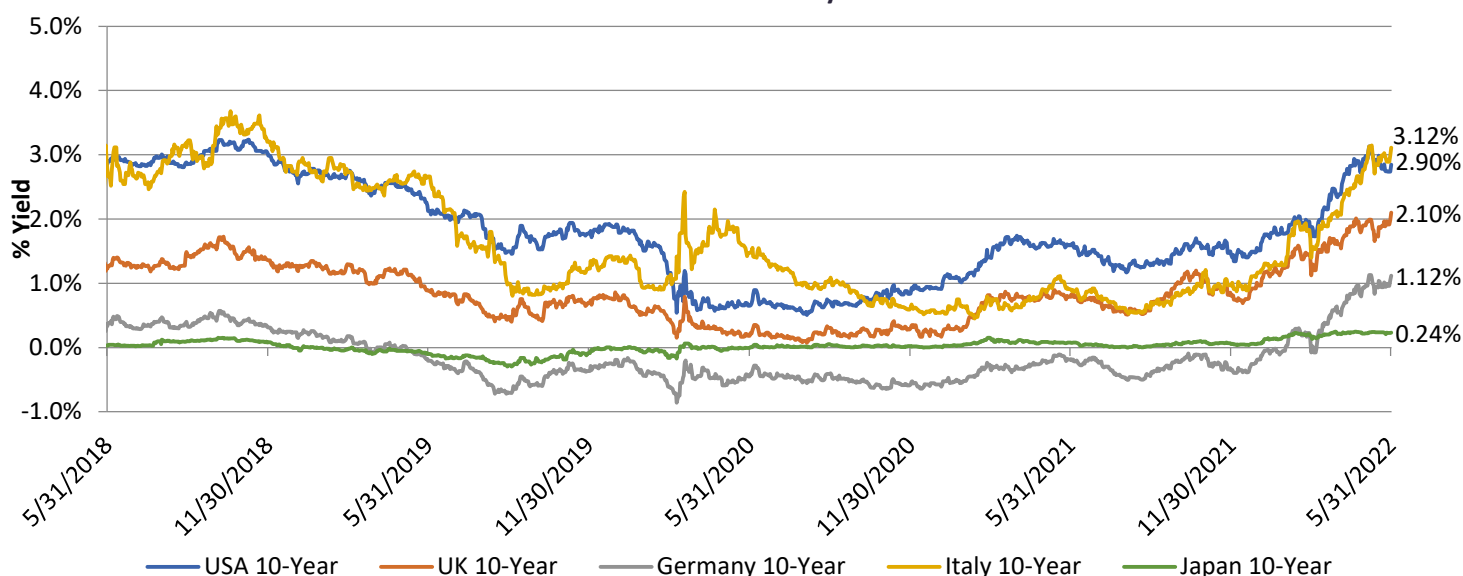
Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

1.2 Global 10-Year Treasury Yields

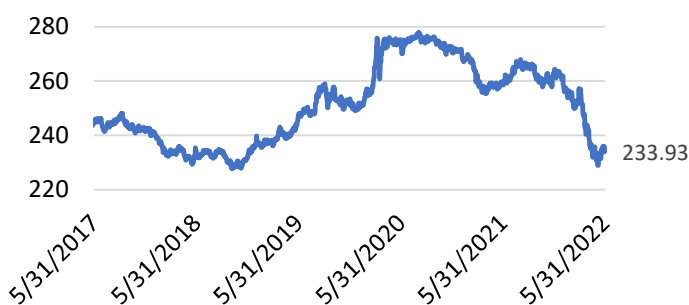
The US 10-year Treasury yield moved to 2.85% at month end May 2022, a MoM decrease of 9 bps. US Treasury yields are now the second highest of all the government treasury yields depicted in the figure below, behind Italian Treasury yields.

- The yield on the UK 10-year government notes increased to 2.10% at month-end May, a MoM increase of 20 bps.
- The yield on the German 10-year note increased to 1.12% at month-end May, a MoM increase of 18 bps.
- The yield on the Italian 10-year note increased to 3.12% at month-end May, a MoM increase of 34 bps.
- The yield on the Japanese 10-year government notes increased to 0.23% at month-end May, a MoM increase of 1 bp.
- The hedged yield for the 10-year Treasury JPY decreased to 2.34% at month-end May, a MoM increase of 1 bp.
- The hedged yield for the 10-year Treasury EUR decreased to 1.33% at month-end May, a MoM increase of 1 bp.

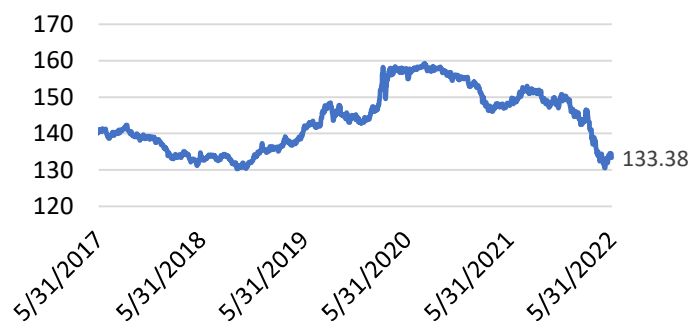
Global 10-Year Treasury Yields



7–10yr Total Return Hedged Index, JPY



7–10yr Total Return Hedged Index, EUR



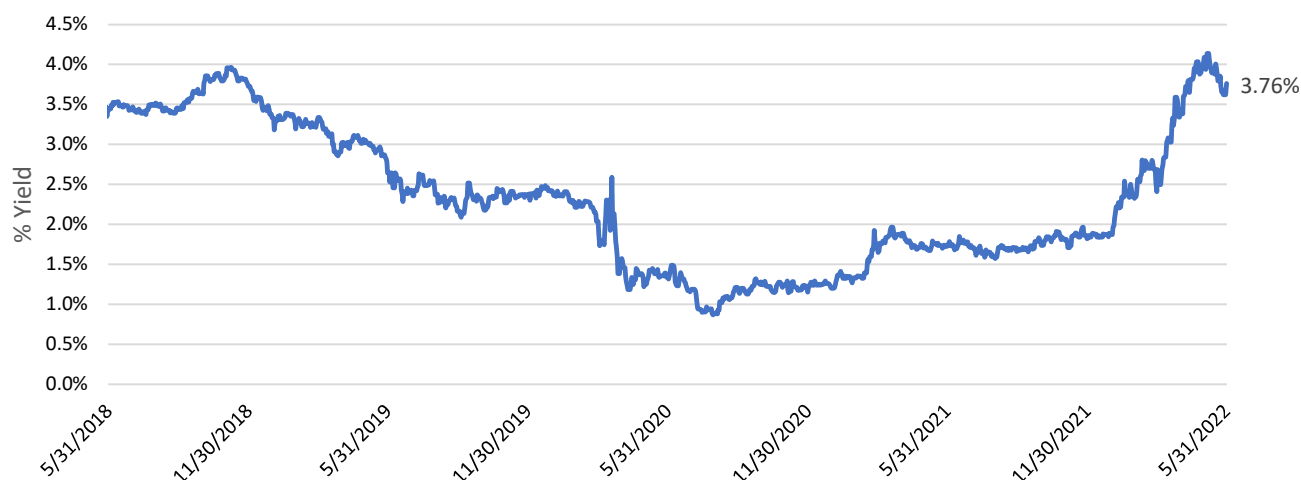
Source: Bloomberg. Note: Data as of May 2022

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

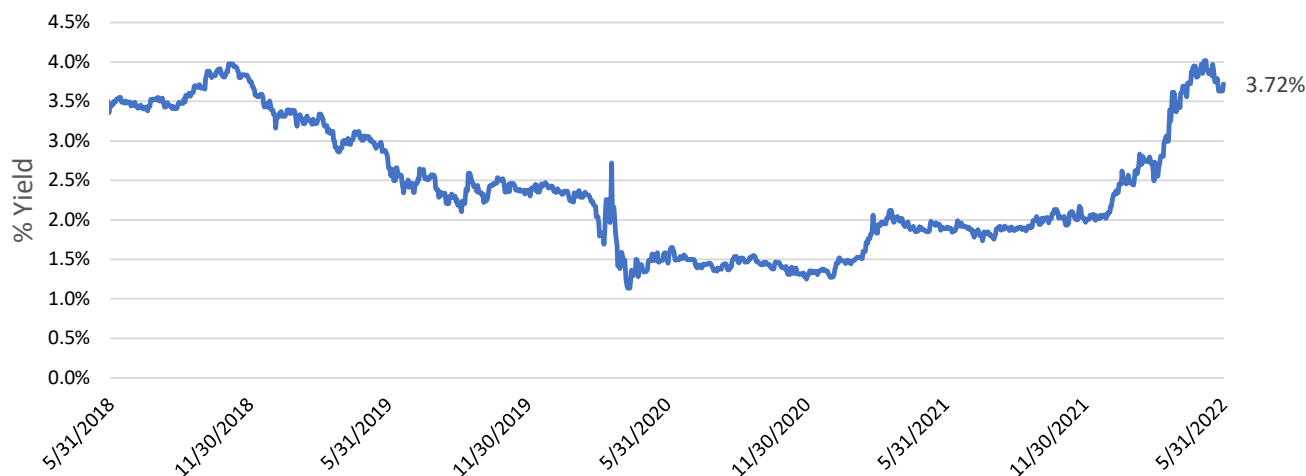
1.3 Ginnie Mae Yields – USD

Ginnie Mae fixed rate MBS yields decreased MoM in May 2022. Ginnie Mae II yields were at 3.76% at month end May, down by 23 bps MoM. Ginnie Mae I yields were at 3.72%, down by 17 bps MoM. Over the past year, Ginnie Mae spreads over the 10-year Treasury yields have widened. Ginnie Mae II spreads over the US 10-year Treasury yield, just 12 bps at month end of May 2021, had increased to 91 bps over the US 10-year Treasury yield at month end of May 2022. This represented a decrease in spread over the US 10-year Treasury of 14 bps MoM, against the longer term trend. The yields on the Ginnie Mae I SF were 87 bps higher than the US 10-year Treasury yield at month end May, a decrease in spread of 8 bps MoM.

Ginnie Mae II SF Yield, USD



Ginnie Mae I SF Yield, USD



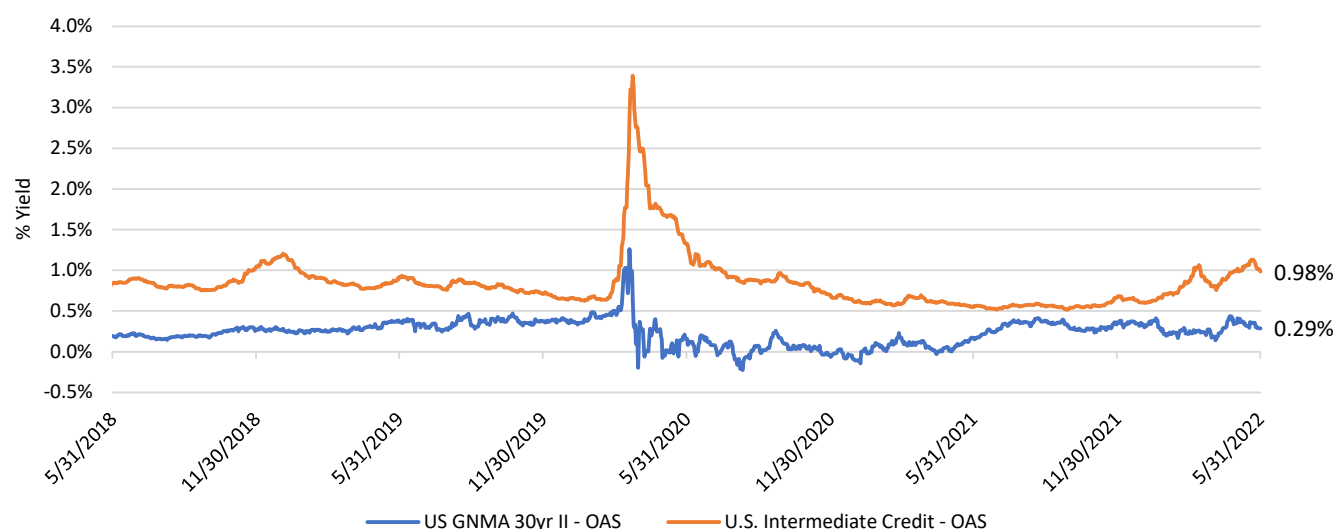
Sources: Bloomberg. Note: Data as of May 2022

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

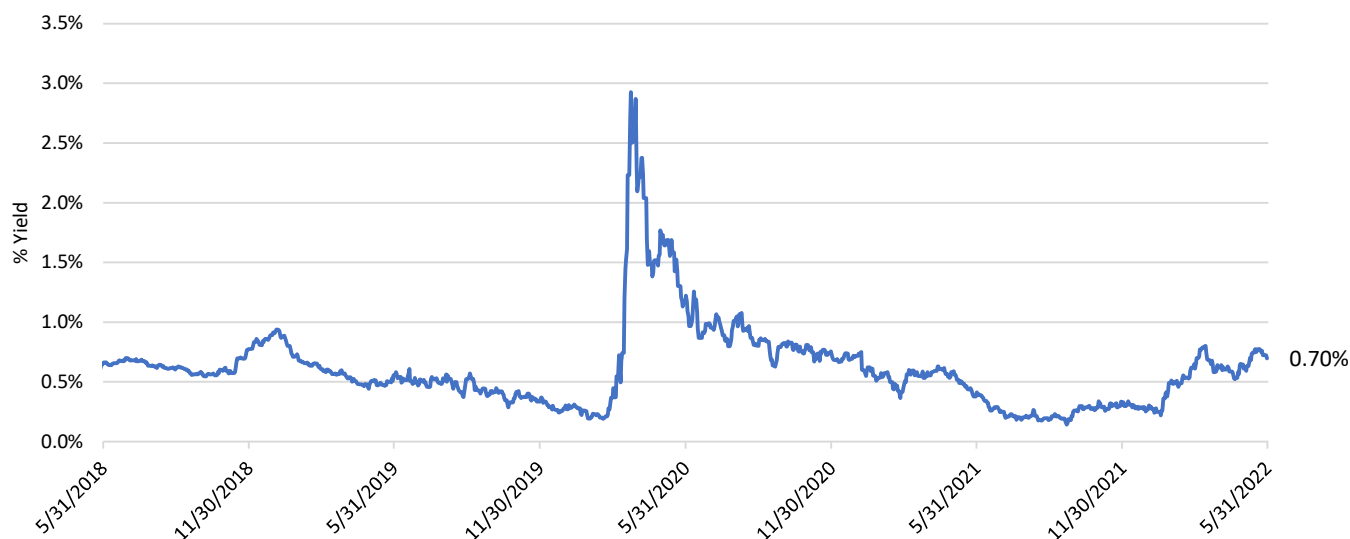
1.4 Ginnie Mae Yield Spreads – Intermediate Credit

The yield differential between US Intermediate Credit and GNMA II 30-year OAS increased by 6 bps to 0.70% at month end May. The Ginnie Mae II 30-year OAS decreased 6 bps MoM. The US Intermediate credit OAS has decreased 1 bp MoM.

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



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

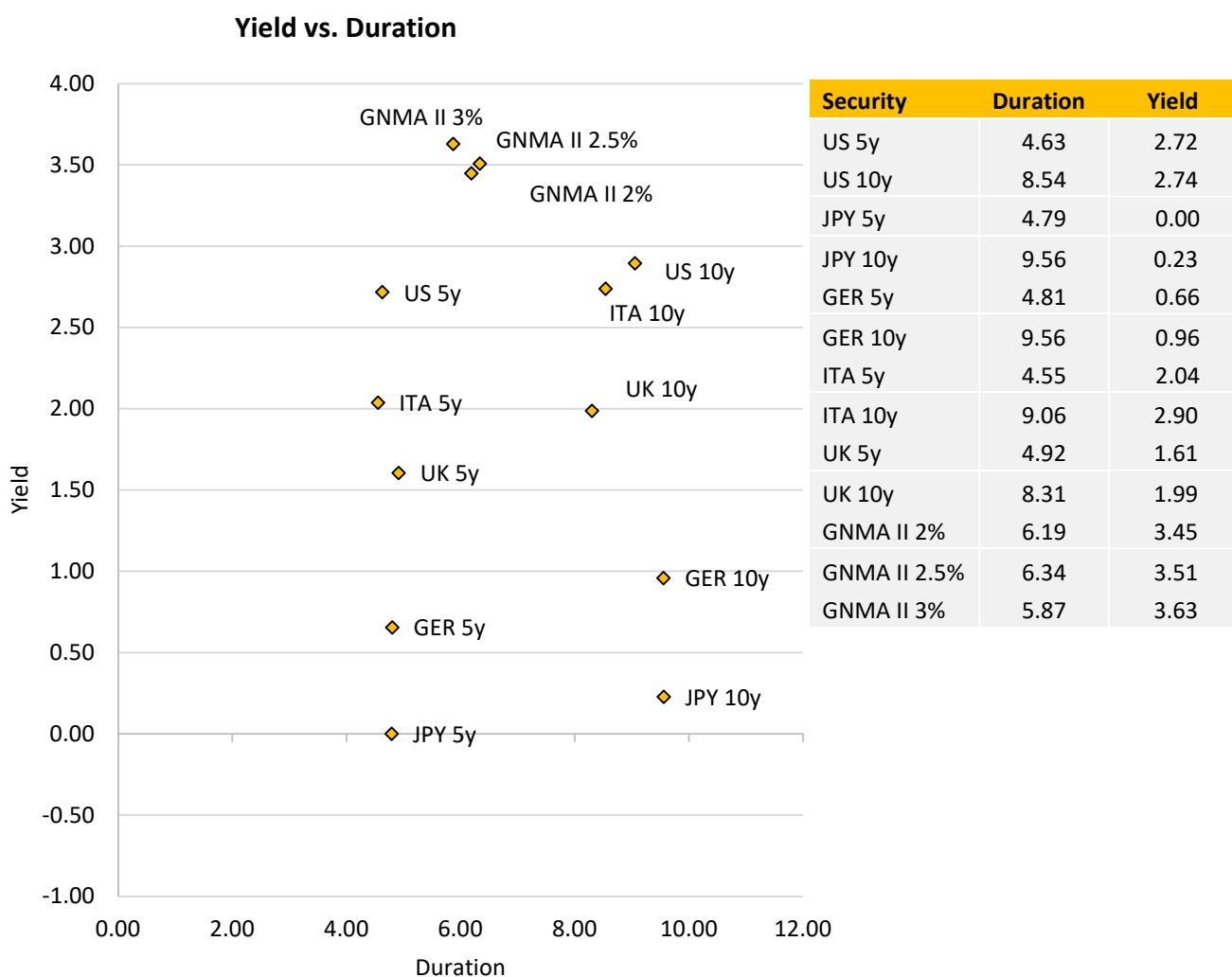


Source: Bloomberg. Note: Data as of May 2022.

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 May, the GNMA II 2.5% securities duration increased MoM by 0.42 units and yield increased MoM by 3 bps. In May, the GNMA II 3% securities duration increased MoM by 0.45 units and yield increased MoM by 9 bps.

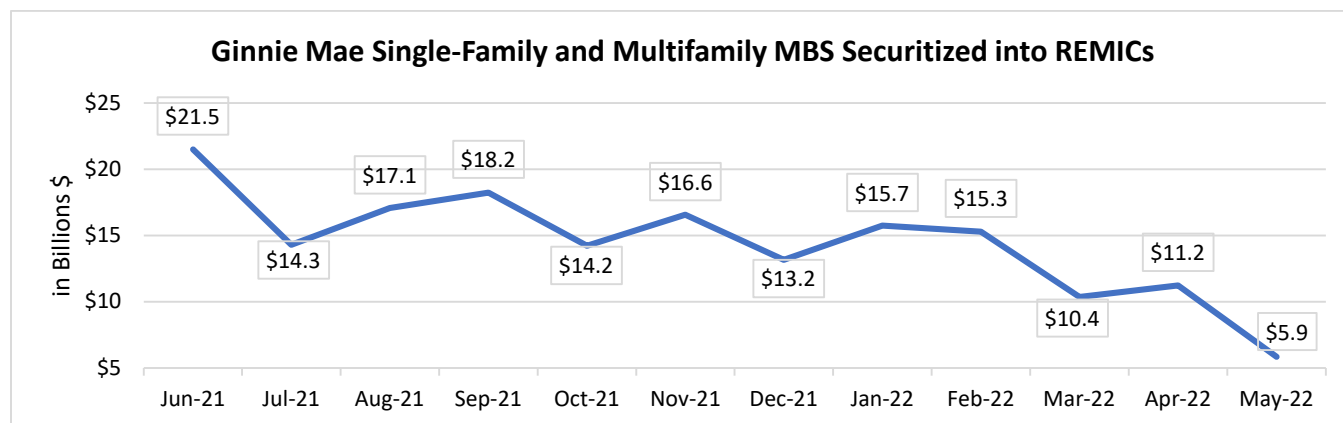


Source: Bloomberg. Note: Yield and modified duration for GNMA II securities is from illustrative TBA using base prepayment assumptions. All other data is as of May 2022. Yields are in base currency of security and unhedged.

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

1.6 Monthly REMIC Demand for Ginnie Mae MBS

In May 2022, \$5.9 billion of Ginnie Mae MBS were securitized into Real Estate Mortgage Investment Conduits (REMICs) as underlying collateral, a 50% month over month decline. Of that, approximately \$1.9 billion were Multifamily MBS having coupons between 2% and 3%. \$3.9 billion were Single Family MBS with 88% of the Single-Family MBS having coupons between 2.5% and 4.5%. Through eight months of Fiscal Year 2022 approximately \$102 billion of Ginnie Mae Single Family and Multifamily MBS were securitized into Ginnie Mae REMIC transactions. This represents a roughly 21% decrease over the same period in Fiscal Year 2021.



May 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	560.6	29%
2.51-3.00	1,351.6	71%
Subtotal	1,912.3	100%
Single Family		
2.01-2.50	19.8	1%
2.51-3.00	701.5	18%
3.01-3.50	918.1	23%
3.51-4.00	733.0	19%
4.01-4.50	1,131.9	29%
4.51-5.00	399.1	10%
5.01-5.50	-	0%
5.51-6.00	-	0%
6.01-6.50	36.4	1%
Subtotal	3,939.8	100%
Grand Total	5,852.1	

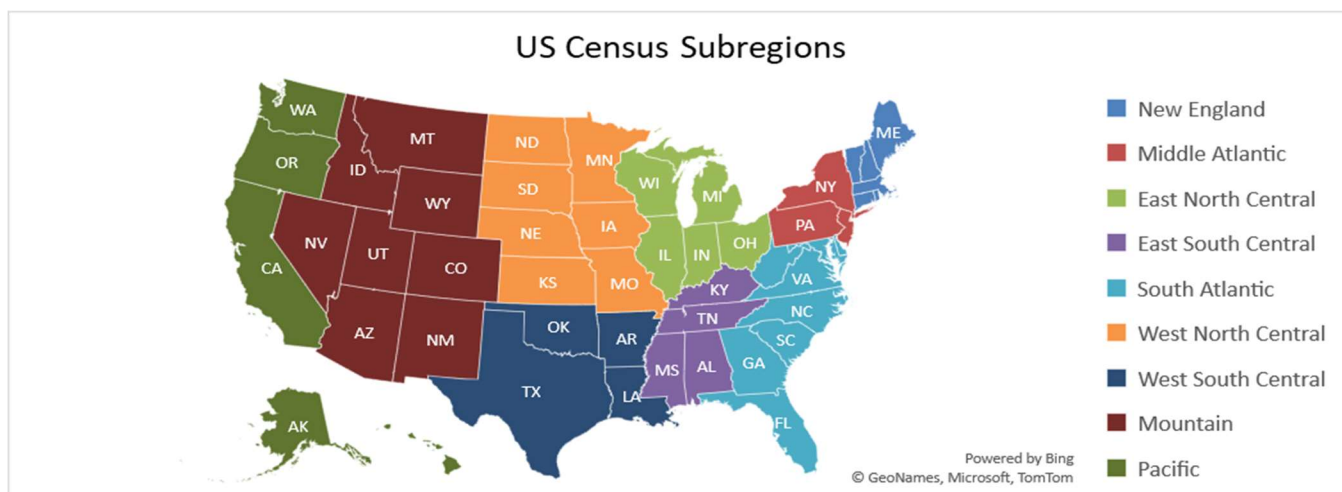
⁹Totals may not sum due to rounding.

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 17.2% between March 2020 and March 2022. Over that same period, the Mountain region has had the greatest home price appreciation (21.9% CAGR), while in the West North Central region, increases in home values have been the slowest (14.3% 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	17.0%	15.0%	14.6%	17.9%	19.5%	14.3%	16.1%	21.9%	18.5%	17.2%
12-Month Period of Max HPI Growth During Pandemic	7-2020 to 6-2021	8-2020 to 7-2021	7-2020 to 6-2021	3-2021 to 2-2022	3-2021 to 2-2022	6-2020 to 5-2021	3-2021 to 2-2022	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%	21.0%	23.9%	16.3%	18.8%	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 March 2022. 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, 3/2022.

$$CAGR = (End\ Value / Starting\ Value)^{(1/n)} - 1$$

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 February 2022. 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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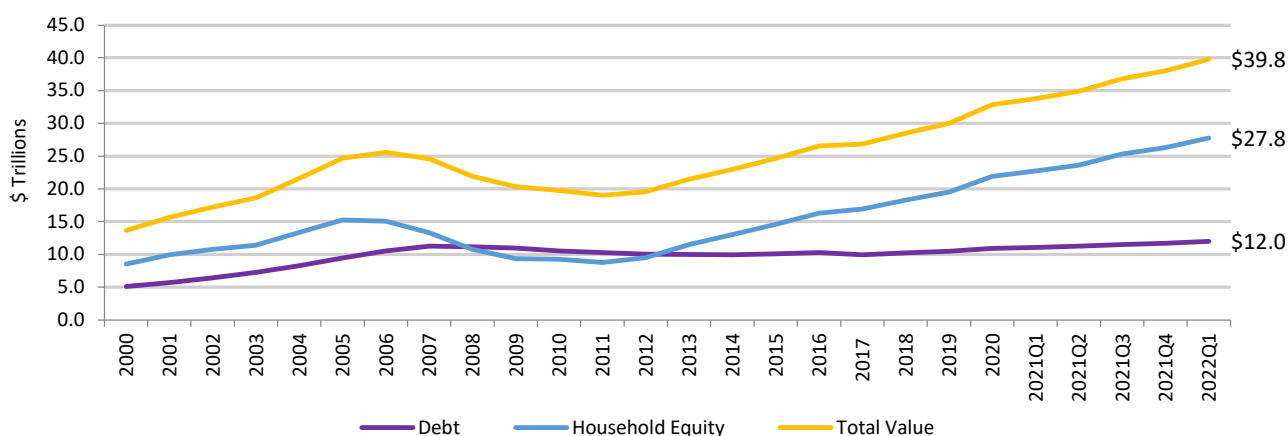
A Monthly Publication of Ginnie Mae's Office of Capital Markets

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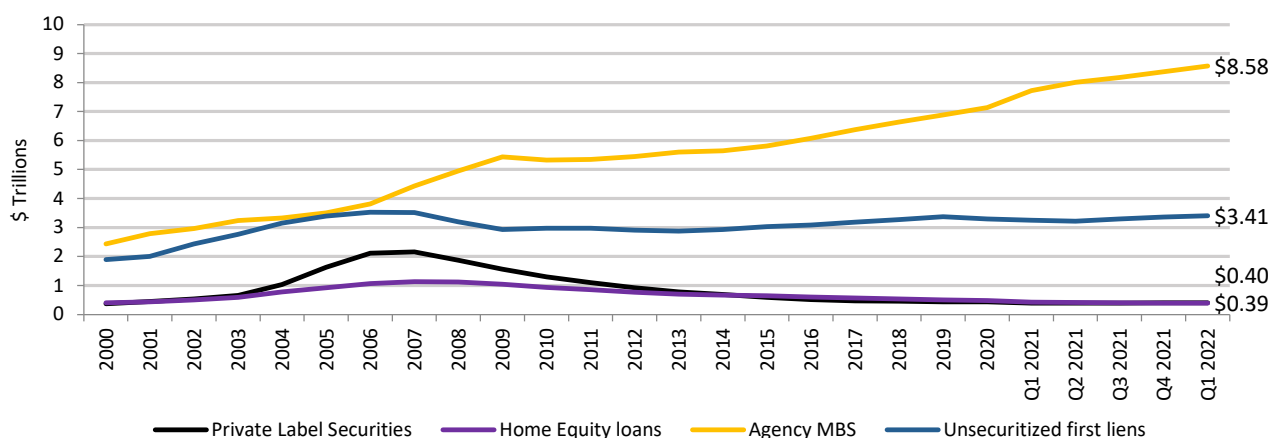
2.2 Size and Value of the US Housing Market

The total value of the single-family housing market reached \$39.8 trillion in Q1 2022. The total value of the US housing market is up 109% from its trough in 2011. Over that same period, mortgage debt outstanding has increased just 17%, approximately six times less rapidly. From Q4 2021 to Q1 2022 mortgage debt outstanding has increased from \$11.7 trillion to \$12.0 trillion. Thus, the expansion in the housing market is being driven primarily by increases in home values, as detailed in [Section 2.1 National HPI](#). 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



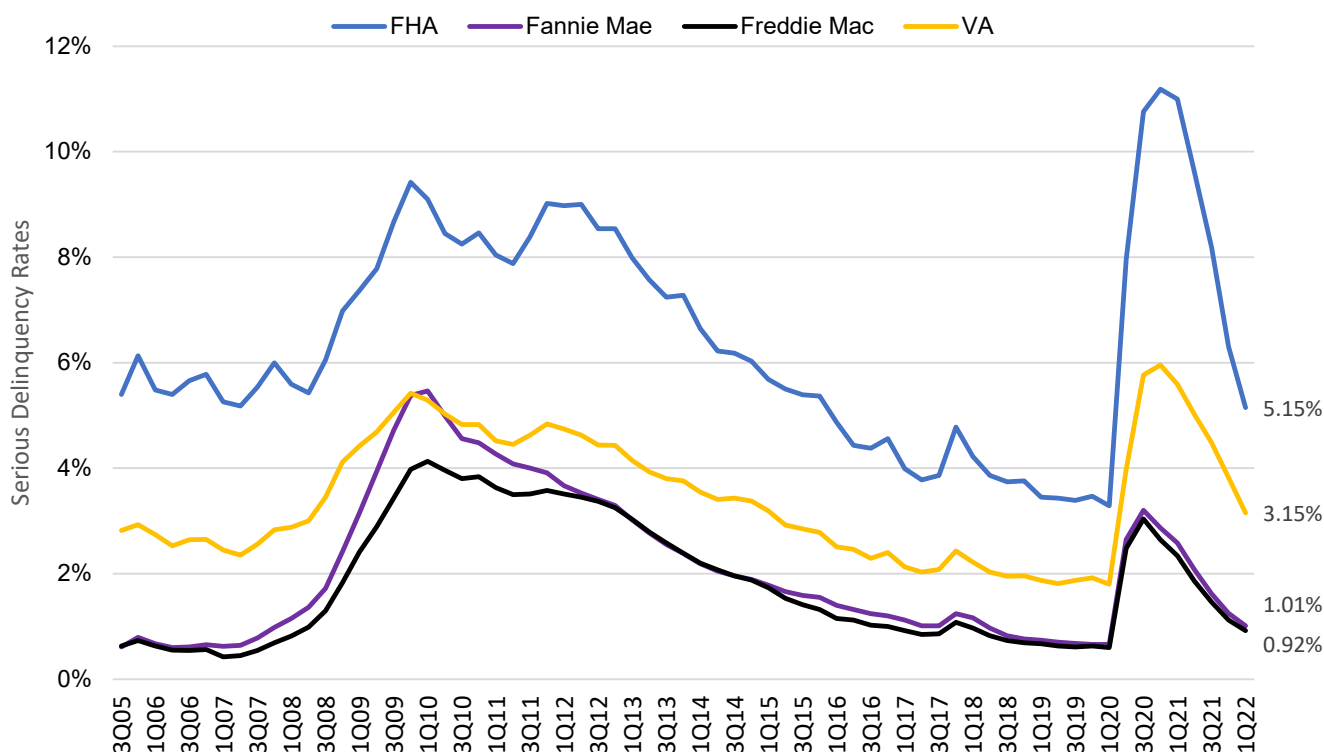
Sources:

1. Federal Reserve Flow of Funds Data. Notes: Data as of Q1 2022.
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 continued to fall sharply in Q1 2022. From Q4 2021 to Q1 2022, Fannie and Freddie serious delinquencies decreased 24 and 20 bps, respectively, or 19% and 18% respectively, 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 115 and 67 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

141,588 Ginnie Mae loans were in forbearance as of the end of April 2022. This represents a 5.1% decrease MoM. 6,219 of loans in forbearance were removed from MBS pools and 135,369 loans in forbearance still actively remain in pools. Most liquidated loans (4,556) were FHA and within that subset, 2,434 of those loans were originated by non-banks.

All Loans in Forbearance – April 2022						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
Ginnie	658	3.4	\$ 184,012.62	77.0	70.5	141,588
Bank	672	3.8	\$ 131,613.50	78.5	81.0	15,633
Non-bank	657	3.3	\$ 190,545.96	76.8	69.6	125,955
FHA	654	3.4	\$ 180,000.00	79.8	76.0	101,027
Bank	667	3.9	\$ 123,883.86	82.2	84.5	11,874
Non-bank	653	3.4	\$ 187,379.64	79.6	75.3	89,153
VA	668	3.1	\$ 232,663.05	63.4	50.2	28,713
Bank	685	3.5	\$ 182,448.62	63.3	68.6	2,782
Non-bank	666	3.1	\$ 237,646.88	63.4	48.7	25,931
Loans in Forbearance and Removed from Pools – April 2022						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
Ginnie	656	3.8	\$ 138,626.11	67.6	71.7	6,219
Bank	669	4.3	\$ 100,437.20	71.8	70.3	2,548
Non-bank	653	3.7	\$ 170,767.05	66.4	72.1	3,671
FHA	650	4.0	\$ 130,318.93	68.9	76.8	4,556
Bank	663	4.4	\$ 96,776.70	74.2	69.6	2,122
Non-bank	645	3.8	\$ 166,289.52	67.2	79.1	2,434
VA	670	3.5	\$ 188,853.89	58.4	53.8	1,202
Bank	684	3.9	\$ 140,844.24	55.1	67.1	304
Non-bank	667	3.4	\$ 205,631.57	59.2	51.3	898
Loans in Forbearance that Remain in Pools – April 2022						
	FICO Score*	Note Rate*	Current Principal Balance Median	First Time Homebuyer Share (%)	Purchase Share (%)	Loan Count
Ginnie	658	3.3	\$ 186,000.00	77.3	70.4	135,369
Bank	672	3.7	\$ 138,695.59	79.1	82.1	13,085
Non-bank	657	3.3	\$ 191,039.16	77.1	69.6	122,284
FHA	654	3.4	\$ 182,094.77	80.2	76.0	96,471
Bank	667	3.8	\$ 130,943.56	83.0	86.1	9,752
Non-bank	653	3.4	\$ 187,989.83	80.0	75.2	86,719
VA	668	3.1	\$ 234,339.44	63.6	50.1	27,511
Bank	685	3.4	\$ 188,781.32	63.8	68.7	2,478
Non-bank	666	3.0	\$ 238,722.57	63.6	48.6	25,033

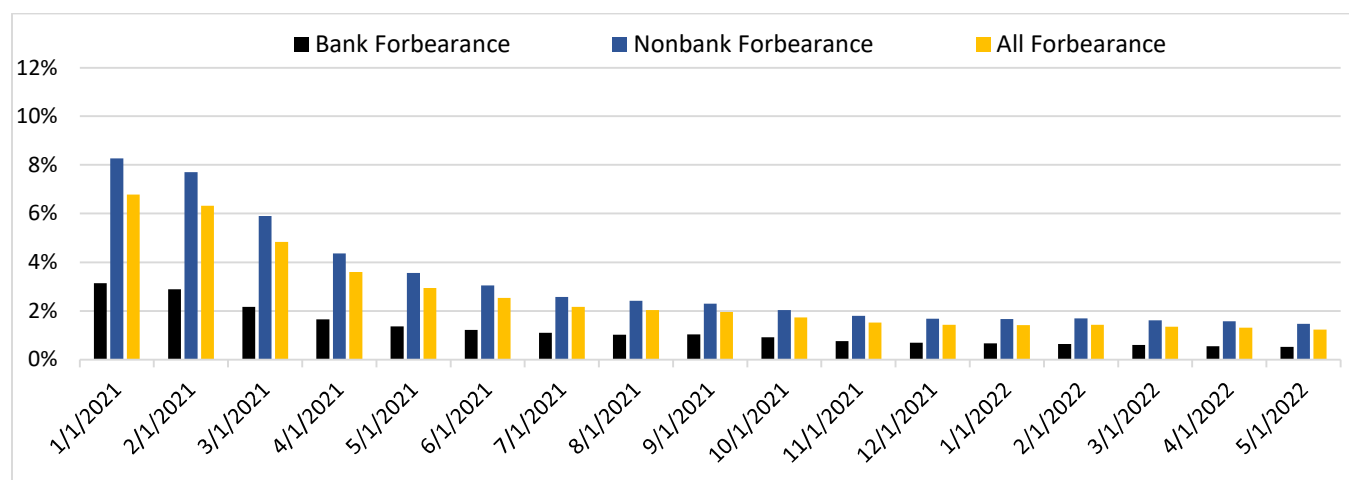
Sources: Ginnie Mae loan level MBS disclosure and forbearance file and Ginnie Mae Issuer Operational Performance Profile (IOPP) -Peer Group Listings.

Notes: Data as of April 2022; *Averages weighted by remaining principal balance of the loans. Beginning with the May 2022 GMAR Report, Credit Unions will be classified as Banks based on the updated Recursion data source.

State of the US Housing Market

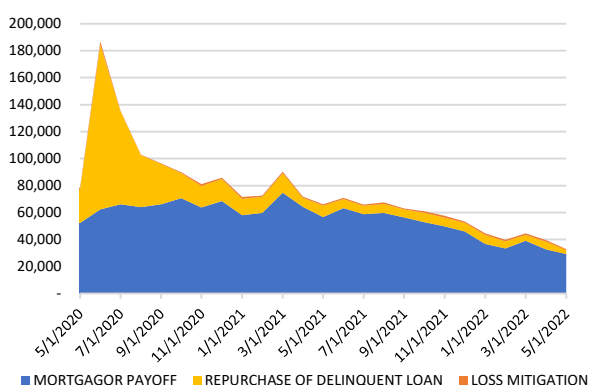
The current share of Ginnie Mae loans in forbearance stands at 1.23% as of the end of May 2022, an 8 bp MoM decline from 1.31% observed as of the end of April 2022. With the forbearance rate for Ginnie Mae collateral having been just 0.25% in March of 2020, prior to lockdown and the introduction of borrowers' right to forbearance under the CARES Act, the current rates remain approximately five times higher than the forbearance rate just prior to the pandemic, and the rate of convergence to pre-pandemic rates has continued to slow down in May 2022.

Share of Ginnie Mae Loans in Forbearance

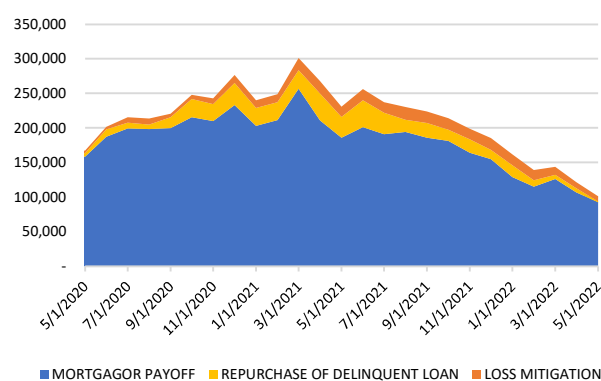


Sources: Recursion. Notes: Data as of May 2022.

Number of Loans Removed from Pools: Bank



Number of Loans Removed from Pools: Non-bank

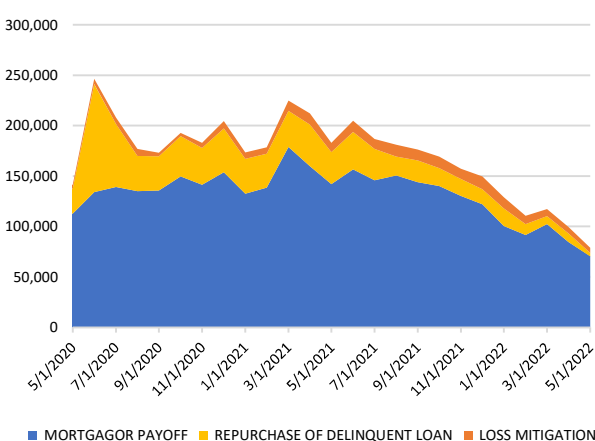


Sources: Recursion. Notes: Data as of May 2022. Beginning with the May 2022 GMAR Report, Credit Unions will be classified as Banks based on the updated Recursion data source.

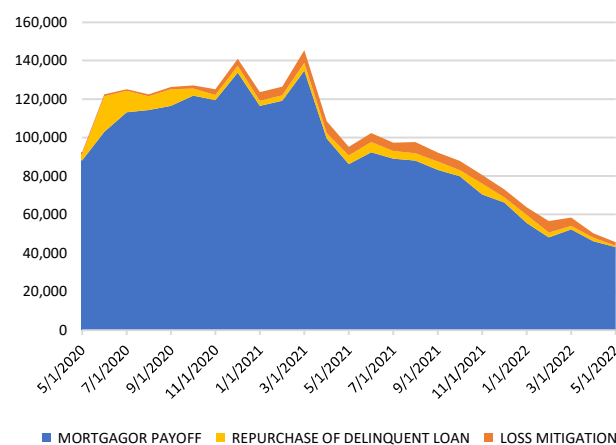
State of the US Housing Market

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 now more likely to have coupons less than 3.5% (bottom charts: “Number of Loans Removed from Pools by Coupon”). In May 2022, the number of loans repurchased due to delinquency decreased 63% to 3,209 for FHA and decreased 58% to 799 for VA loans.

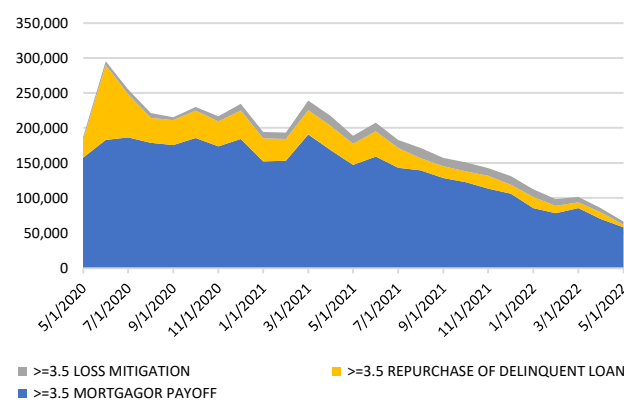
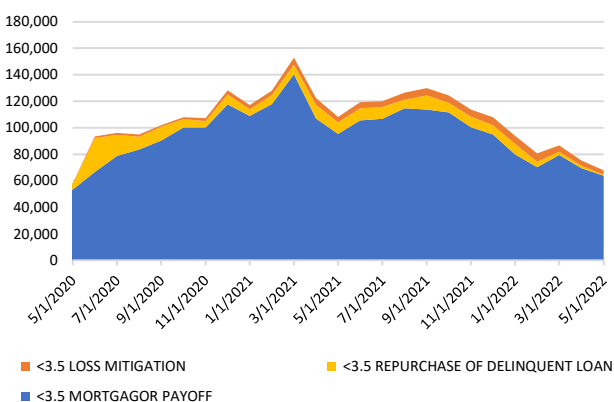
Number of Loans Removed from Pools: FHA



Number of Loans Removed from Pools: VA



Number of Loans Removed from Pools by Coupon



Sources: Recursion. Notes: Data as of May 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 25% of new Agency issuance over the past year. The share of Ginnie Mae's new Agency issuance varies across states, with the highest Ginnie Mae share in Alaska (50%) and the lowest in the District of Columbia (15%). The same holds true for Agency issuance outstanding, with the highest Ginnie Mae outstanding share in Alaska (47%) and the lowest in the District of Columbia (12%). There is currently no difference between Ginnie Mae's share of new Agency issuance and Ginnie Mae's share of Agency outstanding, as they are both 25%.

	Agency Issuance (past 1 year)				Agency Outstanding			
	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)
National	25%	3,308,439	263.24	270.02	25%	10,380,700	198.87	209.11
AK	50%	11,400	318.06	280.87	47%	36,505	257.23	219.78
AL	38%	68,313	207.42	224.10	39%	228,913	151.38	175.72
AR	36%	36,639	177.01	205.68	38%	133,716	127.97	158.82
AZ	24%	105,013	280.19	287.06	23%	263,424	209.88	222.38
CA	18%	251,412	415.72	409.00	16%	655,971	319.61	321.28
CO	25%	80,494	365.44	347.11	23%	207,350	281.67	274.34
CT	25%	31,346	247.90	266.80	25%	102,481	198.25	208.85
DC	15%	2,822	504.68	438.18	12%	8,622	374.55	352.67
DE	30%	16,315	251.27	266.74	31%	49,910	200.25	209.23
FL	31%	291,475	262.53	267.20	31%	815,629	203.58	207.00
GA	32%	162,414	229.65	262.59	33%	481,239	172.37	202.79
HI	36%	11,974	580.38	465.03	31%	32,539	462.35	358.23
IA	22%	21,717	177.69	191.17	21%	80,412	130.60	148.80
ID	22%	20,199	306.50	293.03	22%	62,057	208.46	219.66
IL	22%	106,954	203.03	234.78	21%	350,900	156.38	178.63
IN	29%	79,204	176.58	193.96	29%	270,931	129.12	148.69
KS	28%	26,096	185.25	212.07	28%	94,368	136.19	162.54
KY	32%	46,575	186.10	201.04	33%	159,684	139.27	154.55
LA	41%	57,306	198.46	226.35	39%	191,614	154.71	176.89
MA	17%	38,163	348.76	346.70	15%	109,254	277.57	269.49
MD	34%	98,448	325.03	314.17	33%	281,240	261.08	249.40
ME	25%	11,278	224.92	247.57	25%	36,810	172.55	190.22
MI	19%	76,511	176.18	203.20	19%	266,843	129.81	156.00
MN	17%	44,110	234.52	254.91	17%	156,239	178.23	197.23
MO	27%	67,293	186.82	207.21	28%	238,408	137.79	160.91
MS	46%	32,868	189.82	204.79	47%	117,993	139.06	159.71
MT	23%	9,749	278.53	283.28	23%	31,914	202.25	213.61
NC	27%	129,517	228.06	259.49	28%	402,957	169.17	198.71
ND	26%	5,403	237.72	234.34	23%	16,606	190.60	184.93
NE	24%	16,539	202.58	204.97	26%	63,763	144.41	159.58
NH	21%	11,537	282.65	277.78	22%	37,531	220.29	213.34
NJ	22%	74,671	295.65	320.10	21%	222,927	234.59	254.02
NM	35%	25,656	222.70	232.14	37%	92,686	161.85	176.26
NV	30%	50,261	308.61	296.95	29%	127,637	240.03	231.91
NY	19%	70,316	294.64	336.92	19%	299,187	203.83	247.13
OH	26%	111,876	172.43	194.51	28%	410,465	126.53	147.90
OK	39%	47,782	189.32	208.06	41%	185,154	136.98	160.01
OR	20%	37,439	323.55	325.71	19%	107,224	247.01	251.07
PA	23%	96,514	194.03	235.96	25%	378,748	146.37	180.77
RI	31%	11,466	291.19	271.81	29%	34,233	226.67	212.02
SC	33%	78,556	231.48	244.04	33%	225,127	176.86	189.46
SD	28%	7,763	226.18	225.13	29%	28,681	167.97	176.28
TN	29%	82,556	235.37	257.47	31%	264,143	168.25	200.51
TX	30%	321,113	237.74	273.25	31%	1,053,252	175.28	207.65
UT	19%	34,318	335.44	332.42	18%	92,424	249.33	260.06
VA	37%	144,598	321.72	313.31	35%	431,769	251.94	250.28
VT	17%	141	387.23	391.25	23%	757	239.69	299.18
VI	19%	3,320	225.89	244.60	18%	11,873	178.30	179.36
WA	22%	80,250	367.44	368.66	21%	226,858	276.74	287.26
WI	17%	36,239	199.45	214.12	16%	120,077	152.93	163.30
WV	42%	16,166	188.61	191.89	42%	57,083	140.90	144.63
WY	35%	8,354	250.26	251.68	34%	24,572	202.53	200.65

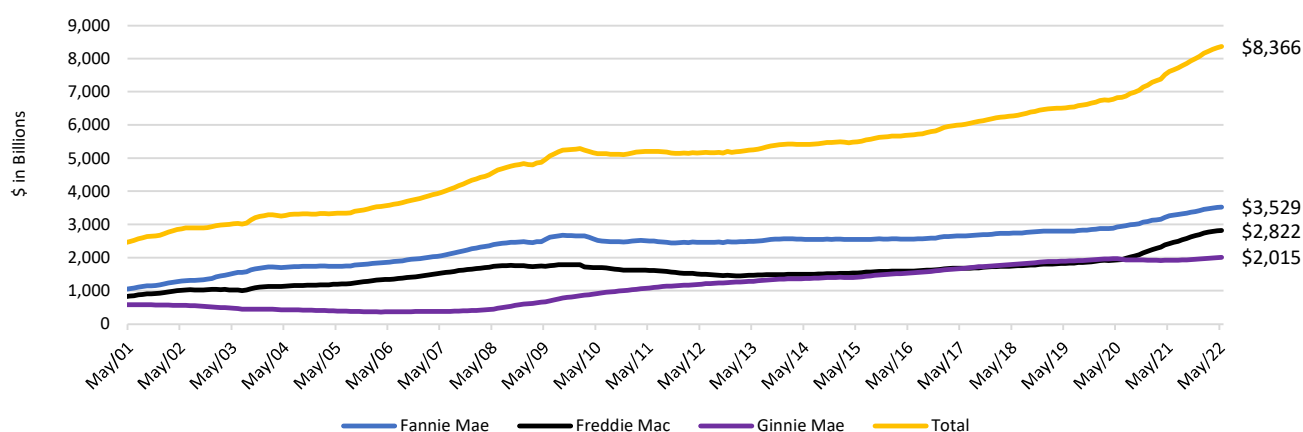
Sources: Recursion. Notes: Outstanding balance is based on loan balance as of May 2022. Ginnie Mae issuance is based on the last 12 months, from April 2021 to May 2022. Values above are based on loan level disclosure data, thus excluding loan balances for the first six months that loans are in a pool. This accounts for the difference in the share of outstanding MBS represented above and in [Section 2.6 Outstanding Single-Family Agency MBS](#).

2.6 Outstanding Single-Family Agency MBS

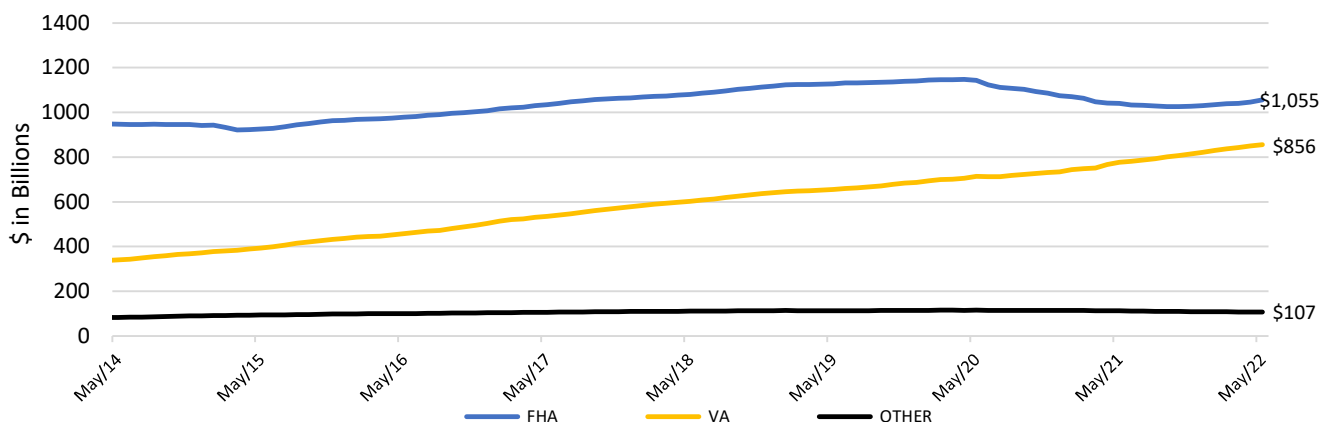
As of May 2022, outstanding single-family MBS in the Agency market totaled \$8.37 trillion: 42.2% Fannie Mae, 33.7% Freddie Mac, and 24.1% Ginnie Mae MBS. Over the past twelve months, Freddie Mac's, Fannie Mae's and Ginnie Mae's total outstanding MBS increased by approximately 14.8%, 7.4% and 4.9%, respectively. Despite this, Fannie Mae outstanding MBS remains larger than either Freddie or Ginnie by approximately \$707 billion 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 May 2022, FHA collateral comprised 52.3% of Ginnie Mae MBS outstanding and VA collateral comprised 42.4% of Ginnie Mae MBS outstanding.

Outstanding Agency Mortgage-Backed Securities



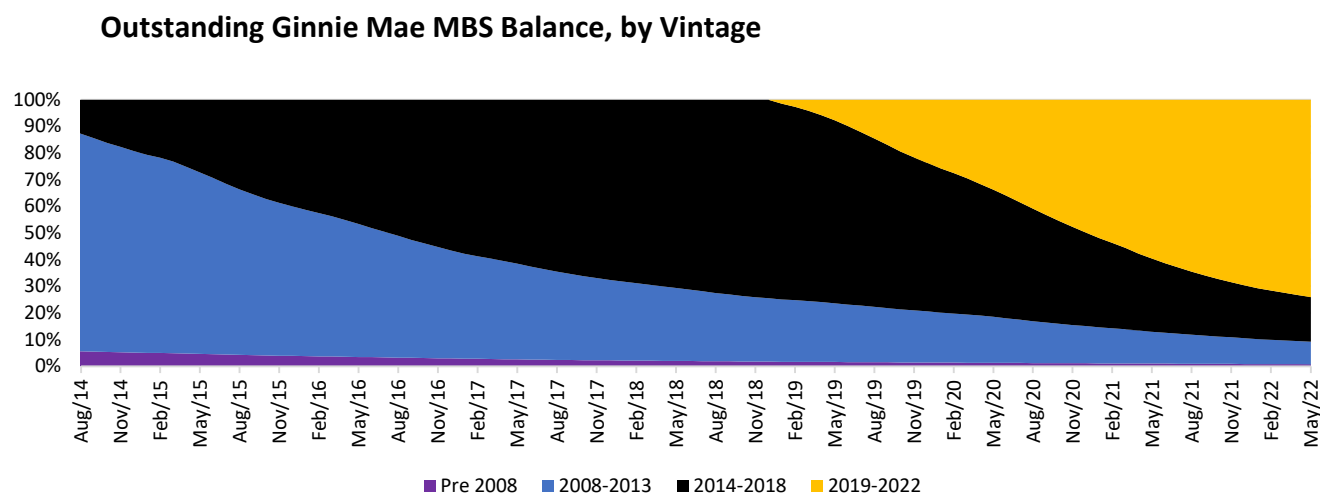
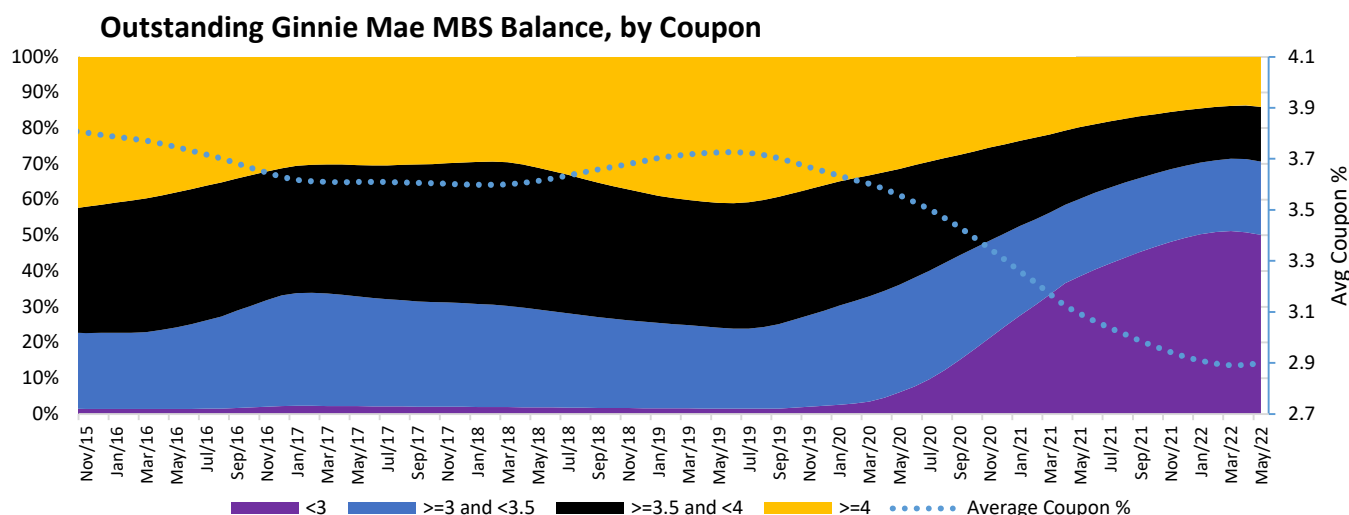
Composition of Outstanding Ginnie Mae Mortgage-Backed Securities



Sources: Recursion. Notes: Data as of May 2022.

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

As of May 2022, the weighted average coupon on outstanding Ginnie Mae increased slightly from 2.89% in April 2022 to 2.90%. The share of outstanding MBS pools with coupons below 3.0% (50% as of May 2022) began a rapid expansion in 2020. With rates rising to over 6.0% in June, this expansion is likely to stop. The bottom chart illustrates that loans originated since 2019 account for 74% of Ginnie MBS collateral outstanding.

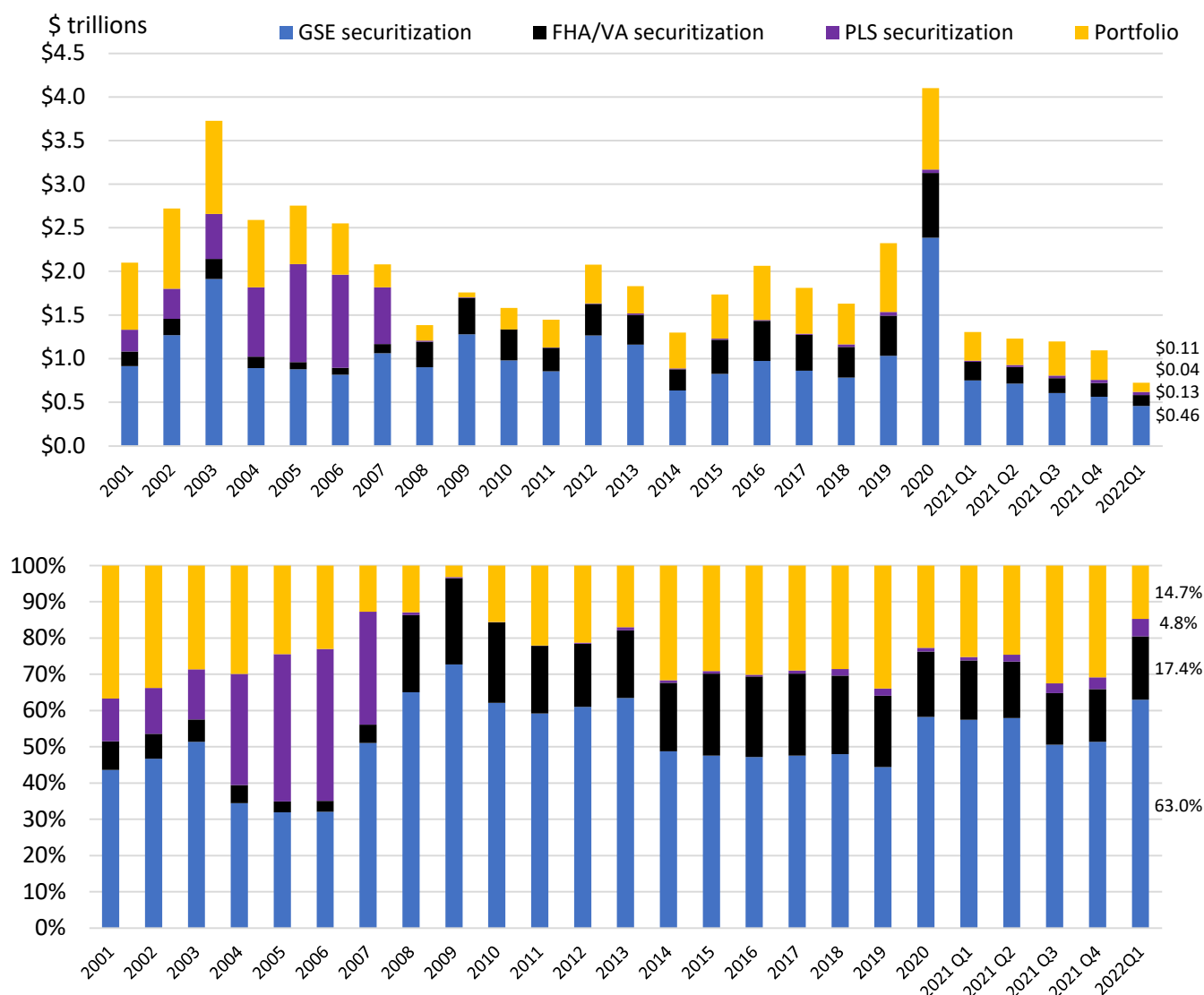


Sources: Recursion. Note: May 2022 data points reflect the current composition of balances by coupon and vintage; factor data is not applied to prior date balance compositions. Average coupon is weighted by remaining principal balance.

2.8 Origination Volume and Share Over Time

Origination volume trends declined in Q1 2022, with \$725 billion in originations in Q1, which fell short of Q4 2021 issuance by approximately 34%. Ginnie Mae's share of total origination increased 20.0% from 14.5% to 17.4% in Q1 2022.

First Lien Origination Volume & Share



Source: Inside Mortgage Finance. Note: Data as of Q1 2022.

3.0 US Agency Market, Single-Family Issuance

Agency gross MBS issuance decreased MoM by 13.9% (from April to May). All three agencies saw decreases in gross issuance as compared to April. Ginnie Mae's \$45.0 billion in gross issuance in May was approximately 36% 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	\$363.2	\$310.5	\$673.7	\$248.2	\$921.9

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	\$129.1	\$111.5	\$7.6	\$248.2

US Agency Market, Issuance

Agency net issuance in May was approximately \$41.6 billion, which represents a 17.3% MoM decrease in net issuance. Ginnie Mae net issuance was \$15.5 billion in May. 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	\$126.7	\$116.0	\$242.7	\$59.4	\$544.8

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	\$25.3	\$35.4	-\$1.3	\$59.4

US Agency Market, Issuance

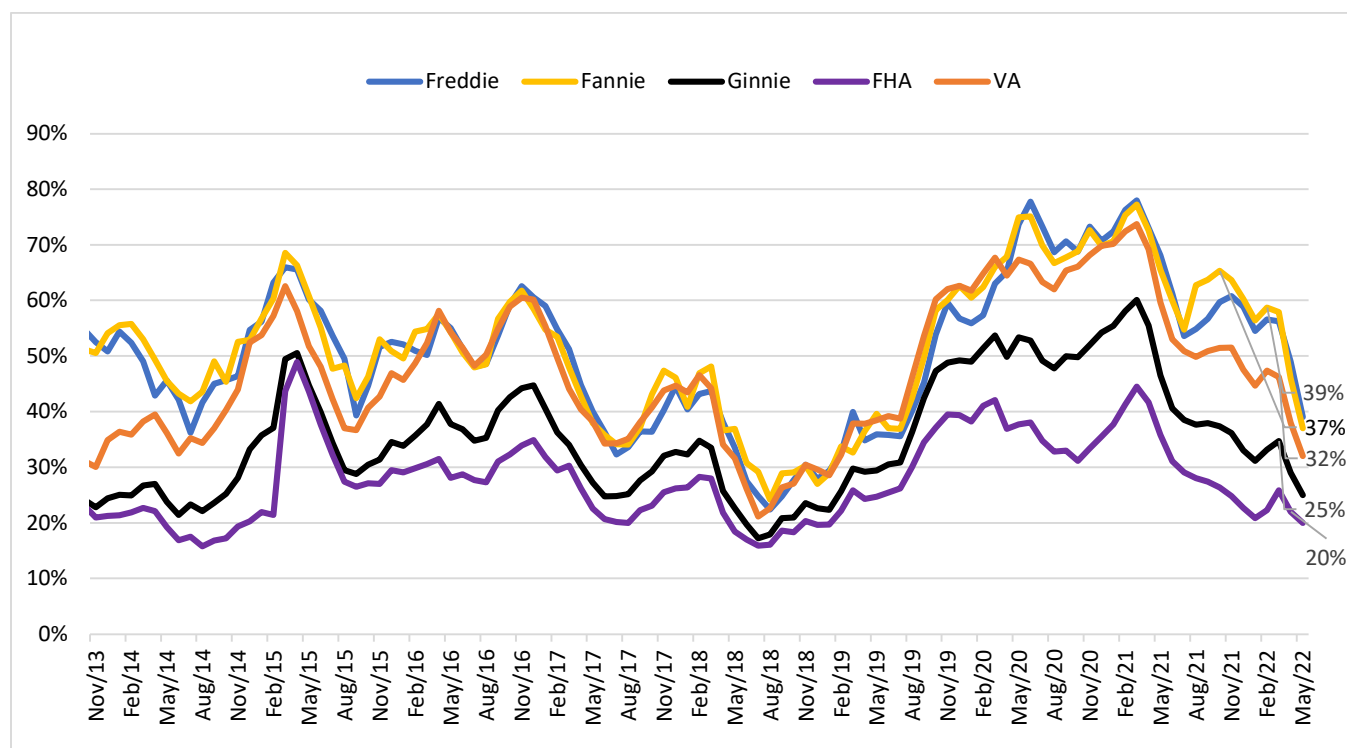
Agency Gross Issuance Amount (in \$ Billions)						Agency Net Issuance Amount (in \$ Billions)				
Month	Fannie Mae	Freddie Mac	Ginnie Mae	GSEs	Total	Fannie Mae	Freddie Mac	Ginnie Mae	GSEs	Total
Nov-17	\$43.5	\$37.2	\$37.8	\$80.7	\$118.5	\$3.9	\$13.6	\$8.3	\$17.5	\$25.8
Dec-17	\$45.3	\$30.0	\$36.2	\$75.3	\$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	\$97.3
Feb-22	\$73.3	\$62.3	\$47.3	\$135.6	\$182.8	\$28.7	\$28.3	\$4.2	\$57.0	\$60.2
Mar-22	\$76.8	\$62.9	\$47.4	\$139.7	\$187.1	\$23.1	\$22.6	\$6.9	\$45.7	\$52.6
Apr-22	\$65.3	\$53.5	\$47.8	\$118.8	\$166.6	\$17.7	\$19.5	\$13.2	\$37.2	\$50.3
May-22	\$54.7	\$43.7	\$45.0	\$98.4	\$143.4	\$12.5	\$13.6	\$15.5	\$26.1	\$41.6

Source: Net issuance is defined here as the difference between prior period UPB and current period UPB. Data as of May 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. As of January 2022, data source is Recursion.

3.1 Percent Refi at Issuance

The Ginnie Mae refinance share was 25% in May 2022:

- The FHA refinance share dropped for the second straight month to 20% in May 2022, below the 37% share for Fannie, the 39% refi share for Freddie originations, and the 32% share for the VA.
- Refinances as a share of all Agency originations decreased by approximately 20% to 34% in April.



Sources: Recursion. Notes: Data as of May 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 increased by approximately 7% between periods March 2020 – May 2020 and March 2022 - May 2022. The share of borrowers with DTIs below 35% decreased by approximately 1% over the same period. From the period between March 2020 – May 2020 to the period between March 2022 – May 2022, the share of high-LTV loans decreased in the Ginnie Mae guarantee book by approximately 1% and the GSE portfolios increased by approximately 46%. 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 61.06% of its issuances between March 2022 and May 2022 having LTVs of 95 or above, compared to 15.37% for the GSEs.

Share of Loans with LTV \geq 95

	Ginnie Mae	GSE	All
Mar 2020 - May 2020	61.89%	10.53%	24.11%
Mar 2022 - May 2022	61.06%	15.37%	28.26%

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

Mar 2020-May 2020

DTI	FICO				NA	All
	<650	650-700	700-750	\geq 750		
<35	2.52%	4.08%	5.97%	9.39%	0.46%	22.41%
35-45	5.27%	7.91%	9.39%	9.83%	0.17%	32.58%
\geq 45	5.32%	7.84%	6.86%	5.62%	0.08%	25.71%
NA	2.41%	3.35%	2.85%	3.07%	7.61%	19.30%
All	15.51%	23.17%	25.08%	27.92%	8.32%	100.00%

Mar 2022-May 2022

DTI	FICO				NA	All
	<650	650-700	700-750	\geq 750		
<35	2.45%	4.31%	5.86%	9.55%	0.07%	22.24%
35-45	5.85%	9.26%	10.36%	11.55%	0.05%	37.09%
\geq 45	6.83%	10.84%	9.29%	8.37%	0.05%	35.37%
NA	0.98%	0.64%	0.40%	0.32%	2.95%	5.30%
All	16.11%	25.05%	25.91%	29.80%	3.13%	100.00%

Sources: Recursion and Ginnie Mae. Data as of May 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 82.8% of Ginnie Mae MSRs (see Cumulative Share). Twenty-three of these top 30 are non-depository institutions, the remaining 7 are depository institutions. As of May 2022, over half (50.2%) of the Ginnie Mae MSRs are owned by the top six firms.

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

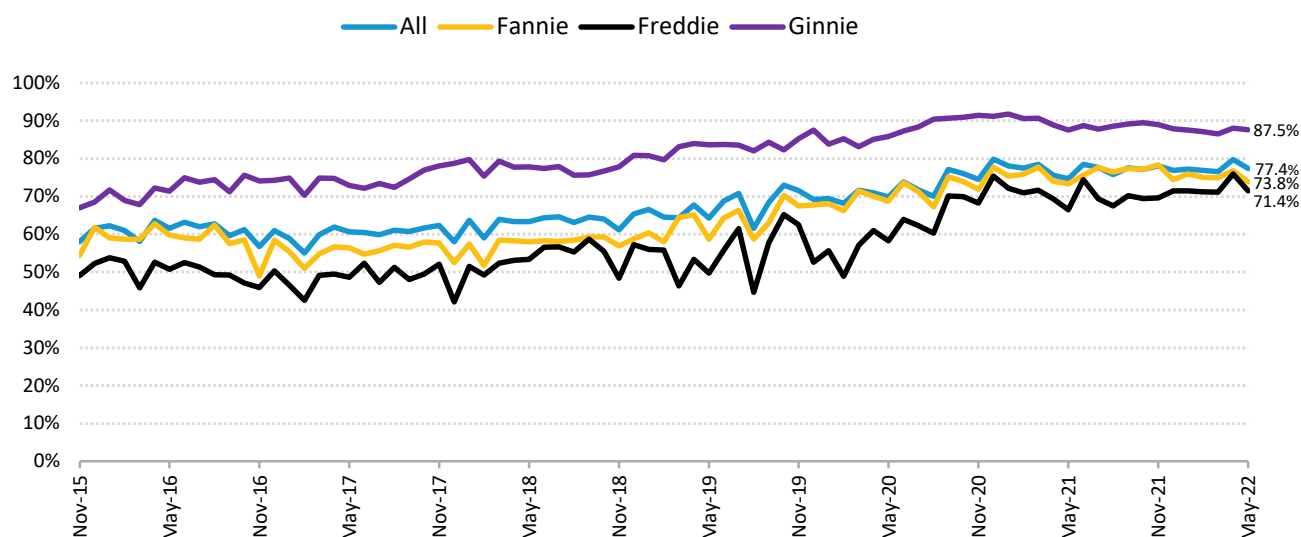
Rank	MSR Holder	UPB (\$ millions)	Share	Cumulative Share
1	FREEDOM HOME MORTGAGE	\$253,866,602,787	12.58%	12.58%
2	PENNYMAC LOAN SERVICING	\$230,709,867,373	11.43%	24.01%
3	LAKEVIEW LOAN SERVICING	\$212,478,955,141	10.53%	34.54%
4	WELLS FARGO BANK	\$118,794,926,631	5.89%	40.42%
5	ROCKET MORTGAGE	\$101,360,992,284	5.02%	45.44%
6	NATIONSTAR MORTGAGE	\$96,606,829,506	4.79%	50.23%
7	CARRINGTON MORTGAGE	\$74,975,495,757	3.71%	53.95%
8	NEWREZ	\$62,553,609,347	3.10%	57.04%
9	CALIBER HOME LOANS	\$51,105,368,817	2.53%	59.58%
10	U. S. BANK	\$48,555,985,319	2.41%	61.98%
11	UNITED WHOLESALE MORTGAGE	\$39,928,270,507	1.98%	63.96%
12	MORTGAGE RESEARCH CENTER	\$33,574,884,259	1.66%	65.62%
13	LOANDEPOT.COM, LLC	\$32,906,733,178	1.63%	67.26%
14	PLANET HOME LENDING	\$32,580,916,487	1.61%	68.87%
15	USAA FEDERAL SAVINGS	\$29,829,583,713	1.48%	70.35%
16	NAVY FEDERAL CREDIT	\$28,570,765,838	1.42%	71.76%
17	AMERIHOME MORTGAGE	\$22,333,222,506	1.11%	72.87%
18	THE MONEY SOURCE INC	\$21,151,492,537	1.05%	73.92%
19	GUILD MORTGAGE COMPA	\$20,855,158,246	1.03%	74.95%
20	TRUIST BANK	\$20,854,161,946	1.03%	75.98%
21	CROSSCOUNTRY MORTGAG	\$16,383,580,458	0.81%	76.80%
22	NEW AMERICAN FUNDING	\$15,616,890,374	0.77%	77.57%
23	VILLAGE CAPITAL & INVESTMENT	\$14,484,895,023	0.72%	78.29%
24	RUSHMORE LOAN MANAGEMENT	\$13,608,014,319	0.67%	78.96%
25	IDAHO HOUSING AND FINANCE	\$13,522,206,282	0.67%	79.63%
26	CITIZENS BANK N.A.	\$13,446,474,274	0.67%	80.30%
27	CMG MORTGAGE, INC.	\$13,292,311,445	0.66%	80.96%
28	MOVEMENT MORTGAGE, LL	\$13,281,381,552	0.66%	81.61%
29	MIDFIRST BANK	\$12,680,168,232	0.63%	82.24%
30	CARDINAL FINANCIAL	\$11,111,915,247	0.55%	82.79%

Source: Deloitte. Data as of April 2022.

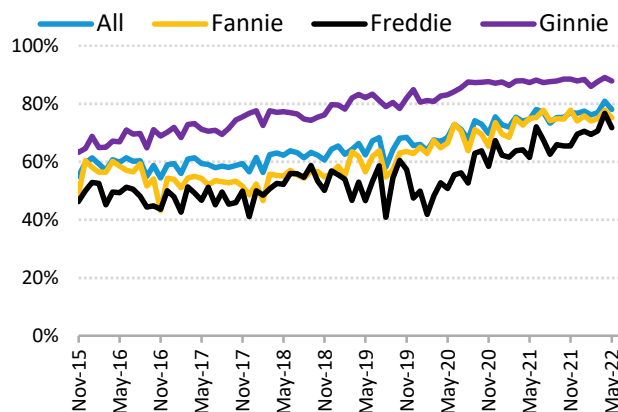
6.0 Agency Non-bank Originators

Total Agency non-bank origination experienced a decrease in May, down approximately 3% since last month. This decrease in non-bank origination share was driven primarily by Freddie Mac (non-bank origination share down 5% MoM). The Ginnie Mae non-bank share fell to 87.5% as of May 2022 but has remained consistently higher than the GSEs since September 2021 (89.1%). Ginnie Mae non-bank origination share of refinance mortgage loans has continued to drive Ginnie Mae's relatively higher non-bank origination share. GSE origination volume of purchase mortgage loans has been the primary driver in the MoM decline of Agency non-bank origination share.

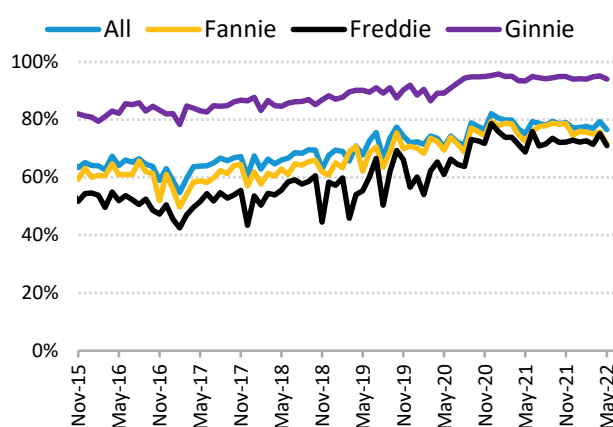
6.1 Agency Non-bank Originator Share (All, Purchase, Refi)



Non-bank Origination Share: Purchase Loans



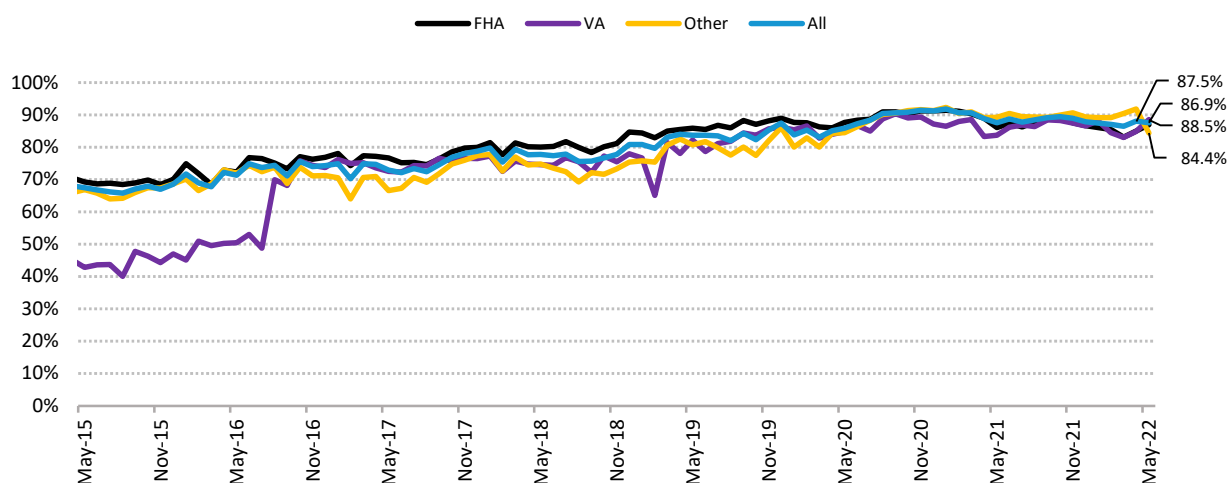
Non-bank Origination Share: Refi Loans



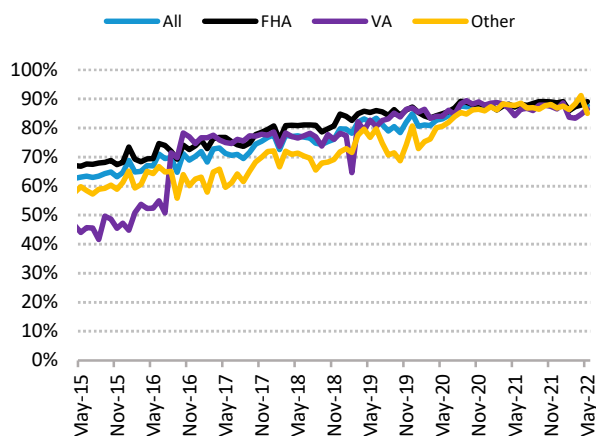
Sources: Recursion. Notes: Data as of May 2022.

Ginnie Mae's total non-bank originator share decreased in May 2022, down 0.5% MoM. This decrease in Ginnie Mae non-bank origination share was driven by decreases in FHA insured loans and PIH and RD- guaranteed ("Other") origination. The decrease in non-bank origination share of refi loans was primarily driven by Other loans, with a decrease of approximately 1.81% MoM.

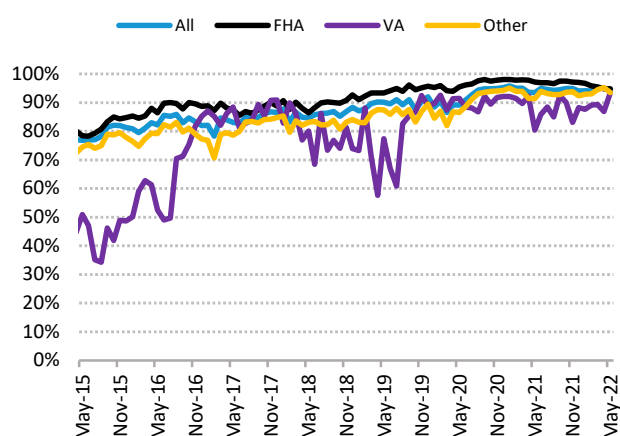
6.2 Ginnie Mae Non-bank Originator Share (All, Purchase, Refi)



Ginnie Mae Non-bank Share: Purchase Loans



Ginnie Mae Non-bank Share: Refi Loans

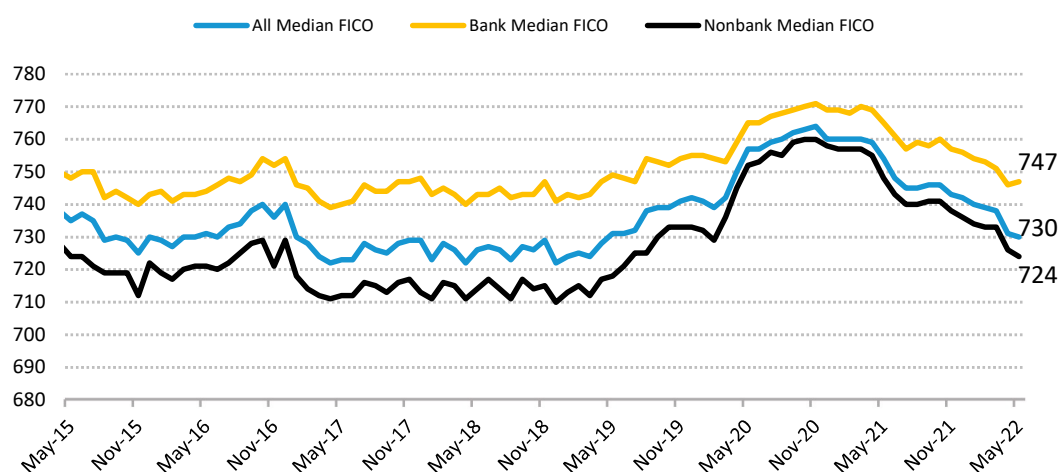


Sources: Recursion. Data as of May 2022.

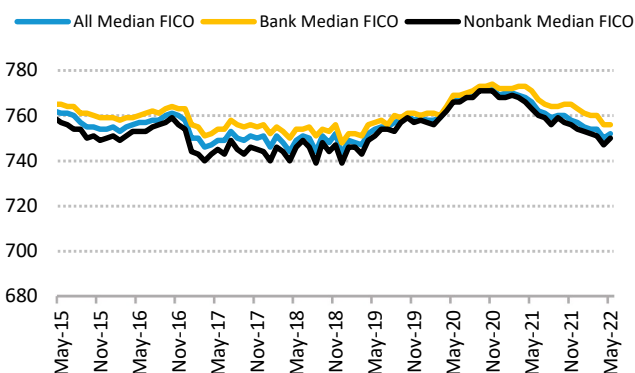
6.3 Bank vs. Non-bank Originators Historical Credit Box, Ginnie Mae vs. GSE (FICO, LTV, DTI)

The mortgage loan originations of non-banks continue to have a consistently lower median FICO score than their bank counterparts across all Agencies. The spread between non-bank and bank FICO scores increased by 3 FICO score points from April 2022 to May 2022. The Agency median FICO decreased by 1 FICO score point to 730 MoM.

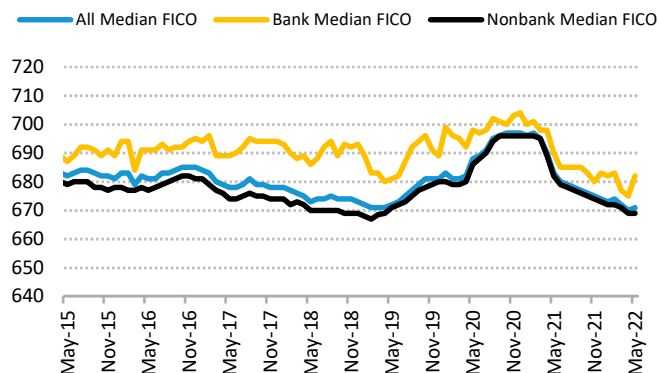
Agency FICO: Bank vs. Non-bank



GSE FICO: Bank vs. Non-bank



Ginnie Mae FICO: Bank vs. Non-bank

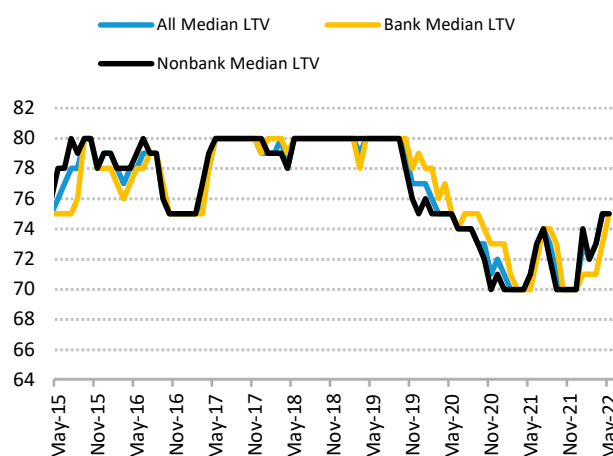


Sources: Recursion. Notes: Data as of May 2022.

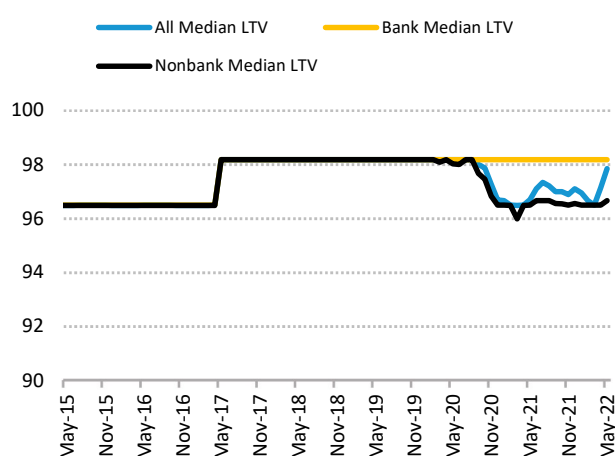
Non-bank Originators

The median LTV for all GSE originators remained constant in May 2022 MoM at 75%. While Ginnie Mae median bank LTV has been very flat at 98.19% since January 2021, non-bank median LTV has fluctuated more, although remaining within 20 bps of 96.5% since April of 2021. Ginnie Mae median DTI remained consistent MoM at approximately 43% in May 2022 in non-bank originations.

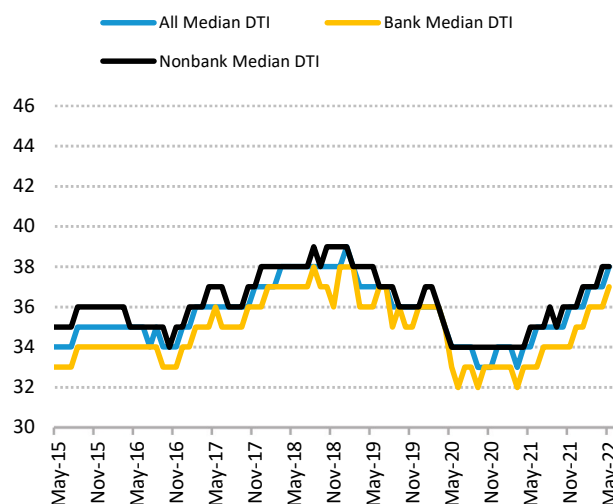
GSE LTV: Bank vs Non-bank



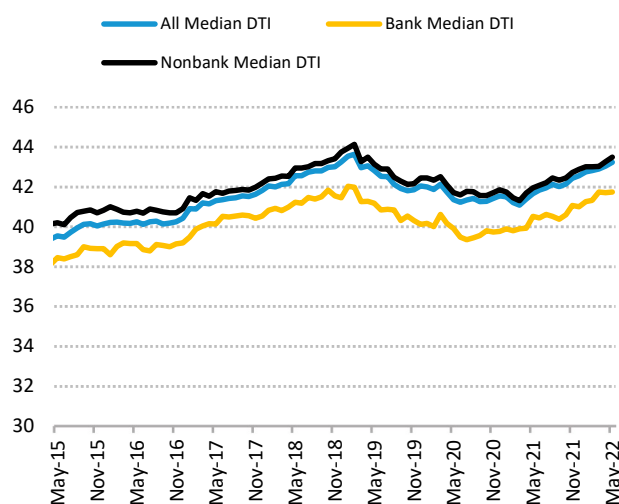
Ginnie Mae LTV: Bank vs. Non-bank



GSE DTI: Bank vs Non-bank



Ginnie Mae DTI: Bank vs. Non-bank

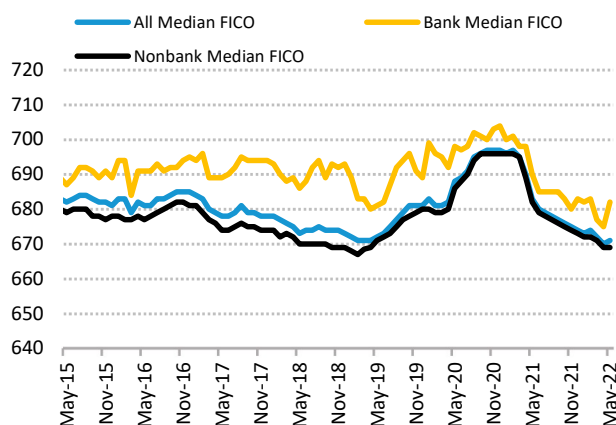


Sources: Recursion. Notes: Data as of May 2022.

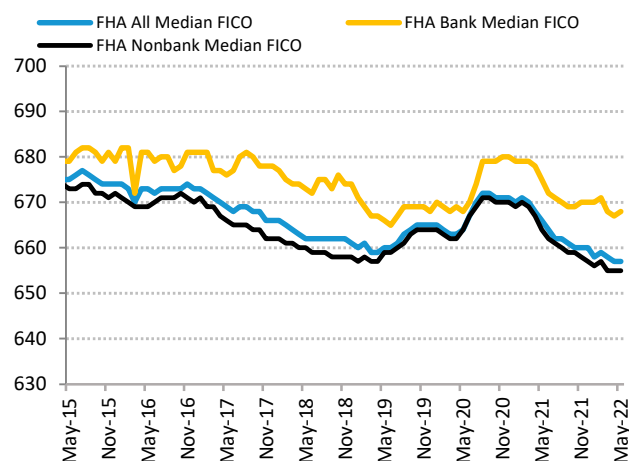
Non-bank Originators

In May 2022, the median FICO score for Ginnie Mae bank increased and non-bank originators remained at 669, after a two month decline since February 2022. The median FICO for all Ginnie originations increased to 671 MoM. The gap between banks and non-banks is most apparent in VA lending (30-point spread).

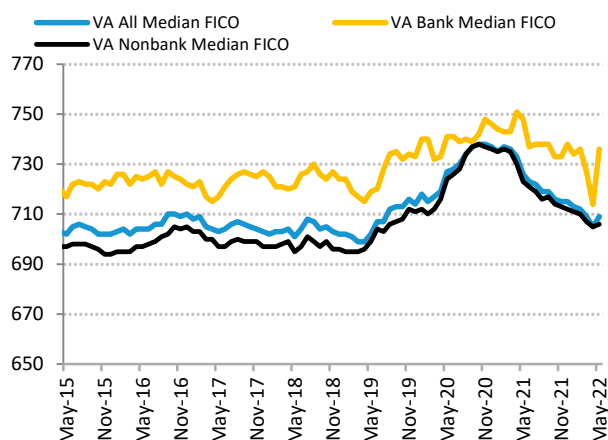
Ginnie Mae FICO Score: Bank vs. Non-bank



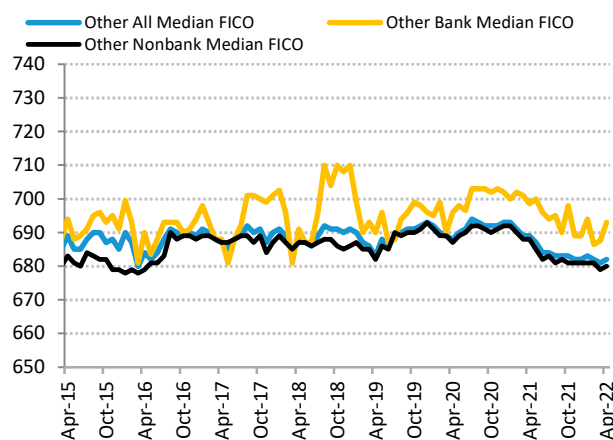
Ginnie Mae FHA FICO Score: Bank vs. Non-bank



Ginnie Mae VA FICO Score: Bank vs. Non-bank



Ginnie Mae Other FICO Score: Bank vs. Non-bank

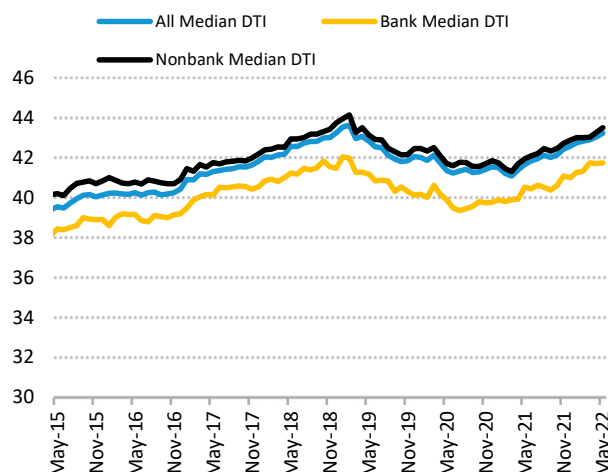


Sources: Recursion. Notes: Data as of May 2022.

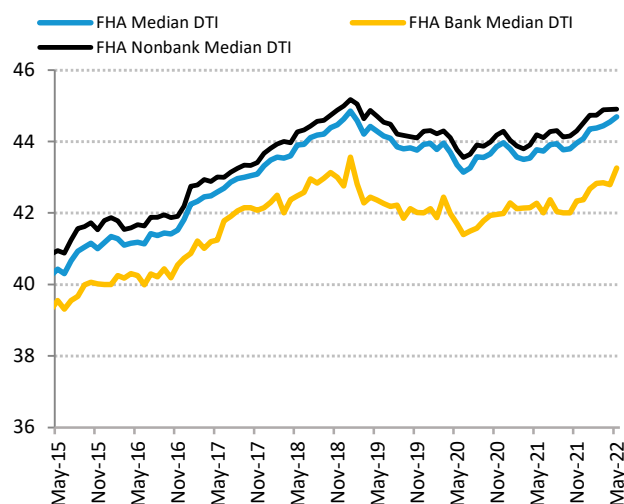
Non-bank Originators

Median DTI for Ginnie Mae non-bank 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 non-bank DTI is relatively small.

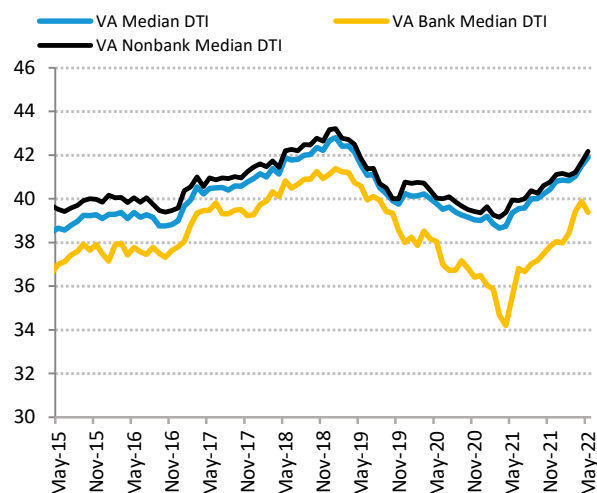
Ginnie Mae DTI: Bank vs. Non-bank



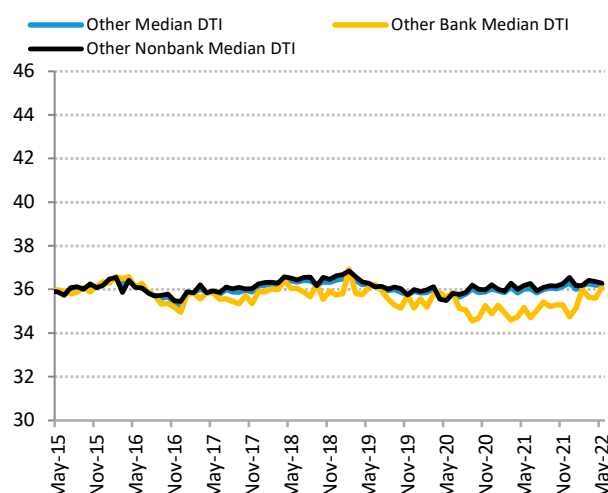
Ginnie Mae FHA DTI: Bank vs. Non-bank



Ginnie Mae VA DTI: Bank vs. Non-bank



Ginnie Mae Other DTI: Bank vs. Non-bank



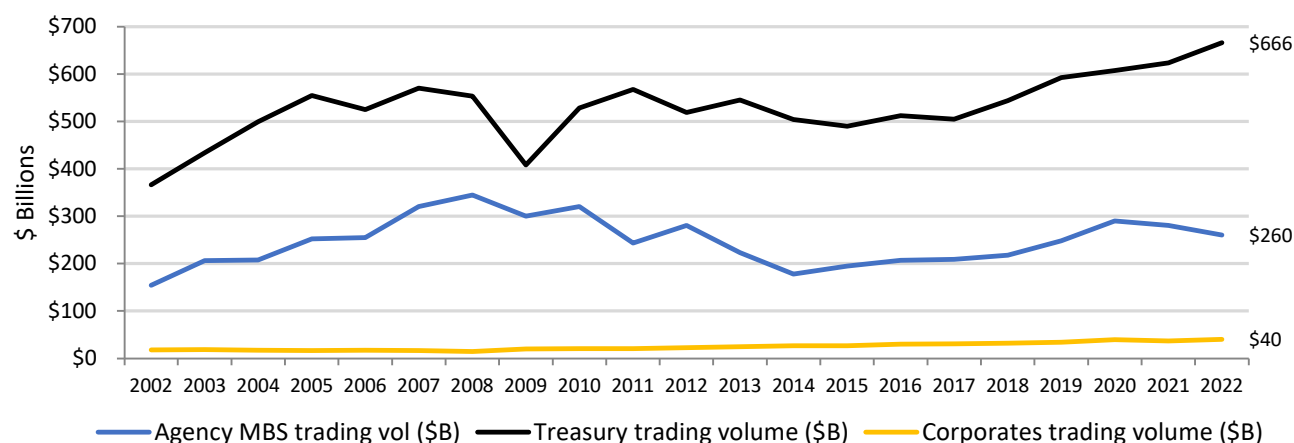
Sources: Recursion. Notes: Data as of May 2022.

7.0 Fixed Income Market Conditions

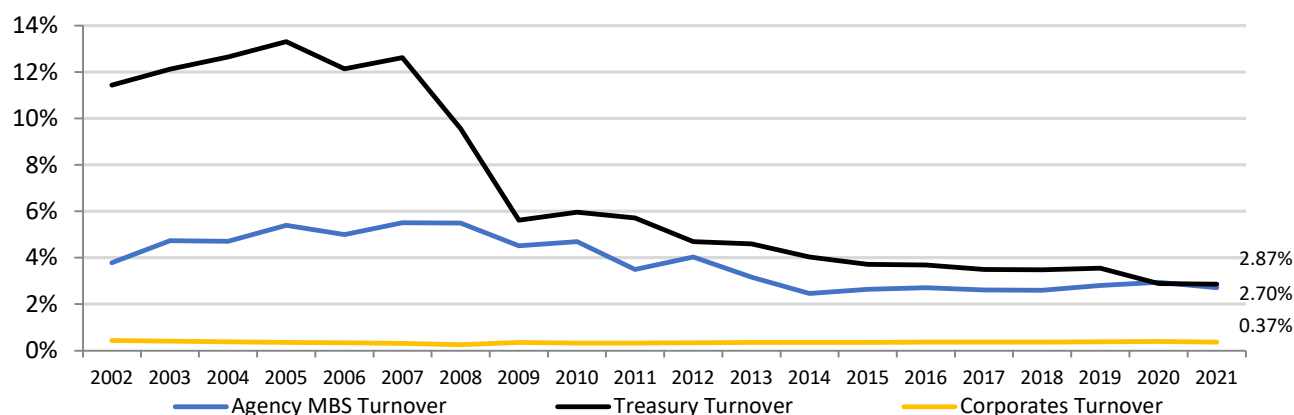
Agency MBS average daily trading volume as of May 2022 was \$260 billion for 2022 YTD, which is down from \$281 billion from January 2021 to December 2021. January 2022 remained the highest month of Agency MBS trading volume since February 2021. Agency MBS turnover in 2021 was 25 bps lower than its 2020 average, at 2.70% and 2.95% respectively. 2021 Agency MBS turnover and US Treasury turnover both finished lower than the 2020 averages at 2.70% and 2.87% respectively. 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

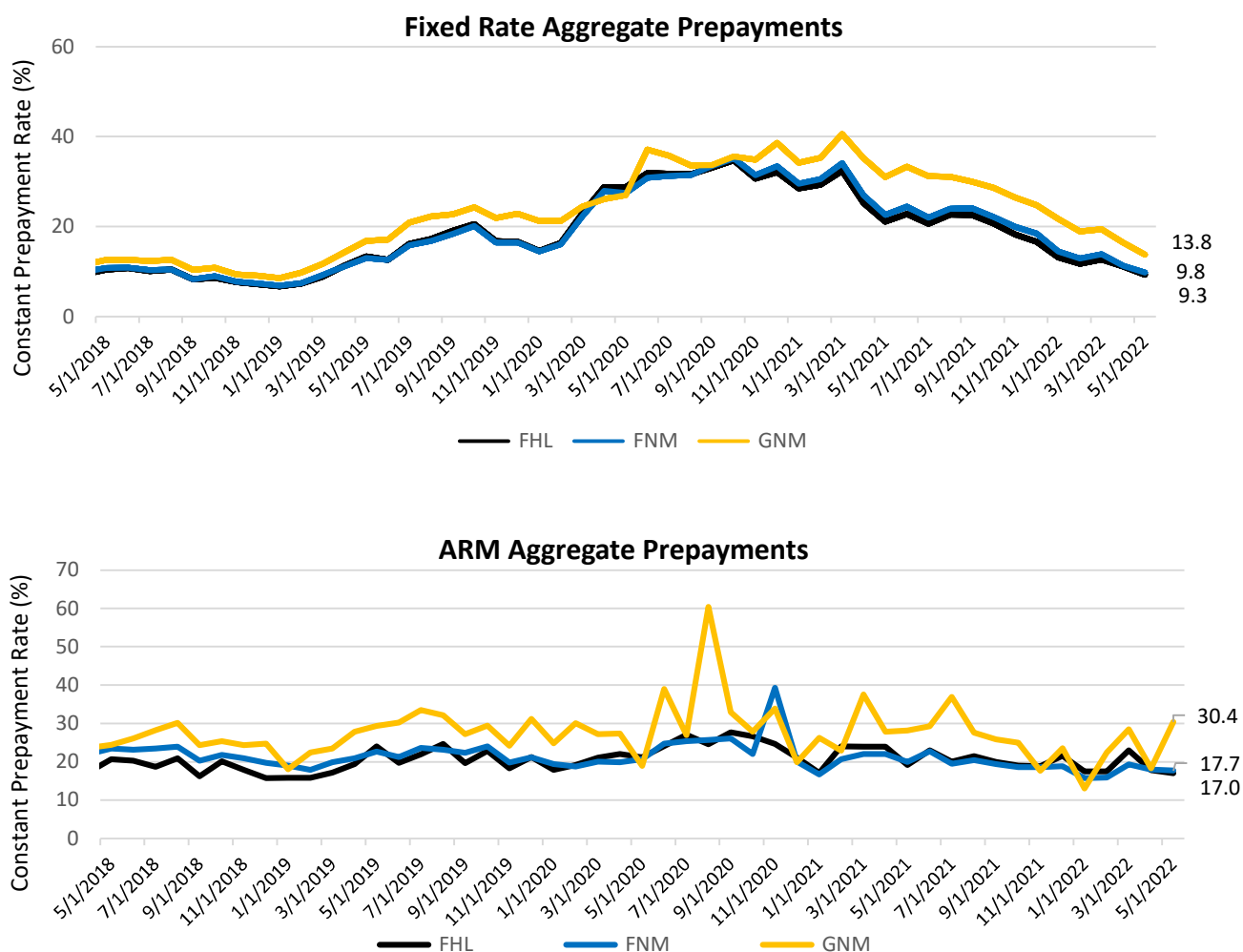


Source: SIFMA. Note: Data as of May 2022 for Average Daily Trading Volume by Sector and as of December 2021 for Average Daily Turnover by Sector

8.0 Prepayments

In May 2022, Ginnie Mae fixed rate prepayment speed decreased by 16.1%, to approximately 13.8 CPR. Comparatively, Fannie Mae and Freddie Mac fixed rate prepayment speeds decreased by 13.0% and 16.4% MoM to 9.8 and 9.3 CPR, respectively. ARM MBS prepayments for Ginnie Mae increased by 66.2% MoM, while Freddie Mac and Fannie Mae posted decreases in ARM prepayment speeds of 4.7% and 1.6% MoM respectively.

8.1 Aggregate Prepayments

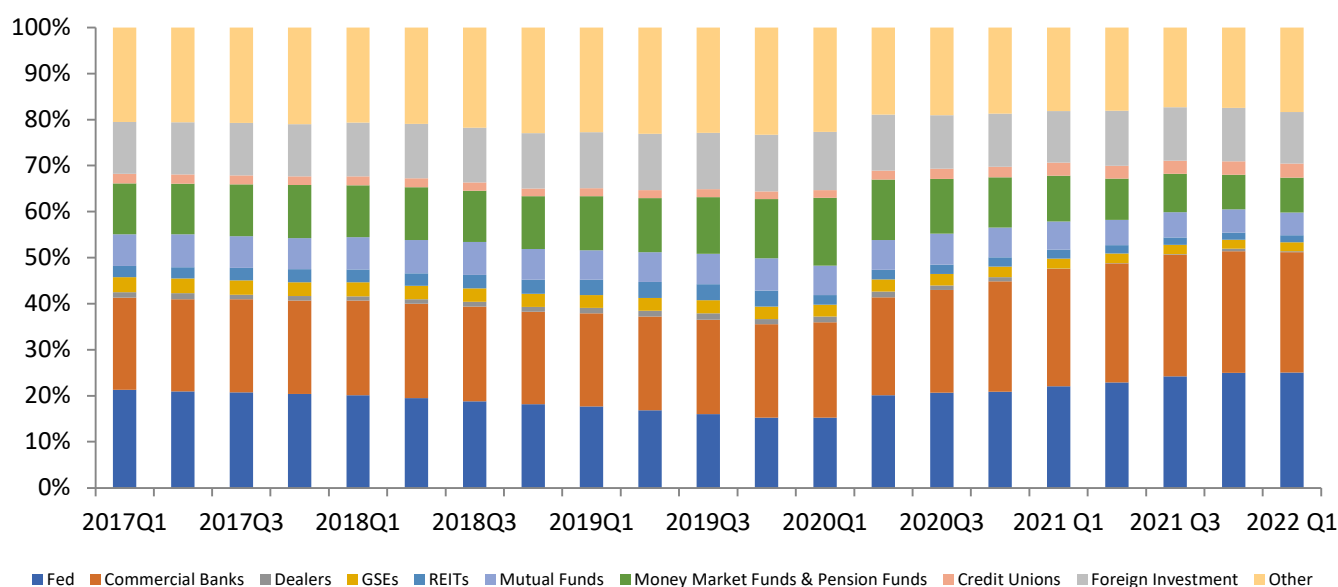


Source: Recursion; Note: Data as of May 2022.

9.0 MBS Ownership

As of Q1 2022, the largest holders of Agency debt (Agency MBS + Agency notes and bonds) included commercial banks (26%), the Federal Reserve (25%), and foreign investors (11%). The Federal Reserve's share remained at 25% in the first quarter of 2022, 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 nearly \$2.9 trillion in holdings as of the end of May 2022, \$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 2022.

9.1 Commercial Bank Holdings of Agency MBS

	Commercial Bank Holdings (\$Billions)								Week Ending			
	Apr-21	Oct-21	Nov-21	Dec-21	Jan-21	Feb-22	Mar-22	Apr-22	4-May	11-May	18-May	25-May
Largest 25 Domestic Banks	1,987.5	2,149.9	2,140.2	2,153.7	2,188.8	2,200.4	2,186.8	2,163.9	2,133.5	2,144.4	2,141.6	2,136.6
Small Domestic Banks	686.9	712.0	721.5	730.7	742.2	748.6	744.1	736.1	726.5	728.5	727.0	730.6
Foreign Related Banks	51.8	47.9	46.2	44.0	43.3	40.7	36.4	32.7	31.4	31.8	31.8	30.7
Total, Seasonally Adjusted	2,726.2	2,909.8	2,907.9	2,928.4	2,974.3	2,989.7	2,967.3	2,932.7	2,891.4	2,904.7	2,900.4	2,879.9

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

9.2 Bank and Thrift Residential MBS Holdings

In Q1 2022, MBS holdings at banks and thrifts decreased for the first in thirteen consecutive quarters. The decrease was driven by GSE pass-throughs, Private MBS, and Agency CMO holdings, with the decrease in GSE pass-throughs making the largest contribution. In contrast, Ginnie Mae pass-throughs increased by approximately 4.5%. Total bank and thrift MBS holdings decreased by approximately 4% from Q4 2021. Out of the \$2.8 trillion in MBS holdings at banks and thrifts as of Q1 2022, \$2.3 trillion were Agency pass-throughs, including \$1.8 trillion of GSE pass-throughs and \$368 billion of Ginnie Mae pass-throughs.

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
1Q22	\$2,799.21	\$1,817.72	\$368.43	\$4.04	\$548.60	\$60.43	\$2,476.11	\$323.10
Change:								
4Q21-1Q22	-3.7%	-5.1%	4.5%	-9.3%	-5.1%	9.0%	-2.1%	-14.1%
1Q21-1Q22	4.0%	6.1%	-1.7%	-17.3%	-1.2%	42.9%	5.3%	-5.0%

Source: Inside Mortgage Finance. Notes: Data as of Q1 2022.

Bank and Thrift Residential MBS Holdings

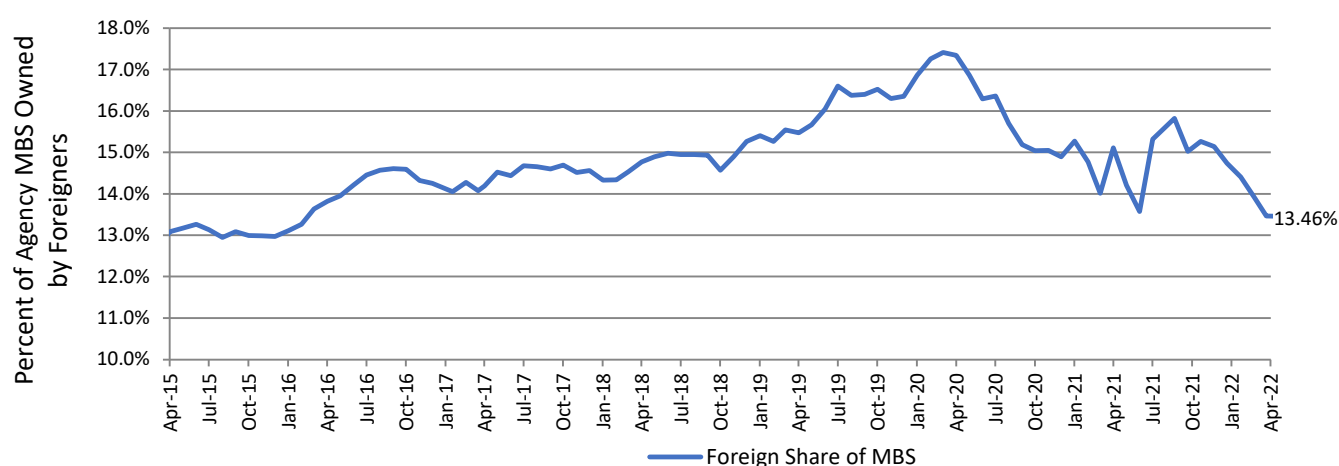
Top Bank & Thrift Residential MBS Investors (\$ in millions)	Institution	Total	GSE PT	GNMA PT	Agency CMO	Non-Agency	Share
1	BANK OF AMERICA CORPORATION	\$562,474.0	\$449,150.0	\$101,103.0	\$11,969.0	\$252.0	20.9%
2	WELLS FARGO & COMPANY	\$259,187.0	\$188,326.0	\$64,441.0	\$5,994.0	\$426.0	9.6%
3	JPMORGAN CHASE & CO.	\$204,088.0	\$118,246.0	\$70,487.0	\$154.0	\$15,201.0	7.6%
4	Charles Schwab Bank	\$171,739.0	\$84,782.0	\$13,336.0	\$73,621.0	\$0.0	6.4%
5	Truist Bank	\$116,435.0	\$46,913.0	\$13,485.0	\$56,037.0	\$0.0	4.3%
6	U.S. BANCORP	\$116,049.7	\$82,567.1	\$17,779.4	\$15,702.8	\$0.5	4.3%
7	CITIGROUP INC.	\$98,691.0	\$90,354.0	\$2,390.0	\$4,402.0	\$1,545.0	3.7%
8	CAPITAL ONE FINANCIAL CORPORATION	\$75,021.9	\$42,658.4	\$9,173.5	\$22,612.9	\$577.1	2.8%
9	BANK OF NEW YORK MELLON CORP	\$61,338.0	\$45,554.0	\$2,891.0	\$10,384.0	\$2,509.0	2.3%
10	PNC Bank, National Association	\$52,989.3	\$44,323.4	\$5,950.7	\$1,292.2	\$1,423.1	2.0%
11	Silicon Valley Bank	\$44,909.4	\$35,394.5	\$534.7	\$8,980.2	\$0.0	1.7%
12	USAA Federal Savings Bank	\$44,529.1	\$39,219.0	\$2,064.3	\$3,245.7	\$0.0	1.7%
13	State Street Bank and Trust Company	\$43,141.8	\$17,869.0	\$5,849.0	\$16,928.8	\$2,495.0	1.6%
14	E*TRADE Bank	\$38,091.1	\$28,463.4	\$6,156.7	\$3,471.1	\$0.0	1.4%
15	MORGAN STANLEY	\$33,957.0	\$21,722.0	\$3,981.0	\$8,254.0	\$0.0	1.3%
16	TD Bank USA/TD Bank NA	\$26,046.0	\$1,526.5	\$133.0	\$24,290.0	\$96.4	1.0%
17	Ally Bank	\$24,197.0	\$18,367.0	\$961.0	\$2,594.0	\$2,275.0	0.9%
18	BMO Harris Bank National Association	\$23,317.9	\$4,777.3	\$431.3	\$18,107.5	\$1.9	0.9%
19	HSBC Bank USA, National Association	\$23,285.8	\$7,790.5	\$7,487.0	\$8,006.5	\$1.8	0.9%
20	KeyBank National Association	\$22,140.1	\$3,852.8	\$419.3	\$17,868.0	\$0.0	0.8%
Total Top 20		2,198,059.6	\$2,041,628.1	\$1,371,855.9	\$329,053.9	\$313,914.7	\$26,803.8

Source: Inside Mortgage Finance. Notes: Data as of Q1 2022.

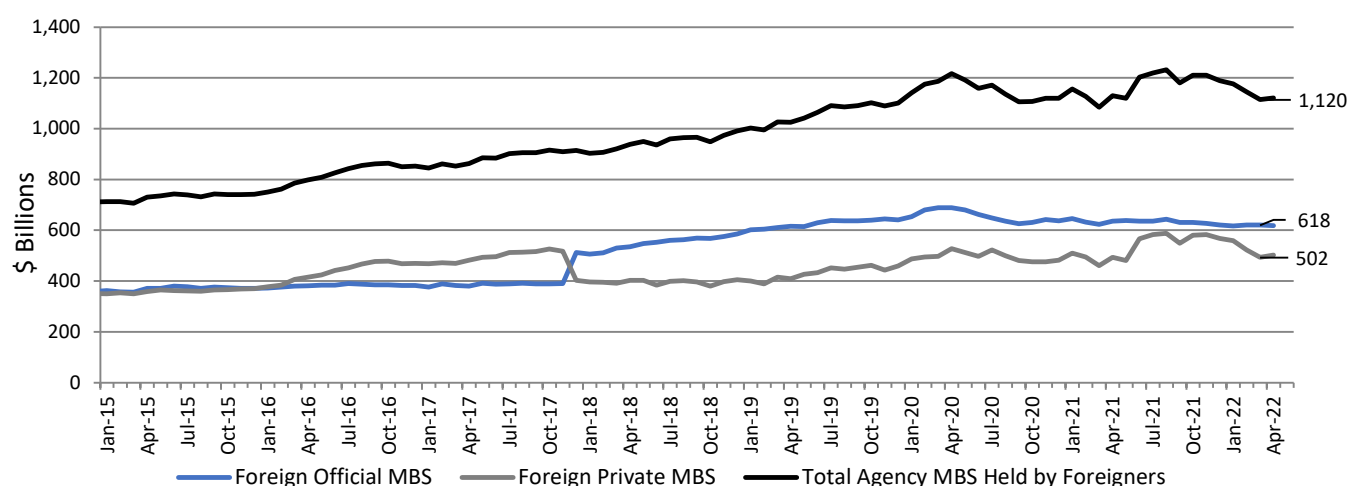
9.3 Foreign Ownership of MBS

For the month of April 2022, foreign ownership of MBS represents \$1.12 trillion in Agency MBS, up approximately \$7 billion from March 2022. Total foreign ownership includes \$502 billion held by foreign private institutions and \$618 billion held by foreign official institutions. The foreign share of the Agency MBS Market continues to decline since the beginning of COVID. The pre-Covid peak of approximately 17.5% has fallen all the way to 13.46% in April of 2022.

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 April 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)			
	6/1/2021	9/1/2021	12/1/2021	3/1/2022	Q2 2021	Q3 2021	Q4 2021	Q1 2022
Japan	311,375	311,892	301,979	259,844	-8,396	517	-9,913	-42,135
Taiwan	250,081	247,341	244,375	233,340	-2,955	-2,740	-2,966	-11,035
China	217,842	215,102	202,659	219,553	16,870	-2,740	-12,443	16,894
Luxembourg	35,497	33,339	34,277	33,130	1,126	-2,158	938	-1,147
Ireland	21,453	22,617	21,305	20,589	-5,512	1,164	-1,312	--716
South Korea	43,201	43,208	42,051	40,362	169	7	-1,157	-1,689
Cayman Islands	36,027	36,160	35,004	31,795	-1,084	133	-1,156	-3,209
Bermuda	23,806	24,411	23,209	21,159	-2,637	605	-1,202	-2,050
Netherlands	12,544	17,435	16,249	14,851	-505	4,891	-1,186	-1,398
Malaysia	19,089	19,445	18,830	18,305	42	356	-615	-525
Other	166,009	268,746	302,816	269,544	-7,896	102,737	34,070	-33,372
Total	1,136,924	1,239,696	1,242,754	1,162,472	-10,778	102,772	3,058	-80,282

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 Q1 2022. 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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