HOUSING FINANCE POLICY CENTER

HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

December 2018

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 your support

As we publish our last chartbook of 2018, and our 63rd chartbook since inception, we wanted to say thank you to our readers for your continued support of our work. By using and sharing our data and analysis, you've helped us ensure that evidence and facts make their way into discussions and decisions about housing finance.

We also want to recognize the support of our founding funders including the Citi Foundation, the John D. and Catherine T. MacArthur Foundation, the Ford Foundation, the Open Society Foundations and the members of the **Housing Finance Innovation Forum**, a group of organizations and individuals that support high-quality independent research that informs evidence-based policy development. Without their generosity, this work would not be possible.

For quick reference, here's a quick summary of the work the Urban Institute's Housing Finance Policy Center produced in 2018 and a look ahead to our research plans for 2019.

In 2018, we produced:
- 49 blog posts
- 31 research publications
- 12 monthly data chartbooks
- 12 monthly Global Markets Analysis reports
- An updated interactive feature on barriers to homeownership
- An updated interactive US Home Mortgage Disclosure Act map
- 7 data-focused public presentations
- 4 updates to our Housing Credit Availability Index

Our focus was on critical matters in the mortgage market, including:
- Millennial homeownership
- Barriers to access and affordability of housing in the US
- Recognizing the 50 year anniversary of Fair Housing Act and challenges for black homeownership
- The benefits and challenges of manufactured housing
- The lacking small-dollar mortgage market
- Where renters an afford to own homes
- Streamlined modifications
- The benefits of homeownership
- Key issues in mortgage servicing

We provided valuable evidence on emerging issues and policy, including:
- The effects of tax reform on housing costs
- The role of fintech in increasing access to credit
- FHFA's credit scoring update efforts
- Replacing the GSE QM patch
- Efforts to revise the Community Reinvestment Act
- Proposed changes to the GSE capital standards
- The reemergence of cash-out refinancing
- The health of the Federal Housing Administration
- Impact of the housing crisis on self-employed households

We are looking ahead to 2019, when we will continue to analyze ongoing issues critical to the health of the housing market, and respond quickly to emerging trends. Among other things, expect to see work from us on these topics in 2019:
- The housing supply shortage
- Addressing the housing needs of the growing population of seniors
- The ongoing housing finance reform debate
- New leadership at the FHFA
- The evolving role of fintech in the mortgage market
- Increasing and sustaining minority homeownership

Please continue to use and share our work. Thank you for your support!

Laurie Goodman and Alanna McCargo
Co-Vice Presidents, Housing Finance Policy Center

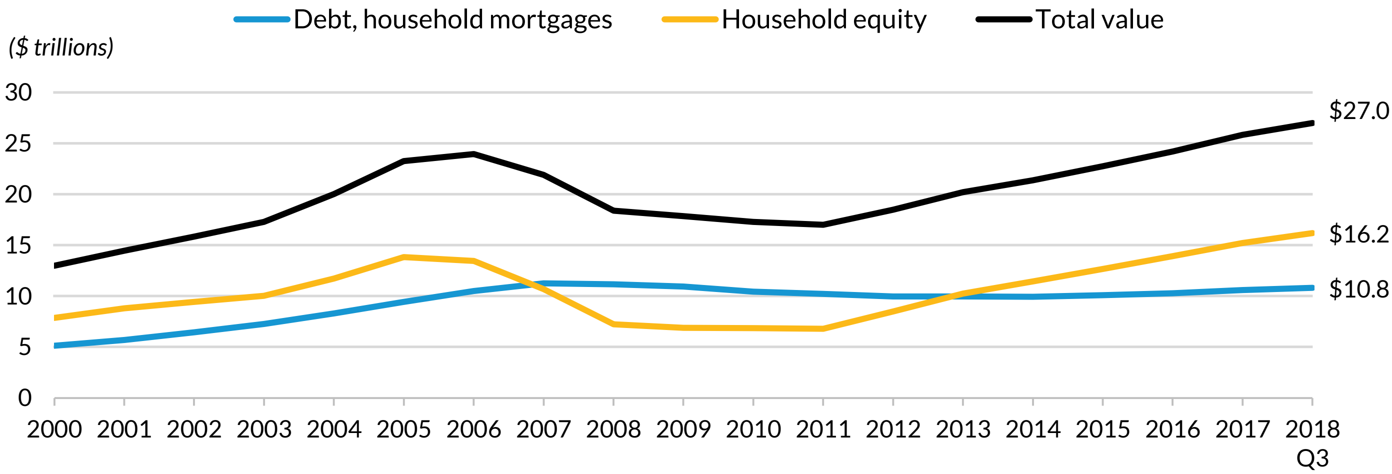
INSIDE THIS ISSUE
- The total value of the housing market increased to $27.0 trillion in Q3 2018, with household equity reaching a new high of $16.2 trillion (page 6).
- The nonbank originator share declined for Fannie Mae and Freddie Mac this month, but remained near the historical high for Ginnie Mae (page 12).
- The share of loans in negative equity continued to decline to 4.1 percent in Q3 2018 (page 22).

OVERVIEW

MARKET SIZE OVERVIEW

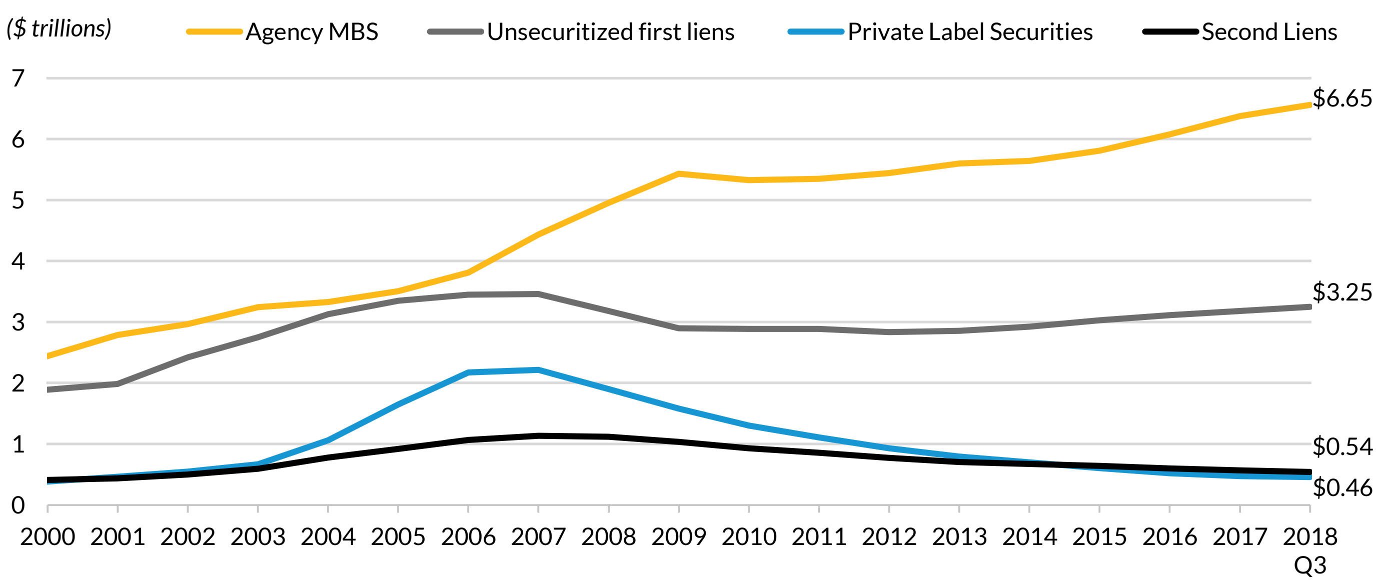
The Federal Reserve's Flow of Funds report has consistently indicated an increasing total value of the housing market driven by growing household equity since 2012, and 2018 Q3 was no different. While total debt and mortgages was steady at $10.8 trillion, household equity reached a new high of $16.2 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 market, private-label securities make up 4.2 percent, and unsecuritized first liens at the GSEs, commercial banks, savings institutions, and credit unions make up 30.07 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



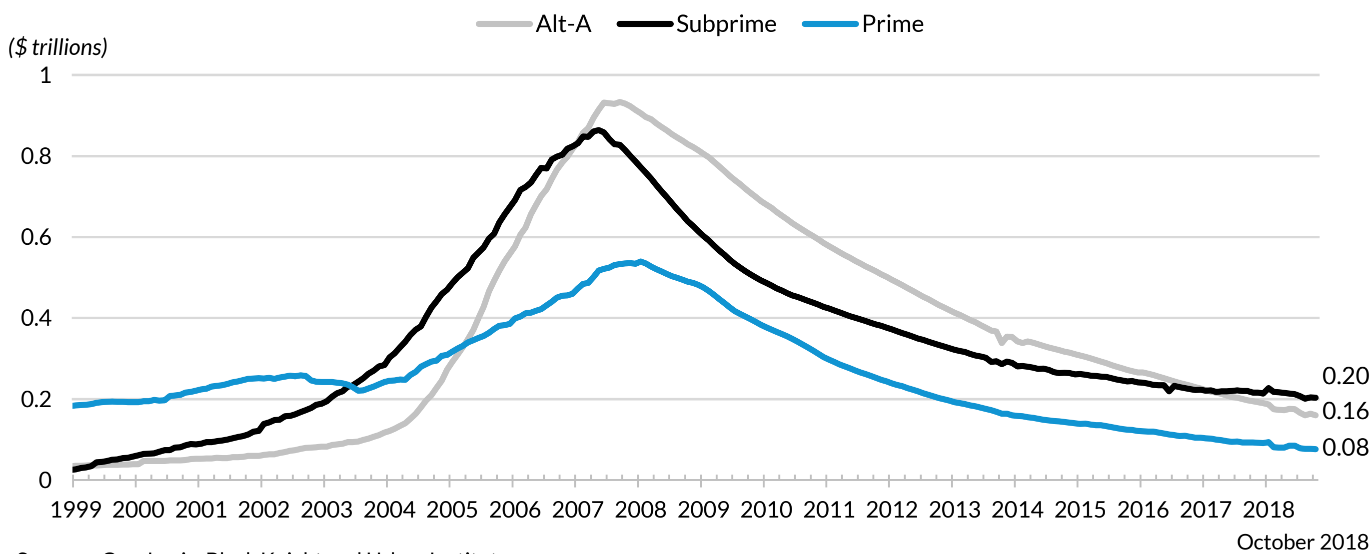
Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute. *Last updated December 2018.* **Note:** Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions.

OVERVIEW

MARKET SIZE OVERVIEW

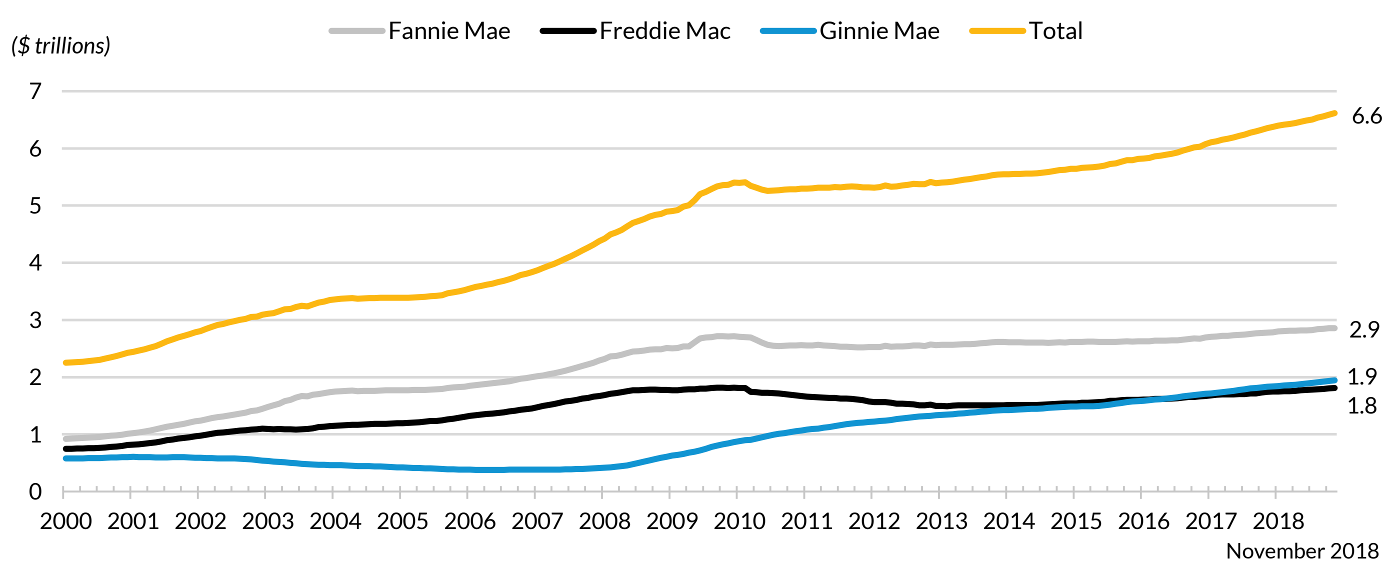
As of October 2018, debt in the private-label securitization market totaled $439 billion and was split among prime (17.4 percent), Alt-A (36.4 percent), and subprime (46.2 percent) loans. In November 2018, outstanding securities in the agency market totaled $6.6 trillion and were 43.2 percent Fannie 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



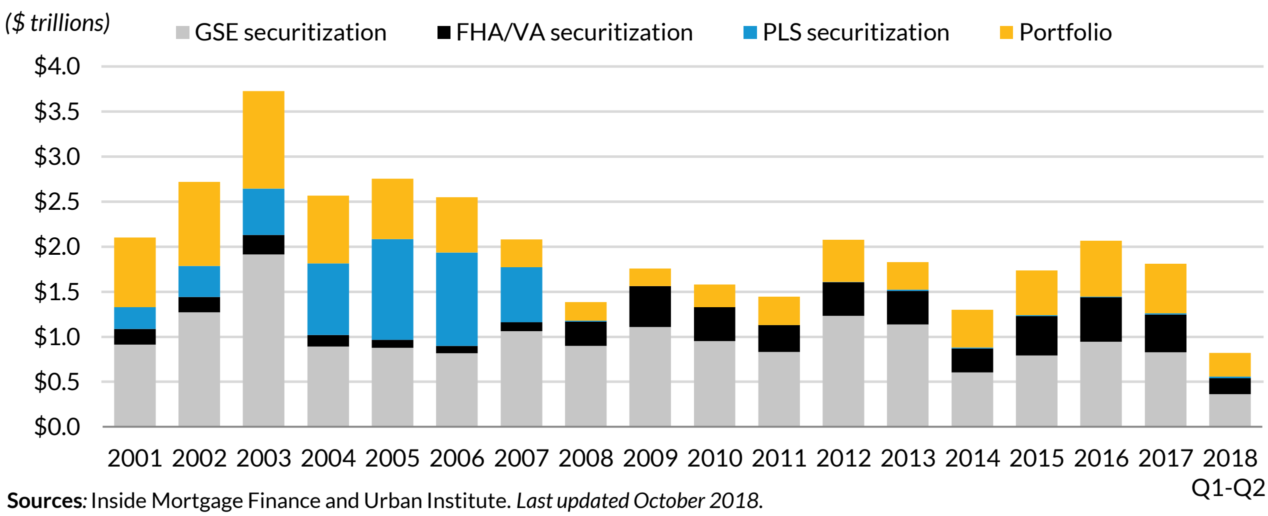
Sources: eMBS and Urban Institute.

OVERVIEW

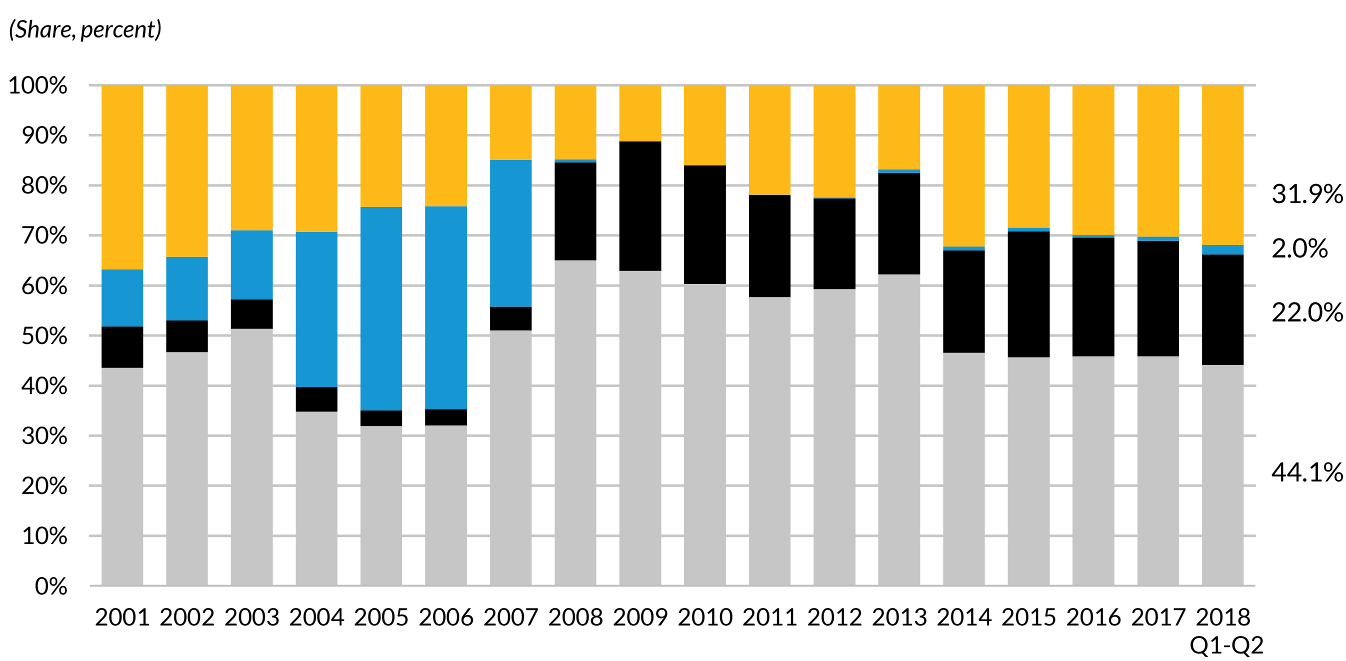
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

First lien originations totaled $820 billion in H1 2018, down slightly from the same period in 2017, mostly due to higher interest rates. The share of portfolio originations was 32 percent in the first half of 2018, up from 30 percent in 2017. The GSE share was around 44 percent, down from 46 percent in 2017. The FHA/VA share was slightly down: 22 percent for H1 2018 versus 23 percent in 2017. Origination of private-label securities was under just under 2 percent, higher than the 2017 share of 0.6 percent.



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

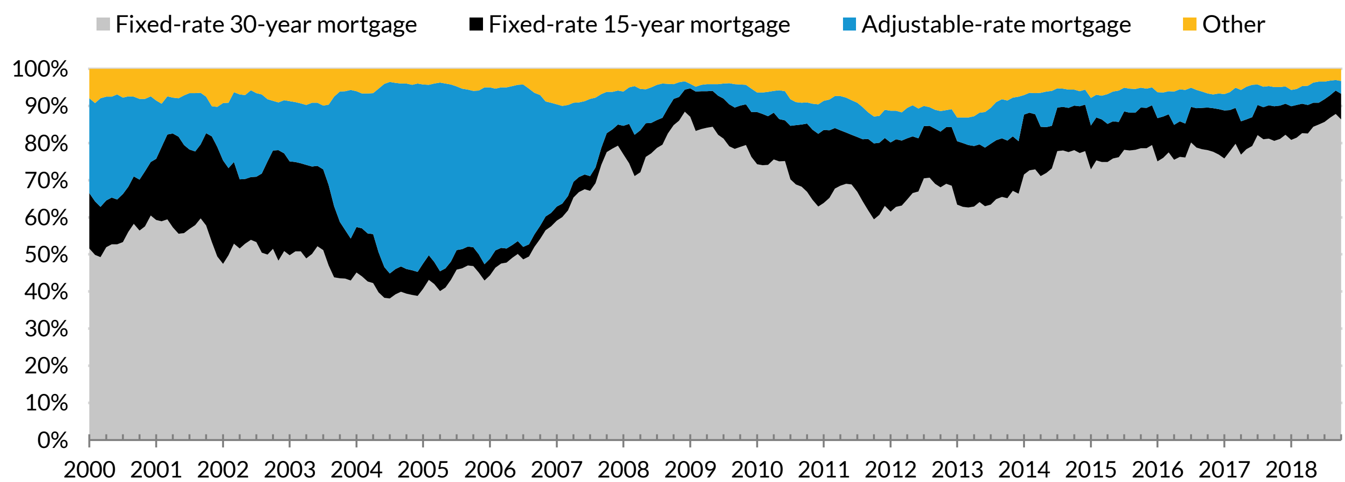


Sources*:* Inside Mortgage Finance and Urban Institute. *Last updated October 2018.*

MORTGAGE ORIGINATION PRODUCT TYPE

Adjustable-rate mortgages (ARMs) accounted for as much as 52 percent of all new originations during the peak of the 2005 housing bubble (top chart). The ARMs fell to an historic low of 1 percent in 2009, and then slowly grew to a high of 12 percent in December 2013. Since then, ARMs have declined to 3.5 percent in October 2018. The 15-year fixed-rate mortgage (FRM), predominantly a refinance product, accounted for 6.9 percent of new originations in October 2018. If we exclude refinances (bottom chart), the share of 30-year FRMs in October 2018 stood at 92.0 percent, 15-year FRMs at 3.6 percent, and ARMs at 3.2 percent.

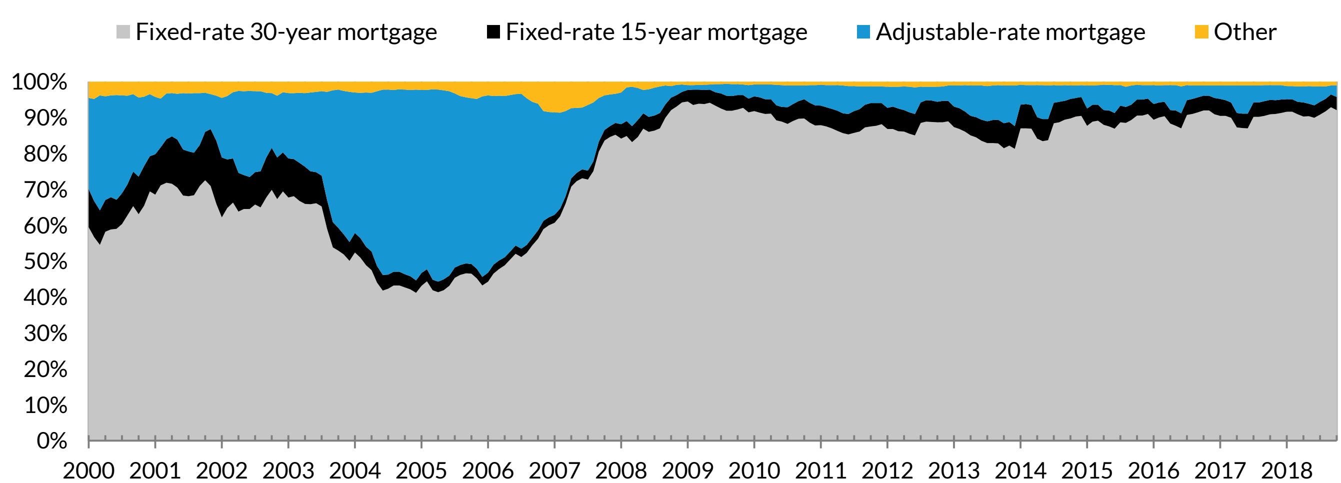
All Originations



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

October 2018

Purchase Loans Only



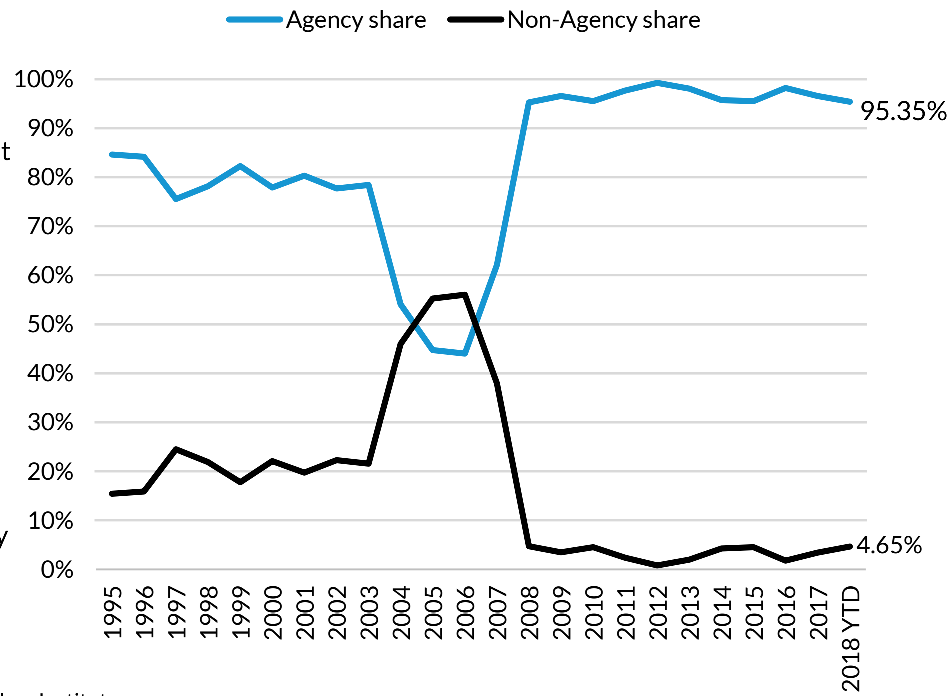
Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.

October 2018

SECURITIZATION VOLUME AND COMPOSITION

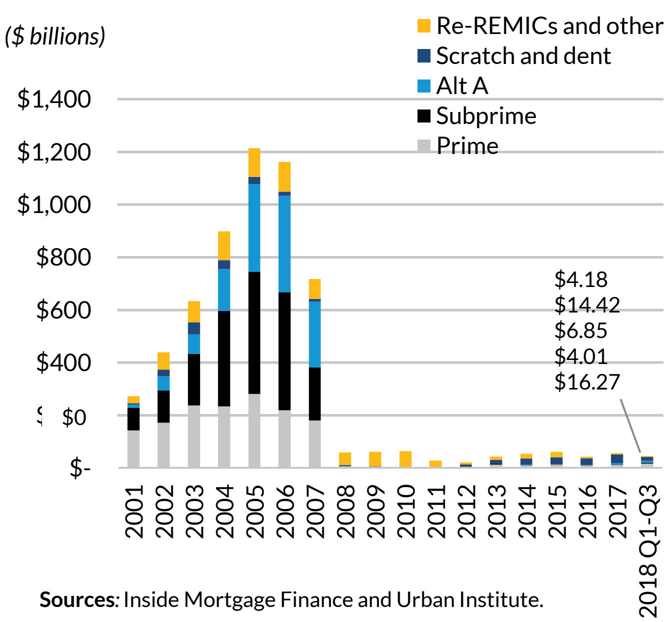
Agency/Non-Agency Share of Residential MBS Issuance

The non-agency share of mortgage securitizations in the first eleven months of 2018 was 4.7 percent, above the 3.4 percent share in 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.



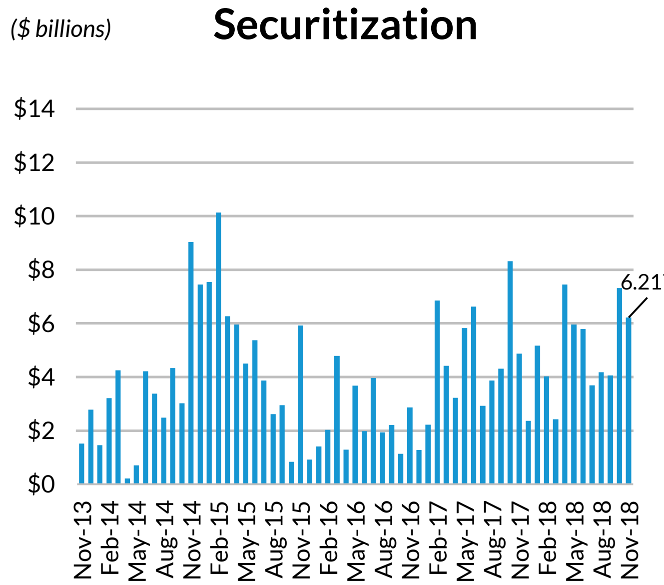
Sources: Inside Mortgage Finance and Urban Institute.
Note: Based on data from November 2018.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization

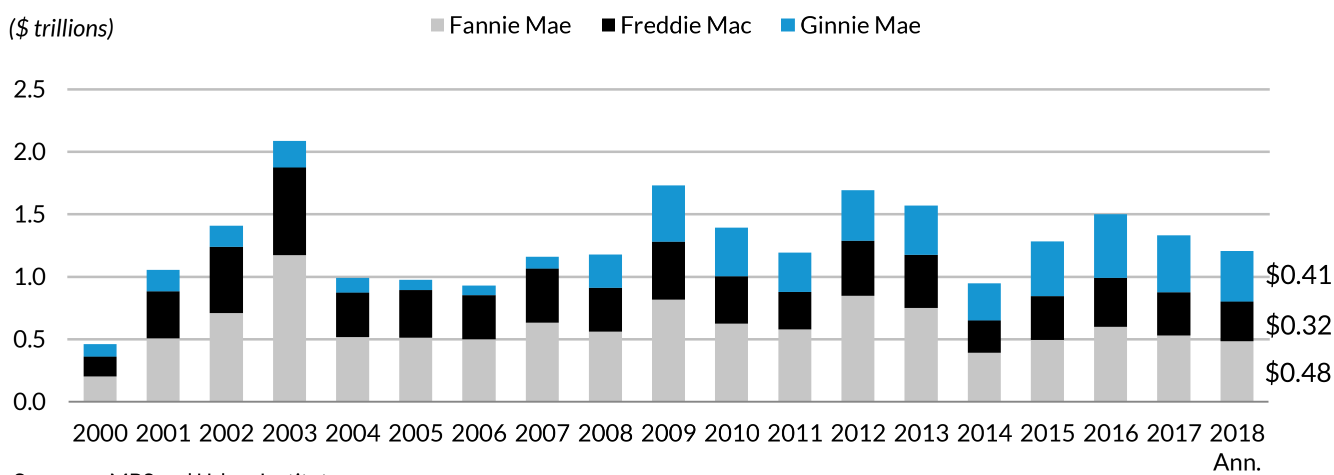


Sources: Inside Mortgage Finance and Urban Institute.

AGENCY ACTIVITY: VOLUMES AND PURCHASE/ REFI COMPOSITION

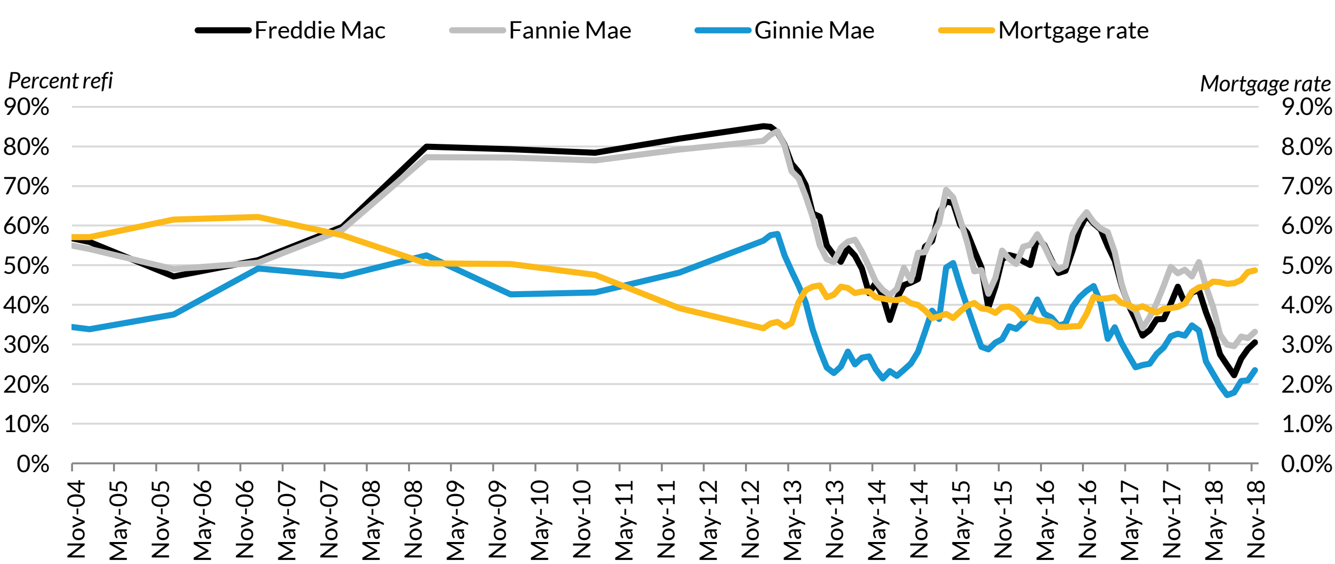
Agency issuance totaled $1.106 trillion in the first eleven months of 2018, $1.207 trillion on an annualized basis. This is down about 9.4 percent from the same period of 2017. The refi share for all three agencies has been falling sharply due to rising interest rates and seasonal upticks in purchase activity through the first eight months of 2018. With the end of the summer surge in purchase activity, the refi is stabilizing to increasing slightly. The refi share increased for all three agencies in November 2018.

Agency Gross Issuance



Sources: eMBS and Urban Institute.
Note: Annualized figure based on data from November 2018.

Percent Refi at Issuance

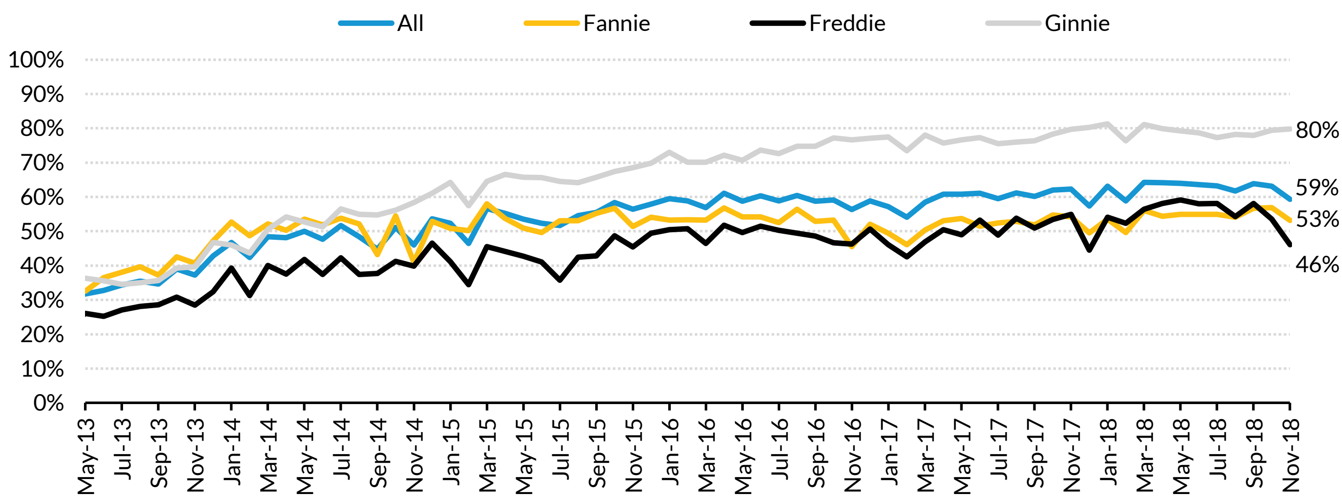


Sources: eMBS and Urban Institute.
Note: Based on at-issuance balance. Figure based on data from November 2018.

OVERVIEW
NONBANK ORIGINATION SHARE

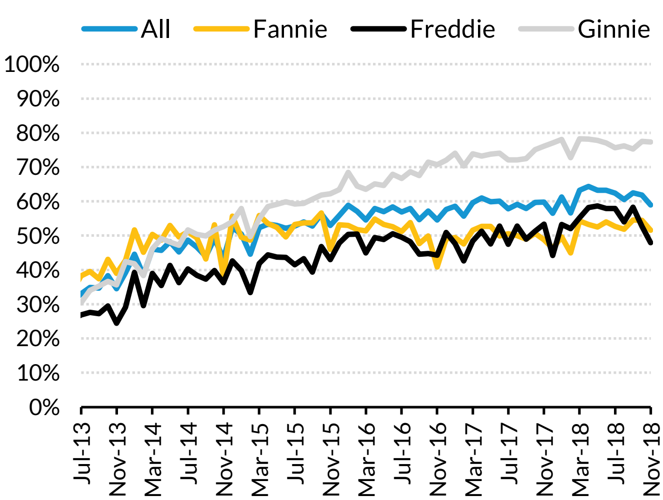
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 80 percent in November 2018. Despite the multi-year trend toward an increasing nonbank share, the Fannie Mae and Freddie Mac nonbank shares both fell in November, standing at 53 and 46 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



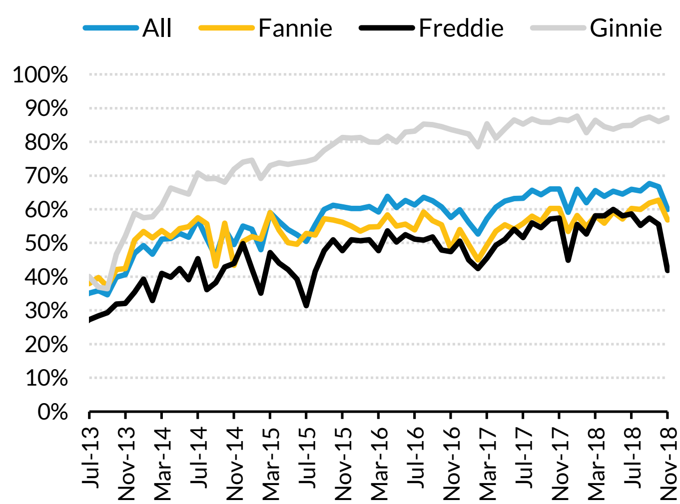
Sources: *eMBS and Urban Institute.*

Nonbank Origination Share: Purchase Loans



Sources: *eMBS and Urban Institute.*

Nonbank Origination Share: Refi Loans

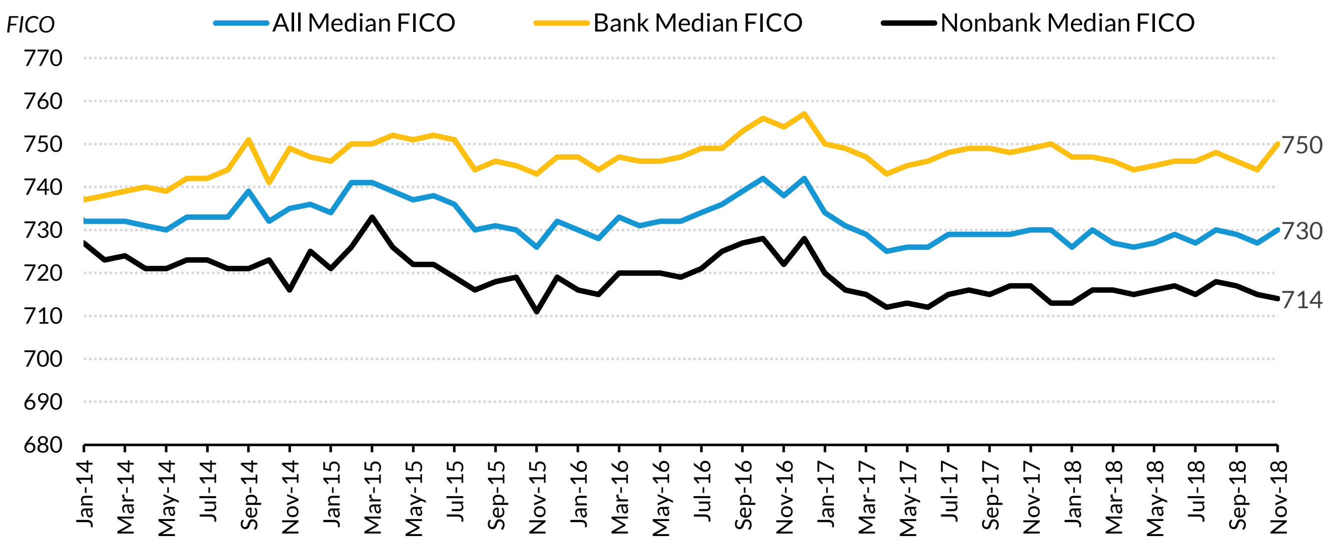


Sources: *eMBS and Urban Institute.*

OVERVIEW
NONBANK CREDIT BOX

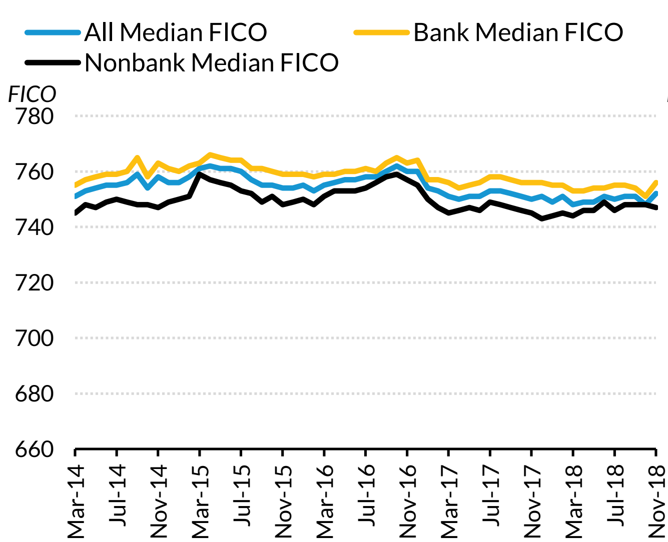
Nonbank originators have played a key role in opening up access to credit. The median GSE and the median Ginnie Mae FICO scores for loans originated by nonbanks are lower than their bank counterparts. Within the GSE space, bank FICOs have declined slightly since 2014 and nonbank FICOs are roughly constant. 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



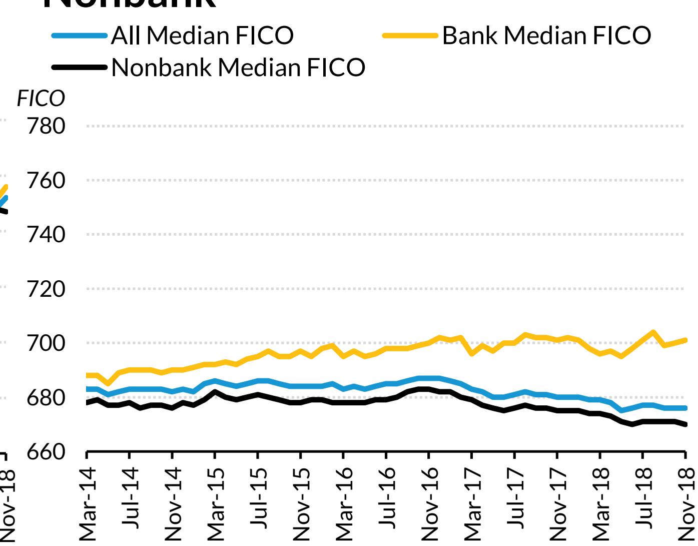
Sources: *eMBS and Urban Institute.*

GSE FICO: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

Ginnie Mae FICO: Bank vs. Nonbank



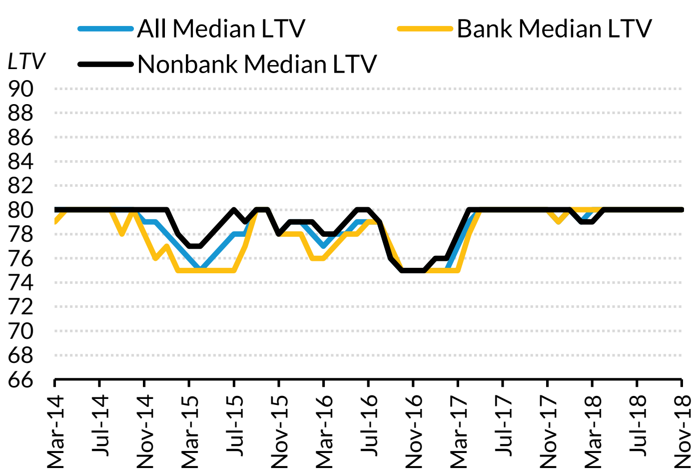
Sources: *eMBS and Urban Institute.*

OVERVIEW

NONBANK CREDIT BOX

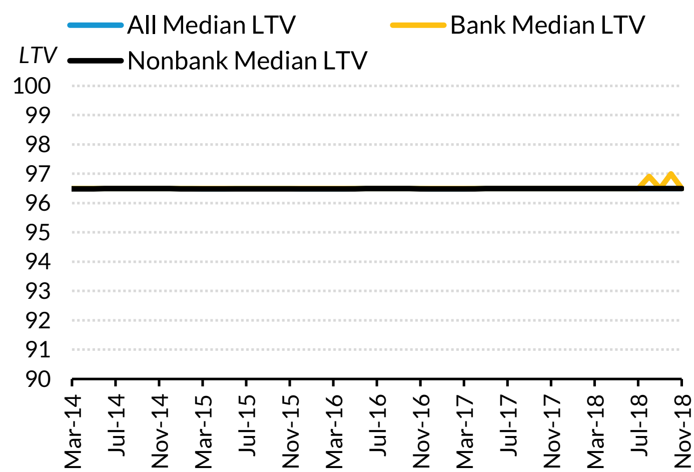
The median LTV ratios for loans originated by nonbanks are similar to their bank counterparts, while the median DTIs for nonbank loans are higher, indicating that nonbanks are more accommodating in this dimension as well as in the FICO dimension. Since early 2017 there has been a measurable increase in DTIs. This is true for both Ginnie Mae and GSE loans, banks and nonbank originators. 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



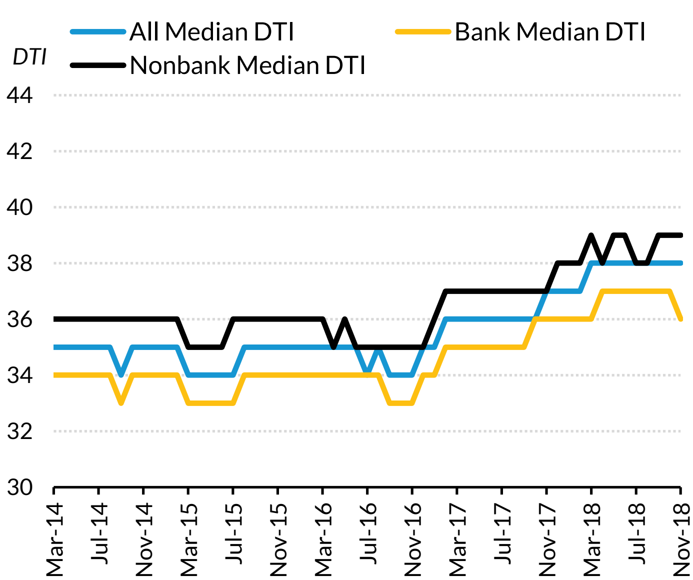
Sources: *eMBS and Urban Institute.*

Ginnie Mae LTV: Bank vs. Nonbank



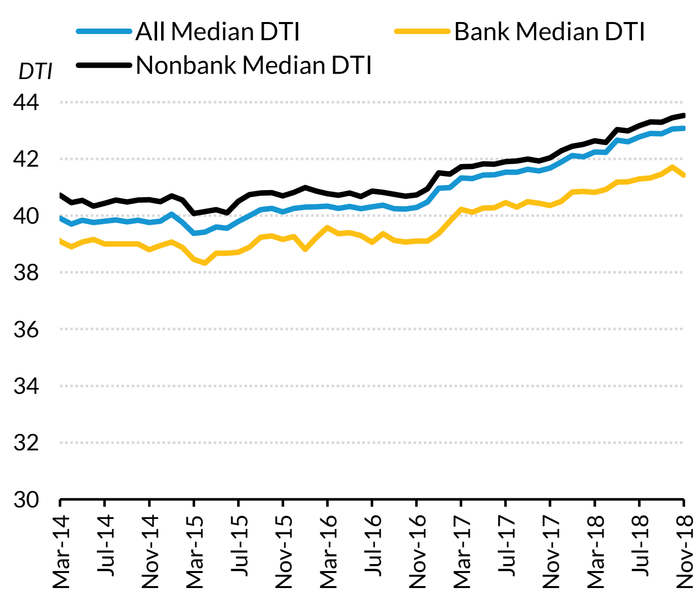
Sources: *eMBS and Urban Institute.*

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 MBA all forecast origination volume in 2018 to be lower than the 1.7-1.8 trillion in 2017. 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. Fannie, Freddie and MBA all forecast 2018 housing starts to be around 1.3 million units, up from a 1.2 million units in 2017. Home sales forecasts for 2018 are around 6.1 million, down a smidge from 2017 levels.

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	419	454	443	24	28	24
2018 Q4	388	372	370	27	24	27
2019 Q1	321	415	328	32	24	28
2019 Q2	442	437	443	23	23	22
2019 Q3	437	429	450	24	24	22
2019 Q4	404	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	1627	1655	1636	28	30	28
FY 2019	1605	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%.

Housing Starts and Homes Sales

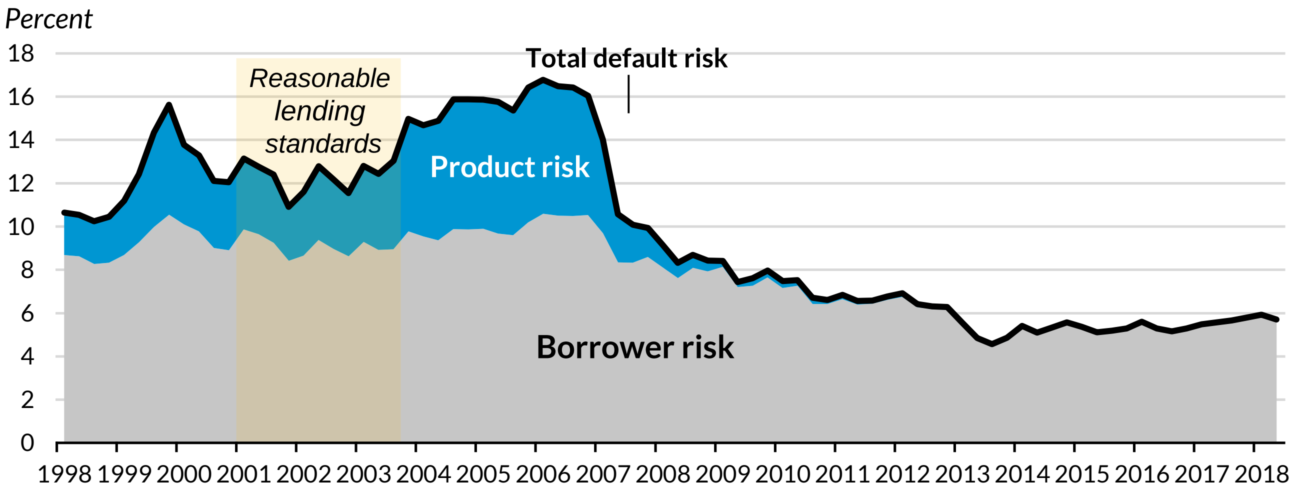
Year	Housing Starts, thousands			Home Sales. thousands				
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Existing, MBA estimate	New, MBA Estimate
FY 2014	1003	1000	1001	5377	5380	5360	4920	440
FY 2015	1112	1110	1108	5751	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	1273	5975	6140	6065	5424	641
FY 2019	1265	1400	1305	5984	6360	6277	5613	664

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.

CREDIT AVAILABILITY AND ORIGINATOR PROFITABILITY

Housing Credit Availability Index (HCAI)

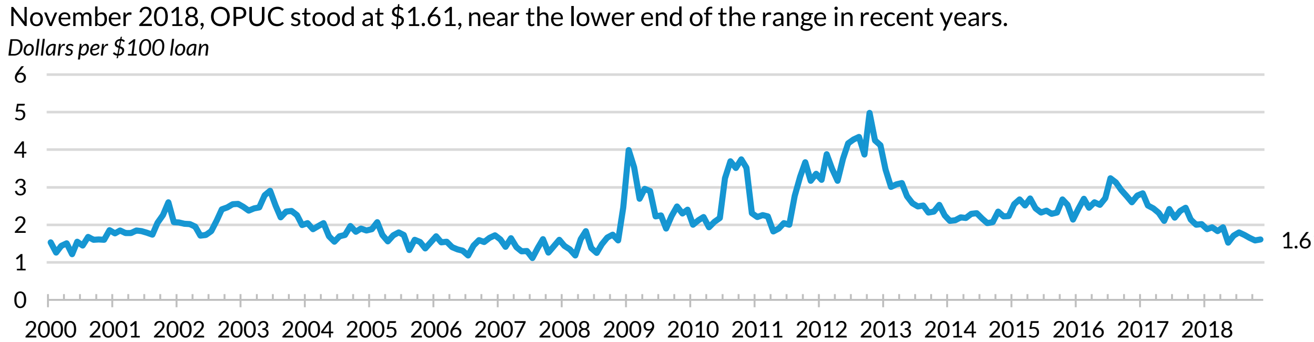
HFPC's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to go 90+ days delinquent over the life of the loan. In the second quarter of 2018 (Q1 2018) the index shows that credit availability slightly decreased to 5.7, ending four consecutive quarters of increases. The decline was primarily driven by a shift in market composition, as the government channel lost market share to the portfolio channel which has much tighter lending standards. More information about the HCAI, including the breakdown by market segment, is available here.



Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.
Note: Default is defined as 90 days or more delinquent at any point. *Last updated October 2018.*

Originator Profitability and Unmeasured Costs

When originator profits are higher, mortgage volumes are less responsive to changes in interest rates, because originators are at capacity. Originator Profitability and Unmeasured Costs (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 the mortgage in the secondary market (less par) and adds two additional sources of profitability; retained servicing (both base and excess servicing, net of g-fees), and points paid by the borrower. OPUC has generally been high when interest rates were low, as originators are capacity constrained due to refinance volume, and have no incentive to reduce rates. Conversely, when interest rates are relatively high and refi activity is low, originators are competing for a more limited amount of mortgages, driving profitability down. In November 2018, OPUC stood at $1.61, near the lower end of the range in recent years.

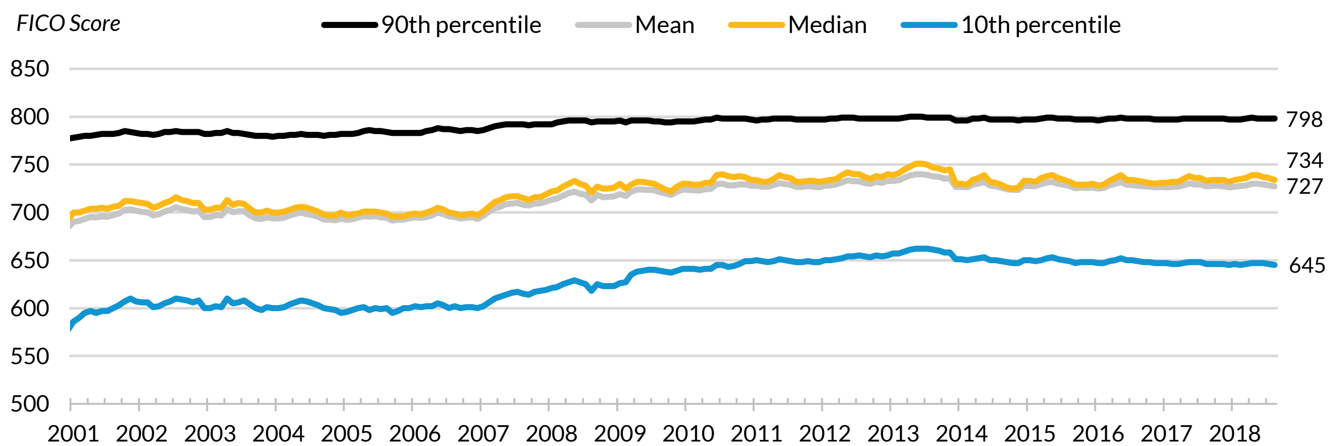


Sources: Federal Reserve Bank of New York, updated monthly and available at this link: http://www.ny.frb.org/research/epr/2013/1113fust.html and Urban Institute.
Note: OPUC is a is a monthly (4-week moving) average as discussed in Fuster et al. (2013).

CREDIT AVAILABILITY FOR PURCHASE LOANS

Access to credit remains extremely tight, especially for borrowers with low FICO scores. The mean and median FICO scores on new purchase originations have both drifted up about 30 points from their pre-crisis levels. The 10th percentile of FICO scores, which represents the lower bound of creditworthiness needed to qualify for a mortgage, stood at 645 as of September 2018. Prior to the housing crisis, this threshold held steady in the low 600s. Mean LTV levels at origination remain relatively high, averaging 87, which reflects the large number of FHA purchase originations.

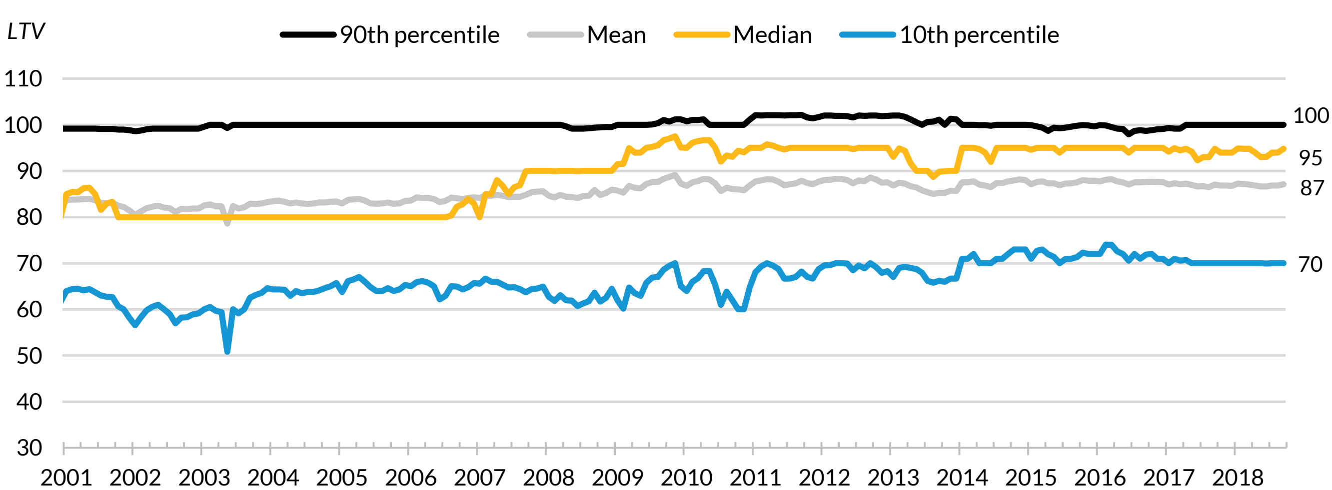
Borrower FICO Score at Origination



September 2018

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

Combined LTV at Origination



September 2018

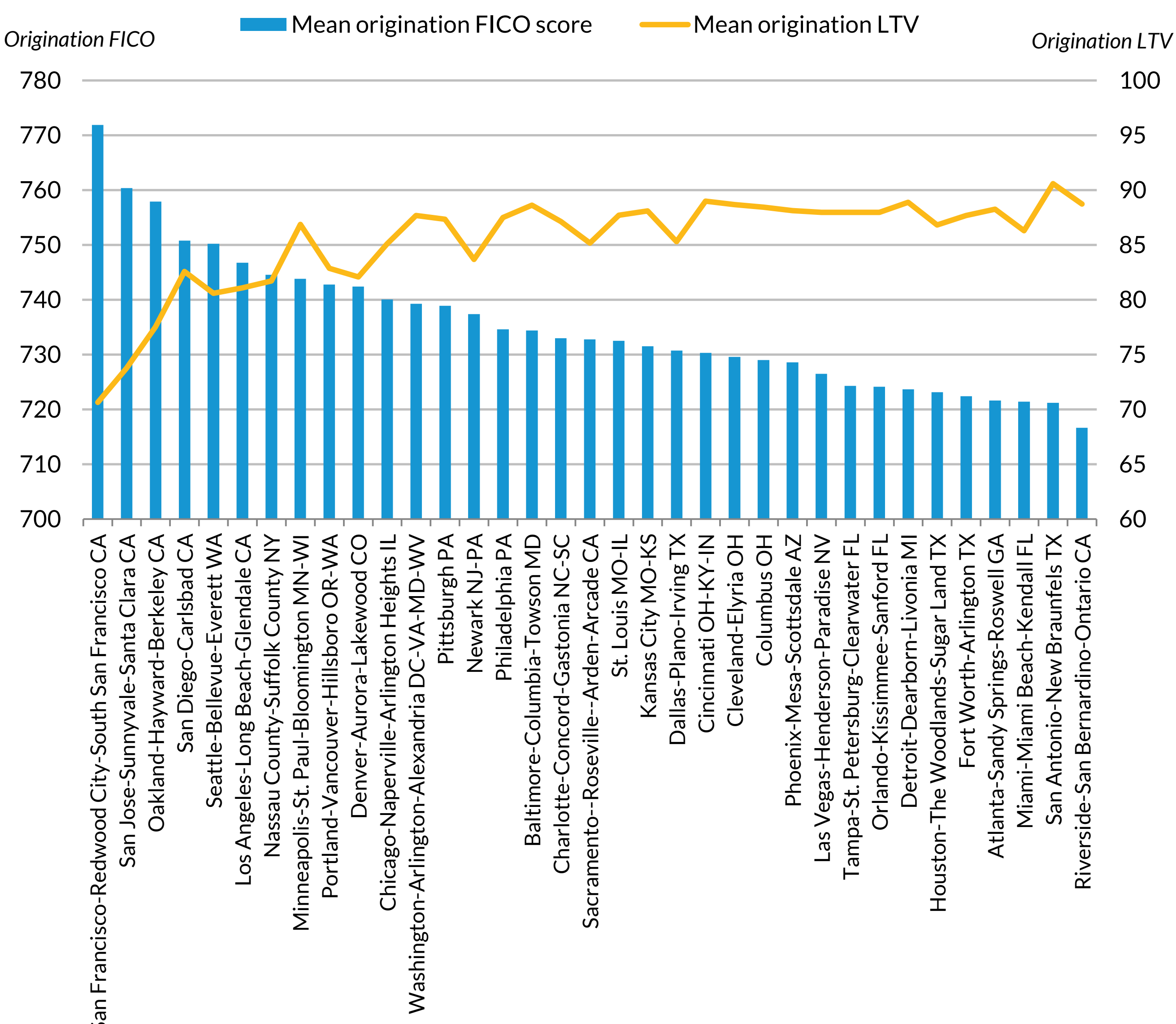
Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes owner-occupied purchase loans only.

STATE OF THE MARKET

CREDIT AVAILABILITY 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 717. 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

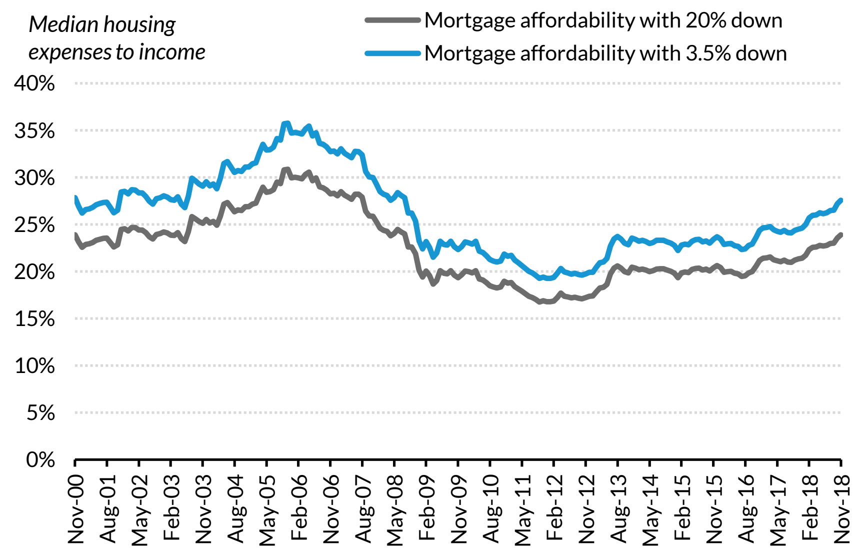


Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes owner-occupied purchase loans only. Data as of September 2018.

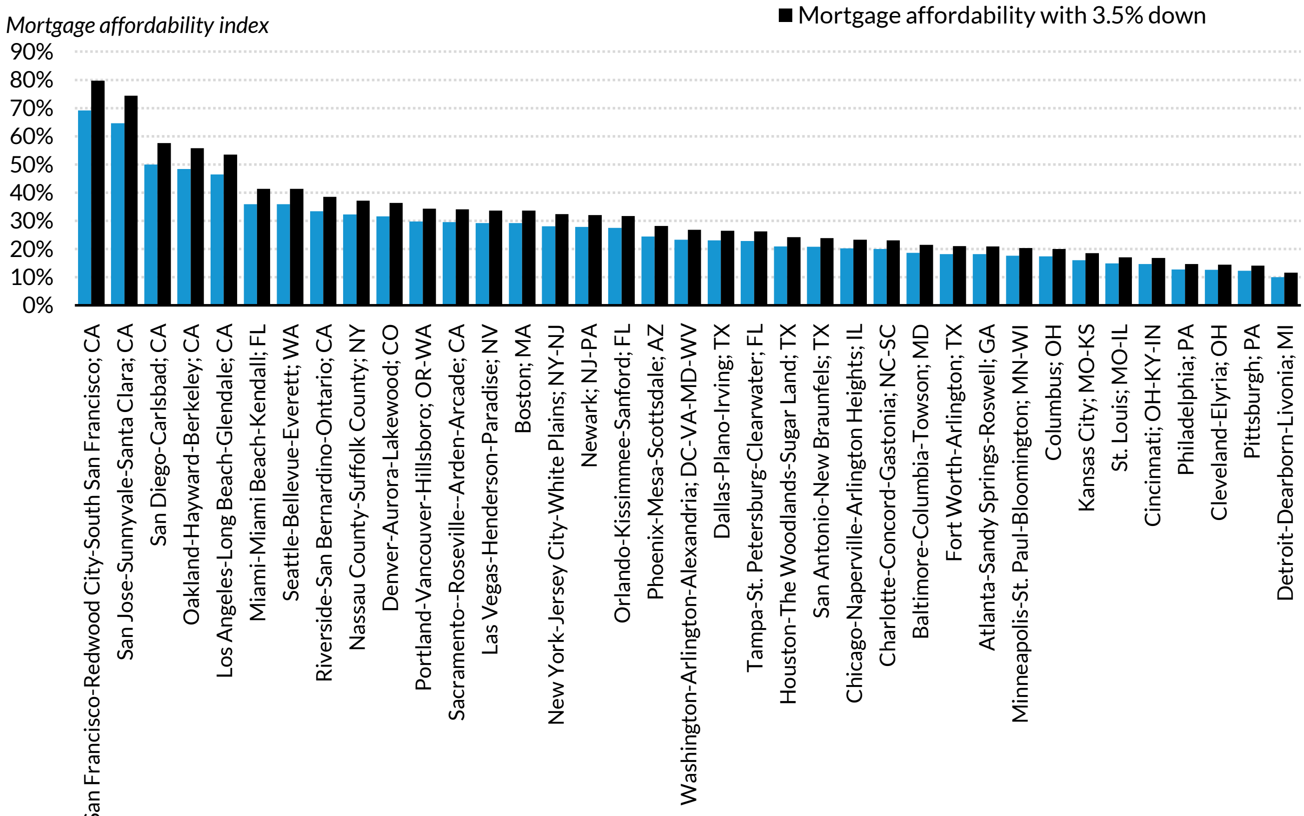
STATE OF THE MARKET
HOUSING AFFORDABILITY

National Mortgage Affordability Over Time

Home prices remain affordable by historic standards, despite price increases over the last 6.5 years and the recent interest rate hikes. As of November 2018, with 20% down payment, the share of median income needed for the monthly mortgage payment stood at 23.9%; with 3.5% down, it is 27.6%. As of November, 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

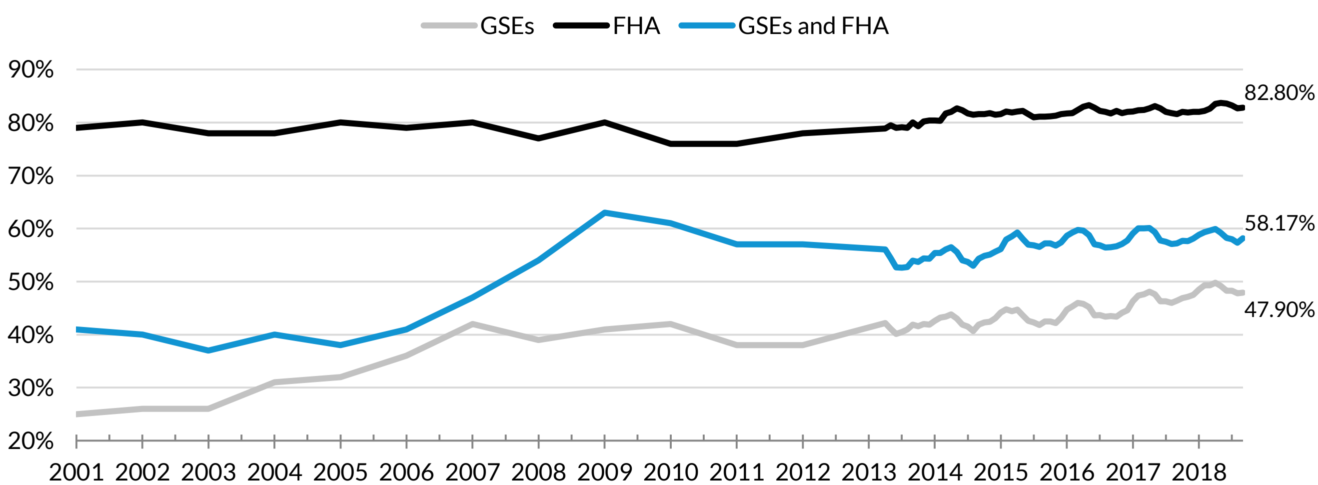


Sources: National Association of Realtors, US Census Bureau, Current Population Survey, American Community Survey, Moody's Analytics, Freddie Mac Primary Mortgage Market Survey, and the Urban Institute.
Note: Mortgage affordability is the share of median family income devoted to the monthly principal, 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.

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In September 2018, the first time homebuyer share of purchase loans increased very slightly for FHA and conventional mortgages. FHA, which has always been more focused on first time homebuyers, remains near their record-high first time homebuyer share with 82.8 percent in September2018; the FHA share has traditionally hovered around 80 percent. The GSE share in September 2018 was 47.9 percent. The bottom table shows that based on mortgages originated in September 2018, the average first-time homebuyer was more likely than an average repeat buyer to take out a smaller loan and have a lower credit score and higher LTV and DTI, thus requiring 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.

September 2018

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

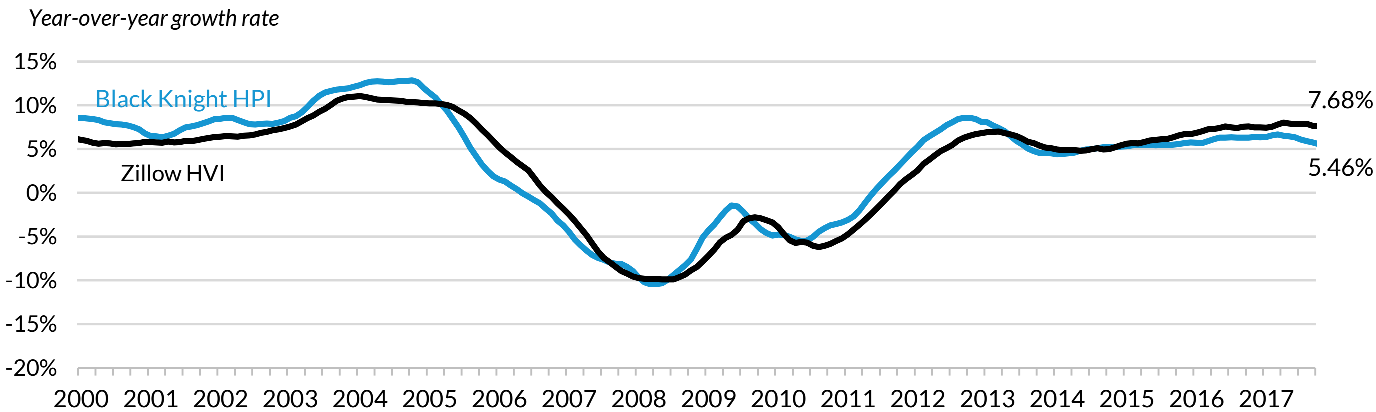
	GSEs		FHA		GSEs and FHA	
Characteristics	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount ($)	231,883	255,319	206,858	226,351	221,714	251,080
Credit Score	737.8	754.1	669.8	675.3	710.2	742.6
LTV (%)	87.6	78.8	95.5	93.9	90.8	81.0
DTI (%)	36.4	36.9	43.5	44.6	39.3	38.0
Loan Rate (%)	4.84	4.74	4.94	4.84	4.88	4.76

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

HOME PRICE INDICES

National Year-Over-Year HPI Growth

Year-over-year home price appreciation slowed slightly but remained robust in October 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 October 2018.

Changes in Black Knight HPI for Top MSAs

After rising 49.4 percent from the trough, national house prices are now 11.2 percent higher than pre-crisis peak levels. At the MSA level, ten of the top 15 MSAs have exceeded their pre-crisis peak HPI: New York, NY; Los Angeles, CA; Atlanta, GA; Houston, TX; Dallas, TX; Minneapolis, MN; Seattle, WA; Denver, CO, San Diego, CA, and Anaheim, CA. Two MSAs particularly hard hit by the boom and bust—Phoenix, AZ and Riverside, CA—are 9.3 and 11.8 percent, respectively, below peak values.

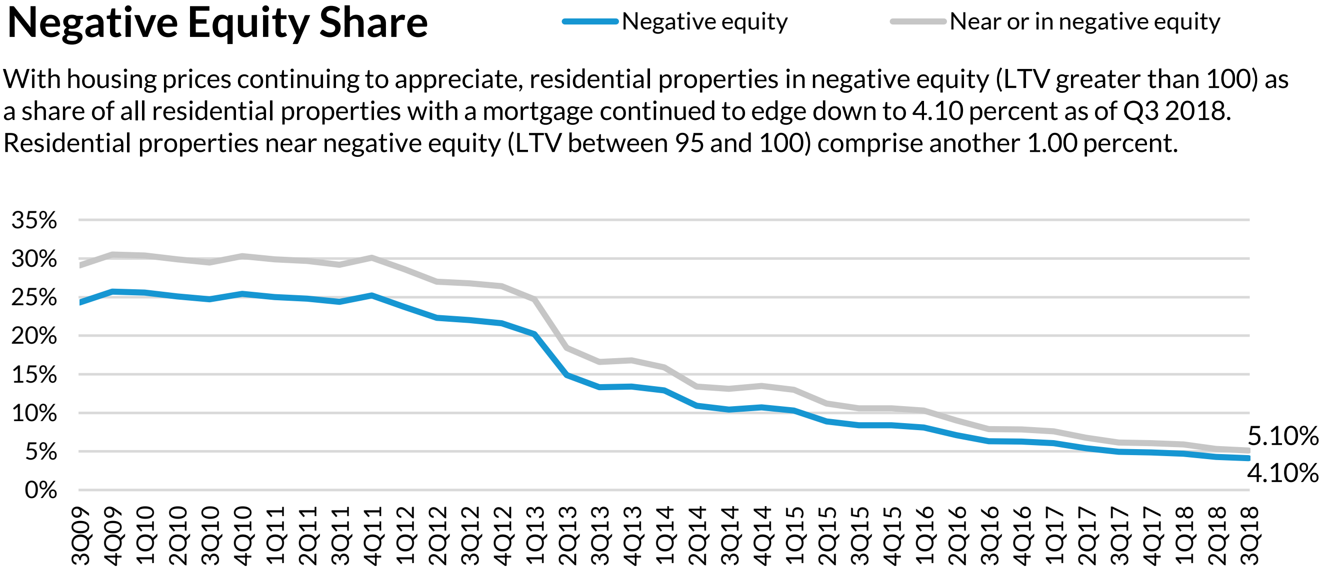
MSA	HPI changes (%)			% above peak
	2000 to peak	Peak to trough	Trough to current	
United States	74.9	-25.2	48.7	11.2
New York-Jersey City-White Plains, NY-NJ	127.9	-22.2	42.6	10.9
Los Angeles-Long Beach-Glendale, CA	180.3	-38.2	80.1	11.4
Chicago-Naperville-Arlington Heights, IL	67.1	-38.4	43.8	-11.4
Atlanta-Sandy Springs-Roswell, GA	32.7	-35.8	72.6	10.9
Washington-Arlington-Alexandria, DC-VA-MD-WV	149.3	-28.3	31.6	-5.6
Houston-The Woodlands-Sugar Land, TX	29.4	-6.7	44.7	35.1
Phoenix-Mesa-Scottsdale, AZ	113.3	-51.2	85.8	-9.3
Riverside-San Bernardino-Ontario, CA	160.1	-46.7	89.4	-11.8
Dallas-Plano-Irving, TX	26.2	-7.2	62.9	51.2
Minneapolis-St. Paul-Bloomington, MN-WI	69.1	-30.2	53.9	7.5
Seattle-Bellevue-Everett, WA	90.5	-32.9	97.8	32.8
Denver-Aurora-Lakewood, CO	34.1	-12.1	86.3	63.7
Baltimore-Columbia-Towson, MD	123.2	-23.9	19.2	-9.3
San Diego-Carlsbad, CA	148.3	-37.5	71.1	6.9
Anaheim-Santa Ana-Irvine, CA	163.4	-35.3	61.7	4.6

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

NEGATIVE EQUITY & SERIOUS DELINQUENCY

Negative Equity Share

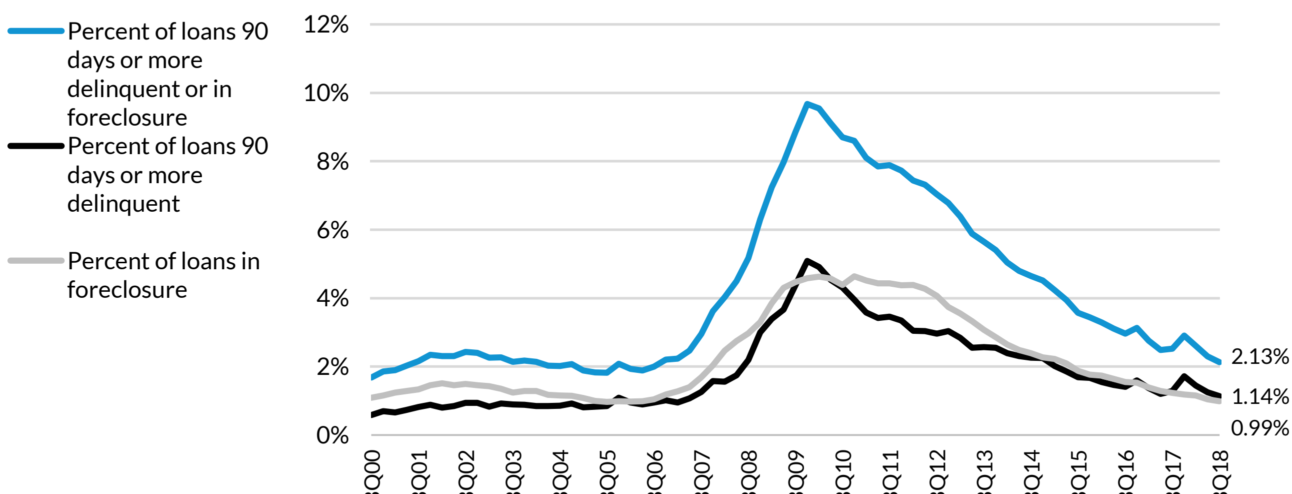
With housing prices continuing to appreciate, residential properties in negative equity (LTV greater than 100) as a share of all residential properties with a mortgage continued to edge down to 4.10 percent as of Q3 2018. Residential properties near negative equity (LTV between 95 and 100) comprise another 1.00 percent.



Sources: CoreLogic and Urban Institute.
Note: CoreLogic negative equity rate is the percent of all residential properties with a mortgage in negative equity. 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

Loans 90 days or more delinquent rose sharply due to the hurricanes in the second half of 2017, but have since declined from 1.45 to 1.14 percent through the first three quarters of 2018, lower than in the quarter before he hurricanes. The percent of loans in foreclosure continued to edge down, dropping to 0.99 percent. Loans 90 days or more delinquent or in foreclosure totaled 2.13 percent in Q3 2018, down from 2.30 percent in Q2 2018 and 2.52 percent in the same quarter a year ago.



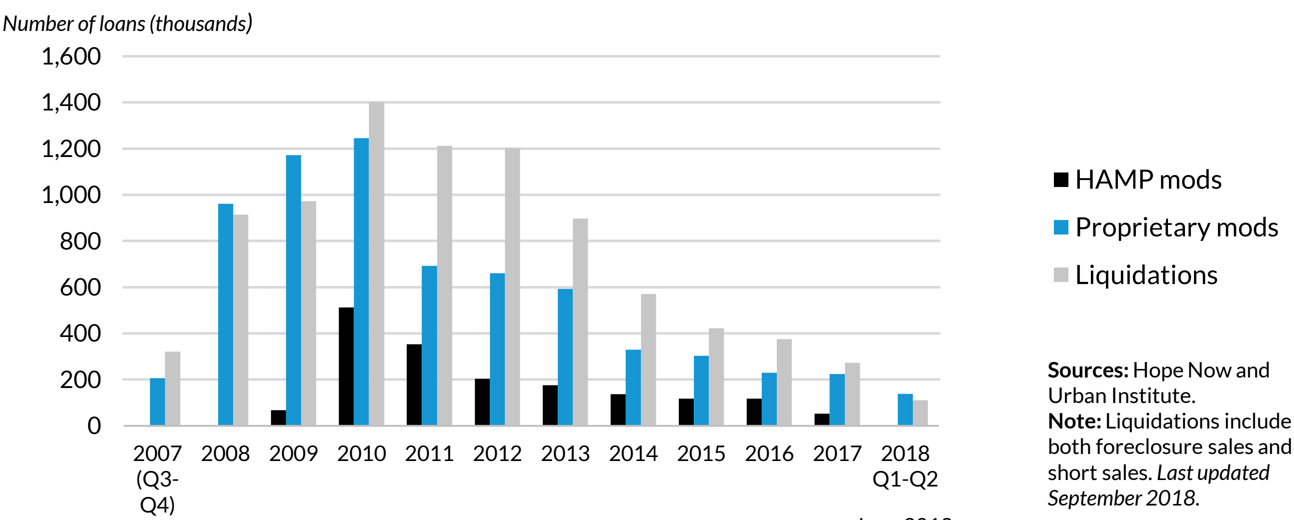
Sources: Mortgage Bankers Association and Urban Institute. *Last updated November 2018.*

STATE OF THE MARKET

MODIFICATIONS AND LIQUIDATIONS

Total modifications (HAMP and proprietary) are roughly equal to total liquidations. Hope Now reports show 8,491,929 borrowers have received a modification since Q3 2007, compared with 8,673,435 liquidations in the same period. Modifications and liquidations have slowed significantly over the past few years. In Q2 2018, there were just 78,389 proprietary modifications and 54,790 liquidations. There were no new HAMP modifications as the program ended in 2017.

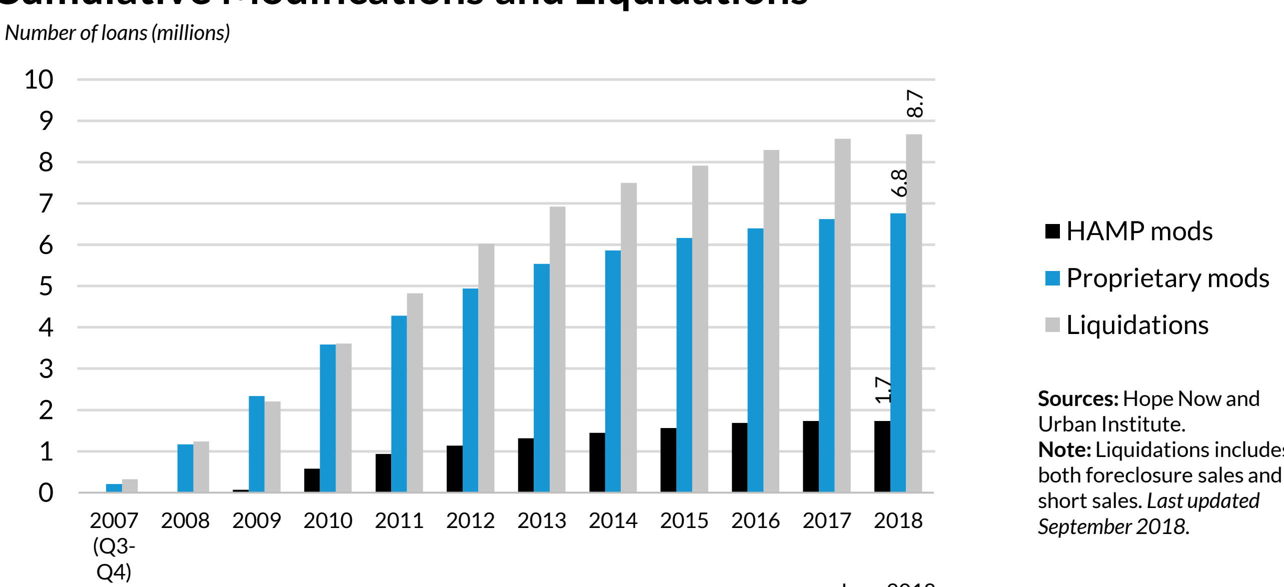
Loan Modifications and Liquidations



June 2018

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

Cumulative Modifications and Liquidations



June 2018

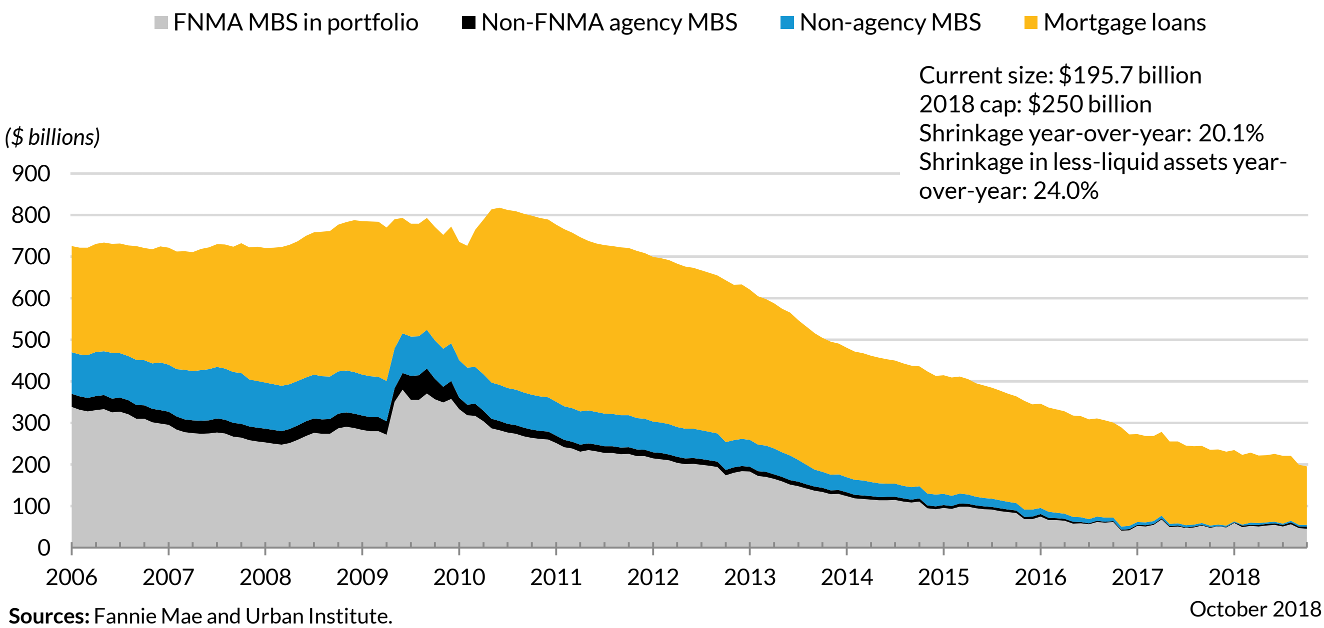
Sources: Hope Now and Urban Institute.
Note: Liquidations includes both foreclosure sales and short sales. *Last updated September 2018.*

GSES UNDER CONSERVATORSHIP

GSE PORTFOLIO WIND-DOWN

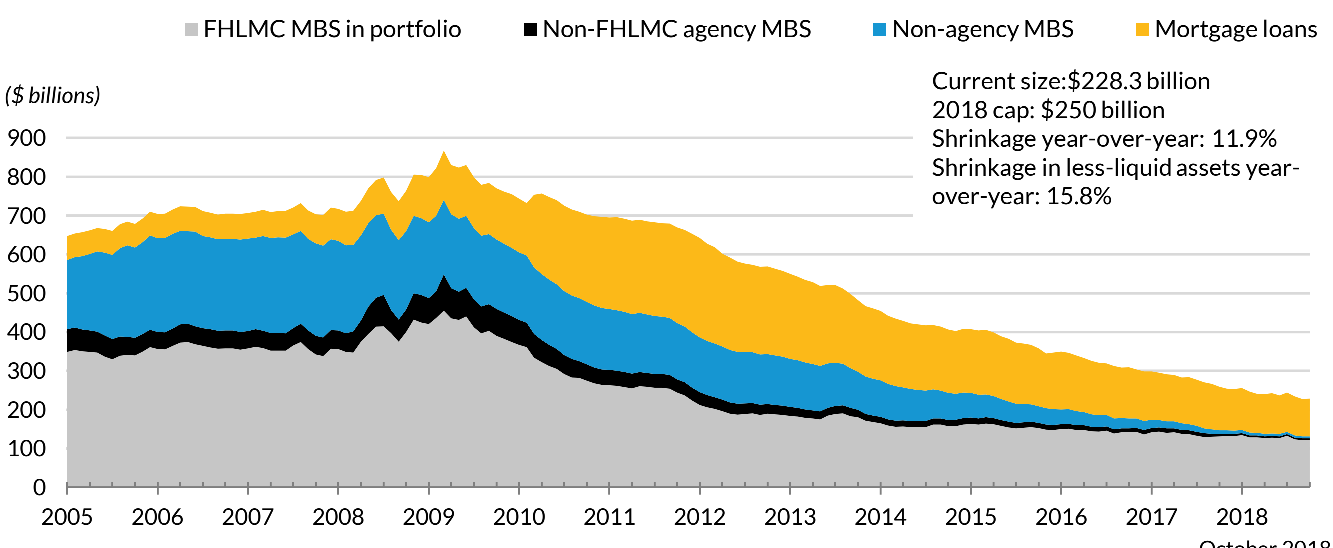
Both GSEs continue to contract their portfolios. Since October 2017, Fannie Mae has contracted by 20.1 percent and Freddie Mac by 11.9 percent. They are shrinking their less-liquid assets (mortgage loans and non-agency MBS) faster than they are shrinking their entire portfolio. The Fannie Mae and Freddie 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.

Freddie Mac Mortgage-Related Investment Portfolio Composition



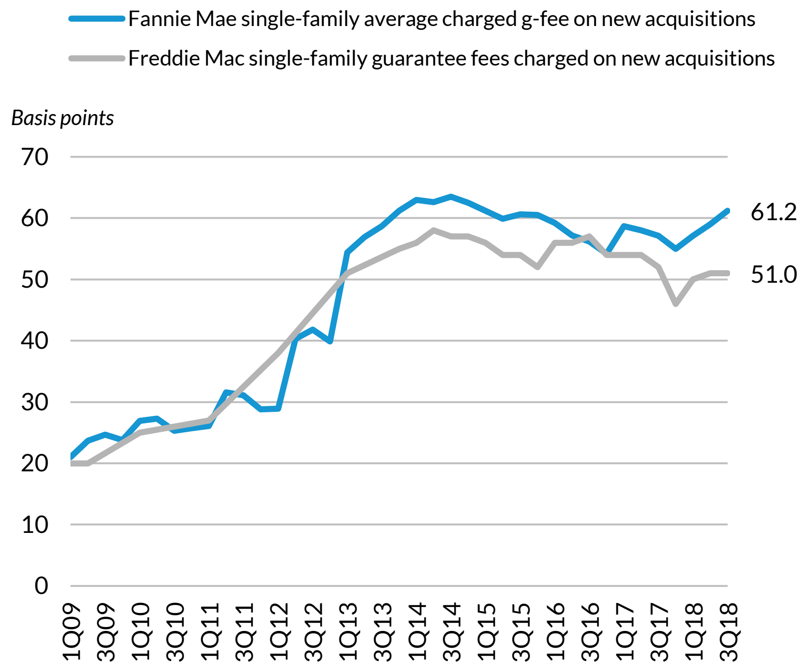
Sources: Freddie Mac and Urban Institute.

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' profits. 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.

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 2018 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 to date total $1.148 trillion, while Freddie's STACR totals $1.079 trillion. In 2018 so far, Fannie has issued seven securities, and Freddie has issued six securities.

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)

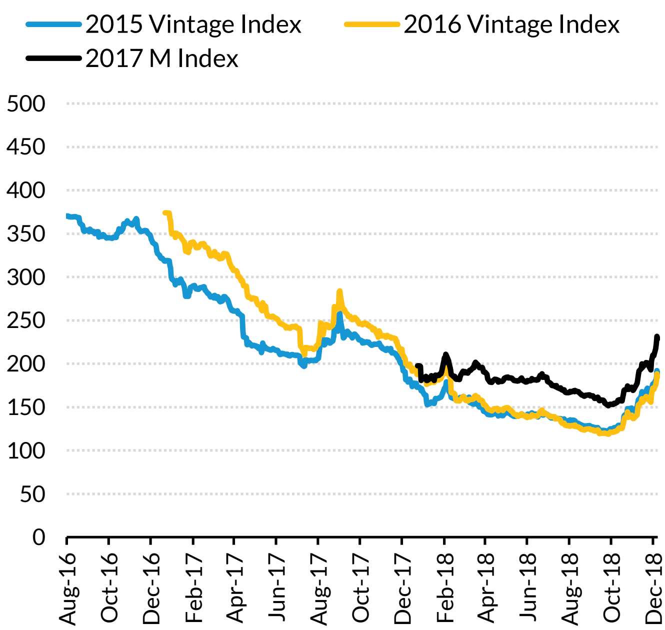
Date	Transaction	Reference Pool Size ($ m)	Amount Issued ($m)	% of Reference Pool Covered
2013	STACR 2013 deals	$57,912	$1,130	2.0%
2014	STACR 2014 deals	$147,120	$4,916	3.3%
2015	STACR 2015 deals	$209,521	$6,658	3.2%
2016	STACR 2016 deals	$199,130	$5,541	2.8%
January 2017	STACR Series 2017 – DNA1	$33, 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.

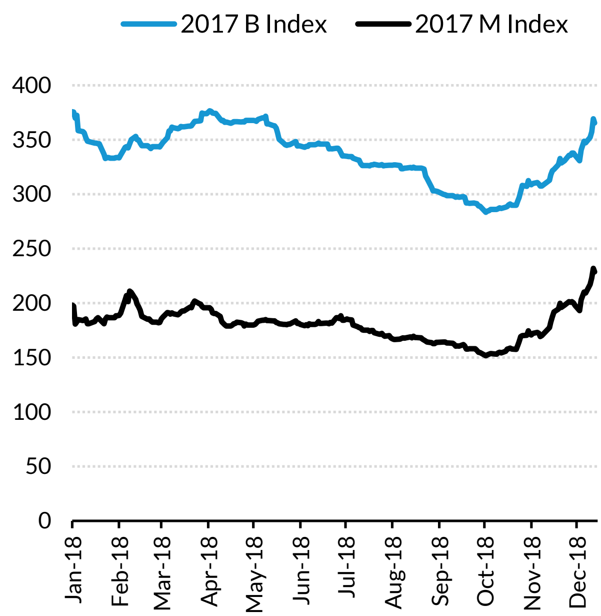
GSE RISK-SHARING INDICES

Spreads on CRT securities have narrowed considerably through time, despite occasional bouts of volatility. Over the past few months, there has been a considerable spread widening, 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.

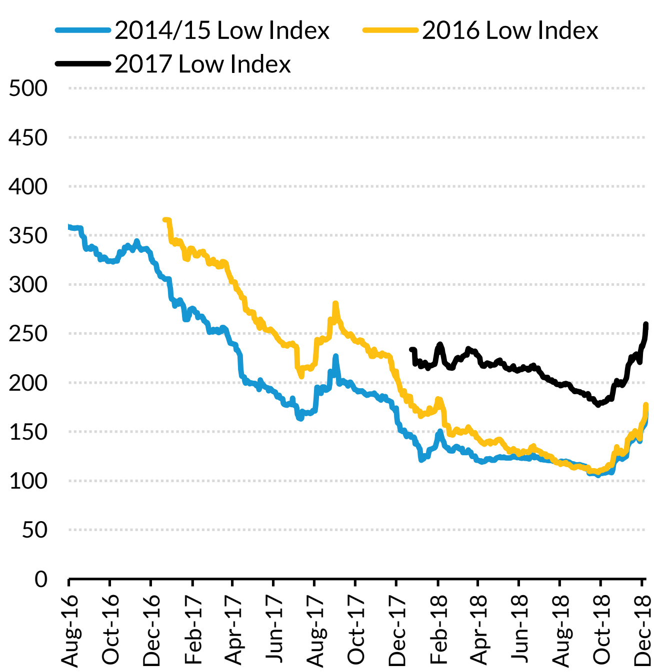
By Vintage



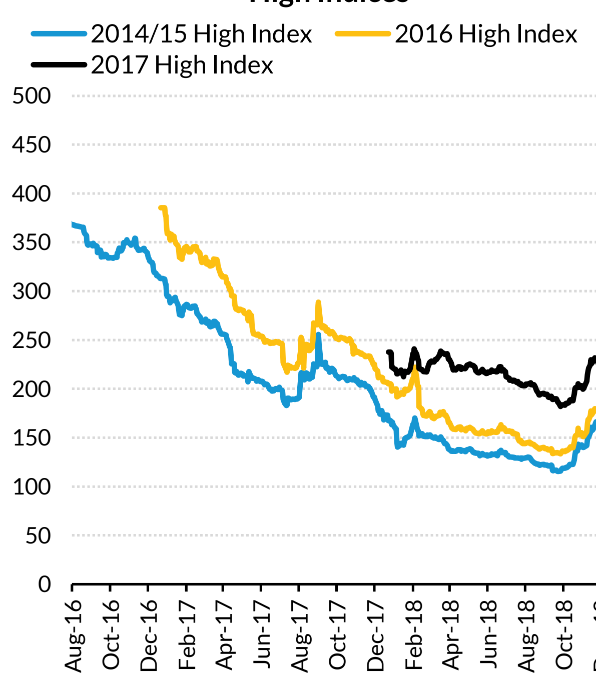
2017 Indices



Low Indices



High Indices

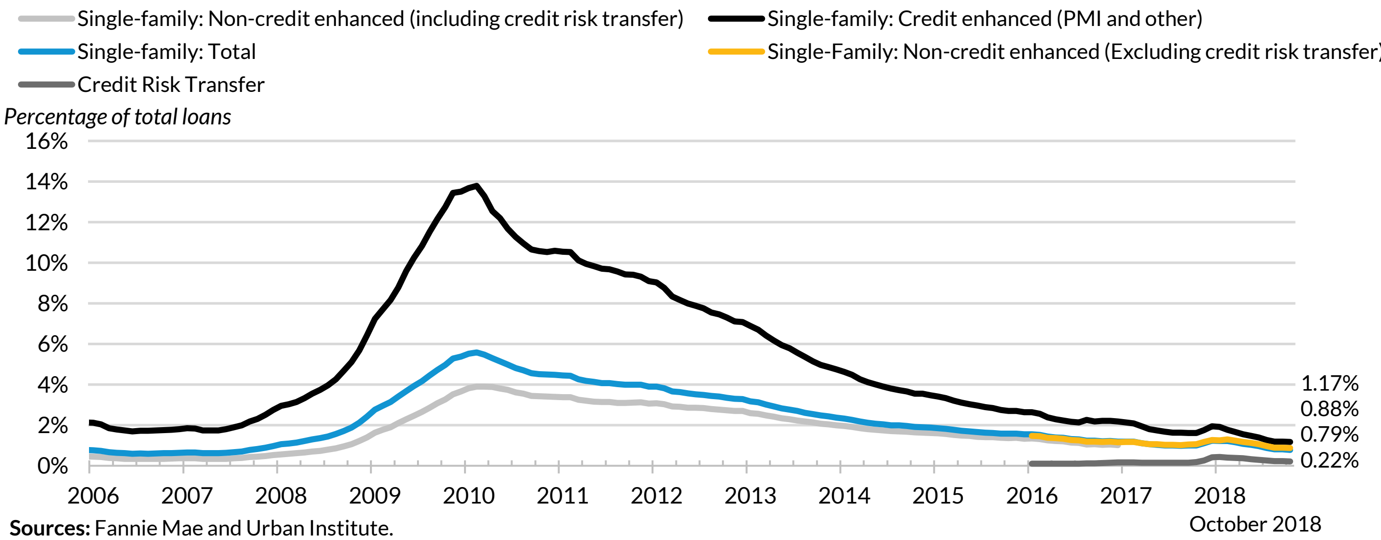


Sources: Vista Data Services and Urban Institute.
Note: Data as of December 13, 2018.

GSES UNDER CONSERVATORSHIP
SERIOUS DELINQUENCY RATES

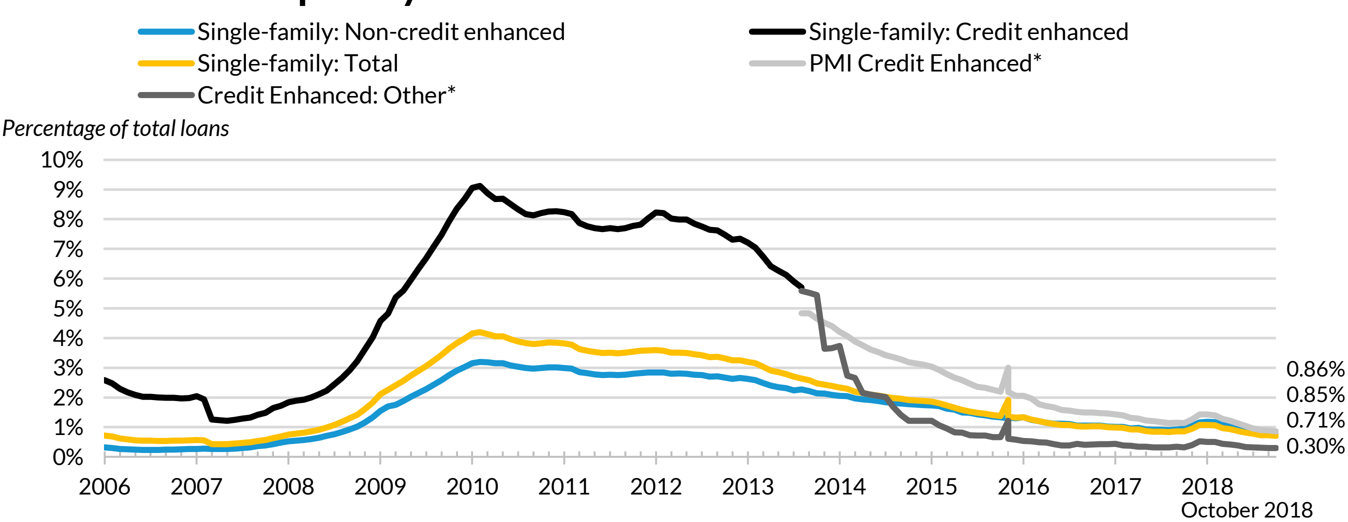
Overall, there has been a marked long term decline in serious delinquency rates as the legacy portfolio is resolved and the pristine, post-2009 book of business exhibits very low default rates. As of October 2018, 0.79 percent of the Fannie portfolio and 0.71 percent of the Freddie portfolio were seriously delinquent, a decrease from the previous month. The hurricanes in August and September of 2017 caused a small spike, but the downward trend in delinquencies resumed and for the last few months delinquency rates, have been lower than in the month prior to the hurricanes.

Serious Delinquency Rates–Fannie Mae



Sources: Fannie Mae and Urban Institute.
Note*: Following a change in Fannie reporting in March 2017, we started to report the credit risk transfer category and a new non-credit enhanced category that excludes loans covered by either primary MI or credit risk transfer transactions. Fannie reported these two new categories going back to January 2016.

Serious Delinquency Rates–Freddie Mac

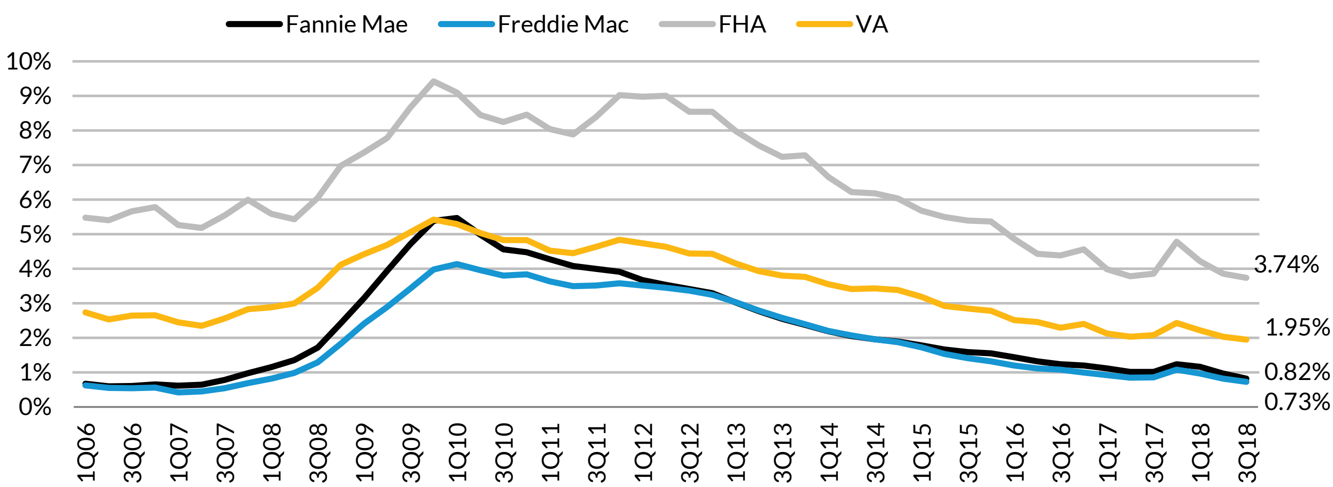


Sources: Freddie Mac and Urban Institute.
Note*: Following a change in Freddie reporting in September 2014, we switched from reporting credit enhanced delinquency rates to PMI and other credit enhanced delinquency rates. Freddie reported these two categories for credit-enhanced loans going back to August 2013. The other category includes single-family loans covered by financial arrangements (other than primary mortgage insurance) including loans in reference pools covered by STACR debt note transactions as well as other forms of credit protection.

GSES UNDER CONSERVATORSHIP
SERIOUS DELINQUENCY RATES

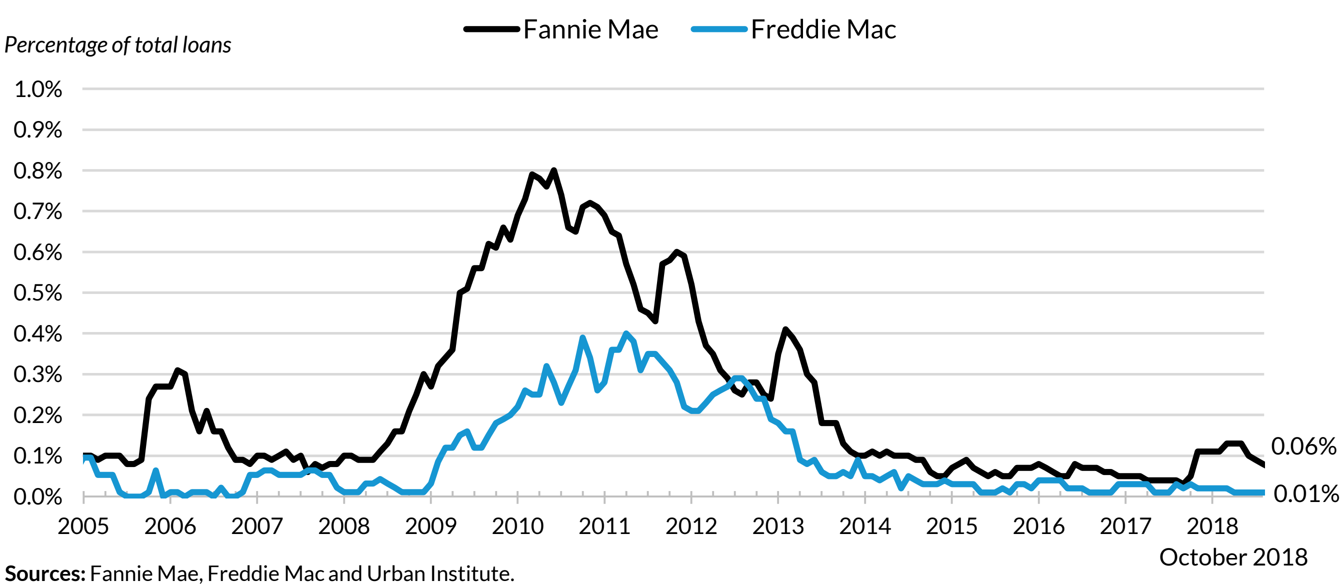
Serious delinquencies for single-family GSE loans, FHA loans, and VA loans continued to decline in Q3 2018 to levels equal to or lower than before the hurricane related uptick in Q4 2017. GSE delinquencies remain high relative to 2005-2007, while FHA and VA delinquencies (which are higher than their GSE counterparts) are at levels lower than 2005-2007. GSE multifamily delinquencies remain at the levels prevailing before the financial crisis, although they did not reach problematic levels even in the worst years of the crisis. Fannie Mae delinquencies did rise after the 2017 hurricanes to a peak of 0.13, but have since declined, standing at 0.06 percent in October 2018. Freddie Mac did not experience a post hurricane rise in multifamily delinquencies; October 2018 delinquencies stood at 0.01 percent.

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. *Last updated November 2018.*

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 $1.106 trillion in the first eleven months of 2018, $1.207 trillion on an annualized basis. This is down 9.4 percent year-over-year. When measured on a monthly basis, agency gross issuance year-over-year has been declining for 20 consecutive months since March 2017, reflecting higher mortgage rates. Net issuance (which excludes repayments, prepayments, and refinances on outstanding mortgages) totaled $238.6 billion in the first eleven months of 2018, down 13.3 percent from the same period in 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 YTD	$734.3	$372.2	$1,106.2
2018 YTD % Change YOY	-8.4%	-11.3%	-9.4%
2018 Ann.	$801.0	$406.0	$1,207.1

Agency Net Issuance

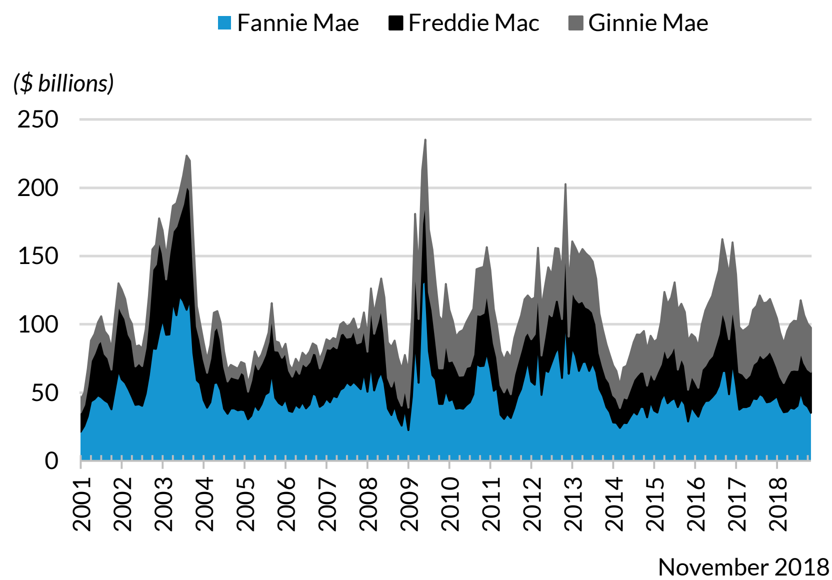
Issuance Year	GSEs	Ginnie Mae	Total
2000	$159.8	$29.3	$189.1
2001	$368.4	-$9.9	$358.5
2002	$357.2	-$51.2	$306.1
2003	$334.9	-$77.6	$257.3
2004	$82.5	-$40.1	$42.4
2005	$174.2	-$42.2	$132.0
2006	$313.6	$0.2	$313.8
2007	$514.9	$30.9	$545.7
2008	$314.8	$196.4	$511.3
2009	$250.6	$257.4	$508.0
2010	-$303.2	$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 YTD	$133.2	$105.4	$238.6
2018 YTD % Change YOY	-11.6%	-15.3%	-13.3%
2018 (Ann.)	$145.3	$115.0	$260.3

Sources: eMBS and Urban Institute.
Note: Dollar amounts are in billions. Data as of November 2018.

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

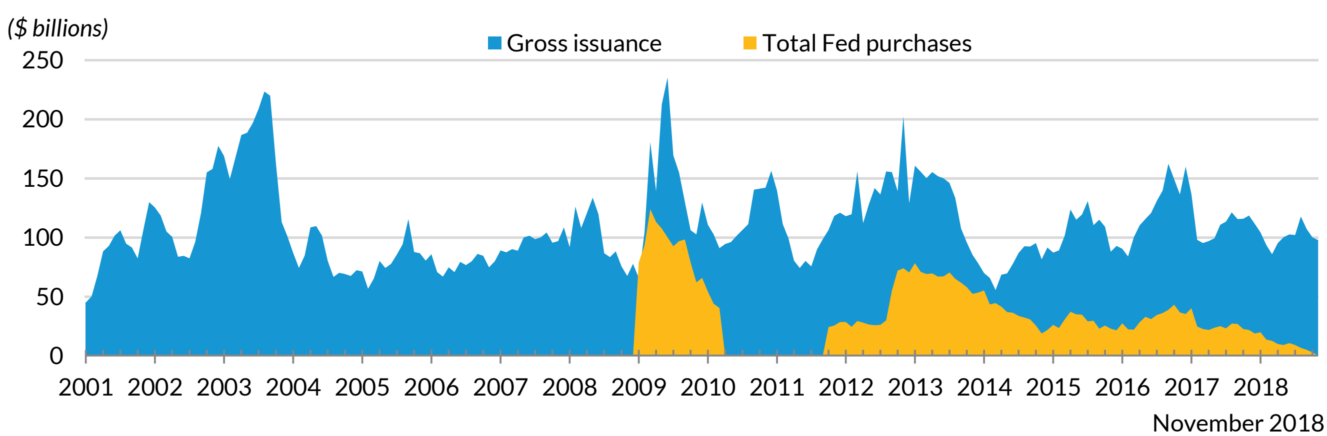
While government and GSE lending have dominated the mortgage market since the crisis, there has been a change in the mix. The Ginnie Mae share rose from its low levels in the pre-crisis period to 28 percent in 2010, then declined to 25 percent in 2013. Since then, the share has bounced back sharply, and now stands at 33.2 percent in November 2018. The increase in this share over the past 2 years is due to the fact that rates have risen, and Ginnie Mae is less dependent on refi activity than its conventional counterparts.



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

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) increased to the maximum taper of $20 billion in October 2018. In November, total Fed purchases fell further to $75.4 million, yielding Fed absorption of gross issuance of 0.08 percent, the lowest level since the Fed began it's second mortgage purchase program.

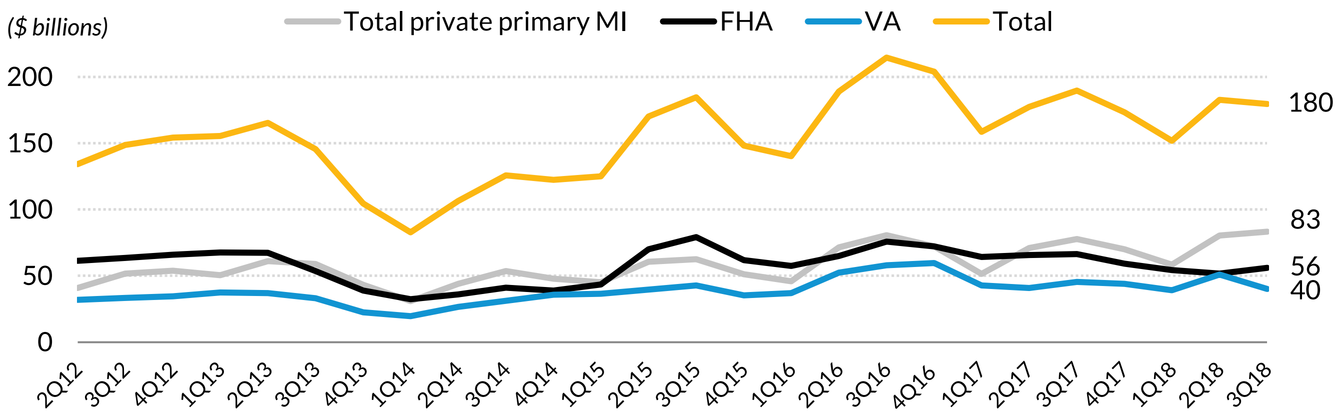


Sources: eMBS, Federal Reserve Bank of New York and Urban Institute.

MORTGAGE INSURANCE ACTIVITY

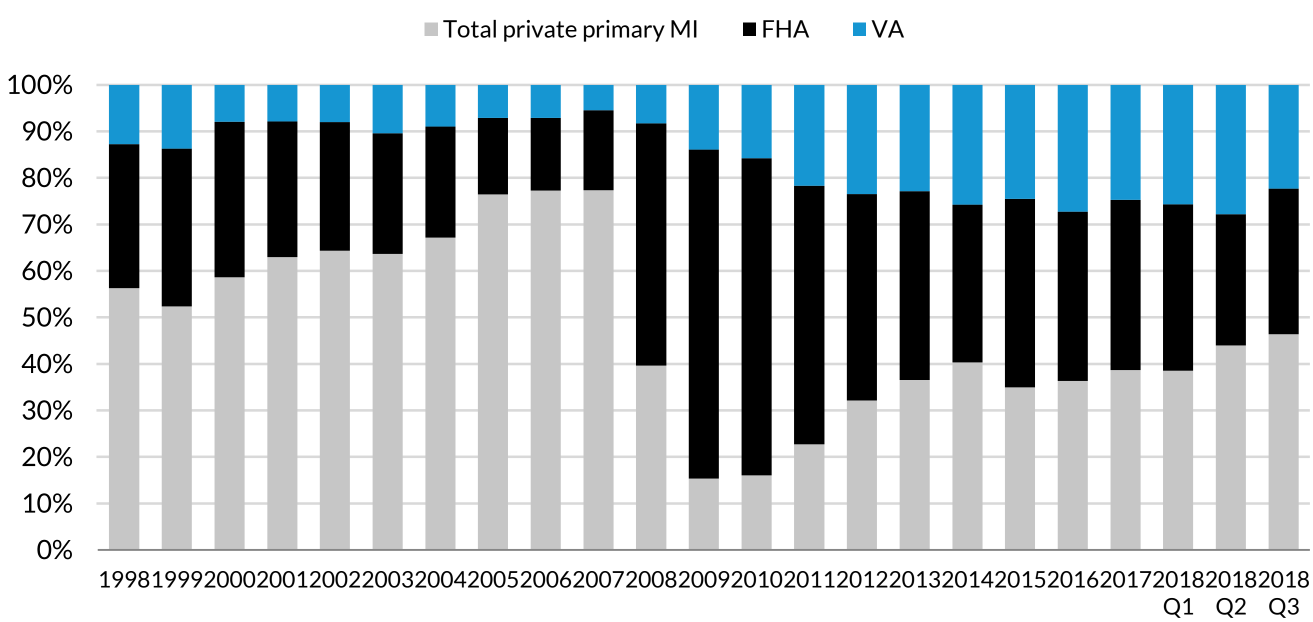
MI Activity

In 2018 Q3, mortgage insurance activity via the FHA, VA and private insurers declined from the previous quarter's $183 billion to $180 billion, down 5.3 percent year-over-year from the same quarter in 2017. 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. 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.



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
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The Continued Impact of the Housing Crisis on Self-Employed Households
Authors: Karan Kaul, Laurie Goodman, Jun Zhu
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Analysis of the FHFA Proposal on Enterprise Capital
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The Community Reinvestment Act Lending Data Highlights
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Down Payments Quiz
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Acknowledgments

The Housing Finance Policy Center (HFPC) was launched with generous support at the leadership level from the Citi Foundation and John D. and Catherine T. MacArthur Foundation. Additional support was provided by The Ford Foundation and The Open Society Foundations.

Ongoing support for HFPC is also provided by the Housing Finance Innovation Forum, a group of organizations and individuals that support high-quality independent research that informs evidence-based policy development. Funds raised through the Forum provide flexible resources, allowing HFPC to anticipate and respond to emerging policy issues with timely analysis. This funding supports HFPC's research, outreach and engagement, and general operating activities.

The chartbook is funded by these combined sources. We are grateful to them and to all our funders, who make it possible for Urban to advance its mission.

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