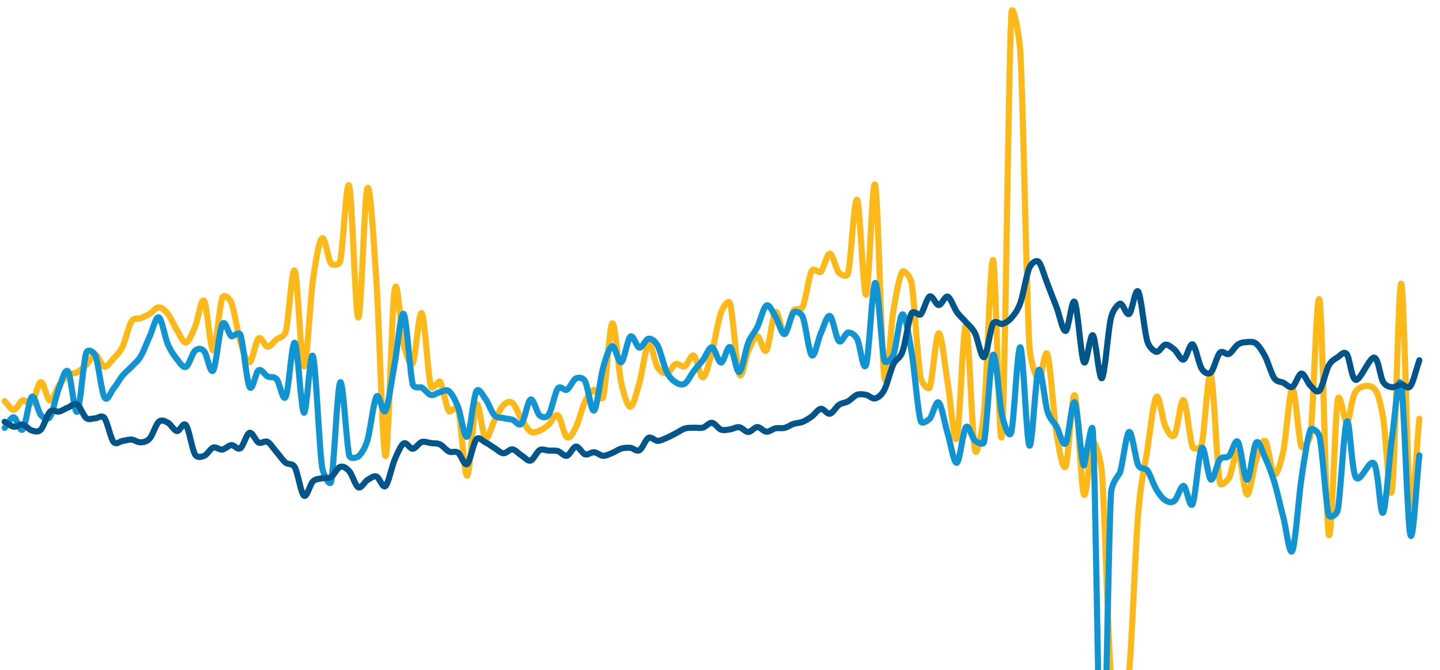
HOUSING FINANCE POLICY CENTER



HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

October 2019

URBAN INSTITUTE · ELEVATE · THE · DEBATE

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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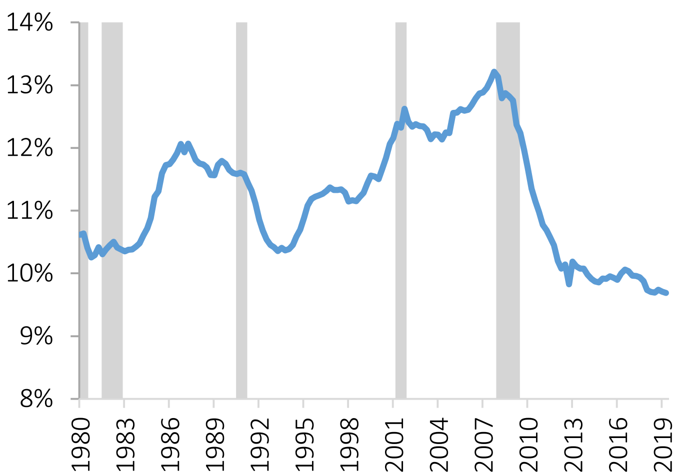
INTRODUCTION

Households' mortgage debt service ratio falls to its lowest level on record.

Data from the Federal Reserve Board shows that household balance sheets appear very healthy. The household debt service ratio (DSR), which is the ratio of total required household debt payments to total disposable income on a quarterly basis, has been steadily falling since onset of the Great Recession. After reaching a series peak of 13.2 percent in 2007, households' DSR has dropped to 9.7 percent in the second quarter of 2019, a low since the inception of the series in 1980.

Household Debt Service Ratio



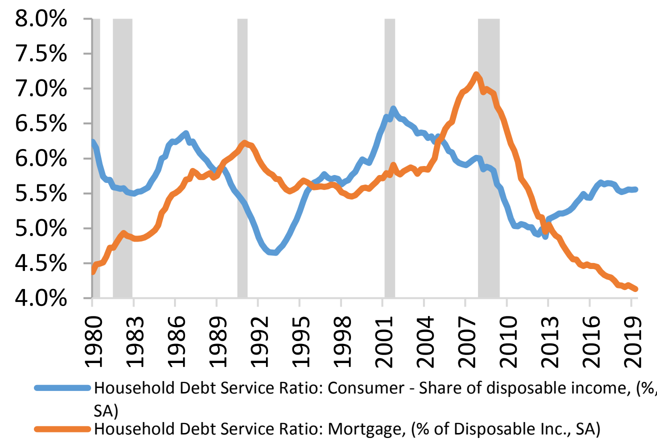
Source: Federal Reserve Board, National Bureau of Economic Research.

The household DSR is the sum of the consumer and mortgage DSRs. The consumer DSR is the total scheduled payments on revolving debt such as credit cards and non-revolving debt such as auto and student loans, relative to total disposable income. The mortgage DSR includes the total required mortgage payments as a share of total disposable income.

A decline in mortgage DSRs and to a lesser extent consumer DSR, contributed to the drop in the overall household DSR between 2008 and 2013. The decrease in the consumer and mortgage DSRs during this period reflects household deleveraging in the wake of the Great Recession, characterized by higher default rates, tighter lending standards, softer aggregate demand, and greater risk aversion. Another factor was the massive refinancing wave post-recession as mortgage rates fell to historic levels, allowing homeowners to reduce their monthly mortgage payment and by extension, the mortgage DSR.

Since 2013, the consumer DSR has trended upward as the economy has improved considerably. The Federal Reserve Board's Consumer Credit report, a source for the calculation of the consumer DSR, indicates that growth in student loan debt was joined by the growth in auto loan debt in beginning in 2010 and the growth in credit card debt beginning in 2013.

Components of Household Debt Service Ratio



Source: Federal Reserve Board, National Bureau of Economic Research.

The growth in the consumer DSR since 2013 has been offset by a continued decline in the mortgage DSR, which has fallen to its lowest level on record. Our estimates suggest that the decline in the mortgage DSR is largely due to growth in disposable personal income (DPI). Since 2010 approximately 85 percent of the decline in the mortgage DSR stems from DPI growth over this period while lower mortgage rates account for the rest. Mortgage debt outstanding was largely flat over this same time frame, despite growth in population, incomes and home prices. Indeed, over the period from 2010 on, homeownership rate has dropped and home equity extraction has been modest,

According to the Federal Reserve Bank of New York, total outstanding household debt has risen steadily for the past five years. Nevertheless, the household DSR continues to fall as the mortgage DSR has dropped to a record low level amid faster income growth and lower rates. As a result, households in aggregate have the lowest levels of debt payments relative to their incomes since at least 1980.

INSIDE THIS ISSUE

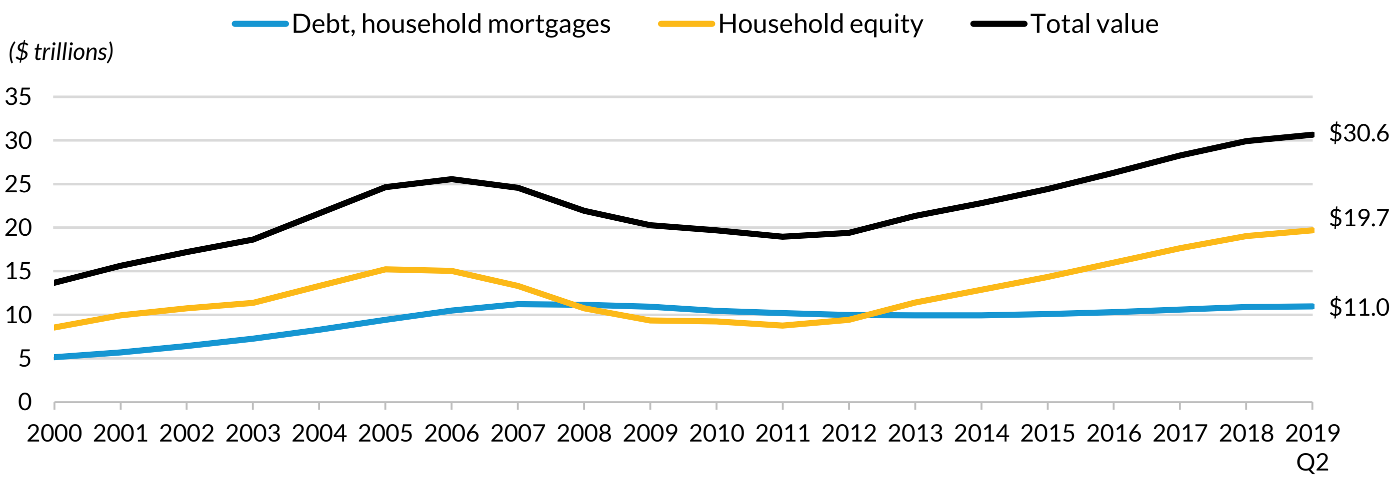
- Although the refinance share has increased as rates have declined in 2019, it remains well below the 2013 peak. With most borrowers already paying a low rate, many don't stand to benefit by refinancing (Page 9).
- Ginnie Mae's nonbank originator share reached a record high of 86 percent in September 2019, reflecting increased refinance activity amidst falling rates (Page 11).
- Mortgage credit availability decreased slightly to 5.56 percent in Q2 2019, down marginally from the previous quarter per the Housing Credit Availability Index, driven by an increase in the share of the lower-risk portfolio and private label securitization segment (Pages 13-14).

OVERVIEW

MARKET SIZE OVERVIEW

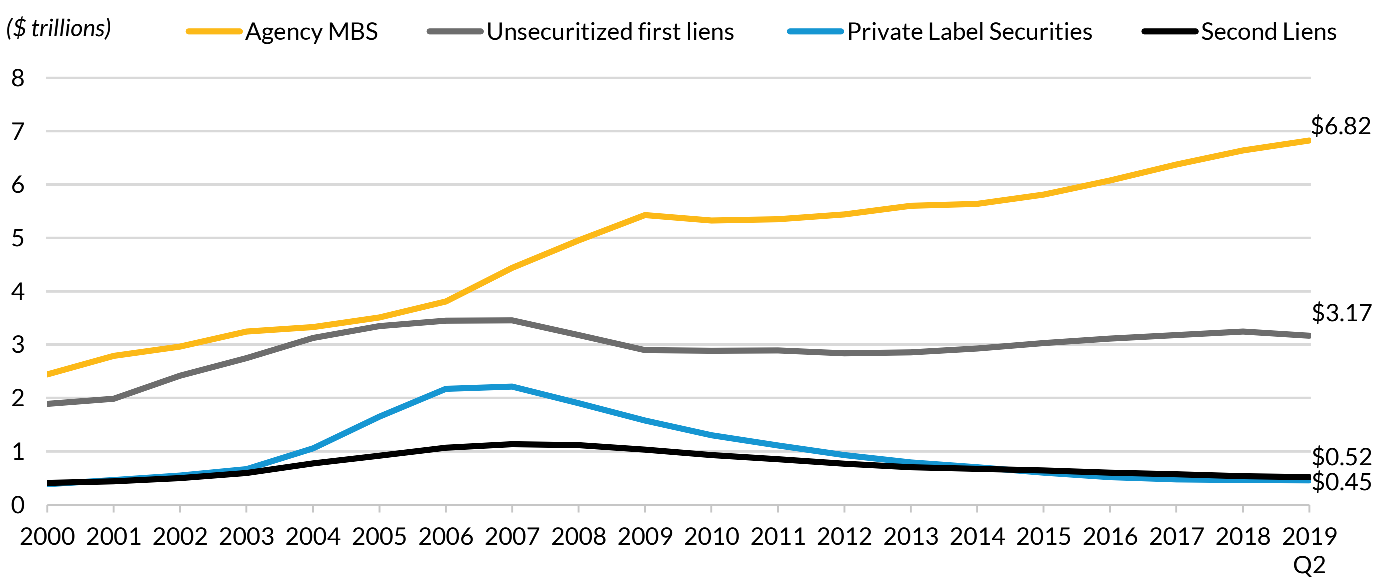
The Federal Reserve's Flow of Funds report has indicated a gradually increasing total value of the housing market driven by growing household equity since 2012, and 2Q 2019 was no different. While total mortgage debt outstanding was steady at $11.0 trillion, household equity grew from $19.6 trillion in Q1 2019 to $19.7 trillion in Q2 2019, bringing the total value of the housing market to $30.6 trillion, 20.0 percent higher than the pre-crisis peak in 2006. Agency MBS account for 62.2 percent of the total mortgage debt outstanding, private-label securities make up 4.1 percent, and unsecuritized first liens make up 28.9 percent. Second liens comprise the remaining 4.7 percent of the total.

Value of the US Housing Market



Sources: Federal Reserve Flow of Funds and Urban Institute. *Last updated September 2019.*

Size of the US Residential Mortgage Market



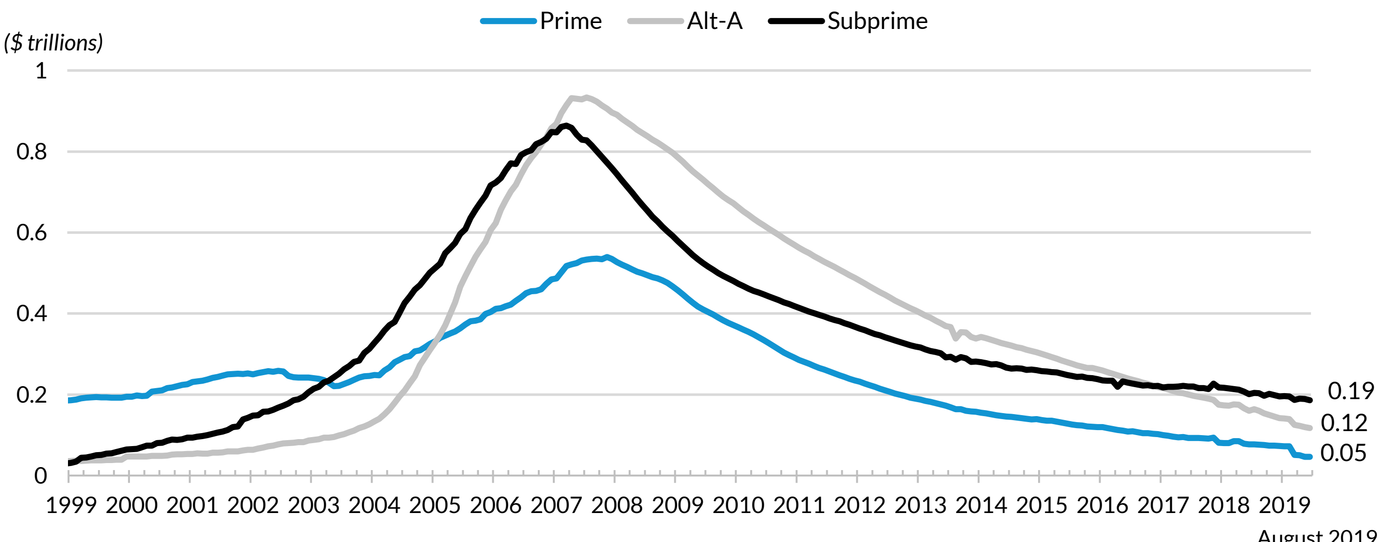
Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, eMBS and Urban Institute. *Last updated September 2019.*
Note: Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions.

OVERVIEW

MARKET SIZE OVERVIEW

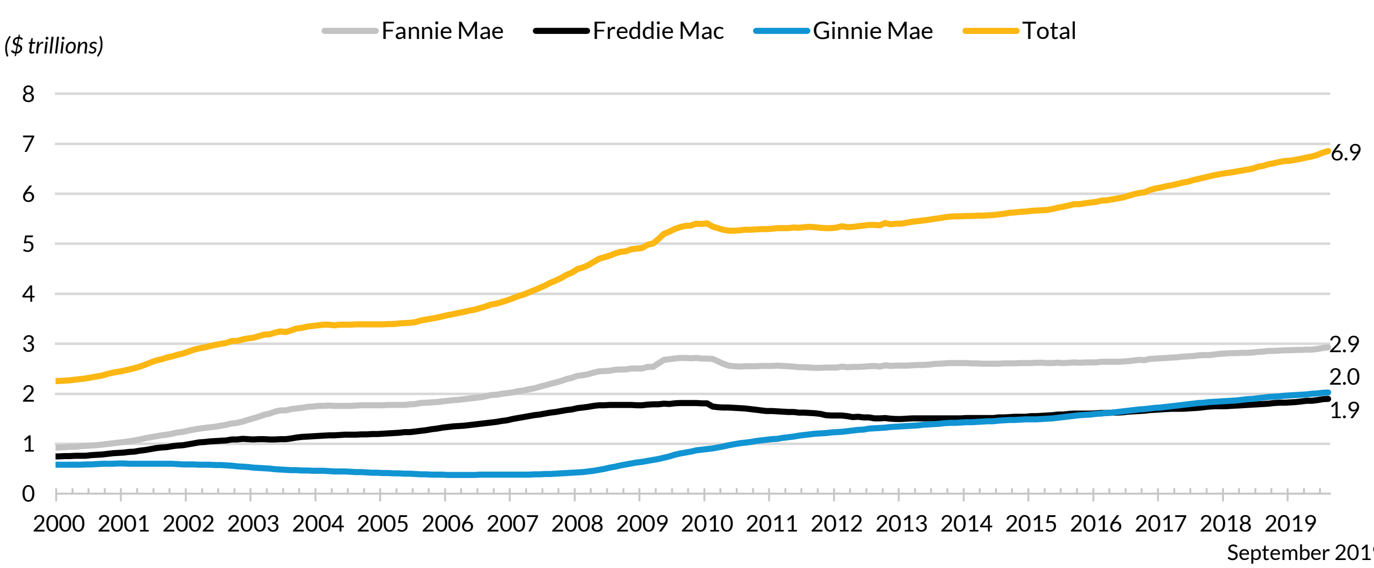
As of August 2019, debt in the private-label securitization market totaled $349 billion and was split among prime (13.3 percent), Alt-A (33.6 percent), and subprime (53.1 percent) loans. In September 2019, outstanding securities in the agency market totaled $6.9 trillion, 42.7 percent of which was Fannie Mae, 27.7 percent Freddie Mac, and 29.6 percent Ginnie Mae. Ginnie Mae has had more outstanding securities than Freddie Mac since May 2016.

Private-Label Securities by Product Type



Sources: CoreLogic, Black Knight and Urban Institute.

Agency Mortgage-Backed Securities

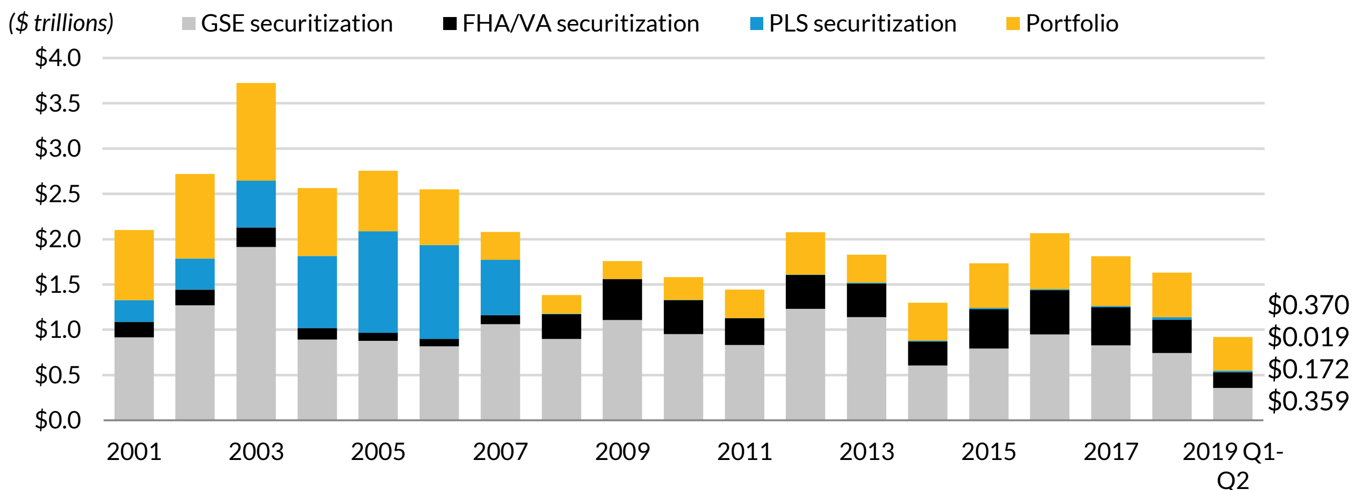


Sources: eMBS and Urban Institute.

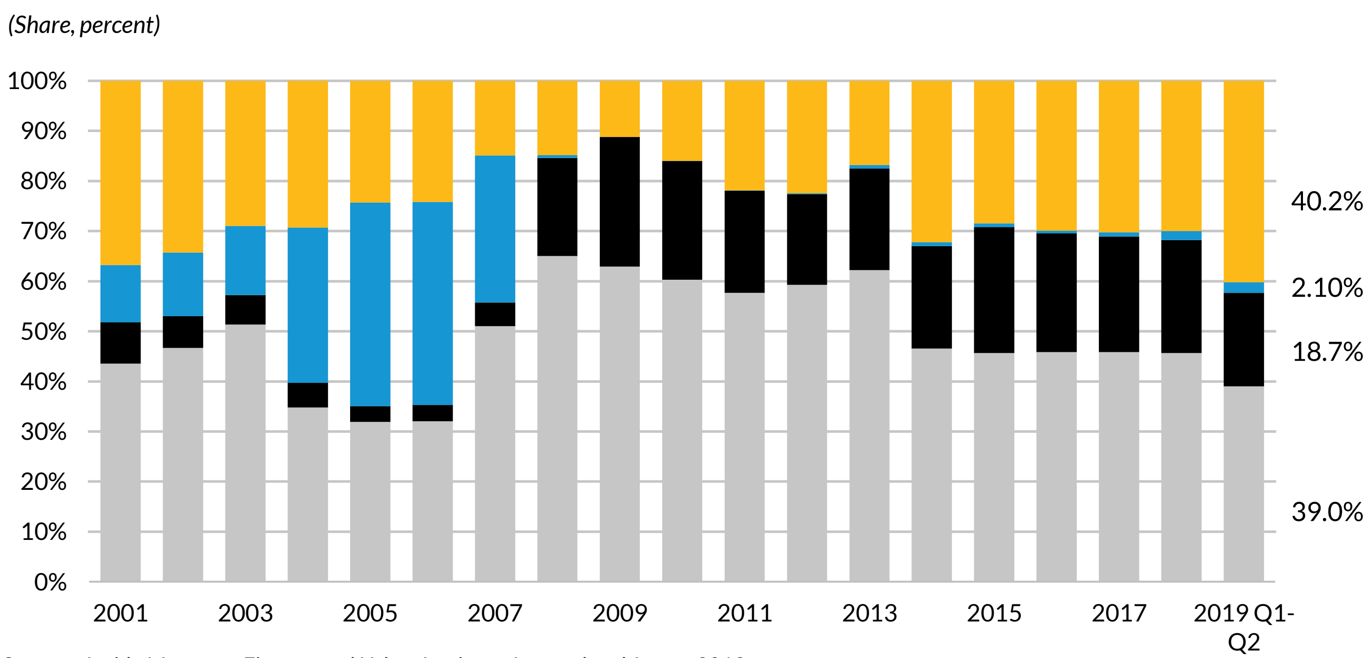
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

At the end of 1H 2019, first lien originations totaled $920 billion, up from $825 billion in 1H 2018. The share of portfolio originations was 40.2 percent in 1H 2019, up from 32.3 percent during the same period in 2018. The GSE share was down at 38.6 percent, compared to 43.9 percent in 1H 2018. The FHA/VA share was 18.7 percent, down from 21.9 percent. Private-label securitization at 2.1 percent was marginally higher than its 2.0 percent share in 1H 2018; it remains a fraction of its share in the pre-crisis years.



Sources: Inside Mortgage Finance and Urban Institute. *Last updated August 2019.*

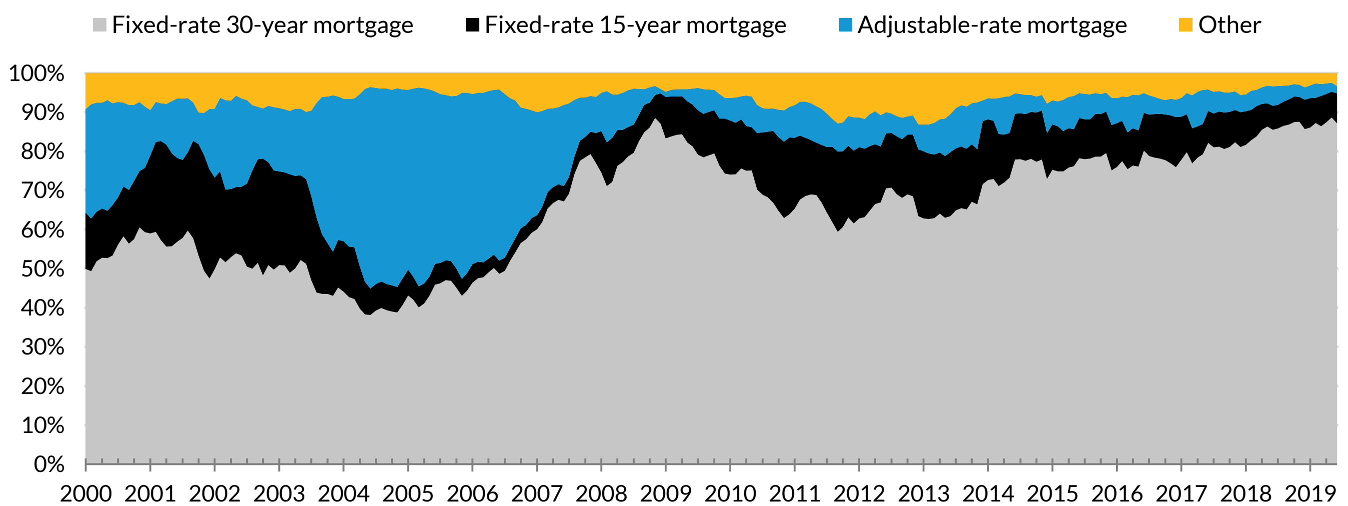


Sources: Inside Mortgage Finance and Urban Institute. *Last updated August 2019.*

PRODUCT COMPOSITION AND REFINANCE SHARE

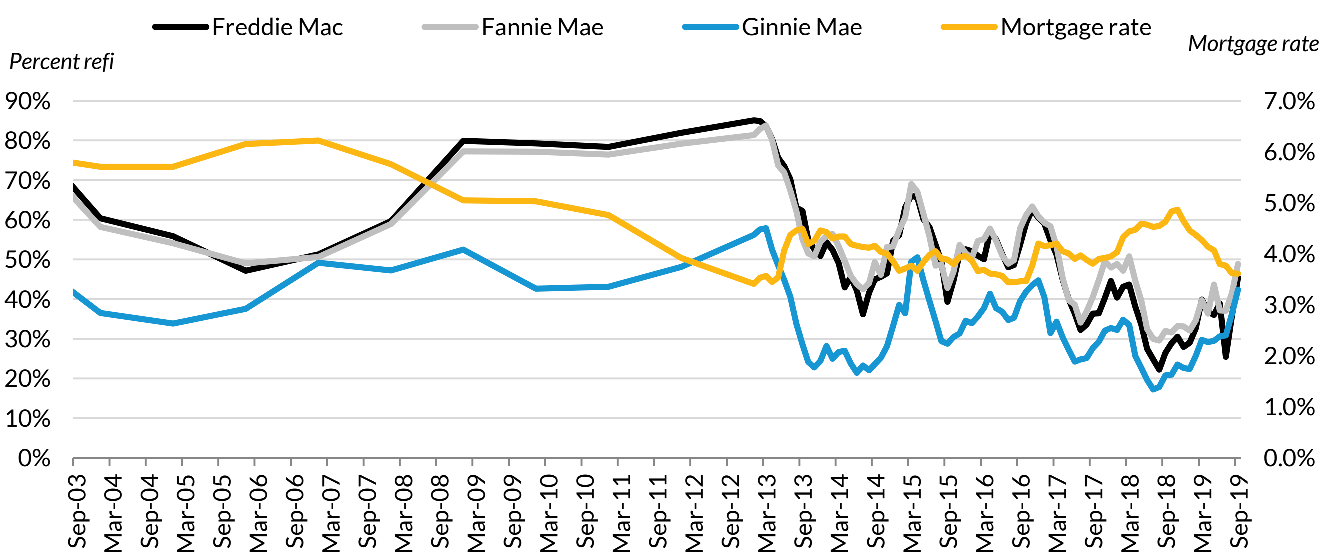
Adjustable-rate mortgages (ARMs) accounted for as much as 52 percent of all new originations during the peak of the housing bubble (top chart). The ARM share fell to an historic low of 1 percent in 2009, and then slowly increased to a high of 12 percent in December 2013. The July 2019 share of 1.2 percent is lower than last month. The 15-year fixed-rate mortgage, predominantly a refinance product, accounted for 7.7 percent of new originations in July 2019. Since late 2018, while there has been some month-to-month variation, the refinance share (bottom chart) has generally grown for both the GSEs and Ginnie Mae as interest rates have dropped.

Product Composition



Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes purchase and refinance originations.

Percent Refi at Issuance



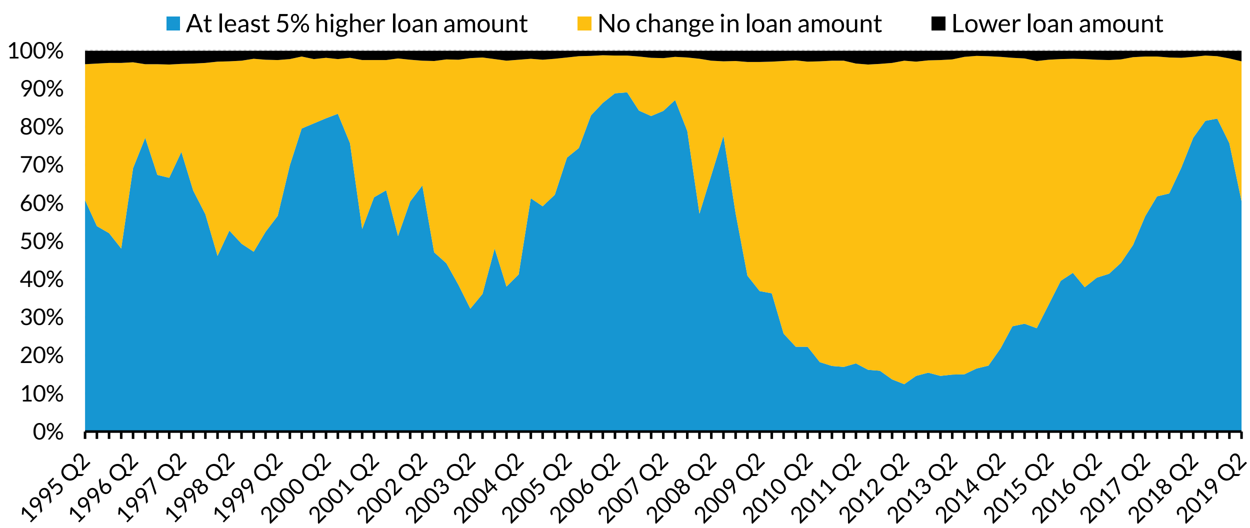
Sources: eMBS and Urban Institute.
Note: Based on at-issuance balance. Figure based on data from September 2019.

OVERVIEW

CASH-OUT REFINANCES

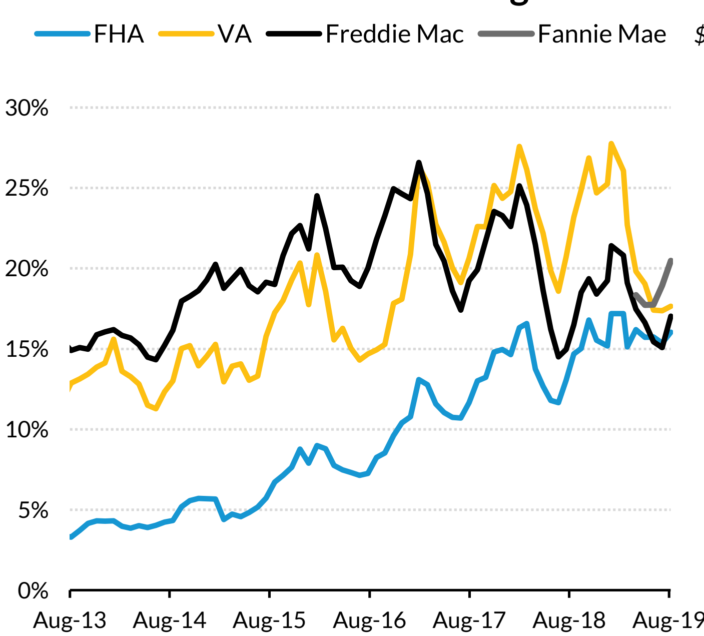
When mortgage rates are low, the share of cash-out refinances tends to be small, as refinancing allows borrowers to save money by taking advantage of lower rates. But when rates are high, the cash-out refinance share is higher since the rate reduction incentive is gone and the only reason to refinance is to take out equity. The cash-out share of all refinances fell from 76 percent in the first quarter of 2019 to 61 percent in the second quarter, reflecting increased rate-refi activity due to falling rates in 2019 Q2. After falling below the FHA share in June 2019, Freddie Mac's cash-out refinance share rose above that of the FHAs in August 2019. While the cash-out refinance share for conventional mortgages is close to bubble-era peak, equity take-out volumes are substantially lower.

Loan Amount after Refinancing



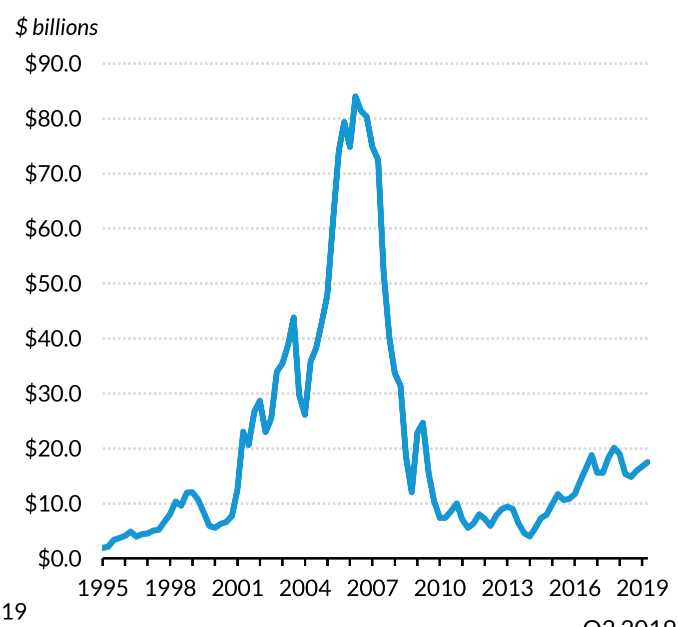
Sources: Freddie Mac and Urban Institute.
Note: Estimates include conventional mortgages only.

Cash-out Refi Share of All Originations



Sources: eMBS and Urban Institute.
Note: Data as of August 2019.

Equity Take-Out from Conventional Mortgage Refinance Activity



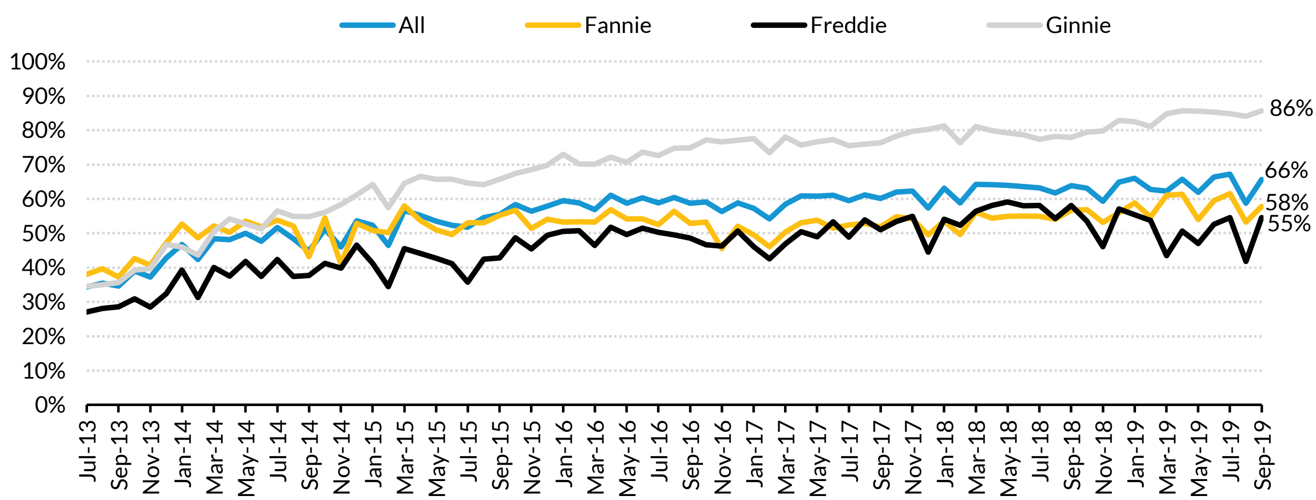
Sources: Freddie Mac and Urban Institute.
Note: Estimates include conventional mortgages only.

OVERVIEW

AGENCY NONBANK ORIGINATION SHARE

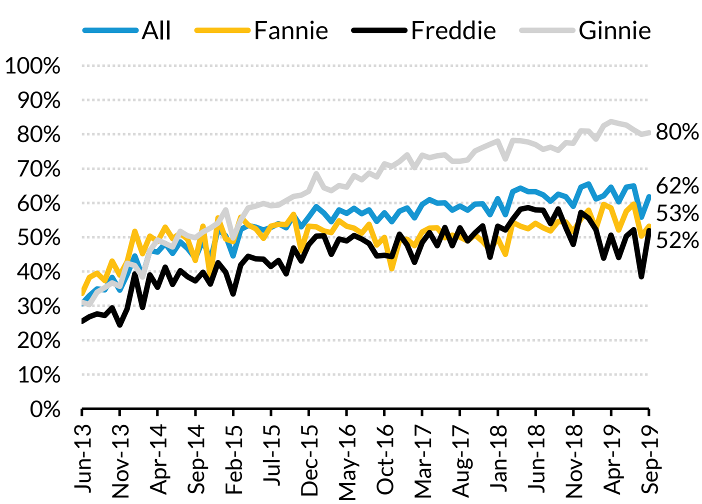
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, reaching a record high of 86 percent in September. Freddie and Fannie's nonbank shares also rose in September, to 55 and 58 percent respectively (note that these numbers can be volatile on a month-to-month basis.) Ginnie Mae, Fannie Mae and Freddie Mac all have higher nonbank origination shares for refi activity than for purchase activity.

Nonbank Origination Share: All Loans



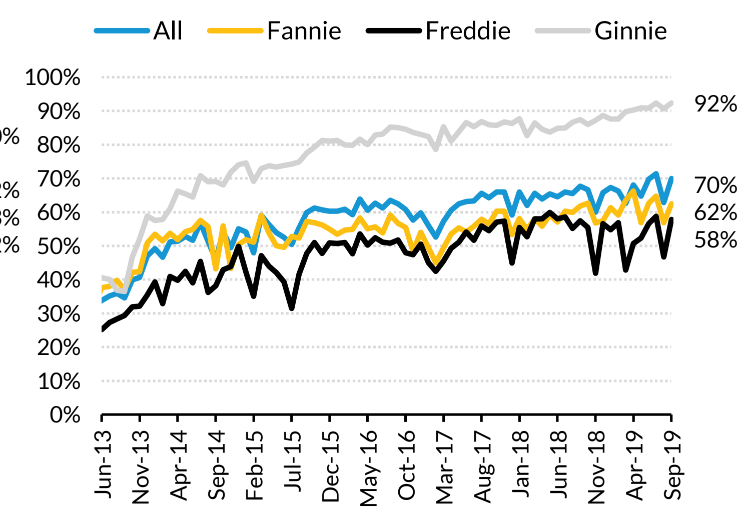
Sources: *eMBS and Urban Institute.*

Nonbank Origination Share: Purchase Loans



Sources: *eMBS and Urban Institute.*

Nonbank Origination Share: Refi Loans



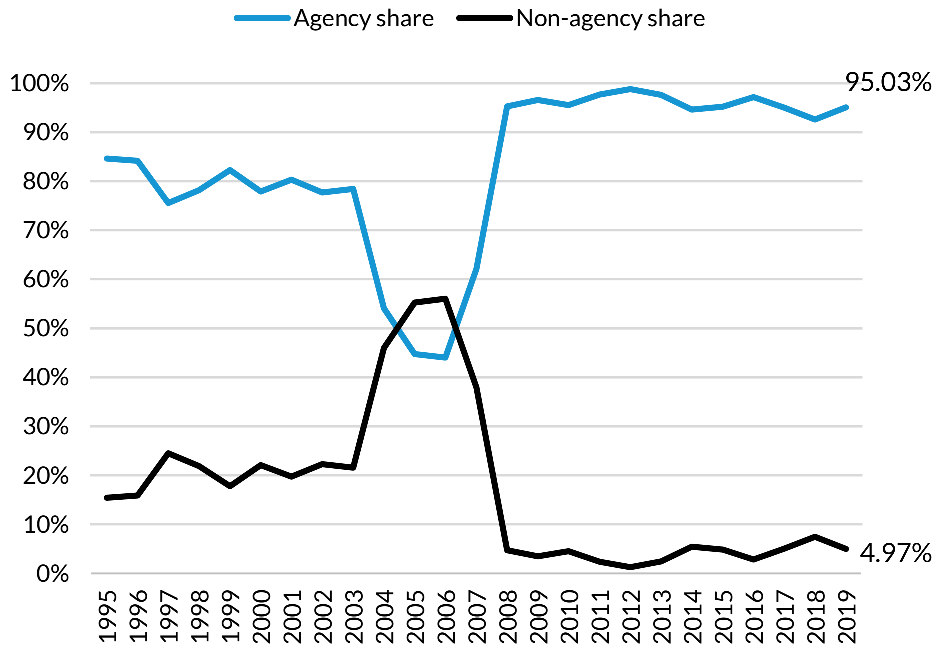
Sources: *eMBS and Urban Institute.*

OVERVIEW

SECURITIZATION VOLUME AND COMPOSITION

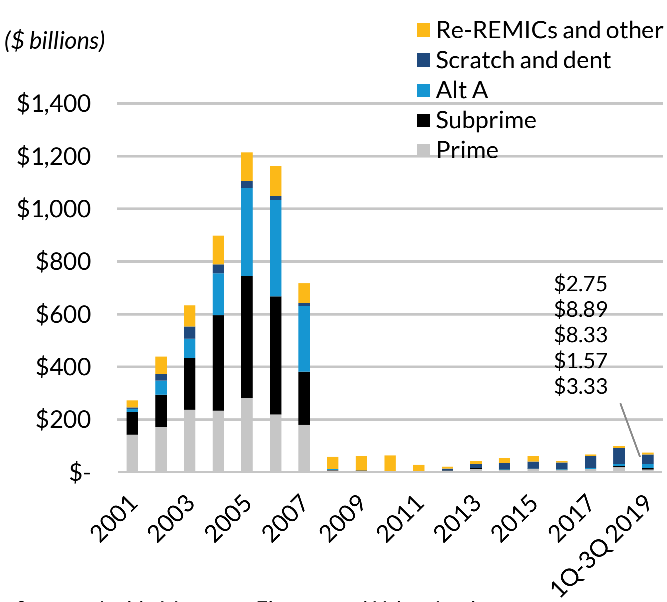
Agency/Non-Agency Share of Residential MBS Issuance

The non-agency share of mortgage securitizations has increased gradually over the post-crisis years, from 1.8 percent in 2016 to 7.4 percent in 2018. It fell to 4.97 percent for 2019 YTD (through September). Non-agency securitization volume totaled $74.69 billion in Q3 2019, slightly lower than the $77.83 billion in Q3 2018, with a change in the mix. Alt-A and subprime securitizations have grown, while scratch and dent securitizations have fallen by over half their size since the same period last year. Non-agency securitizations continue to be tiny compared to pre-crisis levels.



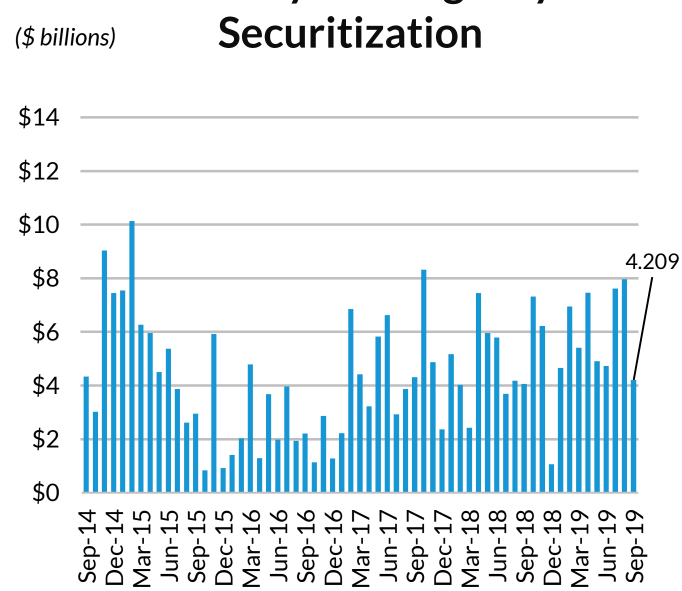
Sources: Inside Mortgage Finance and Urban Institute.
Note: Based on data from September 2019. Monthly non-agency volume is subject to revision.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization



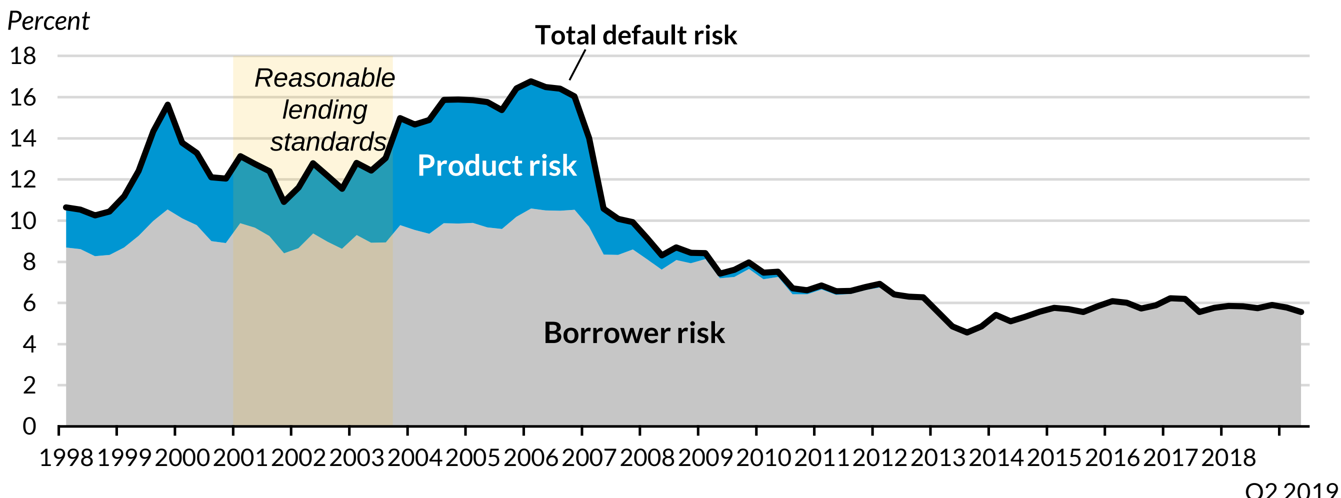
Sources: Inside Mortgage Finance and Urban Institute.

CREDIT BOX

HOUSING CREDIT AVAILABILITY INDEX

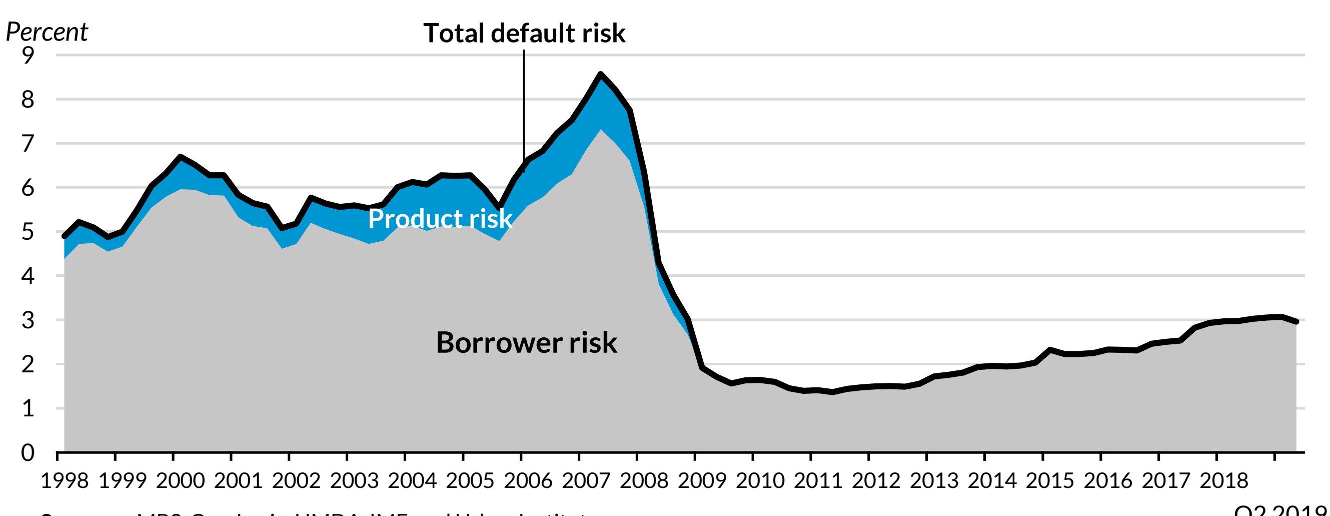
The Urban Institute's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to go 90+ days delinquent over the life of the loan. The latest HCAI shows that mortgage credit availability decreased slightly to 5.56 percent in the second quarter of 2019 (Q2 2019), down marginally from the previous quarter. The decline was driven by an increase in the portfolio and private label share of the mortgage market and a decrease in the government share, which is relatively higher risk. Credit availability fell slightly in the government and GSE channels, and increased in the portfolio and private-label security channels. More information about the HCAI is available [here](#).

All Channels



GSE Channel

The GSE market has expanded the credit box proportionately more than the government channel in recent years, although the GSE box is still much narrower. In Q3 2018, the index reached 3 percent for the first time since 2008, and then continued to increase in the following two quarters, reaching 3.1 percent in Q1 2019. In Q2 2019, the index declined slightly, standing just under 3 percent.



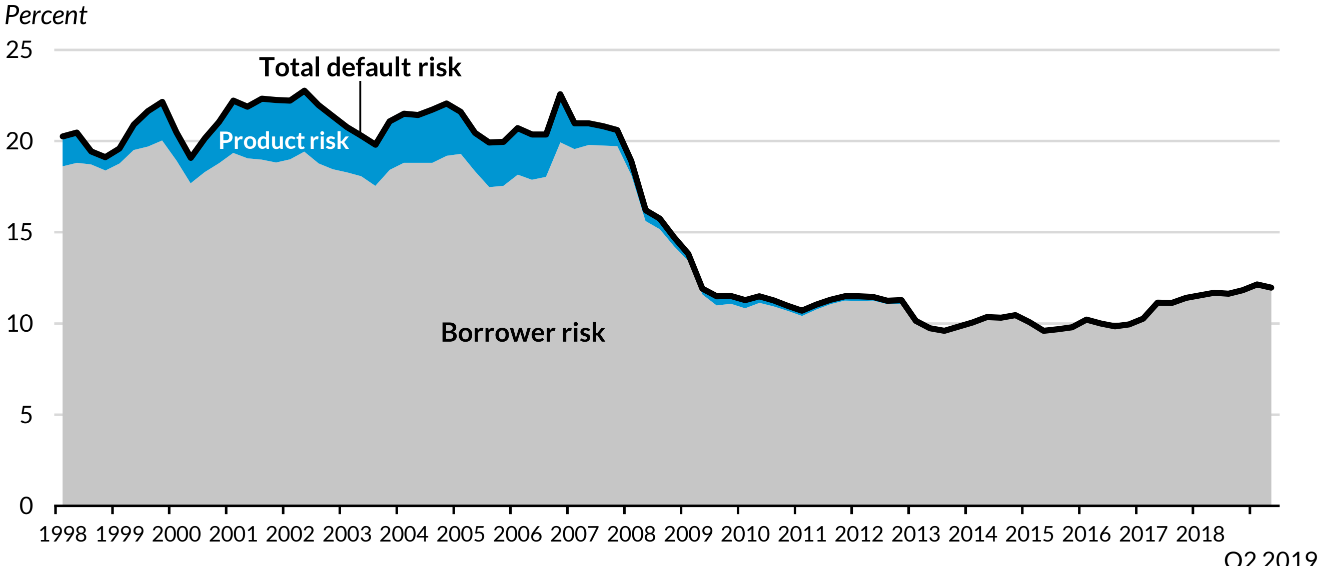
Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.
Note: Default is defined as 90 days or more delinquent at any point. *Last updated October 2019.*

CREDIT BOX

HOUSING CREDIT AVAILABILITY INDEX

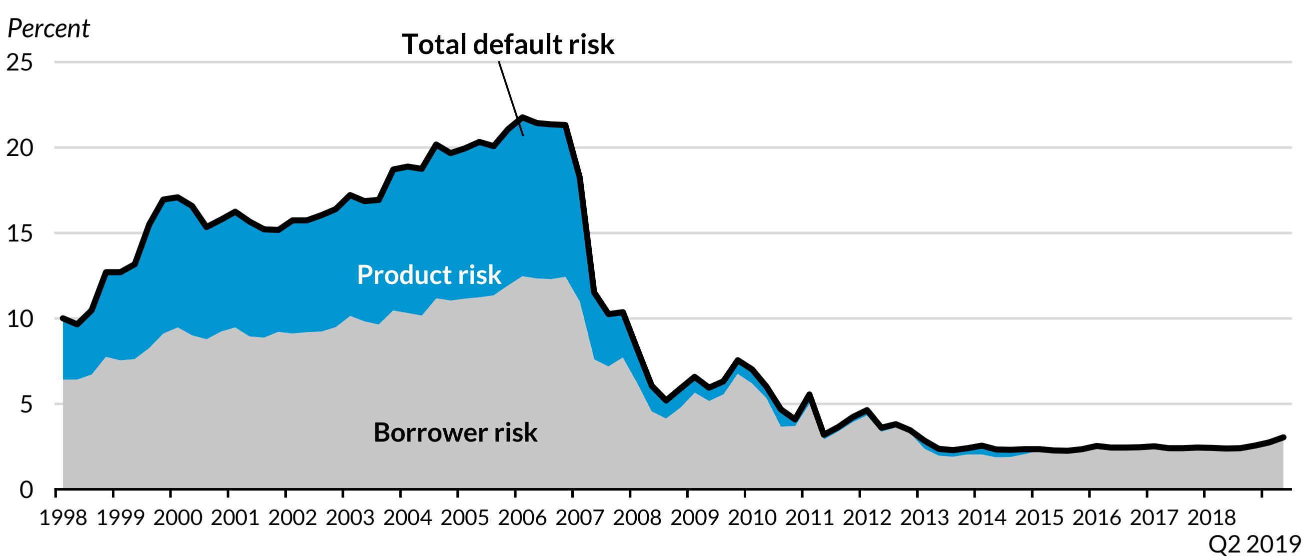
Government Channel

The total default risk the government channel is willing to take bottomed out at 9.6 percent in Q3 2013. It has gradually increased since then, reaching 12.0 percent in Q2 2019, down marginally from 12.1 percent in Q1 2019.



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, PP channel's product and borrower risks dropped sharply. The numbers have stabilized since 2013, with product risk fluctuating below 0.6 percent and borrower risk in the 2.0-3.0 percent range. Borrower risk increased in the second quarter of 2019, after an increase in the previous quarter, reflecting the continued growth in the expanded credit market. Total risk in the PP channel was 3.1 percent in Q2 2019.



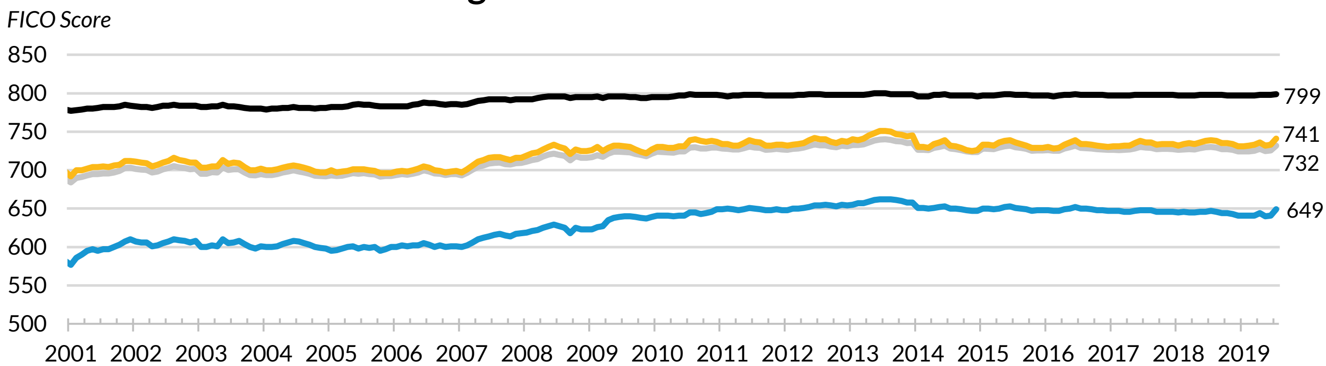
Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.
Note: Default is defined as 90 days or more delinquent at any point. *Last updated October 2019.*

CREDIT AVAILABILITY FOR PURCHASE LOANS

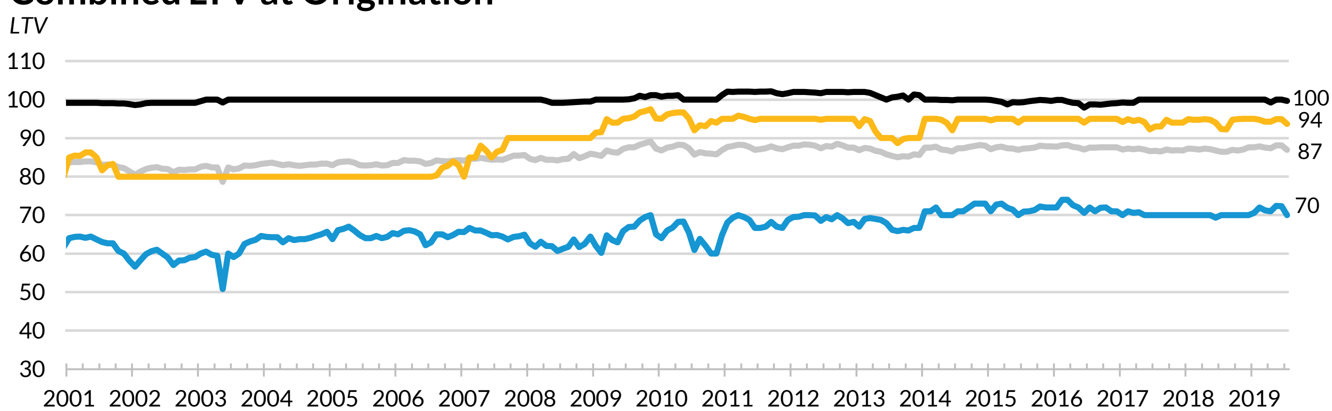
Access to credit remains tight, especially for lower FICO borrowers. The median FICO for current purchase loans is about 41 points higher than the pre-crisis level of around 700. The 10th percentile, which represents the lower bound of creditworthiness to qualify for a mortgage, was 649 in July 2019, compared to low-600s pre-bubble. The median LTV at origination of 94 percent remains relatively high, reflecting the rise of FHA and VA lending. Although current median DTI of 39 percent exceeds the pre-bubble level of 36 percent, higher FICO scores serve as a strong compensating factor.

Mean 90th percentile 10th percentile Median

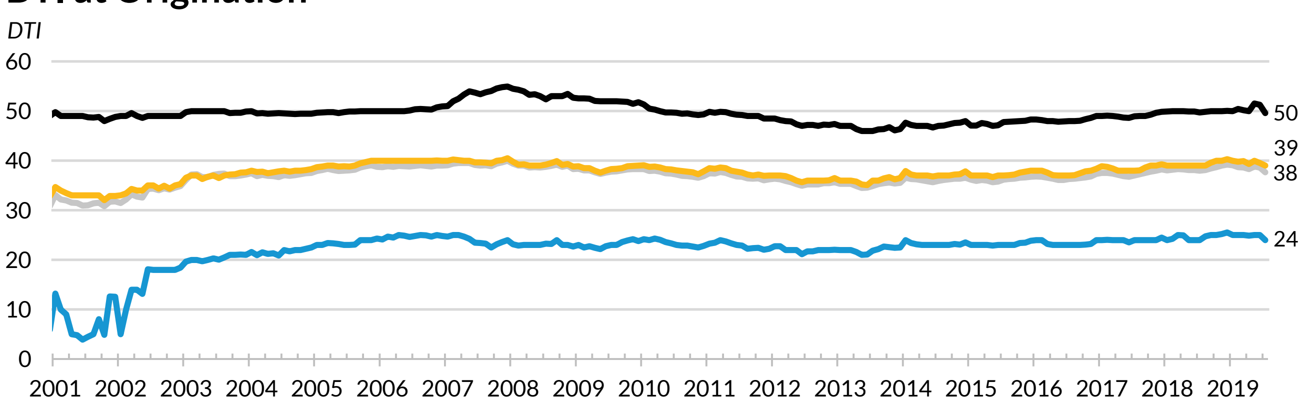
Borrower FICO Score at Origination



Combined LTV at Origination



DTI at Origination



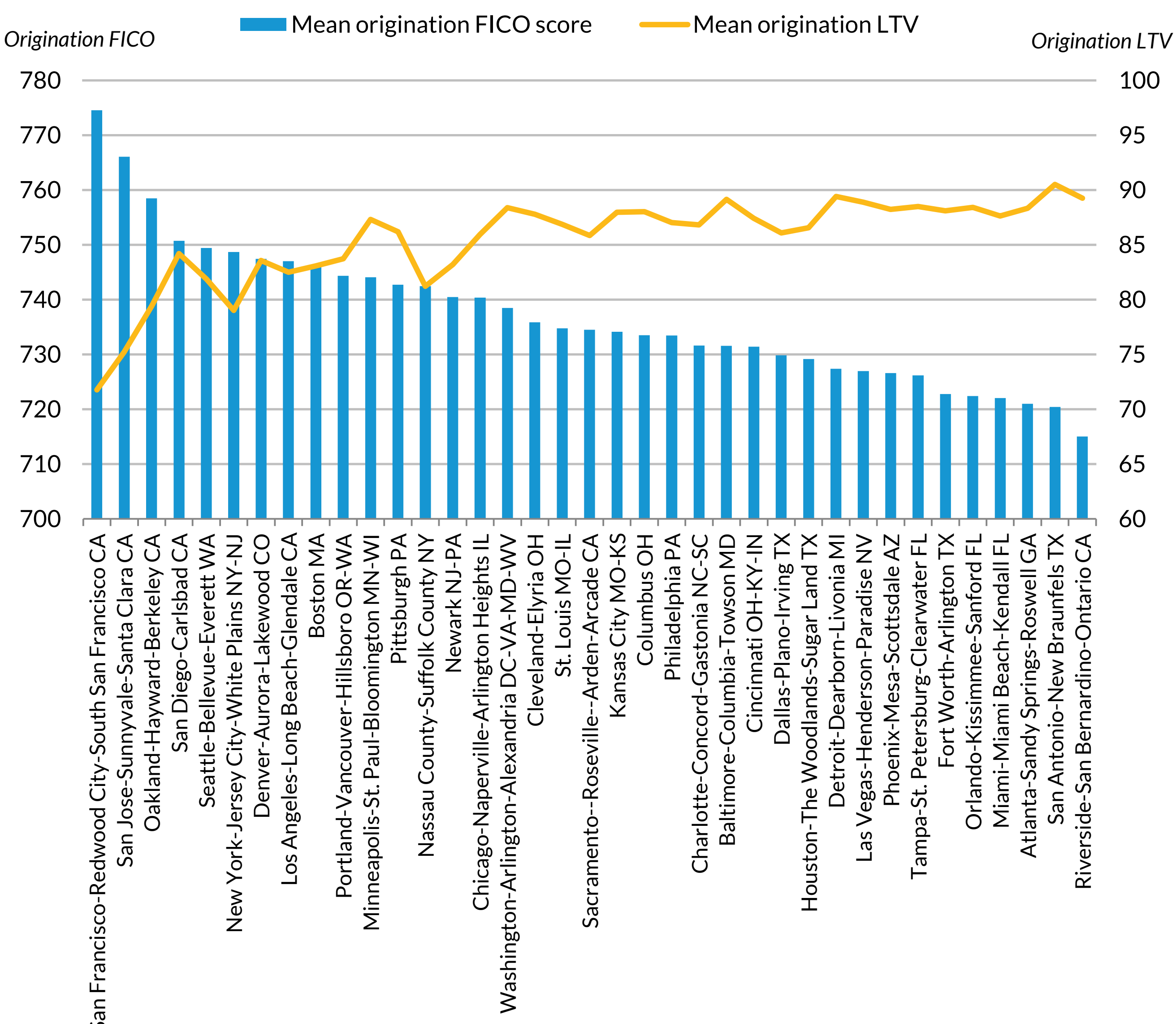
Sources: Black Knight, eMBS, HMDA, SIFMA, CoreLogic and Urban Institute.
Note: Includes owner-occupied purchase loans only. DTI data prior to April 2018 is from CoreLogic; after that date, it is from Black Knight. Data as of July 2019.

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 775. 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

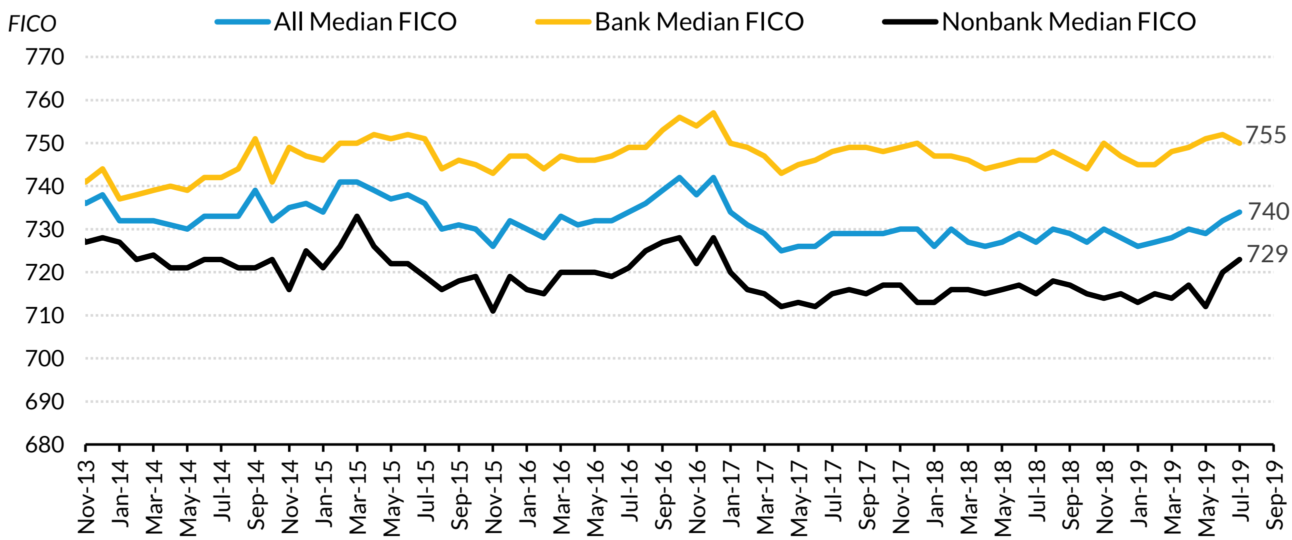


Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes owner-occupied purchase loans only. Data as of July 2019.

AGENCY NONBANK CREDIT BOX

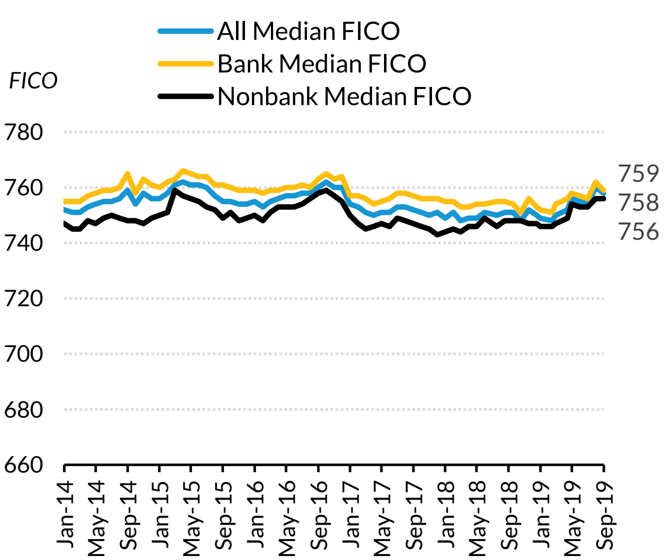
Nonbank originators have played a key role in expanding access to credit. Median GSE and Ginnie Mae FICOs for nonbank originations are lower than their bank counterparts, with a larger differential in the Ginnie Mae market. FICO scores for banks and nonbanks in both GSE and Ginnie Mae segments have increased over the course of 2019. Over the last five years since 2014, FICO scores for bank originations in the Ginnie Mae space rose while those for nonbanks fell, reflecting a sharp cut-back in FHA lending by many banks. As pointed out on page 11, banks comprise only about 14 percent of Ginnie Mae originations. Many banks temporarily relaxed their overlays in Spring 2019, causing FICOs to drift down to 690 in April '19. Since May '19, Ginnie Mae Bank FICOs have increased to 706, the highest level this chartbook has on record.

Agency FICO: Bank vs. Nonbank



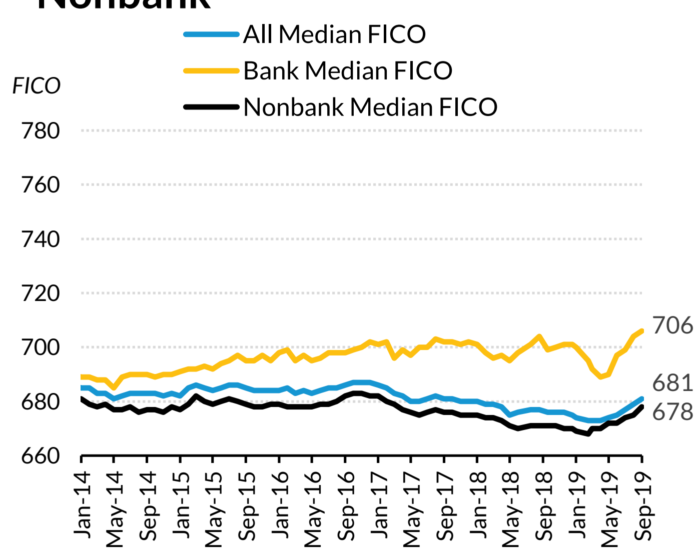
Sources: *eMBS and Urban Institute.*

GSE FICO: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

Ginnie Mae FICO: Bank vs. Nonbank



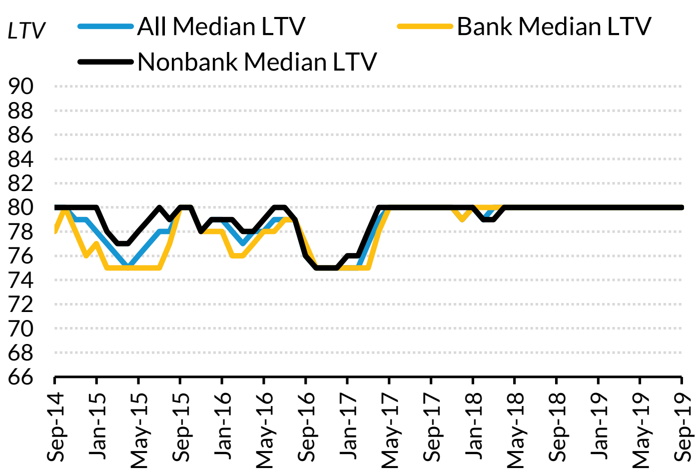
Sources: *eMBS and Urban Institute.*

CREDIT BOX

AGENCY NONBANK CREDIT BOX

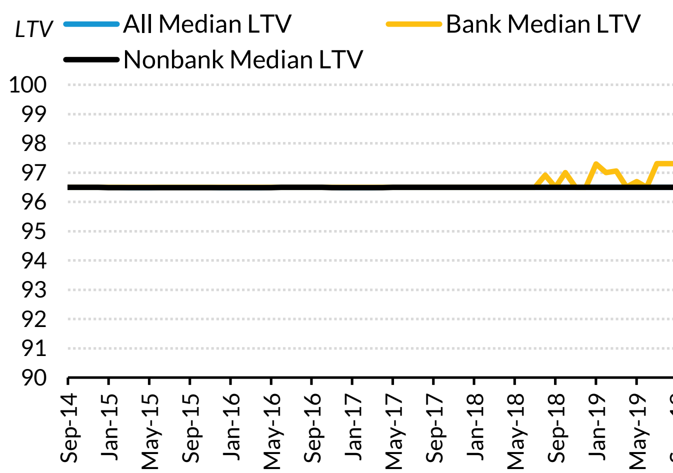
The median LTVs for nonbank and bank originations are comparable, while the median DTI for nonbank loans is higher than for bank loans. From early 2017 to early 2019, there was a sustained increase in DTIs, which has partially reversed in the past few months. This is true for both Ginnie Mae and the GSEs, for banks and nonbanks. As interest rates increased, DTIs rose, because borrower payments were driven up relative to incomes. With the fall in interest rates in 2019, DTIs have come down measurably.

GSE LTV: Bank vs. Nonbank



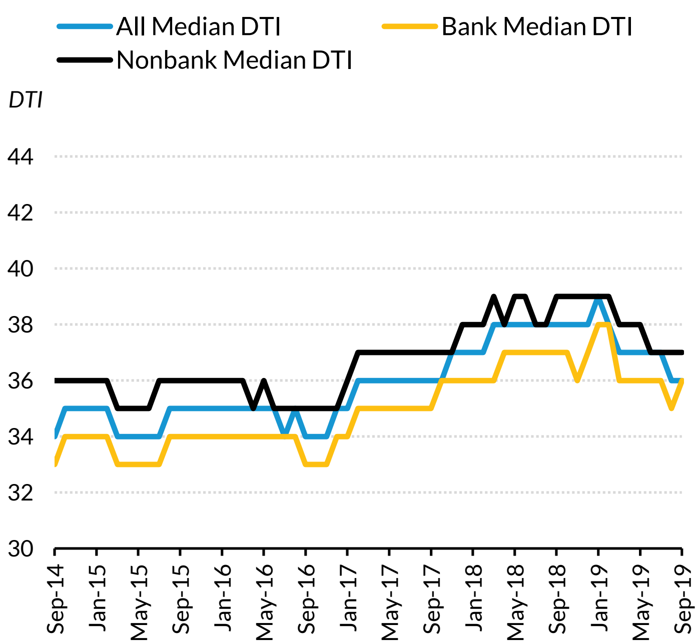
Sources: *eMBS and Urban Institute.*

Ginnie Mae LTV: Bank vs. Nonbank



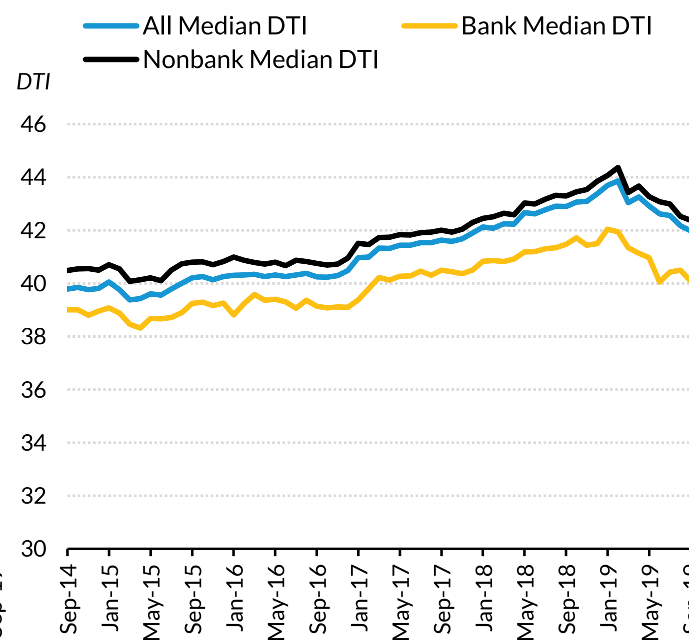
Sources: *eMBS and Urban Institute.*

GSE DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

Ginnie Mae DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

MORTGAGE ORIGINATION PROJECTIONS

With the drop in interest rates and concurrent rise in refinance activity in 2019, Fannie Mae, Freddie Mac and the MBA estimate 2019 volume to be between $1.9-$2.1 trillion, higher than the $1.64 trillion in 2018. This increased origination estimate follows drops in origination volumes, due to declining refinancing activity, over the past few years: 2018 was down from $1.76-$1.83 trillion in 2017, and 2017 was down from $1.89-2.05 trillion in 2016.

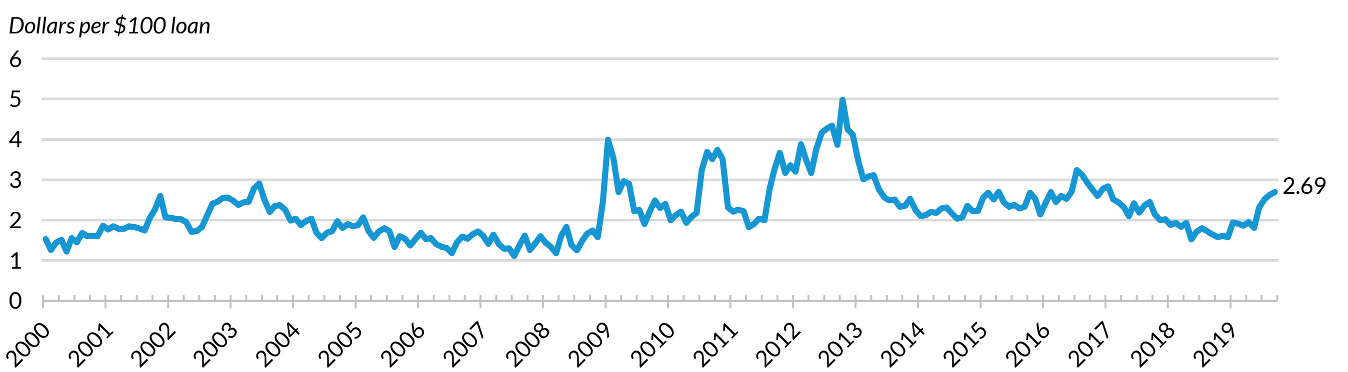
Total Originations and Refinance Shares

Period	Originations ($ billions)			Refi Share (percent)		
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	FNMA estimate	FHLMC estimate	MBA estimate
2018 Q1	410	377	342	38	40	37
2018 Q2	508	440	452	28	29	26
2018 Q3	465	435	457	26	25	24
2018 Q4	383	384	392	29	26	27
2019 Q1	352	355	325	31	36	30
2019 Q2	532	545	501	29	38	29
2019 Q3	598	647	605	41	51	38
2019 Q4	556	543	506	45	47	40
2015	1730	1750	1679	47	45	46
2016	2052	2125	1891	49	47	49
2017	1826	1810	1760	36	37	35
2018	1766	1636	1643	30	30	28
2019	2038	2090	1937	37	44	35
2020	1855	1823	1729	31	33	26

Sources: Fannie Mae, Freddie Mac, Mortgage Bankers Association and Urban Institute.
Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market. Regarding interest rates, the yearly averages for 2015, 2016, 2017 and 2018 were 3.9, 3.8, 4.0 and 4.6 percent. For 2019, the respective projections for Fannie, Freddie, and MBA are 3.9, 4.0, and 3.8 percent.

Originator Profitability and Unmeasured Costs

In September 2019, Originator Profitability and Unmeasured Costs (OPUC) stood at $2.69 per $100 loan, much lower than the 2013 peak, but up from where it started in 2019. 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.

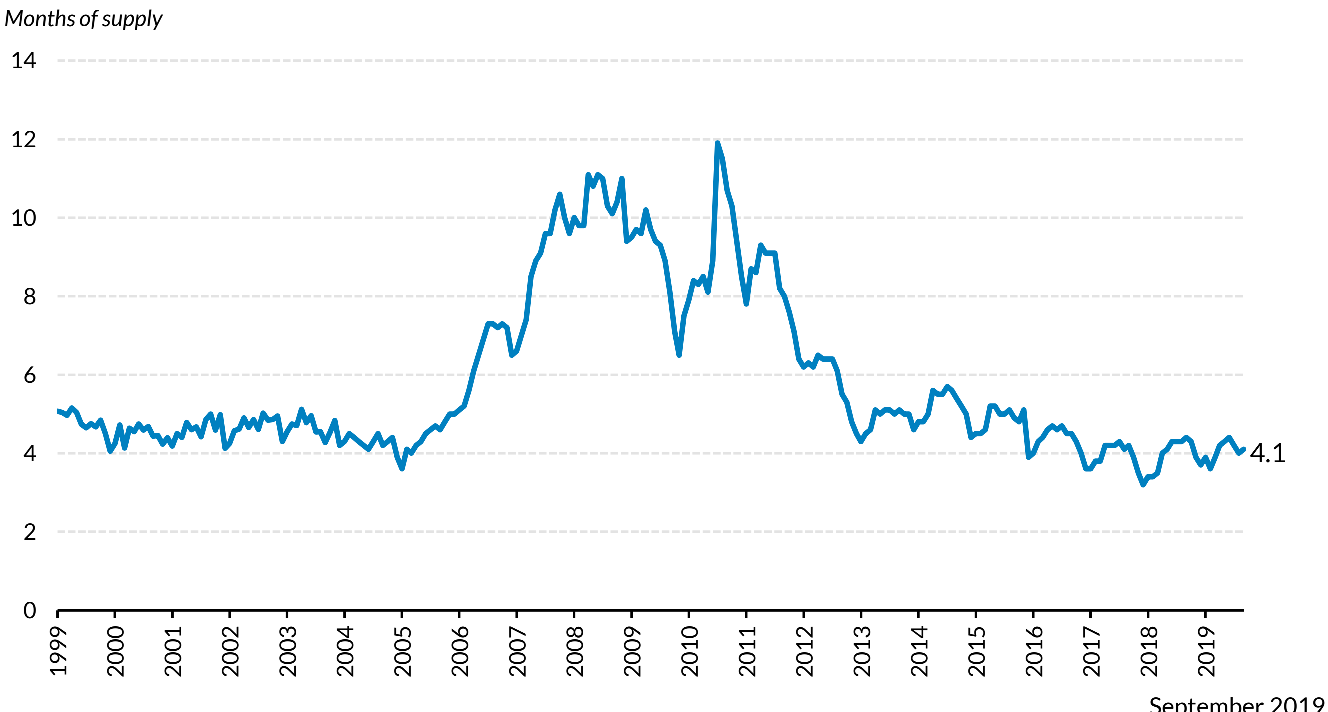


Sources: Federal Reserve Bank of New York, updated monthly and available at this link: http://www.ny.frb.org/research/epr/2013/1113fust.html and Urban Institute.
Note: OPUC is a is a monthly (4-week moving) average as discussed in [Fuster et al. (2013)](#).

STATE OF THE MARKET
HOUSING SUPPLY

Strong demand for housing in recent years, coupled with historically low new home construction has led to a low, 4.1 months, supply of for-sale homes in September 2019. This level is marginally lower than the 4.4 months in September 2018. Pre-crisis it averaged 4.6 months. Fannie Mae, Freddie Mac, the MBA and the NAHB forecast 2019 housing starts to be 1.24 to 1.27 million units, very similar to 2018. Fannie Mae, Freddie Mac and the MBA predict total home sales of 6.0 to 6.1 million units in 2019, slightly outpacing (Fannie Mae, MBA) or roughly flat (Freddie Mac) from 2018. The NAHB predicts homes sales to fall by about 64,000 units in 2019.

Months of Supply



Source: National Association of Realtors and Urban Institute.

Housing Starts and Homes Sales

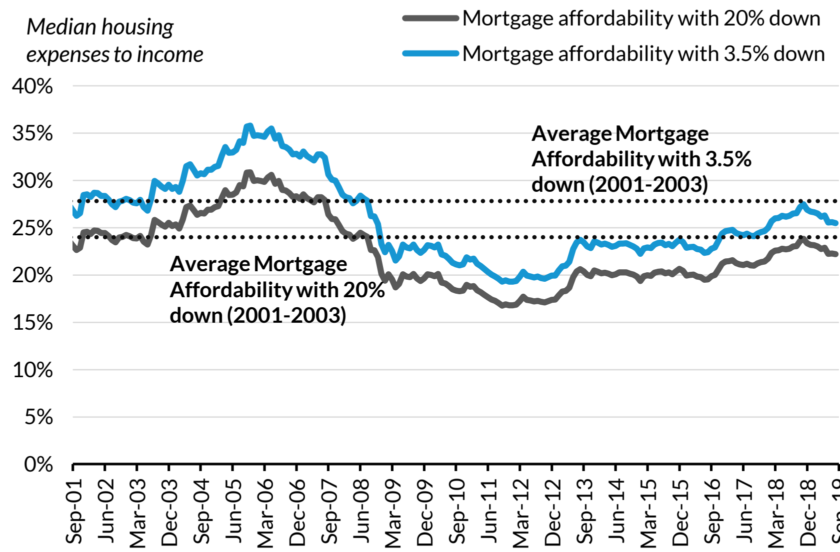
Year	Housing Starts, thousands				Home Sales. thousands			
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, NAHB estimate	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, NAHB estimate
2015	1112	1110	1108	1107	5751	5750	5740	5125
2016	1174	1170	1177	1177	6011	6010	6001	5385
2017	1203	1200	1208	1208	6123	6120	6158	5523
2018	1250	1250	1250	1249	5957	5960	5958	5359
2019	1264	1250	1265	1243	6012	5980	6053	5295
2020	1267	1280	1270	1286	6061	6030	6163	5331

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. NAHB home sales estimate is for single-family structures only, it excludes condos and co-ops. Other figures include all single-family sales.

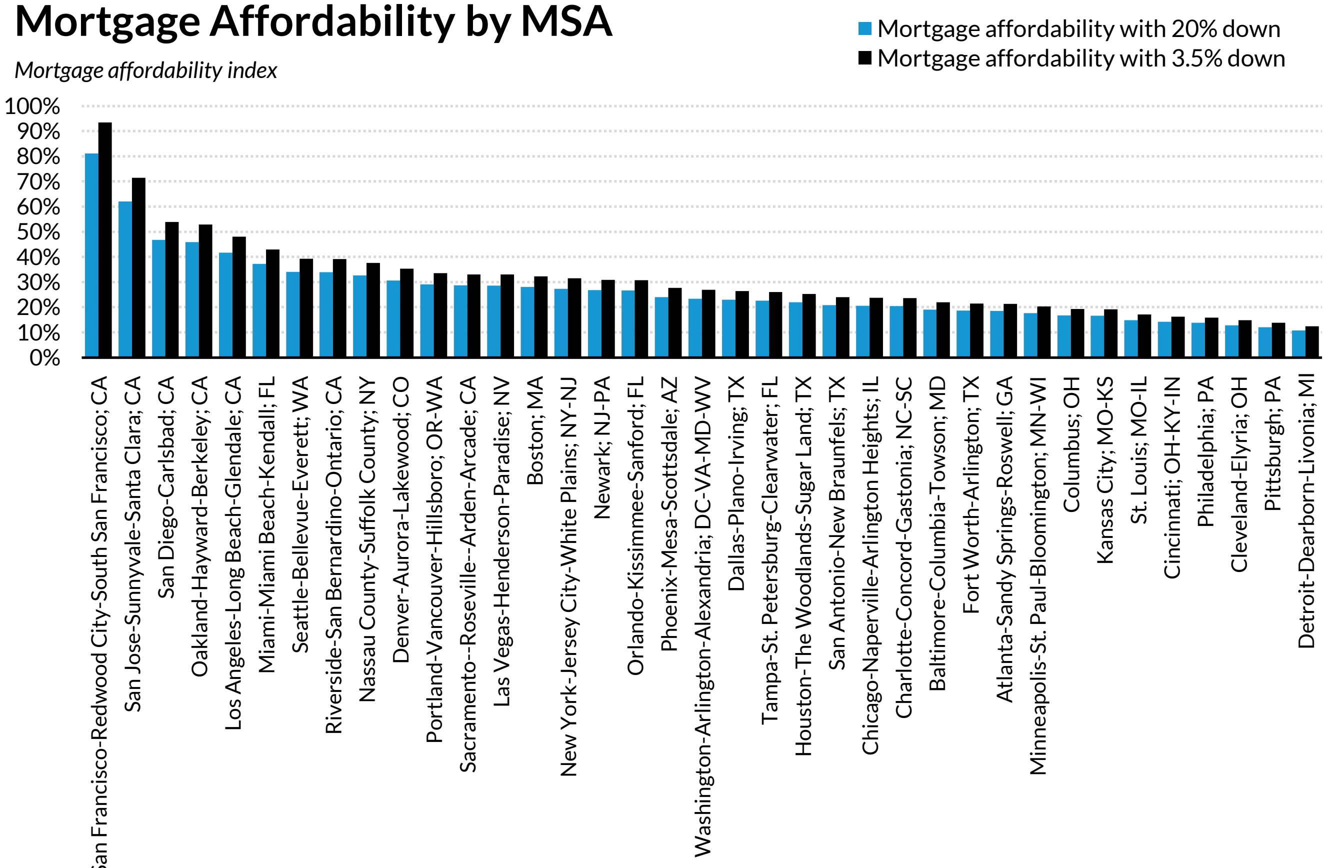
STATE OF THE MARKET
HOUSING AFFORDABILITY

National Mortgage Affordability Over Time

Home prices remain affordable by historic standards, despite price increases over the last 7 years, as interest rates remain relatively low in an historic context. As of September 2019, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 22.4 percent; with 3.5 down, it is 25.7 percent. Since February, the median housing expenses to income ratio has been slightly lower than the 2001-2003 average. As shown in the bottom picture, mortgage affordability varies widely by MSA.



Mortgage Affordability by MSA



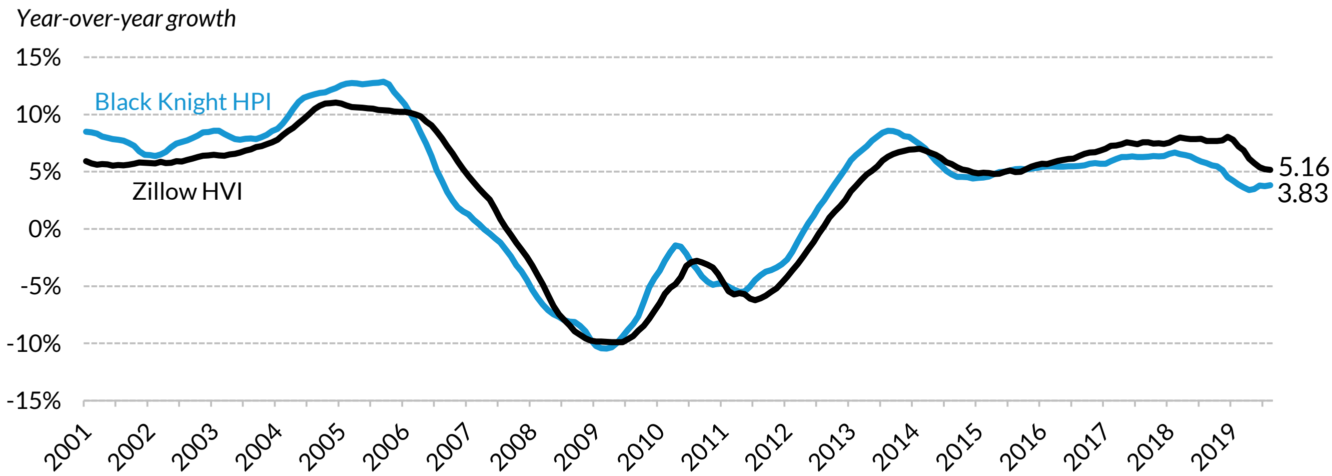
Sources: National Association of Realtors, US Census Bureau, Current Population Survey, American Community Survey, Moody's Analytics, Freddie Mac Primary Mortgage Market Survey, and the Urban Institute.

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 Q4 2018.

HOME PRICE INDICES

National Year-Over-Year HPI Growth

Year-over-year home price appreciation slowed slightly in August 2019, as measured by Zillow's hedonic index, but increased slightly according to Black Knight's repeat sales index. Although housing affordability remains constrained, especially at the lower end of the market, recent declines in rates serve as a partial offset. We would expect the lower end of the market to continue to appreciate more than the upper end, as low-end inventory is very tight.



Sources: Black Knight, Zillow, and Urban Institute. **Note:** Data as of August 2019.

Changes in Black Knight HPI for Top MSAs

After rising 54. percent from the trough, national house prices are now 15.2 percent higher than pre-crisis peak levels. At the MSA level, ten of the top 15 MSAs have exceeded their pre-crisis peak HPI: New York, NY; Los Angeles, CA; Atlanta, GA; Houston, TX; Dallas, TX; Minneapolis, MN; Seattle, WA; Denver, CO, San Diego, CA, and Anaheim, CA. Two MSAs particularly hard hit by the boom and bust—Chicago, IL and Riverside, CA—are 8.7 and 9.2 percent, respectively, below peak values.

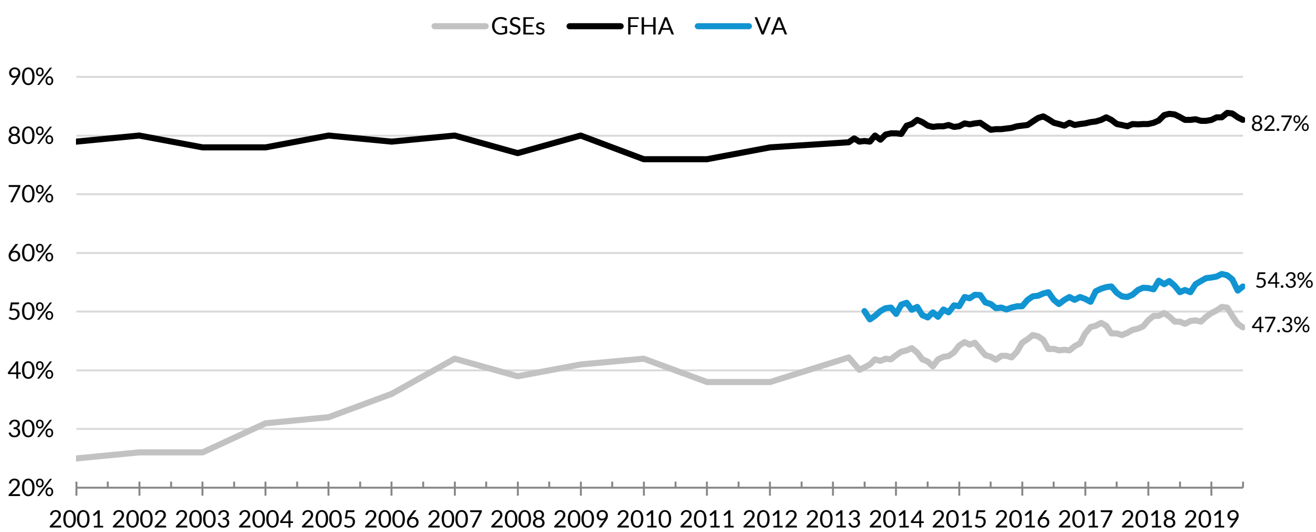
MSA	HPI changes (%)			% above peak
	2000 to peak	Peak to trough	Trough to current	
United States	75.5	-25.5	54.5	15.2
New York-Jersey City-White Plains, NY-NJ	127.8	-22.4	45.6	13.0
Los Angeles-Long Beach-Glendale, CA	179.8	-38.1	85.9	15.1
Chicago-Naperville-Arlington Heights, IL	67.0	-38.4	48.1	-8.7
Atlanta-Sandy Springs-Roswell, GA	32.6	-35.5	80.3	16.3
Washington-Arlington-Alexandria, DC-VA-MD-WV	149.4	-28.3	36.9	-1.9
Houston-The Woodlands-Sugar Land, TX	29.4	-6.6	47.1	37.4
Phoenix-Mesa-Scottsdale, AZ	113.2	-51.1	94.7	-4.8
Riverside-San Bernardino-Ontario, CA	175.1	-51.7	87.9	-9.2
Dallas-Plano-Irving, TX	26.4	-7.2	65.9	54.0
Minneapolis-St. Paul-Bloomington, MN-WI	69.2	-30.4	61.9	12.7
Seattle-Bellevue-Everett, WA	90.5	-33.1	102.9	35.8
Denver-Aurora-Lakewood, CO	34.0	-12.1	92.1	68.9
Baltimore-Columbia-Towson, MD	123.0	-24.4	22.4	-7.4
San Diego-Carlsbad, CA	148.4	-37.5	77.2	10.7
Anaheim-Santa Ana-Irvine, CA	163.3	-35.3	64.8	6.7

Sources: Black Knight HPI and Urban Institute. Data as of August 2019.
Note: This table includes the largest 15 Metropolitan areas by mortgage count.

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In July 2019, the FTHB share for FHA, which has always been more focused on first time homebuyers, fell very slightly to 82.7 percent. The FTHB share of VA lending rose in July, to 54.3 percent. The GSE FTHB share in July was 47.3 percent. The bottom table shows that based on mortgages originated in July 2019, the average FTHB was more likely than an average repeat buyer to take out a smaller loan, have a lower credit score, and higher LTV and higher DTI, thus paying a higher interest rate.



Sources: eMBS, Federal Housing Administration (FHA) and Urban Institute. July 2019
Note: All series measure the first-time homebuyer share of purchase loans for principal residences.

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

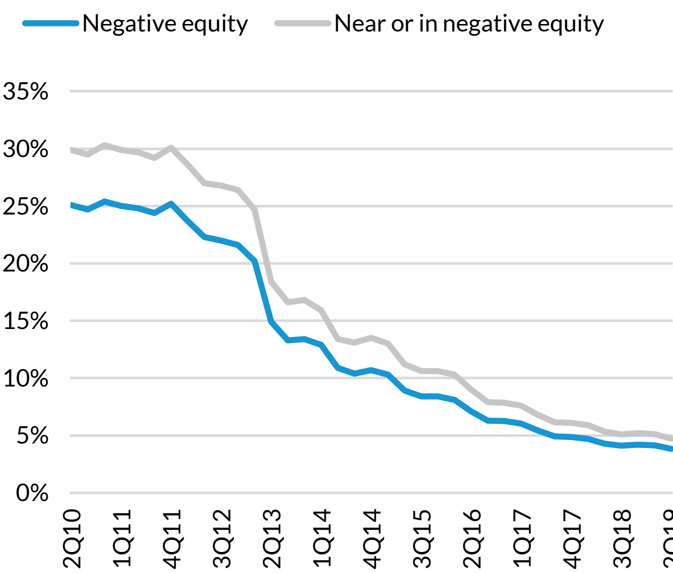
	GSEs		FHA		GSEs and FHA	
Characteristics	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount ($)	246,983	275,276	219,328	240,111	236,375	270,412
Credit Score	743	757	669	673	714	745
LTV (%)	88	80	96	94	91	82
DTI (%)	35	36	43	44	38	37
Loan Rate (%)	4.11	4.01	4.25	4.12	4.16	4.03

Sources: eMBS and Urban Institute.
Note: Based on owner-occupied purchase mortgages originated in July 2019.

DELINQUENCIES AND LOSS MITIGATION ACTIVITY

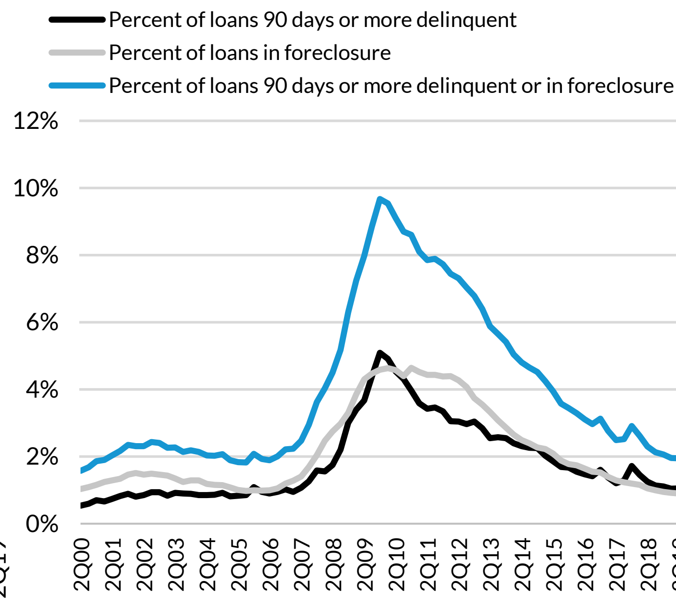
Loans in and near negative equity continued to decline in 2Q 2019; 3.8 percent now have negative equity, an additional 0.9 percent have less then 5 percent equity. Loans that are 90 days delinquent or in foreclosure have also been in a long decline, falling to 1.95 percent in the second quarter of 2019. New loan modifications and liquidations (bottom) have continued to decline. Since Q3, 2007, total loan modifications (HAMP and proprietary) are roughly equal to total liquidations. Hope Now reports show 8,582,314 borrowers received a modification from Q3 2007 to Q1 2019, compared with 8,807,889 liquidations in the same period.

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 September 2019.*

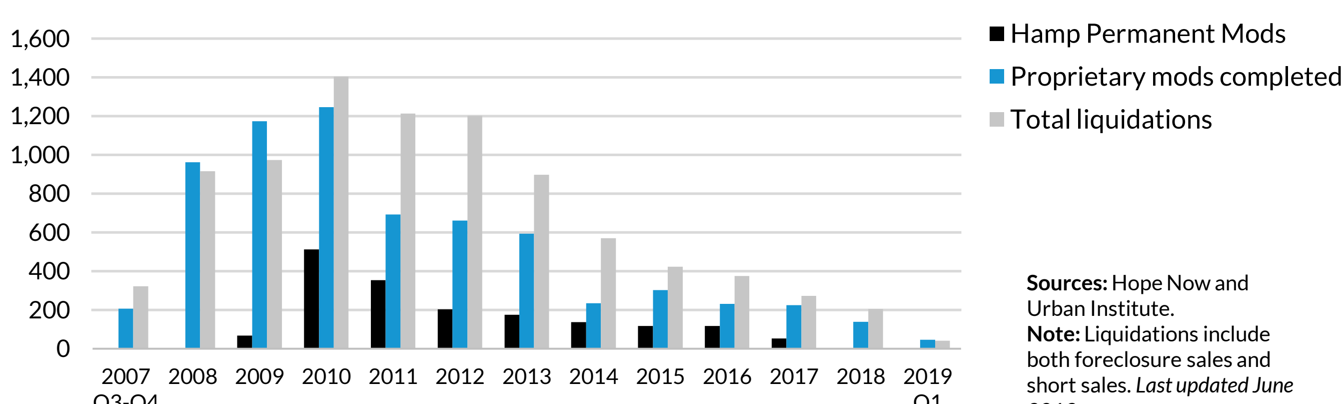
Loans in Serious Delinquency/Foreclosure



Sources: Mortgage Bankers Association and Urban Institute. *Last updated August 2019.*

Loan Modifications and Liquidations

Number of loans (thousands)



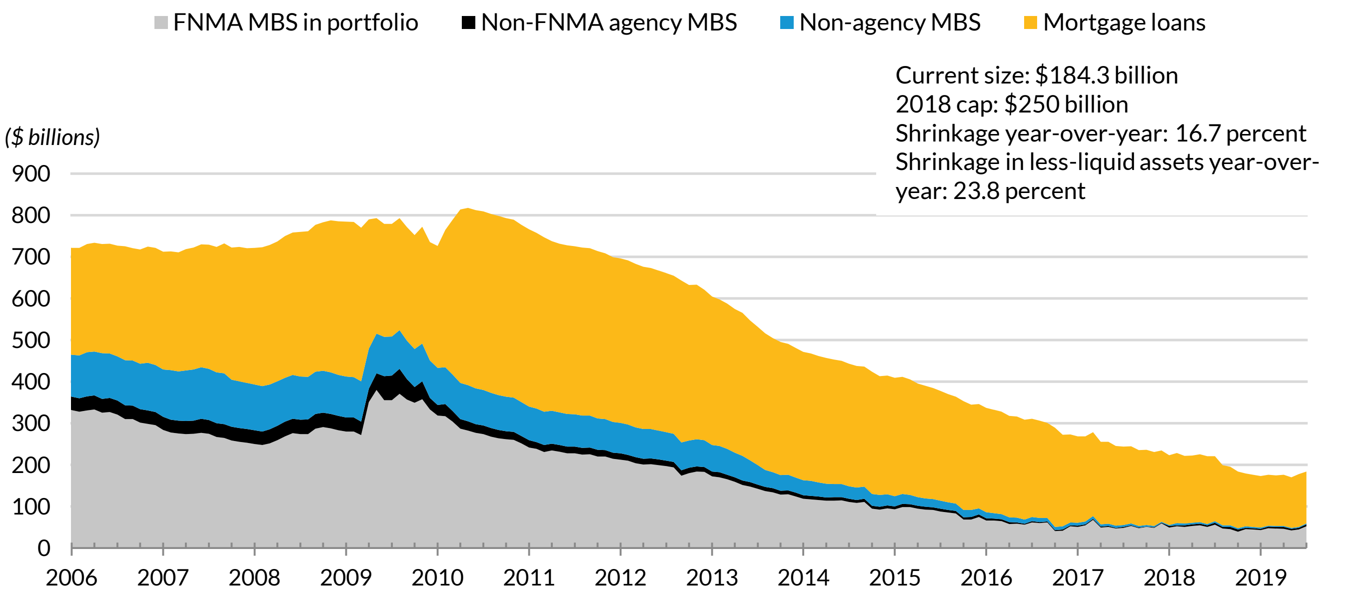
Sources: Hope Now and Urban Institute.
Note: Liquidations include both foreclosure sales and short sales. *Last updated June 2019.*

GSES UNDER CONSERVATORSHIP

GSE PORTFOLIO WIND-DOWN

Both GSEs continue to contract their retained portfolios. Since August 2018, Fannie Mae has contracted by 16.7 percent and Freddie Mac by 6.8 percent. They are shrinking their less-liquid assets (mortgage loans and non-agency MBS) faster than they are shrinking their entire portfolio. The Fannie Mae and Freddie Mac portfolios are now both well below the $250 billion maximum portfolio size; they were required to reach this terminal level by year end 2018. Fannie met the target in 2017, Freddie met the target in February 2018.

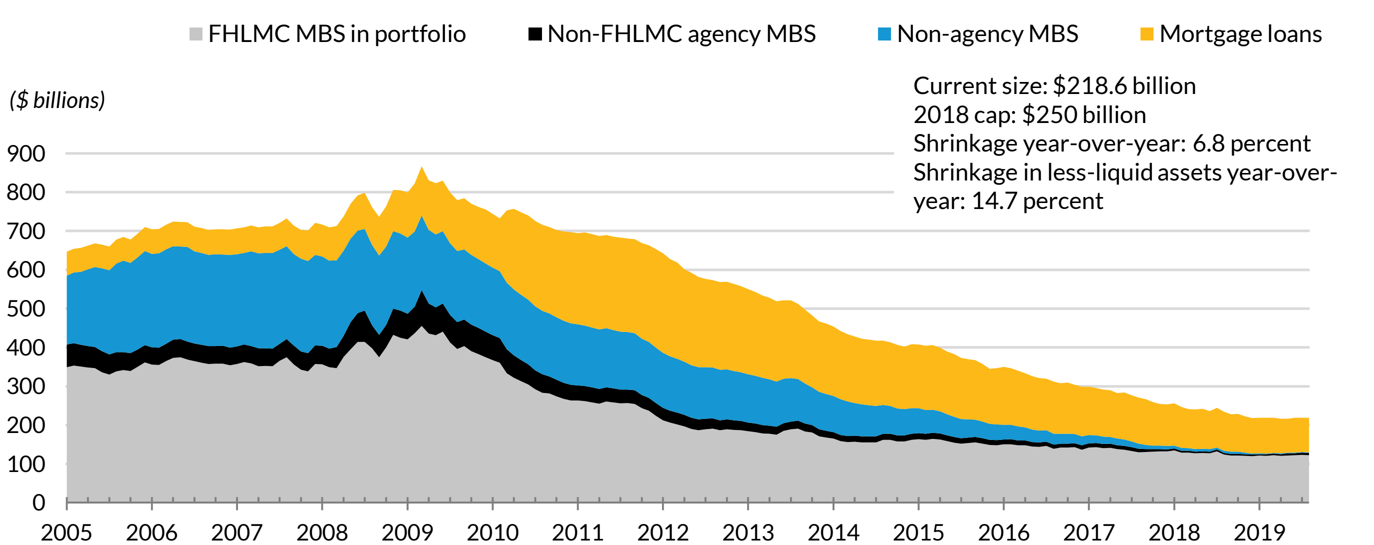
Fannie Mae Mortgage-Related Investment Portfolio Composition



Sources: Fannie Mae and Urban Institute.

August 2019

Freddie Mac Mortgage-Related Investment Portfolio Composition



Sources: Freddie Mac and Urban Institute.

August 2019

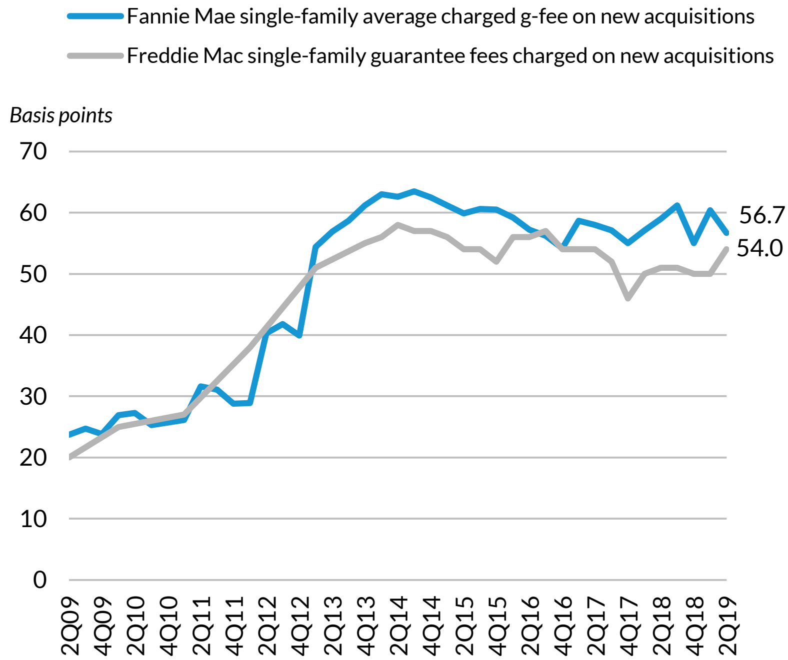
GSES UNDER CONSERVATORSHIP

EFFECTIVE GUARANTEE FEES

Guarantee Fees Charged on New Acquisitions

Fannie Mae's 2019 10-Q indicates that its average g-fees charged on new acquisitions fell from 60.4 to 56.7 bps in Q2 2019, while Freddie rose from 50.0 to 54.0. These are markedly higher than g-fee levels in 2011 and 2012, and have contributed to the GSEs' earnings. The GSE's latest Loan-Level Pricing Adjustments (LLPAs) took effect in September 2015; the bottom table shows the Fannie Mae LLPAs, which are expressed as upfront charges.

Sources: Fannie Mae, Freddie Mae and Urban Institute.
Last updated August 2019.



Fannie Mae Upfront Loan-Level Price Adjustments (LLPAs)

	LTV (%)								
Credit Score	≤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 2019.

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. FHFA's 2019 scorecard requires the GSEs to lay off credit risk on 90 percent of newly acquired loans in categories targeted for transfer. Fannie Mae's CAS issuances since inception total $1.327 trillion; Freddie's STACR totals $1.348 trillion.

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
February 2018	CAS 2018 – C01	$44,900	$1,494	3.3
March 2018	CAS 2018 - C02	$26,500	$1,007	3.8
May 2018	CAS 2018 - C03	$31,100	$1,050	3.4
June 2018	CAS 2018 - C04	$24,700	$940	3.8
July 2018	CAS 2018 - C05	$28,700	$983	3.4
October 2018	CAS 2018 - C06	$25,700	$918	3.6
October 2018	CAS 2018 - R07	$24,300	$922	3.8
January 2019	CAS 2019 - R01	$28,000	$960	3.4
February 2019	CAS 2019 - R02	$27,000	$1,000	3.7
April 2019	CAS 2019 - R03	$21,000	$857	4.1
June 2019	CAS 2019 - R04	$25,000	$1,000	4.0
July 2019	CAS 2019 - R05	$24,000	$993	4.1
October 2019	CAS 2019 - R06	$33,000	$1,300	3.9
Total		**$1,327,172**	**$41,510**	**3.1**

Freddie Mac – Structured Agency Credit Risk (STACR)

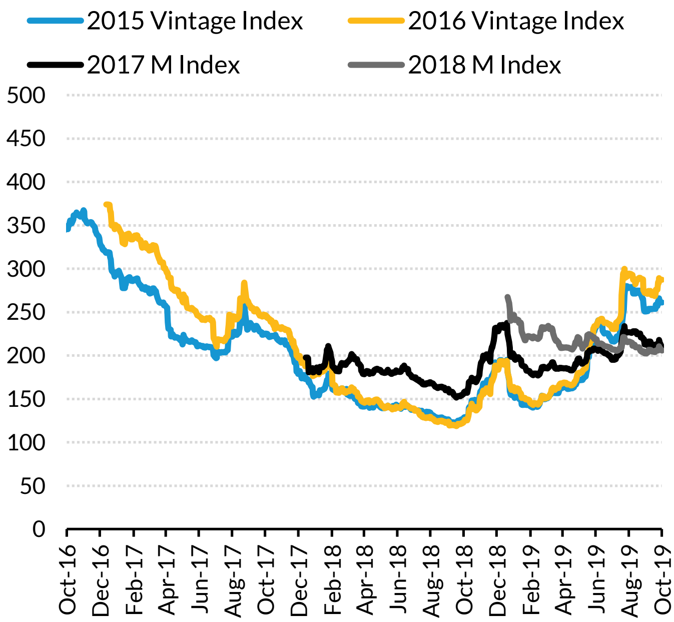
Date	Transaction	Reference Pool Size ($ m)	Amount Issued ($m)	% of Reference Pool Covered
2013	STACR 2013 deals	$57,912	$1,130	2.0
2014	STACR 2014 deals	$147,120	$4,916	3.3
2015	STACR 2015 deals	$209,521	$6,658	3.2
2016	STACR 2016 deals	$199,130	$5,541	2.8
2017	STACR 2017 deals	$248, 821	$5,663	2.3
January 2018	STACR Series 2018 – DNA1	$34,733	$900	2.6
March 2018	STACR Series 2018 – HQA1	$40,102	$985	2.5
June 2018	STACR Series 2018 – DNA2	$49,346	$1,050	2.1
September 2018	STACR Series 2018 – DNA3	$30,000	$820	2.7
October 2018	STACR Series 2018 – HQA2	$36,200	$1,000	2.8
November 2018	STACR Series 2018 – HRP2	$26,200	$1,300	5.0
January 2019	STACR Series 2019 – DNA1	$24,600	$714	2.9
February 2019	STACR Series 2019 – HQA1	$20,760	$640	3.1
March 2019	STACR Series 2019 – DNA2	$20,500	$608	3.0
May 2019	STACR Series 2019 – HQA2	$19,500	$615	3.2
May 2019	STACR Series 2019 – FTR1	$44,590	$140	0.3
June 2019	STACR Series 2019 – HRP1	$5,782	$281	4.9
July 2019	STACR Series 2019 – DNA3	$25,533	$756	3.0
August 2019	STACR Series 2019 – FTR2	$11,511	$284	2.5
October 2019	STACR Series 2019 – HQA3	$19,609	$626	3.2
Total		**$1,348,069**	**$34,627**	**2.6**

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

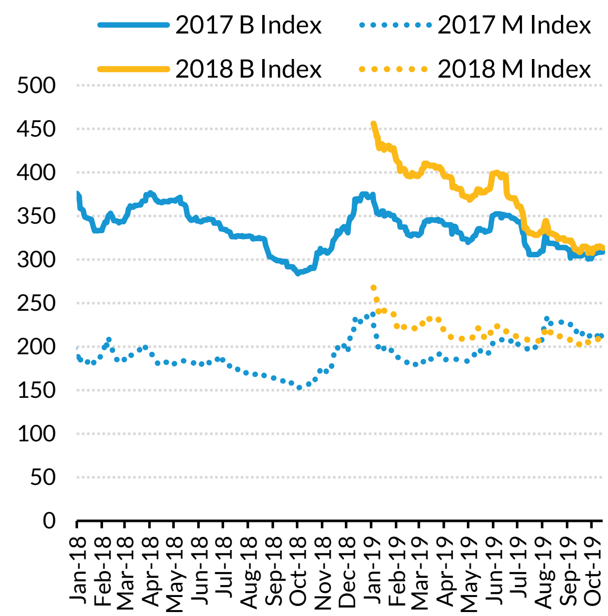
GSE RISK-SHARING INDICES

The figures below show the spreads on the 2015, 2016, 2017 and 2018 indices, as priced by dealers. Note that the older indices (2015 and 2016) skyrocketed this summer, before stabilizing, while the newer indices have increased much less. This reflects the fact that the older indices have narrowed since issuance, and hence are at considerable price premiums. The drop in interest rates has generated faster prepayment speeds; spreads have widened to compensate investors for a loss in the value of their premium bonds. Note that the 2015 and 2016 indices consist of the bottom mezzanine tranche in each deal, weighted by the original issuance amount; the equity tranches were not sold in these years. The 2017 and 2018 indices contain both the bottom mezzanine tranche as well as the equity tranche (the B tranche), in all deals when the latter was sold.

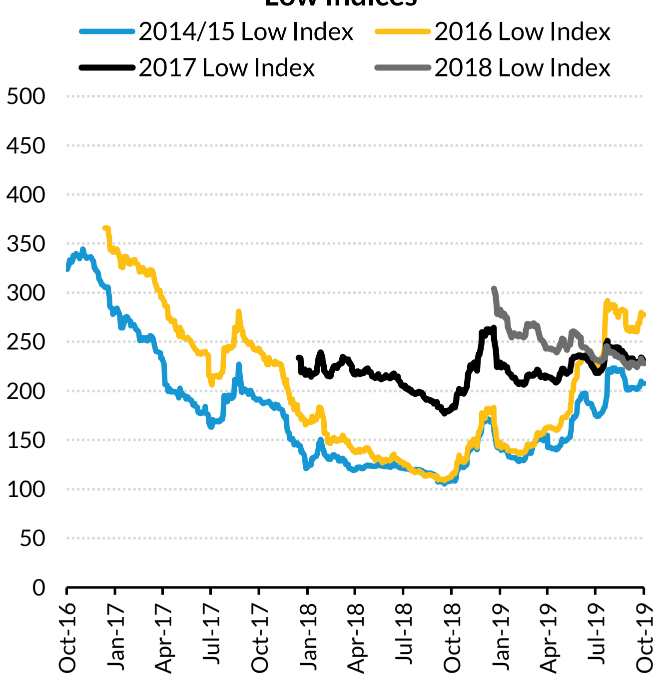
By Vintage



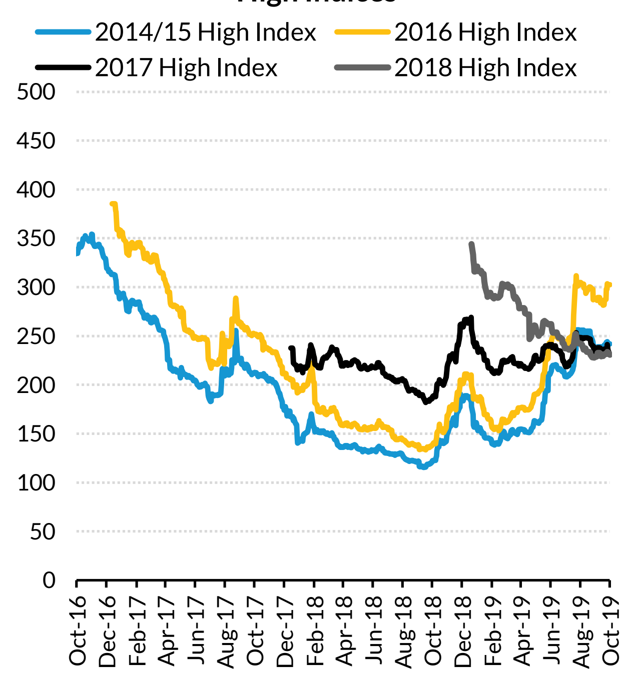
2017 and 2018 Indices



Low Indices



High Indices

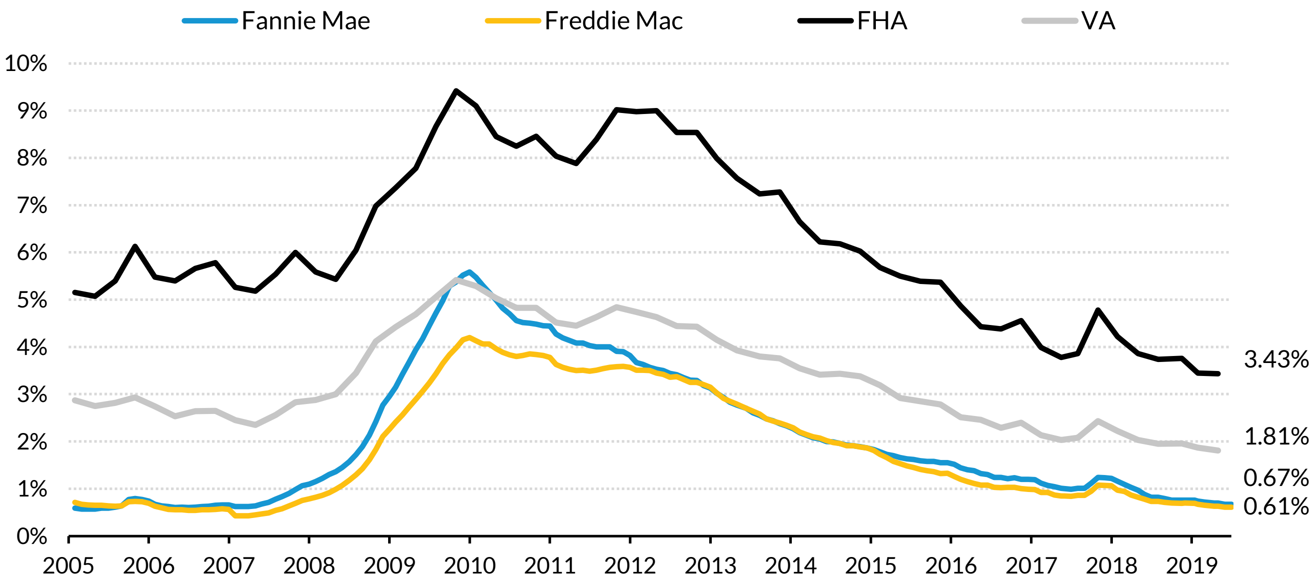


Sources: Vista Data Services and Urban Institute.
Note: Data as of October 15, 2019.

SERIOUS DELINQUENCY RATES

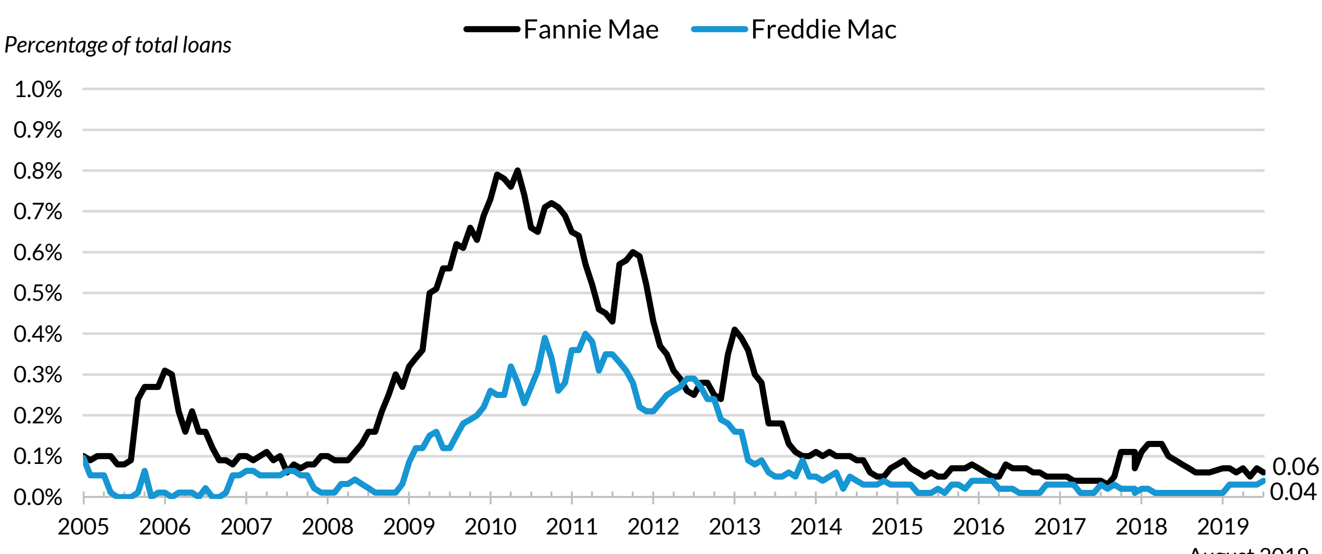
Serious delinquencies for single-family GSE, FHA, and VA has been on decline since 2012 and this trend continued in the second quarter of 2019. GSE delinquencies are now in line with 2005-2007 levels, while FHA and VA delinquencies (which are higher than their GSE counterparts) are at levels lower than 2005-2007. GSE multifamily delinquencies have declined post-crisis and remain very low.

Serious Delinquency Rates–Single-Family Loans



Sources: Fannie Mae, Freddie Mac, 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. FHA and VA delinquencies are reported on a quarterly basis, last updated August 2019. GSE delinquencies are reported monthly, last updated October of 2019.

Serious Delinquency Rates–Multifamily GSE Loans



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

AGENCY GROSS AND NET ISSUANCE

Agency gross issuance was $1.04 trillion in the first nine months of 2019, up 14.6 percent from the same period in 2018. Issuance in January and February 2019 was much lower than in January and February 2018, however April through September has outpaced the previous year. Net issuance (which excludes repayments, prepayments, and refinances on outstanding mortgages) totaled $214.7 billion in the first nine months of 2019, or $286.2 billion on an annualized basis, up 15.4 percent from the same period in 2018.

Agency Gross Issuance

Issuance Year	GSEs	Ginnie Mae	Total
2000	$360.6	$102.2	$462.8
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 YTD	$698.0	$343.2	$1,041.2
2019 YTD % Change YOY	16.0%	11.9%	14.6%
2019 Ann.	$930.7	$457.6	$1,388.3

Agency Net Issuance

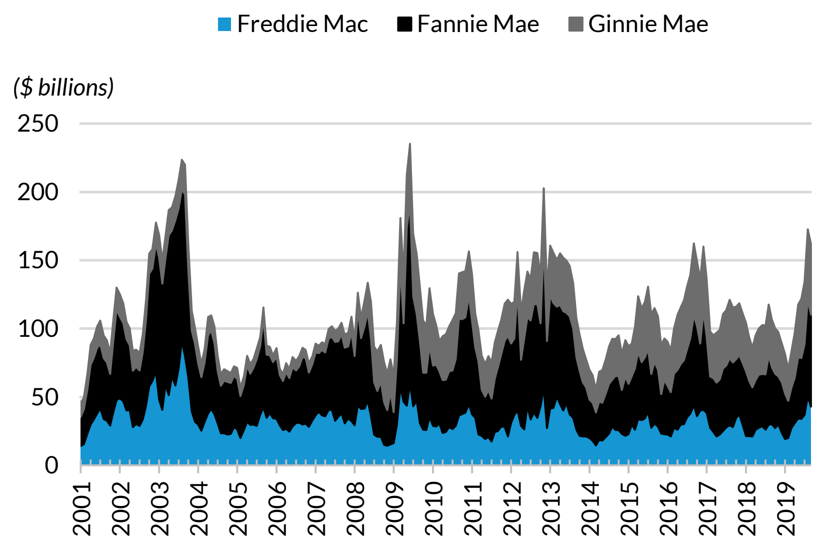
Issuance Year	GSEs	Ginnie Mae	Total
2000	$159.80	$29.30	$189.10
2001	$368.40	-$9.90	$358.50
2002	$357.20	-$51.20	$306.10
2003	$334.90	-$77.60	$257.30
2004	$82.50	-$40.10	$42.40
2005	$174.20	-$42.20	$132.00
2006	$313.60	$0.20	$313.80
2007	$514.90	$30.90	$545.70
2008	$314.80	$196.40	$511.30
2009	$250.60	$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	$30.50	$61.60	$92.10
2015	$75.10	$97.30	$172.50
2016	$135.50	$126.10	$261.60
2017	$168.50	$131.30	$299.70
2018	$147.70	$113.90	$261.60
2019 YTD	$141.1	$73.6	$214.7
2019 YTD % Change YOY	38.0%	-12.1%	15.4%
2019 Ann.	$188.1	$98.1	$286.2

Sources: eMBS and Urban Institute.
Note: Dollar amounts are in billions. Data as of September 2019.

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

While FHA, VA and GSE lending have dominated the mortgage market since the crisis, there has been a change in the mix. The Ginnie Mae share of new issuances has risen from a precrisis level of 10-12 percent to 32.1 percent in September 2019. This share increase reflected both increases in the purchase share and in the refi share. More precisely, when interest rates rose, there was a proportionately sharper curtailment in GSE refis than in Ginnie Mae refis. The recent drop in rates has not been large enough to alter that pattern.

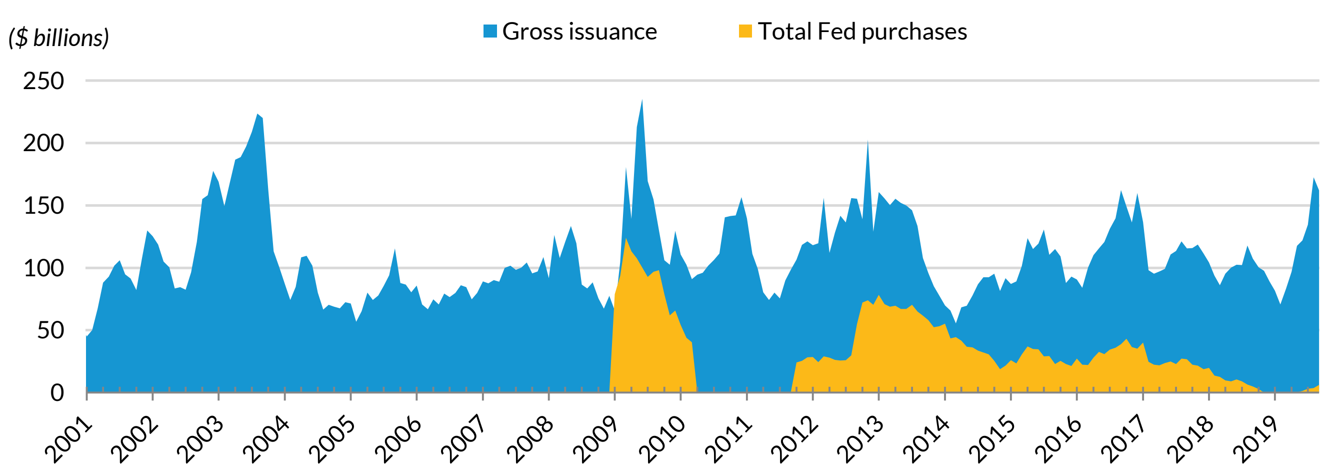


Sources: eMBS, Federal Reserve Bank of New York, and Urban Institute.

September 2019

Fed Absorption of Agency Gross Issuance

The Fed is winding down its MBS portfolio; new MBS purchases are minimal. During the period October 2014 to September 2017, the Fed ended its purchase program, but was reinvesting funds from mortgages and agency debt into the mortgage market, absorbing 20-30 percent of agency gross issuance. The portfolio wind down started in October 2017, with the Fed allowing a pre-established amount of MBS to run off each month. From October 2017 to September 2018, the Fed was still reinvesting, but by less than the prepayments and repayments. In October 2018, the amount of MBS permitted to run off each month (MBS taper) hit the $20 billion cap. Since then the amount of Fed purchases has been tiny; in September 2019 Fed purchases totaled $6.2 billion, corresponding to Fed absorption of gross issuance of 3.82 percent.



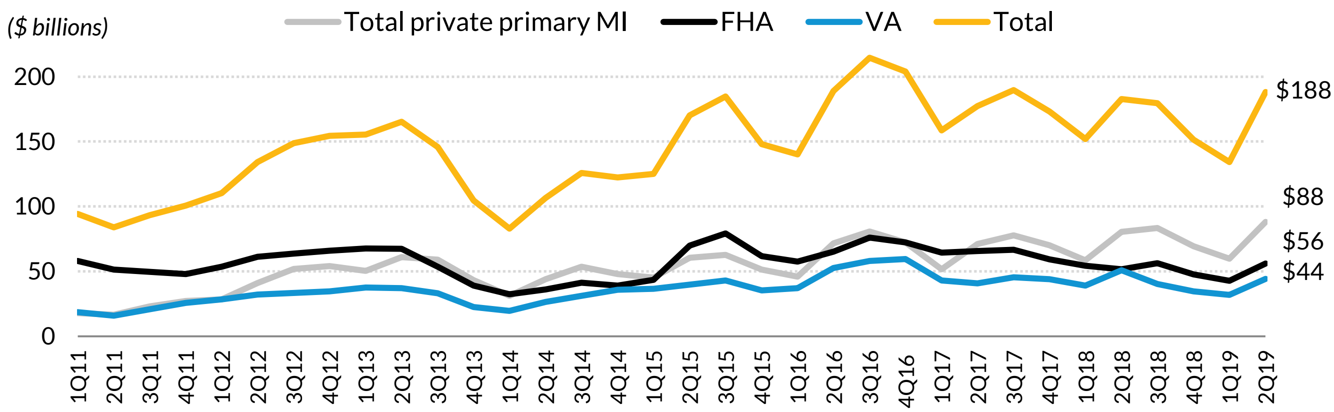
September 2019

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

MORTGAGE INSURANCE ACTIVITY

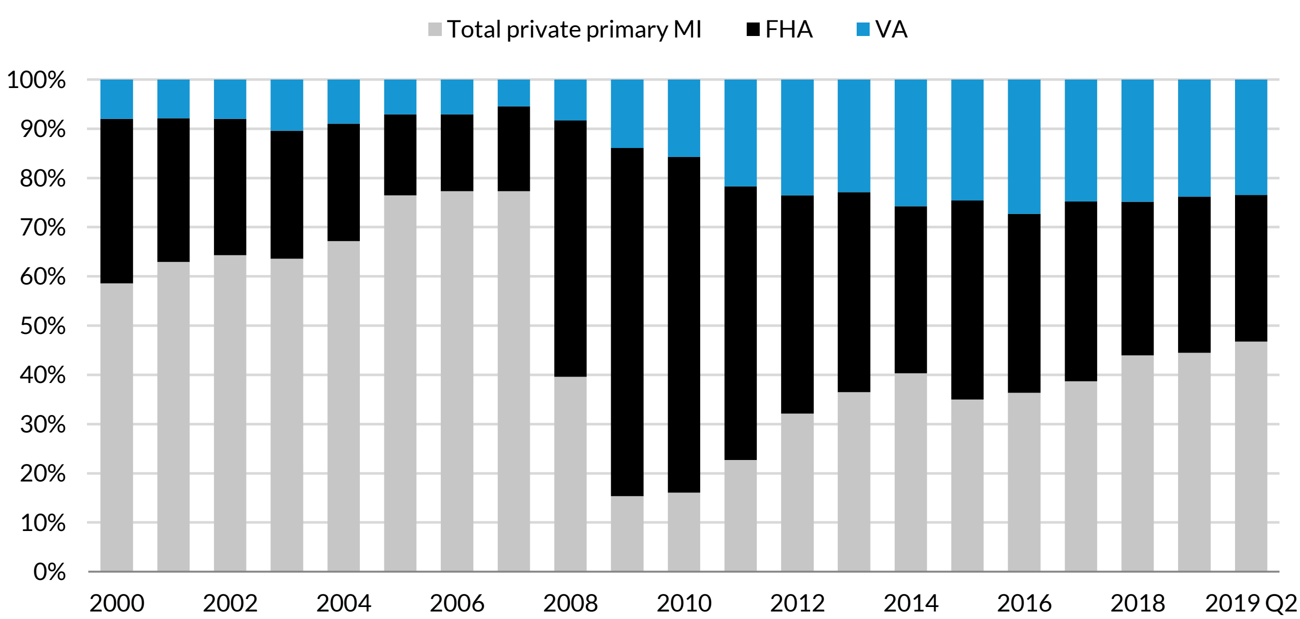
MI Activity

Mortgage insurance activity via the FHA, VA and private insurers increased from $183 billion in Q2 2018 to $188 billion in Q2 2019, a 2.9 percent increase. In the second quarter of 2019, private mortgage insurance written increased by $28.31 billion, FHA increased by $13.44 billion and VA increased by $12.17 billion from the previous quarter, reflecting seasonal increases driven by busy spring homebuying. During this period, the VA share fell slightly from 23.8 to 23.4 percent and the FHA share similarly fell from 31.7 to 28.8 percent, while the private mortgage insurers share grew from 44.5 to 46.8 percent compared to the previous quarter.



Sources: Inside Mortgage Finance and Urban Institute. *Last updated July 2019.*

MI Market Share



Sources: Inside Mortgage Finance and Urban Institute. *Last updated July 2019.*

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 will now find FHA more economical except for those with FICO scores of 720 or higher.

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	3.61
FHA	3.84

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	$1,320	$1,320	$1,320	$1,320	$1,320	$1,320	$1,320	$1,320
PMI	$1,569	$1,506	$1,470	$1,383	$1,338	$1,300	$1,259	$1,235
PMI Advantage	-$249	-$186	-$149	-$62	-$18	$20	$61	$85

Sources: Genworth Mortgage Insurance, Ginnie Mae, and Urban Institute.
Note: Rates as of September 2019.
Mortgage insurance premiums listed in percentage points. Grey shade indicates FHA monthly payment is more favorable, while blue indicates PMI is more favorable. The PMI monthly payment calculation does not include special programs like Fannie Mae's HomeReady and Freddie Mac's Home Possible (HP), both offer more favorable rates for low- to moderate-income borrowers.
LLPA= Loan Level Price Adjustment, described in detail on page 25.

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Publications

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Authors: Laurie Goodman, Sarah Strochak, Ellen Seidman
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Date: July 31, 2019

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