HOUSING FINANCE POLICY CENTER

HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

January 2023

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ABOUT THE CHARTBOOK

The Housing Finance Policy Center's (HFPC) mission is to produce analyses and ideas that promote sound public policy, efficient markets, and access to economic opportunity in the area of housing finance. *At A Glance*, a monthly chartbook and data source for policymakers, academics, journalists, and others interested in the government's role in mortgage markets, is at the heart of this mission.

We welcome feedback from our readers on how we can make *At A Glance* a more useful publication. Please email any comments or questions to ataglance@urban.org.

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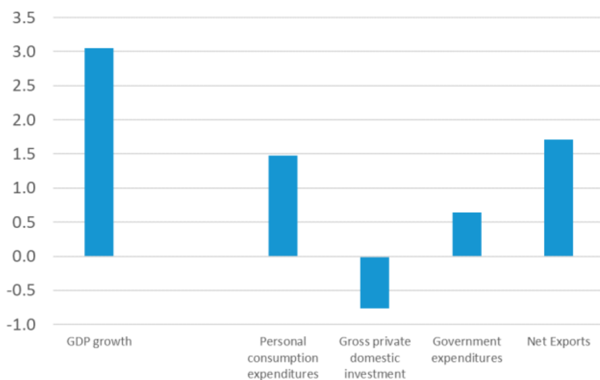
INTRODUCTION

The Housing Market Collapse Curtailed Economic Growth

The US economy showed modest weakness over the first half of 2022, registering declines in real gross domestic product (GDP) in each of the first two quarters last year. But despite the decidedly hawkish actions taken by the Federal Open Markets Committee of the Federal Reserve Board, GDP has proven resilient, increasing in each of the third and fourth quarters. However, the virtual collapse in the housing market, the for-sale market in particular, significantly lowered the rate of economic growth in the second half of 2022.

Most broad sectors of the economy contributed to the 3.05 percent GDP growth over the second half of 2022. Real GDP focuses on the count of economic activity independent of the change in the associated economy-wide price level. Personal consumption expenditures (PCE) along with government spending and international trade all boosted real activity. Combined, strong growth in these areas was only partially offset by a contraction in gross private investment.

GDP Growth and Its Major Contributions in H2.2022 (Percentage Points)

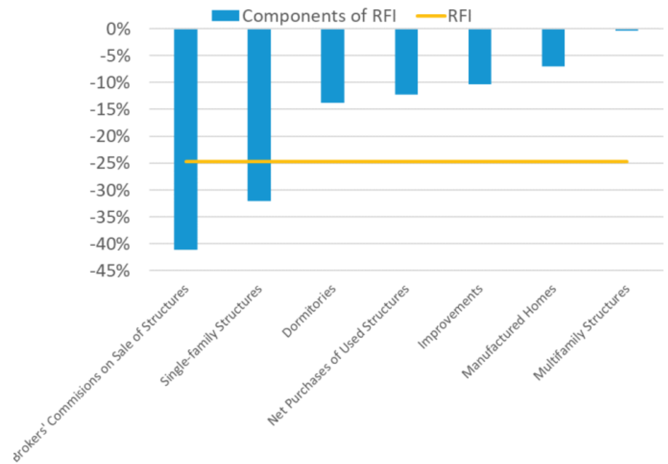


Source: Bureau of Economic Analysis (BEA) pulled from Moody's Analytics DataBuffet.

Gross private investment includes residential fixed investment (RFI), non-residential fixed investment and the change in private inventories. Over the second half of 2022, both non-residential fixed investment and the change in private inventories contributed to real GDP growth, by 0.45 and 0.14 percentage point respectively. However, RFI subtracted 1.36 percentage points from GDP growth over the second half of 2022.

The negative contribution of RFI to GDP growth reflected a 25 percent decline in average real activity (measured on a seasonally adjusted annual rate basis). The declines were widespread, covering each of the key channels of residential spending. And the quarterly decline was greatest in the areas most closely associated with the for-sale market, a 41 percent decrease in brokers' commissions on the sale of structures and a 32 percent decrease in spending on single-family structures, which are the key source of owner-occupied housing.

Percent Change in Residential Fixed Investment, H2 SAAR



Source: Urban Institute calculations of BEA data pulled from Moody's Analytics DataBuffet.

The direct impact of housing on GDP is not limited to RFI. The user cost of housing is captured by the Housing and Utilities subsection of PCE. Housing and Utilities includes gross rents and utilities paid by renters, as well as owners' imputed rents and their utility payments. Unlike RFI, this category rose by a seasonally adjusted annual rate of 0.5 percent over the second half of 2022, boosting GDP growth by 0.09 percentage point.

The latest GDP report shows the direct impact of the housing market slowdown, especially in the for-sale market, on second half economic performance. If RFI had simply remained neutral, GDP growth over the second half of 2022 may have been 4.41 percent, 45 percent higher than its estimated rate of 3.05 percent. But the impact of the housing market on the economy runs deeper because home sales typically spur home improvements as well as appliance and furnishing purchases while housing starts result in job growth and greater tax expenditures.

Despite a modest uptick in Housing and Utilities, the decline in real RFI in conjunction with the increase in GDP indicates that housing market activity is a smaller proportion of the real economy. Looking forward, key housing organizations forecast continued annual declines in home sales and housing starts (p. 20 of the chartbook). Relative to full year 2022, the housing market will continue to be a headwind for the economy in 2023.

INSIDE THIS ISSUE

- FICO scores on purchases origination trended lower in 2022, reflecting greater lender willingness to open up the credit box (Page 15).

- DTIs on GSE and Ginnie Mae production trended higher in 2022, reaching 40 and 45 percent respectively in December 2022, reflecting higher rates and housing lack of affordability (Page 18).

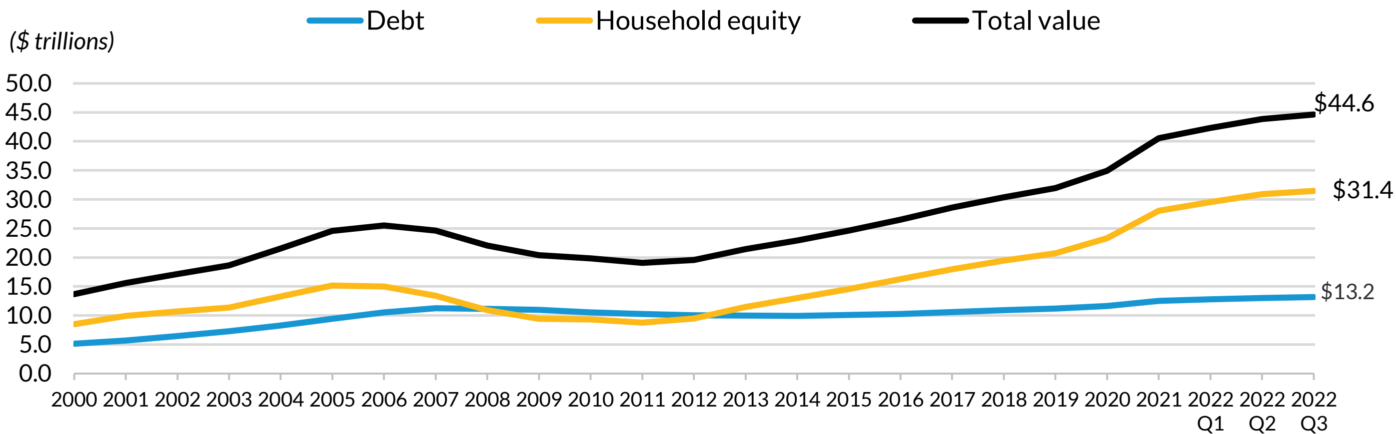
- In January 2023, the GSEs released an updated LLPA pricing grid reducing pricing for mission-central loans and increasing pricing for mission-remote loans (Page 26).

OVERVIEW

MARKET SIZE OVERVIEW

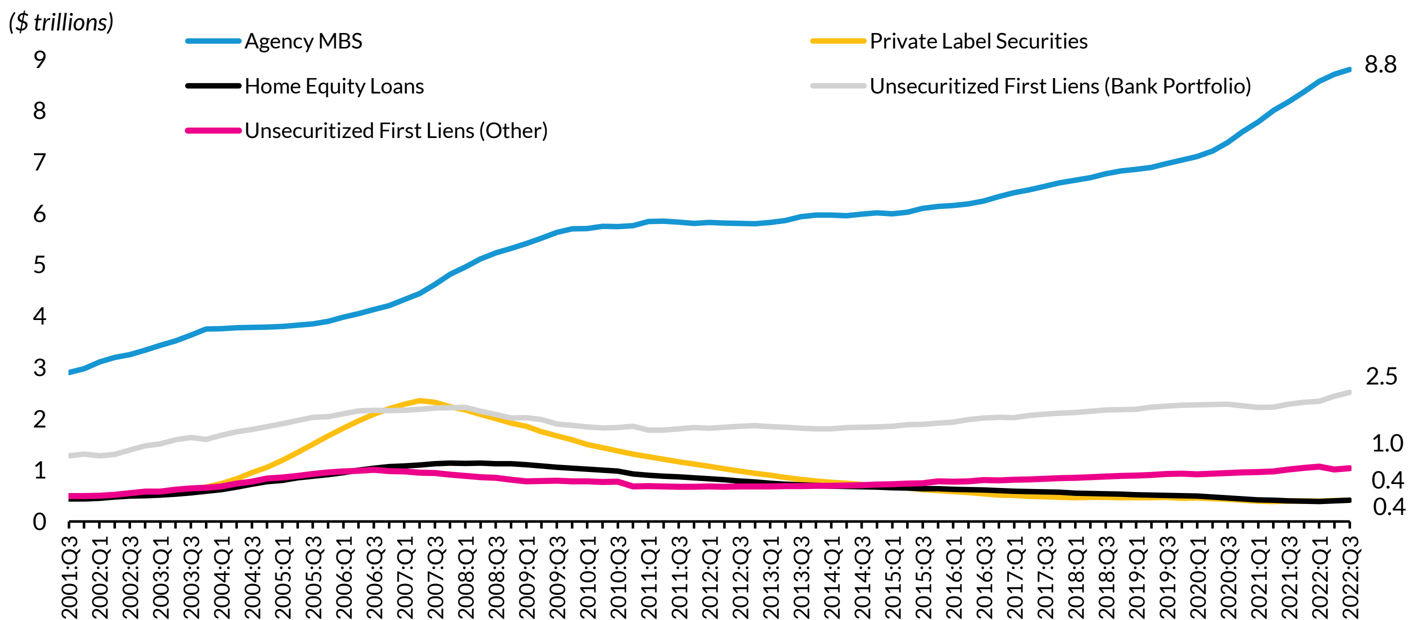
The Financial Accounts of the United States has indicated a gradually increasing total value of the housing market, driven primarily by growing home equity since 2012. Mortgage debt outstanding increased slightly from $13.0 trillion in Q2 2022 to $13.2 trillion in Q3 2022, while total household equity increased from $30.9 trillion to $31.4 trillion. The total value of the housing market reached $44.6 trillion in the third quarter of 2022, 74.8 percent higher than the pre-crisis peak in 2006. Agency MBS account for 66.4 percent of the total mortgage debt outstanding while private-label securities and home equity loans each make up 3.2 percent. Unsecuritized first liens comprise the remaining 26.9 percent with banks making up 19.0 percent, credit unions 4.2 percent, and other non-depositories accounting for 3.7 percent of the total.

Value of the US Single Family Housing Market



Sources: Financial Accounts of the United States and Urban Institute. *Last updated December 2022.*
Note: Single family includes 1-4 family mortgages. The home equity number is grossed up from Fed totals to include the value of households and the non-financial business sector.

Composition of the US Single Family Mortgage Market



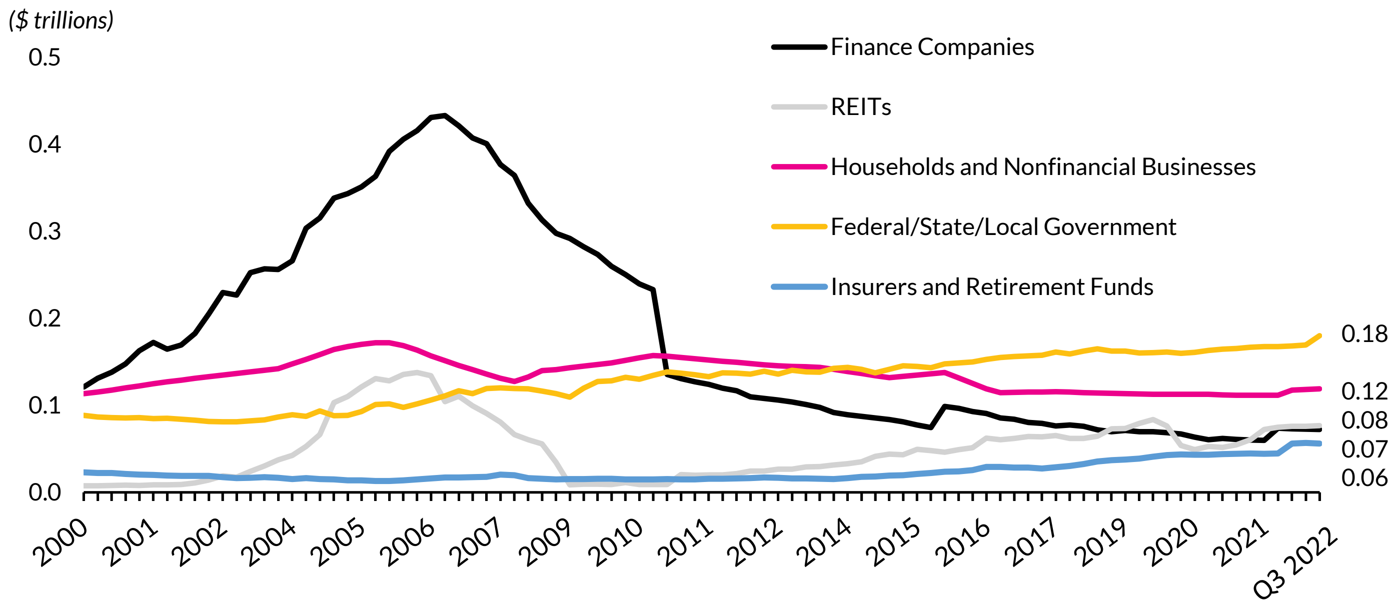
Sources: Financial Accounts of the United States and Urban Institute. *Last updated December 2022.*
Notes: Unsecuritized First Liens (Other) includes mortgages not held on bank balance sheets.

OVERVIEW

MARKET SIZE OVERVIEW

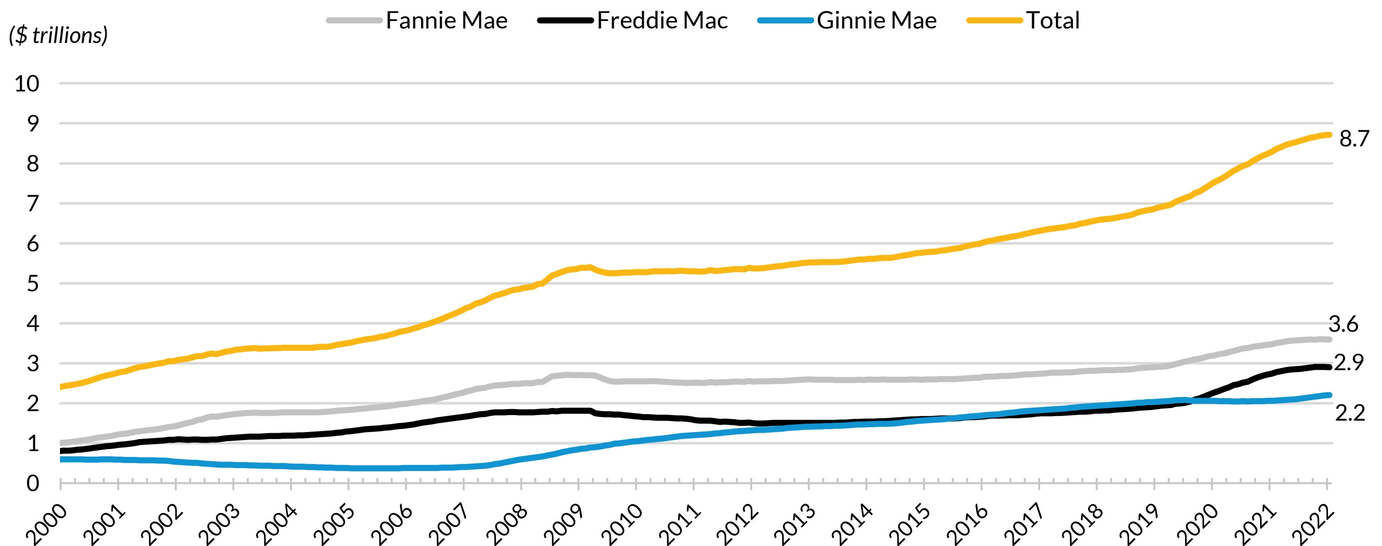
As of Q3 2022, unsecuritized first liens held outside banks and credit unions totaled $ 0.51 trillion. In this space, REITs, insurers and retirements funds have experienced particularly robust percentage increases over the last decade. In December 2022, outstanding securities in the agency market totaled $8.7 trillion, 41.4 percent of which was Fannie Mae, 33.4 percent Freddie Mac, and 25.2 percent Ginnie Mae.

Unsecuritized 1st Liens Held by Non-Depositories



Sources: Federal Reserve Financial Accounts of the United States and Urban Institute. *Last updated December 2022.*

Agency Mortgage-Backed Securities



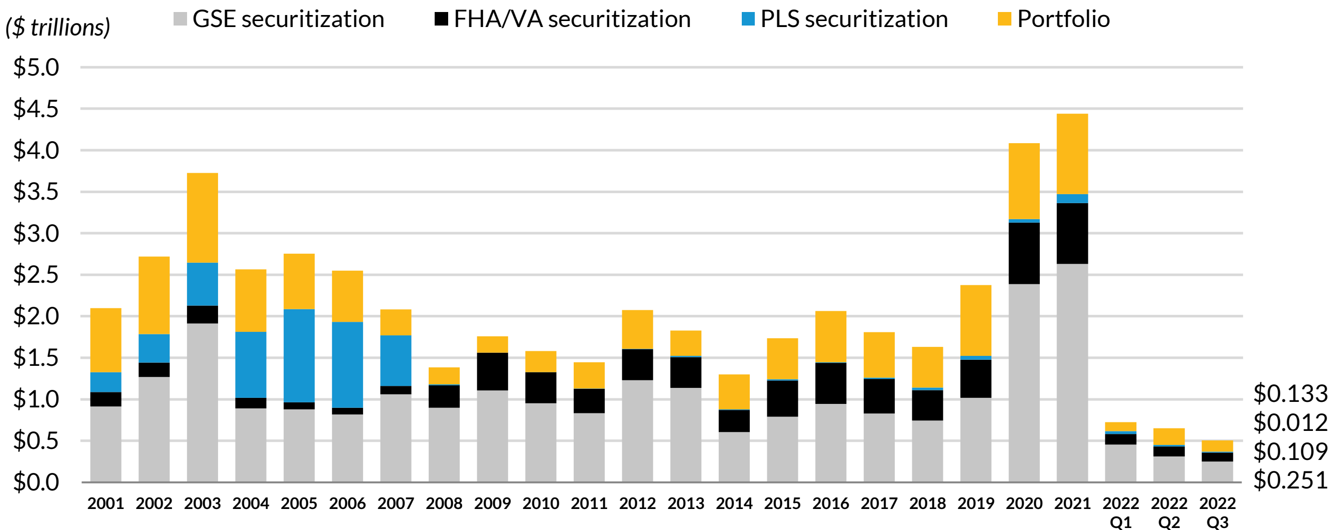
Sources: eMBS and Urban Institute.

OVERVIEW

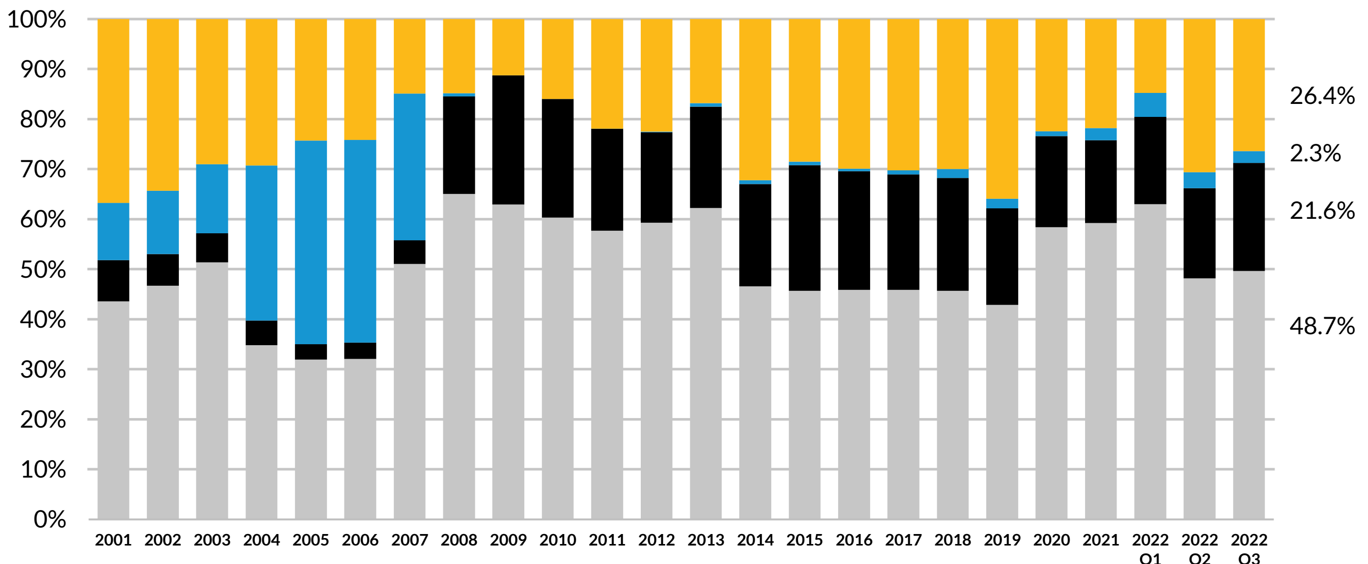
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

Mortgage origination volume totaled $505 billion in Q3 2022, far lower than the $1.09 trillion total in Q3 2021. The share of portfolio originations was 26.4 percent in Q3 2022, a slight increase compared to the 25.1 percent share in Q3 2021 and roughly consistent with the portfolio share in the pre-pandemic years. The GSE share was lower in Q3 2022 at 49.7 percent, compared to 55.4 percent in Q3 2021. The lower GSE share in Q3 2022 reflects substantial slowdown of the refinance wave, which boosted GSE purchases in Q3 2021. The FHA/VA share in Q3 2022 stood at 21.6 percent, up from 16.3 percent in Q3 2021. The PLS share was lower in Q3 2022 at 2.3 percent, compared to 3.1 percent in Q3 2021.



Sources: Inside Mortgage Finance and Urban Institute. *Last updated November 2022.*



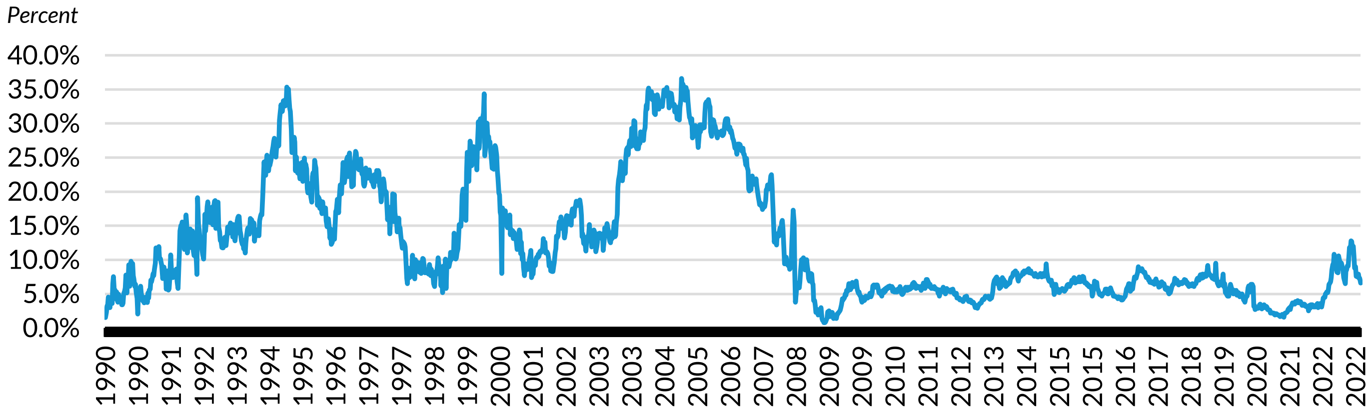
Sources: Inside Mortgage Finance and Urban Institute. *Last updated November 2022.*

OVERVIEW

PRODUCT COMPOSITION AND REFINANCE SHARE

The adjustable-rate share of weekly mortgage applications varied widely in the 1990s and the early to mid-2000s, ranging from a low of 5 percent to a high of over 35 percent. From 2009 to early 2022, the ARM share remained very low, generally between 5 to 8 percent, as ultra-low rates persisted. However, with rates rising substantially in 2022 and affordability worsening, the ARM share increased from 3.4 percent in Jan 2022 to 12.8 percent as of October 14, 2022. Since then, the share has decreased to 6.6 percent as of January 13, 2023.

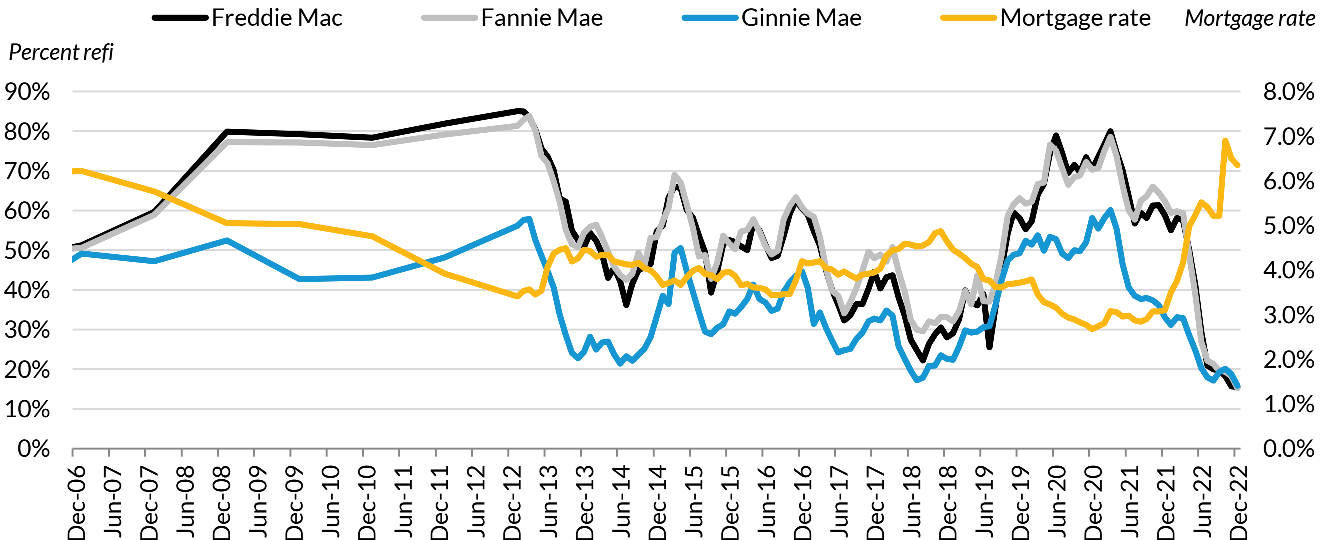
Adjustable-Rate Mortgage Share of Applications



Source: Mortgage Bankers Association (MBA) Weekly Mortgage Applications Survey.
Note: Includes purchase and refinance applications. Data updated through January 13, 2023.

From late 2018-though March 2021, while there was some month-to-month variation, the refi share generally increased for both the GSEs and for Ginnie Mae as interest rates dropped. Since April 2021, in reaction to higher interest rates, the refi share has dropped significantly. In December 2022, the GSE refi shares are in the 15 percent range; the Ginnie Mae refi share was 15.9 percent, a new low. The refinance share reflects mortgage rates from 6-8 weeks earlier. GSEs refi shares have declined much more than Ginnie Mae's as rates increased in 2022. This has led to a rare convergence in refi share for GSE and Ginnie channels.

Percent Refi at Issuance

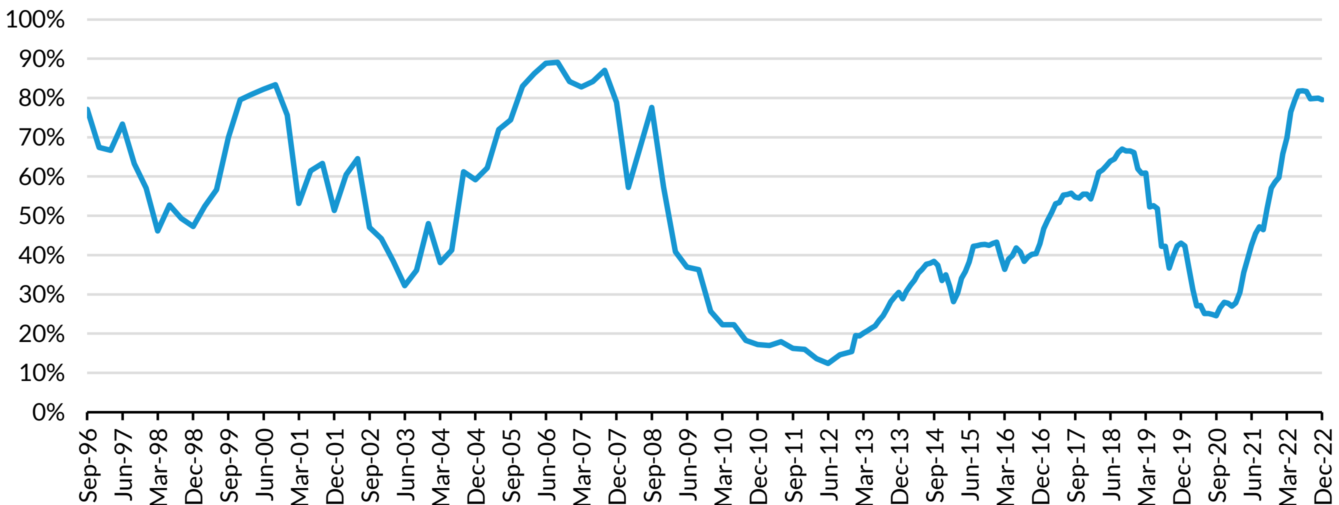


Sources: eMBS and Urban Institute.
Note: Based on at-issuance balance. Figure based on data from December 2022.

CASH-OUT REFINANCES

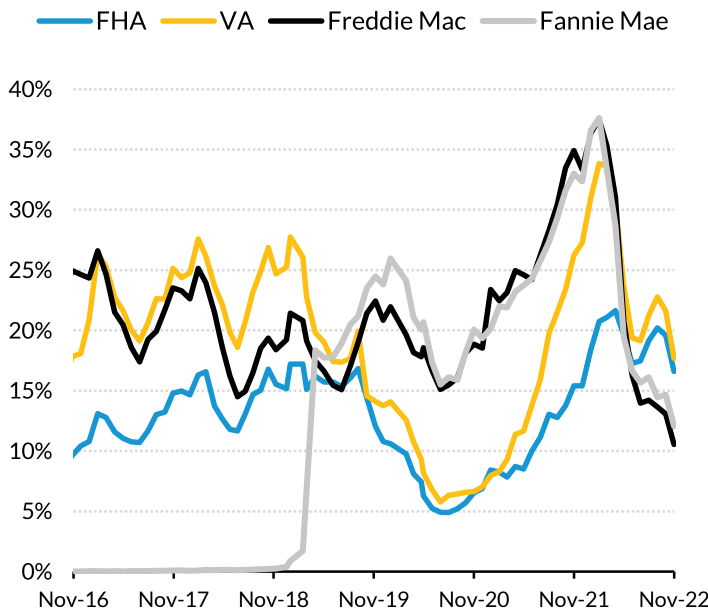
When mortgage rates are low, the share of cash-out refinances tends to be relatively smaller, as rate/term refinancing allows borrowers to save money by taking advantage of lower rates. But when rates are high, the cash-out refinance share is higher since the rate reduction incentive is gone and the only reason to refinance is to take out equity. The cash-out share of refinances generally declined in 2020, reaching 25 percent in September 2020 due to increased rate refinances amidst historically low rates. With rates rising dramatically and the bulk of rate-refinance activity behind us, the cash-out share has increased to 79.5 percent as of December 2022. Despite the increase in the cash-out share, the absolute volume of cash-out refinances has come down sharply since the spring of 2021, when mortgage rates began to rise. Note that the decline is far less at Ginnie Mae than at the GSEs, reflecting that while cash out refinances are not economic for most, they are the only way lower credit borrowers can extract cash from their homes.

Cash-out Share of Conventional Refinances



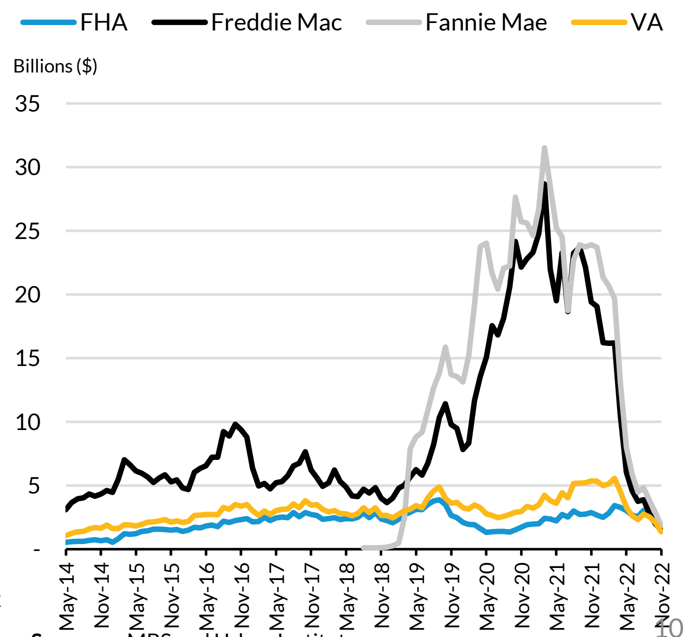
Sources: Freddie Mac, eMBS and Urban Institute.
Note: The cashout share for conventional market is calculated using Freddie Mac's quarterly refinance statistics from 1995 to 2013. Post 2013 it is calculated monthly using eMBS. Data as of December 2022.

Cash-out Refi Share of All Originations



Sources: eMBS and Urban Institute.
Note: Data as of November 2022.

Cash-out Refinance Volume by Agency



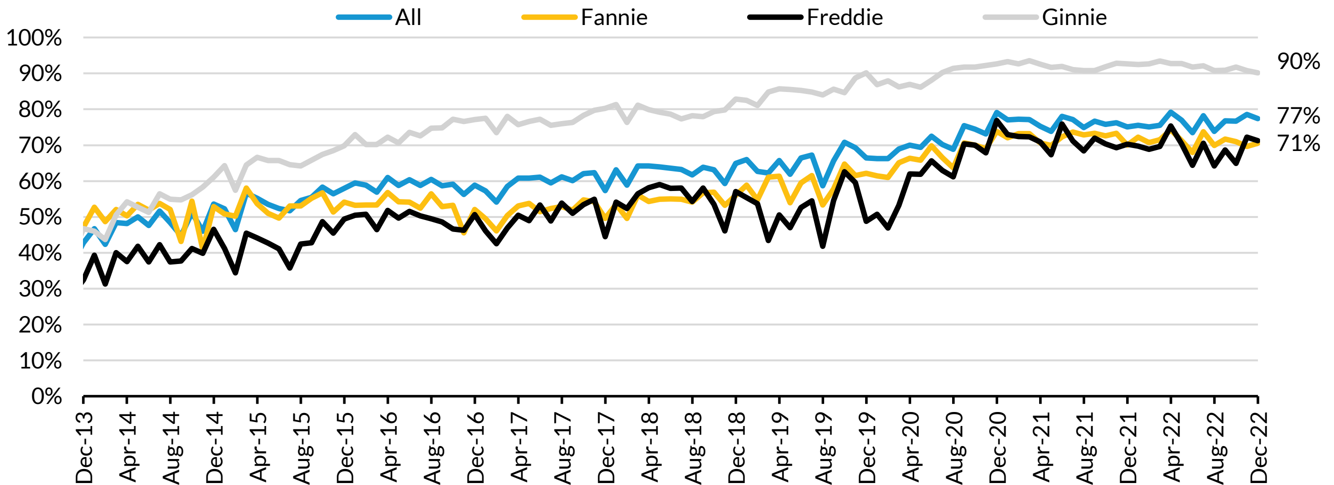
Sources: eMBS and Urban Institute
Note: Data as of November 2022.

OVERVIEW

AGENCY NONBANK ORIGINATION SHARE

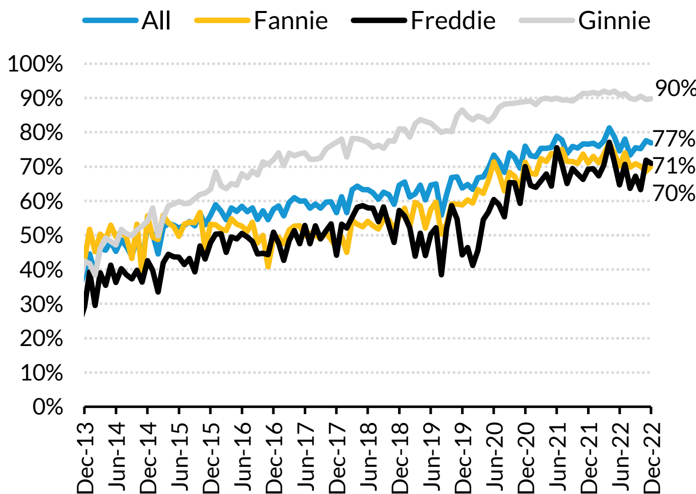
The nonbank share for agency originations has been rising steadily since 2013, standing at 77.4 percent in December 2022. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 90.2 percent in December 2022. Fannie and Freddie had nonbank shares of 70.5 percent and 71.2 percent respectively in December2022. Fannie, Freddie, and Ginnie all had higher nonbank origination shares for refi activity than purchase activity in December 2022.

Nonbank Origination Share: All Loans



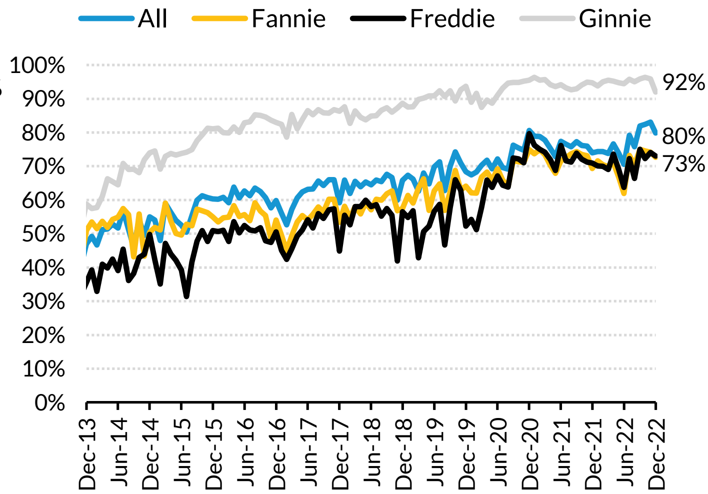
Sources: *eMBS and Urban Institute.*

Nonbank Origination Share: Purchase Loans



Sources: *eMBS and Urban Institute.*

Nonbank Origination Share: Refi Loans



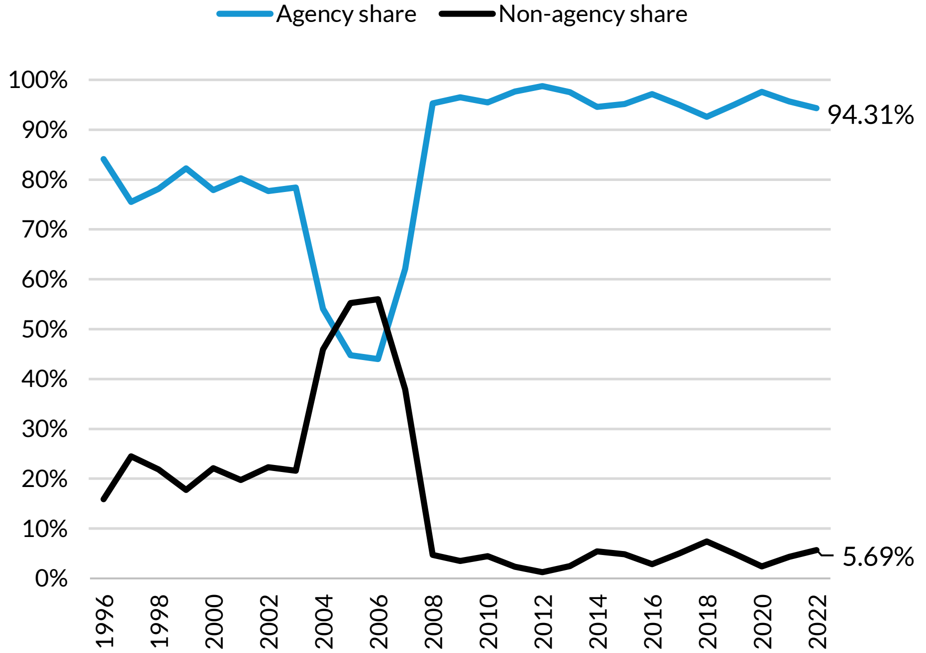
Sources: *eMBS and Urban Institute.*

OVERVIEW

SECURITIZATION VOLUME AND COMPOSITION

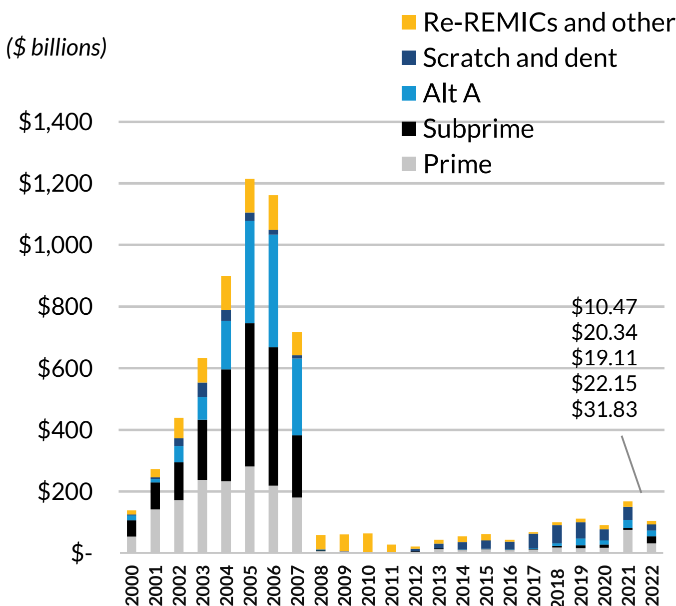
Agency/Non-Agency Share of Residential MBS Issuance

The non-agency share of mortgage securitizations increased gradually from 1.83 percent in 2012 to 5.0 percent in 2019. In 2020, the non-agency share dropped to 2.44 percent, reflecting increased agency refinances and less non-agency production due to COVID-19. The market recovered in 2021 and 2022, with the nonagency share rising to 4.32 percent and 5.69 percent respectively. In dollar terms, non-agency issuance reached $103.91 billion in 2022, a decrease relative to the $167.62 billion in 2021, reflecting both a broader slowdown in originations amidst higher rates as well as wider spreads. 2021 was the largest year of non-agency securitization, as measured by dollar volume, since 2008. Non-agency securitization totaled a meager $2.8 billion in December 2022. These numbers remain small compared to pre-housing market crisis levels.



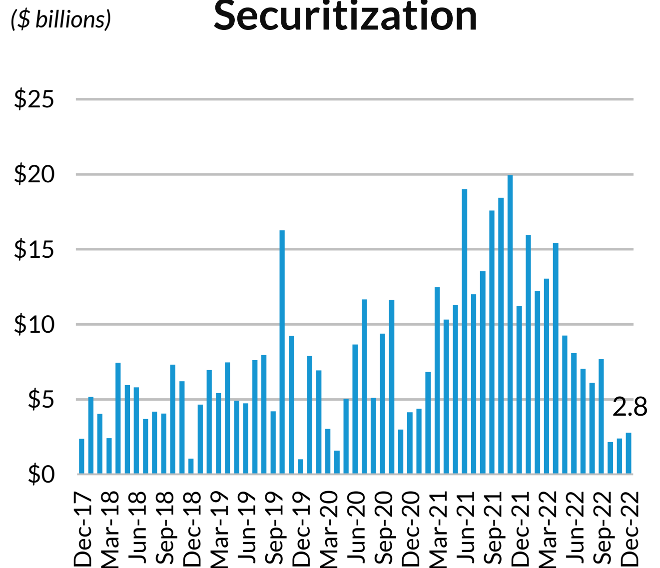
Sources: Inside Mortgage Finance and Urban Institute.
Note: Based on data from December 2022. Monthly non-agency volume is subject to revision.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.
Note: Data in 2022 is through Q4.

Monthly Non-Agency Securitization



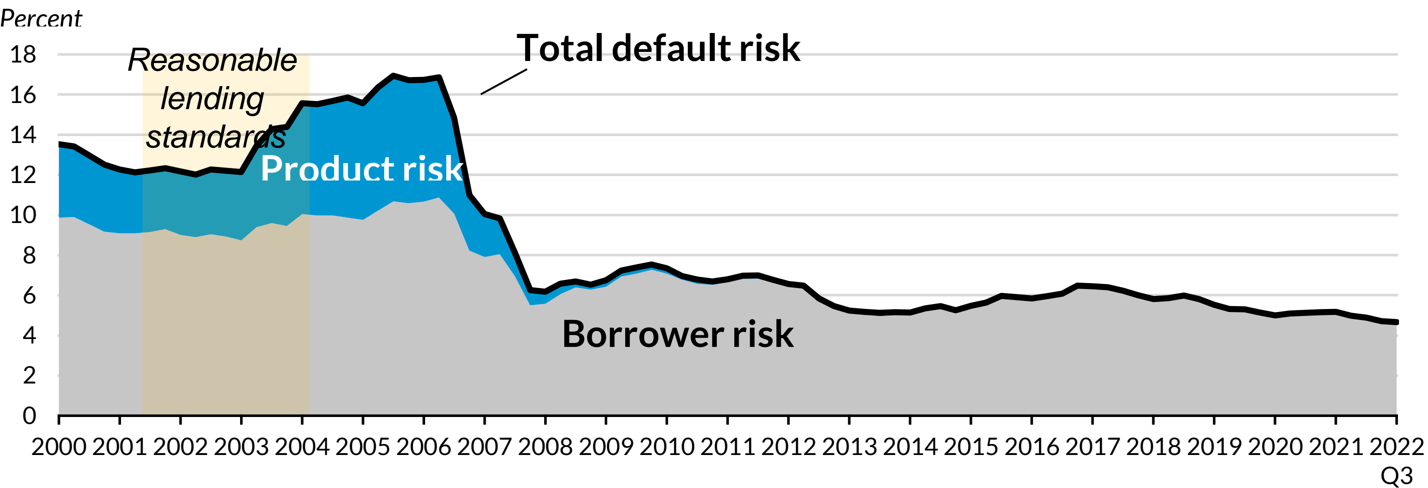
Sources: Inside Mortgage Finance and Urban Institute.

CREDIT BOX

HOUSING CREDIT AVAILABILITY INDEX

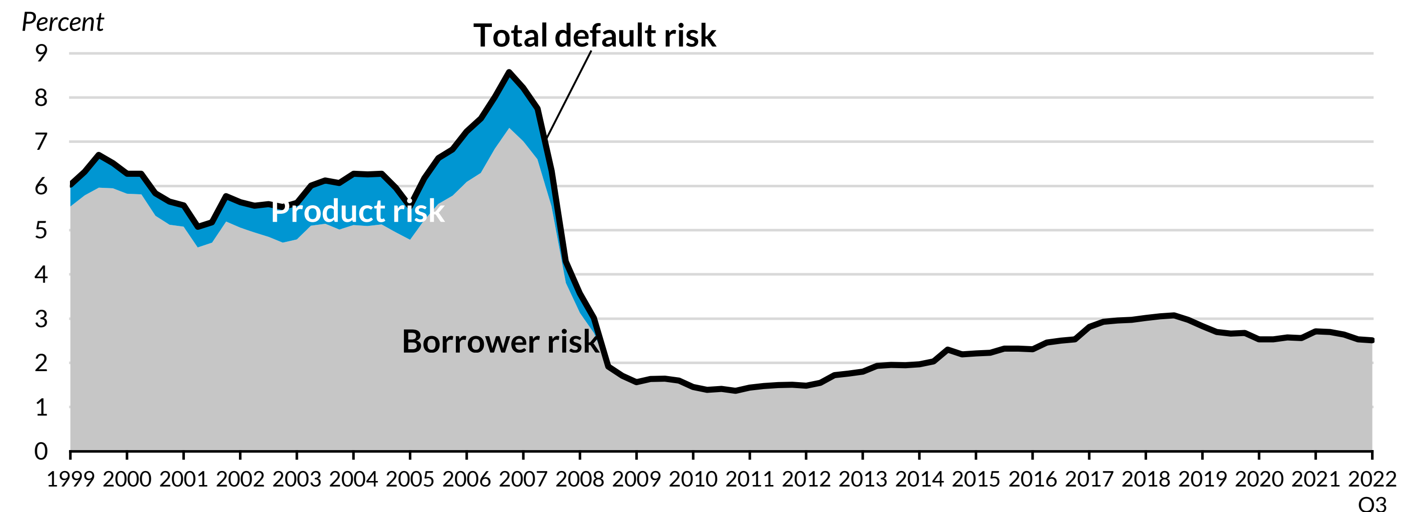
The Urban Institute's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to go 90+ days delinquent over the life of the loan. The HCAI stood at 4.7 percent in Q3 2022, remaining flat from Q2 2022. The tightening from Q3 2021 to Q3 2022 reflects a decrease in default risk taken across all channels, particularly for loans held in portfolio which saw a significant increase in market share in 2022. Note that we updated the methodology as of Q2 2020, see new methodology here. More information about the HCAI is available here.

All Channels



GSE Channel

The trend toward greater credit availability in the GSE channel began in Q2 2011. From Q2 2011 to Q1 2020, the total risk taken by the GSE channel doubled, from 1.4 percent to 2.7 percent. This is still very modest by pre-crisis standards. However, accelerated tightening throughout 2020 induced by market conditions due to COVID-19 drove down credit risk to 2.5 percent in Q4 2020. The increase in Q1 2021, to 2.58 percent, marked the first expansion of credit availability in the GSE channel since Q1 2019. In Q3 2022, credit availability stood at 2.51 percent, slightly down from 2.53 percent in Q2 2022.

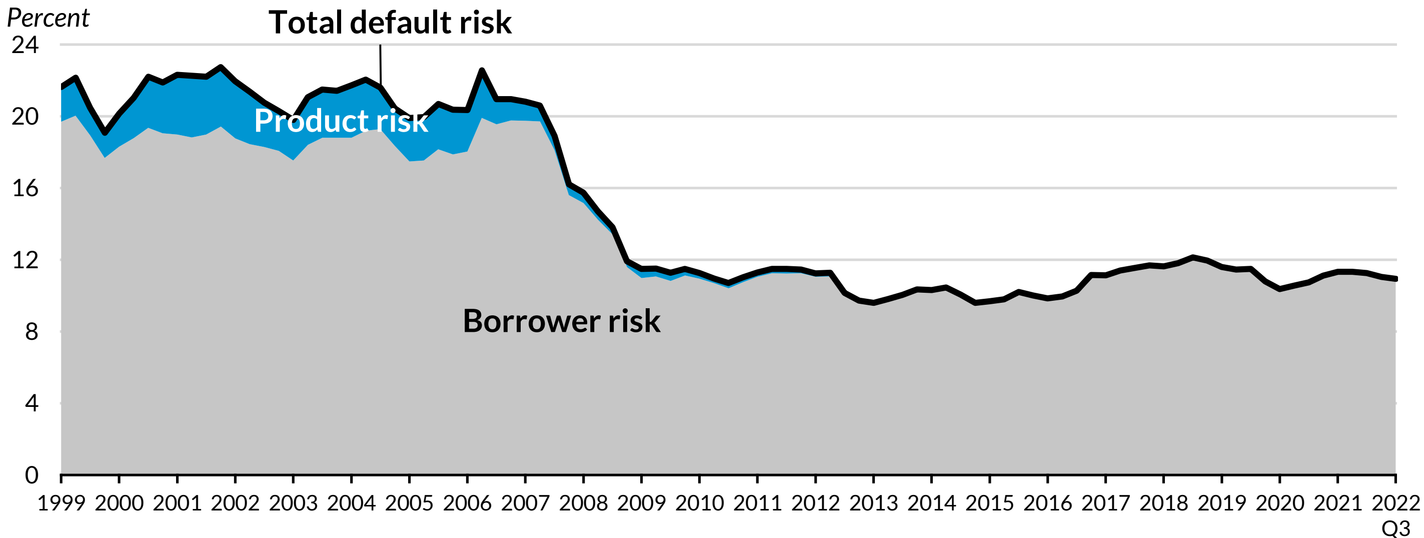


Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.
Note: Default is defined as 90 days or more delinquent at any point. *Last updated December 2022.*

CREDIT BOX
HOUSING CREDIT AVAILABILITY INDEX

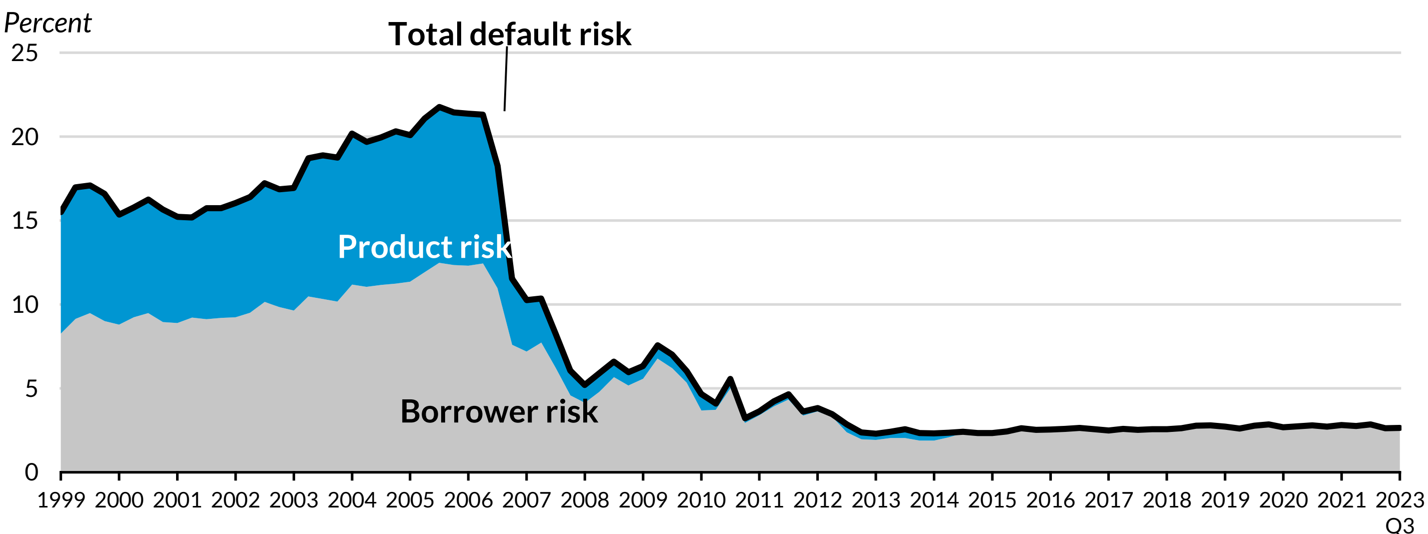
Government Channel

The total default risk the government loan channel is willing to take bottomed out at 9.6 percent in Q3 2013. It fluctuated in a narrow range at or above that number for three years. In the eleven quarters from Q4 2016 to Q1 2019, the risk in the government channel increased significantly from 9.9 to 12.1 percent but has since receded. After declining to 10.4 percent in Q3 of 2020, the government channel had begun to increase risk to 11.3 percent up until Q1 2022 before dropping to 11.0 percent in Q3 2022; far below the pre-bubble level of 19 to 23 percent.



Portfolio and Private Label Securities Channels

The portfolio and private-label securities (PP) channel took on more product risk than the government and GSE channels during the bubble. After the crisis, the channel's product and borrower risks dropped sharply. The numbers have stabilized since 2013, with product risk well below 0.5 percent and total risk largely in the range of 2.3-3.0 percent; it was 2.7 percent in Q3 2022. This is a shadow of the default risk taken prior to the Great Financial Crisis.



Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.
Note: Default is defined as 90 days or more delinquent at any point. *Last updated December 2022.*

CREDIT BOX

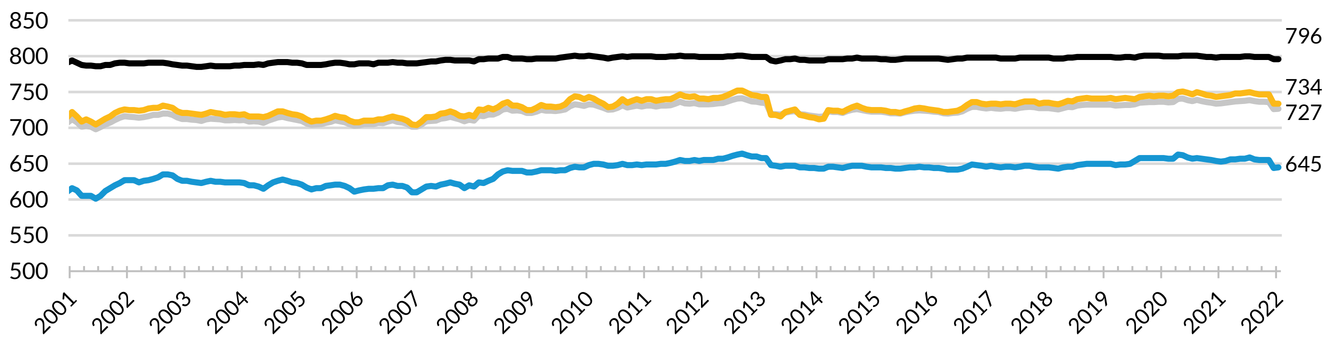
CREDIT AVAILABILITY FOR PURCHASE LOANS

Access to credit remains tight by historical standards, but it has loosened marginally for lower FICO borrowers. The higher rate environment has coincided with a drop in FICOs and rise in DTIs. The median FICO for current purchase loans is about 12 points higher than the pre-housing crisis level of around 722. The 10th percentile, which represents the lower bound of creditworthiness to qualify for a mortgage, was 645 in November 2022, which is still high compared to low-600s pre-bubble. The median LTV at origination of 95 percent also remains high, reflecting the rise of FHA and VA lending. Origination DTIs trended lower over the course of 2020 and early 2021, reflecting the sharp decline in mortgage rates; this has reversed, with a concurrent rise in DTIs.

Mean — 90th percentile — 10th percentile — Median

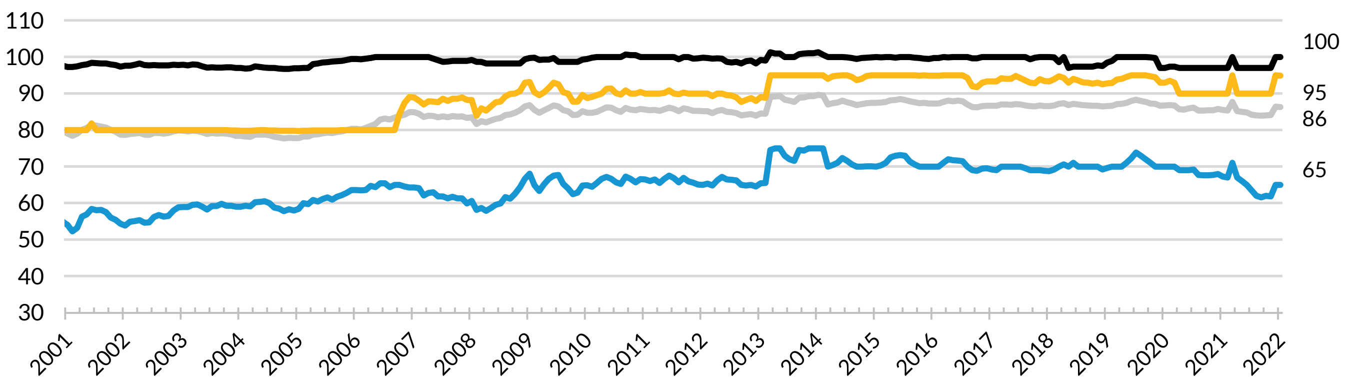
Borrower FICO Score at Origination

FICO Score



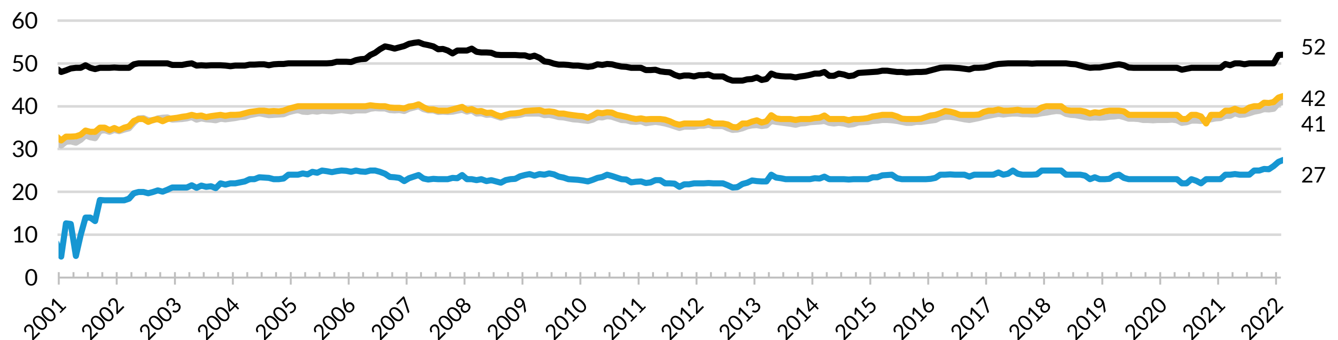
Combined LTV at Origination

LTV



DTI at Origination

DTI



Sources: Black Knight, eMBS, HMDA, SIFMA, CoreLogic and Urban Institute.

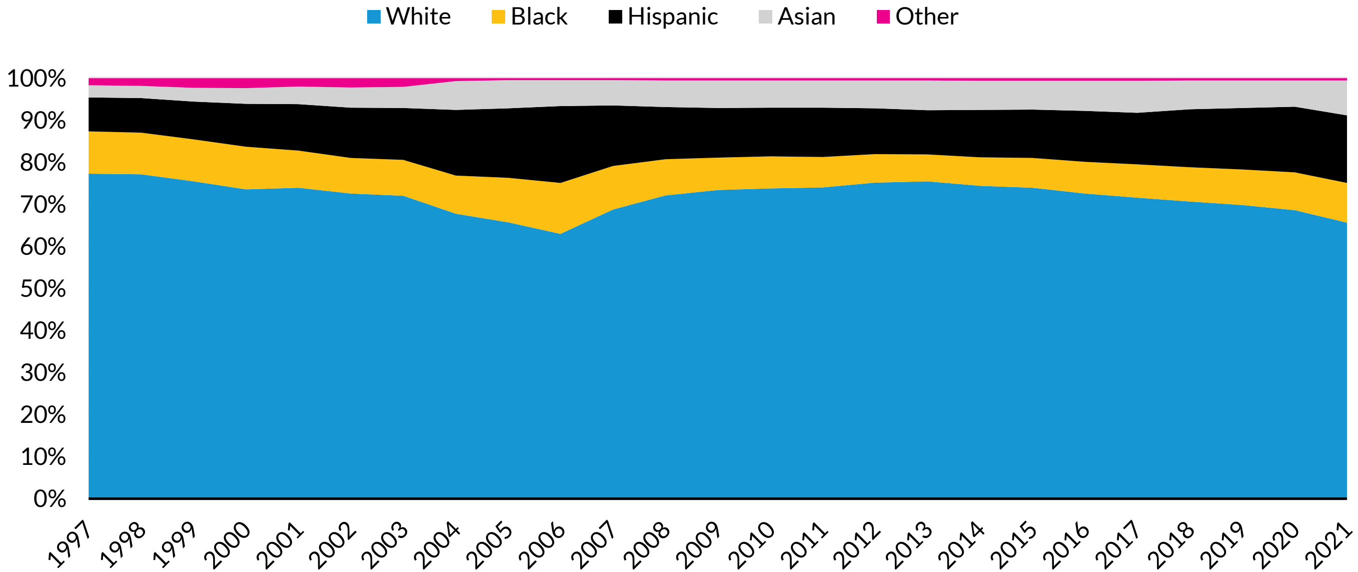
Note: Includes owner-occupied purchase loans only. DTI data prior to April 2018 is from CoreLogic; after that date, it is from Black Knight. A back-update to the Black Knight historical series was made in September 2021 for data starting from 2001 onward. Data as of November 2022.

OVERVIEW

RACIAL & ETHNIC COMPOSITION

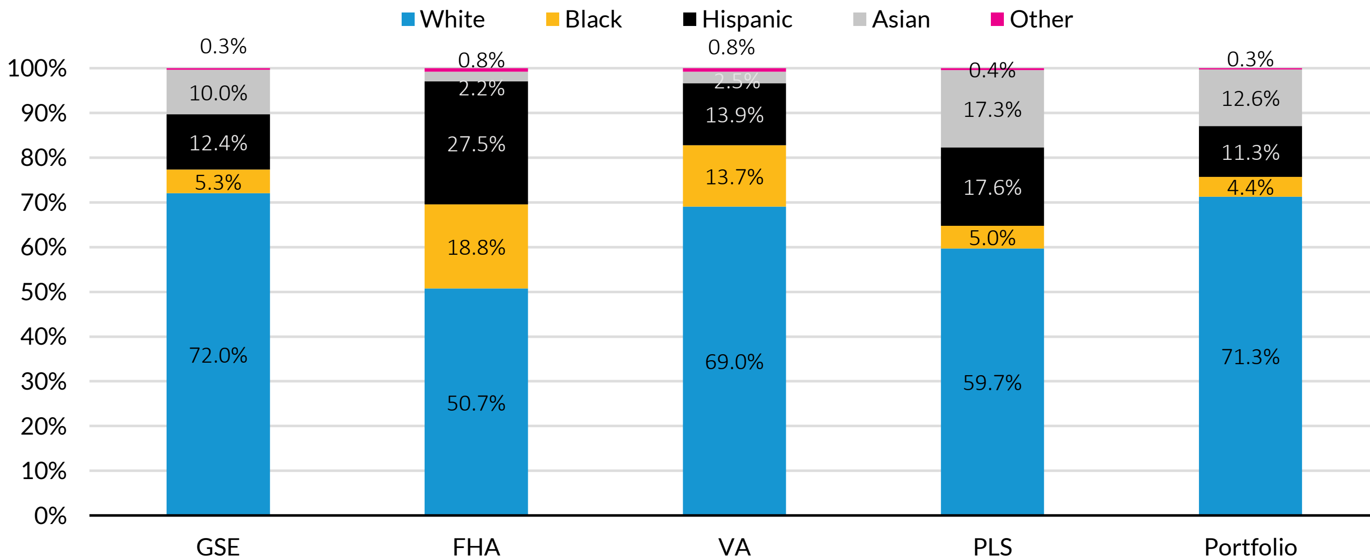
Across all channels, the share of purchase lending to minorities reached a peak of 37.0% in 2006. Following the Great Recession and amidst a period of very tight credit, the minority share of purchase lending declined to a low of 24.5% in 2013. Since then, it has slowly recovered – it stood at 34.3% in 2021, up from 31.4% in 2020. The share of purchase lending to Black borrowers varied widely by channel in 2021. 18.8 percent of FHA loans were originated to Black borrowers compared with 13.7 percent of VA loans, 5.3 percent for GSEs and 4.4 percent of portfolio loans. Similarly, 27.5 percent of FHA purchase loans were originated to Hispanic borrowers in 2021 compared to 13.9 percent of VA loans, 12.4 percent for GSEs, and 11.3 percent of portfolio loans.

2021 Purchase Loan Shares by Race



Source: 1997 to 2021 Home Mortgage Disclosure Act (HMDA).
Note: Includes purchase loans only. Shares based on loan counts

2021 Purchase Loan Channel Shares by Race



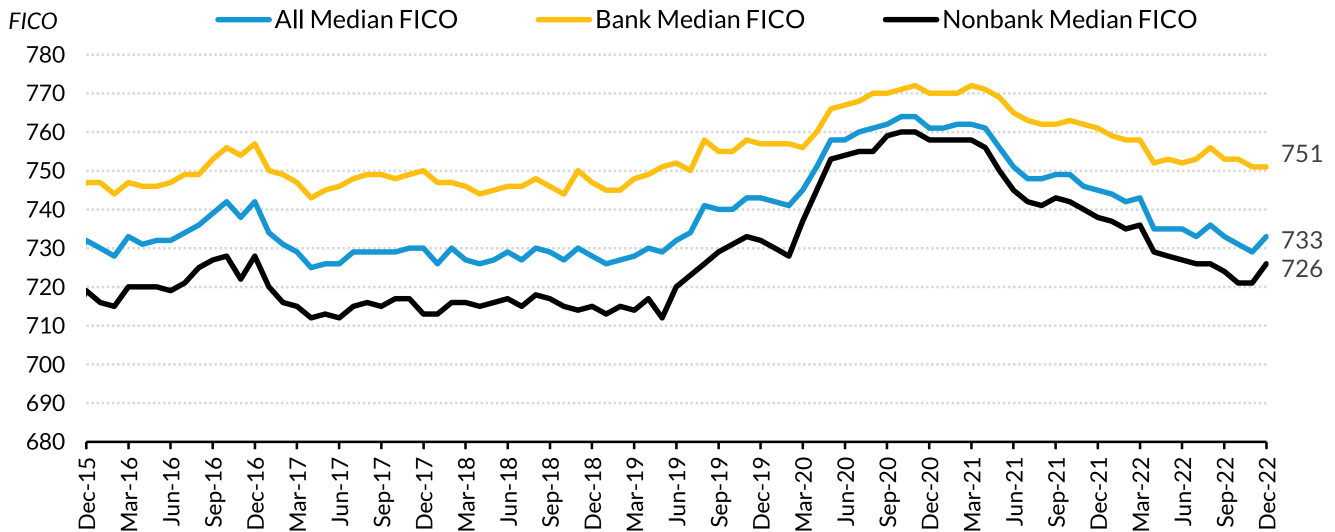
Source: 1997 to 2021 Home Mortgage Disclosure Act (HMDA).
Note: Includes purchase loans only. Shares based on loan counts

CREDIT BOX

AGENCY NONBANK CREDIT BOX

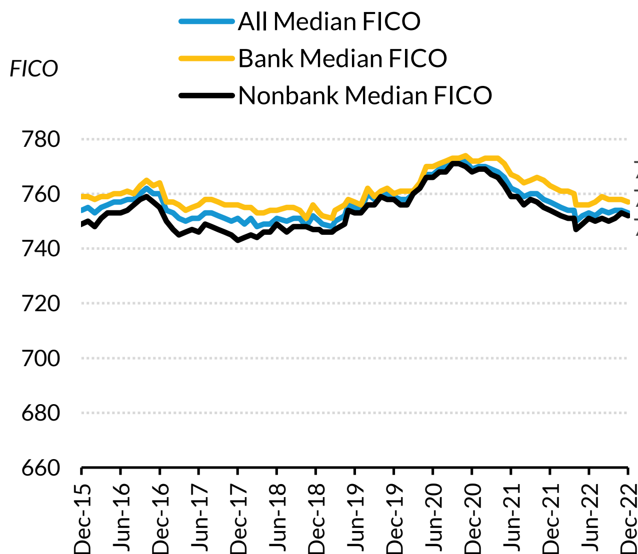
FICO scores for banks and nonbanks, in both the Ginnie Mae and GSE arenas, dipped in 2021 and 2022. The difference between the FICOs on bank and non-bank GSE loans stood at 5 points in December 2022, compared to the 22-point gap in the Ginnie space. FICO scores for banks and nonbanks in both GSE and Ginnie Mae segments increased during the Q1 2019 to Q1 2021 period, due to increased refi activity. Because borrowers of refi loans typically have higher FICO scores than borrowers of purchase loans, FICO scores are now declining as the refi wave wanes. Note that there has been a sharp cut-back in FHA lending by banks post-2008. As pointed out on page 11, banks now comprise only about 9 percent of Ginnie Mae originations.

Agency FICO: Bank vs. Nonbank



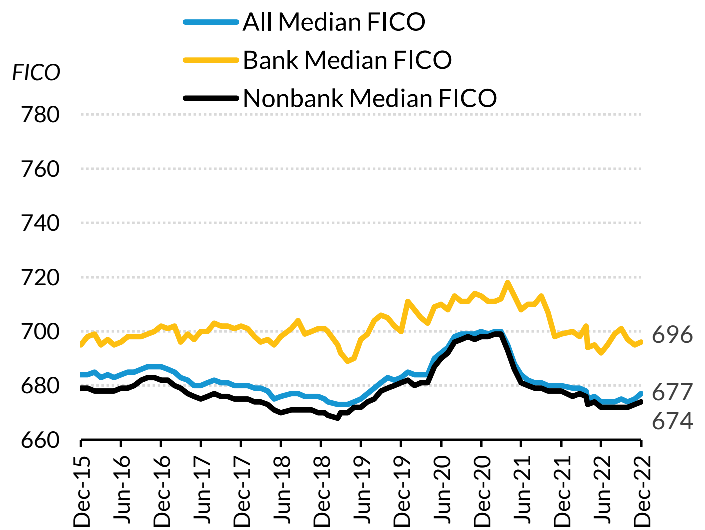
Sources: *eMBS and Urban Institute.*

GSE FICO: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

Ginnie Mae FICO: Bank vs. Nonbank



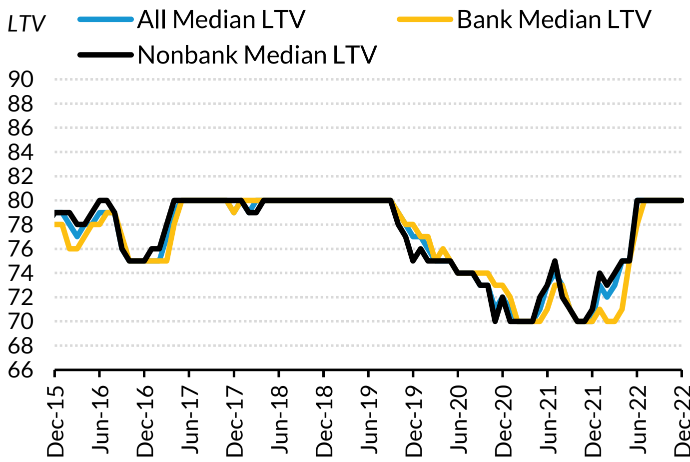
Sources: *eMBS and Urban Institute.*

CREDIT BOX

AGENCY NONBANK CREDIT BOX

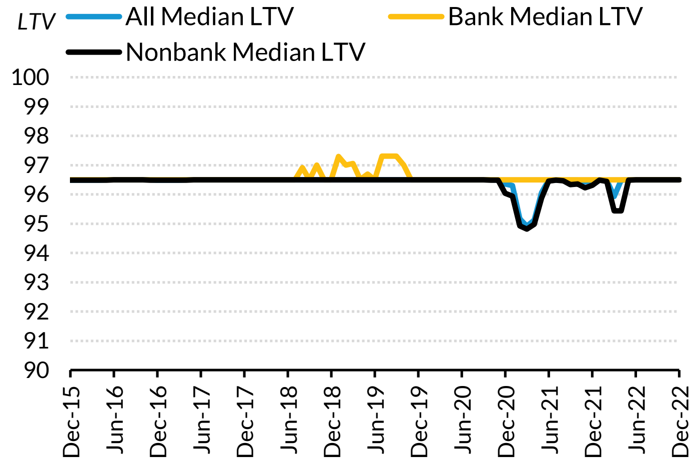
Non-banks are more expansive in their lending than their bank counterparts, as indicated by higher DTIs in both GSE and Ginnie Mae markets. From early 2017 to early 2019, there was a sustained increase in DTIs, which has reversed beginning in the spring of 2019. This is true for both Ginnie Mae and the GSEs, for banks and nonbanks. As interest rates in 2017 and 2018 increased, DTIs rose, because borrower payments were driven up relative to incomes. As rates fell during most of 2019 and 2020, DTIs fell as borrower payments declined relative to incomes. Since March 2021, DTIs have increased, reflecting the rise in rates and steep house price increases, both of which force households to borrow more in relation to income.

GSE LTV: Bank vs. Nonbank



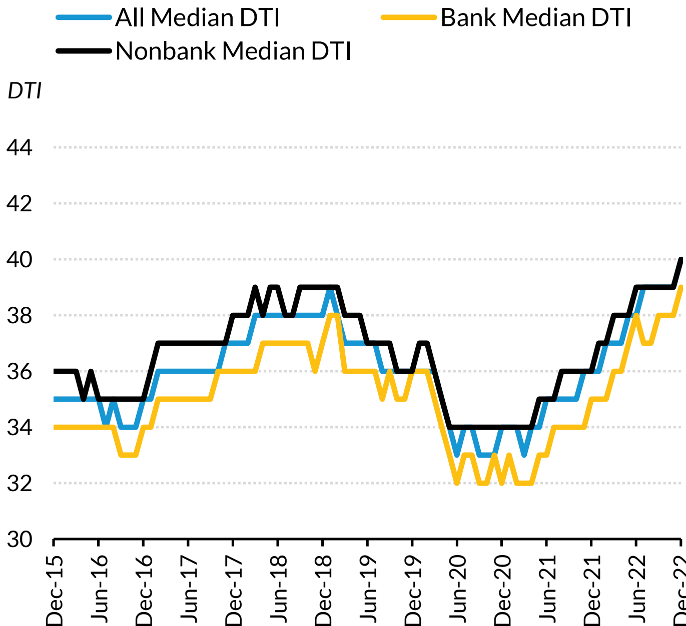
Sources: *eMBS and Urban Institute.*

Ginnie Mae LTV: Bank vs. Nonbank



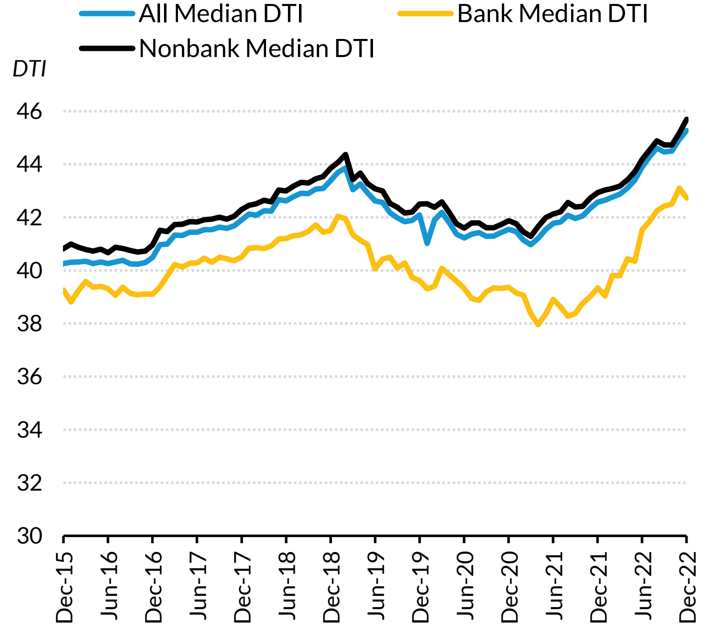
Sources: *eMBS and Urban Institute.*

GSE DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

Ginnie Mae DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

STATE OF THE MARKET

MORTGAGE ORIGINATION PROJECTIONS

Fannie Mae, Freddie Mac and the MBA estimate 2022 origination volume to be between $2.25 and $2.60 trillion, down from $4.44 to $4.84 trillion in 2021, representing declines of $2.19 to $2.24 trillion. The very robust origination volume in 2020 and 2021 is due to very strong refinance activity. All three groups expect the 2022 refinance share to be 29 percentage points lower than in 2021.

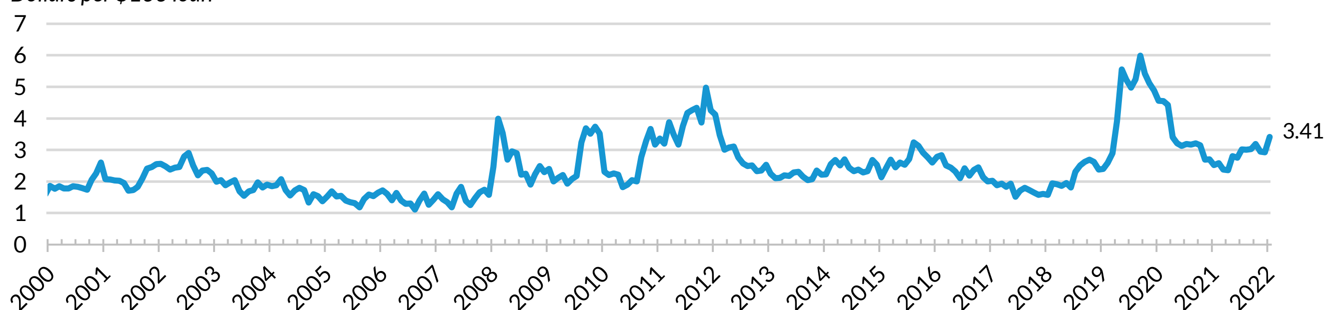
Total Originations and Refinance Shares

Period	Originations ($ billions)			Refi Share (percent)		
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	FNMA estimate	FHLMC estimate	MBA estimate
2022 Q1	745	847	689	47	50	48
2022 Q2	676	744	678	25	28	33
2022 Q3	530	551	480	18	11	22
2022 Q4	392	453	398	17	12	19
2023 Q1	315	406	345	23	17	24
2023 Q2	435	525	510	20	14	24
2023 Q3	450	538	519	21	15	27
2023 Q4	435	474	525	23	18	29
2017	1826	1810	1760	36	37	35
2018	1766	1700	1677	30	32	28
2019	2462	2432	2253	46	46	44
2020	4374	4441	4108	64	64	64
2021	4570	4838	4436	58	58	62
2022	2344	2595	2245	29	29	33
2023	1635	1942	1899	22	16	26

Sources: Fannie Mae, Freddie Mac, Mortgage Bankers Association and Urban Institute.
Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market. Regarding interest rates, the yearly averages for 2017, 2018, 2019, 2020, and 2021 were 4.0, 4.6, 3.9, 3.0, and 3.0 percent. For 2022, the respective projections for Fannie, Freddie, and MBA are 5.0, 4.6, and 5.5 percent. Freddie Mac forecasts are now released quarterly, last updated January 2023.

Originator Profitability and Unmeasured Costs

In December 2022, Originator Profitability and Unmeasured Costs (OPUC) stood at $3.41 per $100 loan, down considerably from $5.99 per $100 loan in 2020. Increased profitability in 2020 and early 2021 reflects lender capacity constraints amidst strong refi demand. Reduced profitability in 2022 reflects slower refinance activity, forcing originators to compete more aggressively on price. OPUC, formulated and calculated by the Federal Reserve Bank of New York, is a good relative measure of originator profitability. OPUC uses the sales price of a mortgage in the secondary market (less par) and adds two sources of profitability; retained servicing (both base and excess servicing, net of g-fees), and points paid by the borrower. As volumes decline, fixed costs are spread out over fewer loans, overstating the relative profitability. OPUC is generally high when interest rates are low, as originators are capacity constrained due to refinance demand and have no incentive to reduce rates. Conversely, when interest rates are higher and refi activity low, competition forces originators to lower rates, driving profitability down.

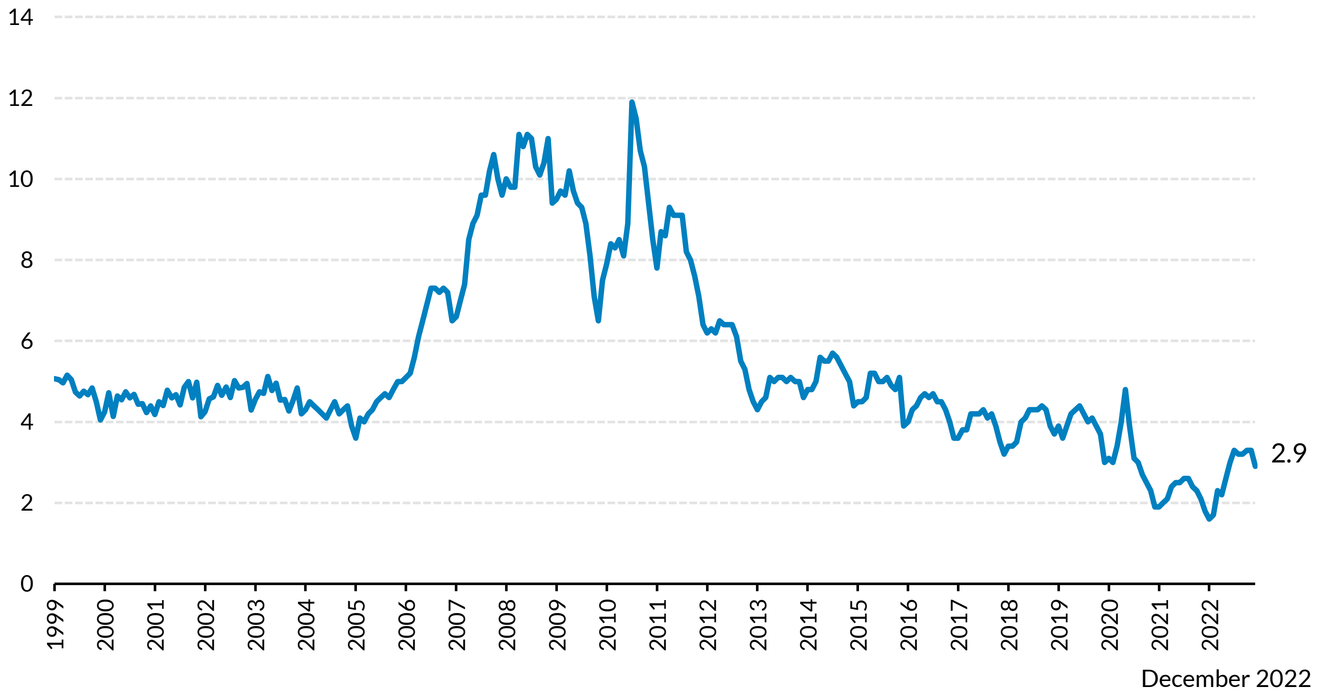


Sources: Federal Reserve Bank of New York, updated monthly and available at this link: http://www.ny.frb.org/research/epr/2013/1113fust.html and Urban Institute. Last updated December 2022.
Note: OPUC is a is a monthly (4-week moving) average as discussed in Fuster et al. (2013).

HOUSING SUPPLY

Months of supply was 2.9 in December 2022, down marginally from 3.3 in November, but up from a near record low of 1.7 in February 2022. While months of supply remains low by historical standards, higher interest rates have slowed demand, leading to the small increase in months of inventory. Fannie Mae, the MBA, and the NAHB forecast 2023 housing starts to be between 1.14 and 1.41 million units, below 2022 levels. Fannie Mae, Freddie Mac, the MBA, and the NAHB predict total home sales of 4.36 to 5.13 million units in 2023; these estimates all reflect declines from their 2022 sales volume calculations.

Months of Supply



Source: National Association of Realtors and Urban Institute. Data as of December 2022.

Housing Starts and Home Sales

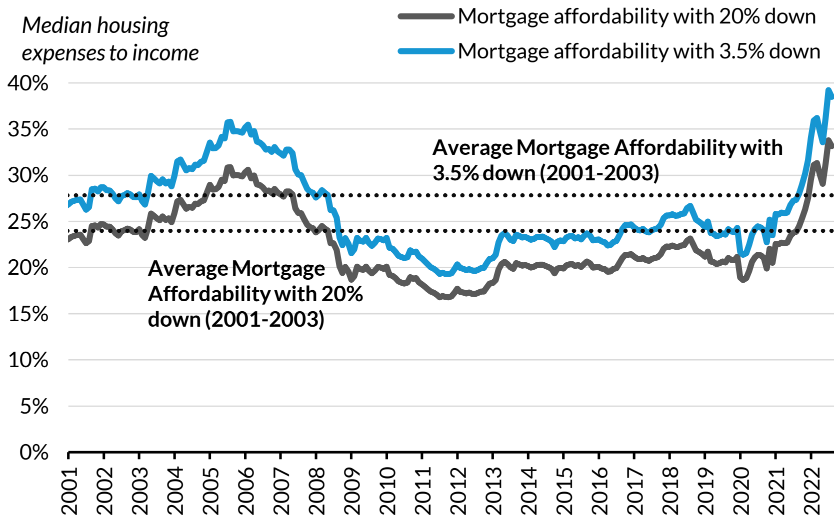
Year	Housing Starts, thousands			Home Sales. thousands			
	Total, FNMA estimate	Total, MBA estimate	Total, NAHB estimate	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, NAHB estimate*
2017	1203	1208	1205	6123	6120	6158	5520
2018	1250	1250	1247	5957	5960	5956	5350
2019	1290	1295	1291	6023	6000	6016	5429
2020	1380	1397	1395	6462	6500	6506	5890
2021	1601	1605	1605	6891	6900	6896	6188
2022	1556	1562	1542	5740	5800	5805	5166
2023	1140	1412	1135	4519	5100	5129	4358

Sources: Mortgage Bankers Association, Fannie Mae, Freddie Mac, National Association of Home Builders and Urban Institute.
Note: Shaded boxes indicate forecasted figures; column labels indicate source of estimate. Freddie Mac home sales are now updated quarterly instead of monthly, with the last update in December 2022. *NAHB home sales estimate is for single-family structures only, it excludes condos and co-ops. Other figures include all single-family sales.

HOUSING AFFORDABILITY

National Mortgage Affordability Over Time

With the rise in interest rates, and increases in home prices over the past year, affordability remains poor. As of December 2022, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 32.1 percent, slightly higher than the 30.9 percent at the peak of the housing bubble in November 2005; with 3.5 percent down it is 37.3 percent, also slightly above the 35.8 percent prior peak in November 2005. These numbers represent a sharp worsening in affordability over the past year. As shown in the bottom picture, despite the recent small increase, active listings have declined substantially over time and the distribution has shifted markedly towards higher priced homes.



Active Listings by Price Tier Over Time

Share of Active Listings

Under $100K
$100 - $200K
$200 - $350K
$350 - $500K
$500 - 750K
$750K - $1M
Above $1M
Total Active Listings (Right)

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

3000000 2500000 2000000 1500000 1000000 500000 0

Dec-15 Mar-16 Jun-16 Sep-16 Dec-16 Mar-17 Jun-17 Sep-17 Dec-17 Mar-18 Jun-18 Sep-18 Dec-18 Mar-19 Jun-19 Sep-19 Dec-19 Mar-20 Jun-20 Sep-20 Dec-20 Mar-21 Jun-21 Sep-21 Dec-21 Mar-22 Jun-22 Sep-22 Dec-22

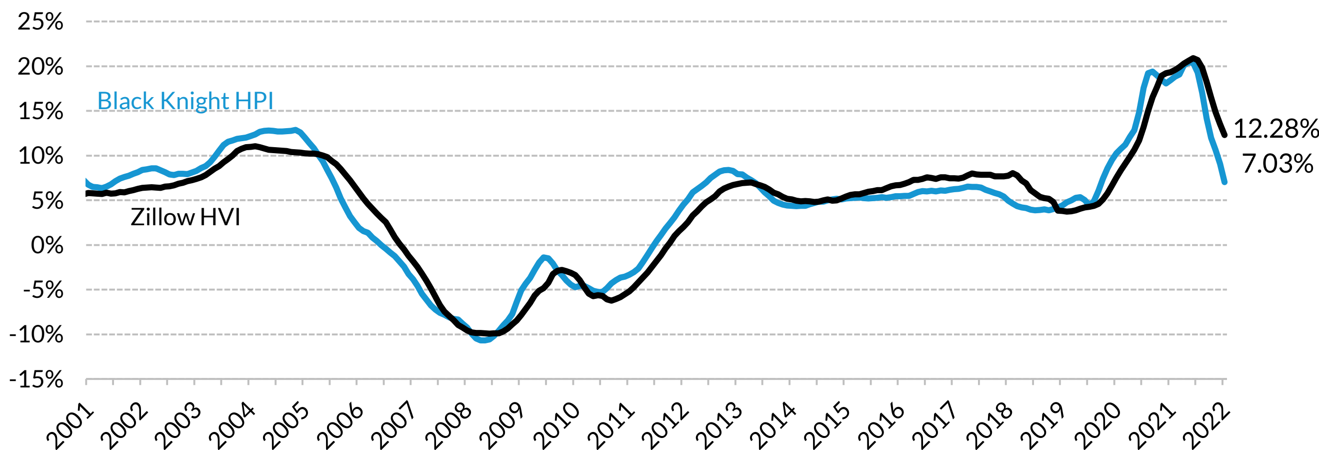
Sources: National Association of Realtors, US Census Bureau, Current Population Survey, American Community Survey, Moody's Analytics, Freddie Mac Primary Mortgage Market Survey, Realtor.com, and the Urban Institute.

Note: Mortgage affordability is the share of median family income devoted to the monthly principal, interest, taxes, and insurance payment required to buy the median home at the Freddie Mac prevailing rate for a 30-year fixed-rate mortgage and property tax and insurance at 1.75 percent of the housing value. Data for the bottom chart provided by Realtor.com as of December 2022.

STATE OF THE MARKET
HOME PRICE INDICES

National Year-Over-Year HPI Growth

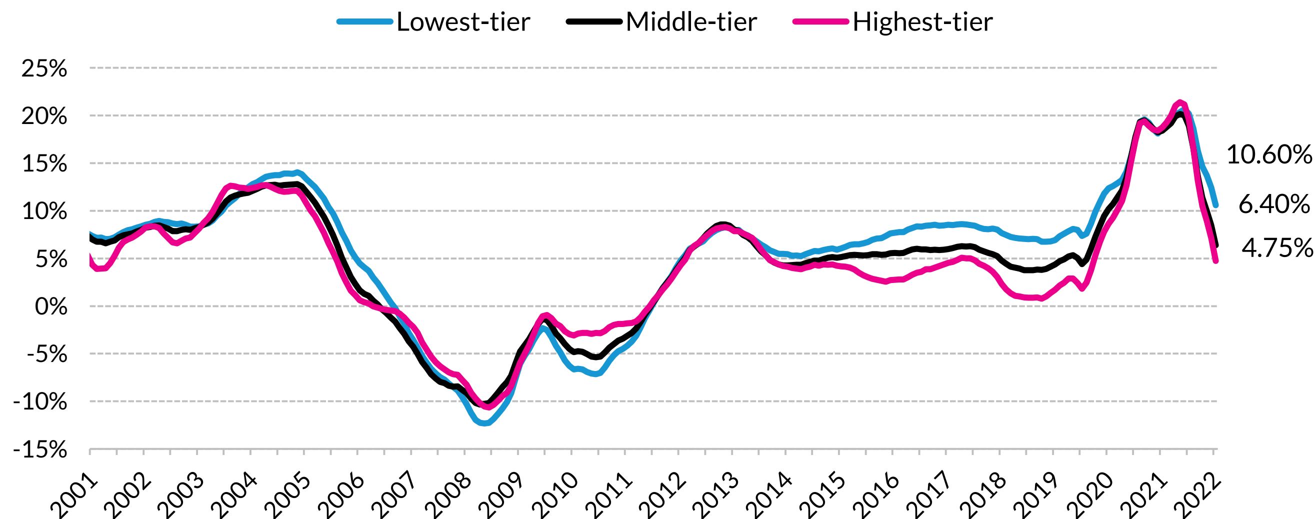
According to Black Knight's updated repeat sales index, year-over-year home price appreciation decreased to 7.03 percent in November 2022, compared to 9.08 percent the previous month. Year-over-year home price appreciation as measured by Zillow's hedonic index was 12.28 percent in November 2022, down from 13.51 percent in October. Home price appreciation has continued to decrease since March 2022 but affordability is still constrained by sharp rises in interest rates along with previous spikes in prices.



Sources: Black Knight, Zillow, and Urban Institute. **Note:** Black Knight modified the methodology behind their HPI in February 2021, resulting in changes to historic price estimates. Data as of November 2022.

National Year-Over-Year HPI Growth by Price Tier

House price growth escalated dramatically in the second half of 2020 into 2021 and continues to remain elevated in 2022 across all price tiers. Before the pandemic, lower-priced homes appreciated more than higher-priced homes. With higher-priced homes experiencing steep appreciation in 2020 and 2021, year-over-year growth in the highest-tier had surpassed middle and lowest tiers by Feb 2022. With rates rising sharply in 2022, the rate of appreciation has slowed for all price tiers, with the impact most noticeable at the highest price tier. Note that the sharp deceleration in year-over-year growth means that most markets have experienced declines since the mid-2022 peak.

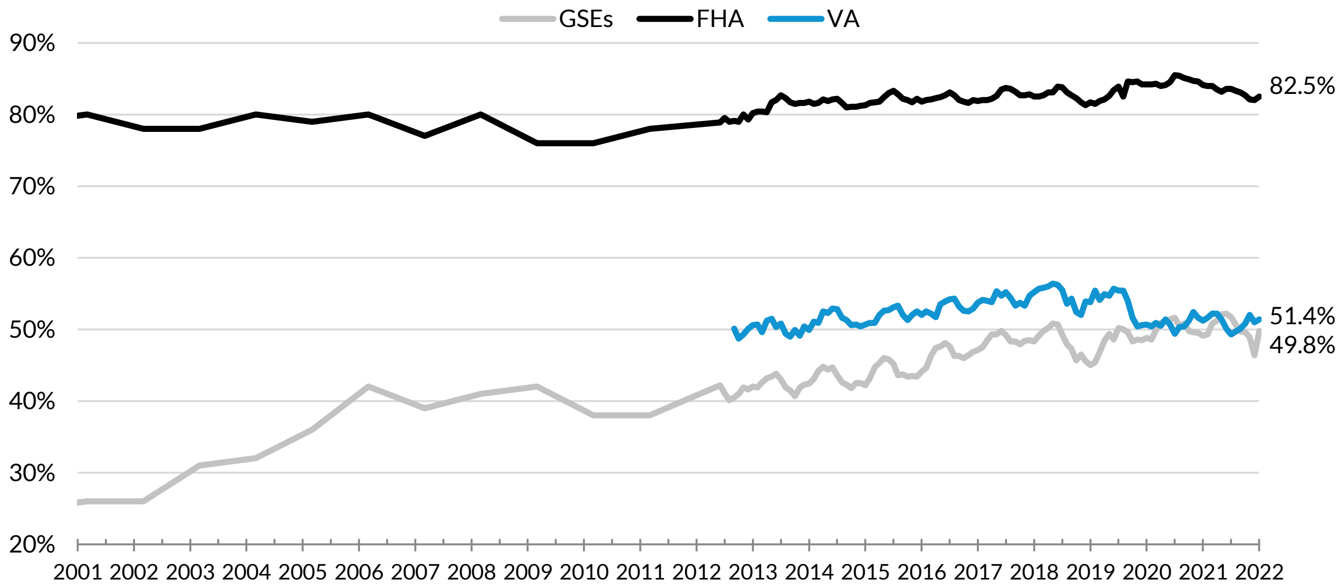


Sources: Black Knight and Urban Institute. **Note:** Black Knight modified the methodology behind their HPI in February 2021, resulting in changes to historic price estimates. Data as of November 2022.

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In November 2022, the FTHB share for FHA, which has always been more focused on first time homebuyers, was 82.5 percent. The FTHB share of GSE lending in November was 49.8 percent; the VA share was 51.4 percent. The bottom table shows that based on mortgages originated in November 2022, the average FTHB was more likely than an average repeat buyer to take out a smaller loan, have a lower credit score, and have a higher LTV, thus paying a higher interest rate.



November 2022

Sources: eMBS, Federal Housing Administration (FHA), and Urban Institute.
Note: All series measure the first-time homebuyer share of purchase loans for principal residences.

Comparison of First-Time and Repeat Homebuyers, GSE and FHA Originations

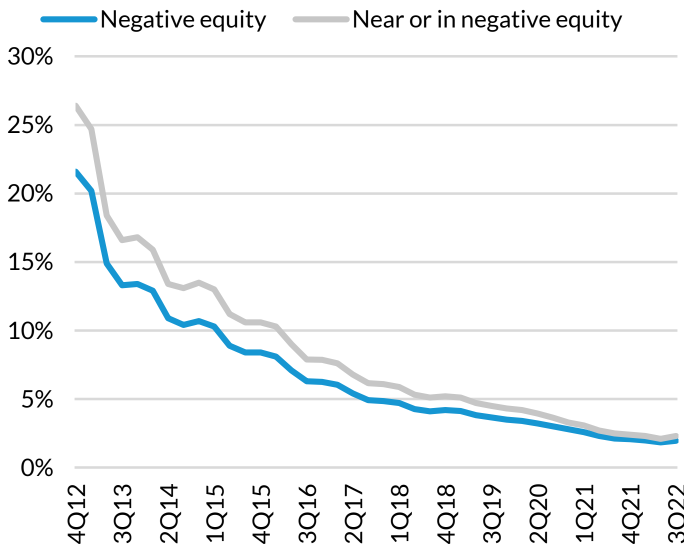
	GSEs		FHA		GSEs and FHA	
Characteristics	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount ($)	323,448	339,301	287,902	302,384	314,093	343,777
Credit Score	746	757	673	670	714	742
LTV (%)	86	76	95	92	90	81
DTI (%)	37	38	45	46	40	40
Loan Rate (%)	5.49	5.44	5.41	5.34	5.43	5.37

Sources: eMBS and Urban Institute.
Note: Based on owner-occupied purchase mortgages originated in November 2022.

DELINQUENCIES AND LOSS MITIGATION ACTIVITY

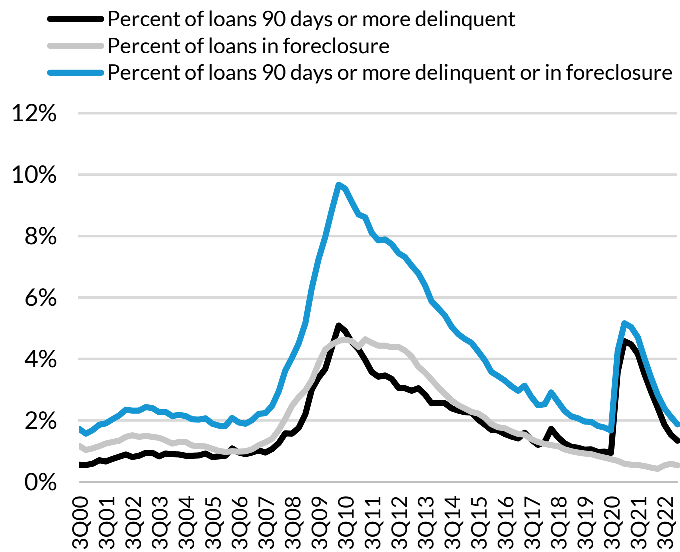
Loans in and near negative equity increased marginally in Q3 2022; 1.95 percent now have negative equity, an additional 0.31 percent have less then 5 percent equity. The share of loans that are 90 days or more delinquent or in foreclosure declined by 25 basis points, from 2.12 percent in Q2 2022 to 1.87 percent in Q3 2022, nearing the pre-pandemic level of 1.67 percent. This number includes loans where borrowers have missed their payments, including loans in COVID-19 forbearance. The bottom chart shows the share of loans in forbearance according to the MBA Weekly Forbearance and Call Volume Survey, launched in March 2020. After peaking at 8.55 percent in early June 2020, the total forbearance rate has declined to 2.06 percent as of October 31st, 2021, the final week of the call survey. The MBA has since moved to conducting a monthly survey with the most recent forbearance rate remaining at 0.70% as of December 31, 2022. GSE loans have consistently had the lowest forbearance rates, standing at 0.31 percent at the end of December. The most recent forbearance rate for other (e.g., portfolio and PLS) loans was 1.00 percent; Ginnie Mae loans had the highest forbearance rate at 1.45 percent.

Negative Equity Share



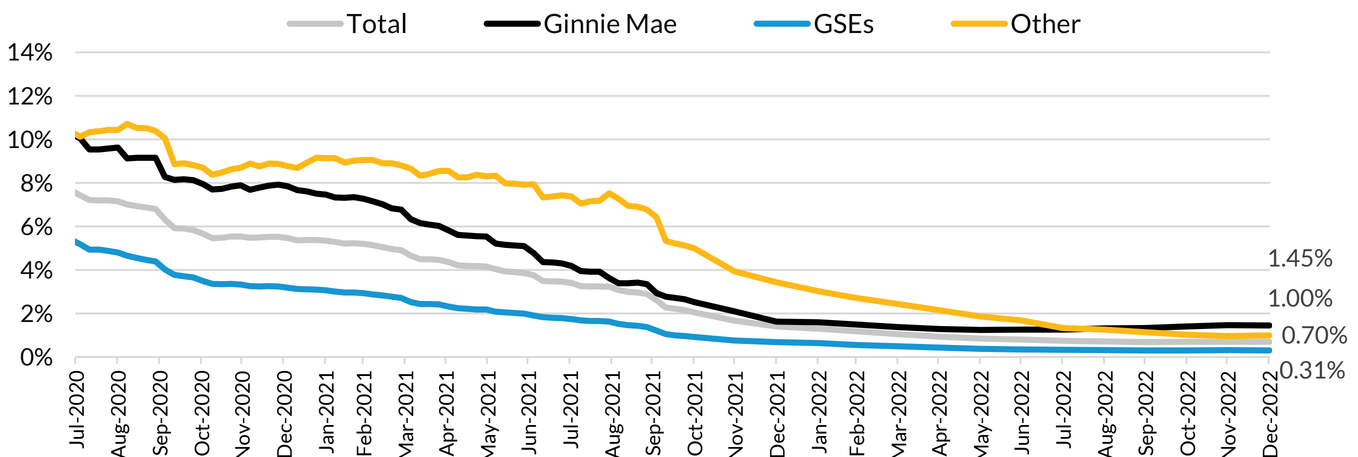
Sources: CoreLogic and Urban Institute.
Note: Loans with negative equity refer to loans above 100 percent LTV. Loans near negative equity refer to loans above 95 percent LTV. *Last updated December 2022.*

Loans in Serious Delinquency/Foreclosure



Sources: Mortgage Bankers Association and Urban Institute. *Last updated November 2022.*

Forbearance Rates by Channel

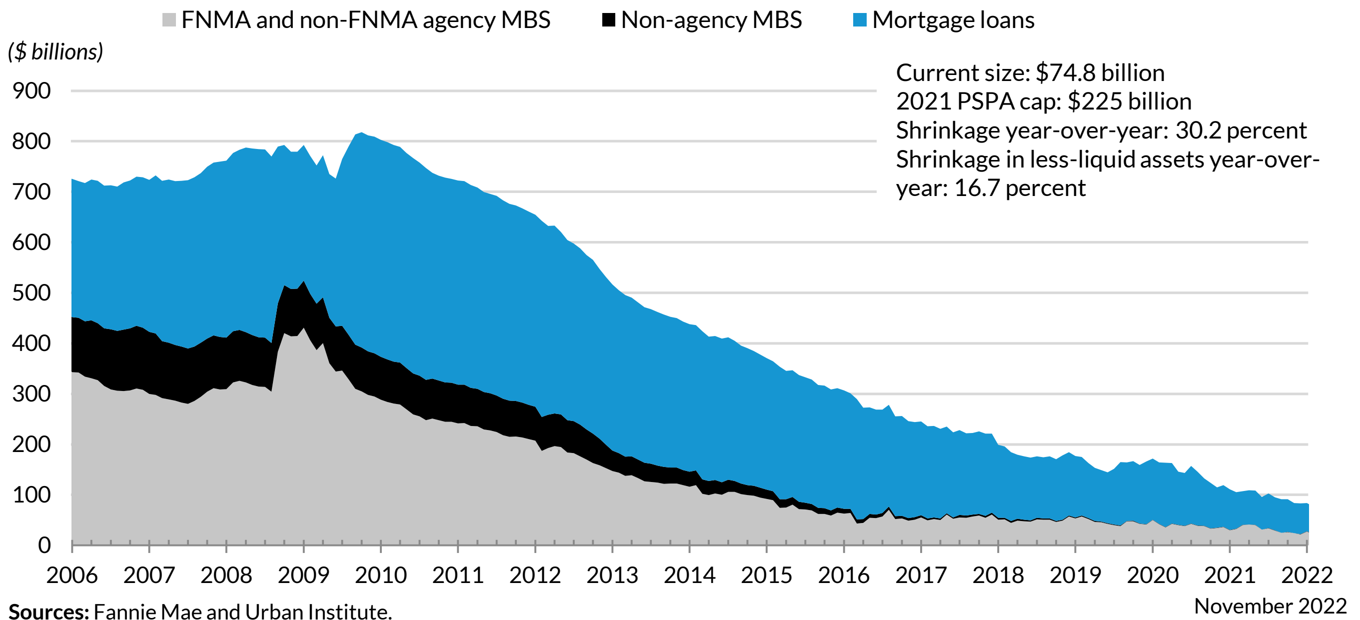


Source: MBA Weekly Forbearance and Call Volume Survey. *Forbearance rates as of November 30th, 2022.*

GSE PORTFOLIO WIND-DOWN

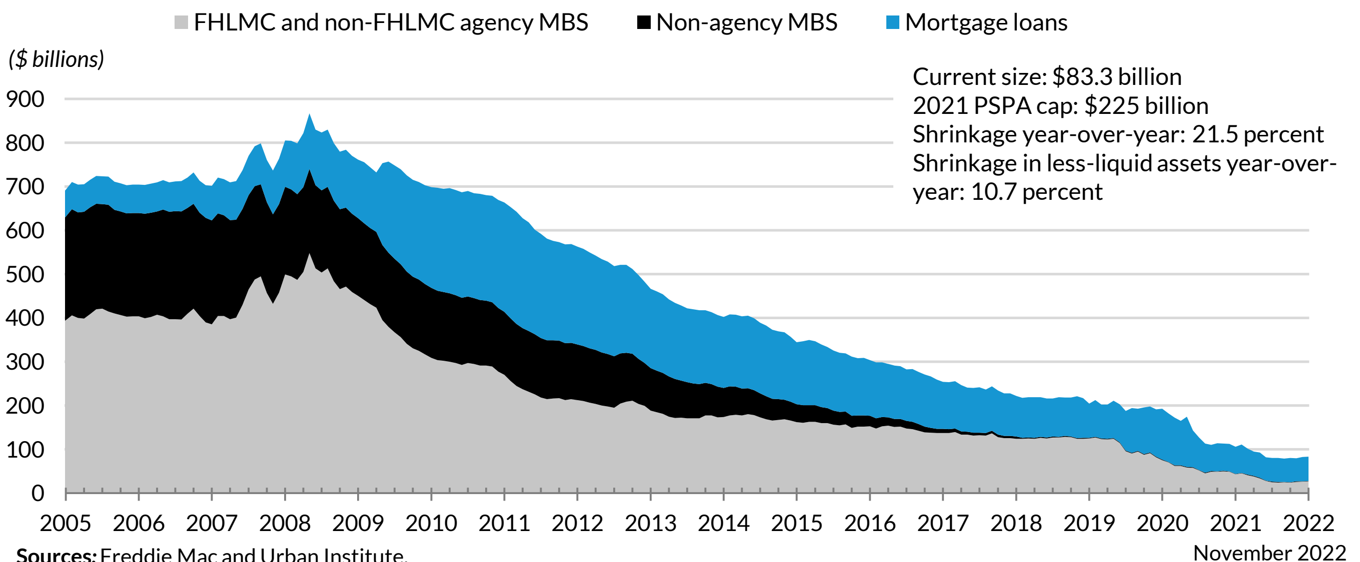
The Fannie Mae and Freddie Mac portfolios remain well below the $225 billion cap mandated in January 2021 by the new Preferred Stock Purchase Agreements (PSPAs). From November 2021 to November 2022, the Fannie portfolio contracted year-over-year by 30.2 percent, and the Freddie portfolio contracted by 21.5 percent. Within the portfolio, both Fannie Mae and Freddie Mac contracted their less-liquid assets (mortgage loans, non-agency MBS), by 16.7 percent and 10.7 percent, respectively, over the same 12 month period.

Fannie Mae Mortgage-Related Investment Portfolio Composition



Sources: Fannie Mae and Urban Institute.

Freddie Mac Mortgage-Related Investment Portfolio Composition



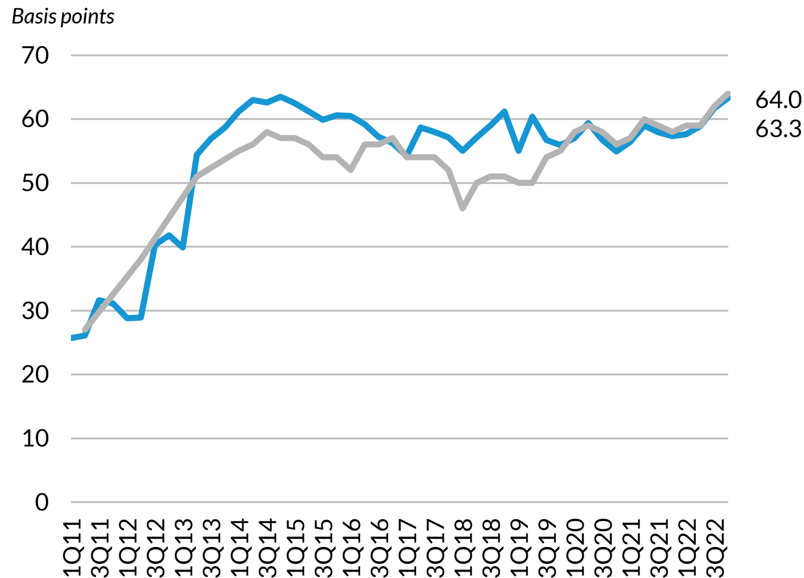
Sources: Freddie Mac and Urban Institute.

Note: Effective March 2021, Freddie Mac doesn't provide FHLMC/non-FHLMC breakout of agency MBS. The above charts were updated in May 2021 to reflect this.

EFFECTIVE GUARANTEE FEES

Guarantee Fees Charged on New Acquisitions

Fannie Mae and Freddie Mac's average g-fees charged have largely converged since the first quarter of 2020. Fannie Mae's average g-fees charged on new acquisitions increased from 61.7 bps in Q2 2022 to 63.3 bps in Q3 2022. Freddie's increased from 62.0 in Q2 2022 to 64.0 percent in Q3 2022. The gap between the two g-fees was 0.7 bps in Q3 2022. Today's g-fees are markedly higher than g-fee levels in 2011 and 2012, and have contributed to the GSEs' earnings; the bottom table shows Fannie Mae LLPAs, which are expressed as upfront charges. In October 2022, the GSEs announced the elimination of LLPAs for loans to FTHB's earning up to the AMI, affordable mortgage products such as Home Possible and Home Ready, and for loans supporting the Duty to Serve program. In January 2023, the GSEs released an updated LLPA Adjustment Matrix, effective May 1, 2023.



Sources: Fannie Mae, Freddie Mae and Urban Institute.
Last updated November 2022.

Fannie Mae Upfront Loan-Level Price Adjustments (LLPAs)

	LTV (%)								
Credit Score	≤60	30.01 – 60	60.01 – 70	70.01 – 75	75.01 – 80	80.01 – 85	85.01 – 90	90.01 – 95	>95
> 779	0.00	0.00	0.00	0.50	0.375	0.375	0.250	0.250	0.125
760 – 779	0.00	0.00	0.00	0.250	0.625	0.625	0.500	0.500	0.250
740 – 759	0.00	0.00	0.125	0.375	0.875	1.00	0.750	0.625	0.500
720 – 739	0.00	0.00	0.250	0.750	1.25	1.25	1.00	0.875	0.750
700 – 719	0.00	0.00	0.375	0.875	1.375	1.50	1.25	1.125	0.875
680 – 699	0.00	0.00	0.625	1.125	1.750	1.875	1.50	1.375	1.125
660 – 679	0.00	0.00	0.750	1.375	1.875	2.125	1.75	1.625	1.25
640 – 679	0.00	0.00	1.125	1.50	2.25	2.50	2.00	1.875	1.50
< 640	0.00	0.125	1.50	2.125	2.75	2.875	2.625	2.25	1.75

Effective 5/1/2023

Sources: Fannie Mae and Urban Institute.
Last updated January of 2023.

GSE RISK-SHARING TRANSACTIONS

Fannie Mae and Freddie Mac have been laying off back-end credit risk through CAS/STACR and reinsurance transactions and front-end risk via originators, reinsurers and mortgage insurers. Historically, the GSEs have transferred majority of their credit risk to private markets. Fannie Mae's CAS issuances since inception total $2.12 trillion; Freddie's STACR totals $2.62 trillion. After the COVID-19 spread widening in March 2020, and the reproposed capital rules released by FHFA shortly thereafter, Fannie Mae did not issue any deals from Mar 2020 to Sep 2021, while Freddie Mac continued to issue. With the changes in the final Capital Rule more CRT friendly, and more positive attitude toward CRT at FHFA, Fannie resumed CAS issuance in October 2021.

Fannie Mae – Connecticut Avenue Securities (CAS)

Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
2013	CAS 2013 deals	$26,756	$675	2.5
2014	CAS 2014 deals	$227,234	$5,849	2.6
2015	CAS 2015 deals	$187,126	$5,463	2.9
2016	CAS 2016 deals	$236,459	$7,392	3.1
2017	CAS 2017 deals	$264,697	$8,707	3.3
2018	CAS 2018 deals	$205,900	$7,314	3.6
2019	CAS 2019 deals	$291,400	$8,071	2.8
2020	CAS 2020 deals	$210,000	$3,130	1.5
2021	CAS 2021 deals	$142,202	$3,095	2.2
January 2022	CAS 2022 – R01	$53,747	$1,506	2.8
February 2022	CAS 2022 – R02	$44,278	$1,241	2.8
March 2022	CAS 2022 – R03	$44,382	$1,242	2.8
April 2022	CAS 2022 – R04	$36,440	$1,142	3.1
May 2022	CAS 2022 – R05	$39,341	$952	2.4
June 2022	CAS 2022 – R06	$25,539	$754	3.0
June 2022	CAS 2022 – R07	$31,176	$866	2.8
August 2022	CAS 2022 – R08	$20,733	$626	3.2
September 2022	CAS 2022 – R09	$29,965	$591	2.0
January 2023	CAS 2023 – R01	$23,101	$731	3.2
Total		**$2,138,476**	**$57,349**	**2.7**

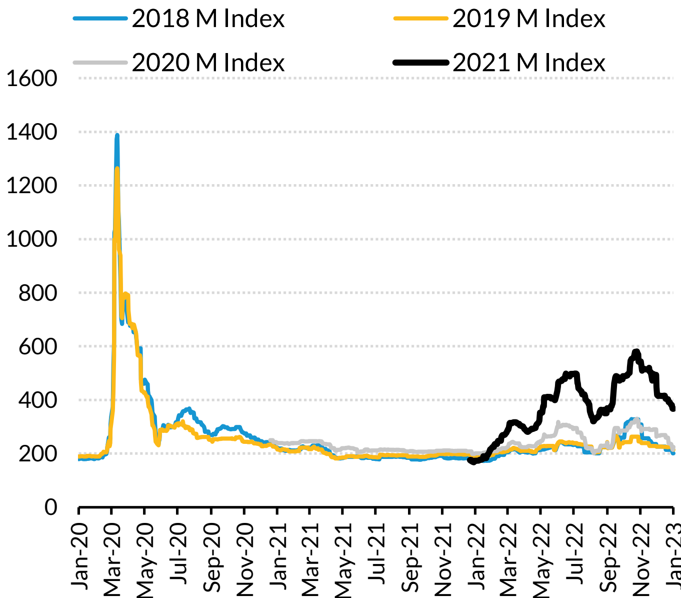
Freddie Mac – Structured Agency Credit Risk (STACR)

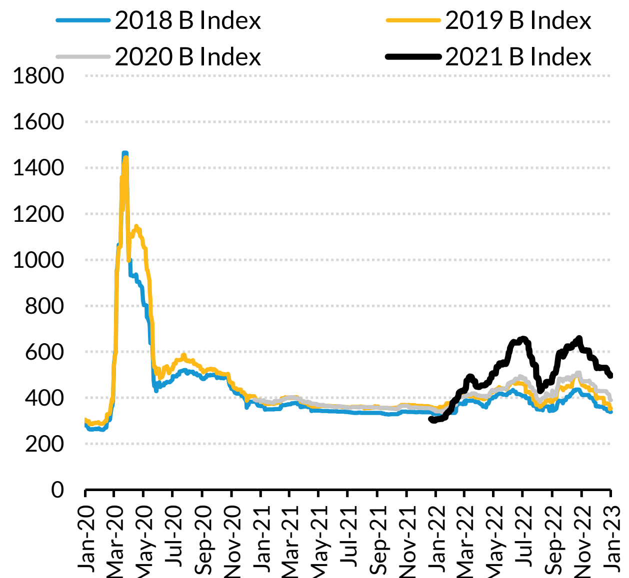
Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
2014	STACR 2014 deals	$147,120	$4,916	3.3
2015	STACR 2015 deals	$209,521	$6,658	3.2
2016	STACR 2016 deals	$183,421	$5,541	2.8
2017	STACR 2017 deals	$248,821	$5,663	2.3
2018	STACR 2018 deals	$216,581	$6,055	2.8
2019	STACR 2019 deals	$271,105	$5,947	2.2
2020	STACR 2020 deals	$403,591	$10,372	2.6
2021	STACR 2021 deals	$574,706	$11,024	1.9
January 2022	STACR Series 2022 – DNA1	$33,573	$1,353	4.0
February 2022	STACR Series 2022 – DNA2	$44,961	$1,919	4.3
March 2022	STACR Series 2022 – HQA1	$45,831	$1,816	4.0
April 2022	STACR Series 2022 – DNA3	$42,886	$1,842	4.3
May 2022	STACR Series 2022 – DNA4	$35,369	$1.519	4.3
June 2022	STACR Series 2022 – DNA5	$33,545	$1,422	4.2
July 2022	STACR Series 2022 – HQA2	$19,741	$627	3.2
August 2022	STACR Series 2022 – HQA3	$15,433	$540	3.5
September 2022	STACR Series 2022 – DNA6	$36,144	$1,165	3.2
October 2022	STACR Series 2022 – DNA7	$20,290	$517	2.6
Total		**$2,660,839**	**$70,026**	**2.6**

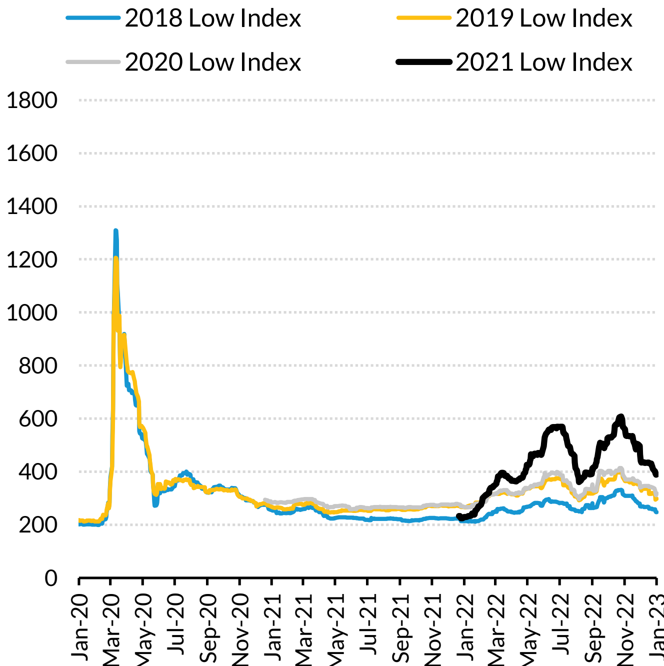
Sources: Fannie Mae, Freddie Mac and Urban Institute. **Note**: Classes A-H, M-1H, M-2H, and B-H are reference tranches only. These classes are not issued or sold. The risk is retained by Fannie Mae and Freddie Mac. "CE" = credit enhancement.

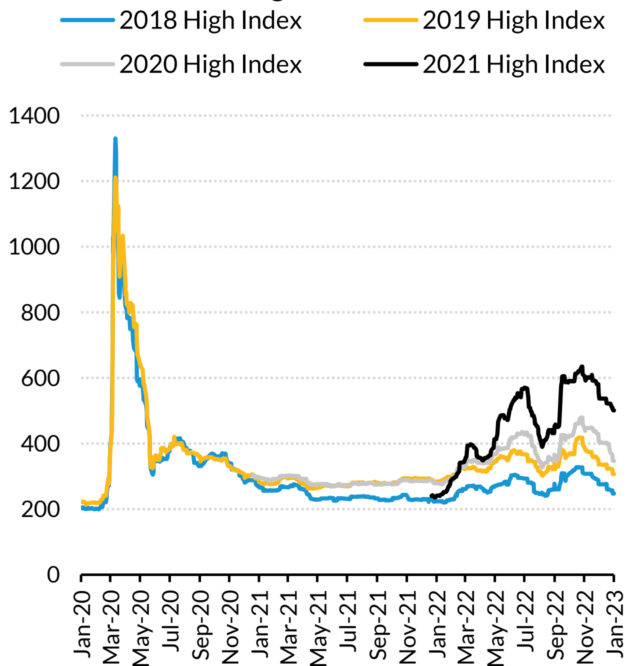
GSE RISK-SHARING INDICES

The figures below show the spreads on 2018, 2019, 2020 and 2021 indices, as priced by dealers. Note the substantial spread widening in March 2020. This reflected expectations of higher defaults and potential credit losses owing to COVID-19, as well as forced selling. Since then, spreads have narrowed significantly. Spreads, while volatile, were generally widening from February through November of 2022. This reflects slower prepayment expectations and longer exposure to default risk in the face of higher rates. The widening is more pronounced for 2021 indices due to less embedded home price appreciation, recent price declines in some market and a growing risk of a recession. However, over the past two months, spreads have declined, reflecting a general strengthening in financial markets. Note that the 2020 and 2021 indices are heavily Freddie Mac as Fannie did not issue any new deals from Q2 2020 to Q4 2021.









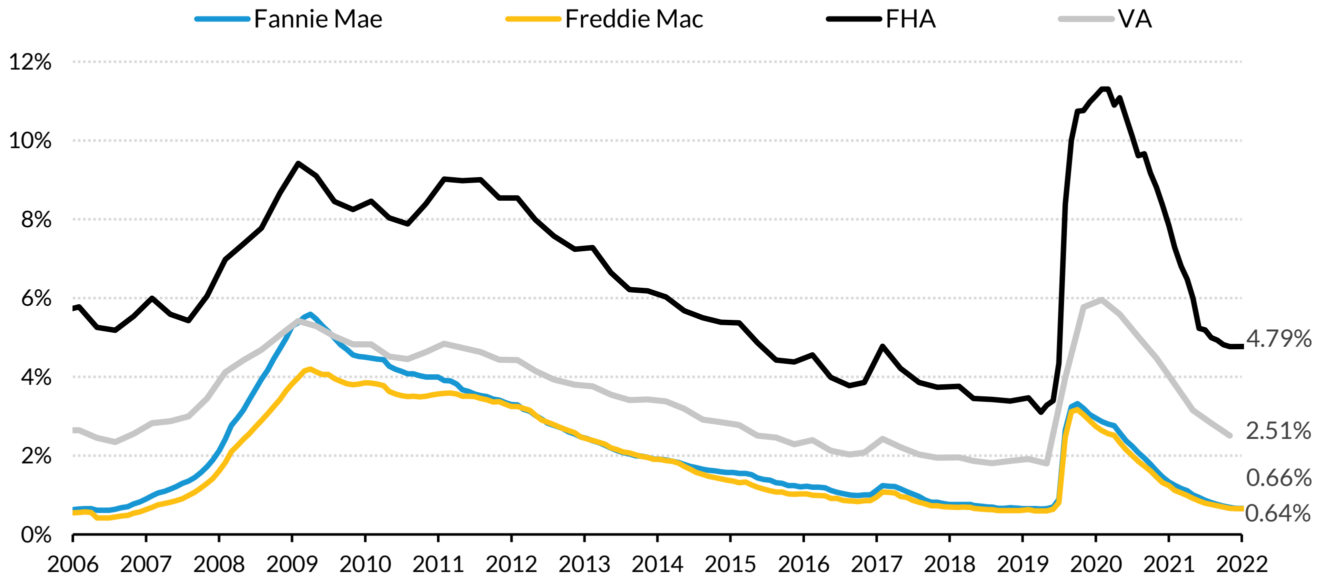
Sources: Vista Data Services and Urban Institute.
Note: Data as of January 13, 2023.

GSES UNDER CONSERVATORSHIP

SERIOUS DELINQUENCY RATES

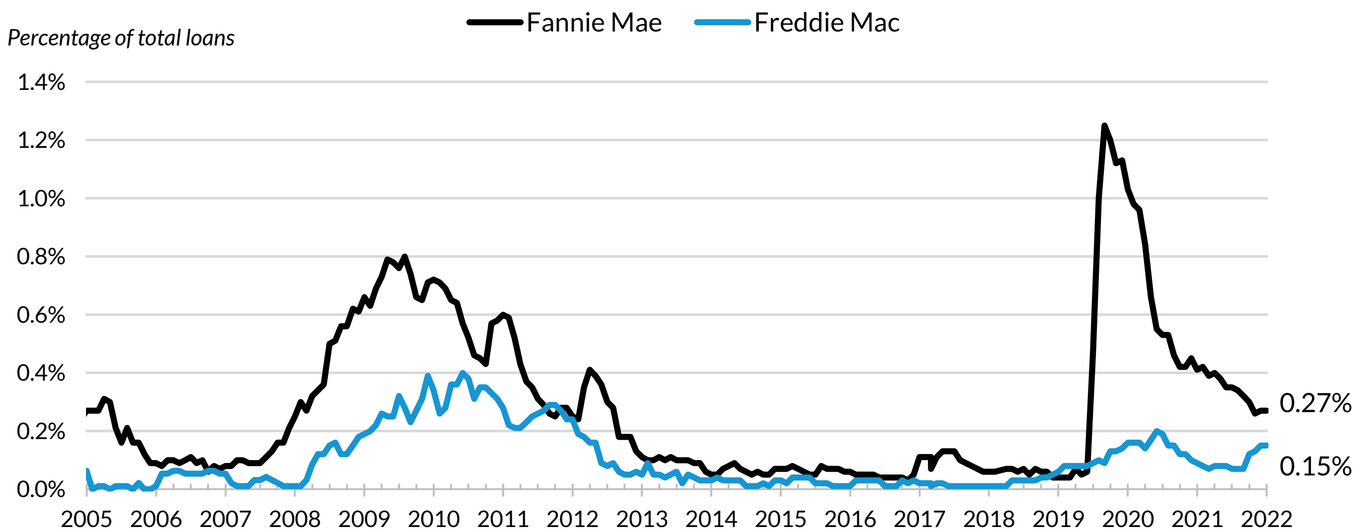
Serious delinquency rates for single-family GSE loans decreased in November 2022, to 0.64 percent for Fannie Mae and remained at 0.66 percent for Freddie Mac. Serious delinquency rates for FHA loans remained roughly flat at 4.79 percent in November 2022. In Q3 2022, VA serious delinquency rates declined to 2.51 percent. Note that loans that are in forbearance are counted as delinquent for the purpose of measuring delinquency rates. Fannie and Freddie multifamily delinquencies in November remained at 0.27 percent, and 0.15 percent, respectively.

Serious Delinquency Rates–Single-Family Loans



Sources: Fannie Mae, Freddie Mac, Federal Housing Administration, MBA Delinquency Survey and Urban Institute.
Note: Serious delinquency is defined as 90 days or more past due or in the foreclosure process. Not seasonally adjusted. VA delinquencies are reported on a quarterly basis, last updated for Q3 2022. GSE and FHA delinquencies are reported monthly, last updated for November 2022.

Serious Delinquency Rates–Multifamily GSE Loans



Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Multifamily serious delinquency rate is the unpaid balance of loans 60 days or more past due, divided by the total unpaid balance.

AGENCY GROSS AND NET ISSUANCE

Agency gross issuance was $1,727.4 billion for full year 2022, a 50.7 percent decrease from full year 2021. This reflects a 72.2 percent decline in refinance activity and a 15.8 percent decline in purchase activity. Net issuance (new securities issued less the decline in outstanding securities due to principal pay-downs or prepayments) totaled $409.3 billion for full year 2022, a 46.0% percent decrease compared to full year 2021.

Agency Gross Issuance

Issuance Year	GSEs	Ginnie Mae	Total
2001	$885.1	$171.5	$1,056.6
2002	$1,238.9	$169.0	$1,407.9
2003	$1,874.9	$213.1	$2,088.0
2004	$872.6	$119.2	$991.9
2005	$894.0	$81.4	$975.3
2006	$853.0	$76.7	$929.7
2007	$1,066.2	$94.9	$1,161.1
2008	$911.4	$267.6	$1,179.0
2009	$1,280.0	$451.3	$1,731.3
2010	$1,003.5	$390.7	$1,394.3
2011	$879.3	$315.3	$1,194.7
2012	$1,288.8	$405.0	$1,693.8
2013	$1,176.6	$393.6	$1,570.1
2014	$650.9	$296.3	$947.2
2015	$845.7	$436.3	$1,282.0
2016	$991.6	$508.2	$1,499.8
2017	$877.3	$455.6	$1,332.9
2018	$795.0	$400.6	$1,195.3
2019	$1,042.6	$508.6	$1,551.2
2020	$2,407.5	$775.4	$3,182.9
2021	$2,650.8	$855.3	$3,506.1
2022	$1,200	$527.4	$1.727.4
2022 % Change Over 2021	-54.7%	-38.3%	-50.7%
2022 Annualized	$1,200.0	$527.4	$1,727.4

Agency Net Issuance

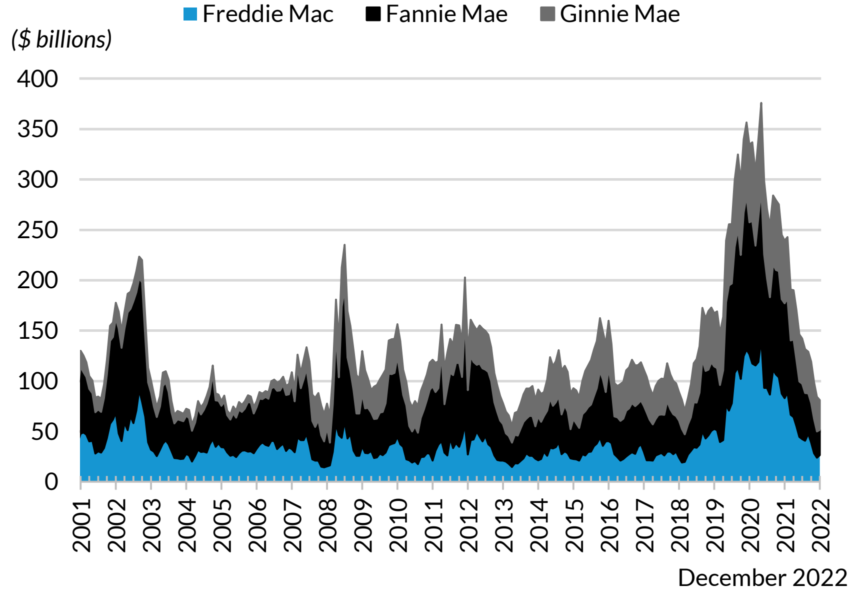
Issuance Year	GSEs	Ginnie Mae	Total
2001	$368.40	-$9.90	$358.50
2002	$357.20	-$51.20	$306.10
2003	$334.90	-$77.60	$257.30
2004	$82.50	-$40.10	$42.40
2005	$174.20	-$42.20	$132.00
2006	$313.60	$0.20	$313.80
2007	$514.90	$30.90	$545.70
2008	$314.80	$196.40	$511.30
2009	$250.60	$257.40	$508.00
2010	-$303.20	$198.30	-$105.00
2011	-$128.40	$149.60	$21.20
2012	-$42.40	$119.10	$76.80
2013	$69.10	$87.90	$157.00
2014	$30.5	$61.6	$92.1
2015	$75.1	$97.3	$172.5
2016	$127.4	$125.8	$253.1
2017	$168.5	$131.3	$299.7
2018	$149.4	$112.0	$261.5
2019	$197.8	$95.7	$293.5
2020	$632.8	$19.9	$652.7
2021	$753.5	$5.6	$759.1
2022	$276.6	$133.3	$409.3
2022 % Change Over 2021	-63.3%	2299.8%	-46.0%
2022 Annualized	$276.6	$133.3	$409.3

Sources: eMBS and Urban Institute.
Note: Dollar amounts are in billions. Data as of December 2022.

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

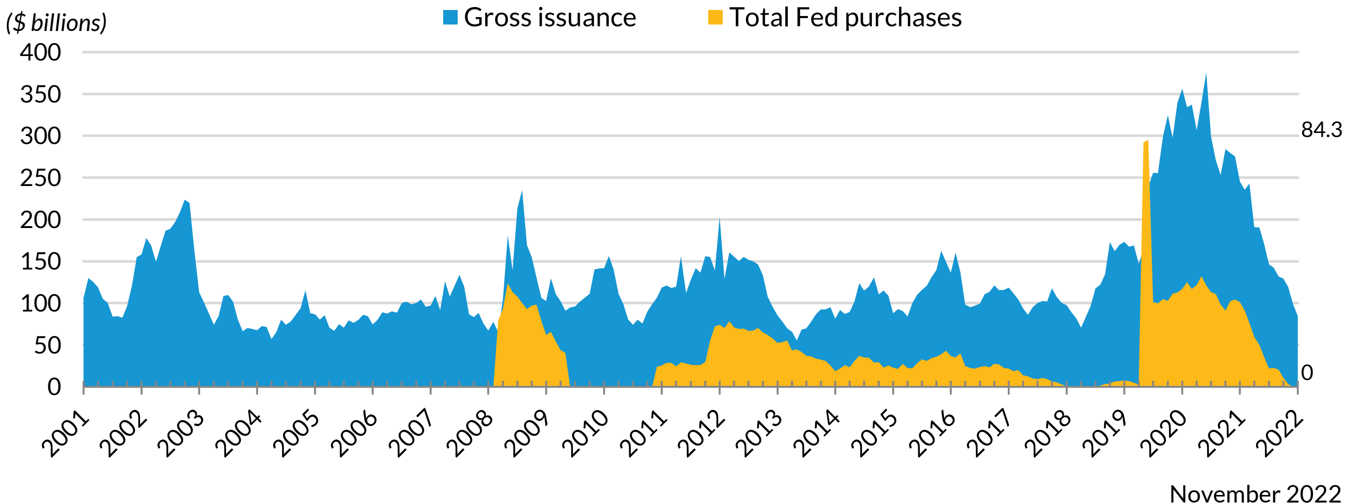
While FHA, VA and GSE lending have dominated the mortgage market since the 2008 housing crisis, there has been a change in the mix. The Ginnie Mae share of new issuances has risen from a pre-crisis level of 10-12 percent to 34.8 percent in February 2020, reflecting gains in both purchase and refinance shares. The Ginnie share then declined to a low of 20.4 percent in November 2020, reflecting the more robust ramp up in GSE refinances relative to Ginnie Mae refinances. As the refi share is currently low, the Ginnie share in December 2022 remains high at 36.5 percent.



Source: eMBS and Urban Institute Calculations

Fed Absorption of Agency Gross Issuance

Agency MBS on the Federal Reserve's balance sheet totaled $2.66 trillion in November 2022. The Fed's purchases of agency MBS dropped to $0 in November 2022, reflecting their policy of allowing paydowns up to $35 billion to run off. Beginning in June 2022, the Fed allowed up to $17.5 billion to run off each month; the cap on runoffs increased to $35 billion per month in September 2022. The Federal Reserve's portfolio was a critical policy tool during the pandemic. In March of 2020, the Fed announced they would buy mortgages in an amount necessary to support smooth functioning markets; March and April of 2020 were the largest two months of mortgage purchases ever. Once the market stabilized, the Fed began to purchase $40 billion net of MBS each month; this buying plus runoff replacements equated to purchases of $100 to $125 billion per month. In November 2021, the Fed began to reduce purchases, with these purchases ending in March 2022.



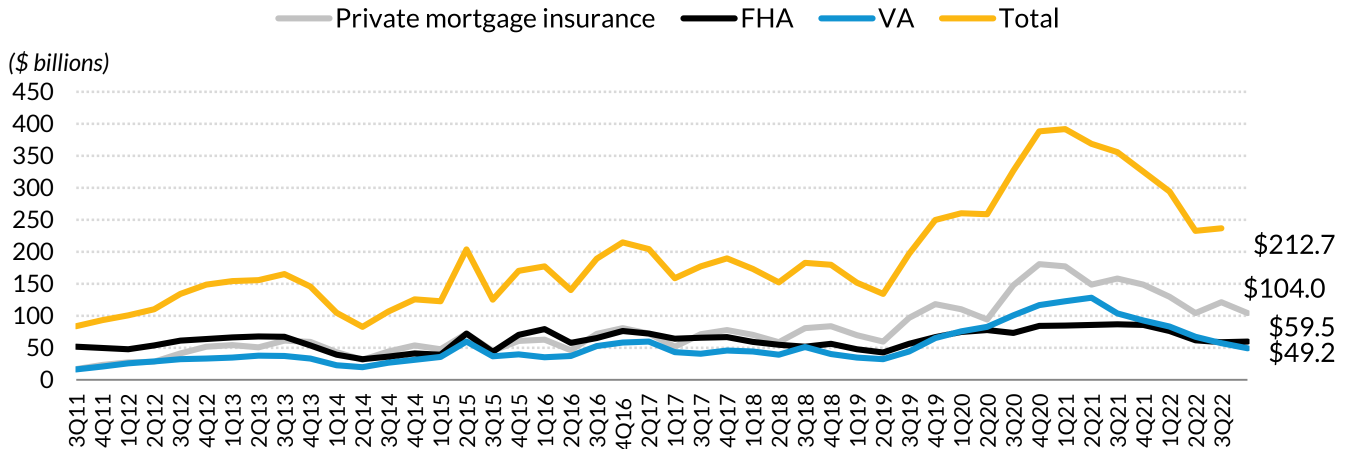
Sources: eMBS, Federal Reserve Bank of New York and Urban Institute.

AGENCY ISSUANCE

MORTGAGE INSURANCE ACTIVITY

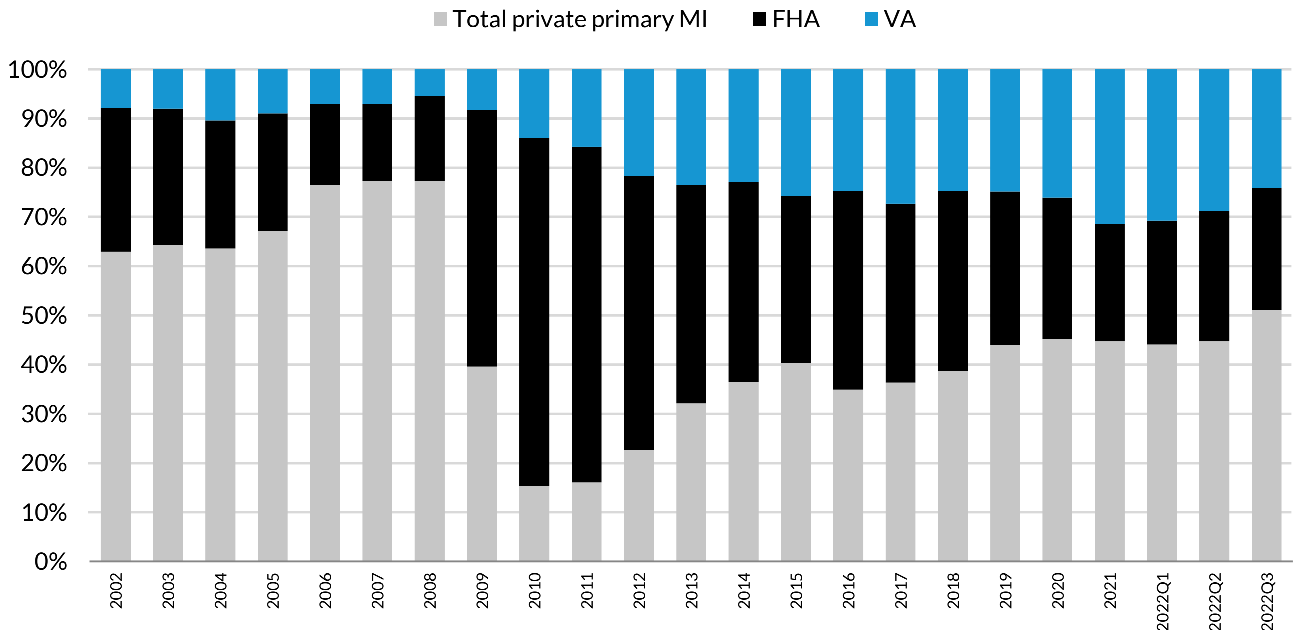
MI Activity

In the third quarter of 2022, private mortgage insurance written decreased by $44.7 billion, FHA decreased by $26.2 billion, and VA decreased by $43.3 billion relative to Q3 2021. Over the same period (i.e. from Q3 2021 to Q3 2022), the private mortgage insurers share increased from 45.5 to 48.9 percent, FHA's share slightly increased from 26.2 to 28.0 percent, and VA's share decreased from 28.3 to 23.1 percent.



Sources: Inside Mortgage Finance and Urban Institute. *Last updated November 2022.*

MI Market Share



Sources: Inside Mortgage Finance and Urban Institute. *Last updated November 2022.*

MORTGAGE INSURANCE ACTIVITY

FHA premiums rose significantly in the years following the housing crash, with annual premiums rising from 50 to 135 basis points between 2008 to 2013 as FHA worked to shore up its finances. In January 2015, President Obama announced a 50 bps cut in annual insurance premiums, making FHA mortgages more attractive than GSE mortgages for the overwhelming majority of borrowers putting down less than 5%. The April 2016 reduction in PMI rates for borrowers with higher FICO scores and April 2018 reduction for lower FICO borrowers had partially offset that. Between January 2021 and January 2022, PMMS rates nearly doubled from 3.56 percent to 6.15 percent as of January 24, 2022. As shown in the bottom table, a borrower putting 3.5 percent down with a FICO score less than 720 will currently find FHA financing to be more financially attractive, borrowers with FICOs of 720 and above will find GSE execution with PMI to be more attractive.

FHA MI Premiums for Typical Purchase Loan

Case number date	Upfront mortgage insurance premium (UFMIP) paid	Annual mortgage insurance premium (MIP)
1/1/2001 - 7/13/2008	150	50
7/14/2008 - 4/5/2010*	175	55
4/5/2010 - 10/3/2010	225	55
10/4/2010 - 4/17/2011	100	90
4/18/2011 - 4/8/2012	100	115
4/9/2012 - 6/10/2012	175	125
6/11/2012 - 3/31/2013[a]	175	125
4/1/2013 – 1/25/2015[b]	175	135
Beginning 1/26/2015[c]	175	85

Sources: Ginnie Mae and Urban Institute.
Note: A typical purchase loan has an LTV over 95 and a loan term longer than 15 years. Mortgage insurance premiums are listed in basis points.
* For a short period in 2008 the FHA used a risk based FICO/LTV matrix for MI.
[a] Applies to purchase loans less than or equal to $625,500. Those over that amount have an annual premium of 150 bps.
[b] Applies to purchase loans less than or equal to $625,500. Those over that amount have an annual premium of 155 bps.
[c] Applies to purchase loans less than or equal to $625,500. Those over that amount have an annual premium of 105 bps.

Initial Monthly Payment Comparison: FHA vs. PMI

Assumptions	
Property Value	$300,000
Loan Amount	$289,500
LTV	96.5
Base Rate	
Conforming	6.33
FHA	6.40

FICO	620 - 639	640 - 659	660 - 679	680 - 699	700 - 719	720 - 739	740 - 759	760 +
FHA MI Premiums								
FHA UFMIP	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
FHA MIP	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
PMI								
GSE LLPA*	3.50	2.75	2.25	1.50	1.50	1.00	0.75	0.75
PMI Annual MIP	1.86	1.65	1.54	1.21	0.99	0.87	0.70	0.58
Monthly Payment								
FHA	$2,021	$2,021	$2,021	$2,021	$2,021	$2,021	$2,021	$2,021
PMI	$2,346	$2,266	$2,220	$2,112	$2,059	$2,011	$1,961	$1,932
PMI Advantage	-$325	-$245	-$199	-$91	-$38	$10	$60	$89

Sources: Enact Mortgage Insurance, Ginnie Mae, and Urban Institute. FHA rate from MBA Weekly Applications Survey. Conforming rate from Freddie Mac Primary Mortgage Market Survey.
Note: Rates as of January 24, 2022.
Mortgage insurance premiums listed in percentage points. Grey shade indicates FHA monthly payment is more favorable, while blue indicates PMI is more favorable. The PMI monthly payment calculation does not include special programs like Fannie Mae's HomeReady and Freddie Mac's Home Possible (HP), both offer more favorable rates for low- to moderate-income borrowers.
LLPA= Loan Level Price Adjustment, described in detail on page 25.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

FANNIE MAE COMPOSITION

Since 2008, the composition of loans purchased by Fannie Mae has shifted towards borrowers with higher FICO scores. For example, 62.7 percent of loans originated from 2018 to Q2 2022 were for borrowers with FICO scores above 750, compared to 44.2 percent of borrowers from 2005-2008 and 36.7 percent from 1999-2004.

Balance on 30-year, Fixed-rate, Full-doc, Amortizing Loans

Origination Year	Origination FICO	LTV				Total
		≤70	70 to 80	80 to 90	>90	
1999-2004	≤700	9.3%	15.0%	4.5%	4.5%	33.3%
	700 to 750	9.2%	14.2%	3.4%	3.2%	30.0%
	>750	15.6%	16.1%	2.7%	2.3%	36.7%
	Total	34.0%	45.3%	10.7%	10.0%	100.0%
2005-2008	≤700	10.6%	13.1%	3.8%	2.4%	29.8%
	700 to 750	8.4%	12.7%	3.0%	1.8%	26.0%
	>750	16.9%	21.4%	3.6%	2.2%	44.2%
	Total	36.0%	47.2%	10.4%	6.5%	100.0%
2009-2010	≤700	3.6%	2.9%	0.3%	0.2%	6.9%
	700 to 750	8.2%	10.8%	1.7%	0.8%	21.5%
	>750	32.3%	33.5%	4.0%	1.7%	71.6%
	Total	44.1%	47.2%	6.0%	2.7%	100.0%
2011-2017	≤700	3.5%	5.0%	1.3%	2.1%	12.0%
	700 to 750	5.6%	10.0%	3.2%	5.0%	23.8%
	>750	20.1%	28.0%	7.4%	8.8%	64.2%
	Total	29.2%	42.9%	12.0%	15.9%	100.0%
2018-2Q22	≤700	4.3%	3.9%	1.4%	2.3%	11.8%
	700 to 750	6.8%	8.9%	3.6%	6.2%	25.5%
	>750	23.4%	22.4%	7.5%	9.4%	62.7%
	Total	34.5%	35.2%	12.4%	18.0%	100.0%
Total		33.9%	41.2%	11.3%	13.7%	100.0%

Sources: Fannie Mae and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q2 2022. The percentages are weighted by origination balance. The analysis included only mortgages with original terms of 241-420 months.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

FANNIE MAE DEFAULT RATE

While the composition of Fannie Mae loans originated from 2005-2008 were similar to that of 2004 and earlier vintage years, 2005-2008 loans experienced a much higher default rate due to the sharp drop in home values in the Great Recession. Post-2009 originations have pristine credit characteristics and a more favorable home price environment, contributing to very low default rates. Even so, delinquencies on new origination, which jumped in 2020 and 2021 due to COVID-19, have declined meaningfully.

Default Rate on 30-year, Fixed-rate, Full-doc, Amortizing Loans

Origination Year	Origination FICO	LTV				Total
		≤70	70 to 80	80 to 90	>90	
1999-2004	≤700	4.0%	4.9%	6.5%	7.4%	5.2%
	700 to 750	1.3%	2.0%	3.1%	3.2%	2.1%
	>750	0.5%	0.9%	1.6%	1.8%	0.8%
	Total	1.7%	2.6%	4.2%	4.8%	2.7%
2005-2008	≤700	17.8%	22.0%	28.3%	28.7%	21.9%
	700 to 750	7.5%	11.8%	16.7%	16.1%	11.3%
	>750	2.3%	4.7%	8.7%	9.2%	4.3%
	Total	8.1%	11.4%	18.1%	18.5%	11.4%
2009-2011	≤700	5.3%	6.9%	6.5%	7.6%	6.0%
	700 to 750	1.6%	2.7%	3.2%	3.8%	2.4%
	>750	0.4%	0.9%	1.4%	1.8%	0.7%
	Total	1.0%	1.7%	2.1%	2.8%	1.4%
2011-2017	≤700	5.1%	5.7%	6.6%	8.7%	6.2%
	700 to 750	2.3%	2.6%	2.9%	3.9%	2.8%
	>750	0.8%	0.9%	1.1%	1.6%	1.0%
	Total	1.6%	1.9%	2.2%	3.3%	2.0%
2018-2Q22	≤700	2.6%	3.7%	4.5%	6.5%	3.9%
	700 to 750	1.2%	1.7%	2.3%	3.1%	2.0%
	>750	0.4%	0.6%	0.9%	1.3%	0.7%
	Total	0.8%	1.2%	1.7%	2.6%	1.4%
Total		1.9%	2.8%	3.7%	3.8%	2.7%

Sources: Fannie Mae and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q2 2022, with performance information on these loans also through Q2 2022. Default is defined as more than six months delinquent or disposed of via short sales, third-party sales, deeds-in-lieu of foreclosure, or real estate owned (REO acquisitions). The analysis included only mortgages with original terms of 241-420 months.

FREDDIE MAC COMPOSITION

Since 2008, the composition of loans purchased by Freddie Mac has shifted towards borrowers with higher FICO scores. For example, 59.1 percent of loans originated from 2018 to Q1 2022 were for borrowers with FICO scores above 750, compared to 42.0 percent of borrowers from 2005-2008 and 34.2 percent from 1999-2004.

Balance on 30-year, Fixed-rate, Full-doc, Amortizing Loans

Origination Year	Origination FICO	LTV				Total
		≤70	70 to 80	80 to 90	>90	
1999-2004	≤700	8.7%	16.7%	4.5%	4.5%	34.3%
	700 to 750	9.9%	16.1%	2.8%	2.6%	31.5%
	>750	15.1%	15.7%	1.9%	1.5%	34.2%
	Total	33.7%	48.5%	9.2%	8.5%	100.0%
2005-2008	≤700	9.5%	14.0%	3.3%	3.1%	29.9%
	700 to 750	9.0%	14.5%	2.5%	2.0%	28.1%
	>750	17.6%	19.8%	2.7%	1.9%	42.0%
	Total	36.1%	48.3%	8.5%	7.1%	100.0%
2009-2010	≤700	3.8%	3.2%	0.3%	0.2%	7.6%
	700 to 750	9.3%	11.8%	1.7%	0.9%	23.7%
	>750	32.8%	31.0%	3.6%	1.4%	68.8%
	Total	46.0%	46.0%	5.5%	2.5%	100.0%
2011-2017	≤700	3.9%	5.0%	1.5%	2.0%	12.4%
	700 to 750	6.9%	12.2%	3.6%	5.3%	28.0%
	>750	18.5%	26.8%	6.6%	7.7%	59.6%
	Total	29.3%	44.0%	11.6%	15.1%	100.0%
2018-1Q22	≤700	5.2%	4.1%	1.5%	1.9%	12.7%
	700 to 750	8.2%	10.2%	4.1%	5.7%	28.2%
	>750	20.8%	22.2%	7.7%	8.4%	59.1%
	Total	34.2%	36.5%	13.3%	16.0%	100.0%
Total		34.2%	42.4%	11.0%	12.4%	100.0%

Sources: Freddie Mac and Urban Institute.
Note: Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q1 2022. The percentages are weighted by origination balance. The analysis included only mortgages with original terms of 241-420 months.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

FREDDIE MAC DEFAULT RATE

While the composition of Freddie Mac loans originated from 2005-2008 were similar to that of 2004 and earlier vintage years, 2005-2008 loans experienced a much higher default rate due to the sharp drop in home values in the recession. 2009 and later originations have pristine credit characteristics and a more favorable home price environment, contributing to very low default rates. Even so, delinquencies on new origination, which jumped in 2020 and 2021 due to COVID-19, have declined meaningfully.

Default Rate on 30-year, Fixed-rate, Full-doc, Amortizing Loans

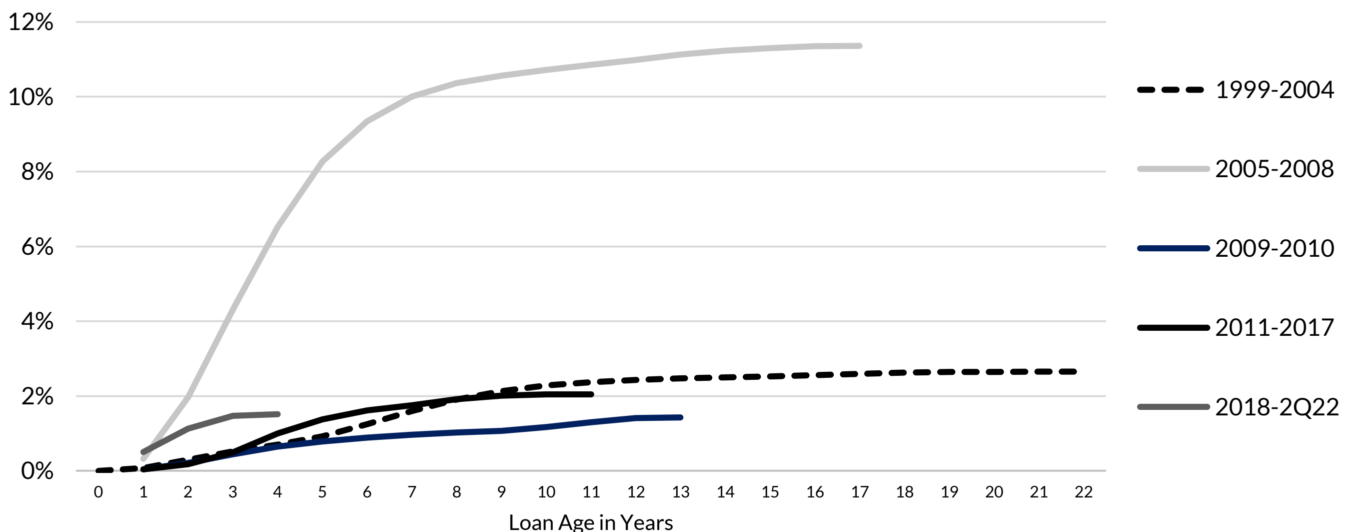
Origination Year	Origination FICO	LTV				Total
		≤70	70 to 80	80 to 90	>90	
1999-2004	≤700	3.4%	4.7%	7.0%	7.4%	5.0%
	700 to 750	1.2%	1.9%	3.1%	3.2%	1.9%
	>750	0.4%	0.9%	1.7%	2.1%	0.8%
	Total	1.4%	2.5%	4.7%	5.2%	2.6%
2005-2008	≤700	15.5%	20.5%	25.6%	27.7%	20.2%
	700 to 750	6.8%	11.5%	15.4%	15.6%	10.6%
	>750	2.2%	5.1%	8.1%	9.3%	4.3%
	Total	6.9%	11.5%	17.1%	19.2%	10.8%
2009-2011	≤700	4.7%	6.5%	6.3%	6.6%	5.6%
	700 to 750	1.4%	2.6%	2.8%	3.4%	2.2%
	>750	0.4%	0.9%	1.3%	1.5%	0.7%
	Total	0.9%	1.7%	2.0%	2.7%	1.4%
2011-2017	≤700	4.8%	5.1%	6.0%	7.3%	5.5%
	700 to 750	2.4%	2.6%	2.9%	3.7%	2.8%
	>750	0.9%	1.0%	1.3%	1.7%	1.1%
	Total	1.8%	1.9%	2.4%	3.2%	2.1%
2018-1Q22	≤700	1.8%	2.8%	3.6%	4.8%	2.8%
	700 to 750	0.9%	1.4%	1.8%	2.5%	1.5%
	>750	0.3%	0.6%	0.7%	1.2%	0.6%
	Total	0.7%	1.1%	1.4%	2.1%	1.1%
Total		1.8%	3.0%	3.6%	4.0%	2.8%

Sources: Freddie Mae and Urban Institute.
Note: Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q1 2022, with performance information on these bans through Q1 2022. Default is defined as six months delinquent or disposed of via short sales, third-party sales, deeds-in-lieu of foreclosure, or real estate owned (REO acquisitions). The analysis included only mortgages with original terms of 241-420 months.

DEFAULT RATE BY VINTAGE

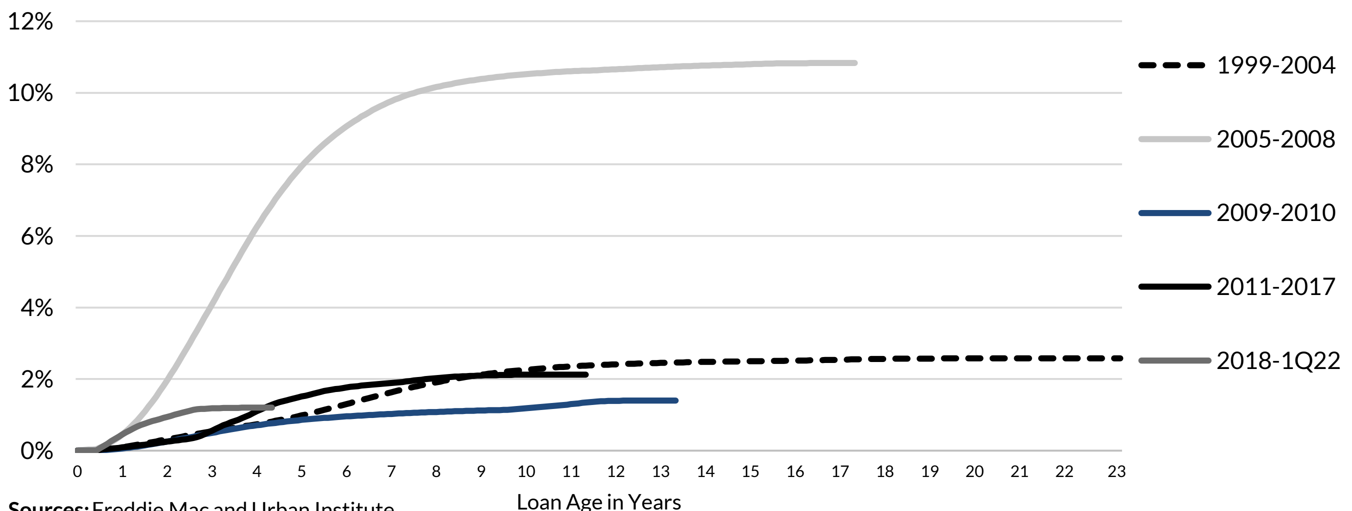
As a result of pristine books of business and a strong housing market, the effect of COVID-19 on GSE delinquencies is a fraction of what it was in the Great Financial Crisis. These charts show cumulative D180 (default) rates as of the end of Q2 2022 for Fannie and Q1 2022 for Freddie. For Fannie Mae and Freddie Mac's 1999-2004 vintages, cumulative defaults total around 2.6 to 2.7 percent, while cumulative defaults for the 2005-2008 vintages are around 10.8 percent for Freddie originations and 11.4 percent for Fannie originations. While the D180+ rate for the 2018 and later originations are running above 1999-2003 levels, most of these loans have successfully exited COVID-19 forbearance. Relatively few of these D180 borrowers have landed in foreclosure. Given the array of options available for borrowers existing forbearance, we expect relatively few of these D180+ borrowers will land in foreclosure.

Fannie Mae Cumulative Default Rate by Vintage Year



Sources: Fannie Mae and Urban Institute.
Note: The analysis included only mortgages with original terms of 241-420 months. A default is defined as a delinquency of 180 days or more, a deed-in-lieu, short sale, foreclosure sale or REO sale.

Freddie Mac Cumulative Default Rate by Vintage Year

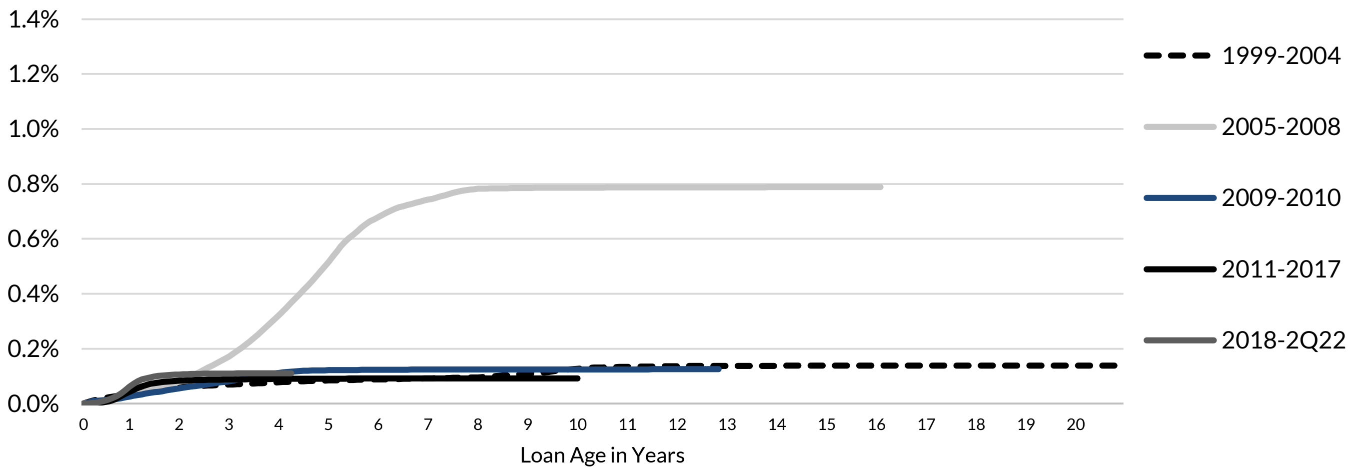


Sources: Freddie Mac and Urban Institute.
Note: The analysis included only mortgages with original terms of 241-420 months. A default is defined as a delinquency of 180 days or more, a deed-in-lieu, short sale, foreclosure sale or REO sale.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA
REPURCHASE RATE BY VINTAGE

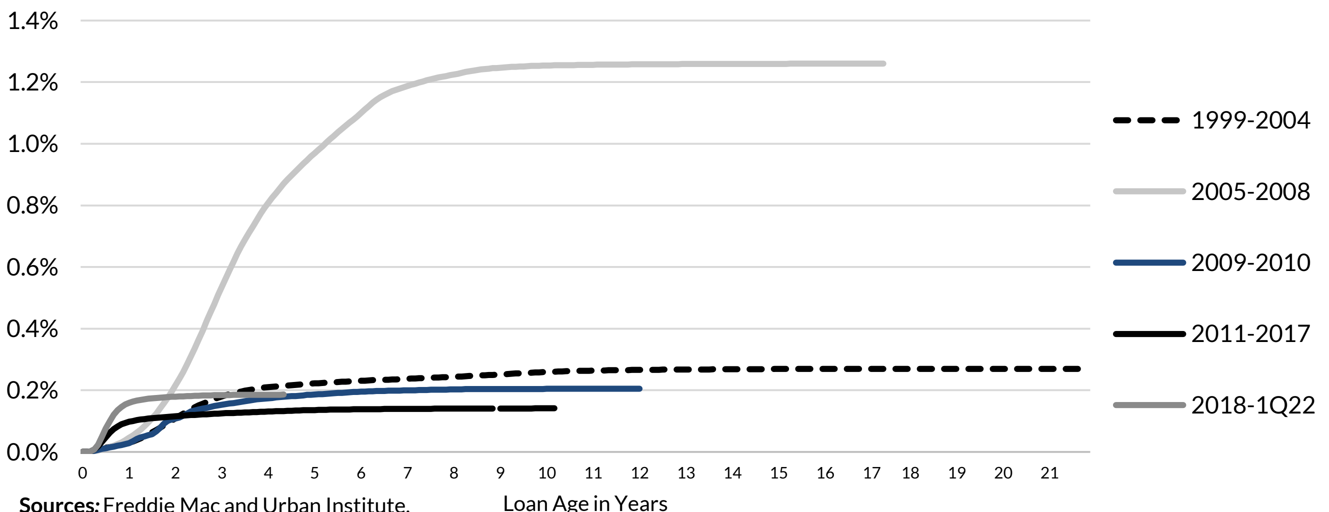
These figures show the cumulative percentage of fixed-rate, full documentation, amortizing 30-year loans of a given vintage that Fannie and Freddie have put back to lenders due to reps and warrants violations. Bubble era vintages were significantly more likely to be put back than either pre- or post-bubble vintages. Note that put-backs are generally quite small, with the exception of the 2005-2008 vintages. These numbers exclude loans put back through global settlements, which are not done at the loan level. Moreover, lenders' attitudes are formed by the total share of put-backs on their books. The database used in this analysis, while very characteristic of new production, excludes many loans that are likely to be put back, including limited documentation loans, non-traditional products (such as interest-only loans), and loans with pool insurance policies.

Fannie Mae Repurchase Rate by Vintage Year



Sources: Fannie Mae and Urban Institute.
Note: The analysis included only mortgages with original terms of 241-420 months.

Freddie Mac Repurchase Rate by Vintage Year



Sources: Freddie Mac and Urban Institute.
Note: The analysis included only mortgages with original terms of 241-420 months.

LOSS SEVERITY

Both Fannie Mae and Freddie Mac's credit data include the status of loans after they experience a credit event (default). A credit event is defined as a delinquency of 180 days or more, a deed-in-lieu, short sale, foreclosure sale or REO sale. We look at each loan that has experienced a credit event and categorize it based on present status—for Fannie Mae loans (top table) 17.06 percent are current, 22.87 percent are prepaid, 9.06 percent are still in the pipeline (not current, not prepaid, not liquidated) and 51.01 percent have already liquidated (deed-in-lieu, short sale, foreclosure sale, REO sale). Freddie Mac's results (bottom table) are very similar. The right side of both tables shows the severity of all loans that have liquidated, broken down by LTV buckets: total Fannie and Freddie severities are around 35 percent.

Fannie Mae - Liquidation Rates and Severities for D180+ loans

Origination Year	Paths for D180+ Loans (% of total count)				Severity for Already Liquidated Loans			
	Paths With No Eventual Loss		Paths With Eventual Loss					
	Current	Prepay	Still in the Pipeline	% Already Liquidated Loans	<=60	60-80	>80	Total
1999-2004	6.95%	25.46%	2.70%	64.89%	21.5%	35.6%	23.7%	30.1%
2005-2008	6.42%	16.65%	2.28%	74.64%	30.8%	43.7%	31.1%	39.2%
2009-2010	17.37%	26.54%	8.75%	47.34%	19.4%	31.3%	17.6%	27.5%
2011-2017	38.60%	29.20%	20.49%	11.71%	5.8%	14.6%	6.5%	10.1%
2018-2Q22	42.71%	26.68%	28.59%	2.03%	1.1%	2.3%	2.1%	2.1%
Total	17.06%	22.87%	9.06%	51.01%	26.9%	40.3%	26.6%	35.0%

Freddie Mac - Liquidation Rates and Severities for D180+ loans

Origination Year	Paths for D180+ Loans (% of total count)				Severity for Already Liquidated Loans			
	Paths With No Eventual Loss		Paths With Eventual Loss					
	Current	Prepay	Still In The Pipeline	% Already Liquidated Loans	<=60	60-80	>80	Total
1999-2004	4.81%	23.99%	2.57%	68.63%	22.0%	34.7%	25.9%	30.8%
2005-2008	4.29%	13.91%	2.04%	79.77%	29.8%	42.9%	31.6%	39.0%
2009-2010	12.88%	21.62%	6.38%	59.12%	16.6%	29.3%	25.8%	26.7%
2011-2017	33.45%	25.09%	16.49%	24.97%	5.5%	15.6%	20.6%	18.9%
2018-1Q22	43.69%	25.99%	29.19%	1.13%	3.6%	10.0%	5.5%	6.9%
Total	14.29%	19.89%	7.79%	58.04%	25.8%	39.9%	27.7%	34.8%

Sources: Fannie Mae, Freddie Mac, and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q2 2022, with performance information on these loans also through Q2 2022. Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q1 2022, with performance information on these loans through Q1 2022. The analysis included only mortgages with original terms of 241-420 months.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

LOSS SEVERITY BY CHANNEL

The table below shows the severity of Fannie and Freddie loans that have liquidated, broken down by liquidation channel and vintage year. Foreclosure alternatives, including short sales, note sales, and third party sales have higher defaulted unpaid principal balance (UPB) and much lower loss severities than REO sales. For example, for all Fannie Mae originations, foreclosure alternatives had a mean defaulted UPB of $178,408 and a loss severity of 21.1% percent, versus a mean defaulted UPB of $145,567 and a loss severity of 47.0 percent for REO sales.

Fannie Mae - Loss Severity for Already Liquidated Loans

Origination Year	Number of Loans			Mean defaulted UPB ($)			Severity		
	All	REO	Foreclosure Alternatives	All	REO	Foreclosure Alternatives	All	REO	Foreclosure Alternatives
1999-2004	236,634	157,164	79,470	111,500	105,642	123,084	30.14%	39.01%	15.08%
2005-2008	390,869	219,976	170,893	185,686	172,680	202,427	39.19%	52.19%	24.91%
2009-2010	27,445	14,501	12,944	172,424	162,831	183,172	27.51%	39.15%	15.91%
2011-2017	27,110	10,654	16,456	170,322	150,007	183,474	10.08%	19.90%	4.88%
2018-2Q22	3,358	748	2,610	218,661	162,631	234,718	2.10%	5.54%	1.42%
Total	685,416	403,043	282,373	159,097	145,567	178,408	35.01%	46.96%	21.09%

Freddie Mac - Loss Severity for Already Liquidated Loans

Origination Year	Number of Loans			Mean defaulted UPB ($)			Severity		
	All	REO	Foreclosure Alternatives	All	REO	Foreclosure Alternatives	All	REO	Foreclosure Alternatives
1999-2004	170,769	94,715	76,054	112,398	105,678	120,767	30.78%	41.76%	18.82%
2005-2008	393,166	170,300	222,866	182,150	164,206	195,862	38.99%	54.40%	29.11%
2009-2010	45,112	15,268	29,844	191,121	172,230	200,785	26.69%	43.11%	19.49%
2011-2017	54,155	13,257	40,898	175,982	152,152	183,706	18.92%	36.32%	14.24%
2018-1Q21	1,244	252	992	194,819	151,680	205,777	6.86%	14.37%	5.46%
Total	664,446	293,792	370,654	164,353	145,200	179,535	34.75%	49.84%	25.08%

Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q2 2022. Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q1 2022, with performance information on these loans through Q1 2022. The analysis included only mortgages with original terms of 241-420 months. Because the 2018 and later liquidated loan counts are a small sample, results may not be representative.

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Fixing the Home Equity Conversion Mortgage Program, a Fraying Lifeline for Senior Homeowners
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Improving the Availability of Small Mortgage Loans
Authors: Amalie Zinn, Janneke Ratcliffe, Laurie Goodman, Linna Zhu, Rita Ballesteros
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Date: November 23, 2022

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Authors: Kristin Blagg, Jung Hyun Choi, Sandy Baum, Jason Cohn, Liam Reynolds, Fanny Terrones, Caitlin Young
Date: November 10, 2022

A Landscape Scan of Homeownership for Households of Color
Authors: Caitlin Young, Michael Neal, Janneke Ratcliffe
Date: November 9, 2022

Blog Posts

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Authors: Laurie Goodman, Karan Kaul, Ted Tozer
Date: January 25 2023

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Including On-Time Rental Payment History in Credit Scoring Could Help Narrow the Black-White Homeownership Gap
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Should Borrowers Be Afraid of Adjustable-Rate Mortgages?
Authors: Laurie Goodman, Karan Kaul, John Walsh
Date: November 28, 2022

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