



# HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

November 2019

## 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](mailto:ataglance@urban.org).

To receive regular updates from the Housing Finance Policy Center, please visit [here](#) to sign up for our bi-weekly newsletter.

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# INTRODUCTION

## Non-depository Mortgage Sector Changes Highlight the Role for Technology

Nationwide, total employment exceeds its pre-recession peak. However, according to the U.S. Census Bureau's Economic Census, and corroborated by data from the Bureau of Labor Statistics, the total number of employees across the non-depository real estate credit sector has not fully recovered. The Economic Census also suggests that, sector-wide, revenue on a per-employee basis has risen, but payroll costs, similarly scaled, may have grown more.

Every five years the U.S. Census Bureau conducts a "business" census that serves as the most extensive collection of data related to business activity. Separately, the Census defines the non-depository real estate credit sector as including establishments primarily engaged in lending funds with real estate as collateral. The sector is a key input into estimates of total mortgage industry employment, but it does include some non-mortgage lending such as construction lending. As a result, aggregate mortgage-specific activity across the sector may be overstated.

### Key aggregate indicators

	Employees	Revenue, \$B	Payroll, \$B
2007	386,534	\$94.9	\$22.1
2017	277,549	\$91.1	\$26.3
10-year growth	-28%	-4%	19%

Source: Census Bureau

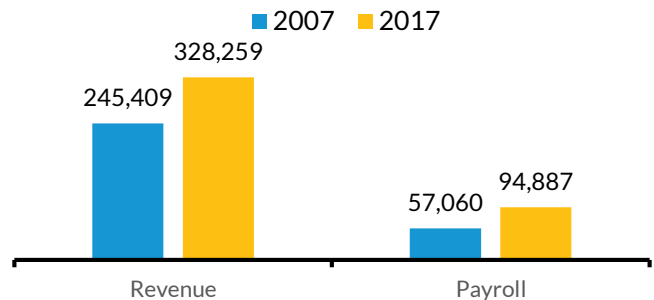
According to the Economic Census, the number of employees in the non-depository real estate credit sector totaled 277,549 in 2017, 28 percent fewer than the 386,534 in 2007. In 2007, the industry was nearing the end of a boom in originations that ultimately contributed to the collapse of the housing market and broader economic growth. In 2017, mortgage credit availability was much tighter. Paid employees consist of full- and part-time employees on the payroll as of March 12<sup>th</sup> of that year.

Total revenue, which includes commissions and fees from all sources, rents, and net investment income totaled \$91.1 billion in 2017, somewhat less than its level in 2007. However, total payroll across the industry, which includes all forms of compensation, such as salaries, wages, commissions, and bonuses was higher in 2017 than in 2007.

Dividing revenue and payroll costs by total employees provides a sense of how revenue and payroll on average across the sector may have changed relative to the size of the industry (by employees). Individual firms will have different results. Adjusted for the number of employees,

average revenue in 2017 was 34 percent higher. However, due to growth in total payroll costs spread across a smaller industry, average employment-adjusted payroll costs across the sector likely rose by 66 percent.

### Revenue and Payroll Costs per Employee



Source: Author's calculations of US Census Bureau data.

At the same time, industry data suggests that productivity has declined over this period. According to the Mortgage Bankers Association and STRATMOR Peer Group Roundtables, there were 30 applications per underwriter at independent mortgage banks in 2007, 70 percent less than the 101 applications per underwriter in 2007. The decline in productivity over this period is on par with the estimated 66 percent increase in average payroll costs per employee across the sector as a whole.

Technological transformation is beginning to proliferate across the mortgage lending industry amid signs of higher payroll costs and lower productivity. A report by the Urban Institute found that fintech firms are beginning to reform the mortgage lending process. This may reverse the trends toward lower productivity per employee. Stay tuned. Meanwhile the report also notes that although technology has helped improve efficiency for those firms that have adopted it, lowering the structural barriers to homeownership, such as credit access, has been met with less success.

### INSIDE THIS ISSUE

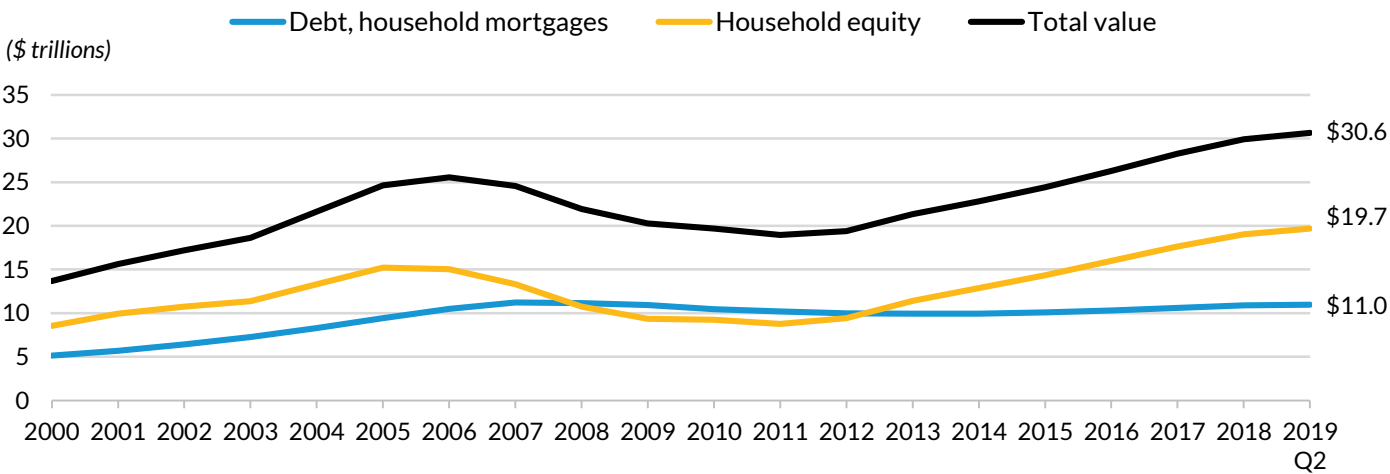
- As rates dropped over the summer, fewer borrowers opted for ARMs, causing the ARM share to drop to 1.7% in August, only slightly higher than the 1% historic low in 2009 (page 9).
- The cash-out share of all refinances fell from 61 percent in Q2 2019 to 45 percent in Q3, although volume remained stable (\$18.4 in Q3 2019) (page 10).
- After staying under 4% for most of 2019, year over year HPI in September 2019 was back above 4% per the Black Knight's index (page 22).
- In 2019 Q3, total mortgage insurance volume jumped nearly 40 percent from the same period in 2018, with increases across FHA, VA and PMI channels; FHA lost market share while PMI and VA both gained (page 32).

## OVERVIEW

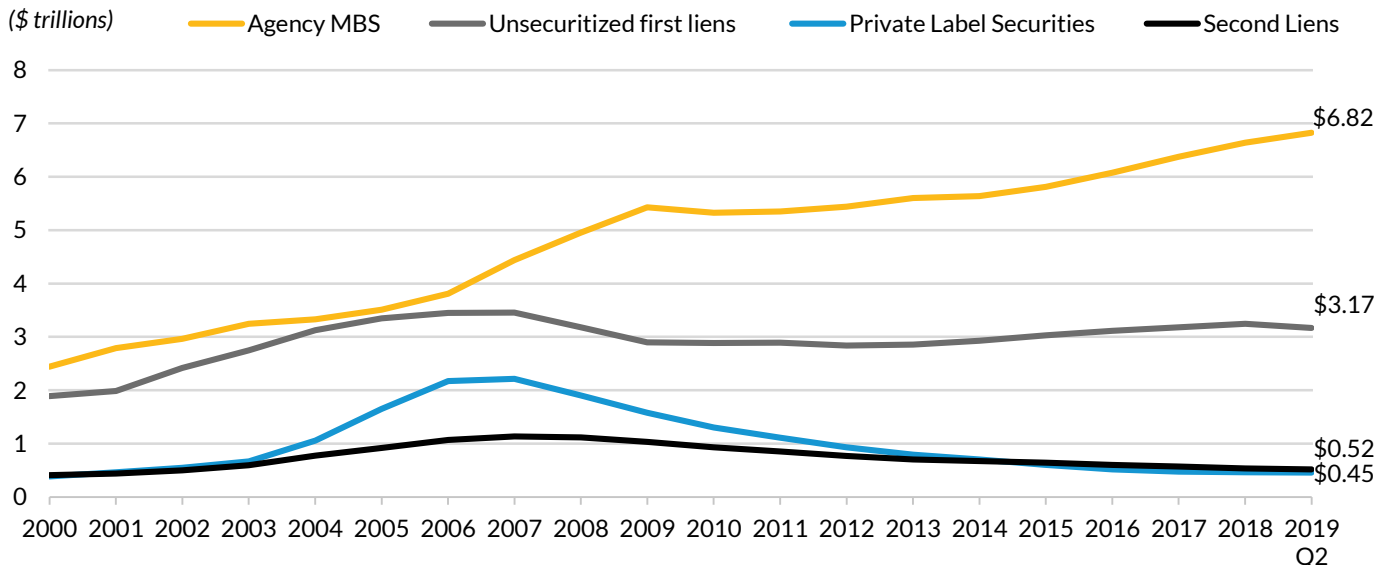
# MARKET SIZE OVERVIEW

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



## Size of the US Residential Mortgage Market

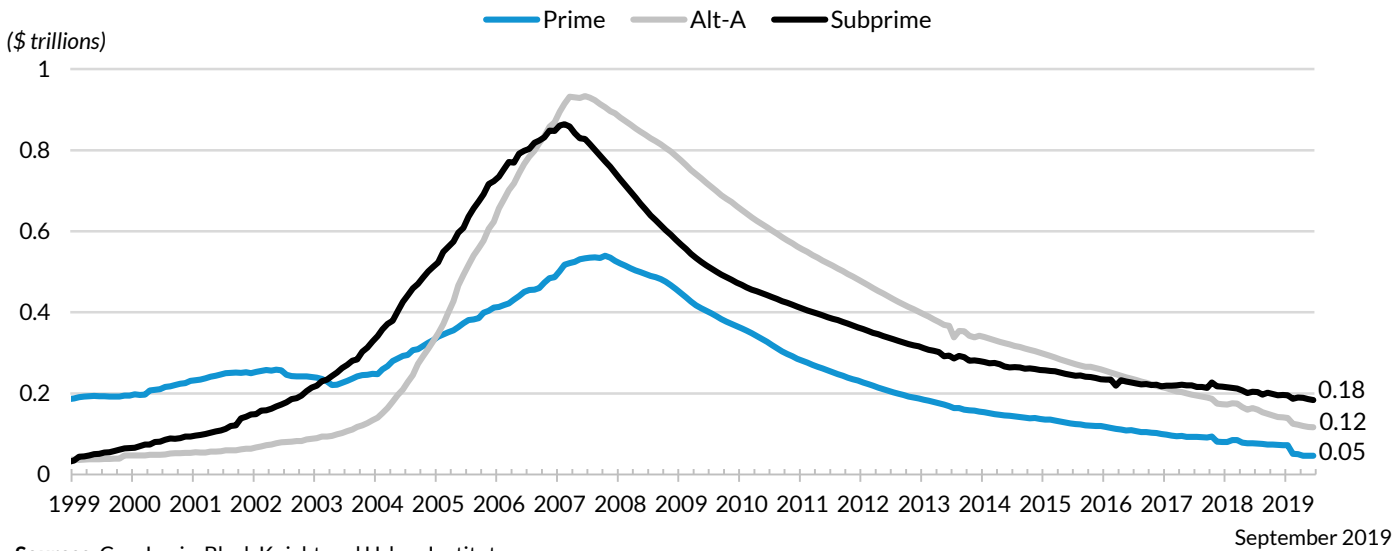


## OVERVIEW

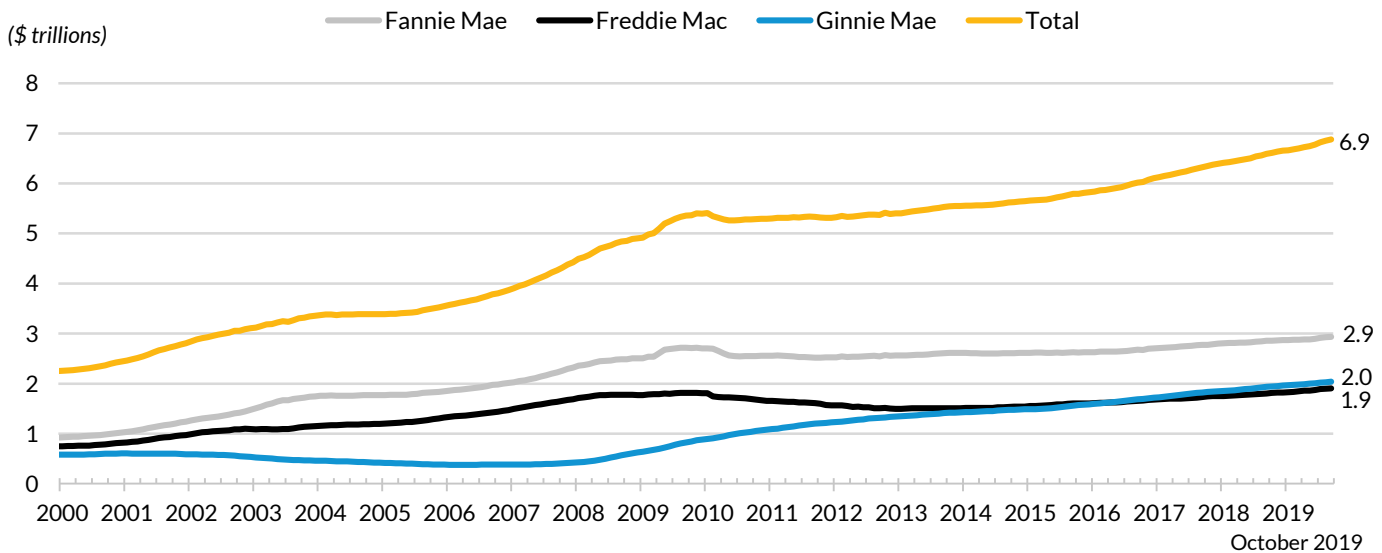
# MARKET SIZE OVERVIEW

As of September 2019, debt in the private-label securitization market totaled \$346 billion and was split among prime (13.3 percent), Alt-A (33.6 percent), and subprime (53.1 percent) loans. In October 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



## Agency Mortgage-Backed Securities

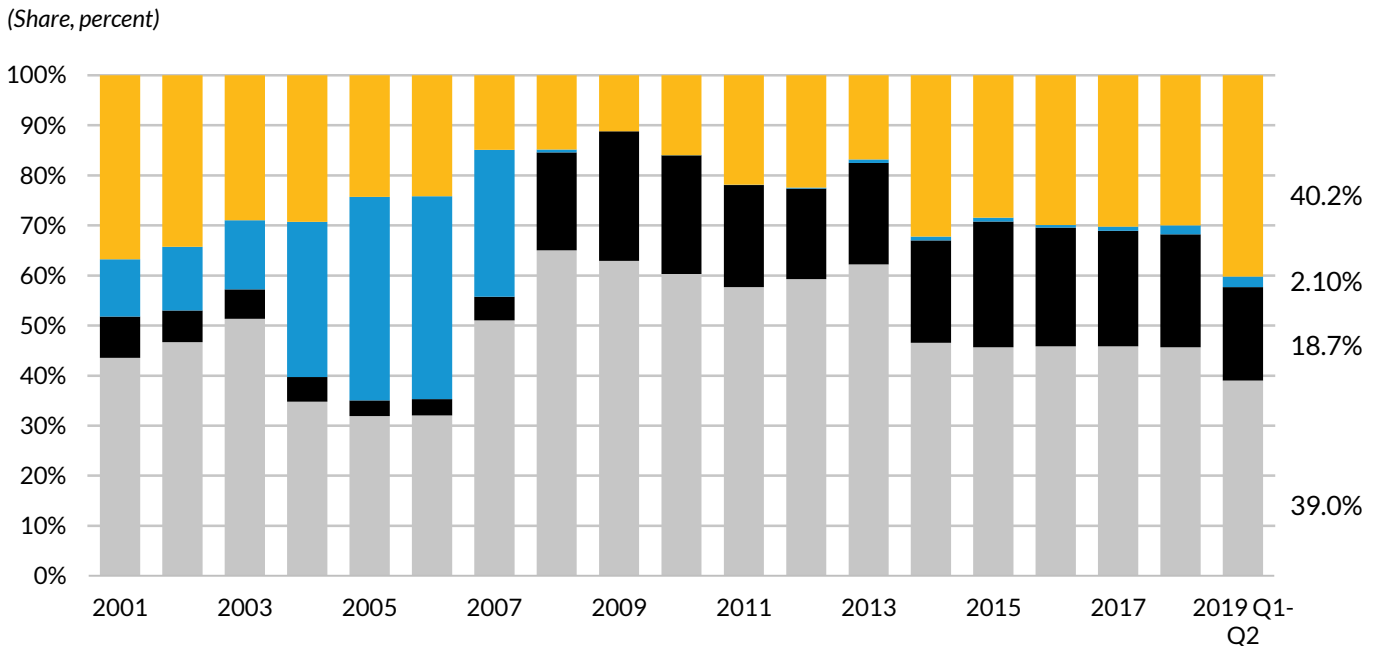
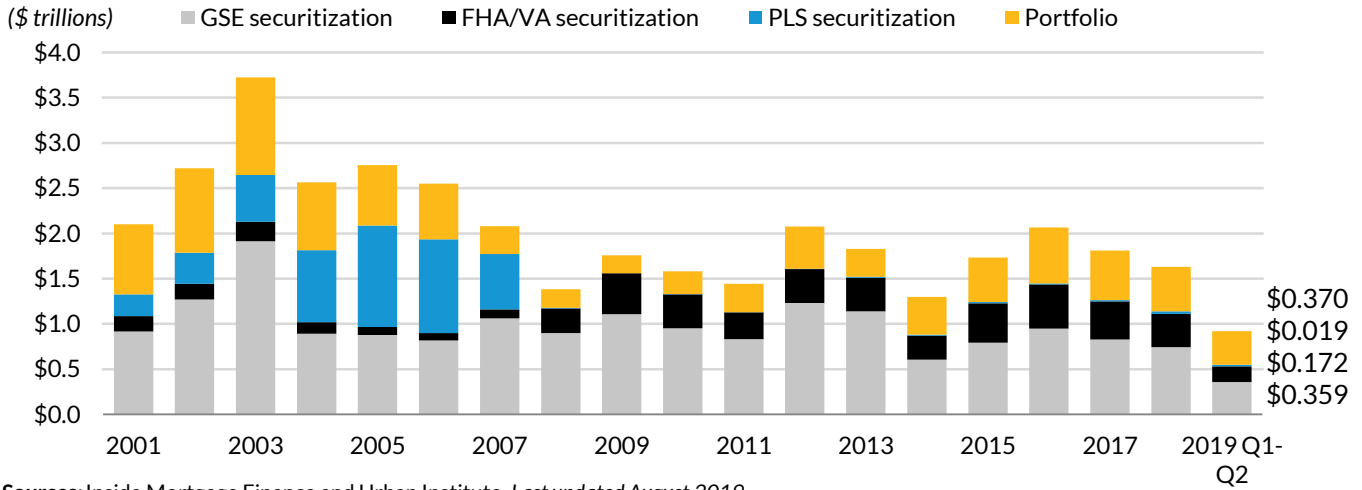


## OVERVIEW

# 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.



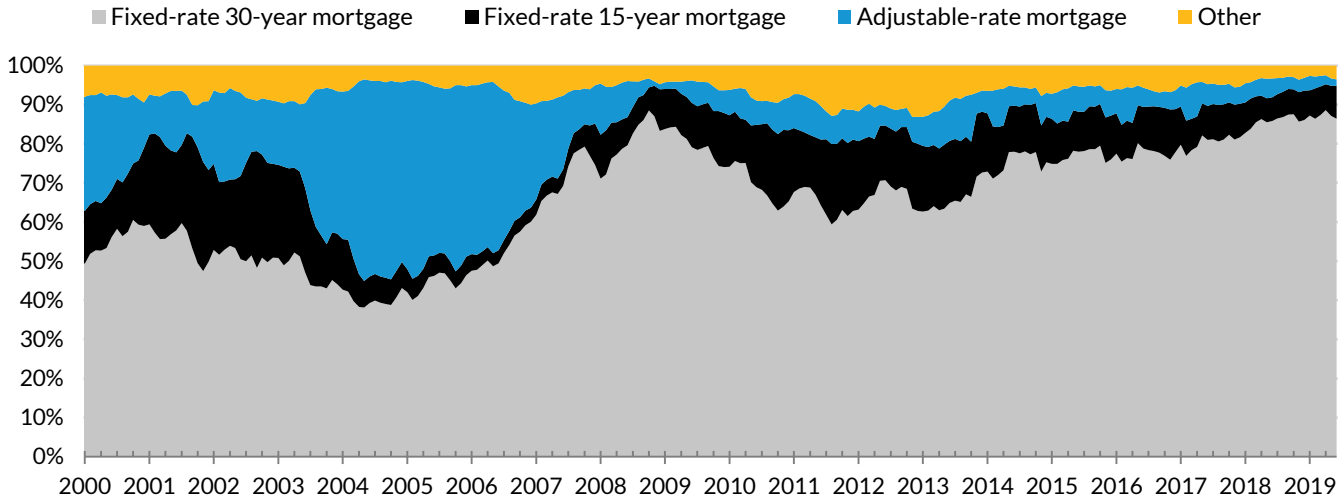


## OVERVIEW

# 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 August 2019 share of 1.7 percent is slightly lower than last month, and not far above the historical low reached in 2009. The 15-year fixed-rate mortgage, predominantly a refinance product, accounted for 8.4 percent of new originations in August 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

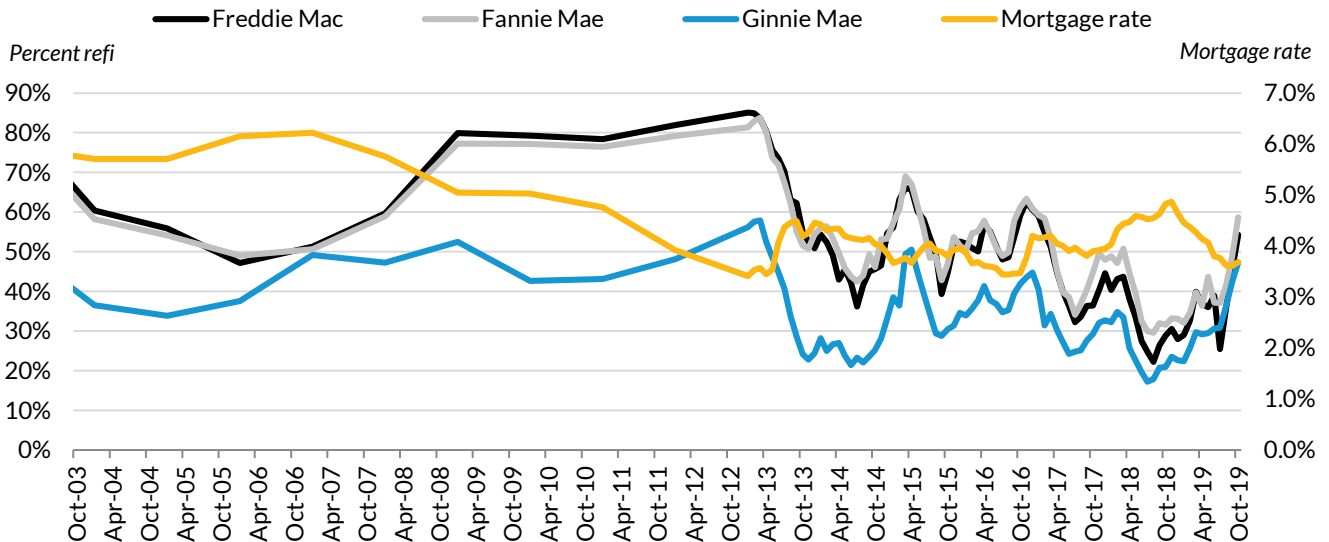


Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.

August 2019

Note: Includes purchase and refinance originations.

## Percent Refi at Issuance



Sources: eMBS and Urban Institute.

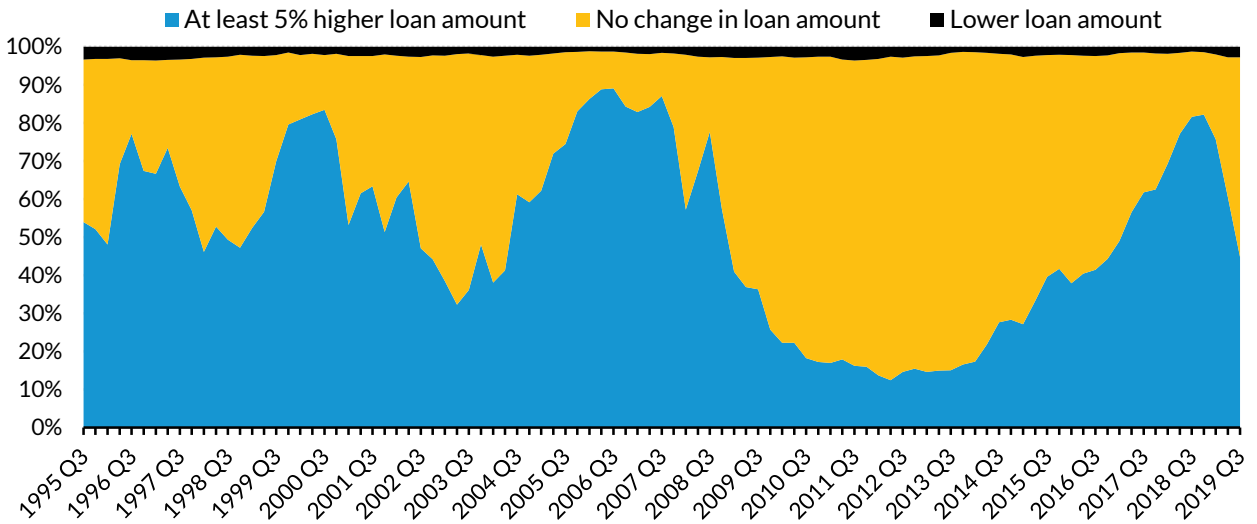
Note: Based on at-issuance balance. Figure based on data from October 2019.

## 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 61 percent in the second quarter of 2019 to 45 percent in the third quarter, reflecting increased rate-refi activity due to falling rates in 2019 Q3. While the cash-out refinance share for conventional mortgages is close to bubble-era peak, equity take-out volumes are substantially lower.

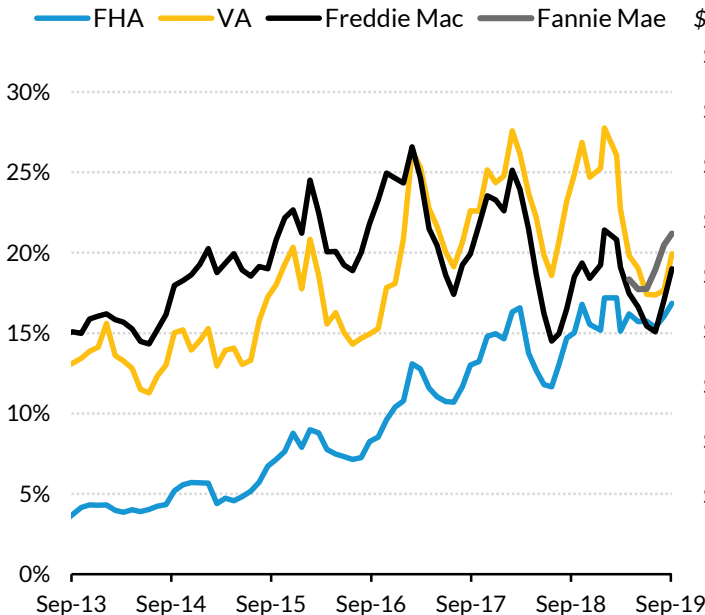
## Loan Amount after Refinancing



Sources: Freddie Mac and Urban Institute.

Note: Estimates include conventional mortgages only.

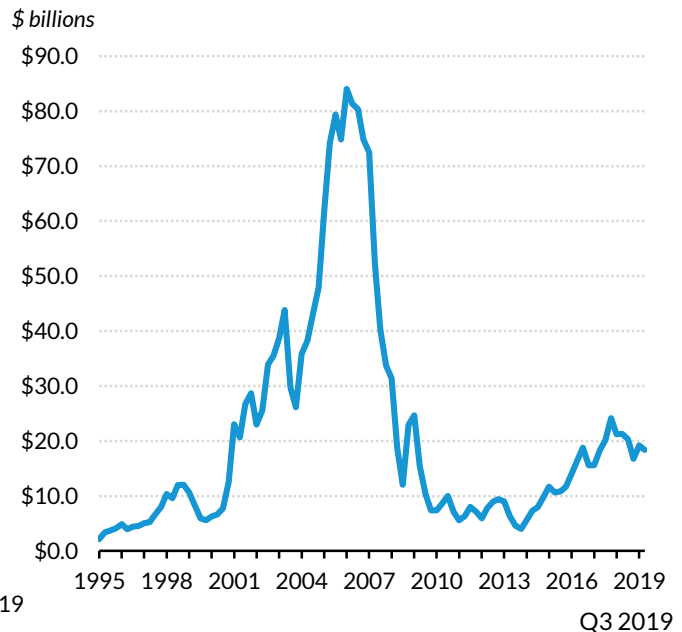
## Cash-out Refi Share of All Originations



Sources: eMBS and Urban Institute.

Note: Data as of September 2019.

## Equity Take-Out from Conventional Mortgage Refinance Activity



Sources: Freddie Mac and Urban Institute.

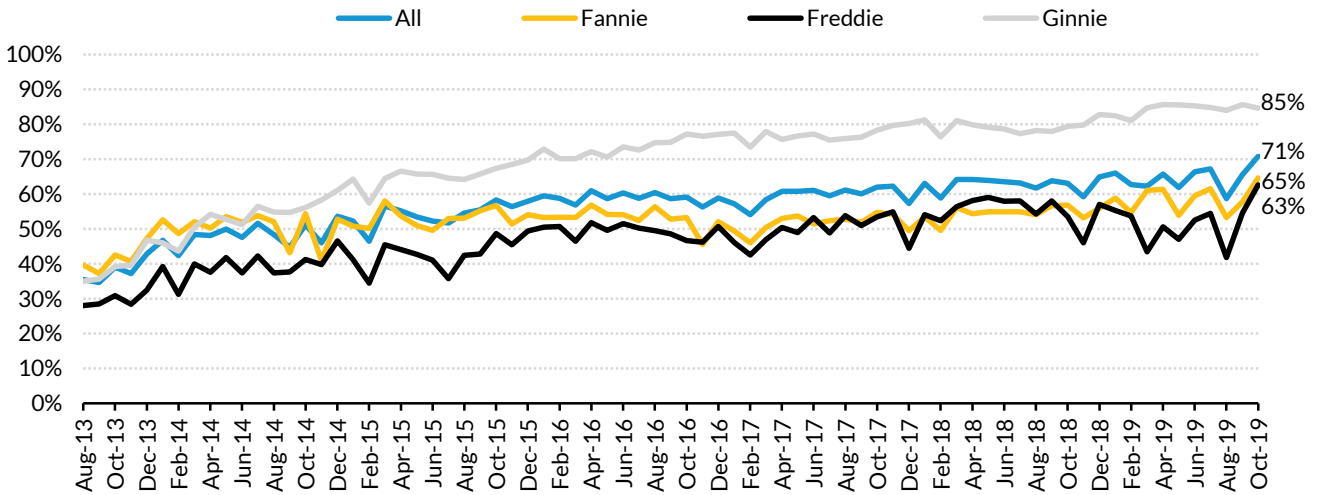
Note: Estimates include conventional mortgages only.

## OVERVIEW

# AGENCY NONBANK ORIGINATION SHARE

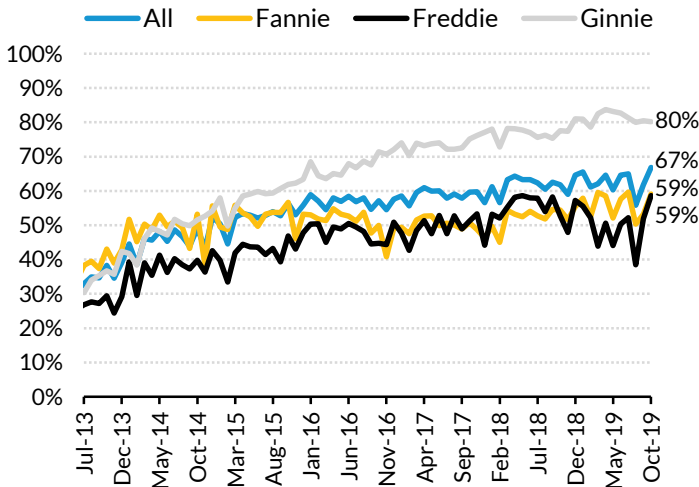
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, remaining relatively flat at 85 percent in October. Freddie and Fannie's nonbank shares rose in October, to 63 and 65 percent respectively (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



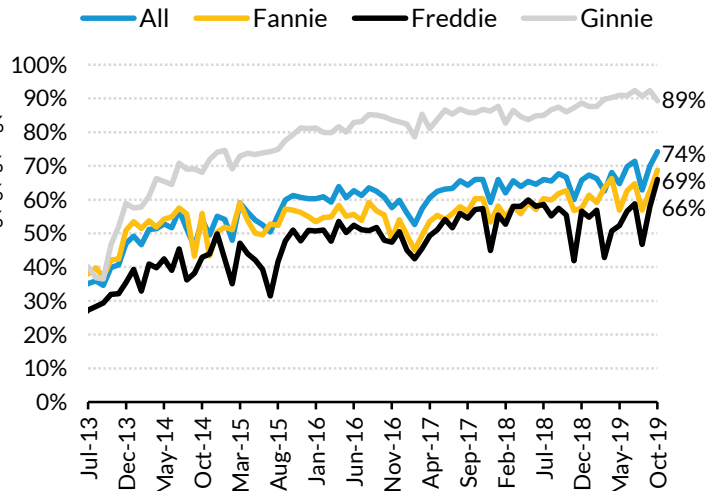
Sources: eMBS and Urban Institute.

## Nonbank Origination Share: Purchase Loans



Sources: eMBS and Urban Institute.

## Nonbank Origination Share: Refi Loans



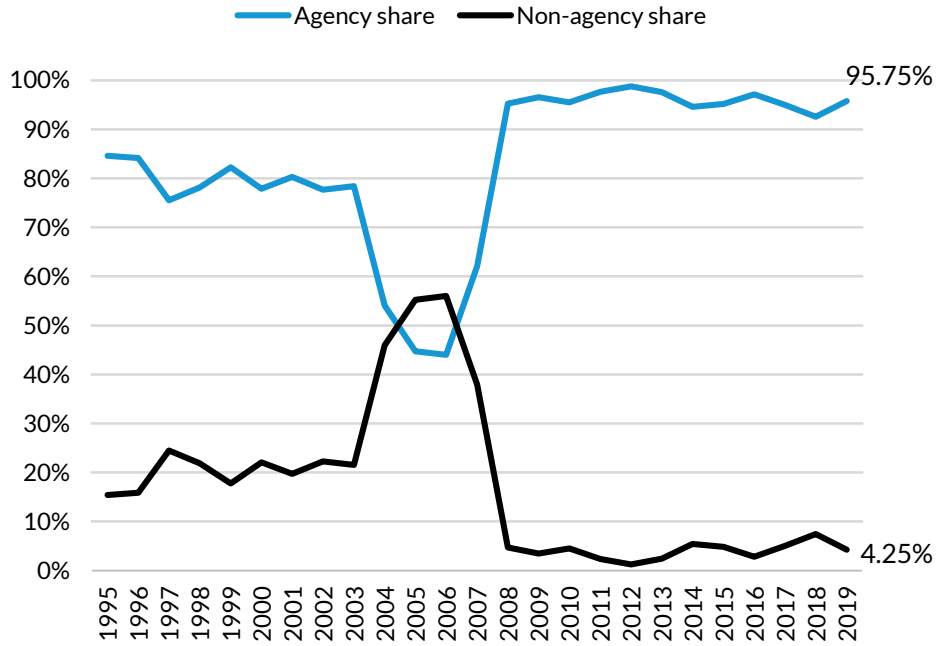
Sources: eMBS and Urban Institute.

# OVERVIEW

# SECURITIZATION VOLUME AND COMPOSITION

## Agency/Non-Agency Share of Residential MBS Issuance

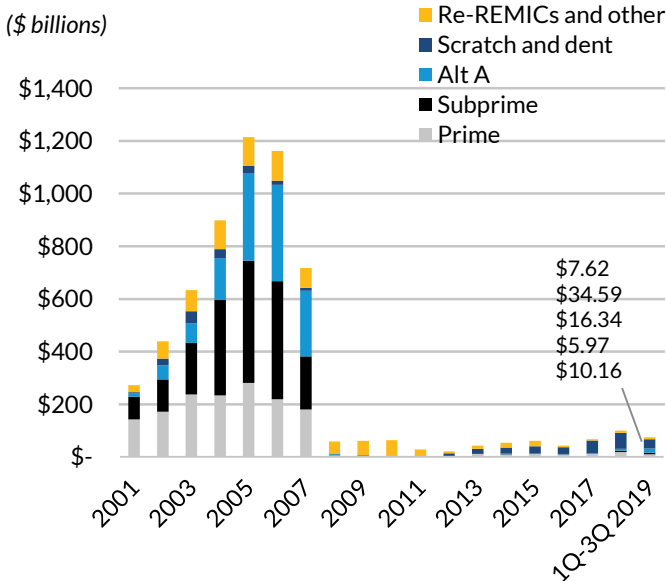
The non-agency share of mortgage securitizations has increased gradually over the post-crisis years, from 1.8 percent in 2016 to 7.4 percent in 2018. It fell to 4.25 percent for 2019 YTD (through October). Non-agency securitization volume totaled \$74.69 billion in the first three quarters of 2019, slightly lower than the \$77.83 billion over the same period in 2018. But there is 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.

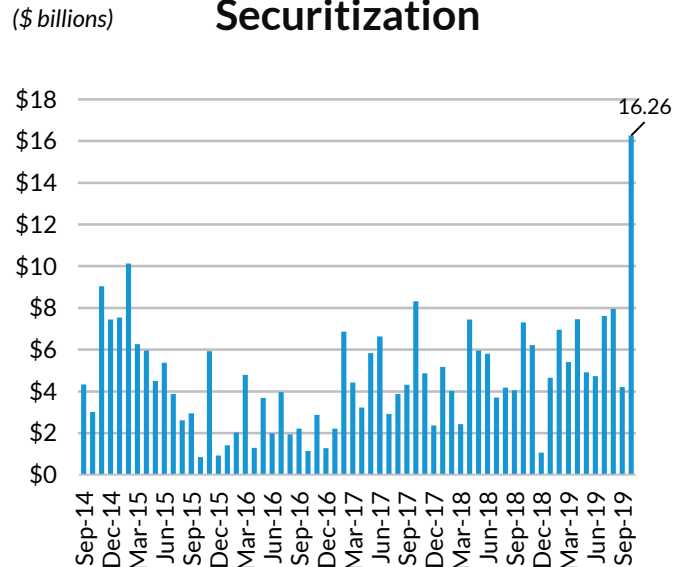
Note: Based on data from October 2019. Monthly non-agency volume is subject to revision.

## Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

## Monthly Non-Agency Securitization



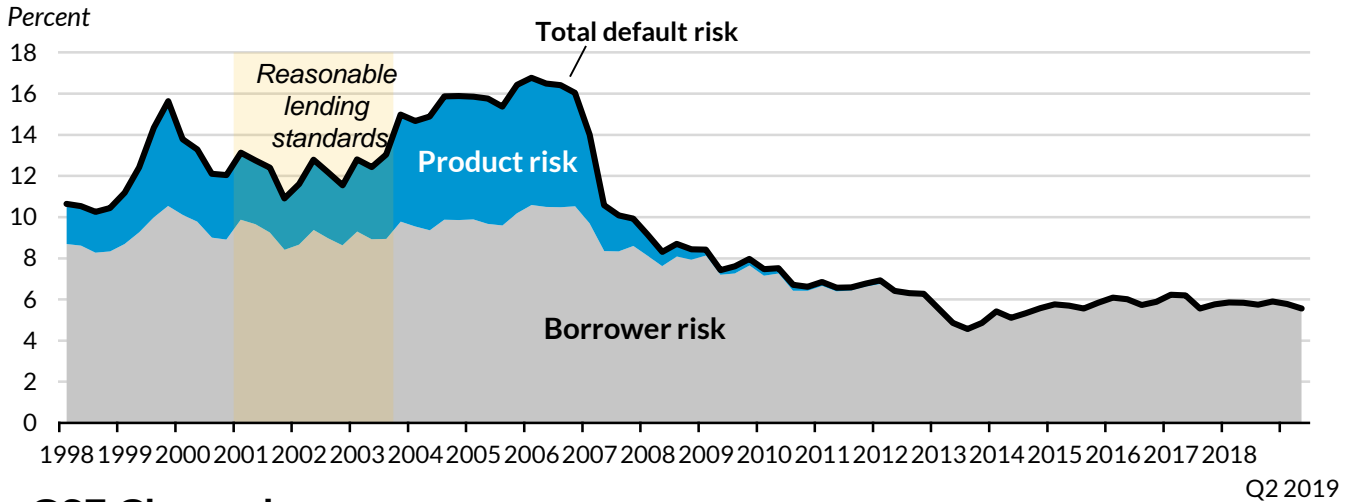
Sources: Inside Mortgage Finance and Urban Institute. 12

## CREDIT BOX

# HOUSING CREDIT AVAILABILITY INDEX

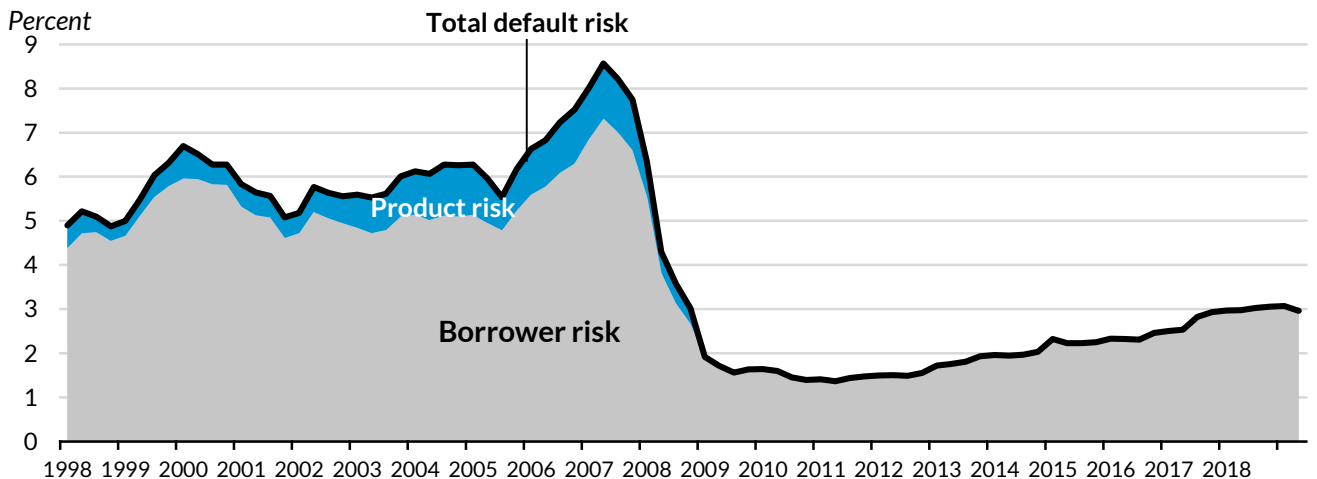
The Urban Institute's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to go 90+ days delinquent over the life of the loan. The latest HCAI shows that mortgage credit availability 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.

Q2 2019

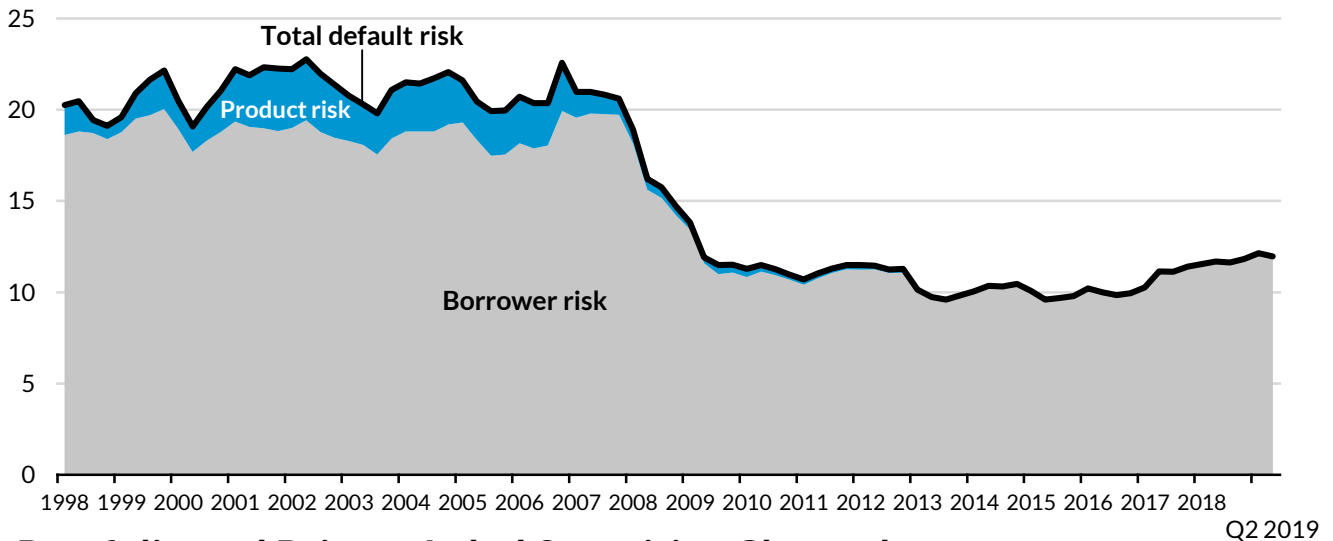
## CREDIT BOX

# 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.

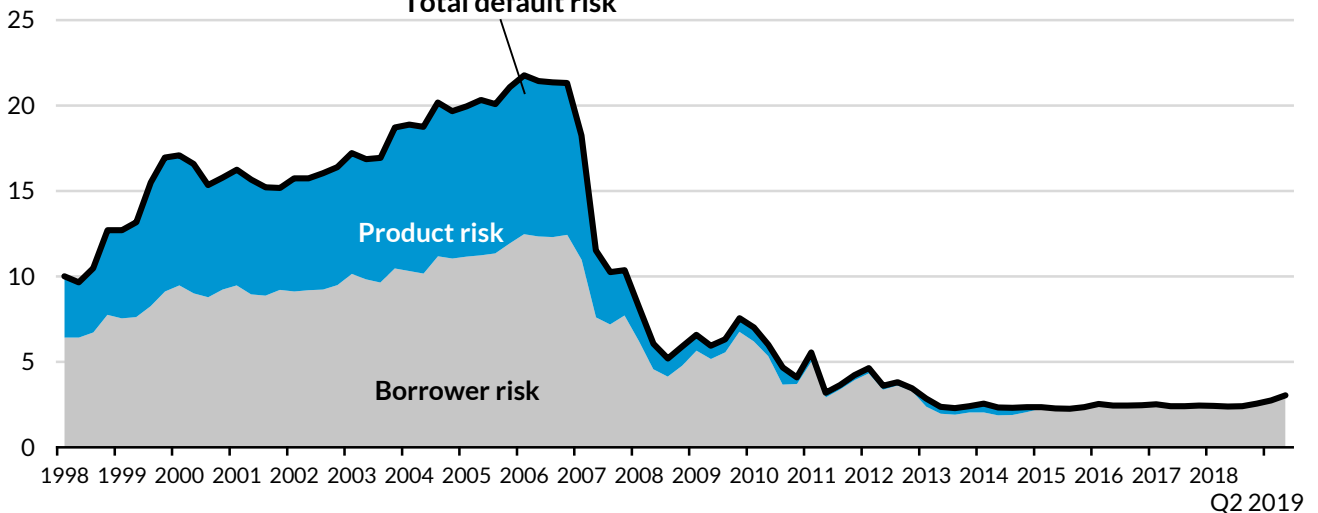
Percent



## Portfolio and Private Label Securities Channels

The portfolio and private-label securities (PP) channel took on more product risk than the government and GSE channels during the bubble. After the crisis, 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.

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

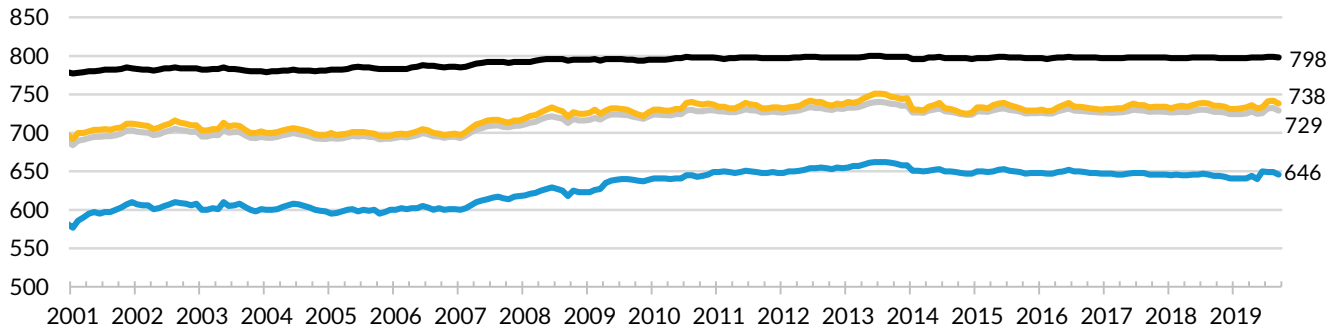
# CREDIT AVAILABILITY FOR PURCHASE LOANS

Access to credit remains tight, especially for lower FICO borrowers. The median FICO for current purchase loans is about 38 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 646 in September 2019, compared to low-600s pre-bubble. The median LTV at origination of 95 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

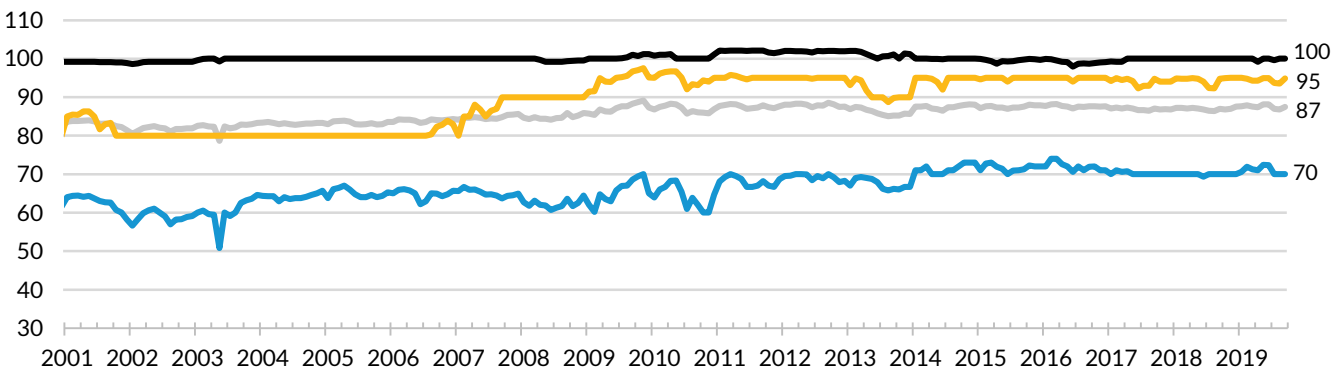
### Borrower FICO Score at Origination

FICO Score



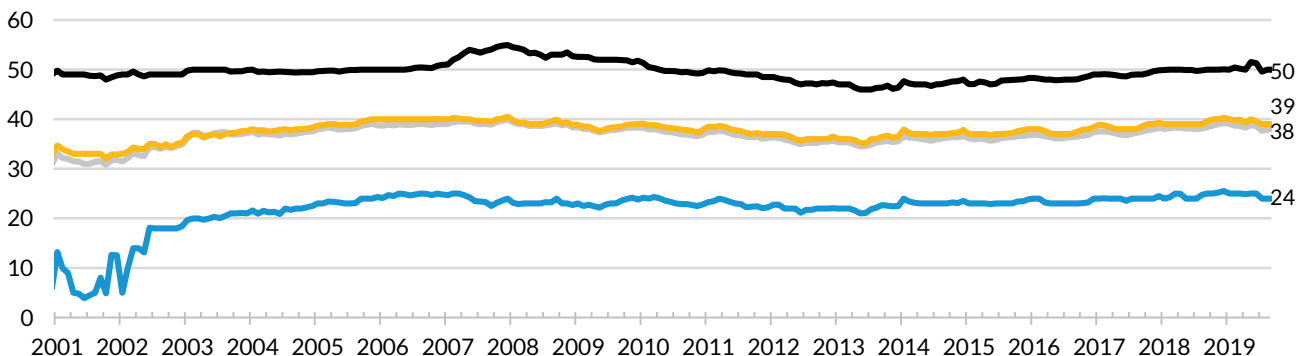
### Combined LTV at Origination

LTV



### DTI at Origination

DTI



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

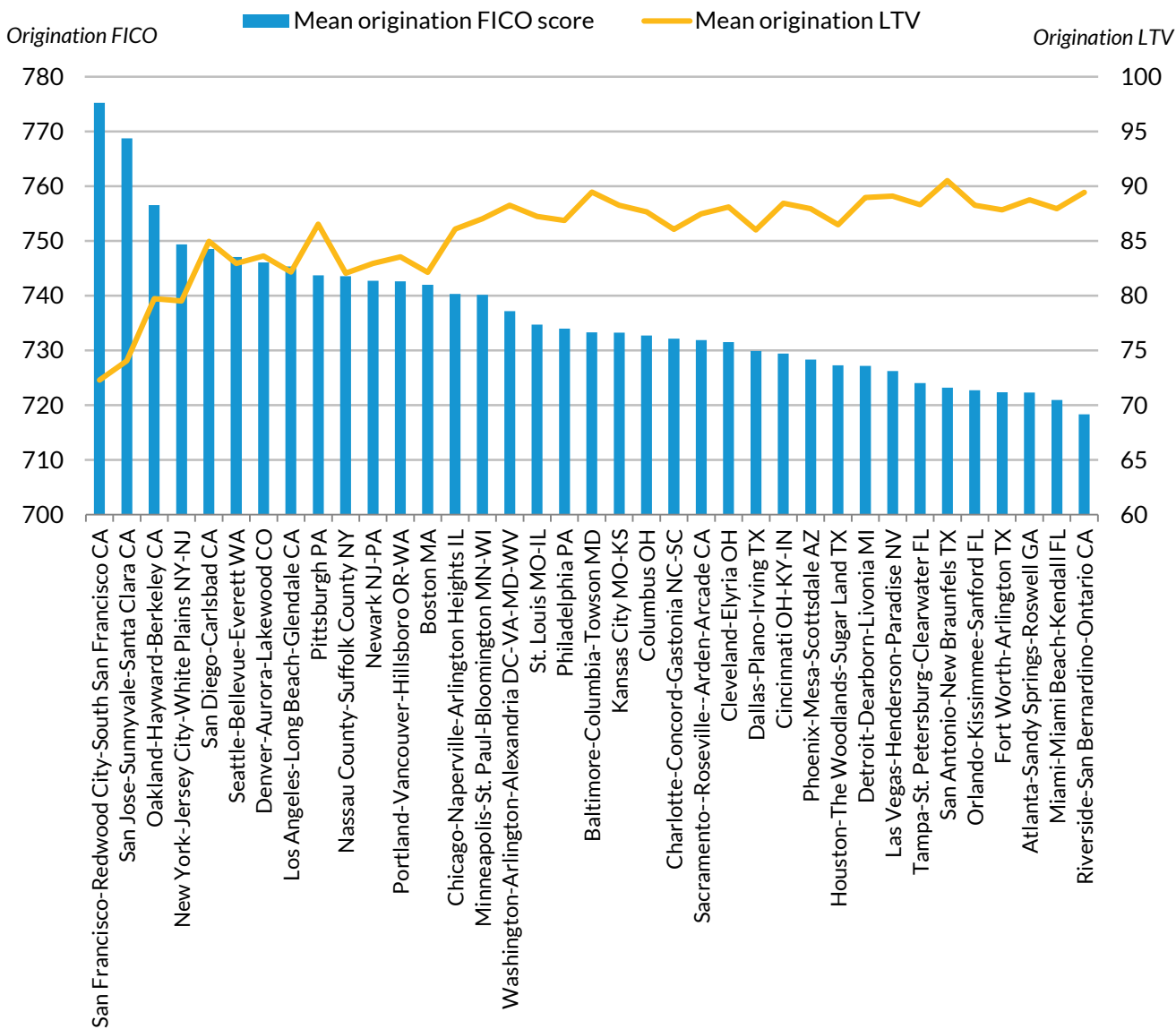
Note: Includes owner-occupied purchase loans only. DTI data prior to April 2018 is from CoreLogic; after that date, it is from Black Knight. Data as of September 2019.

## 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 September 2019.

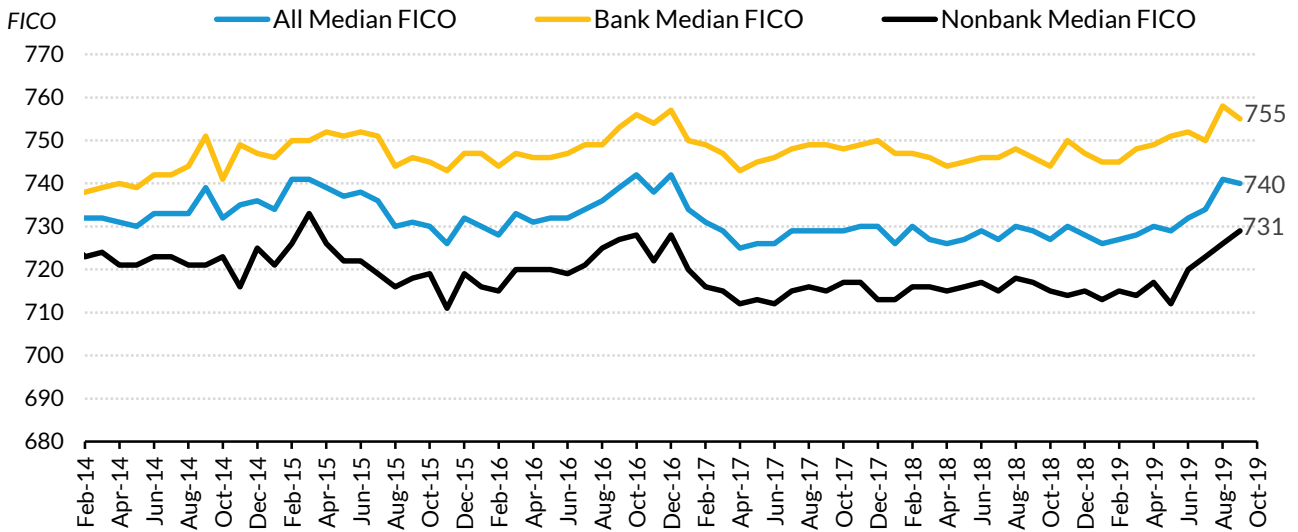


## CREDIT BOX

# AGENCY NONBANK CREDIT BOX

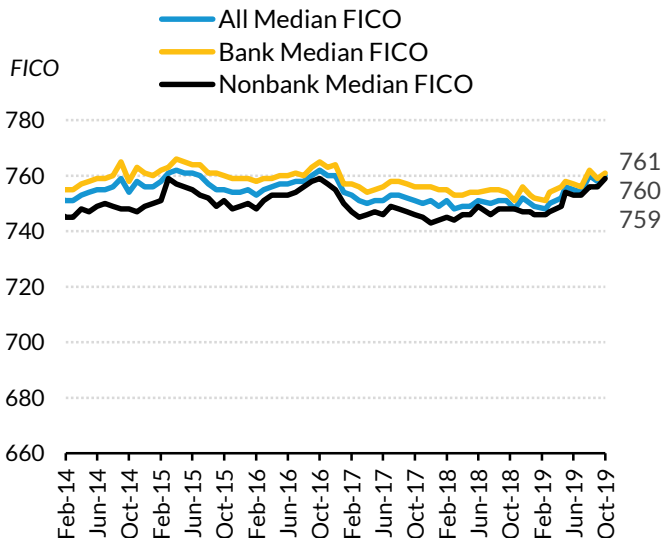
Nonbank originators have played a key role in expanding access to credit. Median GSE and Ginnie Mae FICOs for nonbank originations are lower than their bank counterparts, with a larger differential in the Ginnie Mae market. FICO scores for banks and nonbanks in both GSE and Ginnie Mae segments have increased over the course of 2019, due to increased refi activity; this activity is skewed toward higher FICO scores. 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. In October '19, Ginnie Mae Bank FICOs decreased slightly to 705 from 706 in September, the highest level this chartbook has on record.

### Agency FICO: Bank vs. Nonbank



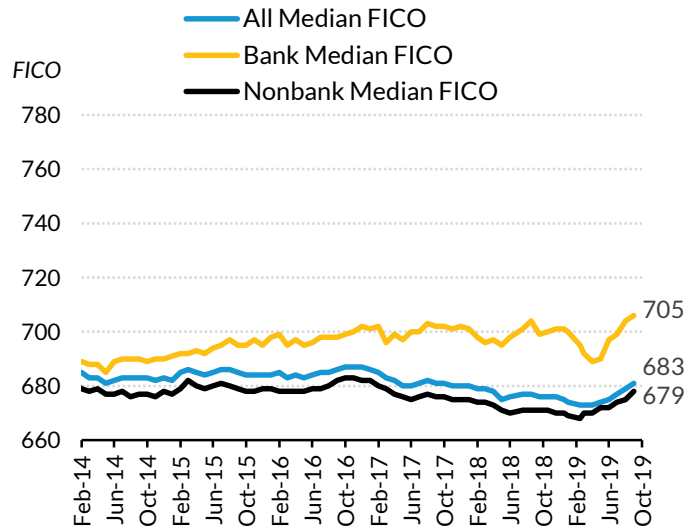
Sources: eMBS and Urban Institute.

### GSE FICO: Bank vs. Nonbank



Sources: eMBS and Urban Institute.

### Ginnie Mae FICO: Bank vs. Nonbank



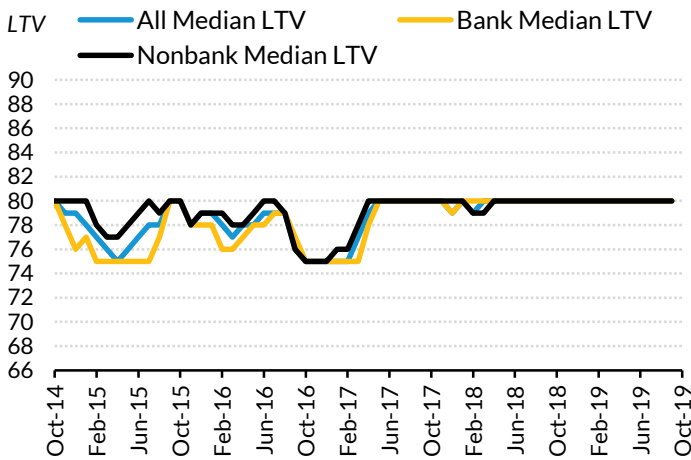
Sources: eMBS and Urban Institute.

## CREDIT BOX

# AGENCY NONBANK CREDIT BOX

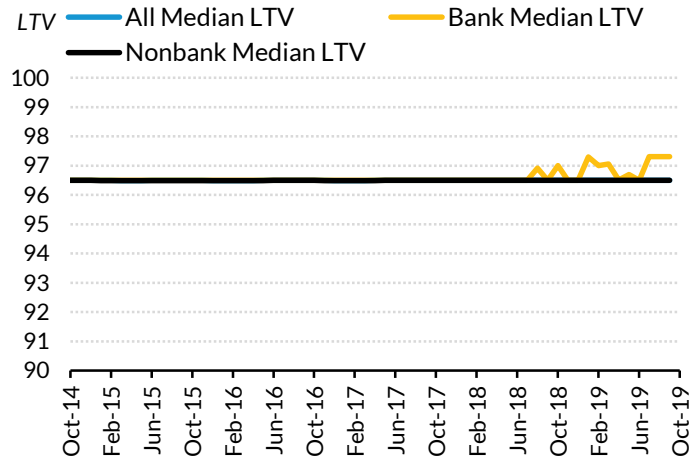
The median LTVs for nonbank and bank originations are comparable, while the median DTI for nonbank loans is higher than for bank loans. From early 2017 to early 2019, there was a sustained increase in DTIs, which has partially reversed beginning in the spring of 2019. This is true for both Ginnie Mae 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



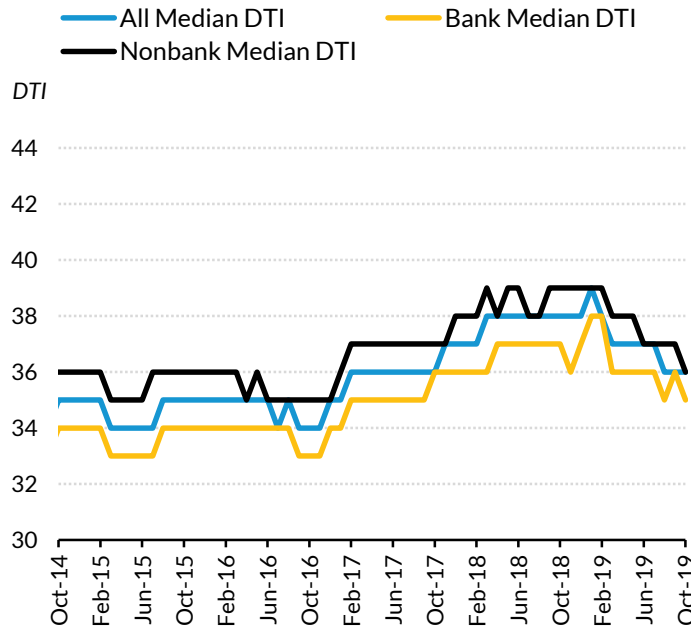
Sources: eMBS and Urban Institute.

### Ginnie Mae LTV: Bank vs. Nonbank



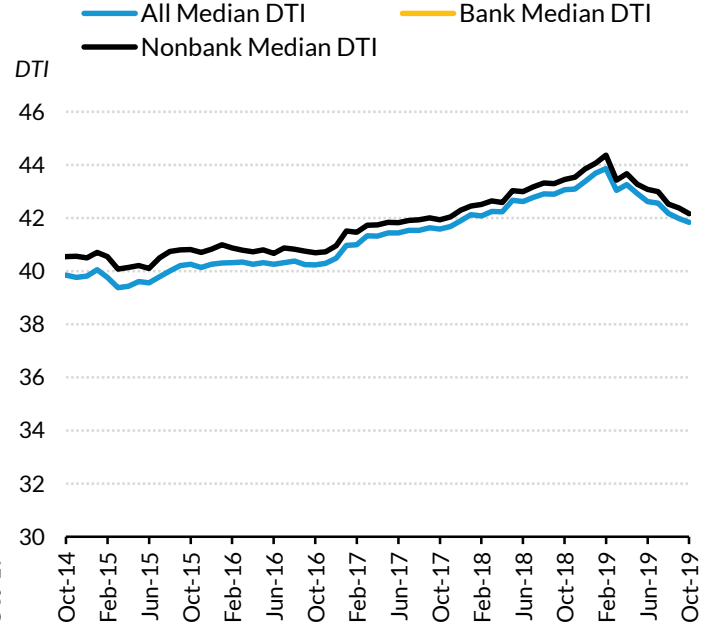
Sources: eMBS and Urban Institute.

### 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 \$2.0-\$2.1 trillion, on par with 2016 and 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	335	344	325	32	37	30
2019 Q2	530	555	501	29	37	29
2019 Q3	616	623	605	40	43	38
2019 Q4	578	483	632	46	38	51
2015	1730	1750	1679	47	45	46
2016	2052	2125	1891	49	47	49
2017	1826	1810	1760	36	37	35
2018	1766	1700	1677	30	30	28
2019	2059	2004	2063	37	39	38
2020	1869	2050	1889	31	38	32

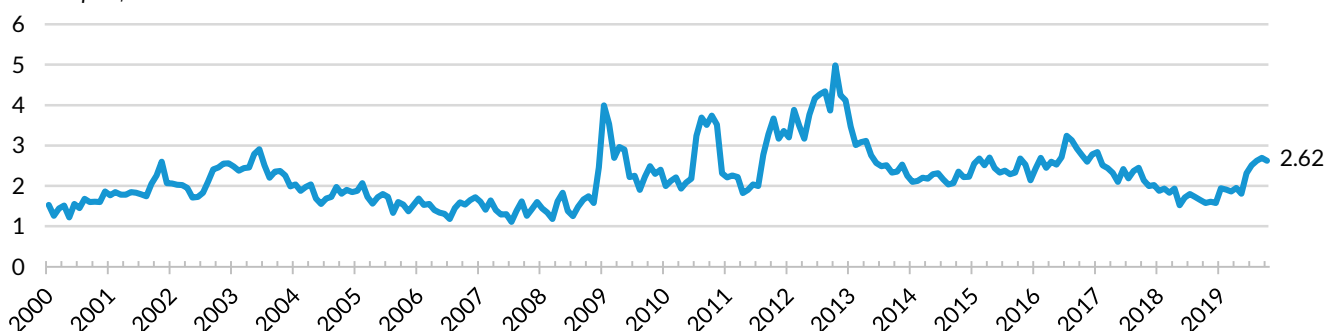
Sources: Fannie Mae, Freddie Mac, Mortgage Bankers Association and Urban Institute.

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 3.6 percent.

## Originator Profitability and Unmeasured Costs

In October 2019, Originator Profitability and Unmeasured Costs (OPUC) stood at \$2.62 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.

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.

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

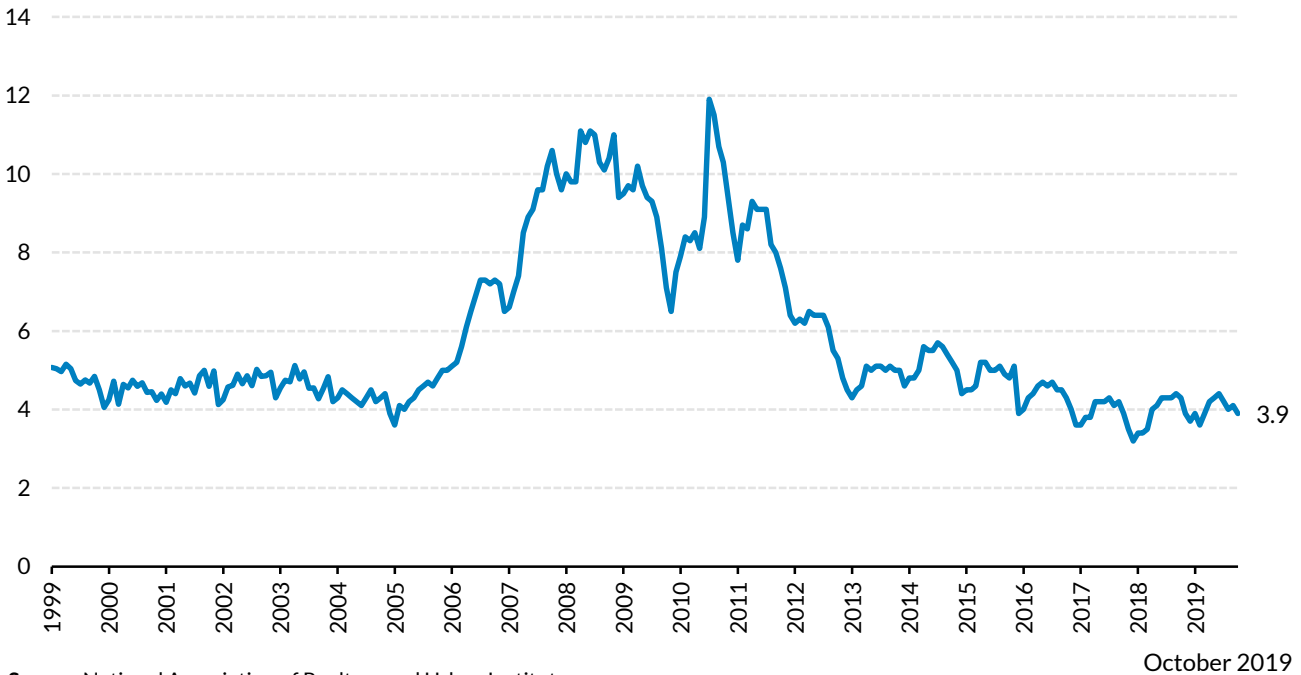
# STATE OF THE MARKET

## HOUSING SUPPLY

Strong demand for housing in recent years, coupled with historically low new home construction has led to a low, 3.9 months, supply of for-sale homes in October 2019. This level is below the 4.3 months in October 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 6.0-6.1 million units in 2019, slightly outpacing 2018 levels. The NAHB predicts homes sales to fall by about 64,000 units in 2019.

### Months of Supply

Months of supply



Source: National Association of Realtors and Urban Institute.

October 2019

### 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	5522
2018	1250	1250	1250	1249	5957	5960	5958	5359
2019	1262	1250	1263	1243	6017	6020	6090	5295
2020	1287	1280	1301	1286	6086	6100	6260	5331

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

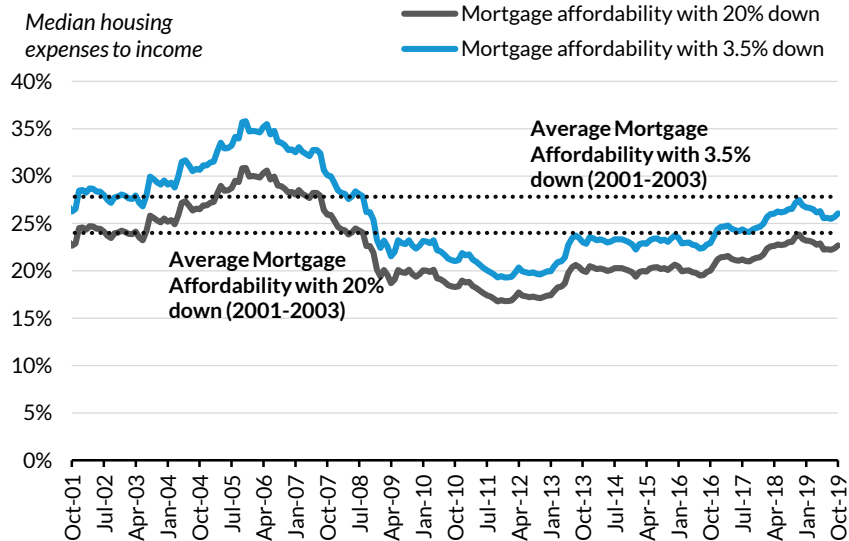
Note: Shaded boxes indicate forecasted figures; column labels indicate source of estimate. \*NAHB home sales estimate is for single-family structures only, it excludes condos and co-ops. Other figures include all single-family sales.

# STATE OF THE MARKET

# HOUSING AFFORDABILITY

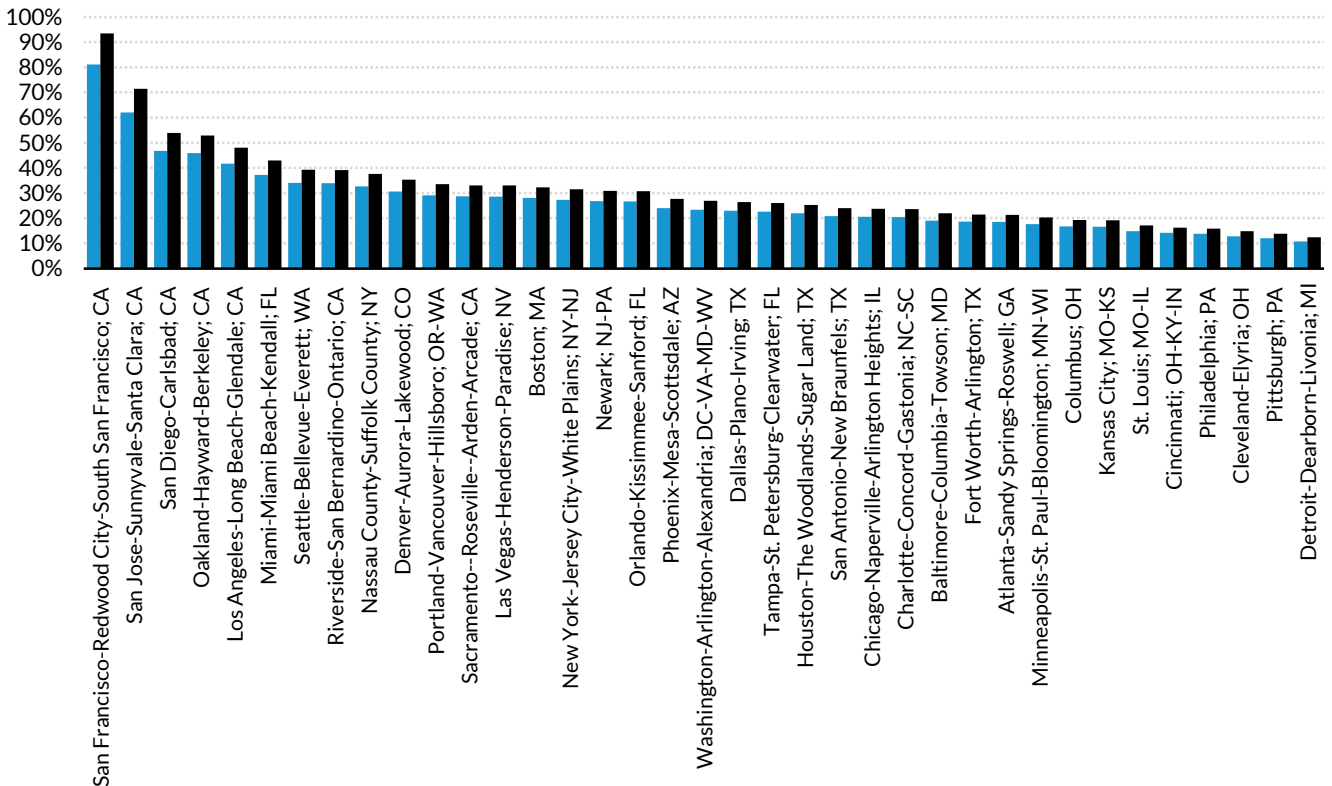
## National Mortgage Affordability Over Time

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 October 2019, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 22.7 percent; with 3.5 down, it is 26.0 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

Mortgage affordability index



**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.

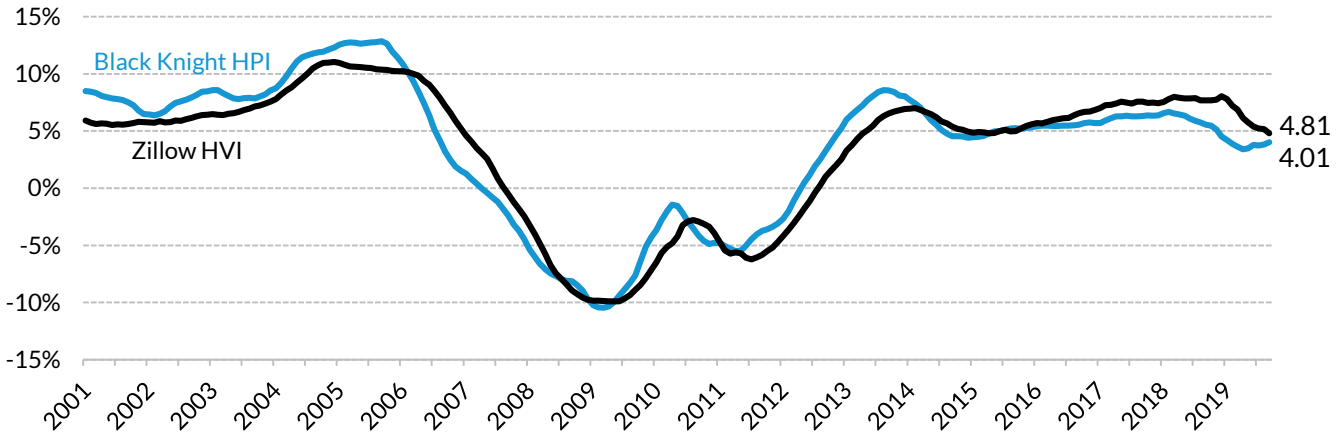
# STATE OF THE MARKET

# HOME PRICE INDICES

## National Year-Over-Year HPI Growth

Year-over-year home price appreciation slowed slightly in September 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.

Year-over-year growth



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

## Changes in Black Knight HPI for Top MSAs

After rising 54.4 percent from the trough, national house prices are now 15.1 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 9.6 and 9.1 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	54.4	15.1
New York-Jersey City-White Plains, NY-NJ	127.9	-22.4	45.1	12.6
Los Angeles-Long Beach-Glendale, CA	179.8	-38.1	85.4	14.8
Chicago-Naperville-Arlington Heights, IL	67.0	-38.4	46.8	-9.6
Atlanta-Sandy Springs-Roswell, GA	32.5	-35.6	80.1	16.1
Washington-Arlington-Alexandria, DC-VA-MD-WV	149.3	-28.4	36.9	-1.9
Houston-The Woodlands-Sugar Land, TX	29.4	-6.6	47.6	37.9
Phoenix-Mesa-Scottsdale, AZ	113.2	-51.1	95.5	-4.4
Riverside-San Bernardino-Ontario, CA	175.3	-51.7	88.1	-9.1
Dallas-Plano-Irving, TX	26.4	-7.2	66.8	54.8
Minneapolis-St. Paul-Bloomington, MN-WI	69.4	-30.4	61.3	12.2
Seattle-Bellevue-Everett, WA	90.5	-33.1	102.3	35.4
Denver-Aurora-Lakewood, CO	34.0	-12.1	91.2	68.1
Baltimore-Columbia-Towson, MD	123.1	-24.3	21.7	-7.9
San Diego-Carlsbad, CA	148.4	-37.5	76.9	10.6
Anaheim-Santa Ana-Irvine, CA	163.3	163.3	-35.3	63.9

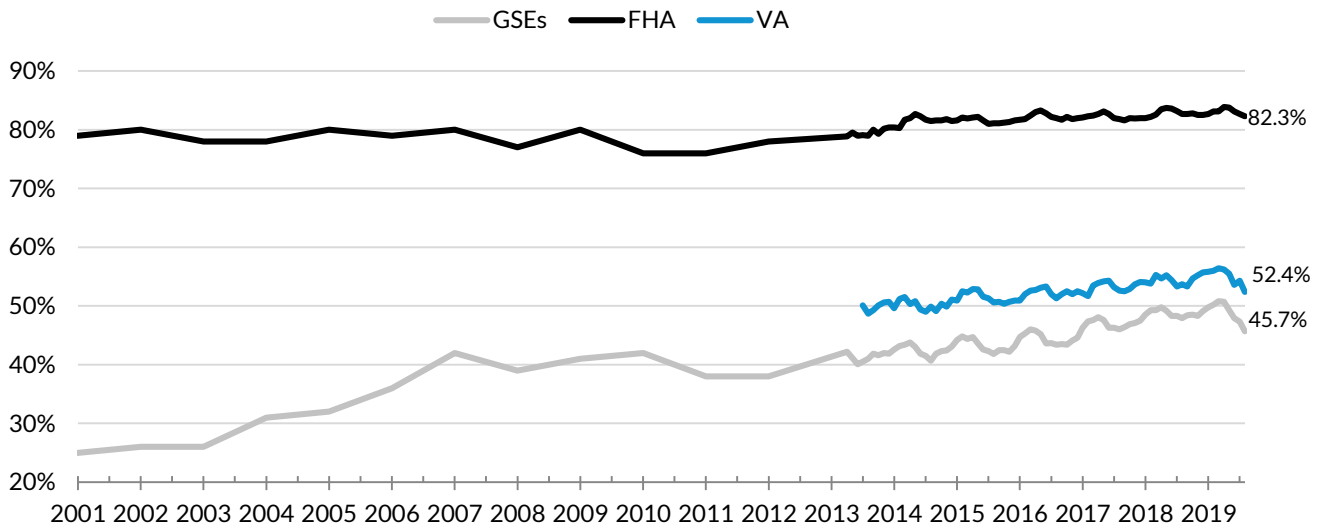
Sources: Black Knight HPI and Urban Institute. Data as of September 2019.  
 Note: This table includes the largest 15 Metropolitan areas by mortgage count.

# STATE OF THE MARKET

# FIRST-TIME HOMEBUYERS

## First-Time Homebuyer Share

In August 2019, the FTHB share for FHA, which has always been more focused on first time homebuyers, fell very slightly to 82.3 percent. The FTHB share of VA lending also fell slightly in August, to 52.4 percent. The GSE FTHB share in July was 45.7 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.

August 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

Characteristics	GSEs		FHA		GSEs and FHA	
	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount (\$)	250,282	275,288	222,357	239,518	239,133	270,066
Credit Score	743	757	671	674	714	745
LTV (%)	88	79	96	94	91	82
DTI (%)	35	36	43	44	38	37
Loan Rate (%)	4.01	3.92	4.09	3.99	4.04	3.93

Sources: eMBS and Urban Institute.

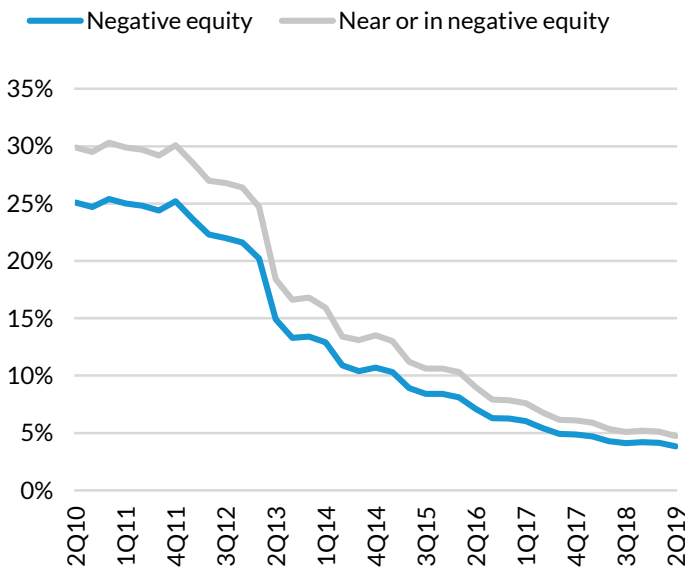
Note: Based on owner-occupied purchase mortgages originated in July 2019.

## STATE OF THE MARKET

# 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 than 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 8,616,341 borrowers received a modification from Q3 2007 to Q2 2019, compared with 8,842,251 liquidations in the same period.

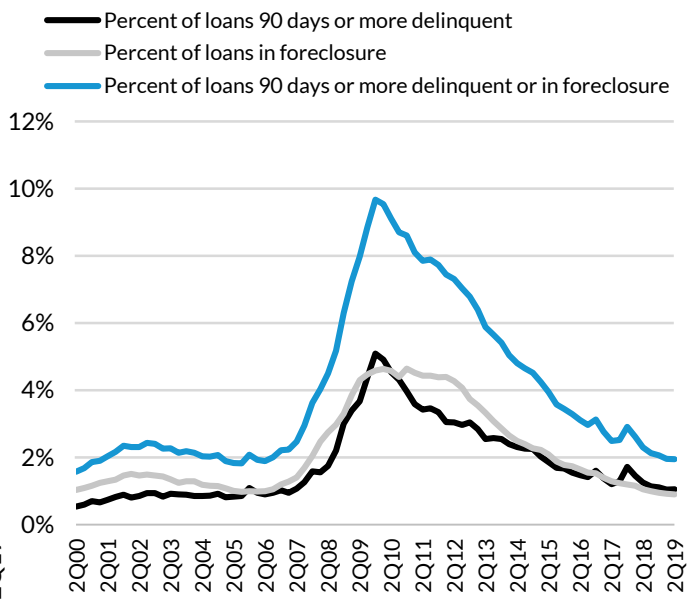
### Negative Equity Share



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.

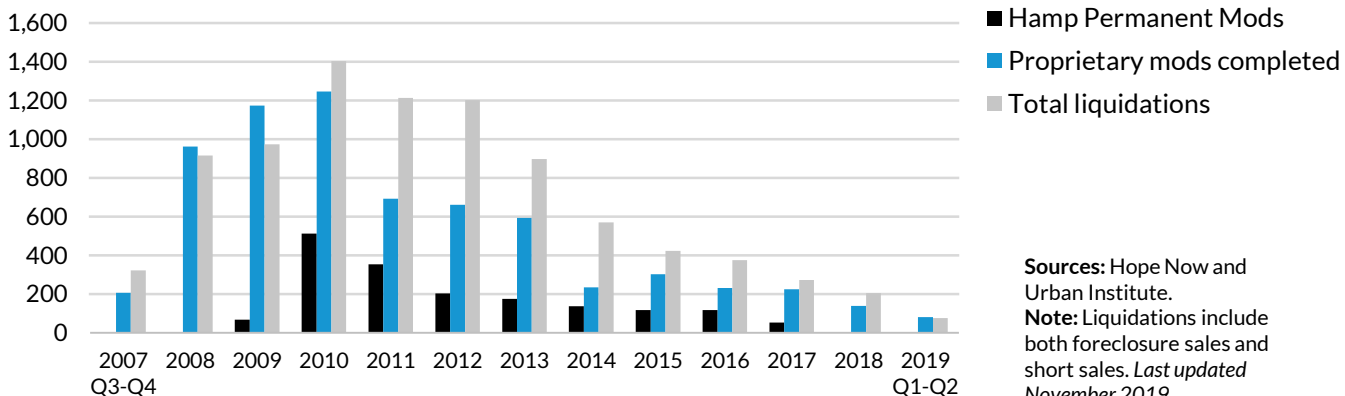
### Loans in Serious Delinquency/Foreclosure



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 November 2019.

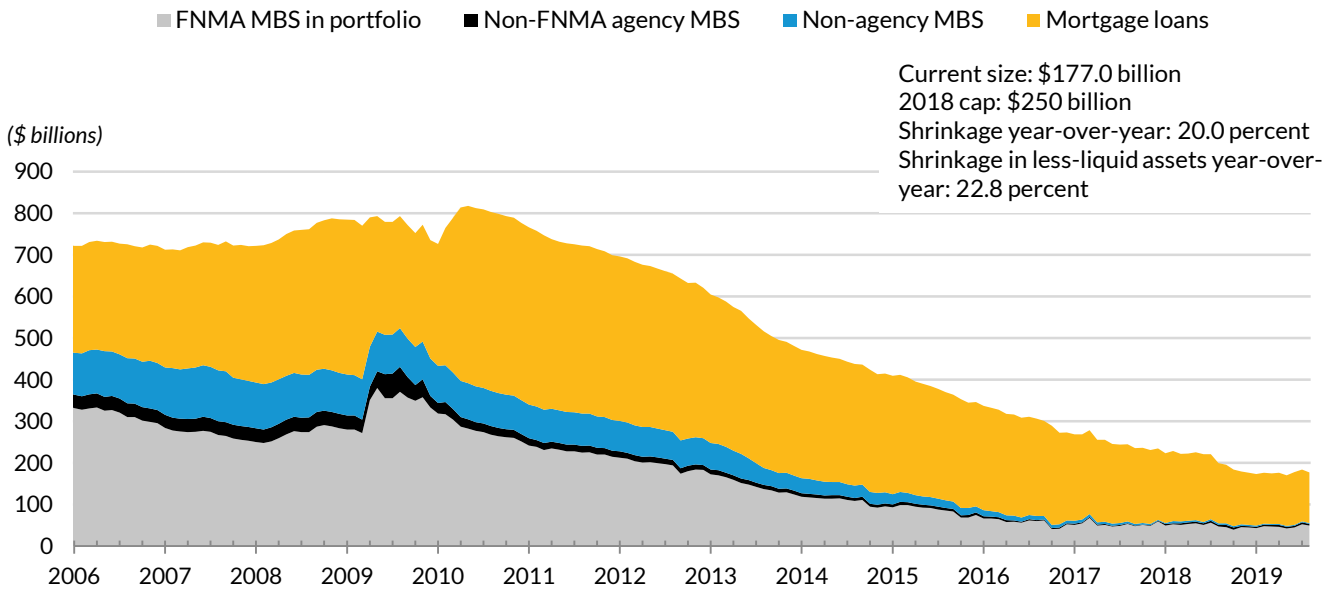


## GSES UNDER CONSERVATORSHIP

# GSE PORTFOLIO WIND-DOWN

Both GSEs continue to contract their retained portfolios. Since September 2018, Fannie Mae has contracted by 20.0 percent and Freddie Mac by 2.7 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.

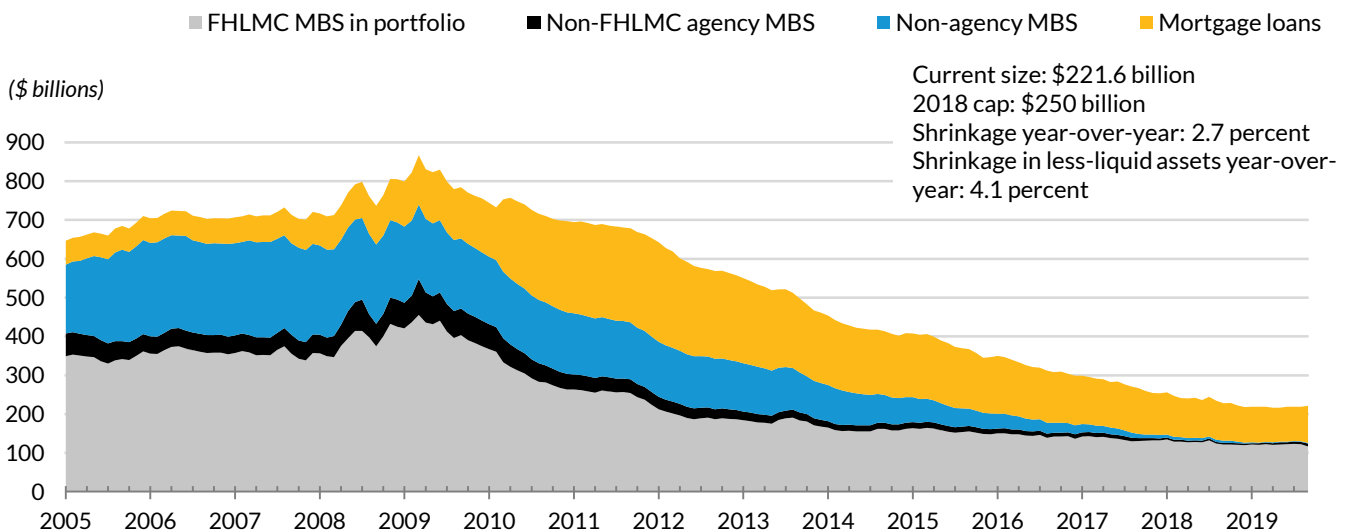
## Fannie Mae Mortgage-Related Investment Portfolio Composition



Sources: Fannie Mae and Urban Institute.

September 2019

## Freddie Mac Mortgage-Related Investment Portfolio Composition



Sources: Freddie Mac and Urban Institute.

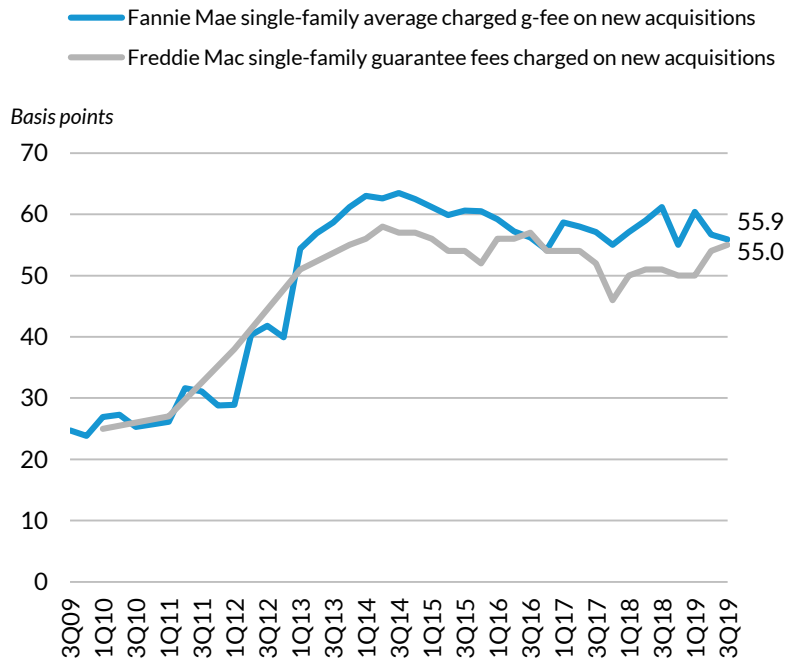
September 2019

## GSES UNDER CONSERVATORSHIP

# EFFECTIVE GUARANTEE FEES

### Guarantee Fees Charged on New Acquisitions

Fannie Mae's average g-fees charged on new acquisitions fell from 56.7 bps in Q2 2019 to 55.9 bps in Q3, while Freddie's rose from 54.0 to 55.0 bps. This quarter is the first time in the last three years the g-fees have been less than 1 bp apart. 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 November 2019.

### 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 2019.

# 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. FHFA's 2020 scorecard requires the GSEs to transfer a significant amount of credit risk to private markets. This is a departure from the 2019 scorecard, which required risk transfer specifically on 90% of new acquisitions. Fannie Mae's CAS issuances since inception total \$1.354 trillion; Freddie's STACR totals \$1.433 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
October 2019	CAS 2019 - R07	\$26,600	\$998	3.8
<b>Total</b>		<b>\$1,353,772</b>	<b>\$42,508</b>	<b>3.1</b>

### 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
September 2019	STACR Series 2019 – HQA3	\$19,609	\$626	3.2
October 2019	STACR Series 2019 – DNA4	\$20,550	\$589	2.9
November 2019	STACR Series 2019 – HQA4	\$13,399	\$432	3.2
<b>Total</b>		<b>\$1,433,084</b>	<b>\$35,648</b>	<b>2.5</b>

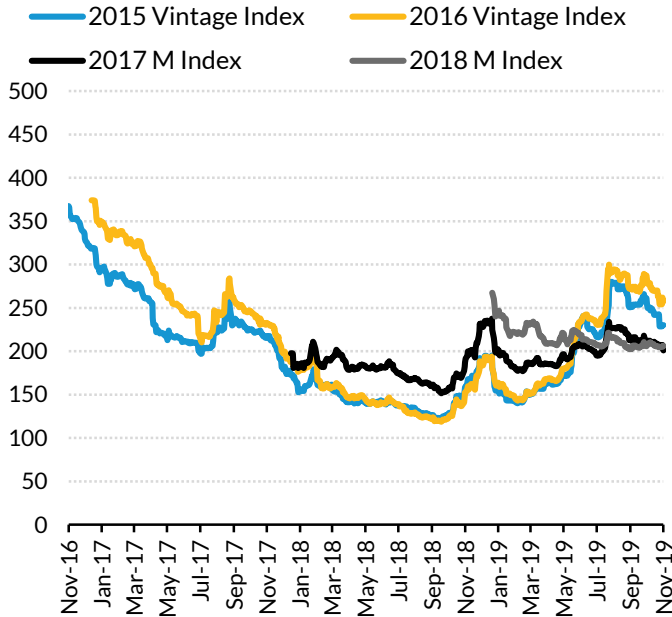
**Sources:** Fannie Mae, Freddie Mac and Urban Institute. **Note:** Classes A-H, M-1H, M-2H, and B-H are reference tranches only. These classes are not issued or sold. The risk is retained by Fannie Mae and Freddie Mac. "CE" = credit enhancement.

# GSES UNDER CONSERVATORSHIP

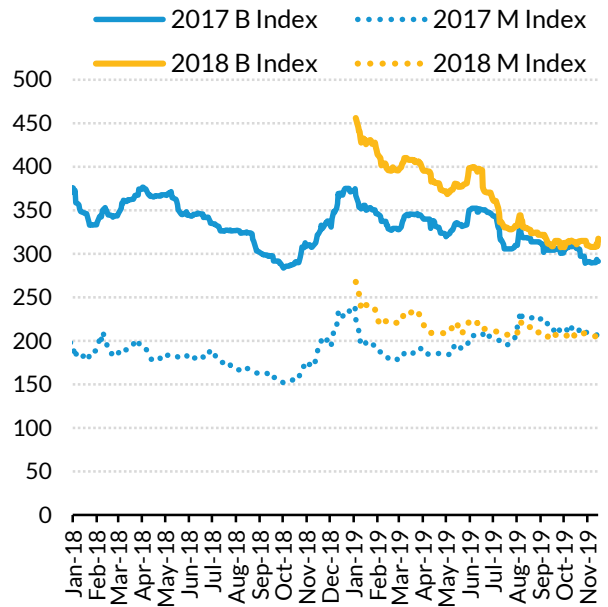
## GSE RISK-SHARING INDICES

The figures below show the spreads on the 2015, 2016, 2017 and 2018 indices, as priced by dealers. Note that the older indices (2015 and 2016) skyrocketed this past summer, before stabilizing, while the newer indices have been quite stable. 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.

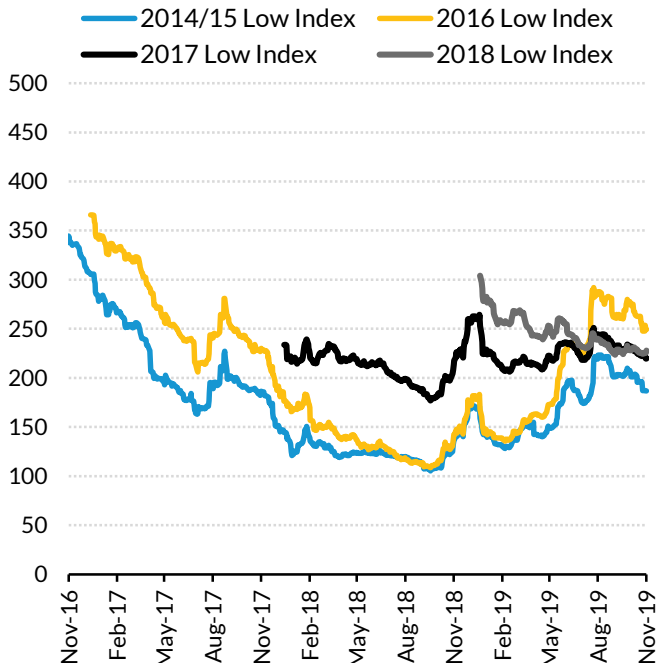
### By Vintage



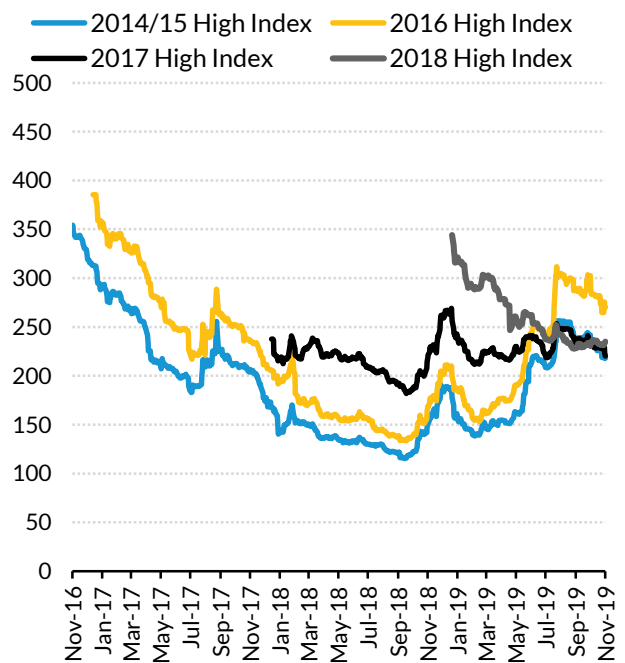
### 2017 and 2018 Indices



### Low Indices



### High Indices



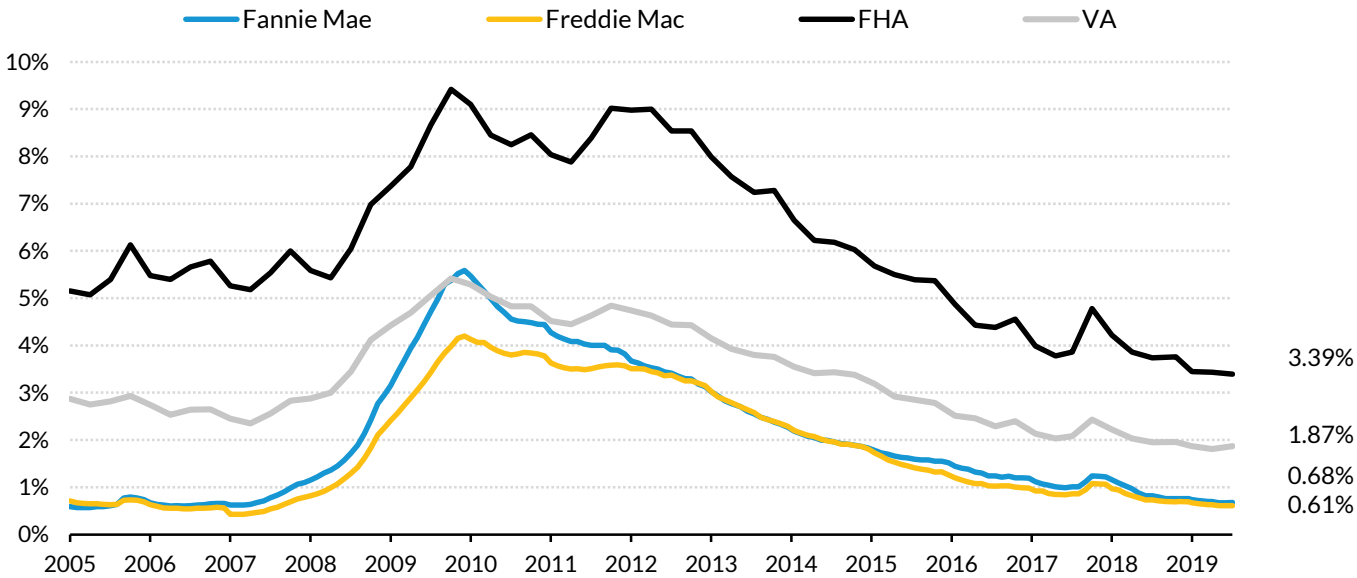
Sources: Vista Data Services and Urban Institute.  
 Note: Data as of November 15, 2019.

# GSES UNDER CONSERVATORSHIP

## SERIOUS DELINQUENCY RATES

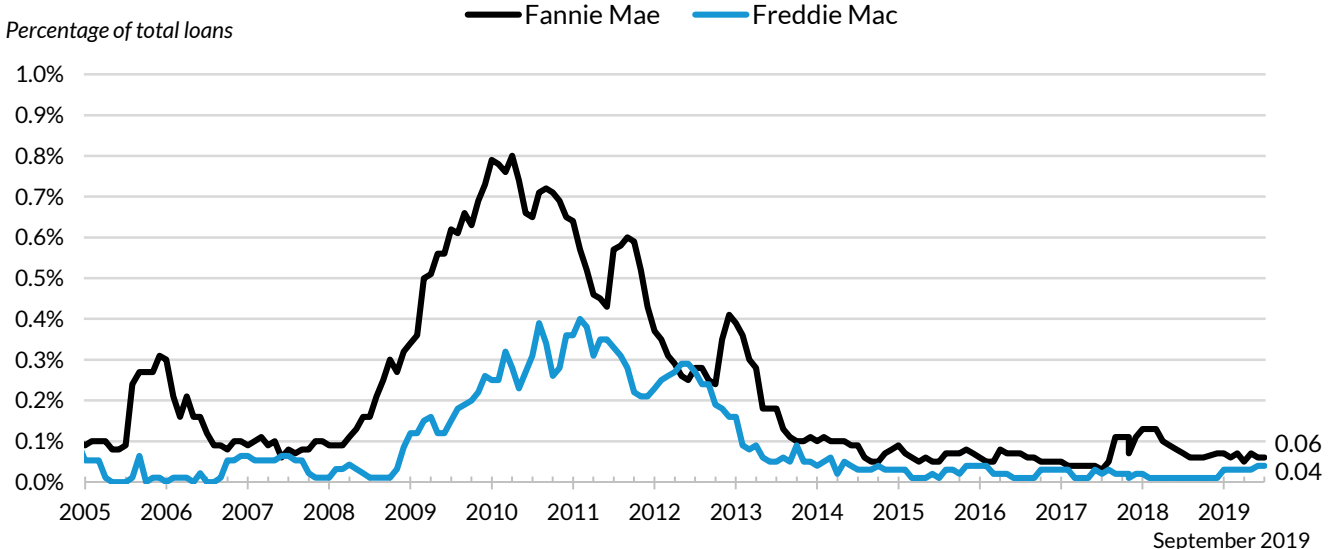
Serious delinquencies rates for single-family GSE loans and FHA loans continued to decline in Q3 2019, the rate grew slightly for VA loans. GSE delinquencies remain slightly higher relative to 2006-2007, while FHA and VA delinquencies (which are higher than their GSE counterparts) are well below 2006-2007 levels. 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 November 2019. GSE delinquencies are reported monthly, last updated November 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 ISSUANCE

# AGENCY GROSS AND

# NET ISSUANCE

Agency gross issuance was \$1.21 trillion in the first ten months of 2019, up 20.0 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 October has outpaced the previous year. Net issuance (which excludes repayments, prepayments, and refinances on outstanding mortgages) totaled \$241.0 billion in the first nine months of 2019, or \$289.2 billion on an annualized basis, up 11.7 percent from the same period in 2018.

## Agency Gross Issuance

## Agency Net Issuance

Issuance Year	GSEs	Ginnie Mae	Total	Issuance Year	GSEs	Ginnie Mae	Total
2000	\$360.6	\$102.2	\$462.8	2000	\$159.80	\$29.30	\$189.10
2001	\$885.1	\$171.5	\$1,056.6	2001	\$368.40	-\$9.90	\$358.50
2002	\$1,238.9	\$169.0	\$1,407.9	2002	\$357.20	-\$51.20	\$306.10
2003	\$1,874.9	\$213.1	\$2,088.0	2003	\$334.90	-\$77.60	\$257.30
2004	\$872.6	\$119.2	\$991.9	2004	\$82.50	-\$40.10	\$42.40
2005	\$894.0	\$81.4	\$975.3	2005	\$174.20	-\$42.20	\$132.00
2006	\$853.0	\$76.7	\$929.7	2006	\$313.60	\$0.20	\$313.80
2007	\$1,066.2	\$94.9	\$1,161.1	2007	\$514.90	\$30.90	\$545.70
2008	\$911.4	\$267.6	\$1,179.0	2008	\$314.80	\$196.40	\$511.30
2009	\$1,280.0	\$451.3	\$1,731.3	2009	\$250.60	\$257.40	\$508.00
2010	\$1,003.5	\$390.7	\$1,394.3	2010	-\$303.20	\$198.30	-\$105.00
2011	\$879.3	\$315.3	\$1,194.7	2011	-\$128.40	\$149.60	\$21.20
2012	\$1,288.8	\$405.0	\$1,693.8	2012	-\$42.40	\$119.10	\$76.80
2013	\$1,176.6	\$393.6	\$1,570.1	2013	\$69.10	\$87.90	\$157.00
2014	\$650.9	\$296.3	\$947.2	2014	\$30.50	\$61.60	\$92.10
2015	\$845.7	\$436.3	\$1,282.0	2015	\$75.10	\$97.30	\$172.50
2016	\$991.6	\$508.2	\$1,499.8	2016	\$135.50	\$126.10	\$261.60
2017	\$877.3	\$455.6	\$1,332.9	2017	\$168.50	\$131.30	\$299.70
2018	\$795.0	\$400.6	\$1,195.3	2018	\$147.70	\$113.90	\$261.60
2019 YTD	\$809.2	\$401.5	\$1,210.8	2019 YTD	\$155.4	\$85.6	\$241.0
2019 YTD % Change YOY	20.9%	18.2%	20.0%	2019 YTD % Change YOY	29.7%	-10.7%	11.7%
2019 Ann.	\$971.1	\$481.8	\$1,452.9	2019 Ann.	\$186.5	\$102.7	\$289.2

Sources: eMBS and Urban Institute.

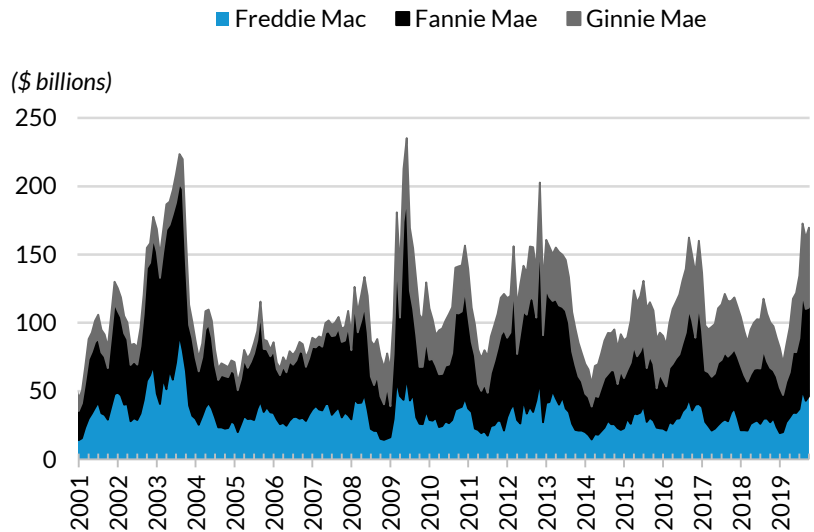
Note: Dollar amounts are in billions. Data as of October 2019.

## AGENCY ISSUANCE

# 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 34.4 percent in October 2019. This share increase reflected both increases in the purchase share and in the refi share; it represents the high end of Ginnie Mae new issuance shares over the past two years.

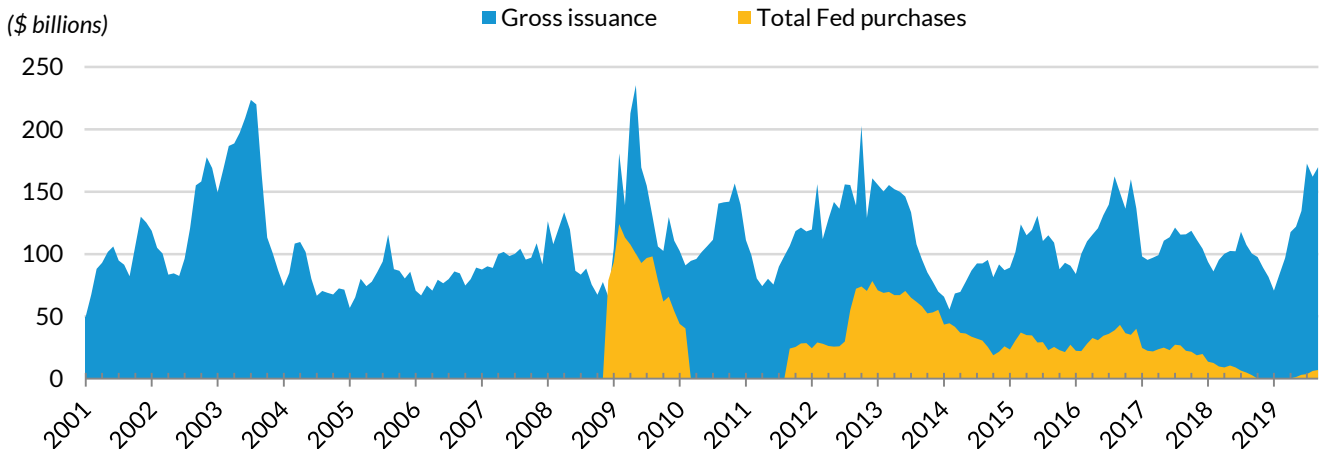


Sources: eMBS, Federal Reserve Bank of New York, and Urban Institute.

October 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 October 2019 Fed purchases totaled \$6.9 billion, corresponding to Fed absorption of gross issuance of 4.09 percent.



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

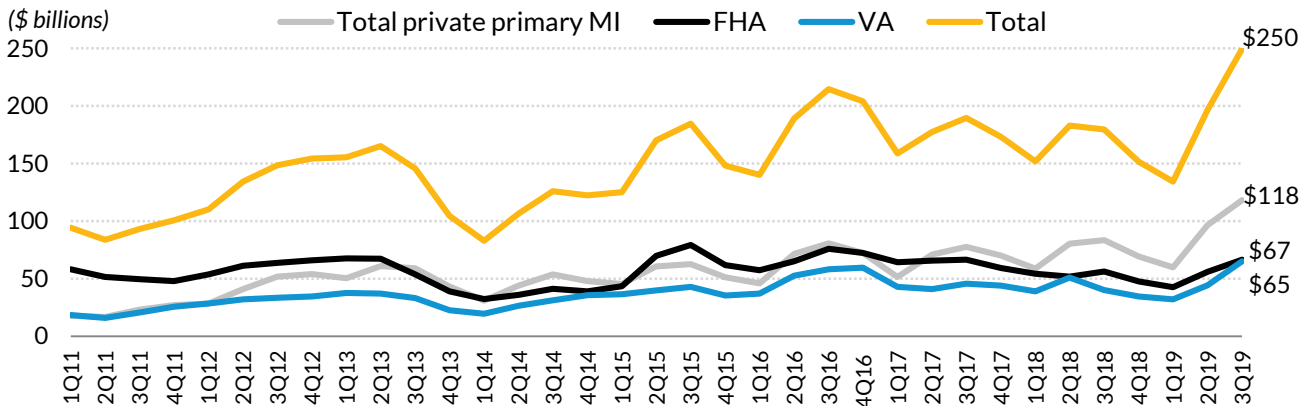
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## AGENCY ISSUANCE

# MORTGAGE INSURANCE ACTIVITY

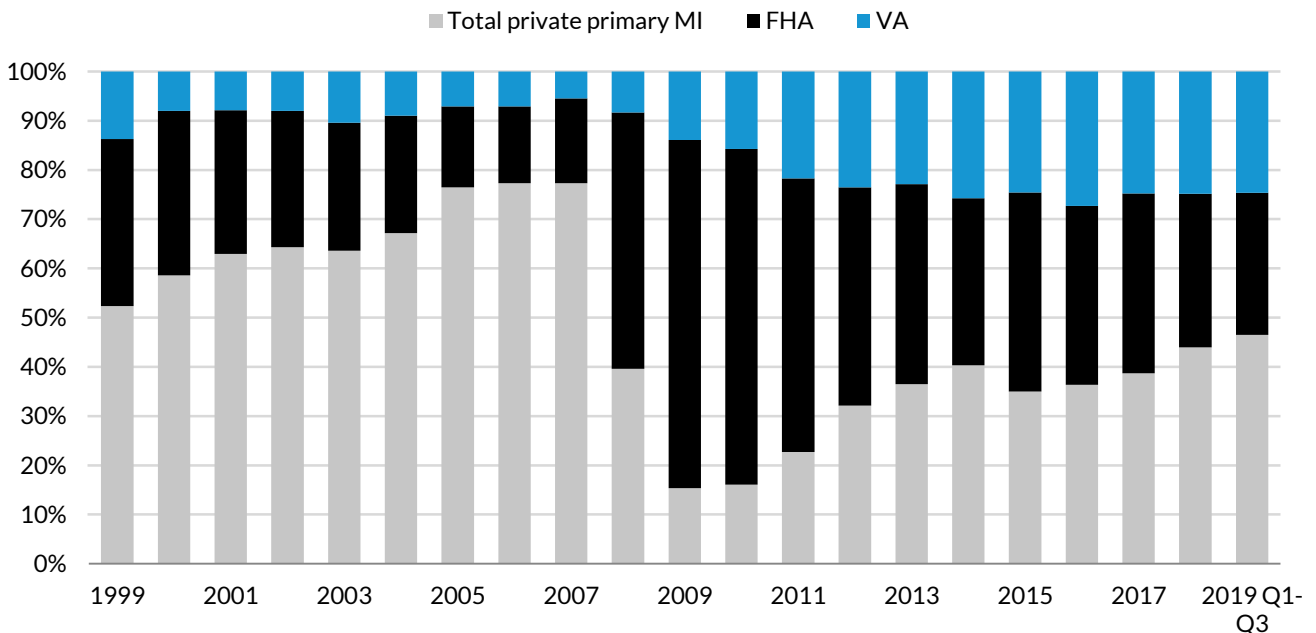
### MI Activity

Mortgage insurance activity via the FHA, VA and private insurers increased from \$180 billion in Q3 2018 to \$250 billion in Q3 2019, a 39.0 percent increase. In the third quarter of 2019, private mortgage insurance written increased by \$21.60 billion, FHA increased by \$10.5 billion and VA increased by \$20.96 billion from the previous quarter, driven by increased homebuying during the summer season as well as a high level of refinance activity. During this period, the VA share grew from 22.4 to 26.1 percent while the FHA share fell slightly from 28.5 to 26.6 percent. The private mortgage insurers share also fell, from 49.1 to 47.3 percent compared to the previous quarter.



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

### MI Market Share



Sources: Inside Mortgage Finance and Urban Institute. Last updated November 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 with a FICO of less than 720 will find FHA financing to be more financially attractive, borrowers with FICOs above 740 will find GSE execution with PMI to be more attractive, and those in the 720-739 range will find the two executions to be roughly equivalent.

## 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 <sup>a</sup>	175	125
4/1/2013 - 1/25/2015 <sup>b</sup>	175	135
Beginning 1/26/2015 <sup>c</sup>	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.

<sup>a</sup> Applies to purchase loans less than or equal to \$625,500. Those over that amount have an annual premium of 150 bps.

<sup>b</sup> Applies to purchase loans less than or equal to \$625,500. Those over that amount have an annual premium of 155 bps.

<sup>c</sup> 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	3.69
FHA	3.78

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 LPA*	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	\$1,312	\$1,312	\$1,312	\$1,312	\$1,312	\$1,312	\$1,312	\$1,312
PMI	\$1,581	\$1,517	\$1,481	\$1,394	\$1,349	\$1,311	\$1,270	\$1,246
PMI Advantage	-\$269	-\$205	-\$169	-\$82	-\$38	\$0	\$42	\$66

Sources: Genworth Mortgage Insurance, Ginnie Mae, and Urban Institute.

Note: Rates as of October 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. LPA= Loan Level Price Adjustment, described in detail on page 25.

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