HOUSING FINANCE POLICY CENTER

# HOUSING FINANCE AT A GLANCE

## A MONTHLY CHARTBOOK

January 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.

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

Thank you for being a valued reader of this chartbook over the years. We are starting off 2019 with several new charts with more relevant and topical content. Specifically, we are adding data related to the following four topics:

- Cash-out refinances (page 10)
- The availability of housing credit (pages 13-14)
- Long-term historical perspective on debt-to-income ratios or DTIs (page 15)
- Housing supply (page 20)

Cash-out refinances have been in the news recently as the cash-out share of all refinances is now close to bubble-era highs. This has fueled concern about a return to the excesses in lending at the root of the last housing crisis. While the cash-out share of all refis has no doubt surged, the increase is driven by a sharp curtailment in rate refi activity, as opposed to a boom in cash-out volumes. As shown on page 10, in Q3 2018, US homeowners extracted a total of $14.6 billion in home equity through cash-out refinances. In Q3 2006, the number was over $80 billion. Additionally, we expect future cash-out activity to remain tempered because homeowners with ultra-low rate mortgages will be highly reluctant to refinance to a higher rate. Instead, we would expect to see a comeback of the second lien market.

We have added more detail on our housing credit availability index (HCAI) that shows the HCAI for each origination channel separately:
• Government-Sponsored Enterprises (GSEs), Fannie Mae and Freddie Mac,
• Government (the Federal Housing Administration, Veterans Affairs and the US Department of Agriculture) and
• Fully private (portfolio and private label securities.)

This breakout allows for a more detailed comparison of credit conditions across channels and shows that credit remains very tight by historical standards for all three channels. Having said that, since the post-crisis lows, the GSE channel has expanded the credit box for borrowers proportionately more than the government and private channels.

The rise in DTIs in recent years has been another source of concern for housing market observers. The median DTI for purchase originations in October 2018 was 40 percent, roughly equal to the bubble-era peak. The median DTI for government loans was even higher at 43 percent. While this bears monitoring, we note that DTI is only one of the several dozen variables that determine how risky any given mortgage is. For instance, the median FICO score for today's originations is about 30 points higher compared to the pre-bubble era, thus offsetting the risk of higher DTIs. Moreover, rising DTIs are an inevitable result of rising interest rates. A 1 percent rise in interest rates from 3.5 to 4.5 percent, the move since the 2016 election, will result in a 13 percent rise in monthly payments, raising the DTI ratio. We will be monitoring the rise in DTI for additional evidence of risk-layering.

Finally, given the historic shortage of housing, we added a data on months of supply, housing starts and home sales on page 20. As of November 2018, there was a total of 3.9 months of supply on the market. Pre-bubble, from 1999 to 2005, it averaged about 5 months supply.

Lastly, we reorganized the chartbook for better overall flow and readability. We consolidated a few charts to eliminate duplicity and to improve general readability. We hope you enjoy the new data. If you have any questions about any of the changes, please email us at: ataglance@urban.org

***INSIDE THIS ISSUE***

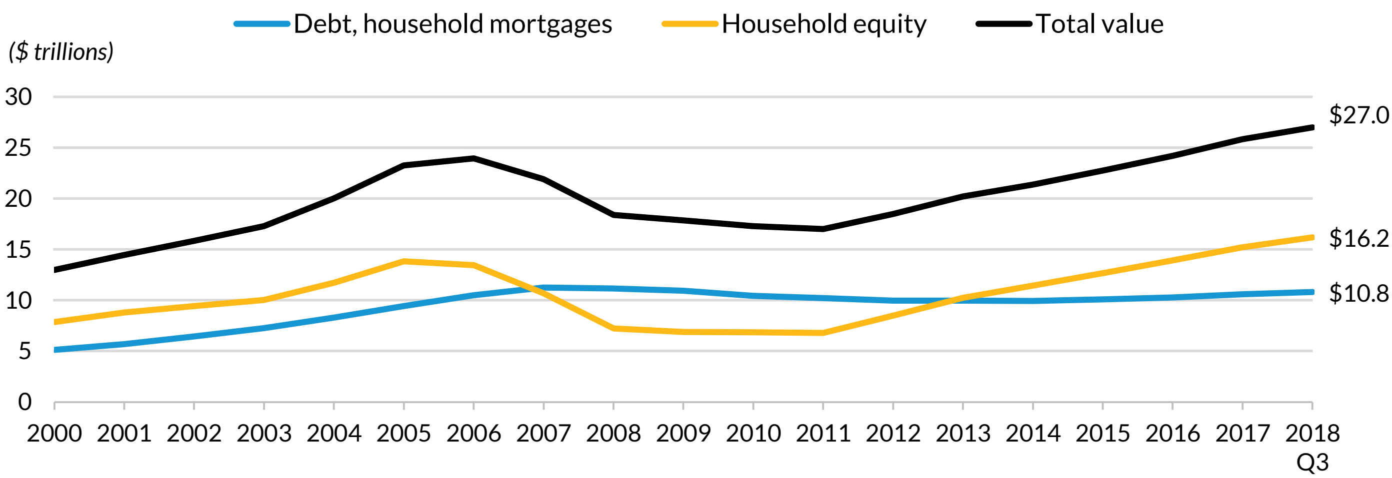
- The cash-out refinance share is near pre-crisis highs as rate refinances have dried up; cash-out volumes remain low (page 10).
- The Ginnie Mae nonbank origination share reached a new peak of 83 percent in December 2018 (page 11).
- Credit availability declined slightly in the third quarter of 2018 due to a shift in market share between channels (page 13).
- Current housing supply of 3.9 months is well below the pre-crisis average of 5 months (page 20).

OVERVIEW

# MARKET SIZE OVERVIEW

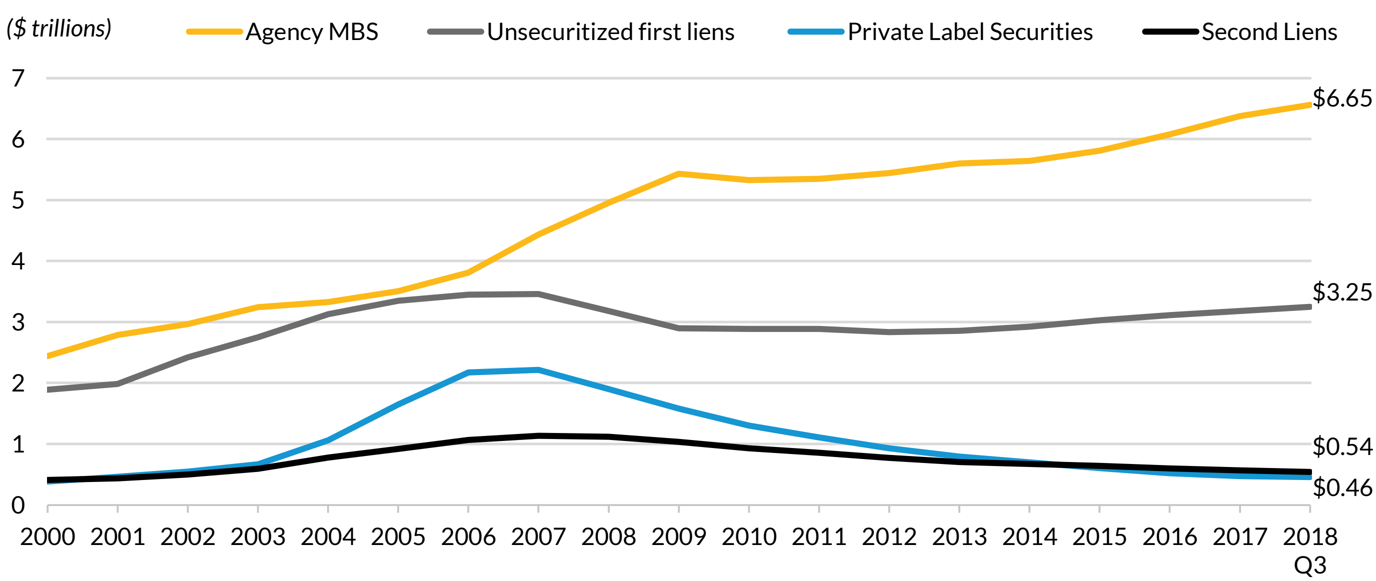
The Federal Reserve's Flow of Funds report has consistently indicated an increasing total value of the housing market driven by growing household equity since 2012, and 2018 Q3 was no different. While total mortgage debt outstanding was steady at $10.8 trillion, household equity reached a new high of $16.2 trillion, bringing the total value of the housing market to $27.0 trillion, 11 percent higher than the pre-crisis peak in 2006. Agency MBS make up 60.7 percent of the total mortgage debt outstanding, private-label securities make up 4.2 percent, and unsecuritized first liens make up 30.1 percent. Second liens comprise the remaining 4.9 percent of the total.

## Value of the US Housing Market




**Sources**: Federal Reserve Flow of Funds and Urban Institute. *Last updated December 2018.*

## Size of the US Residential Mortgage Market

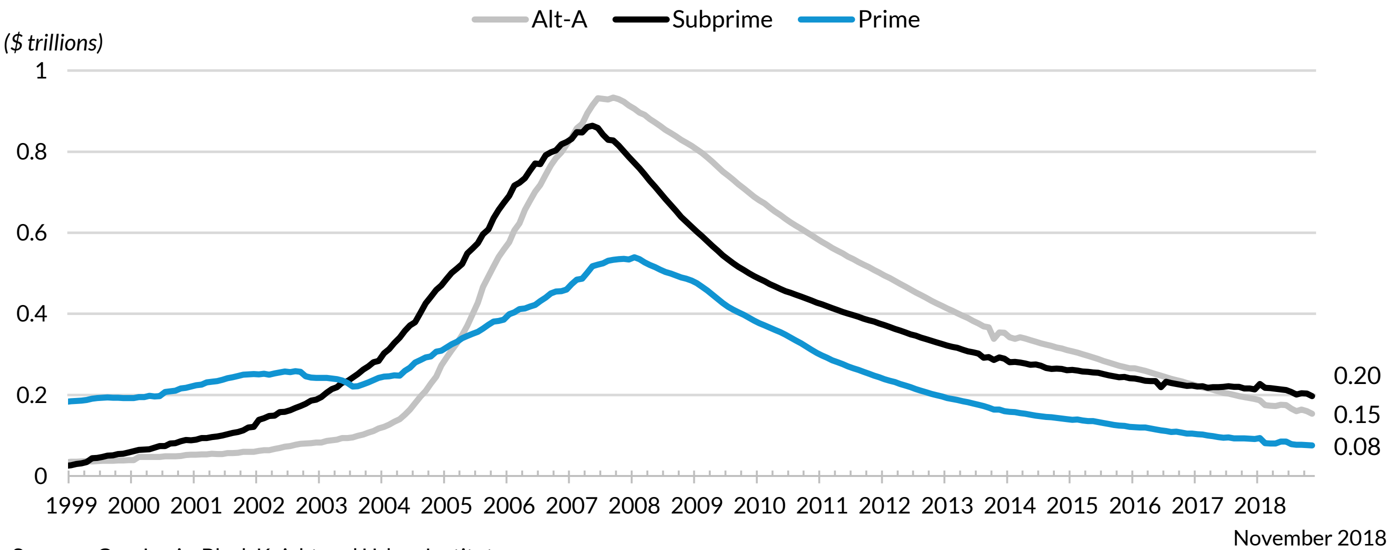



**Sources**: Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute. *Last updated December 2018.* **Note:** Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions.

# MARKET SIZE OVERVIEW

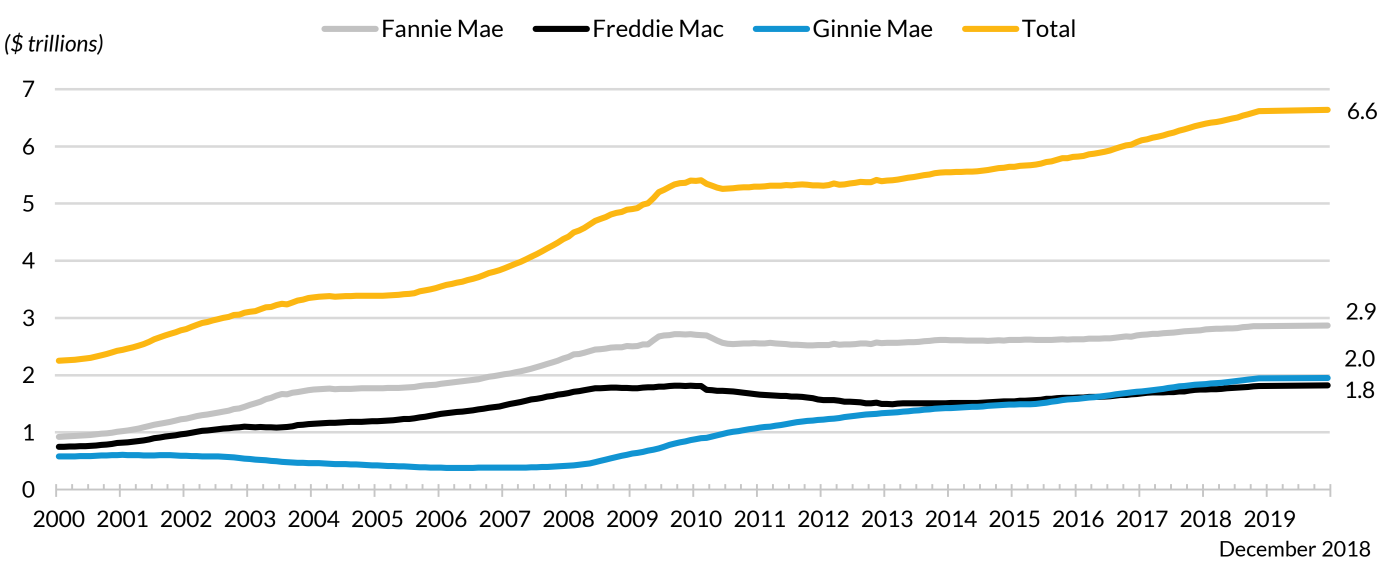
As of November 2018, debt in the private-label securitization market totaled $426 billion and was split among prime (17.7 percent), Alt-A (36.1 percent), and subprime (46.2 percent) loans. In November 2018, outstanding securities in the agency market totaled $6.6 trillion, 43.2 percent of which was Fannie Mae, 27.4 percent Freddie Mac, and 29.4 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

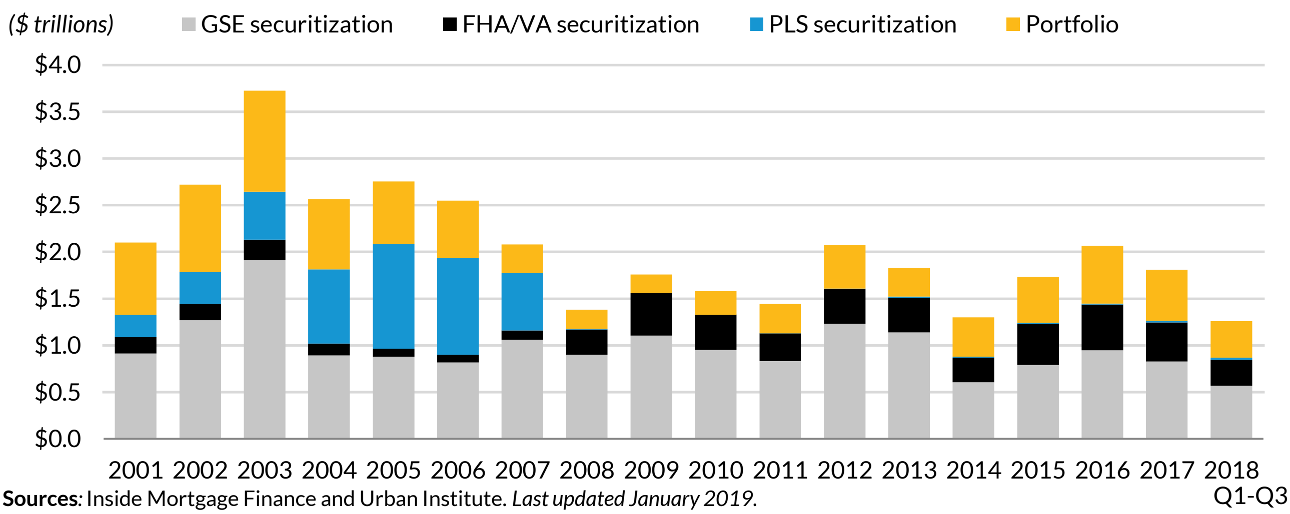



**Sources**: eMBS and Urban Institute.

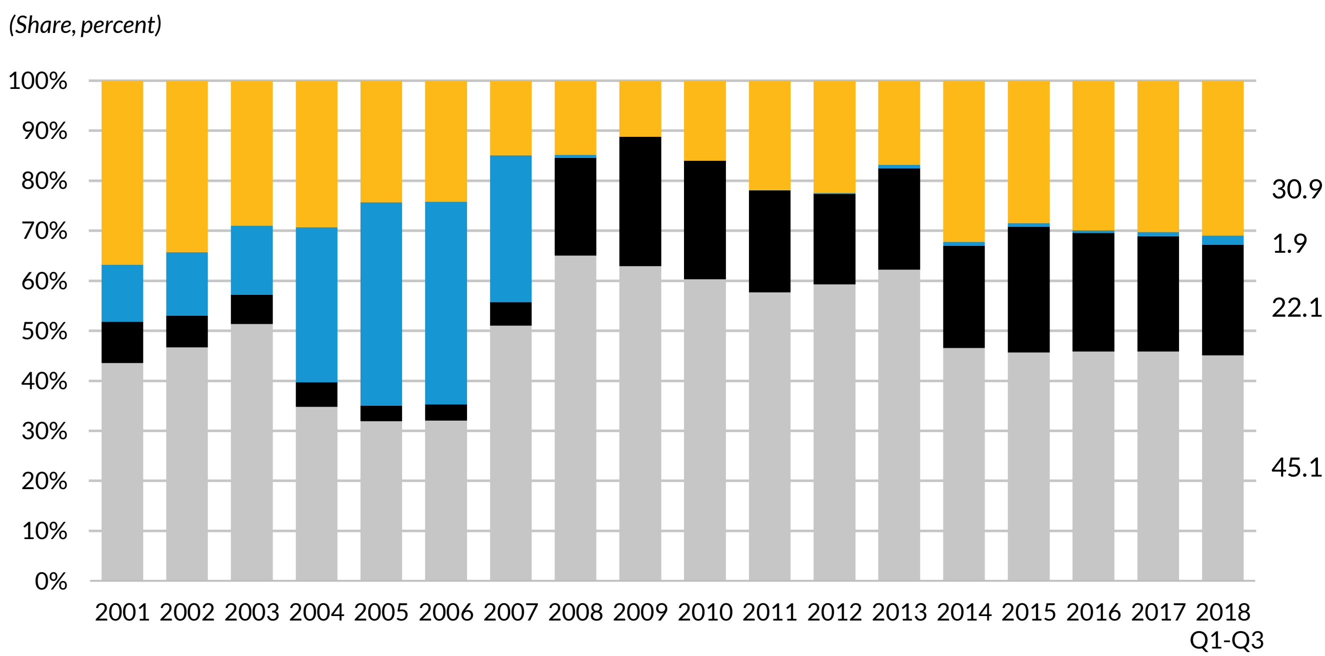
# ORIGINATION VOLUME AND COMPOSITION

## First Lien Origination Volume

First lien originations totaled $1.26 trillion in the first three quarters of 2018, down slightly from the same period in 2017, as higher interest rates curtailed refinance activity. The share of portfolio originations was 31 percent in the first three quarters of 2018, up from 30 percent in 2017. The GSE share was around 45 percent, down from 46 percent in 2017. The FHA/VA share was slightly down: 22 percent for the first three quarters of 2018 versus 23 percent in 2017. Origination of private-label securities was just under 2 percent, higher than the 2017 share of 0.6 percent.




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




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

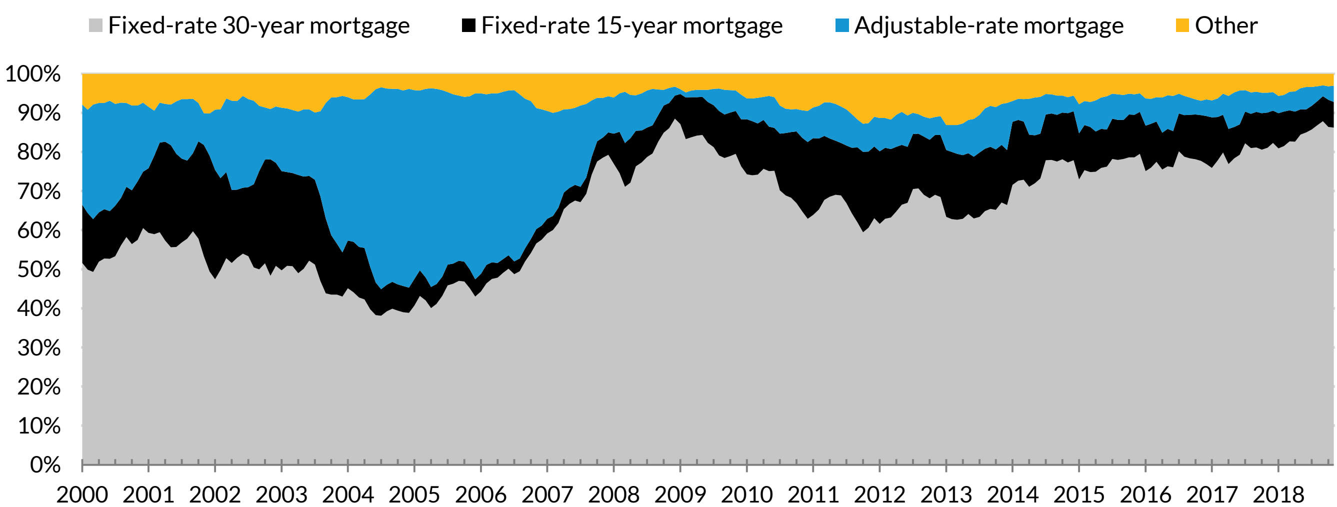
OVERVIEW

# 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 ARMs fell to a historic low of 1 percent in 2009, and then slowly increased to a high of 12 percent in December 2013. Since then, ARMs have declined to 4.1 percent in November 2018. The 15-year fixed-rate mortgage (FRM), predominantly a refinance product, accounted for 6.6 percent of new originations in November 2018.

In the last few months, purchase activity has been down, due to seasonal factors, causing small increases in the refi share. The December refi share defied the typical seasonal pattern, with Freddie and Ginnie down and Fannie largely unchanged.

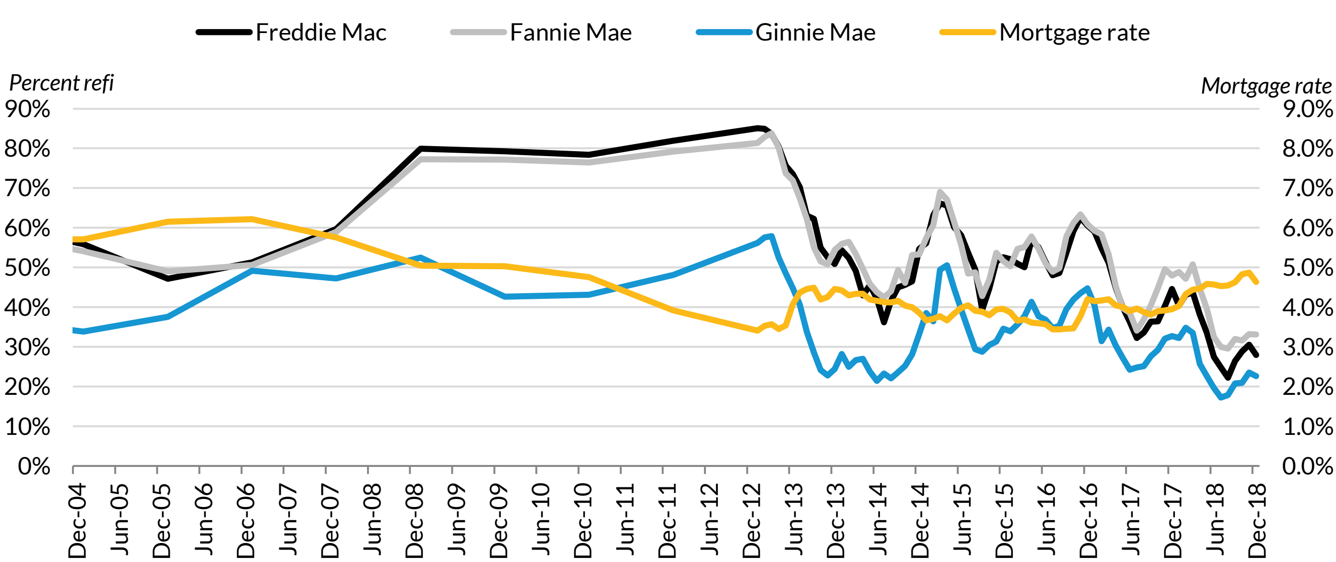
## Product Composition




November 2018

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

## Percent Refi at Issuance





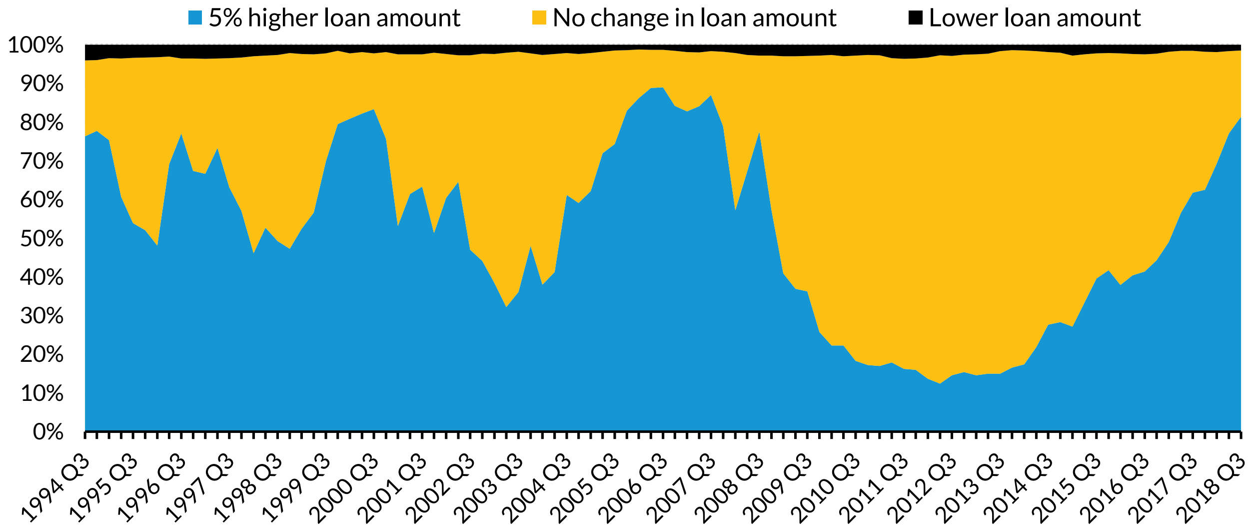

**Sources**: eMBS and Urban Institute.
**Note**: Based on at-issuance balance. Figure based on data from December 2018.

## OVERVIEW

# CASH-OUT REFINANCES

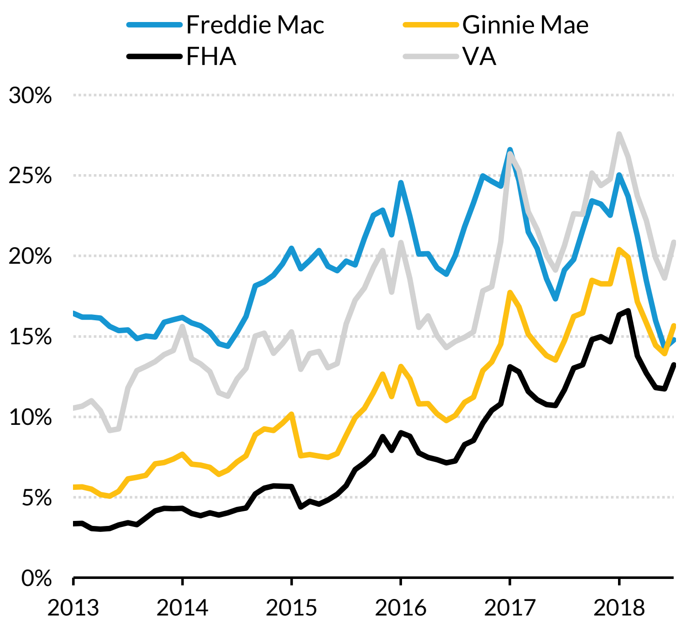
When mortgages rates are low, refinancing allows borrowers to save money by taking advantage of lower rates; hence the share of cash-out refinances tends to be small. But when rates are high, borrowers have no incentive to refinance for rate reduction. Thus, at higher rates, refinances are driven more by a desire to cash out, causing the cash-out share to be higher. In the third quarter of 2018, the cash-out share of all refinances was 81 percent, mostly reflecting the drop in rate refinances. While the cash-out refinance share for Freddie Mac and Ginnie Mae is close to bubble year peak, cash out volumes are substantially lower.

### Percentage of Refinances Resulting In



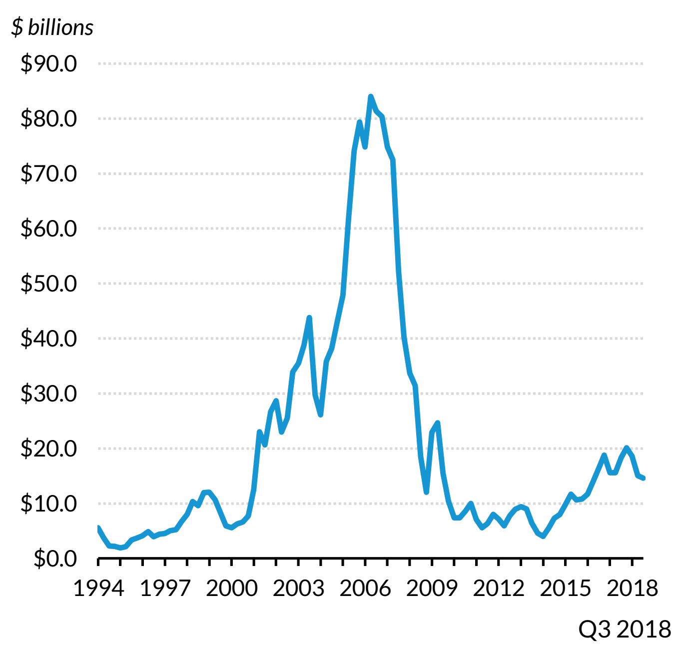

**Sources:** Freddie Mac and Urban Institute.
**Note**: Estimates include conventional mortgages only.

### Cash-out Refi Share of All Originations




**Sources:** Freddie Mac and Urban Institute.
**Note**: Cash-out refinance data not available for Fannie Mae.
Data as of December 2018.

### Cash-out Refi Volume



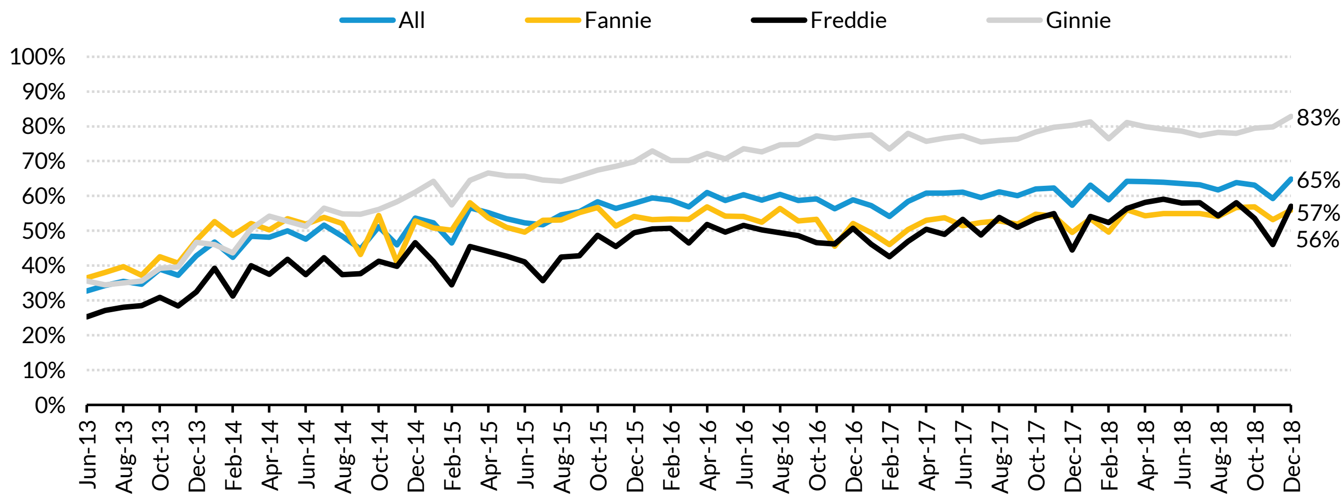

**Sources:** eMBS and Urban Institute.
**Note**: Estimates include conventional mortgages only.

OVERVIEW

# AGENCY NONBANK ORIGINATION SHARE

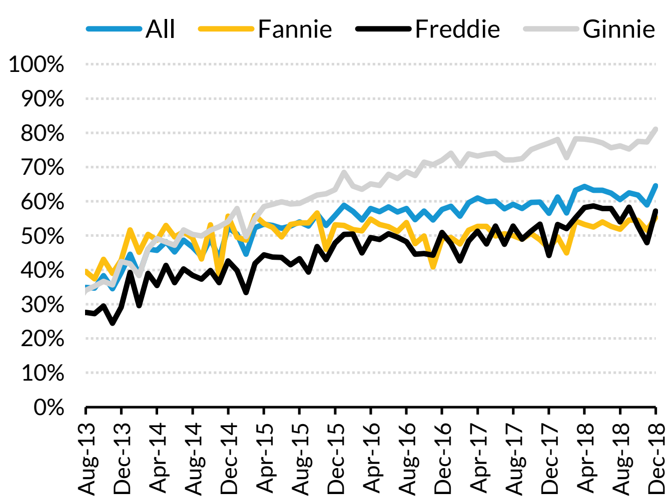
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 83 percent in December 2018, a new record. After falling in November, the Fannie Mae and Freddie Mac nonbank shares both grew in December, standing at and 57 percent respectively. The nonbank originator share is higher for Ginnie refis than for purchase loans; for the GSEs, purchase and refi loans have a similar bank/nonbank mix.

## Nonbank Origination Share: All Loans



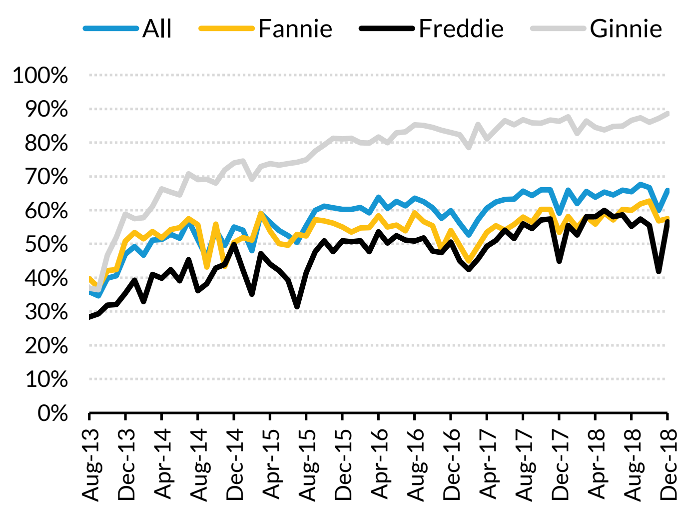

**Sources**: *eMBS and Urban Institute.*

## Nonbank Origination Share: Purchase Loans




**Sources**: *eMBS and Urban Institute.*

## Nonbank Origination Share: Refi Loans

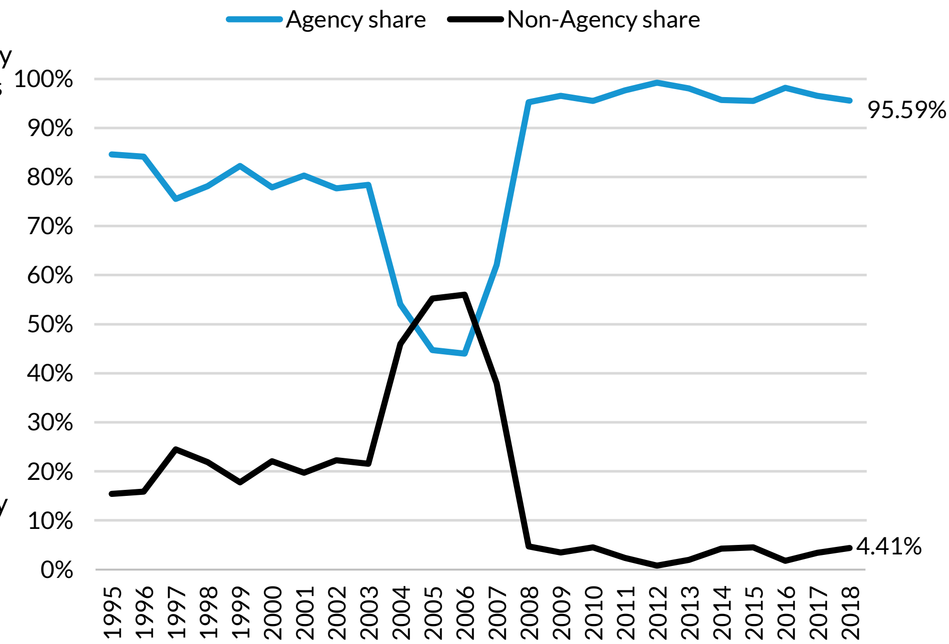



**Sources**: *eMBS and Urban Institute.*

# SECURITIZATION VOLUME AND COMPOSITION

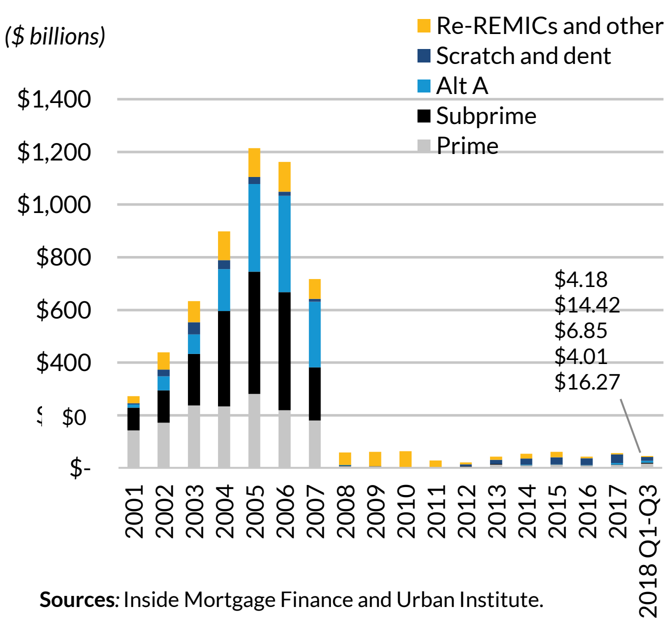
## Agency/Non-Agency Share of Residential MBS Issuance

For full year 2018, the non-agency share of mortgage securitizations was 4.4%, compared to 3.4% for 2017. The non-agency securitization volume totaled $45.7 billion in the first three quarters of 2018, a 12 percent increase over the same period in 2017, but there is a change in the mix. Prime securitizations continued to surge through the third quarter, while scratch and dent were down from the same period in 2017. Non-agency securitizations continue to be tiny compared to pre-crisis levels.



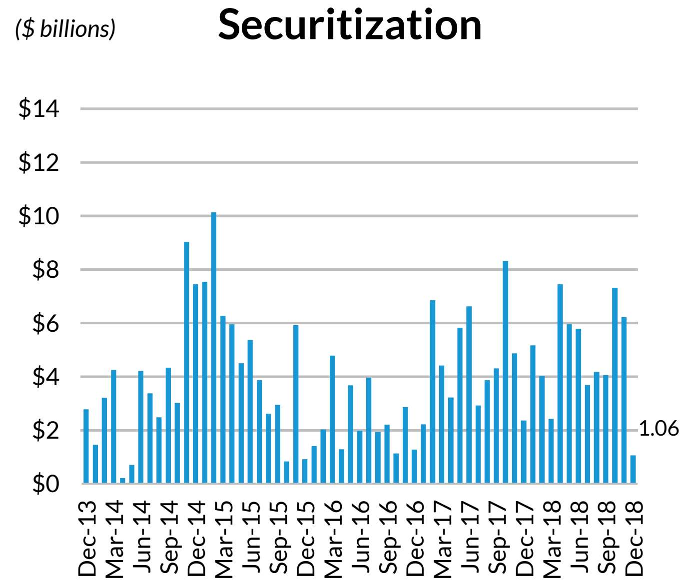

**Sources**: Inside Mortgage Finance and Urban Institute.
**Note**: Based on data from December 2018.

## Non-Agency MBS Issuance




**Sources**: Inside Mortgage Finance and Urban Institute.

## Monthly Non-Agency Securitization



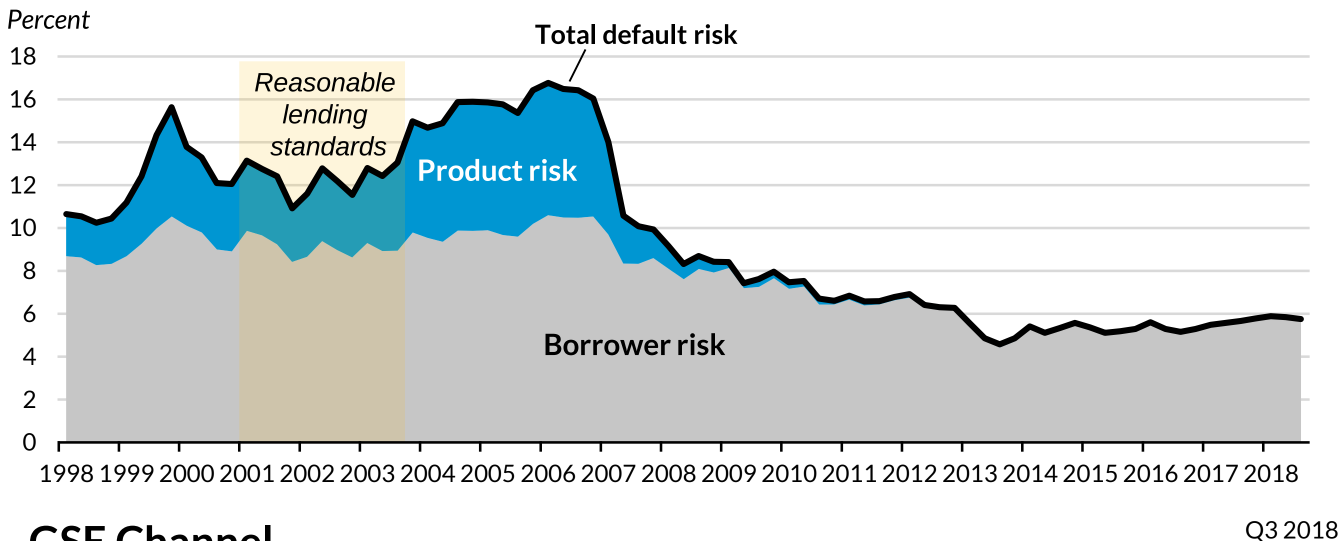

**Sources:** Inside Mortgage Finance and Urban Institute.

CREDIT BOX

# HOUSING CREDIT AVAILABILITY INDEX

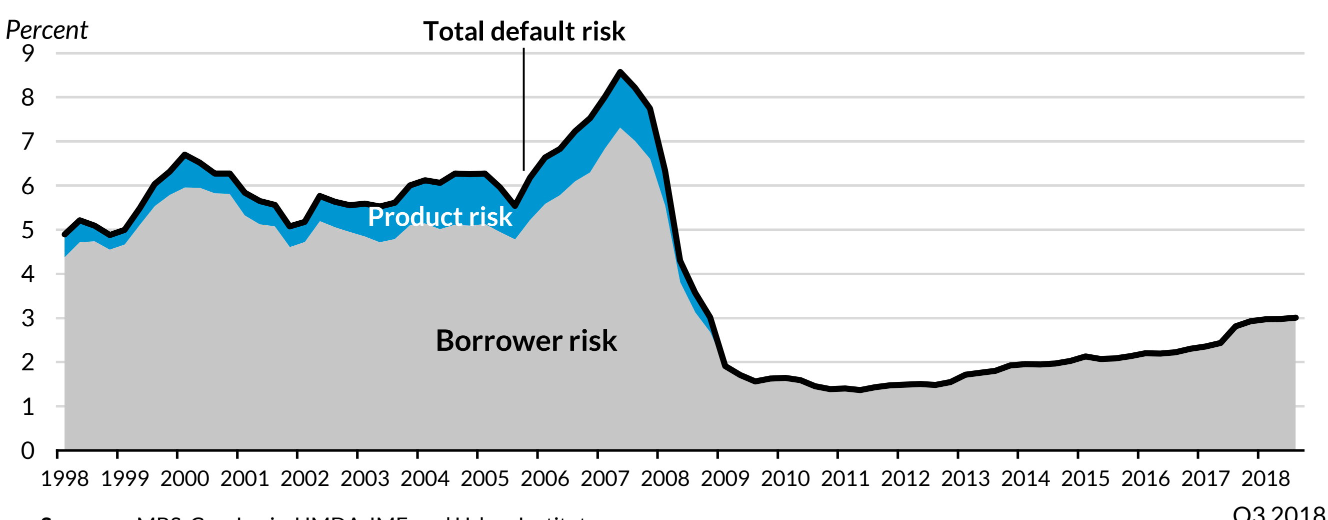
HFPC's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to go 90+ days delinquent over the life of the loan. The index shows that mortgage credit availability for all channels stood at 5.75 percent in the third quarter of 2018 (Q3 2018), down slightly from the previous quarter (5.84 percent). The decline was primarily driven by a shift in market composition, as the government channel, which caters to higher risk borrowers, lost market share to the portfolio channel which caters to lowest risk borrowers. More information about the HCAI is available here.

## All Channels




## GSE Channel

Between Q2 2011 and Q3 2018, the total risk taken by the GSE channel has more than doubled, from 1.4 percent to 3.0 percent. The GSE market has expanded the credit box for borrowers more effectively than the government channel has in recent years



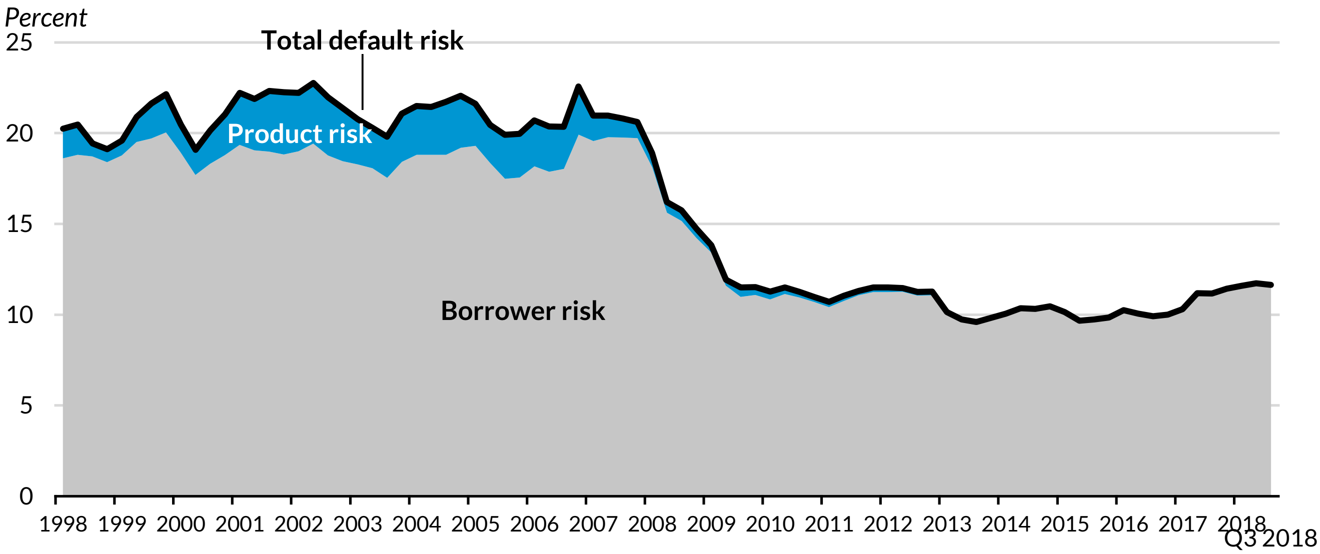

**Sources:** eMBS, CoreLogic, HMDA, IMF, and Urban Institute.
**Note**: Default is defined as 90 days or more delinquent at any point. *Last updated January 2019.*

CREDIT BOX

# HOUSING CREDIT AVAILABILITY INDEX

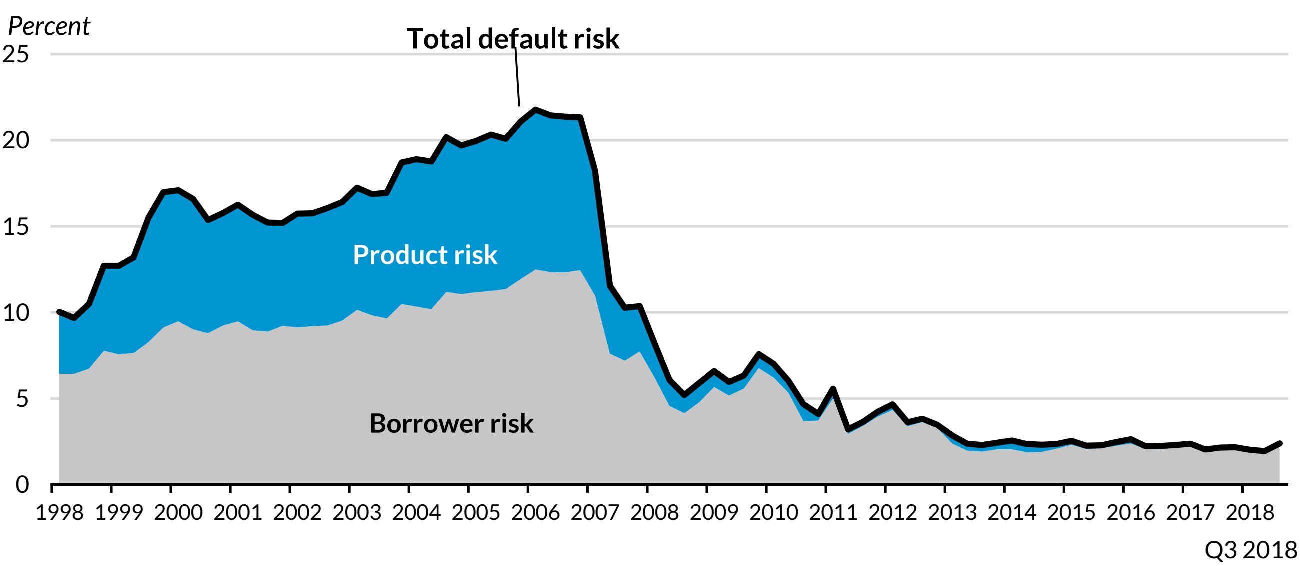
## Government Channel

The total default risk taken by the government channel bottomed out at 9.6 percent in Q3 2013. Since then has risen to 11.7 percent, but is still about half the pre-bubble, normal range of 19 – 23 percent.




## Portfolio and Private Label Securities Channel

The portfolio and private-label securities channels collectively experienced a substantial increase in product and total default risk during the run up to the bubble. This was followed by a sharp decline post-crisis. The total default risk taken by portfolio and PLS channels remains very low and stood at 2.4 percent in Q3 2018, in contrast to 15 to 18% in the early 2000s.




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

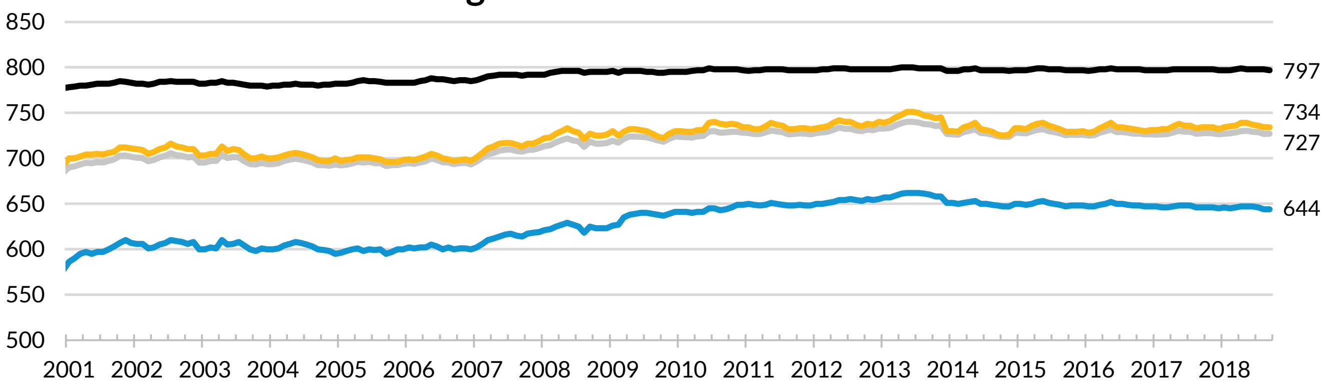
# CREDIT AVAILABILITY FOR PURCHASE LOANS

Access to credit remains tight, especially for lower FICO borrowers. Median FICO for current purchase loans is 30 points above the pre-crisis level. The 10th percentile, which represents the lower bound of creditworthiness to qualify for a mortgage, stood at 644 in Oct 2018 compared to low-600s pre-bubble. Median LTV at origination of 95 percent remains relatively high, reflecting the rise of FHAVA lending. Although current median DTI of 40 percent exceeds the pre-bubble level of 36 percent, higher FICO scores serve as a strong compensating factor.

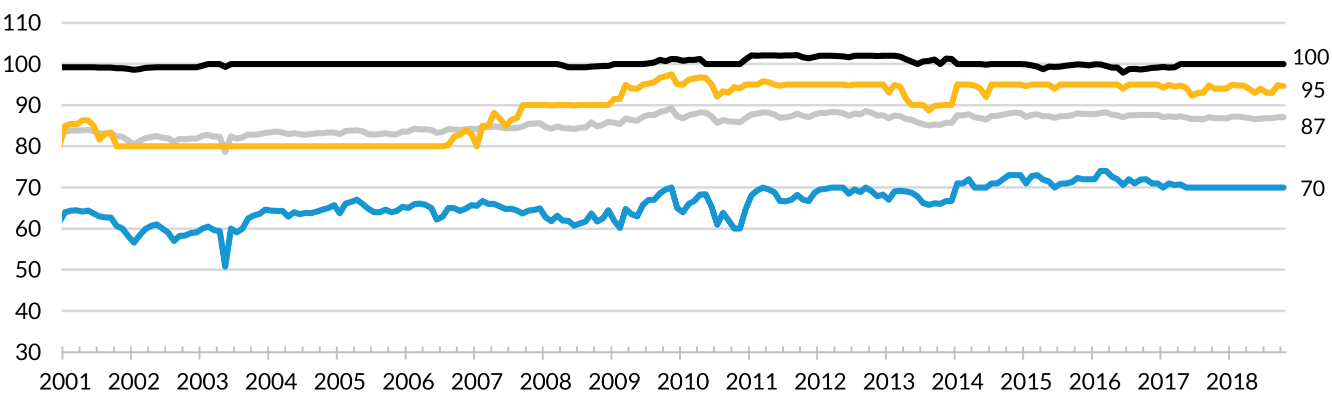
90th percentile · Mean · Median · 10th percentile

## Borrower FICO Score at Origination

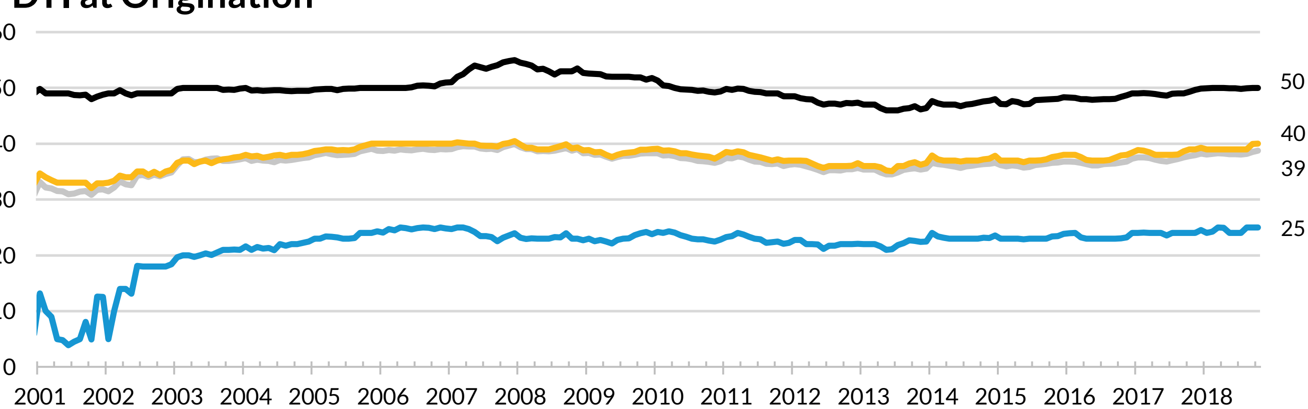
*FICO Score*




## Combined LTV at Origination *LTV*




## DTI at Origination



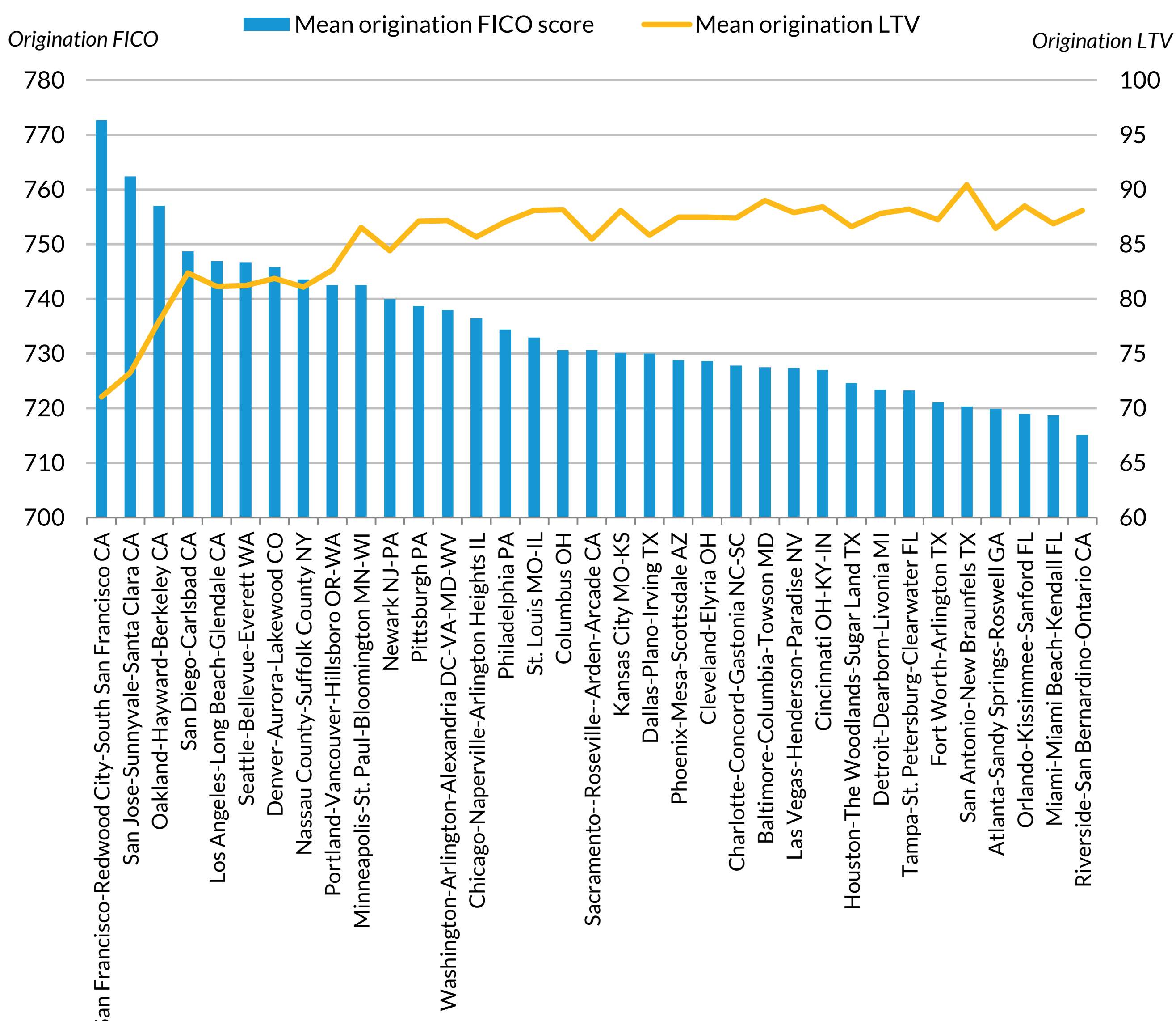



**Sources:** Black Knight, eMBS, HMDA, SIFMA, CoreLogic and Urban Institute.
**Note**: Includes owner-occupied purchase loans only. DTI data prior to April 2018 is from CoreLogic; after that date, it is from Black Knight.

# 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 772, while in Riverside-San Bernardino-Ontario, CA it is 715. 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

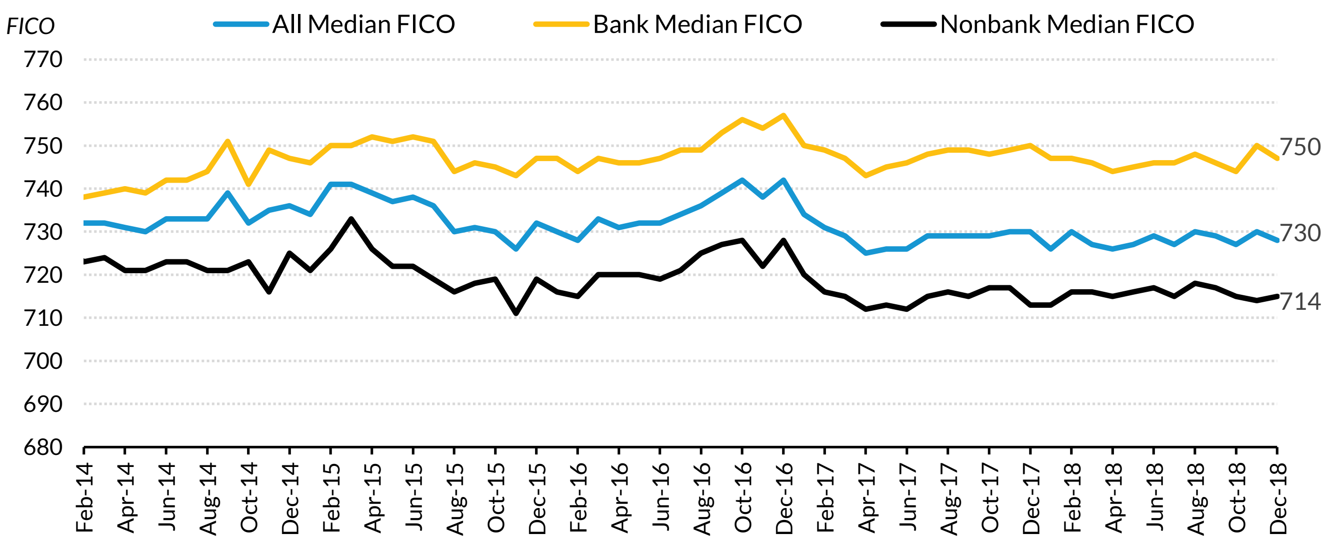



**Sources:** Black Knight, eMBS, HMDA, SIFMA and Urban Institute.
**Note:** Includes owner-occupied purchase loans only. Data as of November 2018.

# AGENCY NONBANK CREDIT BOX

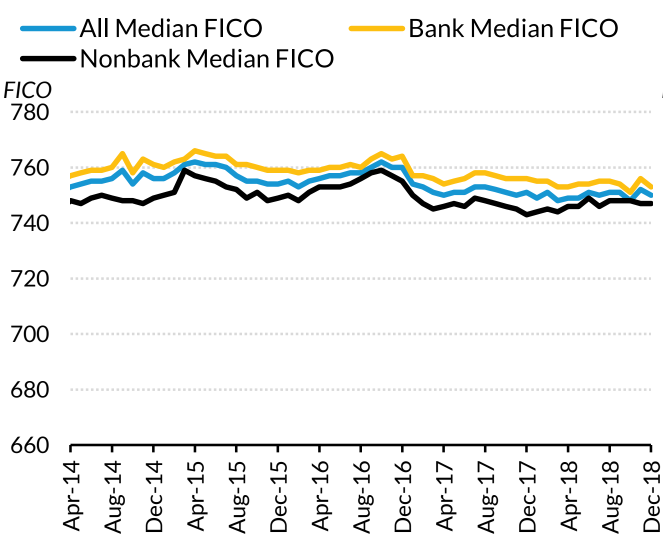
Nonbank originators have played a key role in opening up access to credit. Median GSE and Ginnie Mae FICOs for nonbank originations are lower than their bank counterparts, with a larger differential in the Ginnie Mae market. Within the GSE space, bank FICOs have declined slightly since 2014 and nonbank FICOs are roughly constant. In contrast, within the Ginnie Mae space, FICO scores for bank originations have increased since 2014 while nonbank FICOs have declined. This largely reflects the sharp cut-back in FHA lending by many banks.

## Agency FICO: Bank vs. Nonbank



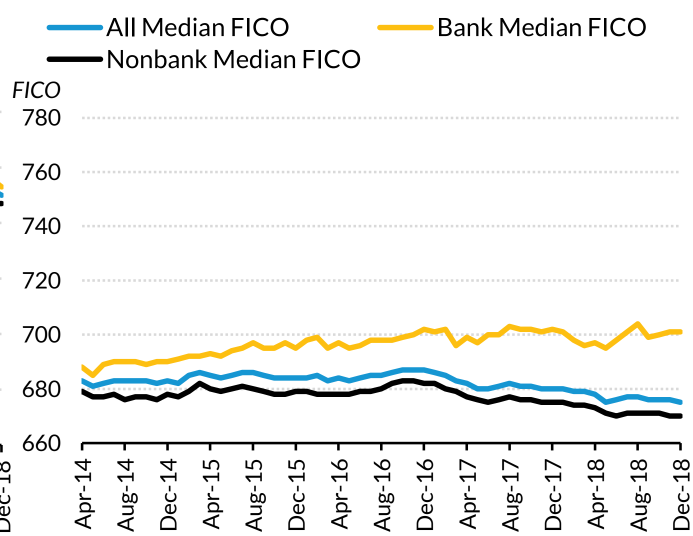

**Sources**: *eMBS and Urban Institute.*

## GSE FICO: Bank vs. Nonbank




**Sources**: *eMBS and Urban Institute.*

## Ginnie Mae FICO: Bank vs. Nonbank

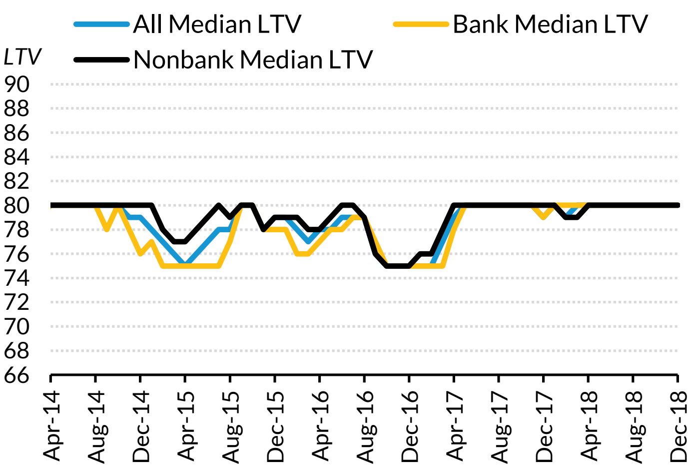



**Sources**: *eMBS and Urban Institute.*

# AGENCY NONBANK CREDIT BOX

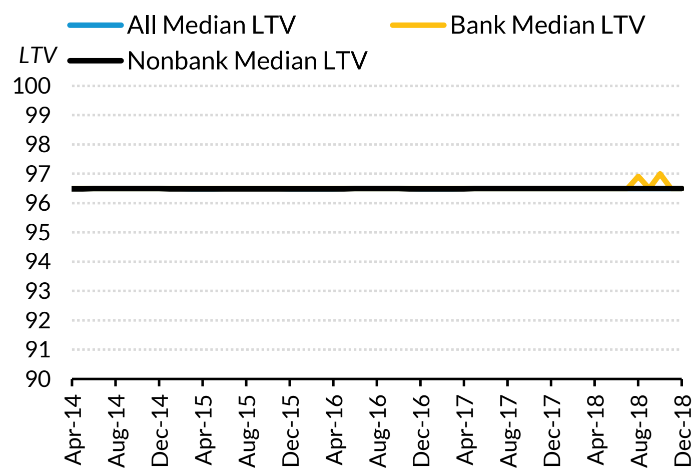
The median LTV for nonbank and bank originations are comparable, while the median DTIs for nonbank loans are higher, indicating that nonbanks are more accommodating in this dimension as well as in the FICO dimension. Since early 2017 there has been a measurable increase in DTIs. This is true for both Ginnie Mae and GSE, for banks and nonbanks. Rising DTIs are to be expected in a rising rate environment, as higher interest rates, which usually accompany higher home prices, drive up borrowers' monthly payments, and the reduction in refinance volumes makes lenders more apt to work a bit harder to get a loan approved for a marginal borrower.

## GSE LTV: Bank vs. Nonbank



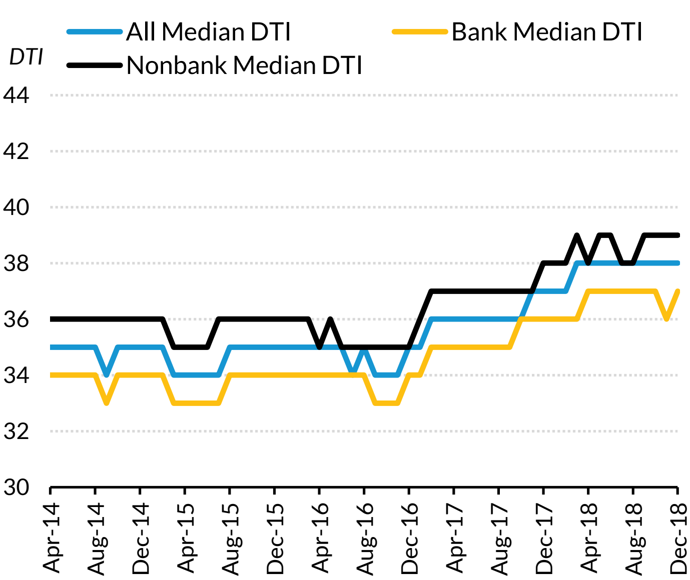

**Sources**: *eMBS and Urban Institute.*

## Ginnie Mae LTV: Bank vs. Nonbank



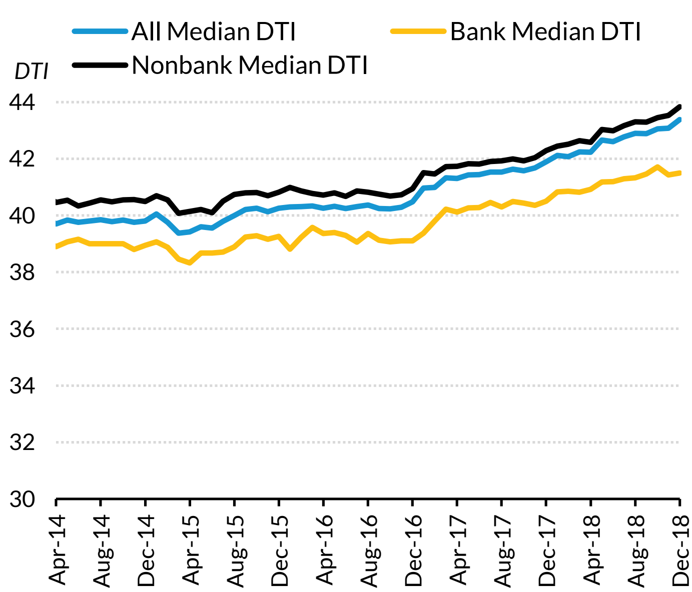

**Sources**: *eMBS and Urban Institute.*

## GSE DTI: Bank vs. Nonbank




**Sources**: *eMBS and Urban Institute.*

## Ginnie Mae DTI: Bank vs. Nonbank




**Sources**: *eMBS and Urban Institute.*

## STATE OF THE MARKET

# MORTGAGE ORIGINATION PROJECTIONS

Fannie Mae, Freddie Mac and the MBA all forecast origination volume in 2018 to be 1.63-1.65 trillion, lower than the 1.8 trillion in 2017 and much lower than the 2.0 trillion in 2018. The differences owe primarily to a decline the refi share: from 47-49 percent in 2016 to 35-36 percent in 2017 to a forecasted 28 -30 percent in 2018. 2019 volumes are expected to be close to 2018 volumes, despite a small further drop in the refi share.

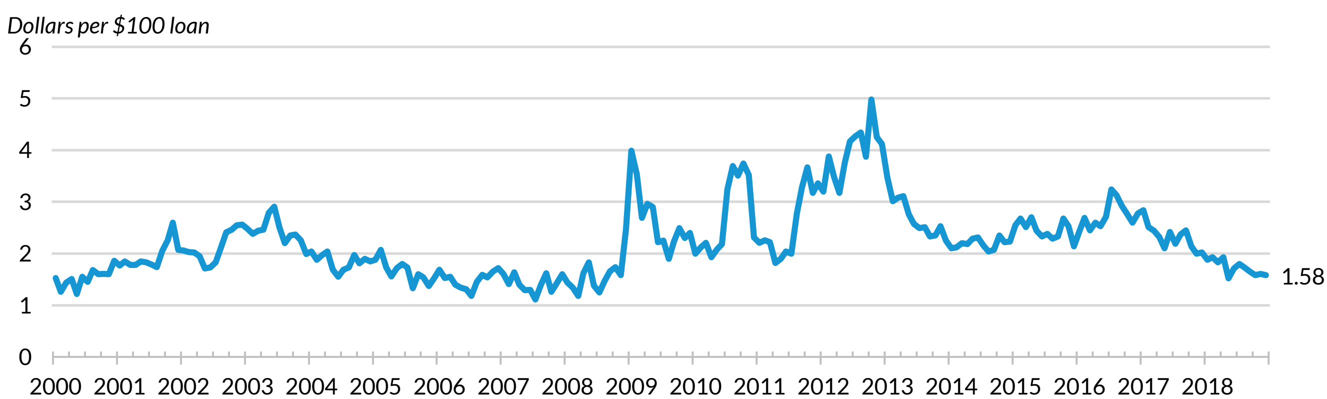
## Total Originations and Refinance Shares

| Period | Originations ($ billions) | | | Refi Share () | | |
|---|---|---|---|---|---|---|
| | Total, FNMA estimate | Total, FHLMC estimate | Total, MBA estimate | FNMA estimate | FHLMC Estimate | MBA estimate |
| 2018 Q1 | 374 | 374 | 346 | 39 | 40 | 37 |
| 2018 Q2 | 447 | 455 | 447 | 25 | 29 | 26 |
| 2018 Q3 | 422 | 454 | 443 | 24 | 28 | 24 |
| 2018 Q4 | 384 | 372 | 370 | 27 | 24 | 27 |
| 2019 Q1 | 3324 | 415 | 328 | 32 | 24 | 28 |
| 2019 Q2 | 443 | 437 | 443 | 23 | 23 | 22 |
| 2019 Q3 | 439 | 429 | 450 | 24 | 24 | 22 |
| 2019 Q4 | 408 | 409 | 371 | 25 | 24 | 26 |
| FY 2014 | 1301 | 1350 | 1261 | 40 | 39 | 40 |
| FY 2015 | 1730 | 1750 | 1679 | 47 | 45 | 46 |
| FY 2016 | 2052 | 2125 | 1891 | 49 | 47 | 49 |
| FY 2017 | 1826 | 1807 | 1760 | 36 | 37 | 35 |
| FY 2018 | 1626 | 1655 | 1636 | 28 | 30 | 28 |
| FY 2019 | 1614 | 1690 | 1630 | 26 | 24 | 24 |

**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. Column labels indicate source of estimate. Regarding interest rates, the yearly averages for 2014, 2015, 2016 and 2017 were 4.2, 3.9, 3.8, and 4.0. For 2018, the respective projections for Fannie, Freddie, and MBA are 4.6, 4.6, and 4.9.

## Originator Profitability and Unmeasured Costs

In Dec 2018, Originator Profitability and Unmeasured Costs (OPUC) stood at $1.58 per $100 loan, which is at lower end of the range in recent years. OPUC, formulated and calculated by the Federal Reserve Bank of New York, is a good relative measure of originator profitability. OPUC uses 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 a historically low new home construction has shrunk the supply of for-sale homes to 3.9 months. Pre-crisis this number averaged 4.6 months. Fannie Mae, Freddie Mac and the MBA all forecast 2019 housing starts to be 1.3-1.4 million units, up marginally from 2018's 1.3 million units. Freddie Mac and the MBA predict a rise in home sales in 2019, from 2018's 6-6.2 million level; while Fannie has home sales flat.

## Months of Supply


**Source**: National Association of Realtors and Urban Institute.

November 2018

## Housing Starts and Homes Sales

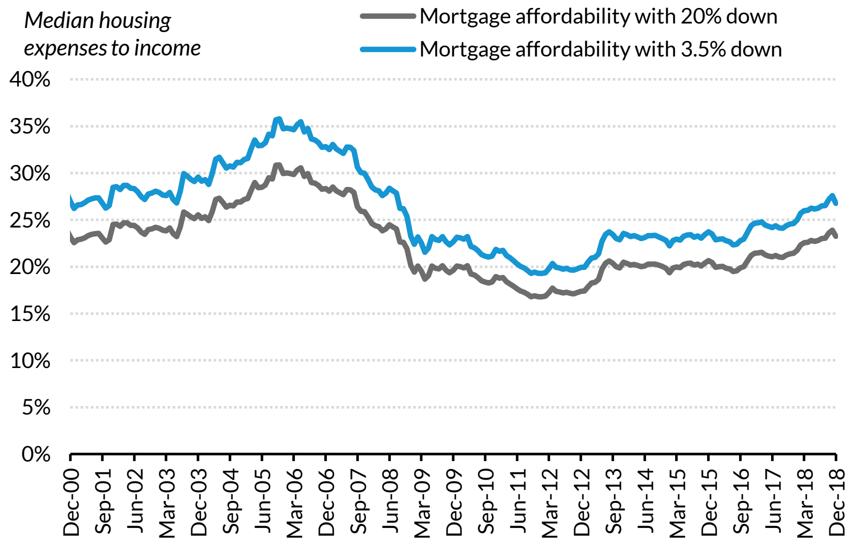
| | Housing Starts, thousands | | | Home Sales. thousands | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Total, FNMA estimate | Total, FHLMC estimate | Total, MBA estimate | Total, FNMA estimate | Total, FHLMC estimate | Total, MBA estimate | Existing, MBA estimate | New, MBA Estimate |
| FY 2014 | 1003 | 1000 | 1001 | 5377 | 5380 | 5360 | 4920 | 440 |
| FY 2015 | 1112 | 1110 | 1108 | 5751 | 5750 | 5740 | 5237 | 503 |
| FY 2016 | 1174 | 1170 | 1177 | 6011 | 6010 | 6001 | 5440 | 561 |
| FY 2017 | 1203 | 1200 | 1208 | 6123 | 6120 | 6158 | 5542 | 616 |
| FY 2018 | 1262 | 1320 | 1260 | 5987 | 6140 | 5990 | 5378 | 612 |
| FY 2019 | 1265 | 1400 | 1285 | 5993 | 6360 | 6196 | 5561 | 635 |

**Sources:** Mortgage Bankers Association, Fannie Mae, Freddie Mac and Urban Institute.
**Note:** Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market; column labels indicate source of estimate.

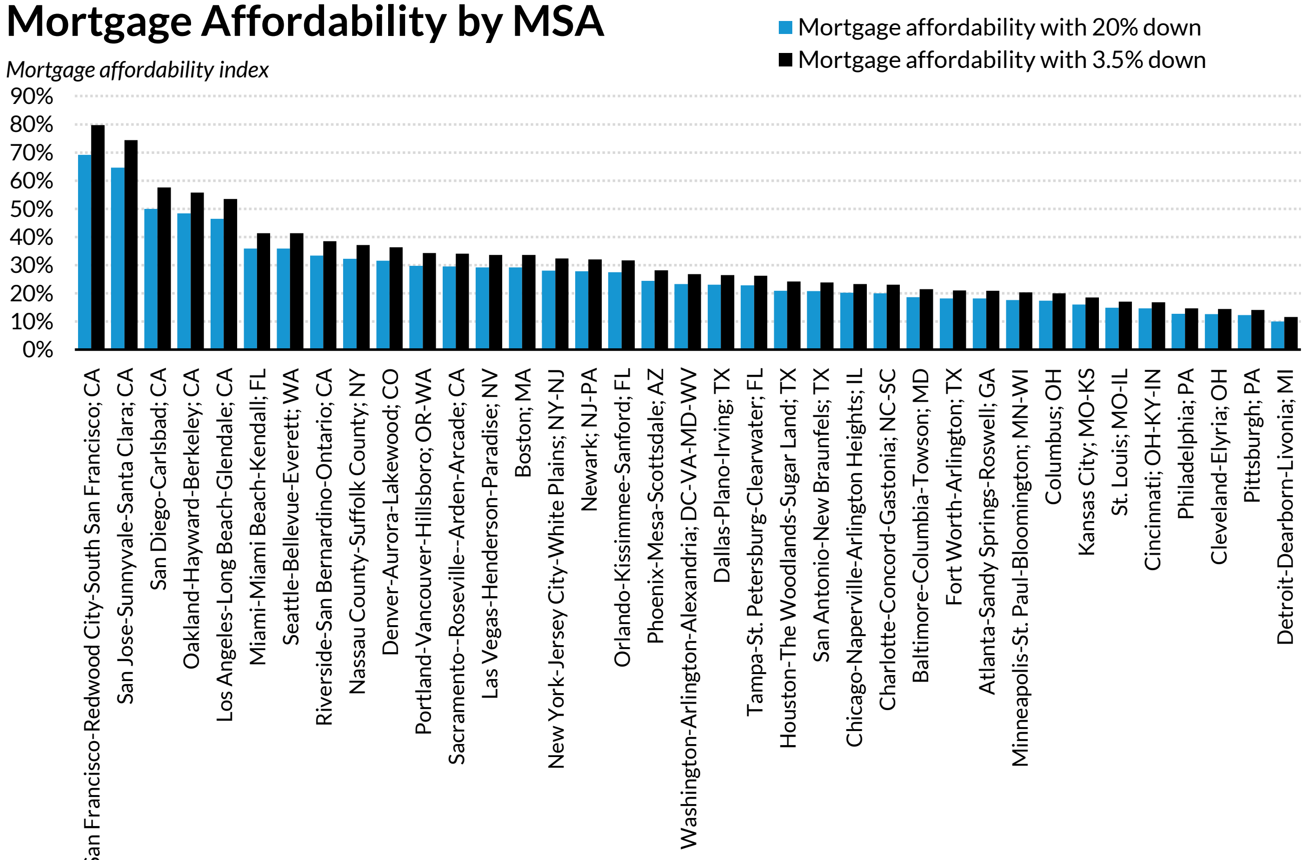
## STATE OF THE MARKET
# HOUSING AFFORDABILITY

## National Mortgage Affordability Over Time

Home prices remain affordable by historic standards, despite price increases over the last 6.5 years and recent interest rate increases. As of December 2018, with 20 down payment, the share of median income needed for the monthly mortgage payment stood at 23.2; with 3.5 down, it is 26.8. As of December, the median housing expenses to income ratio is in line with the 2001-2003 average. As shown in the bottom picture, mortgage affordability varies widely across MSAs.




## Mortgage Affordability by MSA



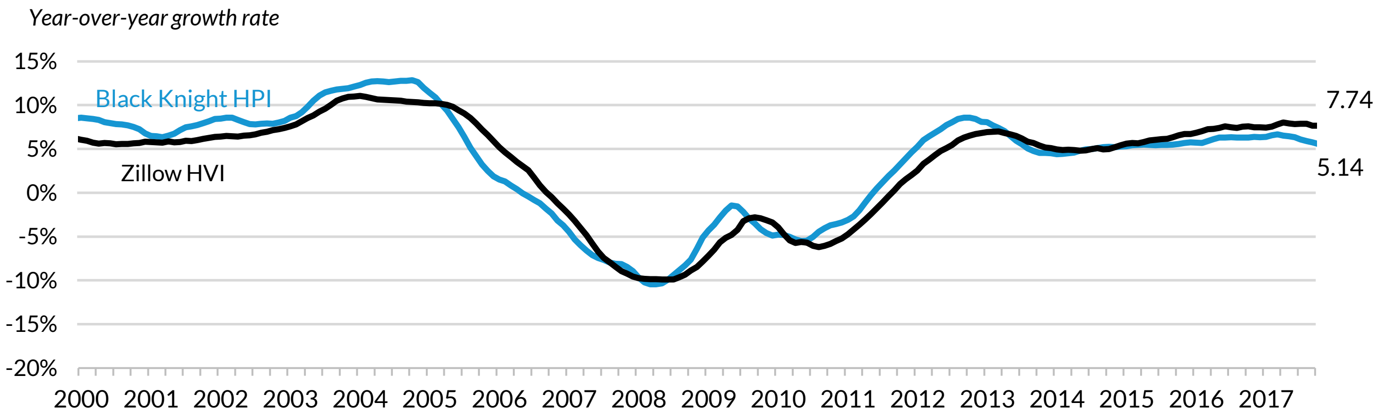

**Sources**: National Association of Realtors, US Census Bureau, Current Population Survey, American Community Survey, Moody's Analytics, Freddie Mac Primary Mortgage Market Survey, and the Urban Institute.
**Note:** Mortgage affordability is the share of median family income devoted to the monthly principal, interest, taxes, and insurance payment required to buy the median home at the Freddie Mac prevailing rate *2018* for a 30-year fixed-rate mortgage and property tax and insurance at 1.75 percent of the housing value. Data for the bottom chart as of Q3 2018.

STATE OF THE MARKET

# HOME PRICE INDICES

## National Year-Over-Year HPI Growth

Year-over-year home price appreciation slowed slightly but remained robust in November 2018, as measured by both the Black Knight's repeat sales index and Zillow's hedonic index. We will be monitoring the impact of rising interest rates on home prices. Historically, rising interest rates (generally observed in tandem with a stronger economy and higher inflation) have been associated with higher home price increases, despite the impact on affordability.




**Sources:** Black Knight, Zillow, and Urban Institute. **Note:** Data as of November 2018.

## Changes in Black Knight HPI for Top MSAs

After rising 48.8 percent from the trough, national house prices are now 10.7 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—Phoenix, AZ and Riverside, CA—are 9.2 and 12.4 percent, respectively, below peak values.

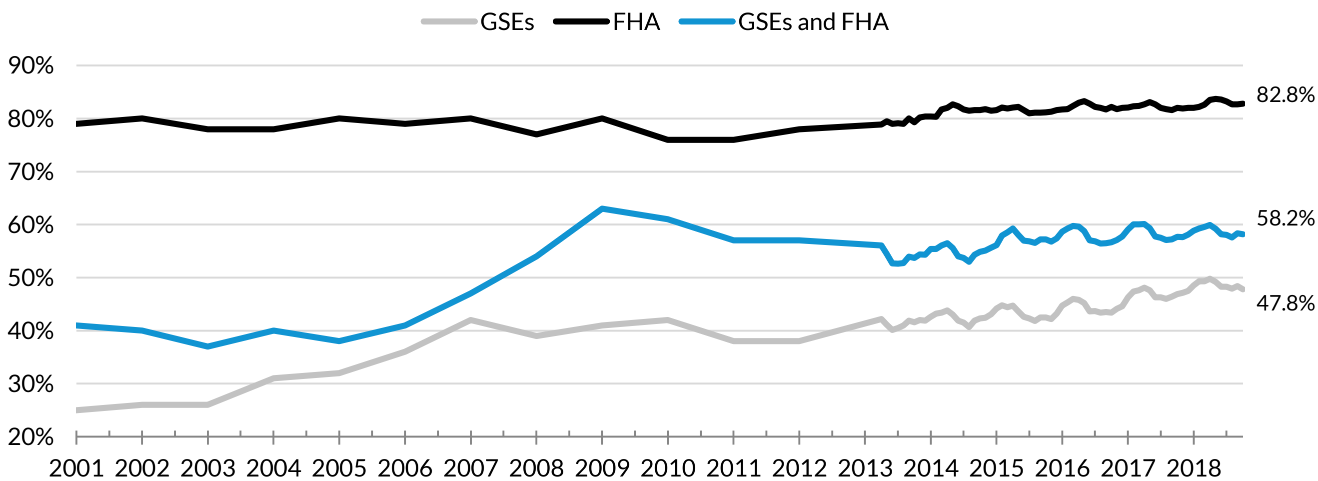
| MSA | HPI changes () | | | above peak |
|---|---|---|---|---|
| | 2000 to peak | Peak to trough | Trough to current | |
| United States | 75.9 | -25.6 | 48.8 | 10.7 |
| New York-Jersey City-White Plains, NY-NJ | 127.9 | -22.3 | 43.6 | 11.6 |
| Los Angeles-Long Beach-Glendale, CA | 180.6 | -38.2 | 79.0 | 10.6 |
| Chicago-Naperville-Arlington Heights, IL | 67.2 | -38.4 | 42.8 | -12.0 |
| Atlanta-Sandy Springs-Roswell, GA | 32.7 | -35.8 | 72.9 | 11.1 |
| Washington-Arlington-Alexandria, DC-VA-MD-WV | 149.3 | -28.3 | 31.3 | -5.9 |
| Houston-The Woodlands-Sugar Land, TX | 29.4 | -6.7 | 44.7 | 35.0 |
| Phoenix-Mesa-Scottsdale, AZ | 113.3 | -51.2 | 86.1 | -9.2 |
| Riverside-San Bernardino-Ontario, CA | 177.1 | -51.8 | 81.6 | -12.4 |
| Dallas-Plano-Irving, TX | 26.5 | -7.2 | 62.9 | 51.1 |
| Minneapolis-St. Paul-Bloomington, MN-WI | 69.2 | -30.2 | 52.5 | 6.4 |
| Seattle-Bellevue-Everett, WA | 90.6 | -32.9 | 95.2 | 31.0 |
| Denver-Aurora-Lakewood, CO | 34.1 | -12.1 | 84.7 | 62.3 |
| Baltimore-Columbia-Towson, MD | 123.7 | -23.9 | 19.1 | -9.4 |
| San Diego-Carlsbad, CA | 148.5 | -37.5 | 69.9 | 6.2 |
| Anaheim-Santa Ana-Irvine, CA | 163.4 | -35.3 | 60.2 | 3.7 |

**Sources**: Black Knight HPI and Urban Institute. Data as of November 2018.
**Note:** This table includes the largest 15 Metropolitan areas by mortgage count.

# FIRST-TIME HOMEBUYERS

## First-Time Homebuyer Share

In October 2018, the first time homebuyer (FTHB) share of purchase loans increased very slightly for FHA and conventional mortgages. The FTHB share for FHA, which has always been more focused on first time homebuyers, stood at 82.8 percent in Oct 2018. The GSE FTHB share in Oct 2018 was 47.8 percent. The bottom table shows that based on mortgages originated in Oct 2018, 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.
**Note:** All series measure the first-time homebuyer share of purchase loans for principal residences.

October 2018

## 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 ($) | 230,952 | 252,825 | 207,278 | 223,712 | 221,250 | 248,593 |
| Credit Score | 737.8 | 754.1 | 669.7 | 676.0 | 709.9 | 742.8 |
| LTV () | 87.5 | 78.9 | 95.5 | 93.9 | 90.8 | 81.0 |
| DTI () | 36.6 | 37.0 | 43.7 | 44.6 | 39.5 | 38.1 |
| Loan Rate () | 4.94 | 4.84 | 5.04 | 4.96 | 4.98 | 4.86 |

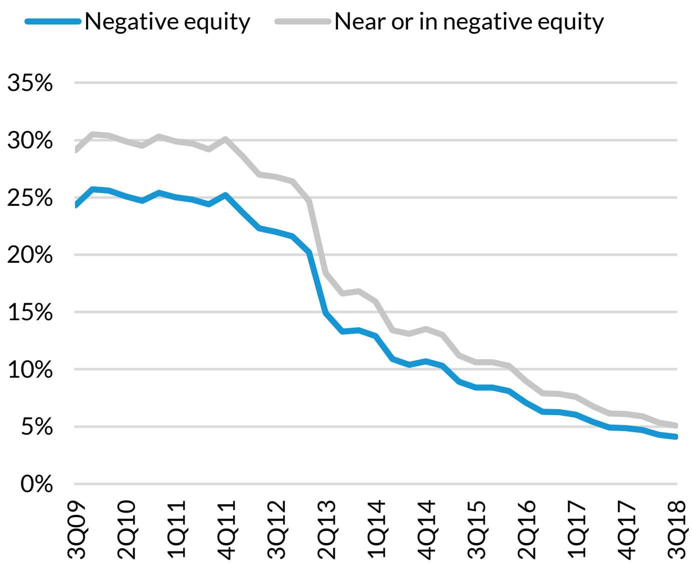
**Sources**: eMBS and Urban Institute.
**Note:** Based on owner-occupied purchase mortgages originated in October 2018.

# DELINQUENCIES AND LOSS MITIGATION ACTIVITY

Loans in and near negative equity continued to decline in 2018; 4.1 percent now have negative equity, an additional 1.0 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 2.13 percent in the third quarter.

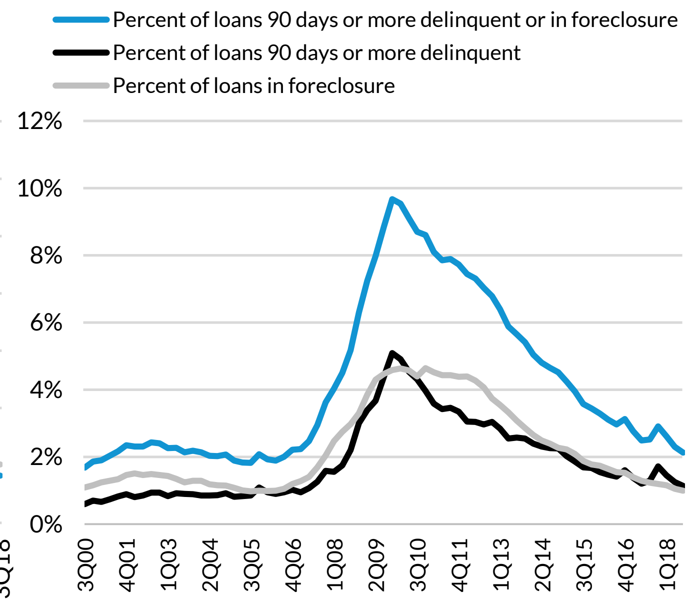
New loan modifications and liquidations have continued to decline. Since Q3, 2007, total loan modifications (HAMP and proprietary) are roughly equal to total liquidations. Hope Now reports show 8,491,929 borrowers have received a modification from Q3 2007 to Q2 2018, compared with 8,673,435 liquidations in the same period.

## Negative Equity Share



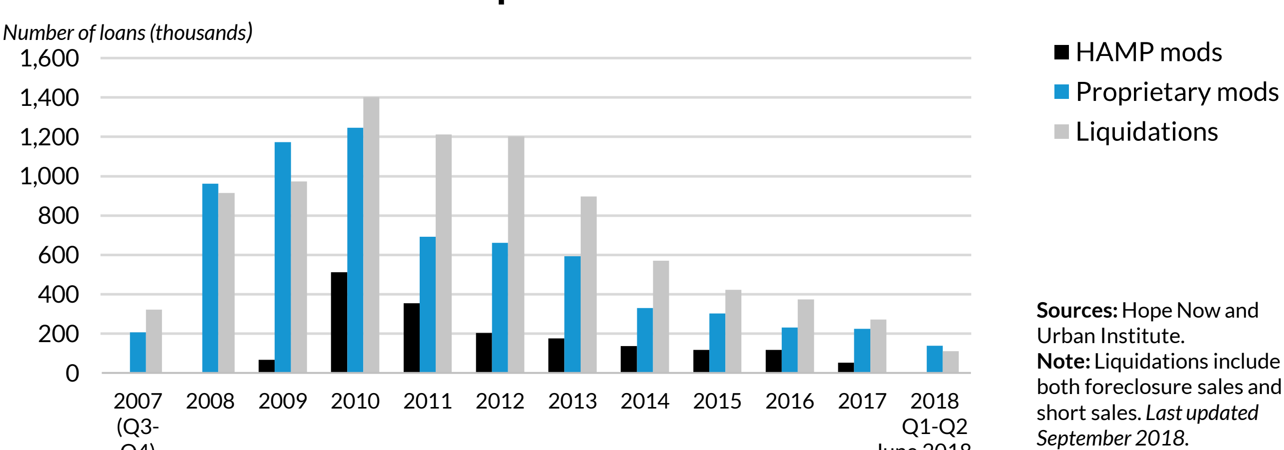

**Sources**: CoreLogic and Urban Institute.
**Note**: Loans with negative equity refer to loans above 100 percent LTV. Loans near negative equity refer to loans above 95 percent LTV. *Last updated December 2018.*

## Loans in Serious Delinquency/Foreclosure




**Sources**: Mortgage Bankers Association and Urban Institute. *Last updated November 2018.*

## Loan Modifications and Liquidations

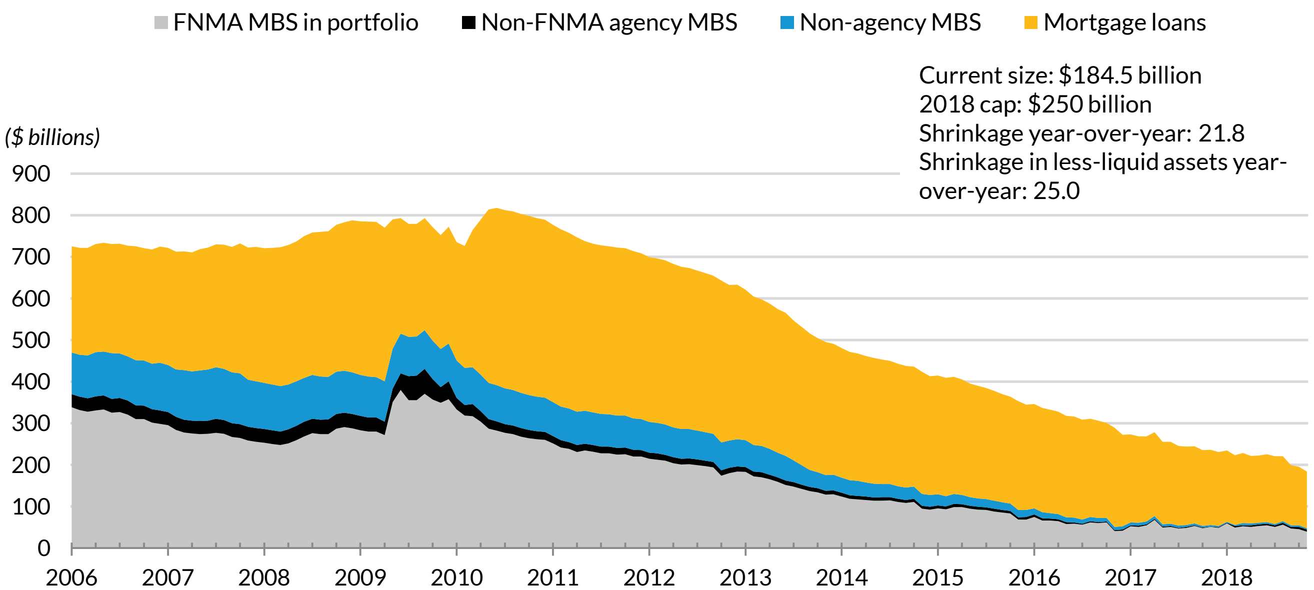



**Sources:** Hope Now and Urban Institute.
**Note:** Liquidations include both foreclosure sales and short sales. *Last updated September 2018.*

# GSE PORTFOLIO WIND-DOWN

Both GSEs continue to contract their retained portfolios. Since November 2017, Fannie Mae has contracted by 21.8 percent and Freddie Mac by 12.6 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 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.

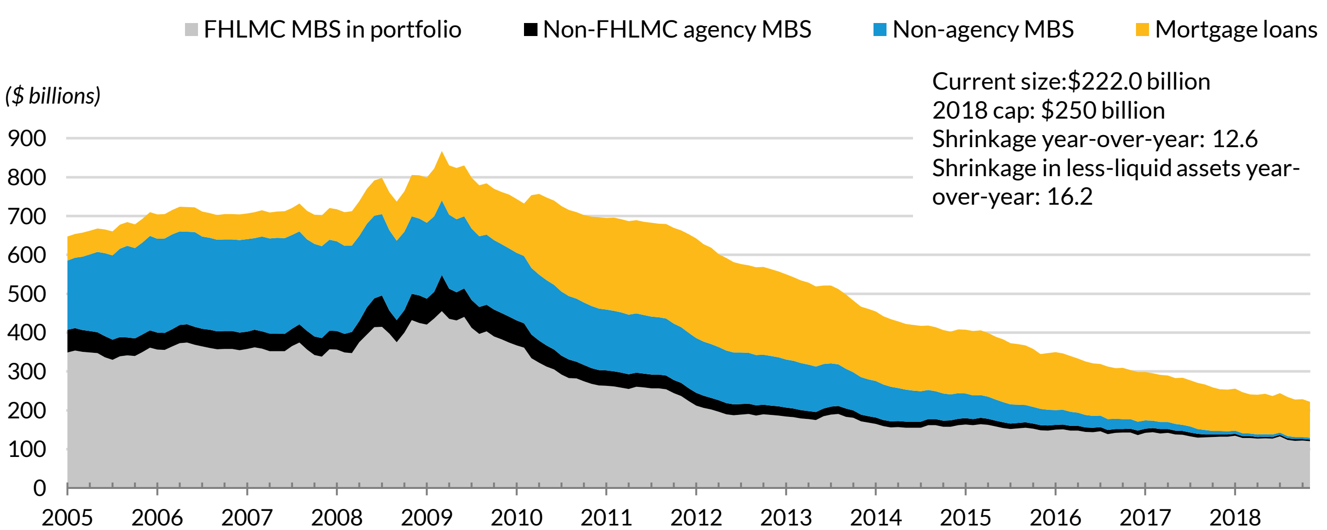
## Fannie Mae Mortgage-Related Investment Portfolio Composition




**Sources:** Fannie Mae and Urban Institute.

November 2018

## Freddie Mac Mortgage-Related Investment Portfolio Composition




**Sources:** Freddie Mac and Urban Institute.

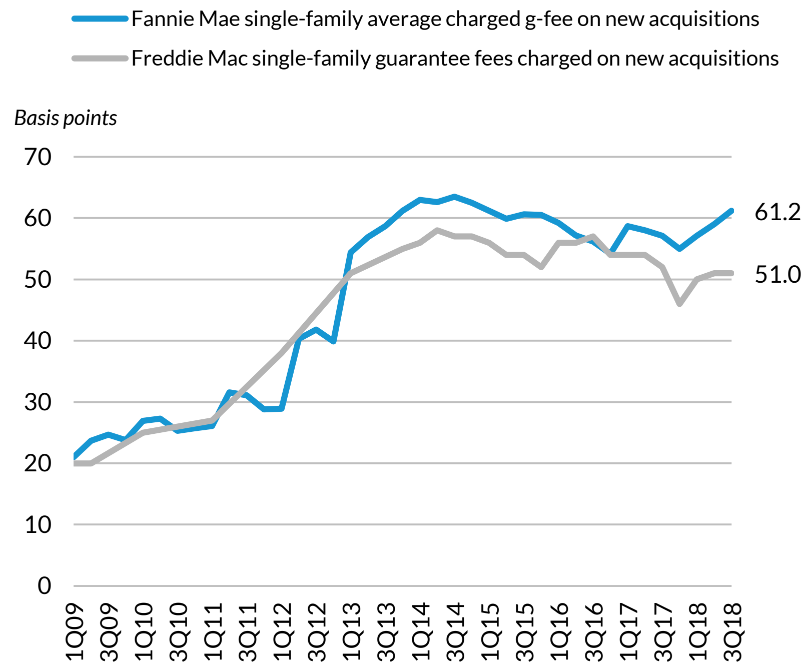
November 2018

# EFFECTIVE GUARANTEE FEES

## Guarantee Fees Charged on New Acquisitions

The latest 10-Q indicates that Fannie's average g-fees on new acquisitions increased from 59 to 61.2 bps in Q3 2018 while Freddie's remained at 51 bps. This is markedly higher than g-fee levels in 2011 and 2012, and has 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 November 2018.*




## 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 |
| > 740 | 0.00 | 0.25 | 0.25 | 0.50 | 0.25 | 0.25 | 0.25 | 0.75 |
| 720 – 739 | 0.00 | 0.25 | 0.50 | 0.75 | 0.50 | 0.50 | 0.50 | 1.00 |
| 700 – 719 | 0.00 | 0.50 | 1.00 | 1.25 | 1.00 | 1.00 | 1.00 | 1.50 |
| 680 – 699 | 0.00 | 0.50 | 1.25 | 1.75 | 1.50 | 1.25 | 1.25 | 1.50 |
| 660 – 679 | 0.00 | 1.00 | 2.25 | 2.75 | 2.75 | 2.25 | 2.25 | 2.25 |
| 640 – 659 | 0.50 | 1.25 | 2.75 | 3.00 | 3.25 | 3.75 | 2.75 | 2.75 |
| 620 – 639 | 0.50 | 1.50 | 3.00 | 3.00 | 3.25 | 3.25 | 3.25 | 3.50 |
| < 620 | 0.50 | 1.50 | 3.00 | 3.00 | 3.25 | 3.25 | 3.25 | 3.75 |
| **Product Feature (Cumulative)** | | | | | | | | |
| High LTV | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Investment Property | 2.125 | 2.125 | 2.125 | 3.375 | 4.125 | N/A | N/A | N/A |

**Sources**: Fannie Mae and Urban Institute.
**Note**: For whole loans purchased on or after September 1, 2015, or loans delivered into MBS pools with issue dates on or after September 1, 2015.

## 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 as well as 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 $1.148 trillion, while Freddie's STACR totals $1.079 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 | $213,944 | $6,690 | 3.1 |
| January 2017 | CAS 2017 – C01 | $43,758 | $1,351 | 3.1 |
| March 2017 | CAS 2017 – C02 | $39,988 | $1,330 | 3.3 |
| May 2017 | CAS 2017 – C03 | $41,246 | $1,371 | 3.3 |
| May 2017 | CAS 2017 – C04 | $30,154 | $1,003 | 3.3 |
| July 2017 | CAS 2017 – C05 | $43,751 | $1,351 | 3.1 |
| August 2017 | CAS 2017 – C06 | $31,900 | $1,101 | 3.5 |
| November 2017 | CAS 2017– C07 | $33,900 | $1,200 | 3.5 |
| 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 |
| **Total** | | **$1,148,172** | **$35,400** | **3.1** |

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

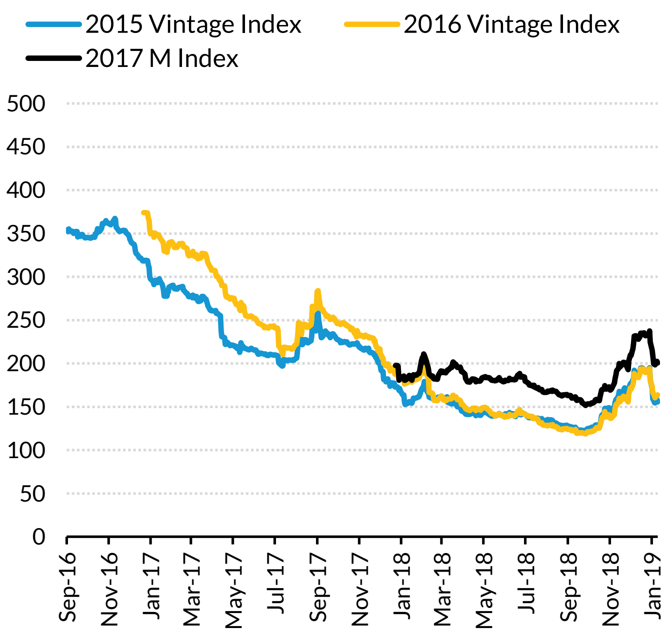
| *Date* | *Transaction* | *Reference Pool Size ($ m)* | *Amount Issued ($m)* | *of Reference Pool Covered* |
|---|---|---|---|---|
| 2013 | STACR 2013 deals | $57,912 | $1,130 | 2.0 |
| 2014 | STACR 2014 deals | $147,120 | $4,916 | 3.3 |
| 2015 | STACR 2015 deals | $209,521 | $6,658 | 3.2 |
| 2016 | STACR 2016 deals | $199,130 | $5,541 | 2.8 |
| January 2017 | STACR Series 2017 – DNA1 | $33,965 | $802 | 2.4 |
| February 2017 | STACR Series 2017 – HQA1 | $29,700 | $753 | 2.5 |
| April 2017 | STACR Series 2017 – DNA2 | $60,716 | $1,320 | 2.2 |
| June 2017 | STACR Series 2017 – HQA2 | $31,604 | $788 | 2.5 |
| September 2017 | STACR Series 2017 – DNA3 | $56,151 | $1,200 | 2.1 |
| October 2017 | STACR Series 2017 – HQA3 | $21,641 | $600 | 2.8 |
| December 2017 | STACR Series 2017 – HRP1 | $15,044 | $200 | 1.3 |
| 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 |
| **Total** | | **$1,079,085** | **$29,963** | **2.8** |

**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.

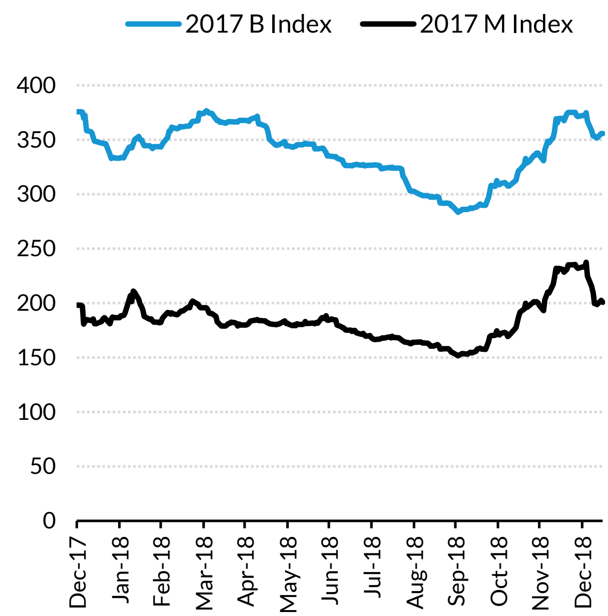
# GSE RISK-SHARING INDICES

Spreads on older CRT securities have narrowed considerably through time, despite occasional bouts of volatility. In late 2018, there was considerable spread widening, followed by a sharp spread narrowing in 2019, a pattern also seen in the corporate bond market. The figures below show the spreads on 2015, 2016 and 2017 indices, as priced by dealers. 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 indices contain both the bottom mezzanine tranche as well as the equity tranche (the B tranche), in all deals when the latter was sold.

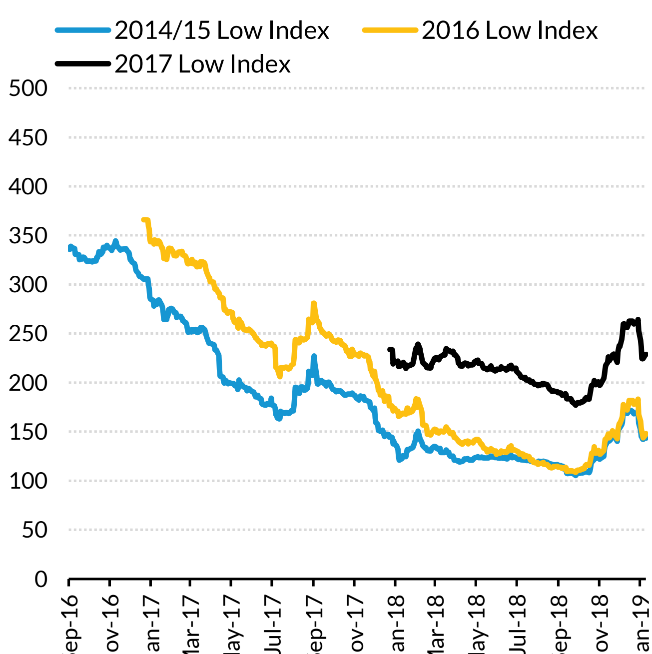
**By Vintage**



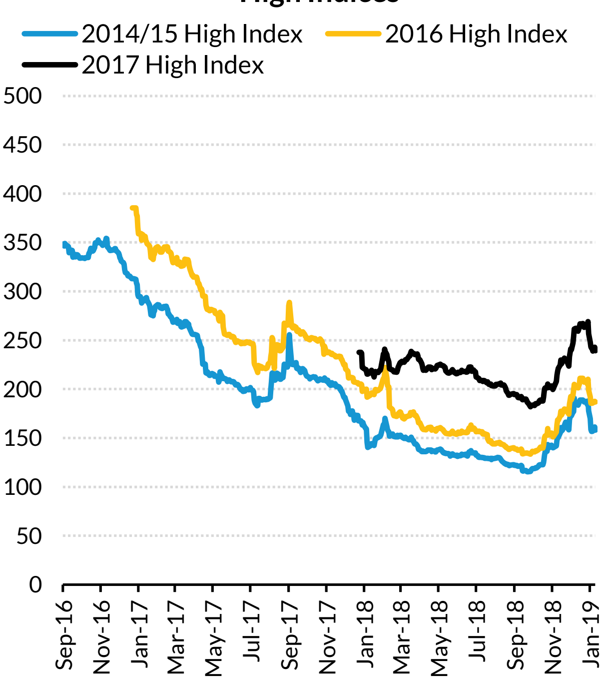

**2017 Indices**




**Low Indices**




**High Indices**



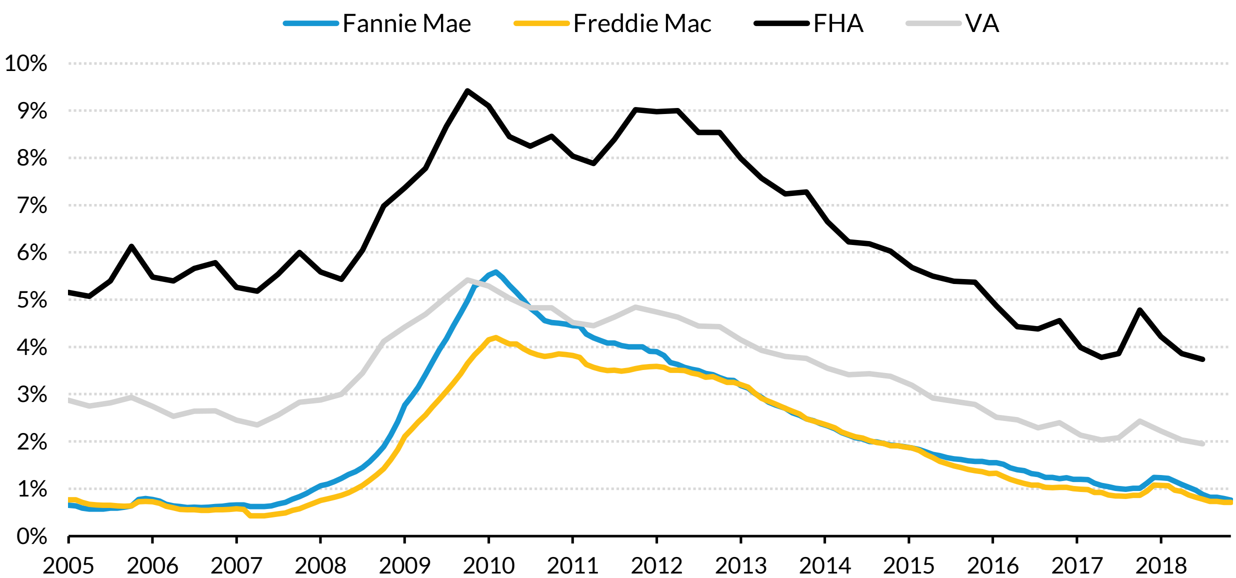

**Sources**: Vista Data Services and Urban Institute.
**Note**: Data as of January 15, 2018.

GSES UNDER CONSERVATORSHIP

# SERIOUS DELINQUENCY RATES

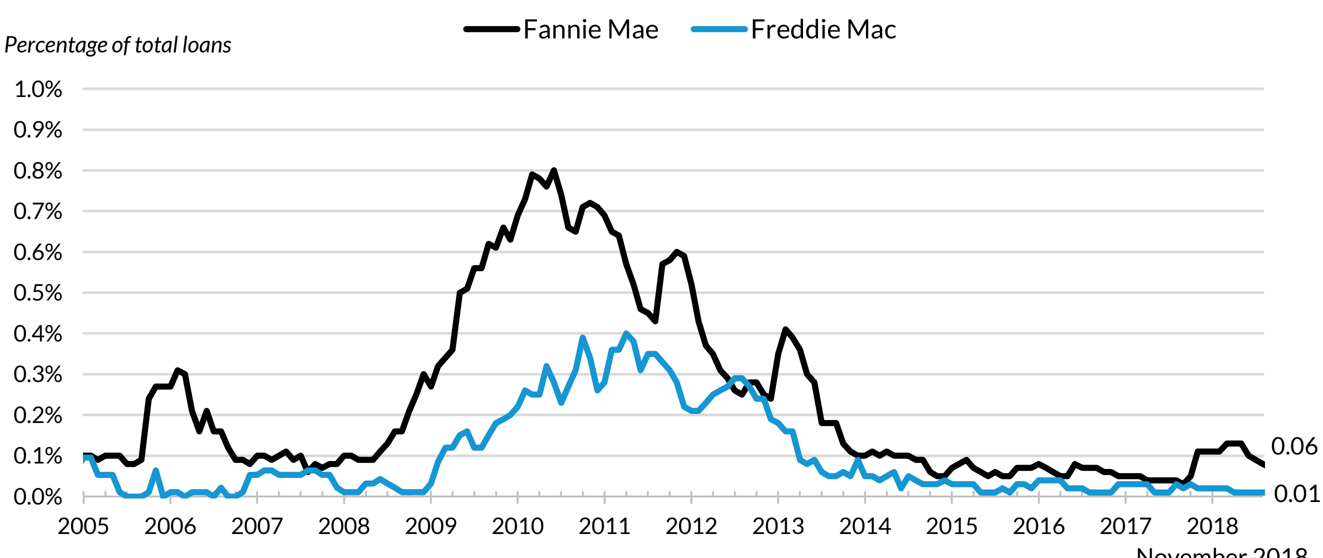
Serious delinquencies for single-family GSE, FHA, and VA loans continued their decline in recent months, after hurricane related uptick at the end of 2017. GSE delinquencies remain high relative to 2005-2007, while FHA and VA delinquencies (which are higher than their GSE counterparts) are at levels 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 November 2018. GSE delinquencies are reported monthly, last updated January 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 $1.195 trillion in 2018, down 10.3 percent year-over-year. When measured on a monthly basis, agency gross issuance year-over-year has been declining for 21 consecutive months since March 2017, reflecting higher mortgage rates. Net issuance (which excludes repayments, prepayments, and refinances on outstanding mortgages) totaled $261.6 billion in 2018, down 12.7 percent from 2017.

## 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 |
| 2018 Change YOY | -9.4% | -12.1% | -10.3% |

## Agency Net Issuance

| Issuance Year | GSEs | Ginnie Mae | Total |
|---|---|---|---|
| 2000 | $159.8 | $29.3 | $189.1 |
| 2001 | $368.4 | -$9.9 | $358.5 |
| 2002 | $357.2 | -$51.2 | $306.1 |
| 2003 | $334.9 | -$77.6 | $257.3 |
| 2004 | $82.5 | -$40.1 | $42.4 |
| 2005 | $174.2 | -$42.2 | $132.0 |
| 2006 | $313.6 | $0.2 | $313.8 |
| 2007 | $514.9 | $30.9 | $545.7 |
| 2008 | $314.8 | $196.4 | $511.3 |
| 2009 | $250.6 | $257.4 | $508.0 |
| 2010 | -$303.2 | $198.3 | -$105.0 |
| 2011 | -$128.4 | $149.6 | $21.2 |
| 2012 | -$42.4 | $119.1 | $76.8 |
| 2013 | $69.1 | $87.9 | $157.0 |
| 2014 | $30.5 | $61.6 | $92.1 |
| 2015 | $75.1 | $97.3 | $172.5 |
| 2016 | $135.5 | $126.1 | $261.6 |
| 2017 | $168.5 | $131.3 | $299.7 |
| 2018 | $147.7 | $113.9 | $261.6 |
| 2018 Change YOY | -12.3% | -13.3% | -12.7% |



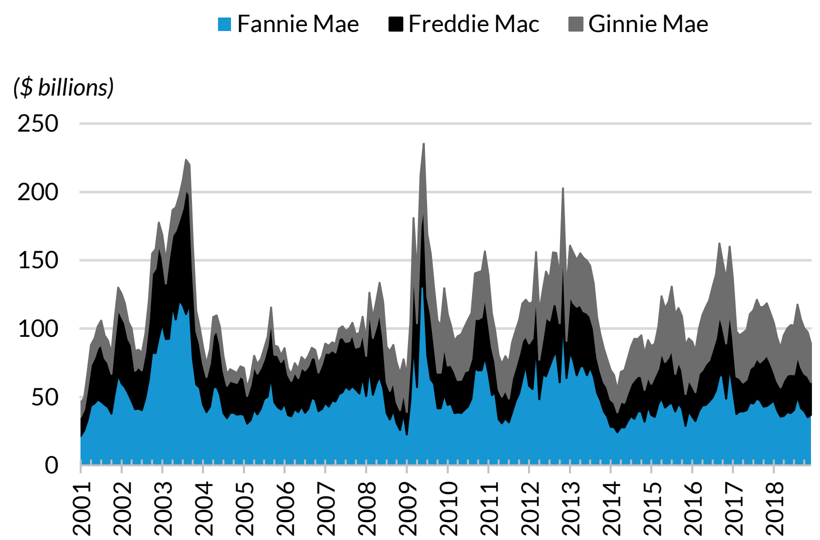
**Sources:** eMBS and Urban Institute.
**Note:** Dollar amounts are in billions. Data as of December 2018. Year-over-year change is for the full year 2018.

## 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% to 31.9 percent in December 2018, reflecting origination increases via FHA and VA. Ginnie's share was also assisted by rising rates since late 2016. Higher rates have curtailed GSE refi volume much more than Ginnie's, boosting Ginnie Mae's share of issuances.

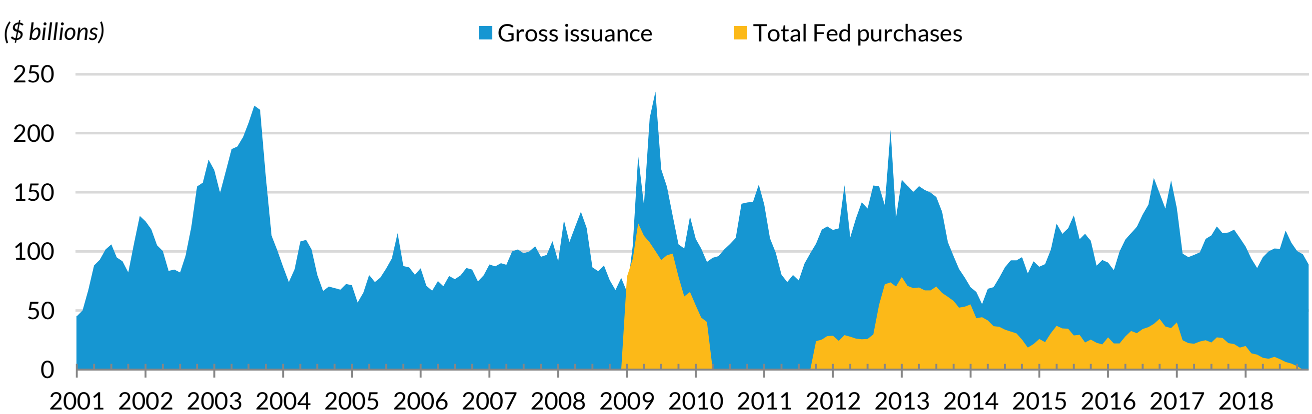



**Sources**: eMBS, Federal Reserve Bank of New York, and Urban Institute.

December 2018

## Fed Absorption of Agency Gross Issuance

The Fed has begun to wind down their portfolio, and we are beginning to see the effects in slower absorption rates. During the period October 2014-September 2017, the Fed had 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. With the wind down, which started in October 2017, the Fed has continued to reinvest, but by less than prepayment and repayments. The amount of the MBS taper (amount permitted to run off each month) hit the $20 billion cap under the current policy in October 2018. Since then the amount of Fed purchases has been tiny; in December total Fed purchases totaled $288 million, corresponding to Fed absorption of gross issuance of 0.32 percent.




December 2018

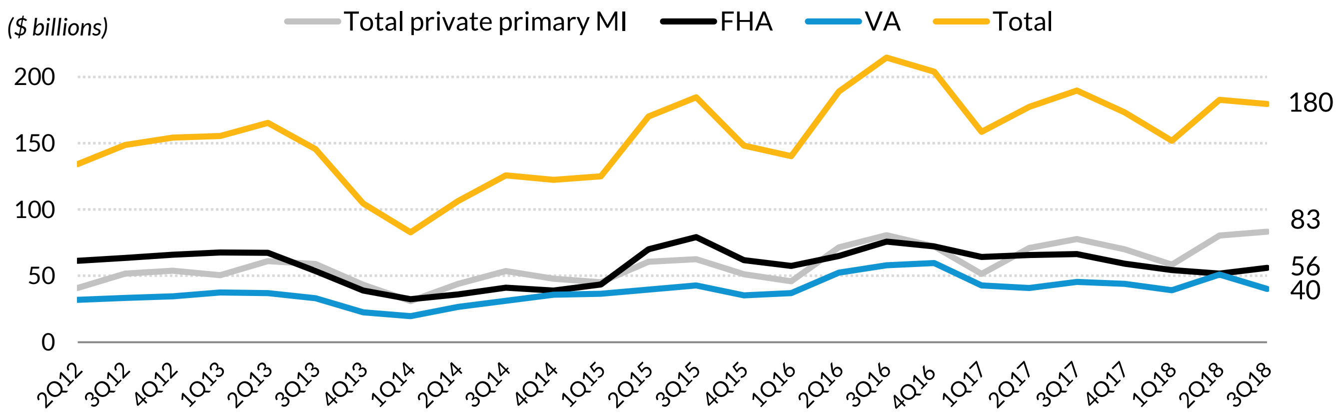
**Sources:** eMBS, Federal Reserve Bank of New York and Urban Institute.

AGENCY ISSUANCE

# MORTGAGE INSURANCE ACTIVITY

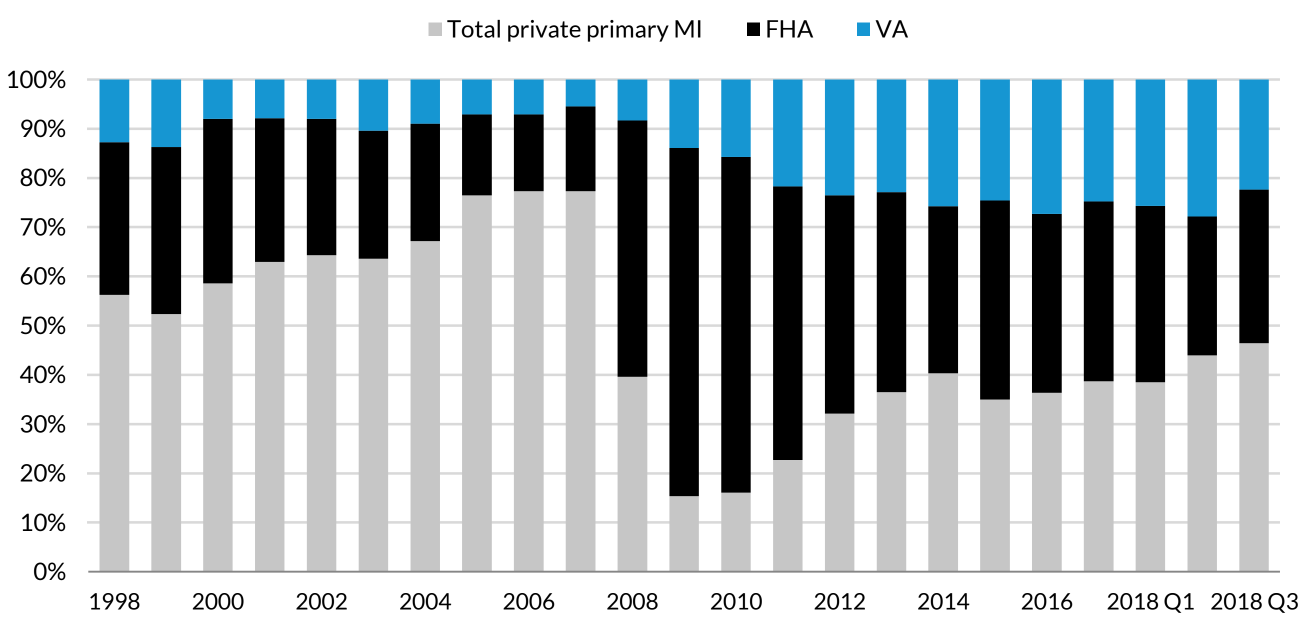
## MI Activity

Mortgage insurance activity via the FHA, VA and private insurers declined from $183 billion in Q3 2017 to $180 billion in Q3 2018, or 1.6 percent. In the third quarter of 2018, private mortgage insurance increased by $2.95 billion, FHA increased by $4.53 billion, while VA decreased by $10.7 billion from the previous quarter. In the third quarter of 2018, the VA share fell from 27.8 percent to 22.4 percent, while the FHA share rose from 28.2 percent to 31.2 percent and the private mortgage insurers share grew from 44.0 percent to 46.4 percent, compared to the previous quarter.




**Sources:** Inside Mortgage Finance and Urban Institute. *Last updated November 2018.*

## MI Market Share




**Sources:** Inside Mortgage Finance and Urban Institute. *Last updated November 2018.*

## AGENCY ISSUANCE

# MORTGAGE INSURANCE ACTIVITY

FHA premiums rose significantly in the years following the housing crash, with annual premiums rising 170 percent from 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 high LTV borrowers. 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 740 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 | 5.16 |
| FHA | 5.08 |

| 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 | 2.25 | 2.05 | 1.90 | 1.40 | 1.15 | 0.95 | 0.75 | 0.55 |
| Monthly Payment | | | | | | | | |
| FHA | $1,501 | $1,501 | $1,501 | $1,501 | $1,501 | $1,501 | $1,501 | $1,501 |
| PMI | $1,877 | $1,814 | $1,768 | $1,645 | $1,595 | $1,540 | $1,492 | $1,452 |
| PMI Advantage | ($376) | ($313) | ($268) | ($145) | ($94) | ($39) | $9 | $49 |

**Sources:** Genworth Mortgage Insurance, Ginnie Mae, and Urban Institute.
**Note**: Mortgage insurance premiums listed in percentage points. Grey shade indicates FHA monthly payment is more favorable, while light 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.

## RELATED HFPC WORK
# PUBLICATIONS AND EVENTS

***Upcoming events:***
**January 30:** Barriers to Accessing Homeownership

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The Mortgage Servicing Collaborative

Housing Credit Availability Index (HCAI)

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Home Mortgage Disclosure Act Projects

***Publications***

**The Continued Impact of the Housing Crisis on Self-Employed Households**
**Authors:** Karan Kaul, Laurie Goodman, Jun Zhu
**Date:** December 17, 2018

**Analysis of the FHFA Proposal on Enterprise Capital**
**Authors:** Edward Golding, Laurie Goodman, Jun Zhu
**Date:** November 28, 2018

**The Community Reinvestment Act Lending Data Highlights**
**Authors:** Laurie Goodman, Jun Zhu, John Walsh
**Date:** November 27, 2018

**The Case for Uniform Mortgage Servicing Data Standards**
**Authors:** Karan Kaul, Laurie Goodman, Alanna McCargo, Todd Hill-Jones
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**Intergenerational Homeownership**
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**Barriers to Accessing Homeownership 2018**
**Authors:** Laurie Goodman, Alanna McCargo, Edward Golding, Bing Bai, Sarah Strochak
**Date:** September 20, 2018

**A Progress Report on Fannie Mae and Freddie Mac's Move to a Single Security**
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**Date:** August 7, 2018

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***Blog Posts***

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**Authors:** Jung Hyun Choi, Laurie Goodman
**Date:** November 20, 2018

**Buy young, earn more: Buying a house before age 35 gives homeowners more bang for their buck**
**Authors:** Jung Hyun Choi, Laurie Goodman
**Date:** November 8, 2018

**Cash-out refinancing is on the rise again. Here's why we aren't worried**
**Authors:** Laurie Goodman, Sarah Strochak, Edward Golding
**Date:** October 29, 2018

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