

HOUSING FINANCE POLICY CENTER



HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

July 2021

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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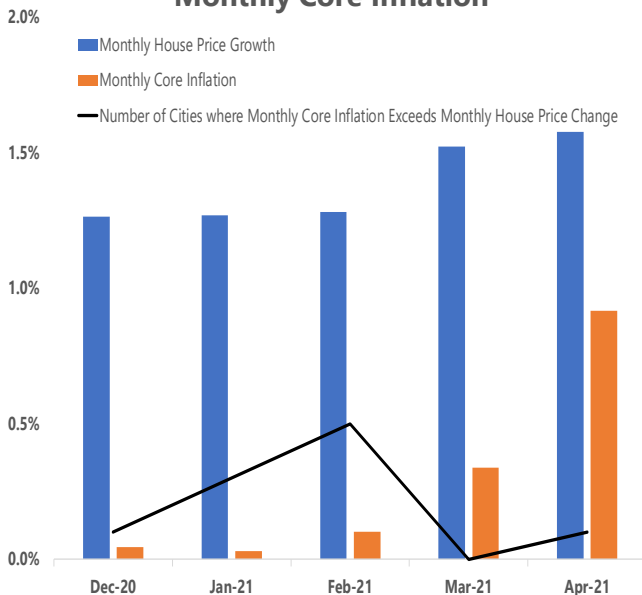
INTRODUCTION

Housing Affordability Concerns Are Exacerbated by Faster Inflation

Housing affordability remains a key challenge in the for-sale market, particularly for first-time homebuyers. Over the first half of 2021, house prices have soared due to the lack of housing inventory, but earnings growth has not kept up with price appreciation. Meanwhile, mortgage rates are modestly higher.

The presence of faster inflation has worsened housing affordability, making it even more difficult for renters to achieve homeownership. Growth in average hourly earnings has not kept up with faster increases in the overall price level of goods and services for consumers. Meanwhile, real house price growth, house price appreciation adjusted for inflation, continues to rise, while mortgage rates are very modestly higher.

Monthly House Price Growth and Monthly Core Inflation



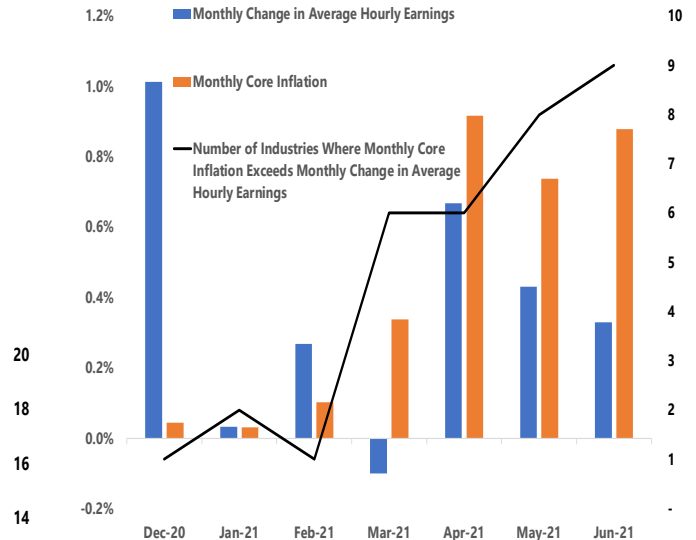
Source: Urban Institute analysis of data from the Bureau of Labor Statistics and S&P/Case-Shiller.

The figure above illustrates that core inflation has been accelerating on a monthly basis between February and April, the last month of house price data. We use monthly instead of year-over-year trends to exclude comparisons with the economic weakness taking place this time last year. And by excluding more volatile energy and food prices, core inflation provides a better sense of price changes.

Although inflation has been rising, monthly house price growth has been increasing as well, continuing to exceed inflation. This is taking place across the majority of the 20 markets tracked by the S&P/Case-Shiller House Price Index (the black line in the figure above). In April, the New York metropolitan statistical area was the only market where monthly house price growth, 0.8 percent, lagged core inflation, 0.9 percent.

Rising incomes can help to offset faster house price appreciation and make it easier to afford a home. Over the first half of 2021, as the economy has shown signs of improvement and the unemployment rate has come down, average hourly earnings have broadly increased. However, average hourly earnings growth over the past three months has been eclipsed by core inflation. Although private-sector workers are experiencing broad growth in take-home pay, the cost of living is rising even faster reducing purchasing power.

Monthly Average Hourly Earnings Growth vs. Monthly Core Inflation



Source: Urban Institute analysis of data from the Bureau of Labor Statistics

This decline in real earnings has spread across industries. In February, monthly core inflation exceeded average hourly earnings growth in only one industry, Trade, Transportation and Utilities. But by June, real earnings had declined on a monthly basis in 9 of the 10 industries. The Leisure and Hospitality industry was the only sector where monthly average hourly earnings growth, 1.0 percent, eclipsed inflation, 0.9 percent.

At the same time, higher expectations of inflation by financial markets has modestly boosted mortgage rates. Since December, the 10-year Treasury rate has increased from .94 to 1.25 percent; this change largely reflects the rise in the spread between the nominal 10-Year Treasury rate and the real 10-Year Treasury Inflation Protected Security rate. Meanwhile, mortgage rates have increased 11 basis points to 2.78 percent over the same period.

The data suggest that faster inflation has likely worsened both the ability to save for a home and to meet monthly mortgage payments. While the housing costs of current homeowners are largely insulated from the impact of rising inflation, renters will have a harder time purchasing their first home. The only real solution to this is to reduce the housing supply shortage; this should bring down the rate of housing price appreciation. Using infrastructure spending to accomplish this can help ensure that these affordability challenges do not become further entrenched in the housing market.

INSIDE THIS ISSUE

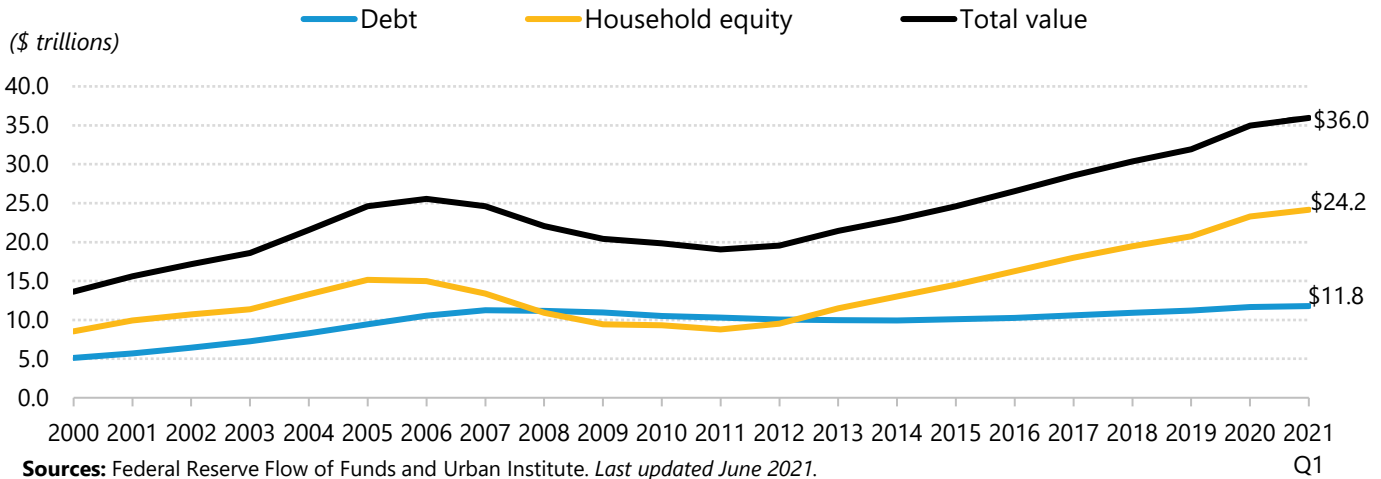
- FICO scores for bank and nonbank originations have fallen since April 2021 in both GSE and Ginnie Mae markets, with the nonbank drop being more pronounced (Page 17).
- Annual house price appreciation exceeded 17 percent in May 2021, well above the 12-13 percent peak during the housing bubble (Page 22).

OVERVIEW

MARKET SIZE OVERVIEW

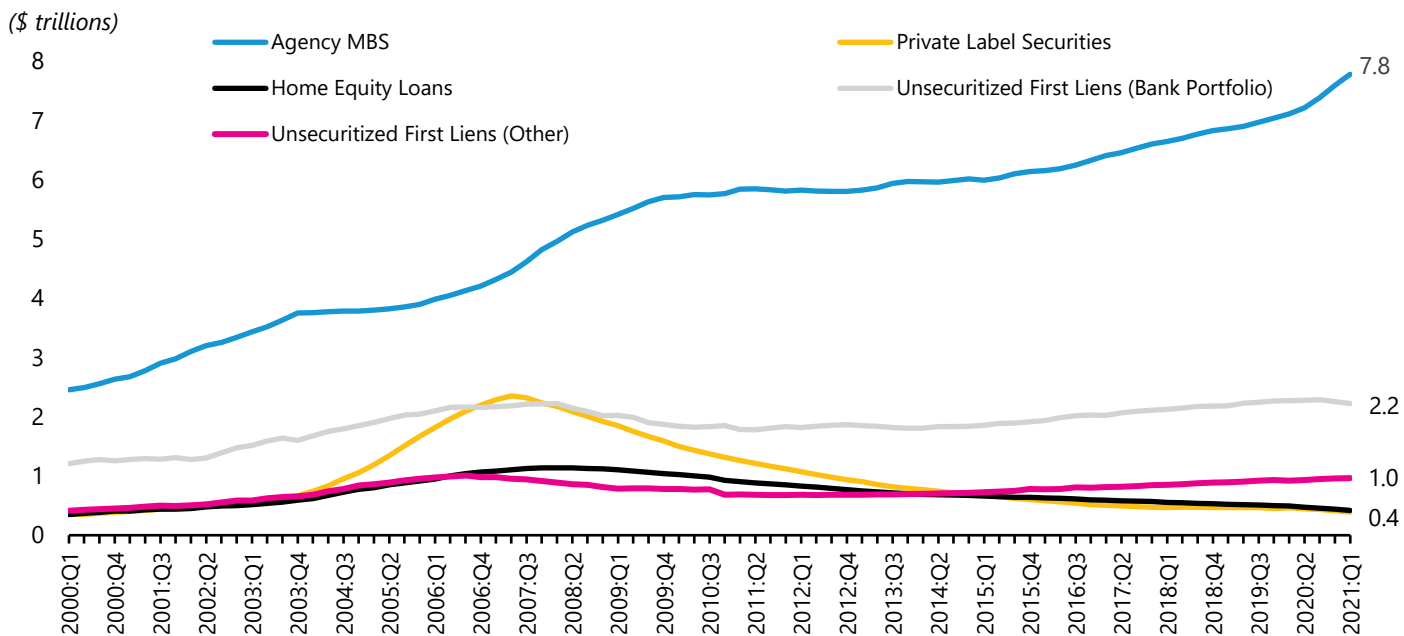
The Federal Reserve's Flow of Funds Report has indicated a gradually increasing total value of the housing market, driven primarily by growing home equity since 2012. Mortgage debt outstanding increased slightly from \$11.7 trillion in Q4 2020 to \$11.8 trillion in Q1 2021, while total household equity increased from \$22.4 trillion to \$24.2 trillion. The total value of the housing market reached \$36.0 trillion in the first quarter of 2021, 40.8 percent higher than the pre-crisis peak in 2006. Agency MBS account for 66.0 percent of the total mortgage debt outstanding, private-label securities make up 3.3 percent, and home equity loans make up 3.6 percent. Unsecuritized first liens comprise the remaining 27.1 percent with banks making up 18.9 percent, credit unions 4.5 percent, and other non-depositories accounting for 3.7 percent of the total.

Value of the US Single Family Housing Market



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: Federal Reserve Flow of Funds and Urban Institute. Last updated June 2021.

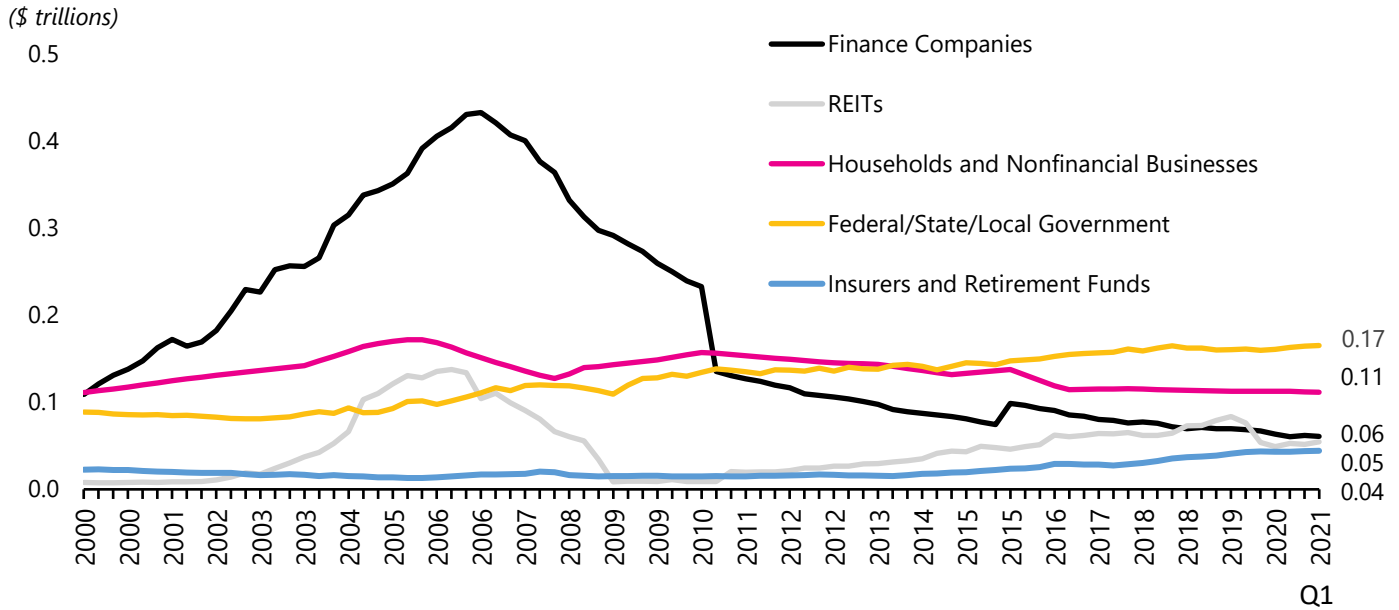
Notes: Unsecuritized First Liens (Other) includes mortgages not held on bank balance sheets.

OVERVIEW

MARKET SIZE OVERVIEW

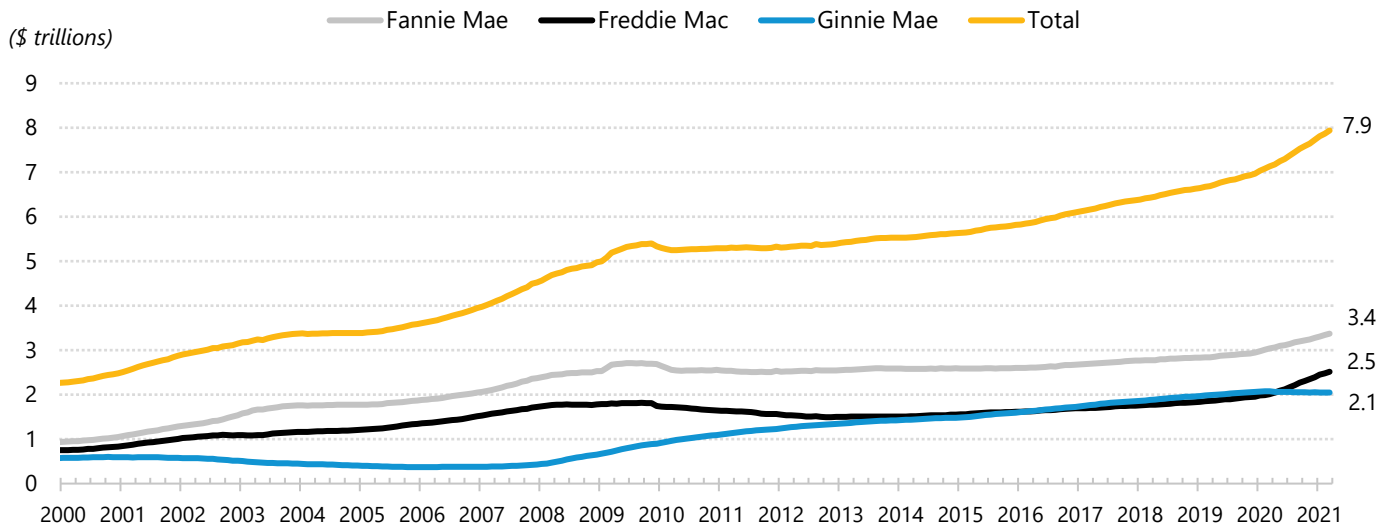
As of Q1 2021, unsecuritized first liens held outside banks and credit unions totaled \$ 0.97 trillion. In this space, REITs, insurers and retirements have experienced particularly robust percentage increases over the last decade. In June 2021, outstanding securities in the agency market totaled \$7.9 trillion, 42.5 percent of which was Fannie Mae, 31.7 percent Freddie Mac, and 25.8 percent Ginnie Mae.

Unsecuritized 1st Liens Held by Non-Depositories



Sources: Federal Reserve Flow of Funds and Urban Institute. Last updated June 2021.

Agency Mortgage-Backed Securities



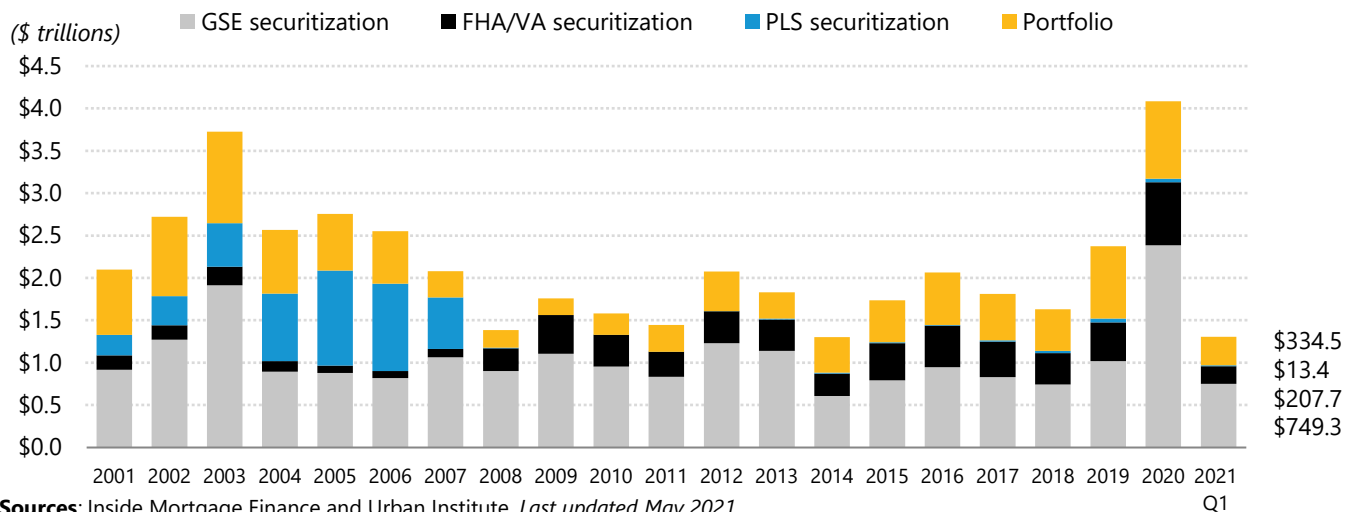
Sources: eMBS and Urban Institute.

June 2021

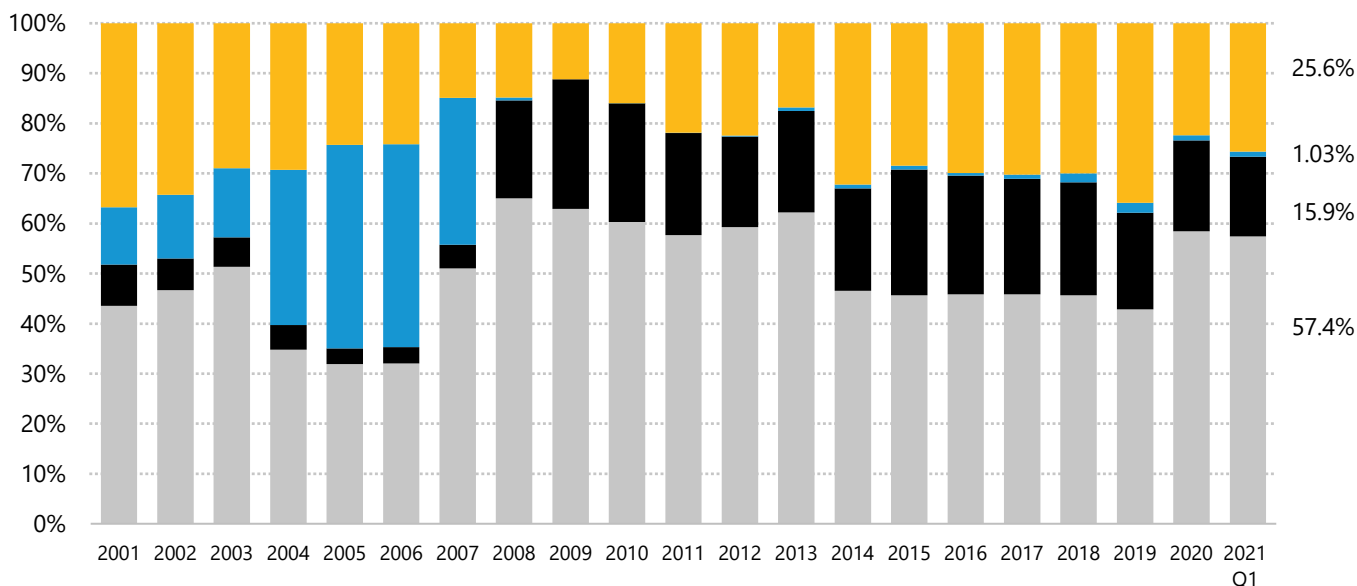
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

2021 is off to a strong start for first-liens originations, with \$1.31 trillion in mortgages originated during Q1. The share of portfolio originations was 25.6 percent in Q1 2021, an increase from the 22.3 percent share in full year 2020. The Q1 2021 GSE share was down very slightly in Q1 2021 at 57.4 percent, compared to 58.2 percent for full year 2020. The FHA/VA share in the first quarter of 2021 was 15.9 percent, down from 18.1 percent in 2020. The PLS share was roughly the same in Q1 2021 as in 2020, at 1.03 percent, and a fraction of its share pre-2008. The smaller share of portfolio and PLS in 2020 reflects the impact of COVID-19, which made it difficult to originate mortgages without government support. The higher GSE 2020 share reflects heavy refinance activity. In 2020, with private capital pulling back because of the downturn, the federal government played an oversized role in the market. This has begun reversing in Q1 2021, as demonstrated by the increase in the portfolio share.



(Share, percent)

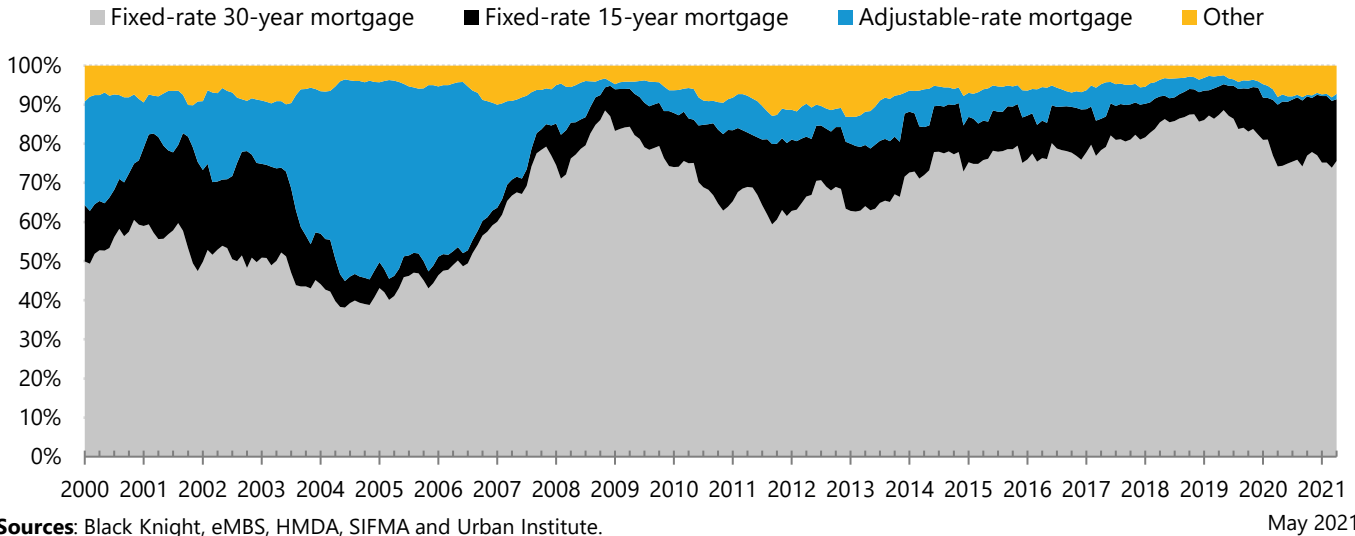


OVERVIEW

PRODUCT COMPOSITION AND REFINANCE SHARE

The 30-year fixed-rate mortgage continues to remain the bedrock of the US housing finance system, accounting for 75.6 percent of new originations in May 2021. The share of 15-year fixed-rate mortgages, predominantly a refinance product, was 15.8 percent of new originations in May 2021. The ARM share accounted for 1.4 percent of new originations. From late 2018-though June 2021, while there has been some month-to-month variation, the refinance share (bottom chart) has generally grown for both the GSEs and for Ginnie Mae as interest rates have dropped. The past few months, in reaction to slightly higher interest rates, the refi share has dropped. In June 2021, the GSE refi shares are in the 60 to 64 percent range; the Ginnie Mae refi share was 40.6 percent.

Product Composition

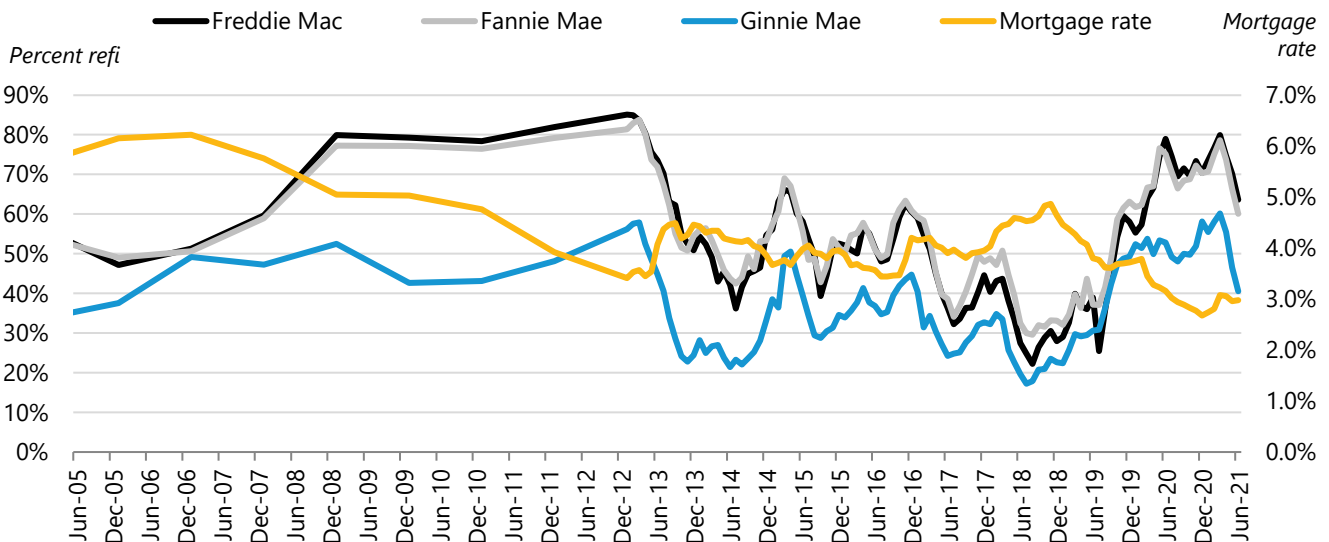


Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.

Note: Includes purchase and refinance originations.

May 2021

Percent Refi at Issuance



Sources: eMBS and Urban Institute.

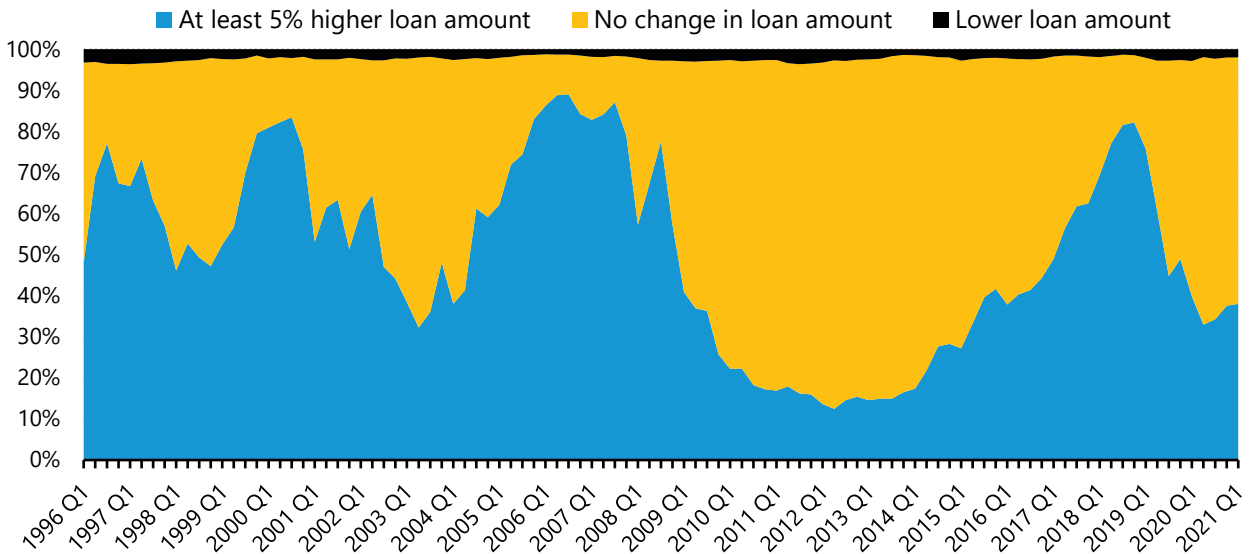
Note: Based on at-issuance balance. Figure based on data from June 2021.

OVERVIEW

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 refi share generally declined during 2020 due to increased rate refinances amidst historically low rates. As rates have increased slightly in recent months, the cash-out share rose from 34 percent in Q3 2020 to 37 percent in Q4 2020 and again to 38 percent in Q1 2021. Note that while home prices have risen, equity take-out volumes are substantially lower compared to the bubble years.

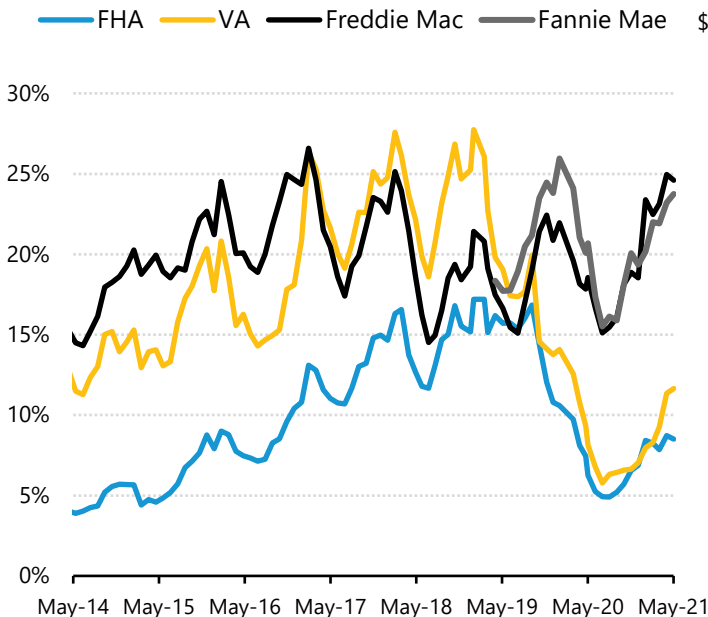
Loan Amount after Refinancing



Sources: Freddie Mac and Urban Institute.

Note: Estimates include conventional mortgages only.

Cash-out Refi Share of All Originations



Sources: eMBS and Urban Institute.

Note: Data as of May 2021.

Equity Take-Out from Conventional Mortgage Refinance Activity



Sources: Freddie Mac and Urban Institute.

Note: These quarterly estimates include conventional mortgages only.

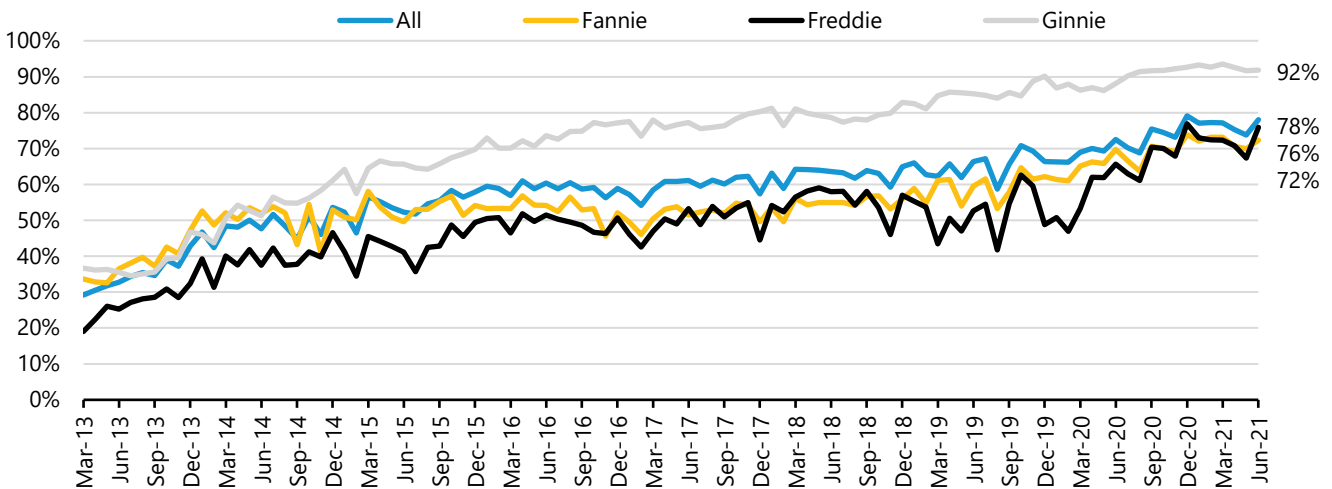
2021 Q1

OVERVIEW

AGENCY NONBANK ORIGINATION SHARE

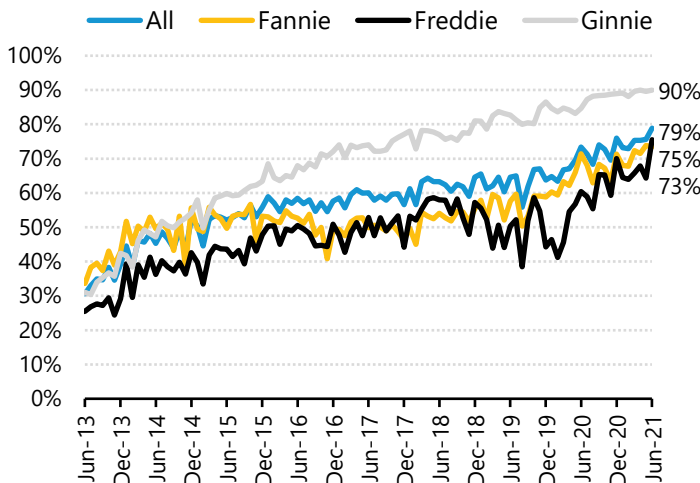
The nonbank share for agency originations has been rising steadily since 2013, standing at 78.0 percent in June 2021. The Ginnie Mae nonbank share has been consistently higher than the GSEs, increasing slightly in June 2021 to 91.9 percent. Fannie and Freddie had nonbank shares of 72 percent and 76 percent respectively in June 2021. Fannie Mae had a higher nonbank origination share for purchase activity than for refi activity in June 2021. Freddie Mac and Ginnie Mae's nonbank origination shares for refi activity were higher than their shares for purchase activity June 2021.

Nonbank Origination Share: All Loans



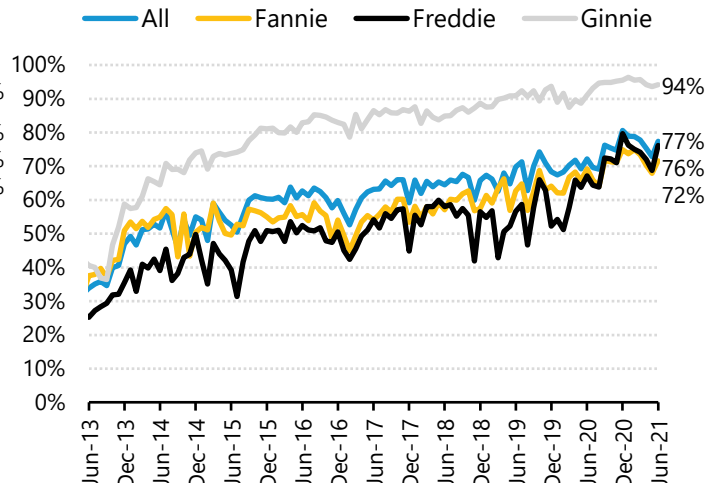
Sources: eMBS and Urban Institute.

Nonbank Origination Share: Purchase Loans



Sources: eMBS and Urban Institute.

Nonbank Origination Share: Refi Loans



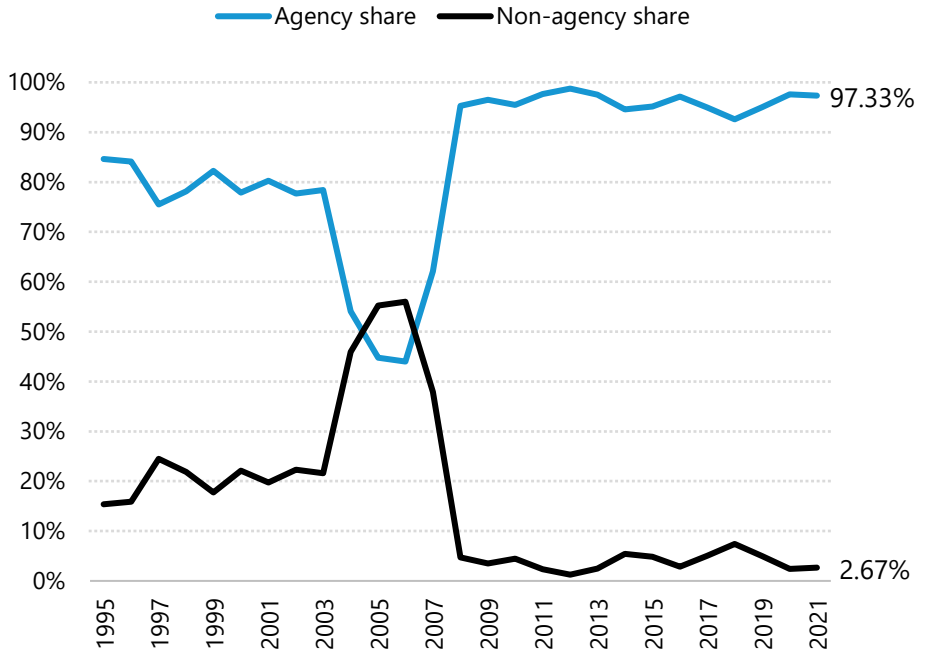
Sources: eMBS and Urban Institute.

OVERVIEW

SECURITIZATION VOLUME AND COMPOSITION

Agency/Non-Agency Share of Residential MBS Issuance

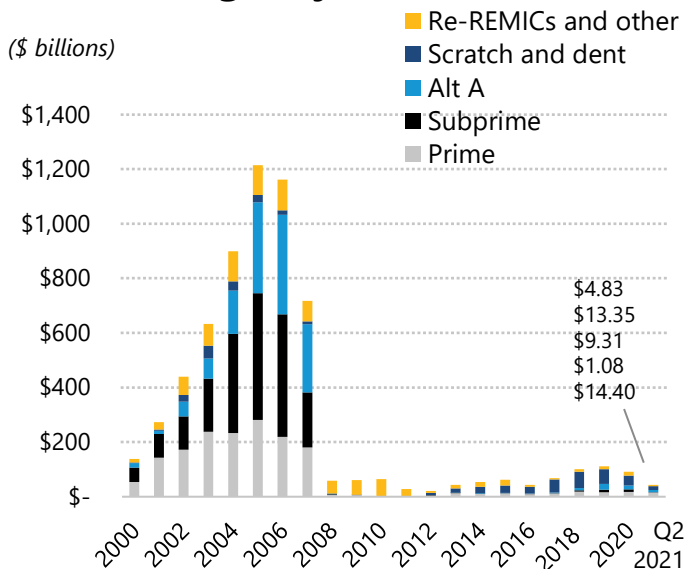
The non-agency share of mortgage securitizations increased gradually over the post-crisis years, from 1.83 percent in 2012 to 5.0 percent in 2019. In 2020, the non-agency share dropped to 2.44 percent, and as of May 2021, it stood at 2.67 percent. The sharp drop in 2020, continuing into 2021, reflects less non-agency production due to dislocations caused by COVID-19. Non-agency securitization volume totaled \$42.97 billion in Q2 2021, an increase relative to Q2 2020. Non-agency securitizations continue to be tiny compared to pre-housing market crisis levels.



Sources: Inside Mortgage Finance and Urban Institute.

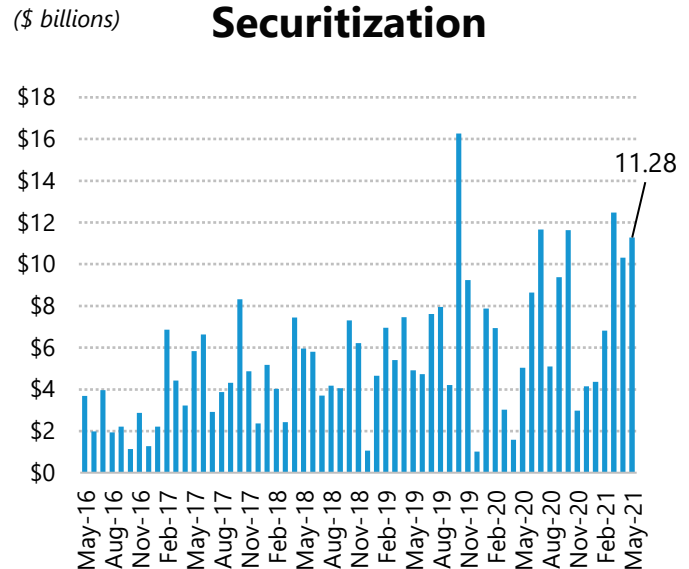
Note: Based on data from May 2021. Monthly non-agency volume is subject to revision.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization



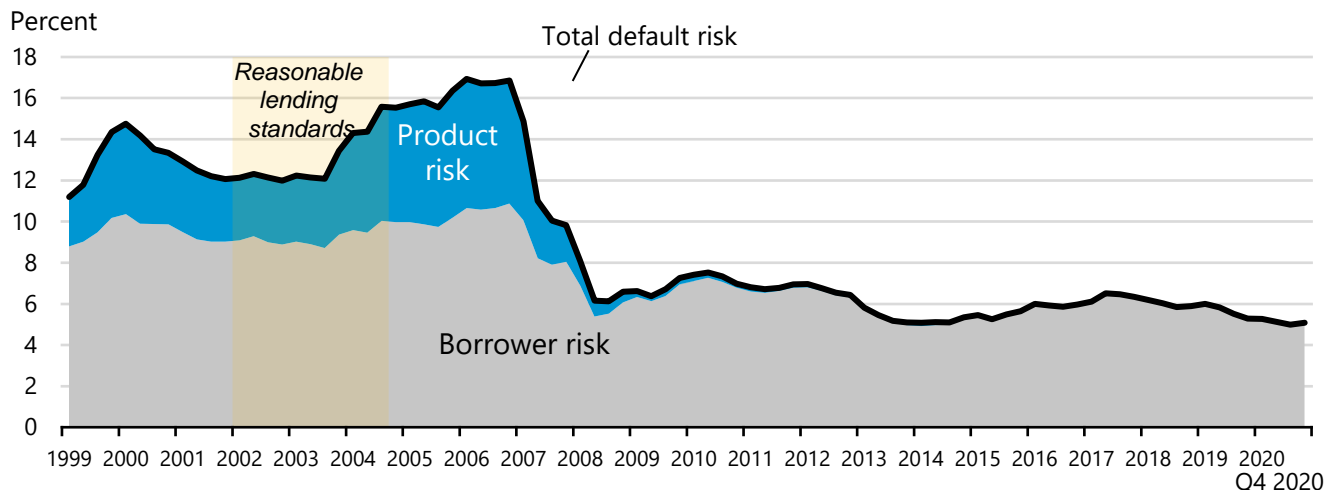
Sources: Inside Mortgage Finance and Urban Institute. 12

CREDIT BOX

HOUSING CREDIT AVAILABILITY INDEX

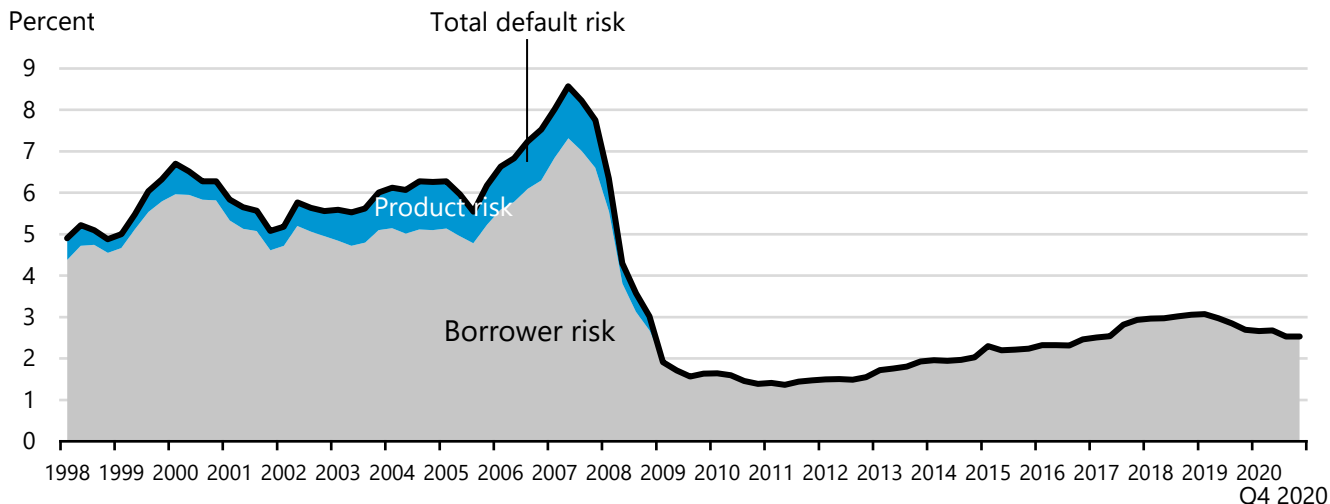
The Urban Institute's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to go 90+ days delinquent over the life of the loan. The HCAI stood at 5.1 percent in Q4 2020, up slightly from a historic low in Q3 of just below 5.0 percent. Note that we updated the methodology as of Q2 2020, see new methodology [here](#). Credit loosening from Q3 to Q4 2020 was led by increased borrower default risk among government channel originations, as well as a shift in market composition, with the GSE channel making up a smaller portion of total purchase originations. 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 had nearly doubled, from 1.4 percent to 2.7 percent. This is still very modest by pre-crisis standards. However, over the past year credit availability has trended down, standing at 2.5 percent in Q4 2020, the result of accelerated tightening throughout 2020 induced by market conditions due to COVID-19.



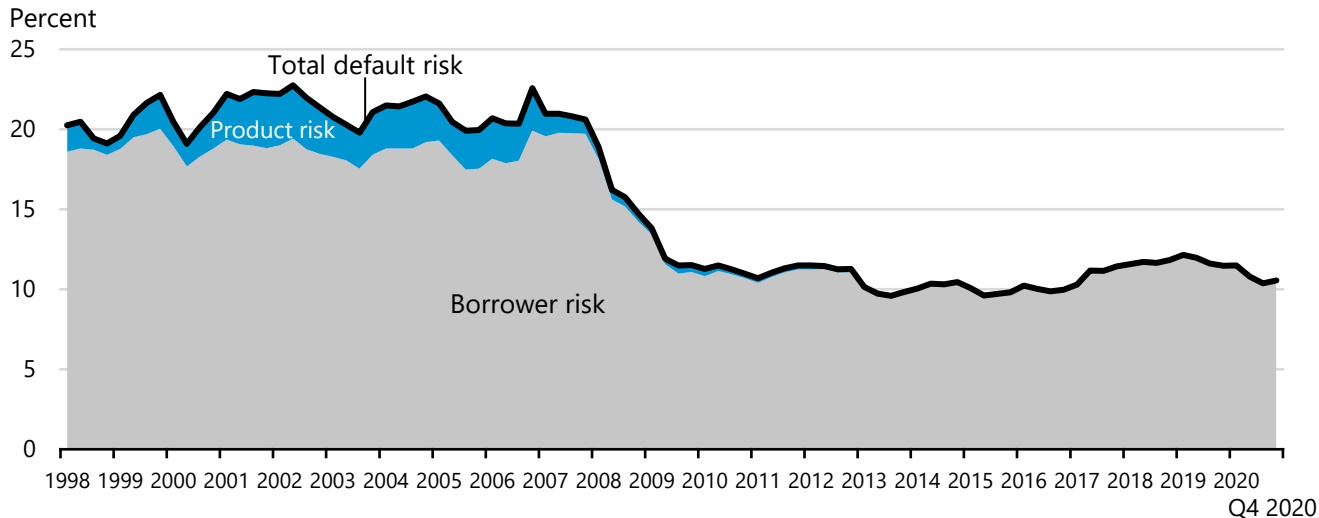
Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.

Note: Default is defined as 90 days or more delinquent at any point. Last updated April 2021.

HOUSING CREDIT AVAILABILITY INDEX

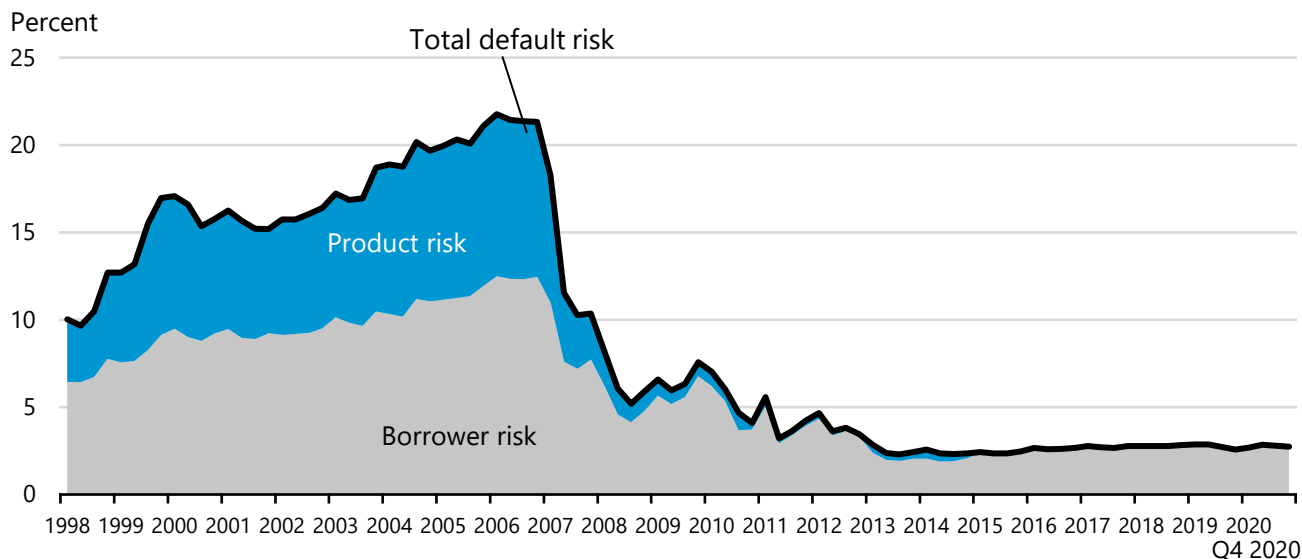
Government Channel

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 for 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. The government channel reduced risk in quarters two and three of 2020, declining to 10.4 percent in Q3 but increased risk in Q4 to 10.6 percent; still 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 FVR 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 Q4 2020. It is important to realize the PP market share plummeted during the COVID-19 crisis, as borrowers increasingly used government or GSE channels or could not obtain a mortgage at all. The PP share increased slightly in Q4 but remains a shadow of what it once was.



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

Note: Default is defined as 90 days or more delinquent at any point. Last updated April 2021.

CREDIT BOX

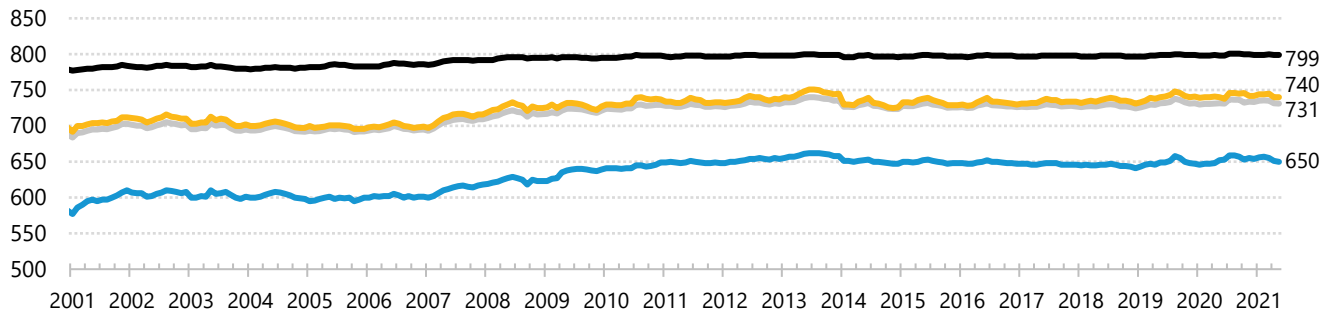
CREDIT AVAILABILITY FOR PURCHASE LOANS

Access to credit remains tight, especially for lower FICO borrowers. The median FICO for current purchase loans is about 40 points higher than the pre-housing crisis level of around 700. The 10th percentile, which represents the lower bound of creditworthiness to qualify for a mortgage, was 650 in May 2021, which is 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.

— Mean — 90th percentile — 10th percentile — Median

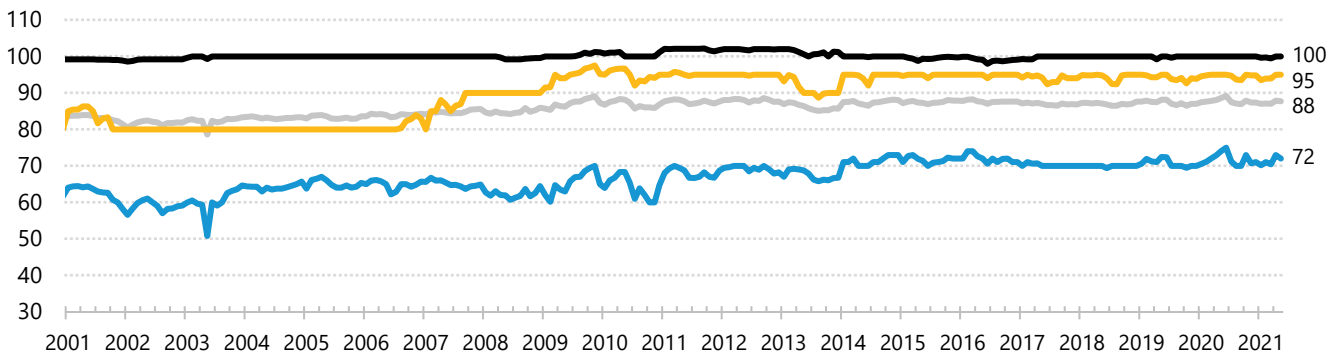
Borrower FICO Score at Origination

FICO Score



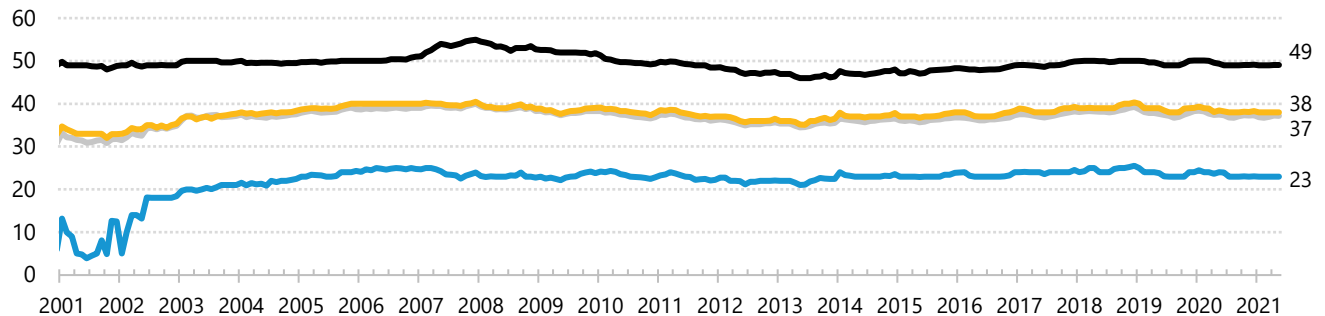
Combined LTV at Origination

LTV



DTI at Origination

DTI



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

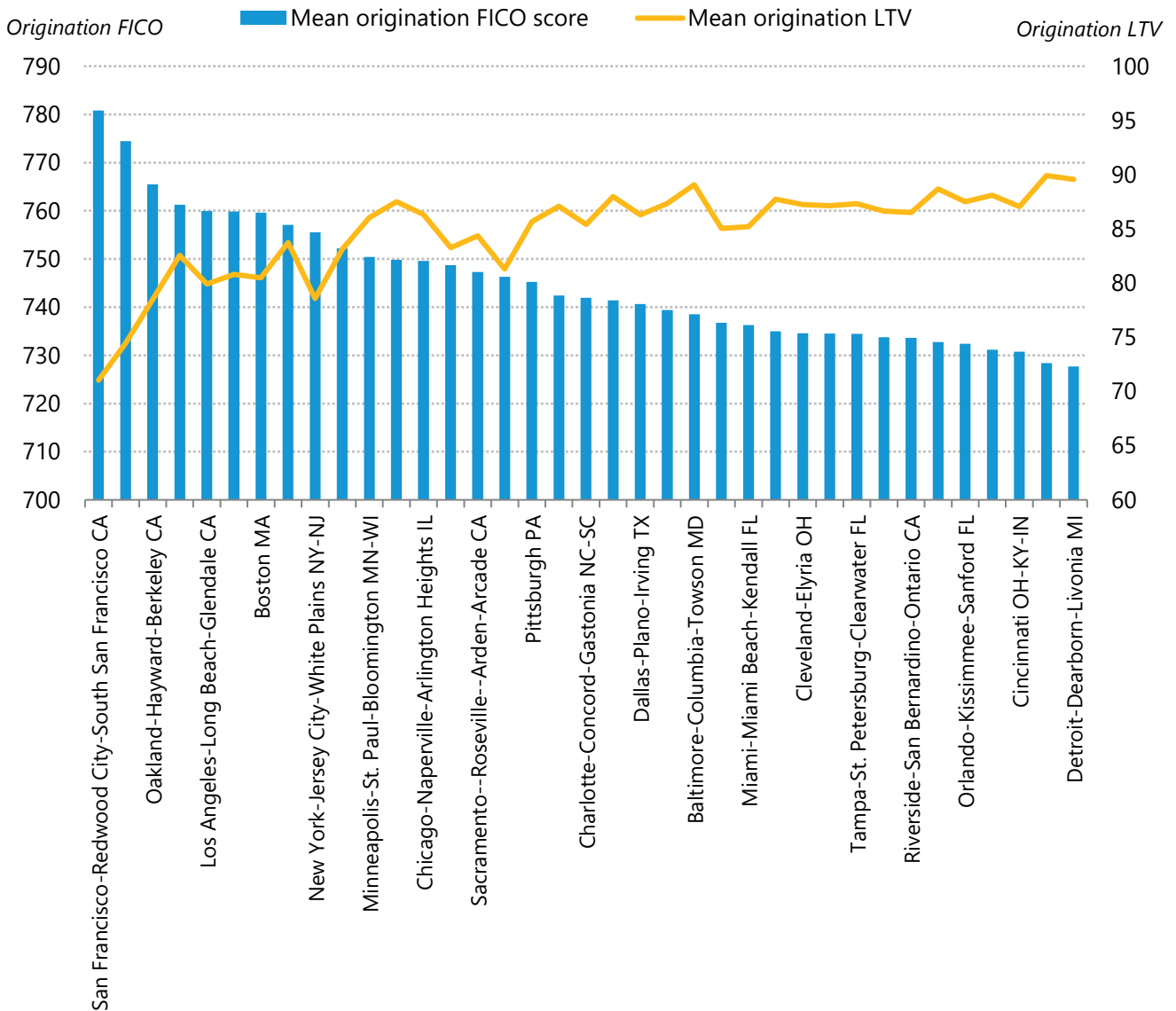
Note: Includes owner-occupied purchase loans only. DTI data prior to April 2018 is from CoreLogic; after that date, it is from Black Knight. Data as of May 2021.

CREDIT BOX

CREDIT AVAILABILITY BY MSA FOR PURCHASE LOANS

Credit has been tight for all borrowers with less-than-stellar credit scores—especially in MSAs with high housing prices. For example, the mean origination FICO for borrowers in San Francisco-Redwood City-South San Francisco, CA is approximately 781 in May 2021. Across all MSAs, lower average FICO scores tend to be correlated with high average LTVs, as these MSAs rely heavily on FHA/VA financing.

Origination FICO and LTV



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

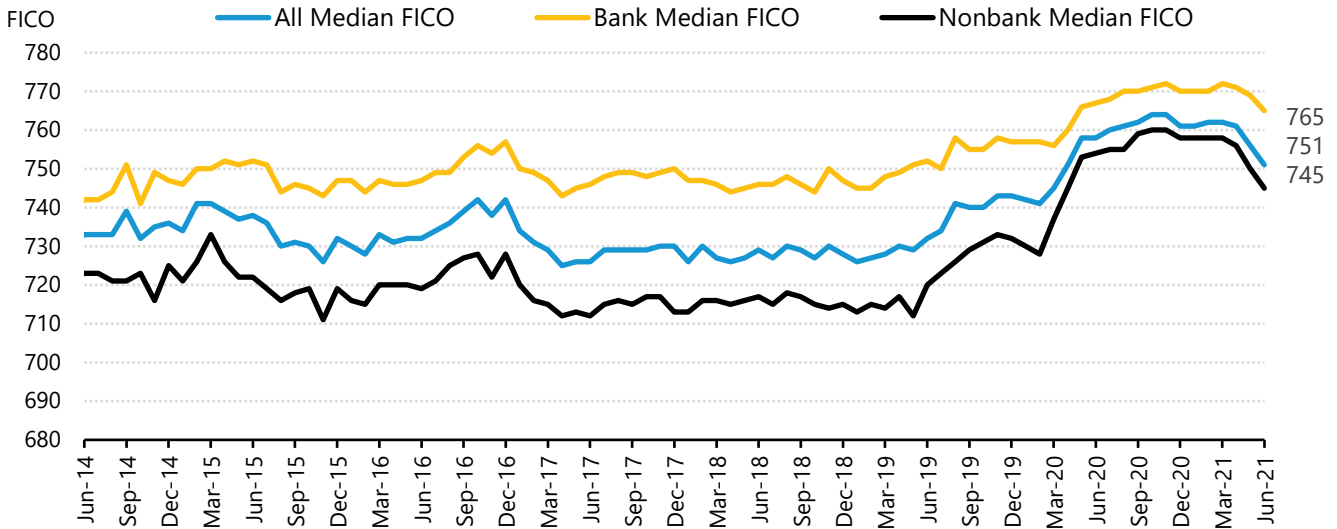
Note: Includes owner-occupied purchase loans only. Data as of May 2021.

CREDIT BOX

AGENCY NONBANK CREDIT BOX

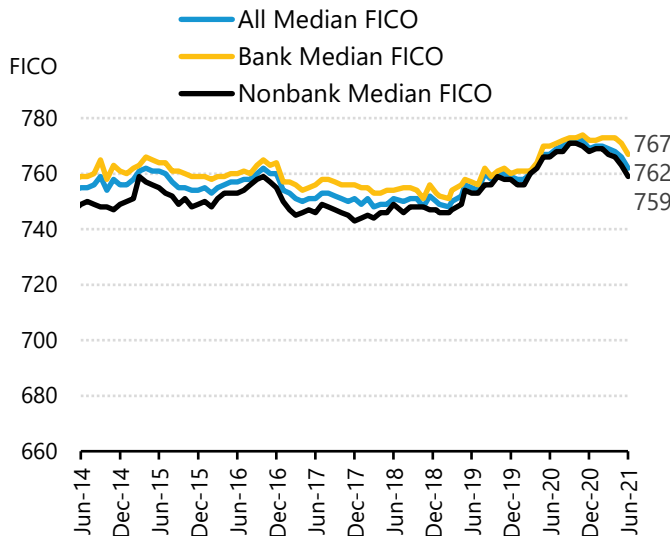
In the GSE space, FICO scores for banks and nonbanks have dipped slightly in 2021 although they remain elevated. The difference between the two stood at 8 points in June 2021, compared to the 27 point gap between bank and nonbank FICOs in the Ginnie space. FICO scores for banks and nonbanks in both GSE 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 7 percent of Ginnie Mae originations.

Agency FICO: Bank vs. Nonbank



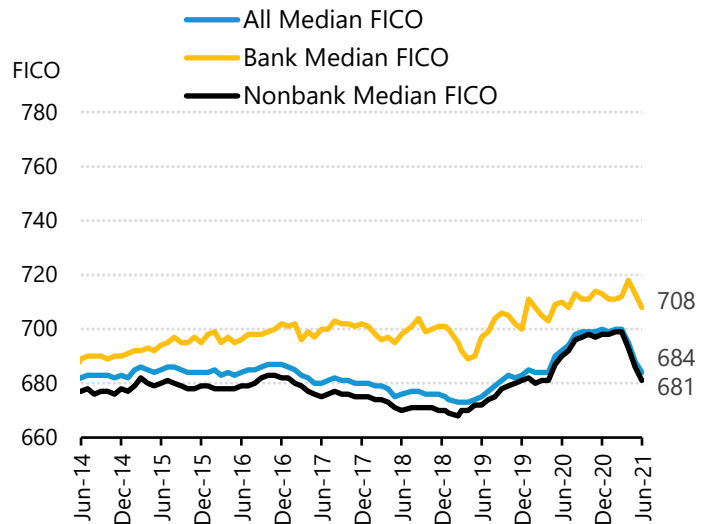
Sources: eMBS and Urban Institute.

GSE FICO: Bank vs. Nonbank



Sources: eMBS and Urban Institute.

Ginnie Mae FICO: Bank vs. Nonbank



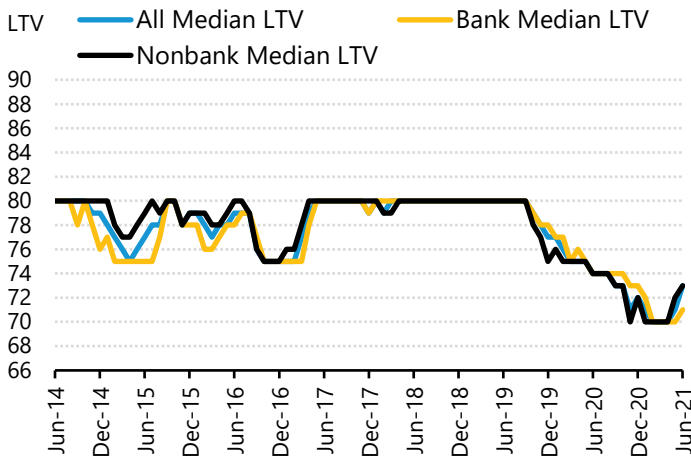
Sources: eMBS and Urban Institute.

CREDIT BOX

AGENCY NONBANK CREDIT BOX

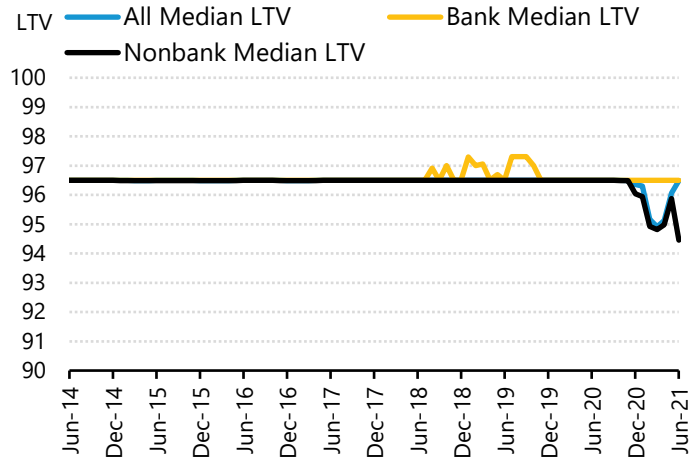
The median LTVs for nonbank and bank originations are comparable, while the median DTI for nonbank loans is higher than for bank loans, more so in the Ginnie Mae space. From early 2017 to early 2019, there was a sustained increase in DTIs, which has reversed beginning in the spring of 2019. This is true 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. Over the last few months, DTIs have increased, reflecting the small 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



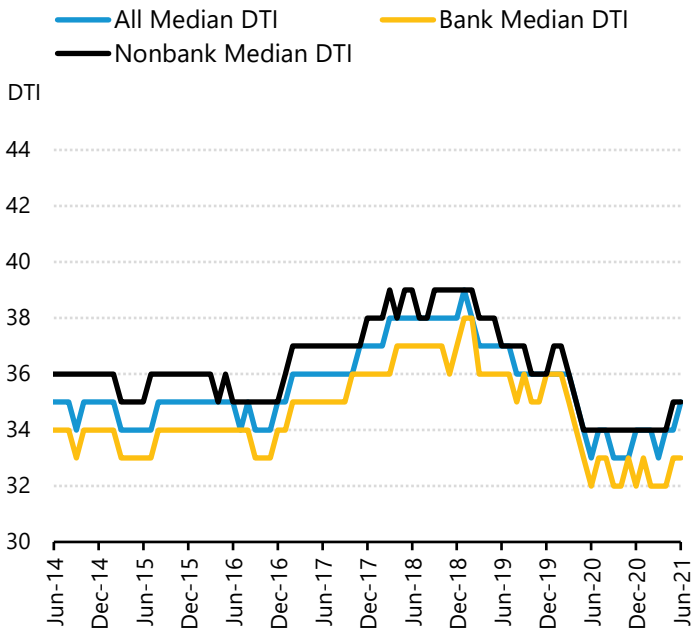
Sources: eMBS and Urban Institute.

Ginnie Mae LTV: Bank vs. Nonbank



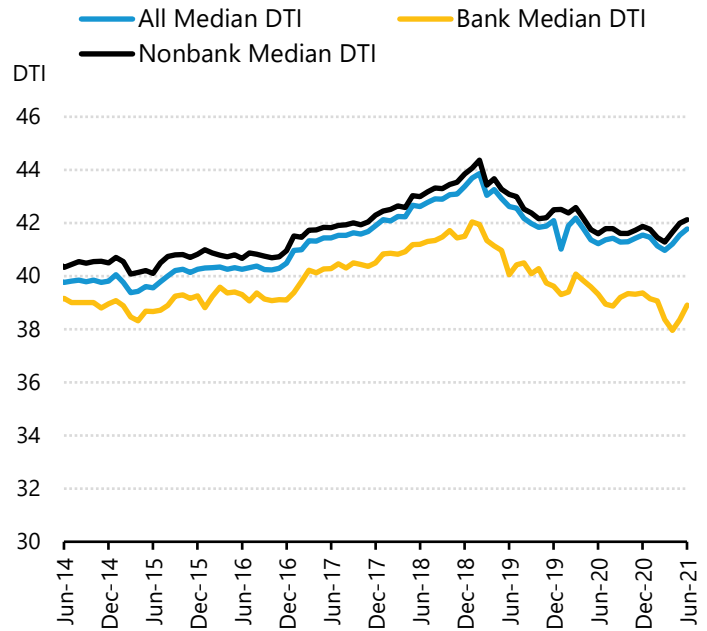
Sources: eMBS and Urban Institute.

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 2021 origination volume to be between \$3.47 and \$4.20 trillion, lower than the \$3.83 to \$4.54 trillion in 2020. 2020 was the highest origination year in the 21st century; page 8 top provides the longer historical time series. The very robust 2020 origination volume is due to very strong refinance activity. All three groups expect the 2021 refinance share to be 8 to 9 percentage points lower than in 2020.

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
2020 Q1	752	690	563	61	60	54
2020 Q2	1096	990	928	68	67	63
2020 Q3	1346	1155	1076	62	62	61
2020 Q4	1342	1265	1261	64	65	67
2021 Q1	1256	1305	1094	72	71	71
2021 Q2	1191	1075	1050	58	56	56
2021 Q3	958	853	743	46	44	40
2021 Q4	797	700	578	42	37	25
2017	1826	1810	1760	36	37	35
2018	1766	1700	1677	30	32	28
2019	2462	2432	2253	46	46	44
2020	4536	4100	3828	64	64	59
2021	4202	3933	3465	56	55	50
2022	3232	2626	2361	39	27	25

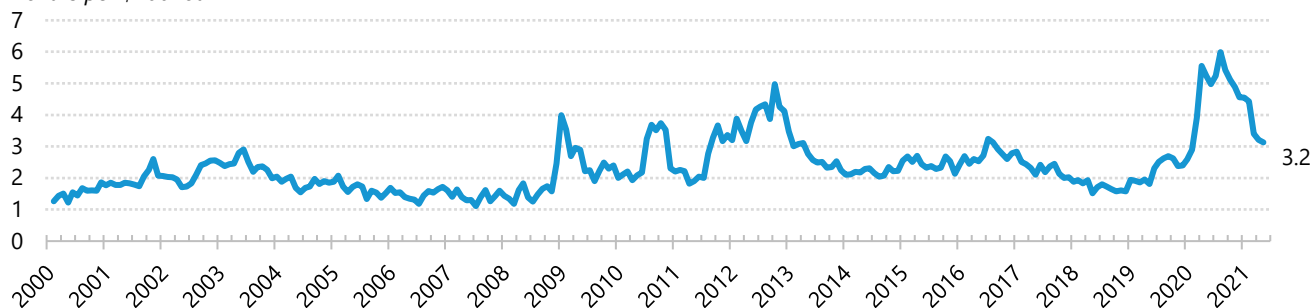
Sources: Fannie Mae, Freddie Mac, Mortgage Bankers Association and Urban Institute.

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 and 2020 were 4.0, 4.6, 3.9, and 3.0 percent. For 2021, the respective projections for Fannie, Freddie, and MBA are 3.0, 3.2, and 3.5 percent. Freddie Mac forecasts are now released quarterly, last updated June 2021.

Originator Profitability and Unmeasured Costs

In June 2021, Originator Profitability and Unmeasured Costs (OPUC) stood at \$3.19 per \$100 loan, down from last month's \$3.13. Increased profitability reflects lender capacity constraints amidst strong refi demand. The continued decline reflects the fact that the backlog of refinance has been processed, and originators are competing 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. 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



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 June 2021.

Note: OPUC is a monthly (4-week moving) average as discussed in [Fuster et al. \(2013\)](#).

STATE OF THE MARKET

HOUSING SUPPLY

Months of supply in June 2021 was 2.6, up from the record low of 1.9 in January 2021, but very low in a historical context. Strong demand for housing in recent years, fueled by low mortgage rates, has kept the months supply limited. Fannie Mae, the MBA, and the NAHB forecast 2021 housing starts to be 1.55 to 1.62 million units; these 2021 forecasts are above 2020 levels. Fannie Mae, Freddie Mac, the MBA, and the NAHB predict total home sales of 6.26 to 7.10 million units in 2021, above 2020 levels.

Months of Supply

Months of supply



June 2021

Source: National Association of Realtors and Urban Institute. Data as of June 2021.

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	1207	6123	6120	6158	5520
2018	1250	1250	1248	5957	5960	5956	5351
2019	1290	1295	1292	6023	6000	6016	5432
2020	1380	1397	1397	6462	6500	6491	5903
2021	1623	1556	1551	6708	6900	7040	6263
2022	1545	1648	1554	6557	6900	7332	6532

Sources: Mortgage Bankers Association, Fannie Mae, Freddie Mac, National Association of Home Builders and Urban Institute.

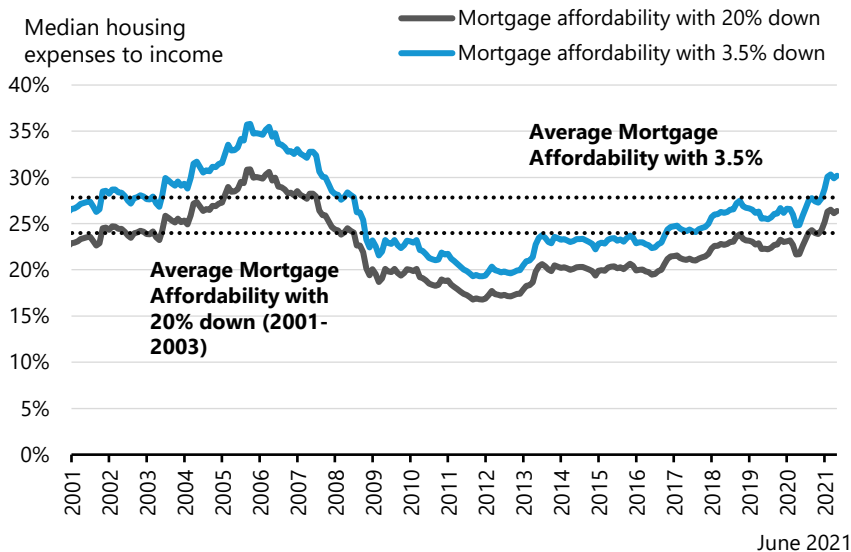
Note: Shaded boxes indicate forecasted figures; column labels indicate source of estimate. Freddie Mac home sales are now updated quarterly instead of monthly, with the last update in April 2021. *NAHB home sales estimate is for single-family structures only, it excludes condos and co-ops. Other figures include all single-family sales.

STATE OF THE MARKET

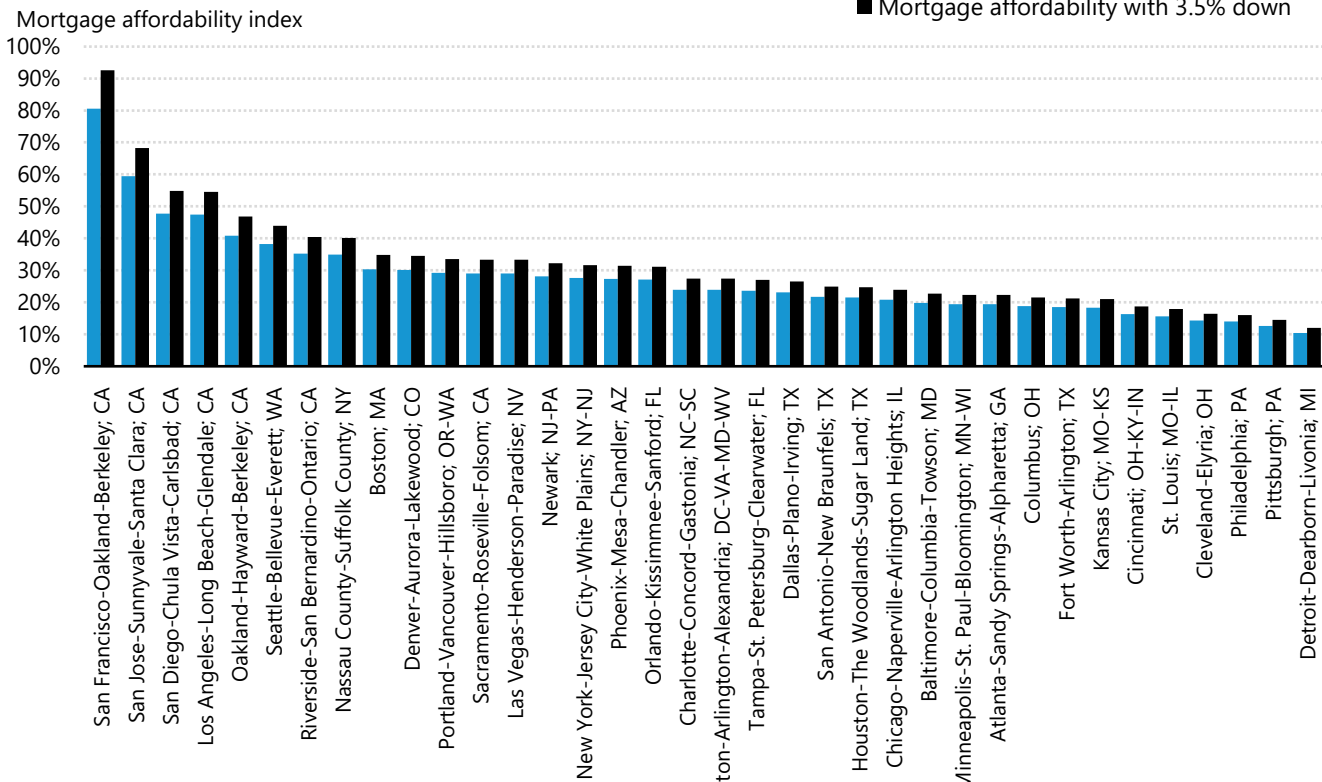
HOUSING AFFORDABILITY

National Mortgage Affordability Over Time

Despite historic low interest rates, increases in home prices have pushed affordability to the worst levels since 2008. As of June 2021, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 26.4 percent; with 3.5 percent down it is 30.2 percent. These numbers are well above the 2001-2003 median, and represent a sharp worsening in affordability over the past year. As shown in the bottom picture, mortgage affordability varies widely by MSA.



Mortgage Affordability by MSA



Sources: National Association of Realtors, US Census Bureau, Current Population Survey, American Community Survey, Moody's Analytics, Freddie Mac Primary Mortgage Market Survey, 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 2018 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 as of Q3 2020.

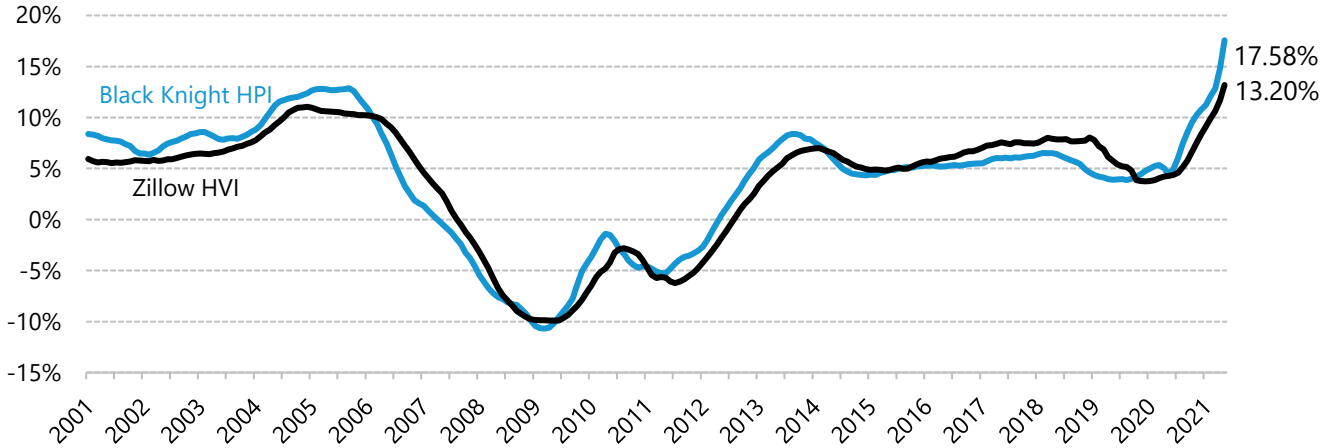
STATE OF THE MARKET

HOME PRICE INDICES

National Year-Over-Year HPI Growth

According to Black Knight's updated repeat sales index, year-over-year home price appreciation increased to 17.58 percent in May 2021, compared to 14.85 percent the previous month. Year-over-year home price appreciation as measured by Zillow's hedonic index was 13.20 percent in May 2021, up from 11.70 in April. Although housing affordability remains constrained, especially at the lower end of the market, low rates serve as a partial offset.

Year-over-year growth

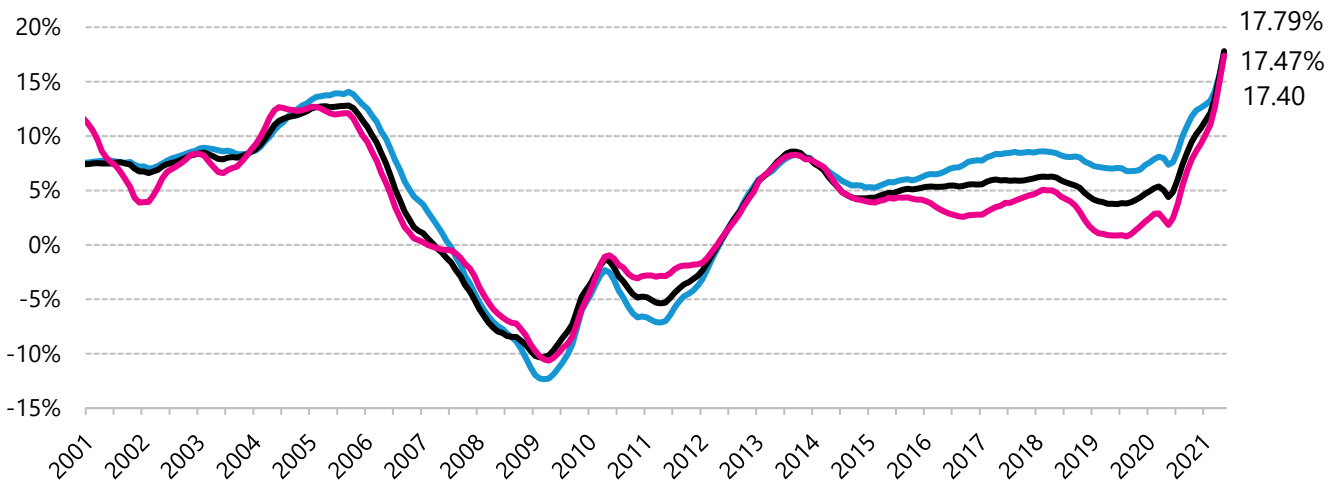


Sources: Black Knight, Zillow, and Urban Institute. **Note:** Black Knight modified the methodology behind their HPI in February 2021, resulting in changes to historic price estimates. Data as of May 2021.

National Year-Over-Year HPI Growth by Price Tier

House prices escalated significantly in the second half of 2020 and into 2021 across all price tiers. Before the pandemic, lower priced homes appreciated much more than higher priced homes. With higher priced homes also experiencing steep appreciation last year, the gap has disappeared.

— Lowest-tier — Middle-tier — Highest-tier



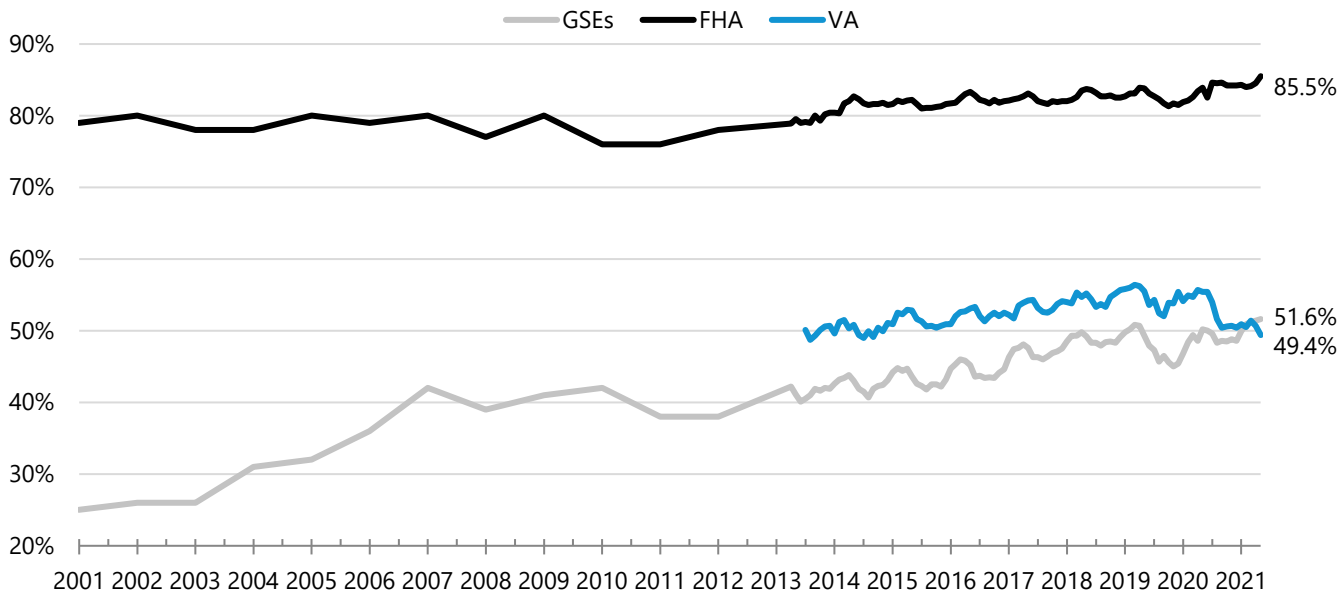
Sources: Black Knight and Urban Institute. **Note:** Black Knight modified the methodology behind their HPI in February 2021, resulting in changes to historic price estimates. Data as of May 2021.

STATE OF THE MARKET

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In May 2021, the FTHB share for FHA, which has always been more focused on first time homebuyers, was 85.5 percent. The FTHB share of VA lending in May was 49.4 percent. The GSE FTHB share increased in May relative to April, to 51.6 percent. The bottom table shows that based on mortgages originated in May 2021, 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.

May 2021

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

Characteristics	GSEs		FHA		GSEs and FHA	
	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount (\$)	307,398	328,058	245,115	262,105	287,792	318,814
Credit Score	748	758	673	673	725	746
LTV (%)	87	79	95	94	90	81
DTI (%)	34	35	43	44	37	37
Loan Rate (%)	3.17	3.10	3.21	3.19	3.18	3.12

Sources: eMBS and Urban Institute.

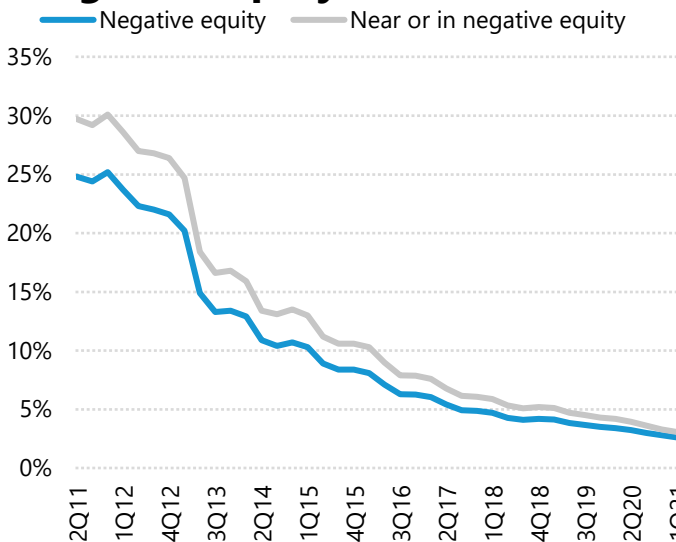
Note: Based on owner-occupied purchase mortgages originated in May 2021.

STATE OF THE MARKET

DELINQUENCIES AND LOSS MITIGATION ACTIVITY

Loans in and near negative equity continued to decline in Q1 2021; 2.6 percent now have negative equity, an additional 0.5 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 slightly in Q1 2021, at 4.70 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 3.50 percent as of July 11, 2021. GSE loans have consistently had the lowest forbearance rates, standing at 1.83 percent as of July. The most recent forbearance rate for Ginnie Mae loans was 4.36 percent; other (e.g., portfolio and PLS) loans had the highest forbearance rate at 7.33 percent.

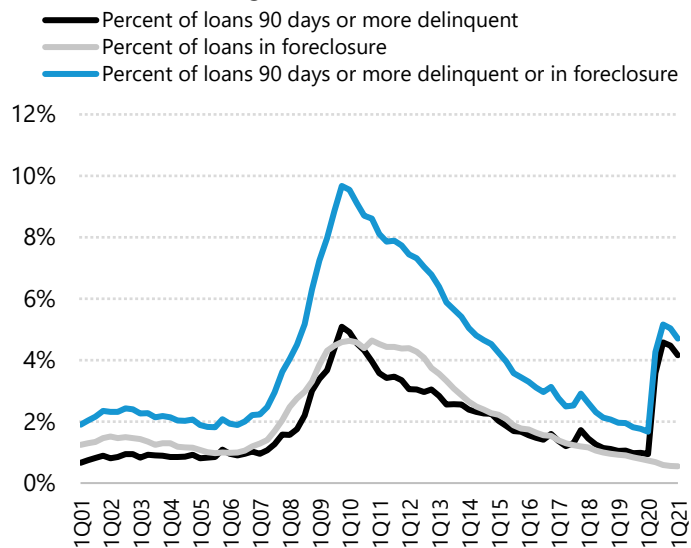
Negative Equity Share



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 June 2021.

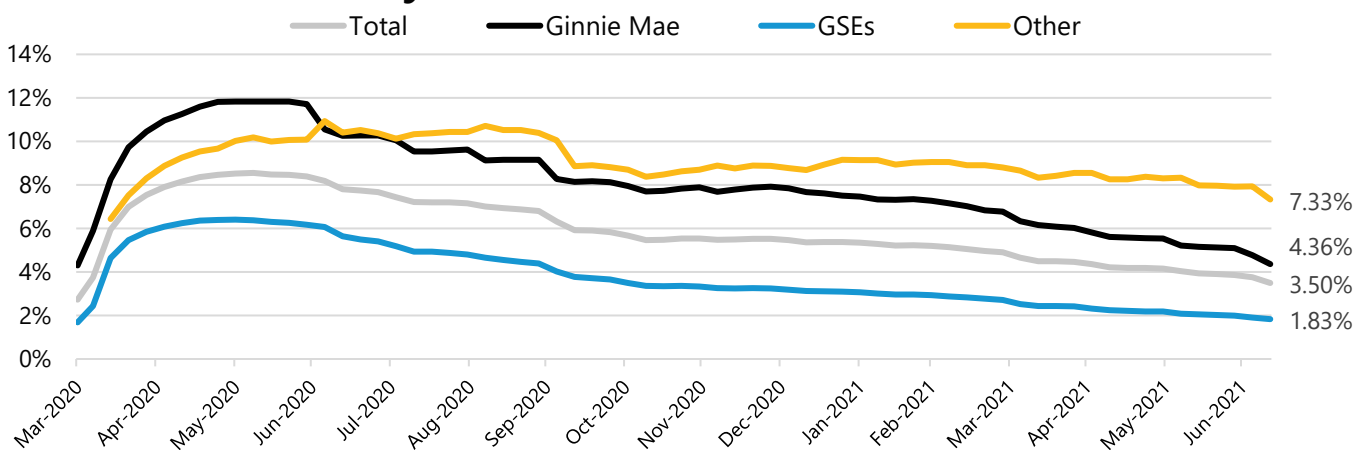
Loans in Serious Delinquency/Foreclosure



Sources: Mortgage Bankers Association and Urban Institute. Last updated May 2021.

Q1 2021

Forbearance Rates by Channel



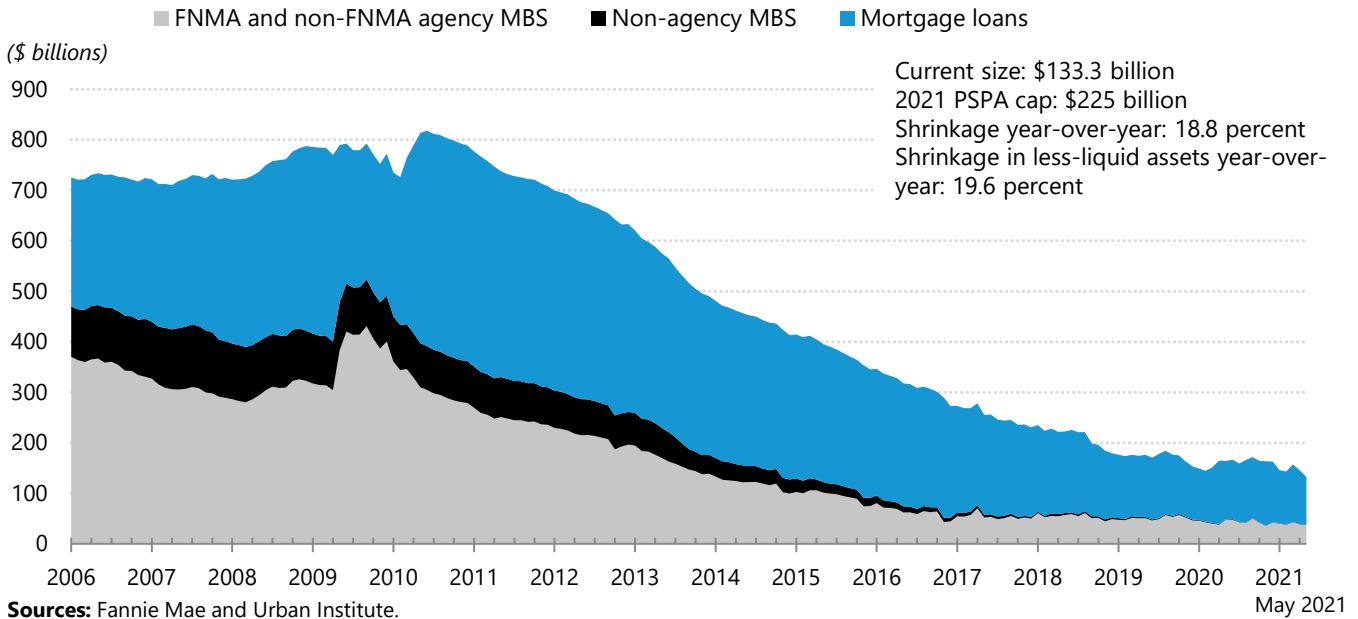
Source: MBA Weekly Forbearance and Call Volume Survey. Forbearance rates as of July 11, 2021.

GSES UNDER CONSERVATORSHIP

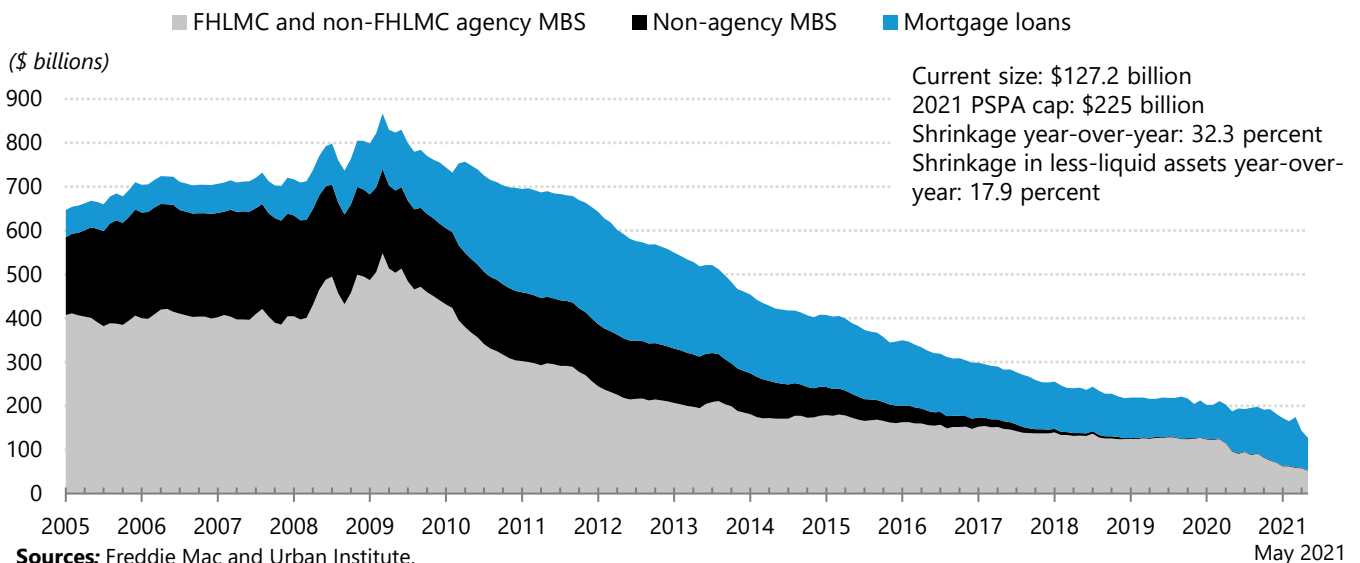
GSE PORTFOLIO WIND-DOWN

The Fannie Mae and Freddie Mac portfolios remain well below the \$250 billion size they were required to reach by year-end 2018, or the \$225 billion cap mandated in January 2021 by the new Preferred Stock Purchase Agreements (PSPAs). From May 2020 to May 2021, the Fannie portfolio contracted year-over-year by 18.8 percent, and the Freddie portfolio contracted by 32.3 percent. Within the portfolio, both Fannie Mae and Freddie Mac contracted their less-liquid assets (mortgage loans, non-agency MBS), by 19.6 percent and 17.9 percent, respectively, over the same 12 month period.

Fannie Mae Mortgage-Related Investment Portfolio



Freddie Mac Mortgage-Related Investment Portfolio Composition



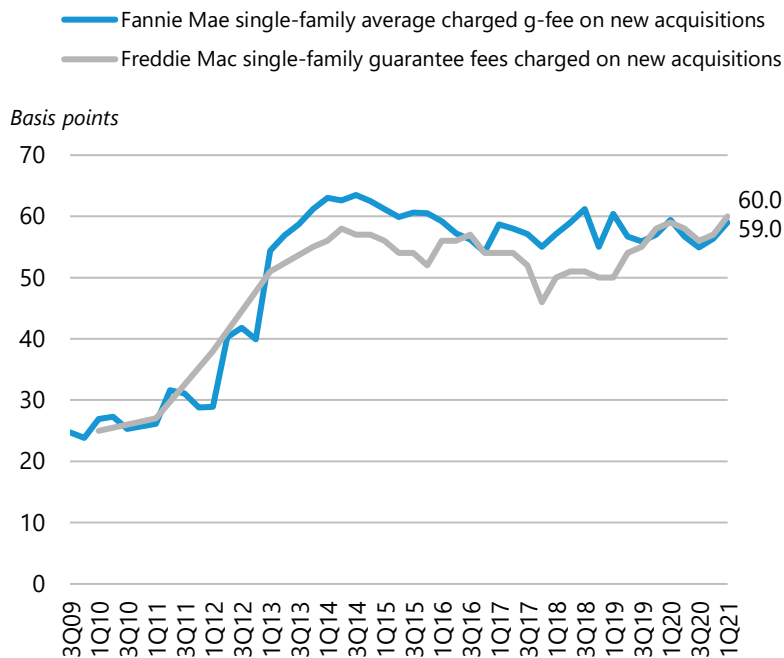
Note: Effective March 2021, Freddie Mac doesn't provide FHLMC/non-FHLMC breakout of agency MBS. The above charts were updated in May 2021 to reflect this.

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 56.4 bps in Q4 2020 to 59.0 bps in Q1 2021. Freddie’s also increased from 57.0 bps to 60.0 bps. The gap between the two g-fees was 1.0 bps in Q1 2021. 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 Mac and Urban Institute.
Last updated May 2021.

Fannie Mae Upfront Loan-Level Price Adjustments (LLPAs)

Credit Score	LTV (%)								
	≤60	60.01 – 70	70.01 – 75	75.01 – 80	80.01 – 85	85.01 – 90	90.01 – 95	95.01 – 97	>97
> 740	0.00	0.25	0.25	0.50	0.25	0.25	0.25	0.75	0.75
720 – 739	0.00	0.25	0.50	0.75	0.50	0.50	0.50	1.00	1.00
700 – 719	0.00	0.50	1.00	1.25	1.00	1.00	1.00	1.50	1.50
680 – 699	0.00	0.50	1.25	1.75	1.50	1.25	1.25	1.50	1.50
660 – 679	0.00	1.00	2.25	2.75	2.75	2.25	2.25	2.25	2.25
640 – 659	0.50	1.25	2.75	3.00	3.25	2.75	2.75	2.75	2.75
620 – 639	0.50	1.50	3.00	3.00	3.25	3.25	3.25	3.50	3.50
< 620	0.50	1.50	3.00	3.00	3.25	3.25	3.25	3.75	3.75
Product Feature (Cumulative)									
Investment Property	2.125	2.125	2.125	3.375	4.125	4.125	4.125	4.125	4.125

Sources: Fannie Mae and Urban Institute.
Last updated March of 2021.

GSES UNDER CONSERVATORSHIP

GSE RISK-SHARING TRANSACTIONS

Fannie Mae and Freddie Mac have been laying off back-end credit risk through CAS and STACR deals and through reinsurance transactions. They have also done front-end transactions with originators and reinsurers, and experimented with deep mortgage insurance coverage with private mortgage insurers. Historically, the GSEs have transferred vast majority of their credit risk to private markets. Fannie Mae's CAS issuances since inception total \$1.65 trillion; Freddie's STACR totals \$1.96 trillion. Since the COVID-19 induced spread widening in March 2020, Freddie Mac has issued eleven deals, while Fannie has issued none.

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
January 2020	CAS 2020 - R01	\$29,000	\$1,030	3.6
February 2020	CAS 2020 - R02	\$29,000	\$1,134	3.9
March 2020	CAS 2020 - SBT1	\$152,000	\$966	0.6
Total		\$1,649,572	\$46,601	2.8

Freddie Mac – Structured Agency Credit Risk (STACR)

Date	Transaction	Reference Pool Size (\$ m)	Amount Issued (\$m)	% of Reference Pool Covered
2013	STACR 2013 deals	\$57,912	\$1,130	2.0
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
January 2020	STACR Series 2020 – DNA1	\$29,641	\$794	2.7
February 2020	STACR Series 2020 – HQA1	\$24,268	\$738	3.0
February 2020	STACR Series 2020 – DNA2	\$43,596	\$1,169	2.7
March 2020	STACR Series 2020 – HQA2	\$35,066	\$1,006	2.9
July 2020	STACR Series 2020 – DNA3	\$48,328	\$1,106	2.3
July 2020	STACR Series 2020 – HQA3	\$31,278	\$835	2.7
August 2020	STACR Series 2020 – DNA4	\$41,932	\$1,088	2.6
September 2020	STACR Series 2020 – HQA4	\$25,009	\$680	2.7
October 2020	STACR Series 2020 – DNA5	\$43,406	\$1,086	2.5
November 2020	STACR Series 2020 - HQA5	\$42,257	\$1,080	2.6
December 2020	STACR Series 2020 – DNA6	\$38,810	\$790	2.0
January 2021	STACR Series 2021 – DNA1	\$58,041	\$970	1.7
February 2021	STACR Series 2021 – HQA1	\$62,980	\$1,386	2.2
March 2021	STACR Series 2021 – DNA2	\$55,687	\$1,188	2.1
April 2021	STACR Series 2021 – DNA3	\$44,585	\$950	2.1
June 2021	STACR Series 2021 – HQA2	\$56,550	\$550	1.0
July 2021	STACR Series 2021 – DNA5	\$71,388	\$1,186	1.7
Total		\$2,087,303	\$52,512	2.5

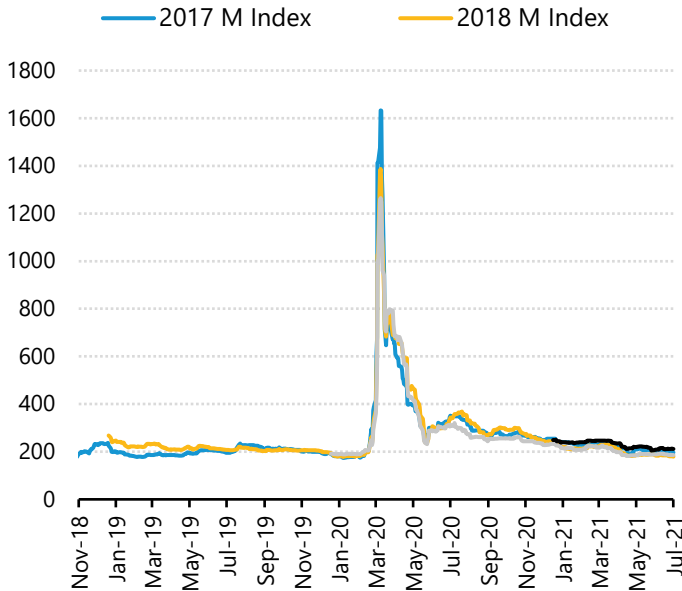
Sources: Fannie Mae, Freddie Mac and Urban Institute. **Note:** Classes A-H, M-1H, M-2H, and B-H are reference tranches only. These classes are not issued or sold. The risk is retained by Fannie Mae and Freddie Mac. "CE" = credit enhancement.

GSES UNDER CONSERVATORSHIP

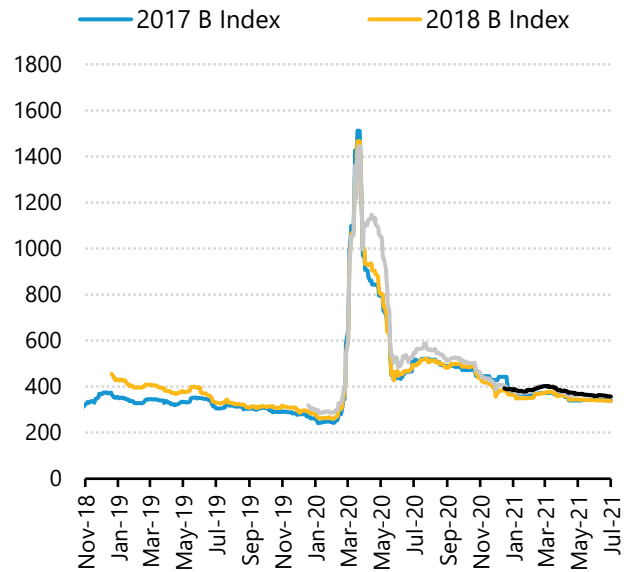
GSE RISK-SHARING INDICES

The figures below show the spreads on 2017, 2018, 2019, and 2020 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. Spreads have tightened considerably since then but remain above pre-COVID levels, especially for B tranches. The 2017, 2018, 2019, and 2020 indices contain both the bottom mezzanine tranche as well as the equity tranche, in all deals when the latter was sold. 2020 indices are heavily Freddie Mac as Fannie hasn't issued any new deals since March 2020.

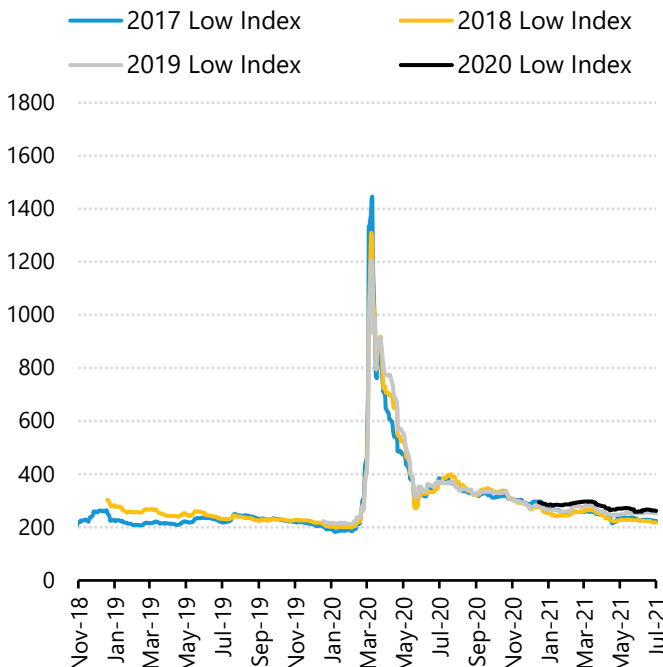
M Indices



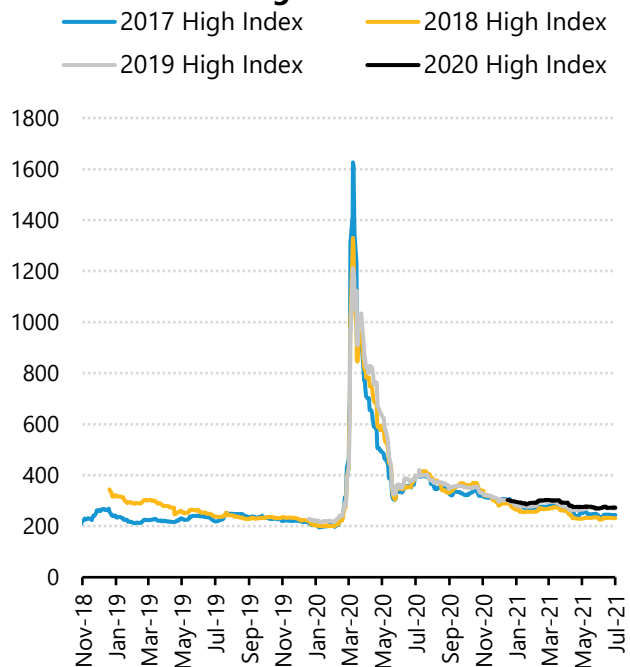
B Indices



Low Indices



High Indices



Sources: Vista Data Services and Urban Institute.

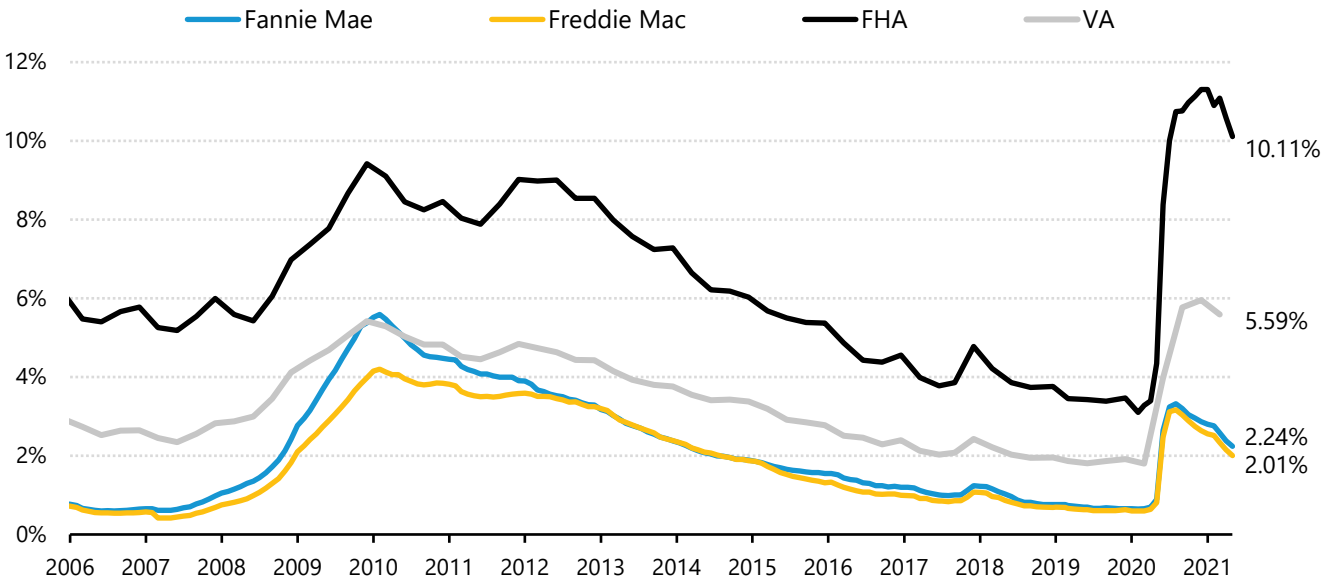
Note: Data as of July 16, 2021.

GSES UNDER CONSERVATORSHIP

SERIOUS DELINQUENCY RATES

Serious delinquency rates for single-family GSE loans decreased in May 2021, to 2.24 percent for Fannie Mae and 2.01 percent for Freddie Mac. Serious delinquency rates for FHA loans also decreased in May 2021, to 10.11 percent. In Q1 2021, VA serious delinquency rates declined to 5.59 percent. Note that loans that are in forbearance are counted as delinquent for the purpose of measuring delinquency rates. Fannie multifamily delinquencies decreased in May 2021 to 0.53 percent, while Freddie multifamily delinquencies decreased slightly to 0.19 percent.

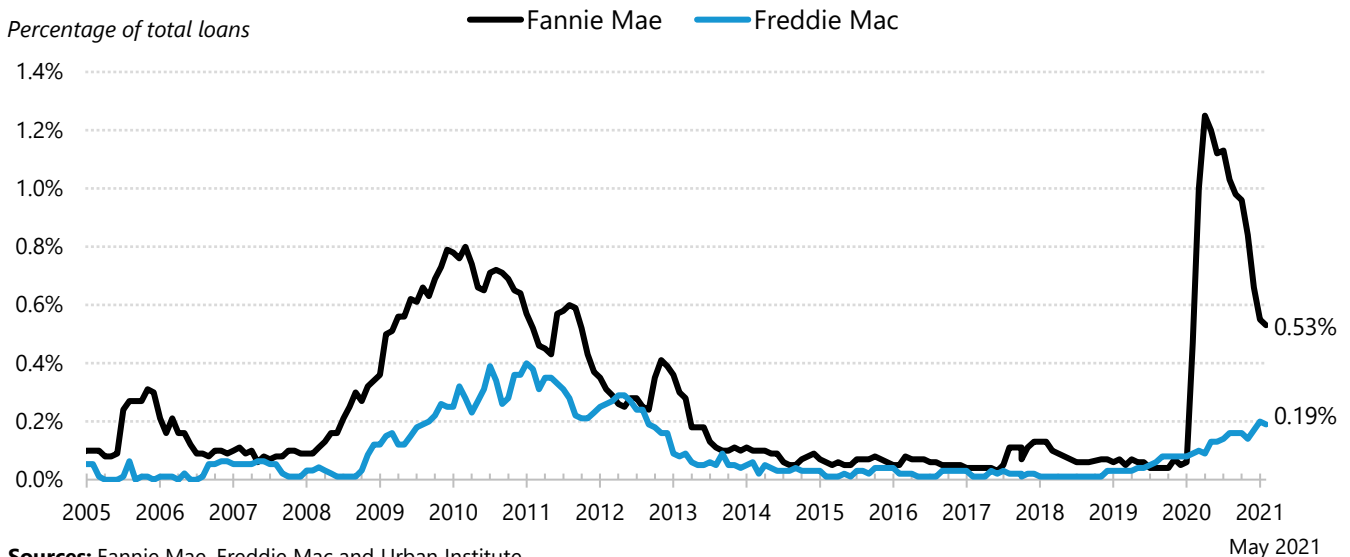
Serious Delinquency Rates—Single-Family Loans



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 Q1 2021. GSE and FHA delinquencies are reported monthly, last updated for May 2021.

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 ISSUANCE

AGENCY GROSS AND

NET ISSUANCE

Agency gross issuance was \$1.93 trillion for the first six months of 2021, a 66 percent increase over the same period of 2020. The sharp increase is due to the refinance wave, which accelerated significantly in 2020 and into 2021. Net issuance (new securities issued less the decline in outstanding securities due to principal pay-downs or prepayments) totaled \$407.8 billion in the first six months of 2021, a 159.3 percent increase from the volume in the first six months of 2020.

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 YTD	\$1,474.0	\$455.0	\$1,929.0
2021 % Change Over 2020	65.7%	33.5%	56.8%
2021 Annualized	\$2,948.1	\$909.9	\$3,858.0

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 YTD	\$418.0	-\$10.2	\$407.8
2021 % Change Over 2020	194.9%	-24.5%	159.3%
2021 Annualized	\$836.0	-\$20.4	\$815.6

Sources: eMBS and Urban Institute.

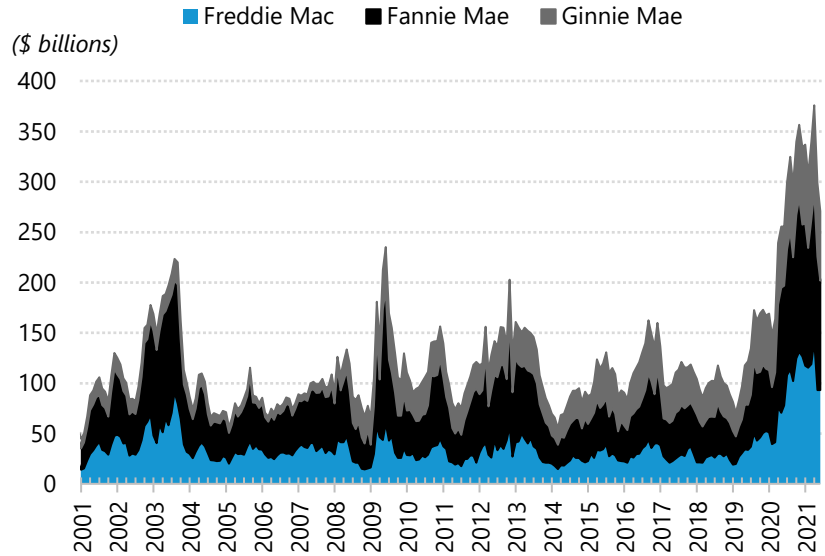
Note: Dollar amounts are in billions. Data as of June 2021.

AGENCY ISSUANCE

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. Since then, the Ginnie share has declined, reaching 25.4 percent in June 2021; the drop reflects the more robust ramp up in GSE refinances relative to Ginnie Mae refinances.

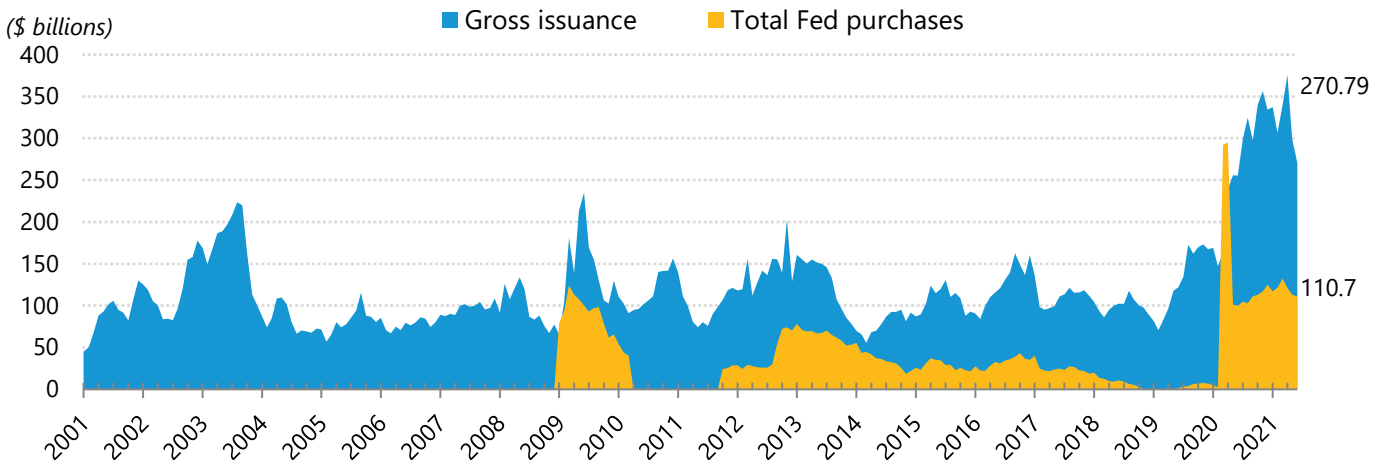


Sources: eMBS, Federal Reserve Bank of New York, and Urban Institute.

June 2021

Fed Absorption of Agency Gross Issuance

On March 23, 2020, in response to the market dislocations caused by the coronavirus pandemic, the Fed announced they would purchase Treasuries and agency MBS in an amount necessary to support smooth functioning markets. In March 2020 the Fed bought \$292.2 billion in agency MBS, and April 2020 clocked in at \$295.1 billion, the largest two months of mortgage purchases ever; and well over 100 percent of gross issuance for each of those two months. After the market stabilized, the Fed slowed its purchases to around \$100 - \$125 billion per month (\$40 billion of net new purchases). In June 2021, Fed purchases totaled \$110.7 billion; 40.9 percent of monthly gross issuance. As of June 2021, total agency MBS owned by the Fed equaled \$2.71 trillion. Prior to the COVID-19 intervention, the Fed was winding down its MBS portfolio from its 2014 prior peak.



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

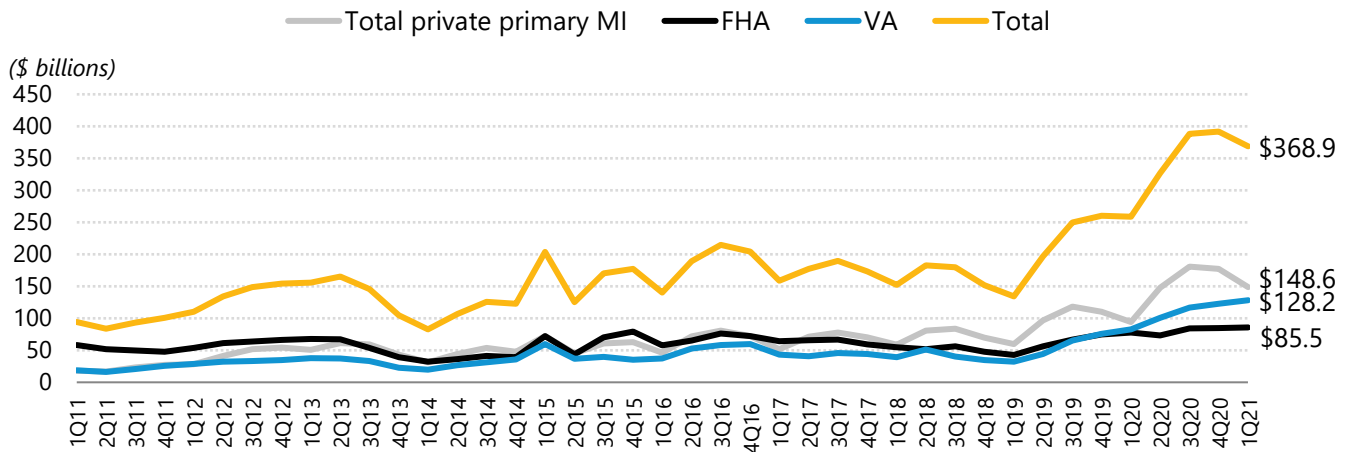
June 2021

AGENCY ISSUANCE

MORTGAGE INSURANCE ACTIVITY

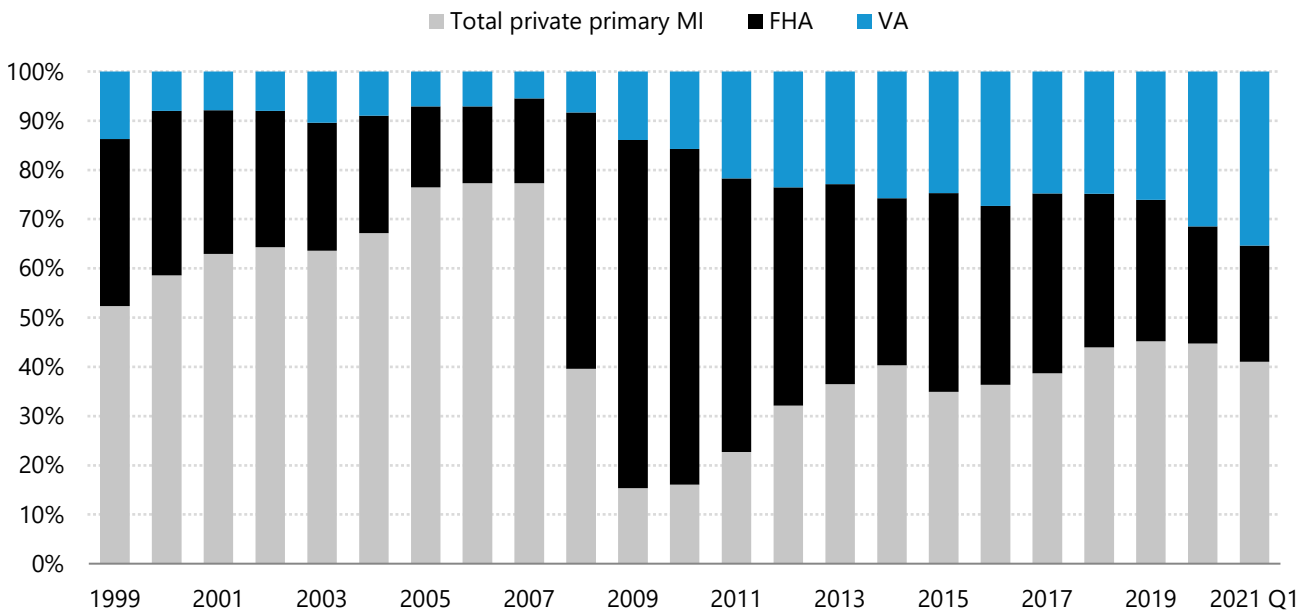
MI Activity

In the first quarter of 2021, private mortgage insurance written increased by \$54.4 billion, FHA increased by \$7.7 billion, and VA increased by \$45.6 billion relative to Q1 2020. During this period, the VA share increased from 31.9 to 34.8 percent, while the FHA share fell from 30.0 to 23.2 percent. The private mortgage insurers share increased, from 36.3 to 40.3 percent compared to the same period a year ago.



Sources: Inside Mortgage Finance and Urban Institute. Last updated May 2021.

MI Market Share



Sources: Inside Mortgage Finance and Urban Institute. Last updated May 2021.

AGENCY ISSUANCE

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 has partially offset that. As shown in the bottom table, a borrower putting 3.5 percent down with a FICO of less than 720 will 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	\$250,000
Loan Amount	\$241,250
LTV	96.5
Base Rate	
Conforming	2.96
FHA	3.14

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	\$1,223	\$1,223	\$1,223	\$1,223	\$1,223	\$1,223	\$1,223	\$1,223
PMI	\$1,482	\$1,419	\$1,384	\$1,297	\$1,253	\$1,216	\$1,175	\$1,151
PMI Advantage	-\$259	-\$196	-\$160	-\$74	-\$30	\$7	\$48	\$72

Sources: Genworth 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 June 2021.

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 33 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.

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Date: June 9, 2021

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