HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

October 2022
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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Mortgage Rates: Why This Time is Different

In response to both still elevated inflation and uncomfortably high inflation expectations, the Federal Open Markets Committee (“the Fed”) has used the range of its tools to tighten monetary policy. These include the federal funds rate, its key policy tool, but also balance sheet operations, forward guidance, and general communications about the state of the economy as well as its own intentions.

Since the Fed pivoted on inflation at the end of 2021, the rate on the 10-year Treasury has more than doubled, increasing by 232 basis points from 1.43 percent to 3.75 percent averaged over the week ending with October 6th. The rise in the 10-year Treasury rate has boosted the 30-year fixed mortgage rate, as measured by Freddie Mac’s Primary Mortgage Market Survey, from 3.11 percent to 6.66 percent over a similar period.

10-Year Treasury and Primary Mortgage Spread Driving Up Mortgage

Sources: Freddie Mac, US Department of Treasury and the National Bureau of Economic Research.

But the 10-year Treasury rate is not the only source of higher mortgage rates today. In fact, over this same period, the primary mortgage spread, the difference between the 30-year fixed mortgage rate determined in the primary market and the 10-year Treasury rate has risen by 123 basis points to 2.91 percent as of this writing.

While a small amount of the spread increase reflects the higher costs that lenders face, as origination volume is down (fixed costs are spread over a smaller number of loans), the primary mortgage spread principally reflects the additional risk associated with home lending over the risk-free return achieved by lending to the federal government by buying Treasury securities. Since most mortgages are either government guaranteed or government sponsored, the principal risk is interest rate risk; the fact that the mortgages shorten as rates decline because they prepay, and lengthen as rates increase. The uncertainty about Fed policy, and hence the high volatility of interest rates is primarily responsible for the wide spreads. As the figure above illustrates, the primary mortgage spread now exceeds its peak amidst the pandemic recession and is nearing the high reached during the Great Financial Crisis, 2.96 percent.

Note that during both the pandemic recession and the Great Financial Crisis the spread increased as the 10-year Treasury rate fell. That is, amid a recession, the Fed eased monetary policy partially to offset tightening mortgage lending conditions. However, this time, both the 10-Year Treasury rate and the primary mortgage credit spread are rising reflecting the uncertainty about how high the Federal Reserve will continue to raise rates, and when/if a recession will interrupt these actions.

The figure below illustrates another key way the primary mortgage spread today differs from the Great Financial Crisis era. Although the primary mortgage spread rose significantly during the housing bust, spreads on most corporate bonds rose even more. At their peaks, only the highest rated corporate borrowers paid a lower spread, and ultimately a lower interest rate, than mortgage borrowers.

Corporate and Mortgage Spreads Relative to the 10-Year Treasury Rate

Today, by contrast, while corporate spreads have risen, they remain lower. Most corporate borrowers, except those considered non-investment grade (Ba) are paying a lower spread than the average conventional conforming mortgage borrower and hence a lower interest rate overall.

These results indicate that the mortgage market is under significant pressure. Prospective mortgage borrowers, conventional conforming borrowers in particular, are facing higher rates both because of rising Treasury yields but also because investors are demanding a higher risk premium. Ultimately, as the path of Fed activity becomes more certain, primary mortgage spreads will fall back as they have in the past. In the meantime, the for-sale market will face significant challenges due to higher Treasury rates and a higher mortgage-Treasury spread.

INSIDE THIS ISSUE

- Non-agency issuance reached $21.19 billion in Q3 2022, a decrease relative to the $45.78 billion in Q3 2021, reflecting both a broader slowdown in originations amidst higher rates and wider spreads (Page 12).
- The HCAI stood at 4.7 percent in Q2 2022, slightly down from 4.9 in Q1 2022 (Pages 13 – 14).
- Agency FICO scores continue to decline, reaching a median of 733 in September 2022 compared to the pandemic-era peak of 764 in November 2020 (Page 17).
- Total active listings have declined substantially over the last seven years, standing at 792,688 homes as of September 2022 compared to 1,889,521 homes in September 2015 (Page 21).
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 $12.8 trillion in Q1 2021 to $13.0 trillion in Q2 2022, while total household equity increased from $29.5 trillion to $30.9 trillion. The total value of the housing market reached $43.9 trillion in the second quarter of 2022, 71.8 percent higher than the pre-crisis peak in 2006. Agency MBS account for 67.1 percent of the total mortgage debt outstanding, private-label securities make up 3.2 percent, and home equity loans make up 3.1 percent. Unsecuritized first liens comprise the remaining 26.6 percent with banks making up 18.8 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**

![Graph showing the value of the US single family housing market over time](image)

**Composition of the US Single Family Mortgage Market**

![Graph showing the composition of the US single family mortgage market over time](image)

**Sources:** Financial Accounts of the United States and Urban Institute. Last updated September 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.

**Notes:** Unsecuritized First Liens (Other) includes mortgages not held on bank balance sheets.
MARKET SIZE OVERVIEW

As of Q2 2022, unsecuritized first liens held outside banks and credit unions totaled $0.49 trillion. In this space, REITs, insurers and retirement funds have experienced particularly robust percentage increases over the last decade. In September 2022, outstanding securities in the agency market totaled $8.7 trillion, 41.5 percent of which was Fannie Mae, 33.5 percent Freddie Mac, and 25.0 percent Ginnie Mae.

### Unsecuritized 1st Liens Held by Non-Depositories

($ trillions)


### Agency Mortgage-Backed Securities

($ trillions)

Sources: eMBS and Urban Institute.
Mortgage origination volume totaled $650 billion in Q2 2022, far lower than the $1.13 trillion total in Q2 2021. The share of portfolio originations was 30.6 percent in Q2 2022, a large increase compared to the 17.5 percent share in Q2 2021 and roughly consistent with the portfolio share in the pre-pandemic years. The GSE share was much lower in Q2 2022 at 48.2 percent, compared to 63.4 percent in Q2 2021. The markedly lower GSE share in Q2 2022 reflects substantial slowdown of the refinance wave, which was in full swing and boosted GSE purchases in Q2 2021. The FHA/VA share in Q2 2022 stood at 18.0 percent, up from 17.0 percent in Q2 2021. The PLS share was also higher in Q2 2022 at 3.3 percent, compared to 2.2 percent in Q2 2021.
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. Although the highest level since 2008, it is well below the 2005 peak of 36.6 percent.

Adjustable-Rate Mortgage Share of Applications

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 September 2022, the GSE refi shares are in the 19 to 20 percent range; the Ginnie Mae refi share was 19.3 percent, up from a low in August 2022. The refinance share reflects mortgage rates from 6-8 weeks earlier.
OVERVIEW
CASH-OUT REFINANCES

When mortgage rates are low, the share of cash-out refinance volumes 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 refinance volumes amidst historically low rates. With rates rising dramatically and the bulk of rate-refinance activity behind us, the cash-out share has increased to 79.8 percent as of September 2022. Despite the increase in the cash-out share, the absolute volume of cash-out refinance volumes has come down sharply since the spring of 2021, when mortgage rates began to rise.

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 September 2022.

Cash-out Refi Share of All Originations

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

Cash-out Refinance Volume by Agency

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

AGENCY NONBANK ORIGINATION SHARE

The nonbank share for agency originations has been rising steadily since 2013, standing at 76.8 percent in September 2022. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 90.9 percent in September 2022. Fannie and Freddie had nonbank shares of 71.7 percent and 68.7 percent respectively in September 2022. Fannie, Freddie, and Ginnie all had higher nonbank origination shares for refi activity than purchase activity in September 2022.

Nonbank Origination Share: All Loans

Sources: eMBS and Urban Institute.

Nonbank Origination Share: Purchase Loans

Nonbank Origination Share: Refi Loans

Sources: eMBS and Urban Institute.
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 with the nonagency share rising to 4.32 percent. In the Jan-September 2022 period, the nonagency share was 6.20 percent. 2021 was the largest year of non-agency securitization, as measured by dollar volume, since 2008. Non-agency issuance reached $21.19 billion in Q3 2022, a decrease relative to the $45.78 billion in Q3 2021, reflecting both a broader slowdown in originations amidst higher rates as well as wider spreads. Non-agency securitization totaled to $7.68 billion in September 2022. These numbers remain small compared to pre-housing market crisis levels.

Sources: Inside Mortgage Finance and Urban Institute.
Note: Based on data from September 2022. Monthly non-agency volume is subject to revision.
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 Q2 2022, slightly down from 4.9 in Q1 2022. This continued tightening from Q1 2022 to Q2 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 Q2 2022 while GSE market share substantially decreased as a result of slowdowns in refinancing. Note that we updated the methodology as of Q2 2020, see new methodology here. The slight credit loosening from Q1 2021 to Q3 2021 was primarily led by increased borrower default risk in the government channel. The slight tightening starting in Q4 2021 reflected a small decrease in the Ginnie Mae share and a very modest tightening in the GSE channel. More information about the HCAI is available here.

**All Channels**

**Sources:** eMBS, CoreLogic, HMDA, IMF, and Urban Institute.

**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 Q2 2022, credit availability stood at 2.53 percent, down from 2.64 percent in Q1 2022.

**Sources:** eMBS, CoreLogic, HMDA, IMF, and Urban Institute.

**Note:** Default is defined as 90 days or more delinquent at any point. Last updated October 2022.
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 11.1 in Q2 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 2.6 percent in Q2 2022. This is a shadow of the default risk taken prior to the Great Financial Crisis.

Note: Default is defined as 90 days or more delinquent at any point. Last updated October 2022.
Access to credit remains tight by historical standards, especially for lower FICO borrowers. The median FICO for current purchase loans is about 26 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 655 in August 2022, which is still high compared to low-600s pre-bubble. The median LTV at origination of 90 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.

### Borrower FICO Score at Origination

**FICO Score**

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean</th>
<th>90th percentile</th>
<th>10th percentile</th>
<th>Median</th>
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<tr>
<td>2001</td>
<td>799</td>
<td>747</td>
<td>736</td>
<td>655</td>
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<td>2022</td>
<td>84</td>
<td>90</td>
<td>84</td>
<td>700</td>
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### Combined LTV at Origination

**LTV**

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<th>90th percentile</th>
<th>10th percentile</th>
<th>Median</th>
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<td>2001</td>
<td>97</td>
<td>90</td>
<td>84</td>
<td>62</td>
</tr>
<tr>
<td>2022</td>
<td>50</td>
<td>41</td>
<td>39</td>
<td>25</td>
</tr>
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</table>

### DTI at Origination

**DTI**

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean</th>
<th>90th percentile</th>
<th>10th percentile</th>
<th>Median</th>
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<tr>
<td>2001</td>
<td>50</td>
<td>41</td>
<td>39</td>
<td>25</td>
</tr>
<tr>
<td>2022</td>
<td>50</td>
<td>41</td>
<td>39</td>
<td>25</td>
</tr>
</tbody>
</table>

**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 August 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

Note: Includes purchase loans only. Shares based on loan counts

- 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 Channel Shares by Race

Note: Includes purchase loans only. Shares based on loan counts
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 8 points in September 2022, compared to the 29-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; with refi activity now waning, originators, particularly nonbank originators, have been aggressively competing for new business, and are now more accommodating to borrowers with lower credit scores. 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**

![Graph showing FICO scores for banks and nonbanks, in both the Ginnie Mae and GSE arenas, dipping in 2021 and 2022. The difference between the FICOs on bank and non-bank GSE loans stood at 8 points in September 2022, compared to the 29-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; with refi activity now waning, originators, particularly nonbank originators, have been aggressively competing for new business, and are now more accommodating to borrowers with lower credit scores. 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.](source: eMBS and Urban Institute.)

**GSE FICO: Bank vs. Nonbank**

![Graph showing FICO scores for banks and nonbanks, in the GSE arena, with a dip in 2021 and 2022, and an increase during the Q1 2019 to Q1 2021 period, due to increased refi activity.](source: eMBS and Urban Institute.)

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

![Graph showing FICO scores for banks and nonbanks, in the Ginnie Mae arena, with a dip in 2021 and 2022, and an increase during the Q1 2019 to Q1 2021 period, due to increased refi activity.](source: eMBS and Urban Institute.)
Non-banks are more expensive 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.
STATE OF THE MARKET
MORTGAGE ORIGINATION PROJECTIONS

Fannie Mae, Freddie Mac and the MBA estimate 2022 origination volume to be between $2.26 and $2.60 trillion, down from $4.44 to $4.62 trillion in 2021, representing declines of 2.04 to 2.02 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 28 to 37 percentage points lower than in 2021.

Total Originations and Refinance Shares

<table>
<thead>
<tr>
<th>Period</th>
<th>Total, FNMA estimate ($ billions)</th>
<th>Total, FHLMC estimate ($ billions)</th>
<th>Total, MBA estimate ($ billions)</th>
<th>Refi Share (percent)</th>
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</thead>
<tbody>
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<td>1305</td>
<td>1212</td>
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<td>2021 Q2</td>
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<td>2022 Q1</td>
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<td>763</td>
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<td>2022 Q2</td>
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<td>1942</td>
<td>2047</td>
<td>23</td>
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</table>

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 October 2022.

Originator Profitability and Unmeasured Costs

In September 2022, Originator Profitability and Unmeasured Costs (OPUC) stood at $3.19 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 relatively accurate gauge 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. 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.

Dollars per $100 loan

Note: OPUC is a a monthly (4-week moving) average as discussed in Fuster et al. (2013).
STATE OF THE MARKET

HOUSING SUPPLY

Months of supply in September 2022 remained at 3.2, 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 2022 housing starts to be between 1.54 and 1.57 million units, below 2021 levels. Fannie Mae, Freddie Mac, the MBA, and the NAHB predict total home sales of 5.28 to 5.83 million units in 2022; these estimates all reflect declines from their 2021 sales volume calculations.

Months of Supply

<table>
<thead>
<tr>
<th>Months of supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>


Housing Starts and Home Sales

<table>
<thead>
<tr>
<th>Year</th>
<th>Housing Starts, thousands</th>
<th>Home Sales, thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total, FNMA estimate</td>
<td>Total, MBA estimate</td>
</tr>
<tr>
<td>2017</td>
<td>1203</td>
<td>1208</td>
</tr>
<tr>
<td>2018</td>
<td>1250</td>
<td>1250</td>
</tr>
<tr>
<td>2019</td>
<td>1290</td>
<td>1295</td>
</tr>
<tr>
<td>2020</td>
<td>1380</td>
<td>1397</td>
</tr>
<tr>
<td>2021</td>
<td>1601</td>
<td>1605</td>
</tr>
<tr>
<td>2022</td>
<td>1543</td>
<td>1566</td>
</tr>
<tr>
<td>2023</td>
<td>1158</td>
<td>1487</td>
</tr>
</tbody>
</table>

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 October 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

State of the Market

National Mortgage Affordability Over Time

With the rise in interest rates, and rapid increases in home prices, affordability continues to worsen. As of September 2022, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 31.2 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 36.2 percent, again 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, active listings have declined substantially over time and the distribution has shifted markedly towards higher priced homes.

Active Listings by Price Tier Over Time


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 September 2022.
According to Black Knight’s updated repeat sales index, year-over-year home price appreciation decreased to 11.98 percent in August 2022, compared to 14.16 percent the previous month. Year-over-year home price appreciation as measured by Zillow’s hedonic index was 16.49 percent in August 2022, down from 18.25 percent in July. 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 August 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 remained 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.

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 August 2022.
STATE OF THE MARKET
FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share
In August 2022, the FTHB share for FHA, which has always been more focused on first time homebuyers, was 82.7 percent. The FTHB share of GSE lending in June was 49.6 percent; the VA share was a very similar 50.8 percent. The bottom table shows that based on mortgages originated in July 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.

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

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>GSEs</th>
<th>FHA</th>
<th>GSEs and FHA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First-time</td>
<td>Repeat</td>
<td>First-time</td>
</tr>
<tr>
<td>Loan Amount ($)</td>
<td>329,715</td>
<td>348,246</td>
<td>283,112</td>
</tr>
<tr>
<td>Credit Score</td>
<td>746</td>
<td>756</td>
<td>671</td>
</tr>
<tr>
<td>LTV (%)</td>
<td>86</td>
<td>76</td>
<td>95</td>
</tr>
<tr>
<td>DTI (%)</td>
<td>37</td>
<td>37</td>
<td>45</td>
</tr>
<tr>
<td>Loan Rate (%)</td>
<td>5.31</td>
<td>5.22</td>
<td>5.20</td>
</tr>
</tbody>
</table>

Sources: eMBS and Urban Institute.
Note: Based on owner-occupied purchase mortgages originated in August 2022.
Loans in and near negative equity continued to decline in Q2 2022; 1.85 percent now have negative equity, an additional 0.27 percent have less than 5 percent equity. Due to the effects of COVID-19, the share of loans that are 90 days or more delinquent or in foreclosure remained high but declined again by 27 basis points, from 2.39 percent in Q1 2022 to 2.12 percent in Q2 2022. 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 dropping to 0.69% as of September 30, 2022. GSE loans have consistently had the lowest forbearance rates, standing at 0.30 percent at the end of September. The most recent forbearance rate for other (e.g., portfolio and PLS) loans was 1.14 percent; Ginnie Mae loans had the highest forbearance rate at 1.33 percent.

Loans in Serious Delinquency/Foreclosure

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

Forbearance Rates by Channel

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 August 2021 to August 2022, the Fannie portfolio contracted year-over-year by 33.5 percent, and the Freddie portfolio contracted by 29.4 percent. Within the portfolio, both Fannie Mae and Freddie Mac contracted their less-liquid assets (mortgage loans, non-agency MBS), by 25.3 percent and 13.9 percent, respectively, over the same 12 month period.

### Fannie Mae Mortgage-Related Investment Portfolio Composition

- Current size: $79.1 billion
- 2021 PSPA cap: $225 billion
- Shrinkage year-over-year: 33.5 percent
- Shrinkage in less-liquid assets year-over-year: 25.3 percent

### Freddie Mac Mortgage-Related Investment Portfolio Composition

- Current size: $80.4 billion
- 2021 PSPA cap: $225 billion
- Shrinkage year-over-year: 29.4 percent
- Shrinkage in less-liquid assets year-over-year: 13.9 percent

**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.
GSES UNDER CONSERVATORSHIP
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 58.9 bps in Q1 2022 to 61.7 bps in Q2 2022. Freddie’s increased from 59.0 bps in Q1 2022 to 62.0 in Q2 2022. The gap between the two g-fees was 0.3 bps in Q2 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.

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

Fannie Mae Upfront Loan-Level Price Adjustments (LLPAs)

<table>
<thead>
<tr>
<th>Credit Score</th>
<th>≤60</th>
<th>60.01 - 70</th>
<th>70.01 - 75</th>
<th>75.01 - 80</th>
<th>80.01 - 85</th>
<th>85.01 - 90</th>
<th>90.01 - 95</th>
<th>95.01 - 97</th>
<th>&gt;97</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 740</td>
<td>0.00</td>
<td>0.25</td>
<td>0.25</td>
<td>0.50</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>720 – 739</td>
<td>0.00</td>
<td>0.25</td>
<td>0.50</td>
<td>0.75</td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>700 – 719</td>
<td>0.00</td>
<td>0.50</td>
<td>1.00</td>
<td>1.25</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.50</td>
<td>1.50</td>
</tr>
<tr>
<td>680 – 699</td>
<td>0.00</td>
<td>0.50</td>
<td>1.25</td>
<td>1.75</td>
<td>1.50</td>
<td>1.25</td>
<td>1.25</td>
<td>1.50</td>
<td>1.50</td>
</tr>
<tr>
<td>660 – 679</td>
<td>0.00</td>
<td>1.00</td>
<td>2.25</td>
<td>2.75</td>
<td>2.75</td>
<td>2.25</td>
<td>2.25</td>
<td>2.25</td>
<td>2.25</td>
</tr>
<tr>
<td>640 – 659</td>
<td>0.50</td>
<td>1.25</td>
<td>2.75</td>
<td>3.00</td>
<td>3.25</td>
<td>2.75</td>
<td>2.75</td>
<td>2.75</td>
<td>2.75</td>
</tr>
<tr>
<td>620 – 639</td>
<td>0.50</td>
<td>1.50</td>
<td>3.00</td>
<td>3.00</td>
<td>3.25</td>
<td>3.25</td>
<td>3.25</td>
<td>3.50</td>
<td>3.50</td>
</tr>
<tr>
<td>&lt; 620</td>
<td>0.50</td>
<td>1.50</td>
<td>3.00</td>
<td>3.00</td>
<td>3.25</td>
<td>3.25</td>
<td>3.25</td>
<td>3.75</td>
<td>3.75</td>
</tr>
</tbody>
</table>

Product Feature (Cumulative)


# GSEs Under Conservatorship

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 Capital Rule now finalized, and more positive attitude toward CRT at FHFA, Fannie resumed CAS issuance in October 2021.

## Fannie Mae – Connecticut Avenue Securities (CAS)

<table>
<thead>
<tr>
<th>Date</th>
<th>Transaction</th>
<th>Reference Pool Size ($m)</th>
<th>Amount Issued ($m)</th>
<th>% of Reference Pool Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>CAS 2013 deals</td>
<td>$26,756</td>
<td>$675</td>
<td>2.5</td>
</tr>
<tr>
<td>2014</td>
<td>CAS 2014 deals</td>
<td>$227,234</td>
<td>$5,849</td>
<td>2.6</td>
</tr>
<tr>
<td>2015</td>
<td>CAS 2015 deals</td>
<td>$187,126</td>
<td>$5,463</td>
<td>2.9</td>
</tr>
<tr>
<td>2016</td>
<td>CAS 2016 deals</td>
<td>$236,459</td>
<td>$7,392</td>
<td>3.1</td>
</tr>
<tr>
<td>2017</td>
<td>CAS 2017 deals</td>
<td>$264,697</td>
<td>$8,707</td>
<td>3.3</td>
</tr>
<tr>
<td>2018</td>
<td>CAS 2018 deals</td>
<td>$205,900</td>
<td>$7,314</td>
<td>3.6</td>
</tr>
<tr>
<td>2019</td>
<td>CAS 2019 deals</td>
<td>$291,400</td>
<td>$8,071</td>
<td>2.8</td>
</tr>
<tr>
<td>2020</td>
<td>CAS 2020 deals</td>
<td>$210,000</td>
<td>$3,130</td>
<td>1.5</td>
</tr>
<tr>
<td>2021</td>
<td>CAS 2021 deals</td>
<td>$142,202</td>
<td>$3,095</td>
<td>2.2</td>
</tr>
<tr>
<td>January 2022</td>
<td>CAS 2022 – R01</td>
<td>$53,747</td>
<td>$1,506</td>
<td>2.8</td>
</tr>
<tr>
<td>February 2022</td>
<td>CAS 2022 – R02</td>
<td>$44,278</td>
<td>$1,241</td>
<td>2.8</td>
</tr>
<tr>
<td>March 2022</td>
<td>CAS 2022 – R03</td>
<td>$44,382</td>
<td>$1,242</td>
<td>2.8</td>
</tr>
<tr>
<td>April 2022</td>
<td>CAS 2022 – R04</td>
<td>$36,440</td>
<td>$1,142</td>
<td>3.1</td>
</tr>
<tr>
<td>May 2022</td>
<td>CAS 2022 – R05</td>
<td>$39,341</td>
<td>$952</td>
<td>2.4</td>
</tr>
<tr>
<td>June 2022</td>
<td>CAS 2022 – R06</td>
<td>$25,539</td>
<td>$754</td>
<td>3.0</td>
</tr>
<tr>
<td>June 2022</td>
<td>CAS 2022 – R07</td>
<td>$31,176</td>
<td>$866</td>
<td>2.8</td>
</tr>
<tr>
<td>August 2022</td>
<td>CAS 2022 – R08</td>
<td>$20,733</td>
<td>$626</td>
<td>3.2</td>
</tr>
<tr>
<td>September 2022</td>
<td>CAS 2022 – R09</td>
<td>$29,965</td>
<td>$591</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$2,115,375</strong></td>
<td><strong>$58,618</strong></td>
<td>2.7</td>
</tr>
</tbody>
</table>

## Freddie Mac – Structured Agency Credit Risk (STACR)

<table>
<thead>
<tr>
<th>Date</th>
<th>Transaction</th>
<th>Reference Pool Size ($m)</th>
<th>Amount Issued ($m)</th>
<th>% of Reference Pool Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>STACR 2014 deals</td>
<td>$147,120</td>
<td>$4,916</td>
<td>3.3</td>
</tr>
<tr>
<td>2015</td>
<td>STACR 2015 deals</td>
<td>$209,521</td>
<td>$6,658</td>
<td>3.2</td>
</tr>
<tr>
<td>2016</td>
<td>STACR 2016 deals</td>
<td>$183,421</td>
<td>$5,541</td>
<td>2.8</td>
</tr>
<tr>
<td>2017</td>
<td>STACR 2017 deals</td>
<td>$248,821</td>
<td>$5,663</td>
<td>2.3</td>
</tr>
<tr>
<td>2018</td>
<td>STACR 2018 deals</td>
<td>$216,581</td>
<td>$6,055</td>
<td>2.8</td>
</tr>
<tr>
<td>2019</td>
<td>STACR 2019 deals</td>
<td>$271,105</td>
<td>$5,947</td>
<td>2.2</td>
</tr>
<tr>
<td>2020</td>
<td>STACR 2020 deals</td>
<td>$403,591</td>
<td>$10,372</td>
<td>2.6</td>
</tr>
<tr>
<td>2021</td>
<td>STACR 2021 deals</td>
<td>$574,706</td>
<td>$11,024</td>
<td>1.9</td>
</tr>
<tr>
<td>January 2022</td>
<td>STACR Series 22 – DNA1</td>
<td>$33,573</td>
<td>$1,353</td>
<td>4.0</td>
</tr>
<tr>
<td>February 2022</td>
<td>STACR Series 22 – DNA2</td>
<td>$44,961</td>
<td>$1,919</td>
<td>4.3</td>
</tr>
<tr>
<td>March 2022</td>
<td>STACR Series 22 – HQA1</td>
<td>$45,831</td>
<td>$1,816</td>
<td>4.0</td>
</tr>
<tr>
<td>April 2022</td>
<td>STACR Series 22 – DNA3</td>
<td>$42,886</td>
<td>$1,842</td>
<td>4.3</td>
</tr>
<tr>
<td>May 2022</td>
<td>STACR Series 22 – DNA4</td>
<td>$35,369</td>
<td>$1,519</td>
<td>4.3</td>
</tr>
<tr>
<td>June 2022</td>
<td>STACR Series 22 – DNA5</td>
<td>$33,545</td>
<td>$1,422</td>
<td>4.2</td>
</tr>
<tr>
<td>July 2022</td>
<td>STACR Series 22 – HQA2</td>
<td>$19,741</td>
<td>$627</td>
<td>3.2</td>
</tr>
<tr>
<td>August 2022</td>
<td>STACR Series 22 – HQA3</td>
<td>$15,433</td>
<td>$540</td>
<td>3.5</td>
</tr>
<tr>
<td>September 2022</td>
<td>STACR Series 22 – DNA6</td>
<td>$36,144</td>
<td>$1,165</td>
<td>3.2</td>
</tr>
<tr>
<td>October 2022</td>
<td>STACR Series 22 – DNA7</td>
<td>$20,290</td>
<td>$517</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$2,660,839</strong></td>
<td><strong>$70,026</strong></td>
<td>2.6</td>
</tr>
</tbody>
</table>

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.
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. Note the widening from Feb-July 2022 – this reflects slower prepayment expectations and longer exposure to default risk in the face of higher rates. The widening was more pronounced for 2021 indices due to less embedded housing price appreciation. With continued high inflation and growing risk of recession, spreads have been volatile since August. 2020 and 2021 indices are heavily Freddie Mac as Fannie did not issue any new deals from Q2 2020 to Q4 2021.
Serious delinquency rates for single-family GSE loans decreased in August 2022, to 0.72 percent for Fannie Mae and 0.70 percent for Freddie Mac. Serious delinquency rates for FHA loans also decreased in August 2022, to 4.82 percent. In Q2 2022, VA serious delinquency rates declined to 2.83 percent. Note that loans that are in forbearance are counted as delinquent for the purpose of measuring delinquency rates. Fannie multifamily delinquencies in August decreased marginally to 0.30 percent, while Freddie multifamily delinquencies increased to 0.12 percent after remaining at 0.07 percent for the 3 months prior.

**Serious Delinquency Rates—Single-Family Loans**

![Graph showing delinquency rates for single-family loans from 2005 to 2022 for Fannie Mae, Freddie Mac, FHA, and VA.]

**Serious Delinquency Rates—Multifamily GSE Loans**

![Graph showing delinquency rates for multifamily loans from 2005 to 2022 for Fannie Mae and Freddie Mac.]

**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 Q1 2022. GSE and FHA delinquencies are reported monthly, last updated for August 2022.
Agency gross issuance was $1,463.1 billion YTD in September 2022, a 58.3 percent decrease from YTD September 2021. This reflects a 68.1 percent YTD decline in refinance activity and a 9.2 percent YTD decline in purchase activity. Net issuance (new securities issued less the decline in outstanding securities due to principal pay-downs or prepayments) totaled $364.1 billion in YTD September 2022, a 52.0 percent decrease compared to YTD September 2021.

### Agency Gross Issuance

<table>
<thead>
<tr>
<th>Issuance Year</th>
<th>GSEs</th>
<th>Ginnie Mae</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>$885.1</td>
<td>$171.5</td>
<td>$1,056.6</td>
</tr>
<tr>
<td>2002</td>
<td>$1,238.9</td>
<td>$169.0</td>
<td>$1,407.9</td>
</tr>
<tr>
<td>2003</td>
<td>$1,874.9</td>
<td>$213.1</td>
<td>$2,088.0</td>
</tr>
<tr>
<td>2004</td>
<td>$872.6</td>
<td>$119.2</td>
<td>$991.9</td>
</tr>
<tr>
<td>2005</td>
<td>$894.0</td>
<td>$81.4</td>
<td>$975.3</td>
</tr>
<tr>
<td>2006</td>
<td>$853.0</td>
<td>$76.7</td>
<td>$929.7</td>
</tr>
<tr>
<td>2007</td>
<td>$1,066.2</td>
<td>$94.9</td>
<td>$1,161.1</td>
</tr>
<tr>
<td>2008</td>
<td>$911.4</td>
<td>$267.6</td>
<td>$1,179.0</td>
</tr>
<tr>
<td>2009</td>
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<td>$451.3</td>
<td>$1,731.3</td>
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<td>$1,003.5</td>
<td>$390.7</td>
<td>$1,394.3</td>
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<tr>
<td>2011</td>
<td>$879.3</td>
<td>$315.3</td>
<td>$1,194.7</td>
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<td>$1,288.8</td>
<td>$405.0</td>
<td>$1,693.8</td>
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<td>$1,176.6</td>
<td>$393.6</td>
<td>$1,570.1</td>
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<tr>
<td>2014</td>
<td>$650.9</td>
<td>$296.3</td>
<td>$947.2</td>
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<td>$845.7</td>
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<td>$991.6</td>
<td>$508.2</td>
<td>$1,499.8</td>
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<td>$877.3</td>
<td>$455.6</td>
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<td>$795.0</td>
<td>$400.6</td>
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<td>$1,042.6</td>
<td>$508.6</td>
<td>$1,551.2</td>
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<td>$2,407.5</td>
<td>$775.4</td>
<td>$3,182.9</td>
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<td>$2,650.8</td>
<td>$855.3</td>
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<td>2022</td>
<td>$1,036.1</td>
<td>$426.9</td>
<td>$1,463.0</td>
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</table>

**2022 % Change Over 2021**

-50.3%  -35.6%  -46.7%

**2022 Annualized**

$1,381.4  $569.2  $1,950.6

### Agency Net Issuance

<table>
<thead>
<tr>
<th>Issuance Year</th>
<th>GSEs</th>
<th>Ginnie Mae</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>$368.40</td>
<td>-$9.90</td>
<td>$358.50</td>
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<tr>
<td>2002</td>
<td>$357.20</td>
<td>-$51.20</td>
<td>$306.10</td>
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<tr>
<td>2003</td>
<td>$334.90</td>
<td>-$77.60</td>
<td>$257.30</td>
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<tr>
<td>2004</td>
<td>$82.50</td>
<td>-$40.10</td>
<td>$42.40</td>
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<tr>
<td>2005</td>
<td>$174.20</td>
<td>-$42.20</td>
<td>$132.00</td>
</tr>
<tr>
<td>2006</td>
<td>$313.60</td>
<td>$0.20</td>
<td>$313.80</td>
</tr>
<tr>
<td>2007</td>
<td>$514.90</td>
<td>$30.90</td>
<td>$545.70</td>
</tr>
<tr>
<td>2008</td>
<td>$314.80</td>
<td>$196.40</td>
<td>$511.30</td>
</tr>
<tr>
<td>2009</td>
<td>$250.60</td>
<td>$257.40</td>
<td>$508.00</td>
</tr>
<tr>
<td>2010</td>
<td>-$303.20</td>
<td>$198.30</td>
<td>-$105.00</td>
</tr>
<tr>
<td>2011</td>
<td>-$128.40</td>
<td>$149.60</td>
<td>$21.20</td>
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<tr>
<td>2012</td>
<td>-$42.40</td>
<td>$119.10</td>
<td>$76.80</td>
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<tr>
<td>2013</td>
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<td>$87.90</td>
<td>$157.00</td>
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<td>2014</td>
<td>$30.5</td>
<td>$61.6</td>
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<tr>
<td>2015</td>
<td>$75.1</td>
<td>$97.3</td>
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<td>2016</td>
<td>$127.4</td>
<td>$125.8</td>
<td>$253.1</td>
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<tr>
<td>2017</td>
<td>$168.5</td>
<td>$131.3</td>
<td>$299.7</td>
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<tr>
<td>2018</td>
<td>$149.4</td>
<td>$112.0</td>
<td>$261.5</td>
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<tr>
<td>2019</td>
<td>$197.8</td>
<td>$95.7</td>
<td>$293.5</td>
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<tr>
<td>2020</td>
<td>$632.8</td>
<td>$19.9</td>
<td>$652.7</td>
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<tr>
<td>2021</td>
<td>$753.5</td>
<td>$5.6</td>
<td>$759.1</td>
</tr>
<tr>
<td>2022</td>
<td>$268.6</td>
<td>$95.5</td>
<td>$364.1</td>
</tr>
</tbody>
</table>

**2022 % Change Over 2021**

-55.0%   1608.1%  -38.3%

**2022 Annualized**

$358.2  $127.3  $485.5

Sources: eMBS and Urban Institute.

Note: Dollar amounts are in billions. Data as of September 2022.
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 has waned, the Ginnie share has risen to 34.3 percent in September 2022.

Source: eMBS and Urban Institute Calculations

Fed Absorption of Agency Gross Issuance

Agency MBS on Fed balance sheet totaled $2.70 trillion in September 2022 and September purchases totaled $3.16 billion, representing 2.6 percent of monthly gross issuance. The Fed is slowly running off their portfolio. 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.
**MI Activity**

In the second quarter of 2022, private mortgage insurance written decreased by $37.2 billion, FHA decreased by $28.4 billion, and VA decreased by $46.7 billion relative to Q2 2021. Over the same period (i.e. from Q2 2021 to Q2 2022), the private mortgage insurers share increased from 45.3 to 51.1 percent, FHA’s share slightly decreased from 24.9 to 24.7 percent, and VA’s share decreased from 29.8 to 24.2 percent.

**MI Market Share**

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 October 2021 and October 2022, PMMS rates have more than doubled from 3.1 percent to 6.9 percent as of October 21, 2022. As shown in the bottom table, a borrower putting 3.5 percent down with a FICO score less than 740 will currently find FHA financing to be more financially attractive, borrowers with FICOs of 740 and above will find GSE execution with PMI to be more attractive.

### FHA MI Premiums for Typical Purchase Loan

<table>
<thead>
<tr>
<th>Case number date</th>
<th>Upfront mortgage insurance premium (UFMIP) paid</th>
<th>Annual mortgage insurance premium (MIP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/1/2001 - 7/13/2008</td>
<td>150</td>
<td>50</td>
</tr>
<tr>
<td>7/14/2008 - 4/5/2010*</td>
<td>175</td>
<td>55</td>
</tr>
<tr>
<td>10/4/2010 - 4/17/2011</td>
<td>100</td>
<td>90</td>
</tr>
<tr>
<td>4/18/2011 - 4/8/2012</td>
<td>100</td>
<td>115</td>
</tr>
<tr>
<td>4/9/2012 - 6/10/2012</td>
<td>175</td>
<td>125</td>
</tr>
<tr>
<td>6/11/2012 - 3/31/2013*</td>
<td>175</td>
<td>125</td>
</tr>
<tr>
<td>4/1/2013 - 1/25/2015*</td>
<td>175</td>
<td>135</td>
</tr>
<tr>
<td>Beginning 1/26/2015*</td>
<td>175</td>
<td>85</td>
</tr>
</tbody>
</table>

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.
* Applies to purchase loans less than or equal to $625,500. Those over that amount have an annual premium of 150 bps.
* Applies to purchase loans less than or equal to $625,500. Those over that amount have an annual premium of 155 bps.
* 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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FHA MI Premiums</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>FHA UFMIP</td>
<td>1.75</td>
<td>1.75</td>
<td>1.75</td>
<td>1.75</td>
<td>1.75</td>
<td>1.75</td>
<td>1.75</td>
<td>1.75</td>
</tr>
<tr>
<td>FHA MIP</td>
<td>0.85</td>
<td>0.85</td>
<td>0.85</td>
<td>0.85</td>
<td>0.85</td>
<td>0.85</td>
<td>0.85</td>
<td>0.85</td>
</tr>
<tr>
<td>GSE LLPA*</td>
<td>3.50</td>
<td>2.75</td>
<td>2.25</td>
<td>1.50</td>
<td>1.50</td>
<td>1.00</td>
<td>0.75</td>
<td>0.75</td>
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<tr>
<td>PMI Annual MIP</td>
<td>1.86</td>
<td>1.65</td>
<td>1.54</td>
<td>1.21</td>
<td>0.99</td>
<td>0.87</td>
<td>0.70</td>
<td>0.58</td>
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<tr>
<td>Monthly Payment</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>FHA</td>
<td>$2,123</td>
<td>$2,123</td>
<td>$2,123</td>
<td>$2,123</td>
<td>$2,123</td>
<td>$2,123</td>
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<tr>
<td>PMI</td>
<td>$2,501</td>
<td>$2,420</td>
<td>$2,374</td>
<td>$2,265</td>
<td>$2,212</td>
<td>$2,163</td>
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<tr>
<td>PMI Advantage</td>
<td>-$377</td>
<td>-$297</td>
<td>-$251</td>
<td>-$141</td>
<td>-$88</td>
<td>-$40</td>
<td>$11</td>
<td>$40</td>
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Date: October 18, 2022

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Date: October 17, 2022

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Authors: Janneke Ratcliffe, Laurie Goodman, Michael Stegman
Date: October 14, 2022

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Authors: Karan Kaul, Laurie Goodman, Ted Tozer
Date: September 26, 2022

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Authors: Laurie Goodman, Karan Kaul, Michael Stegman
Date: September 19, 2022

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Author: Ted Tozer
Date: October 14, 2022

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Authors: Jung Hyun Choi, Amalie Zinn
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Date: October 4, 2022

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Author: Ted Tozer
Date: August 10, 2022

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Authors: Jung Hyun Choi, Laurie Goodman, Daniel Pang
Date: June 29, 2022

A New Fee May Threaten Fannie Mae and Freddie Mac's Single Security
Authors: Laurie Goodman, Jim Parrott, Bob Ryan
Date: June 23, 2022

What Role can Property Condition Data and Artificial Intelligence Modeling Play in Understanding AVM Error
Authors: Michael Neal, Linna Zhu, Judah Axelrod, Caitlin Young
Date: June 15, 2022
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