



HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

March 2019

ABOUT THE CHARTBOOK

The Housing Finance Policy Center's (HFPC) mission is to produce analyses and ideas that promote sound public policy, efficient markets, and access to economic opportunity in the area of housing finance. *At A Glance*, a monthly chartbook and data source for policymakers, academics, journalists, and others interested in the government's role in mortgage markets, is at the heart of this mission.

We welcome feedback from our readers on how we can make *At A Glance* a more useful publication. Please email any comments or questions to ataglance@urban.org.

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INTRODUCTION

Three housing topics to watch in the coming months

As the first quarter of 2019 comes to an end, we are watching three important trends and developments that will impact the mortgage industry, borrowers, and homebuyers for the balance of 2019, and beyond.

GSE Single Security: The FHFA recently issued its [final rule](#) on the GSE's Single Security Initiative. This initiative will unify Fannie Mae and Freddie Mac's currently separate mortgage-backed securities into a single, comingled security, called unified mortgage backed security, or UMBS. The final rule requires Fannie Mae and Freddie Mac to align their policies, programs and practices that can impact cash-flows to holders of TBA-eligible mortgage-backed securities. With the comfort from this final rule, in March SIFMA, the industry trade association that sets guidelines for what constitutes TBA-eligible approved revisions to those guidelines. This action effectively made UMBS a reality. The market had anticipated these actions, and the price differential between Fannie and Freddie securities had converged some time ago; prior to discussions on the UMBS, Freddie Mac needed to [subsidize](#) its security to the detriment of taxpayers. We will be monitoring how the combined UMBS security, which is expected to go live on June 3, 2019 trades.

FHA's credit box changes. The FHA recently [announced](#) changes to its credit box to mitigate its concerns about endorsing mortgages with higher risk characteristics. The mortgage market has recently witnessed sustained relaxation in debt-to-income ratios for new originations, driven largely by higher house prices and rising mortgage rates (page 15). FICO scores in the FHA space have also dropped, prompting the agency to take steps. With the latest changes, FHA's automated underwriting system will refer certain higher-risk mortgages for manual underwriting. Manual underwriting is more labor intensive and costly for lenders. It is too early to tell whether this will discourage lenders from originating the affected mortgages and to what degree. In the coming months, we will be monitoring the credit characteristics of new FHA originations to identify the impact of this change on credit availability.

Month supply of housing: The supply of homes available for sale has gradually shrunk over the last several years as demand for housing has outpaced new home construction (page 20.) As of Feb 2019, the supply of homes on the market stood at 3.5 months, same as in Feb 2018, but lower than February of prior years. This number is highly seasonal because homebuying activity tends to be concentrated in the spring and summer months. House price appreciation slowed somewhat during the fall and winter months due to lack of affordability in certain geographies and higher rates. However, with the recent pullback in rates, the start of the homebuying season, and a continued strong economy, demand will likely pickup again. What remains to be seen is whether months supply will continue its downward trend in 2019.

INSIDE THIS ISSUE

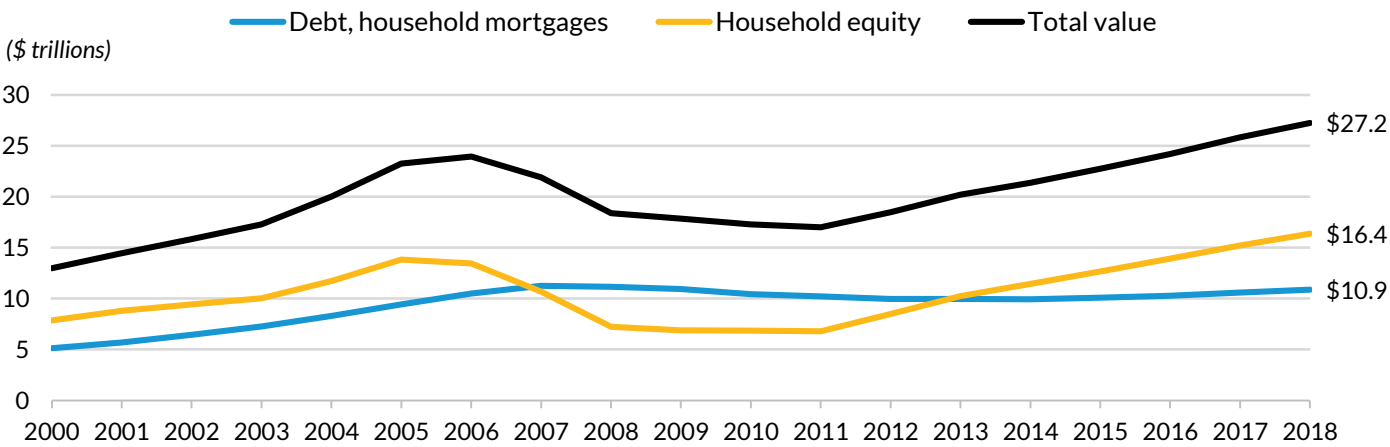
- First lien origination volume for the full year of 2018 finished at \$1.63 trillion, down from \$1.81 trillion in 2017 (page 8).
- In February 2019, the PLS share reached its highest point since 2007, although it remains a small fraction of overall originations (page 12).
- Alt A and subprime securitization volume showed the largest growth within the PLS market, with subprime securitizations more than doubling and Alt A securitizations more than quadrupling from 2017 to 2018 (page 12).
- The private primary mortgage insurance (PMI) share of the mortgage insurance market grew in 2018, finishing the year at 44 percent, about 5 percentage points higher than the 2017 share (page 32).

OVERVIEW

MARKET SIZE OVERVIEW

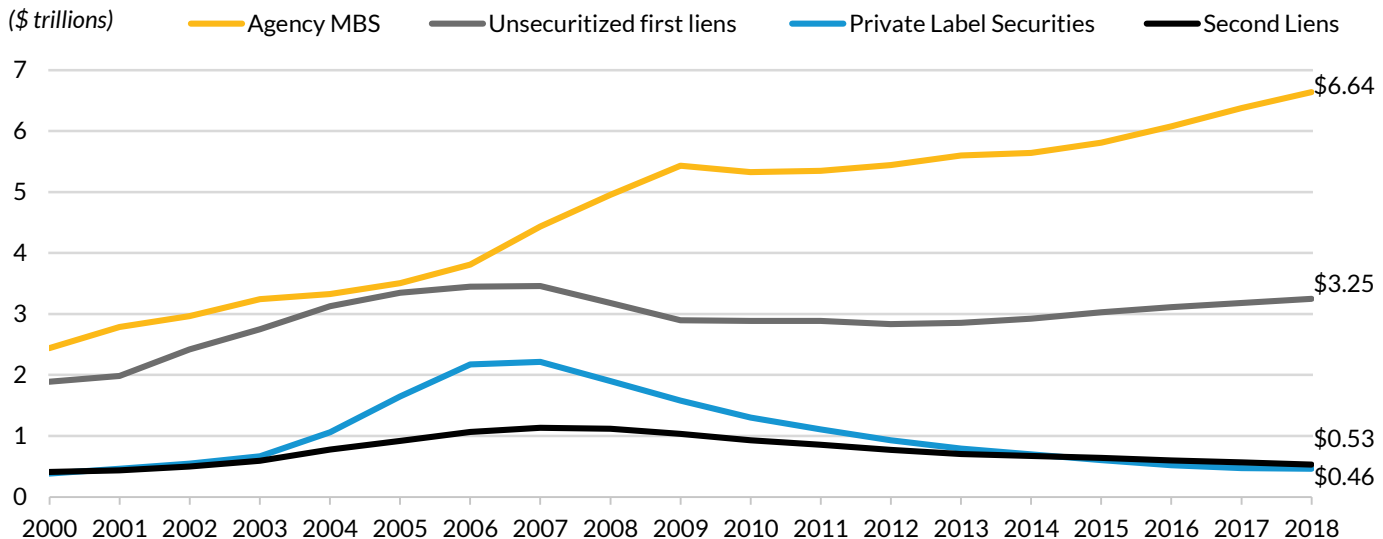
The Federal Reserve's Flow of Funds report has indicated a gradually increasing total value of the housing market driven by growing household equity since 2012, and 2018 Q4 was no different. While total mortgage debt outstanding was steady at \$10.9 trillion, household equity ticked up from \$16.2 trillion in Q3 to 16.4 trillion in Q4 2018, bringing the total value of the housing market to \$27.2 trillion, 13 percent higher than the pre-crisis peak in 2006. Agency MBS account for 61.0 percent of the total mortgage debt outstanding, private-label securities make up 4.3 percent, and unsecured first liens make up 29.8 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 March 2019.

Size of the US Residential Mortgage Market



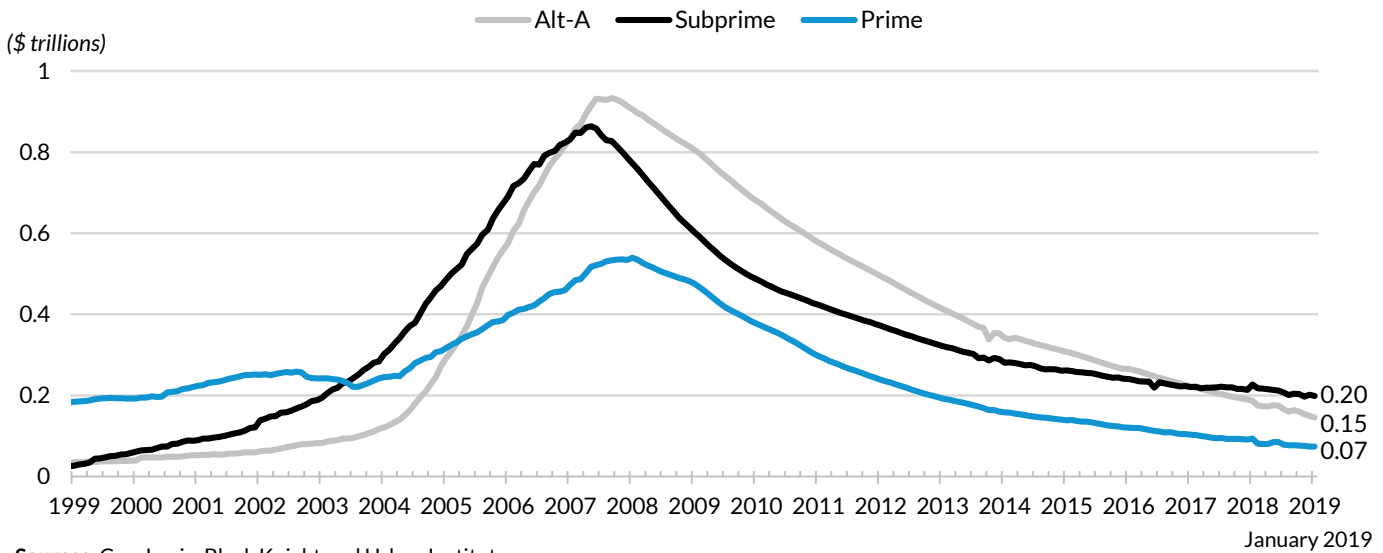
Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute. Last updated March 2019. Note: Unsecured first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions.

OVERVIEW

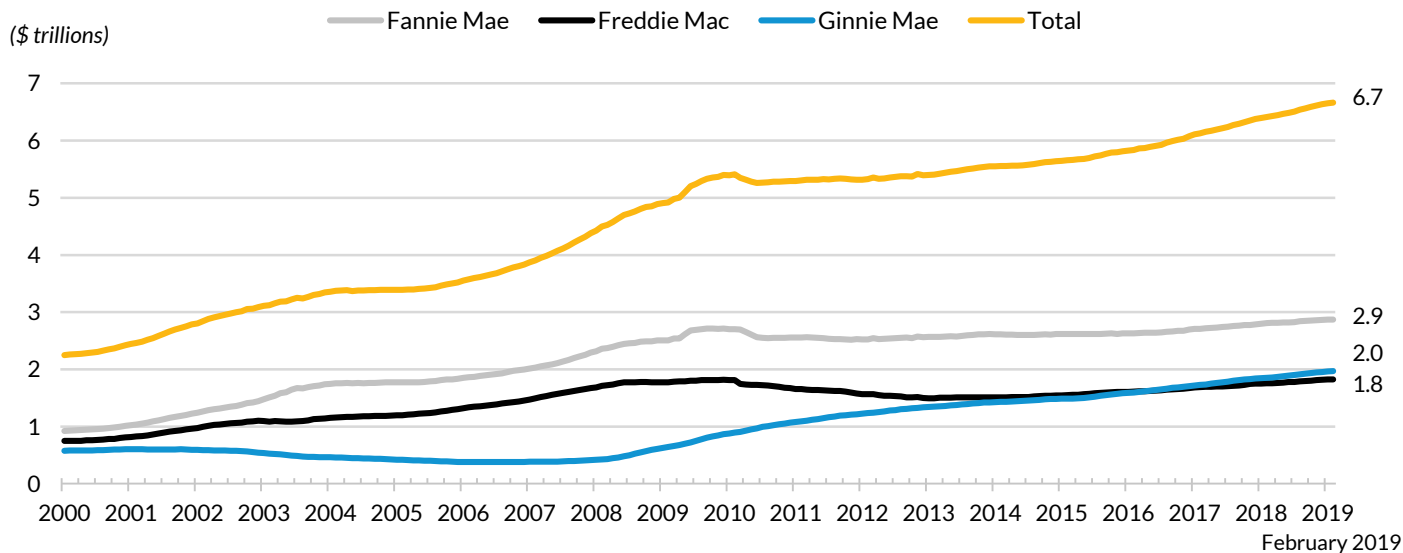
MARKET SIZE OVERVIEW

As of January 2019, debt in the private-label securitization market totaled \$418 billion and was split among prime (17.6 percent), Alt-A (34.9 percent), and subprime (47.5 percent) loans. In February 2019, outstanding securities in the agency market totaled \$6.7 trillion, 43.1 percent of which was Fannie Mae, 27.4 percent Freddie Mac, and 29.5 percent Ginnie Mae. Ginnie Mae has had more outstanding securities than Freddie Mac since May 2016.

Private-Label Securities by Product Type



Agency Mortgage-Backed Securities

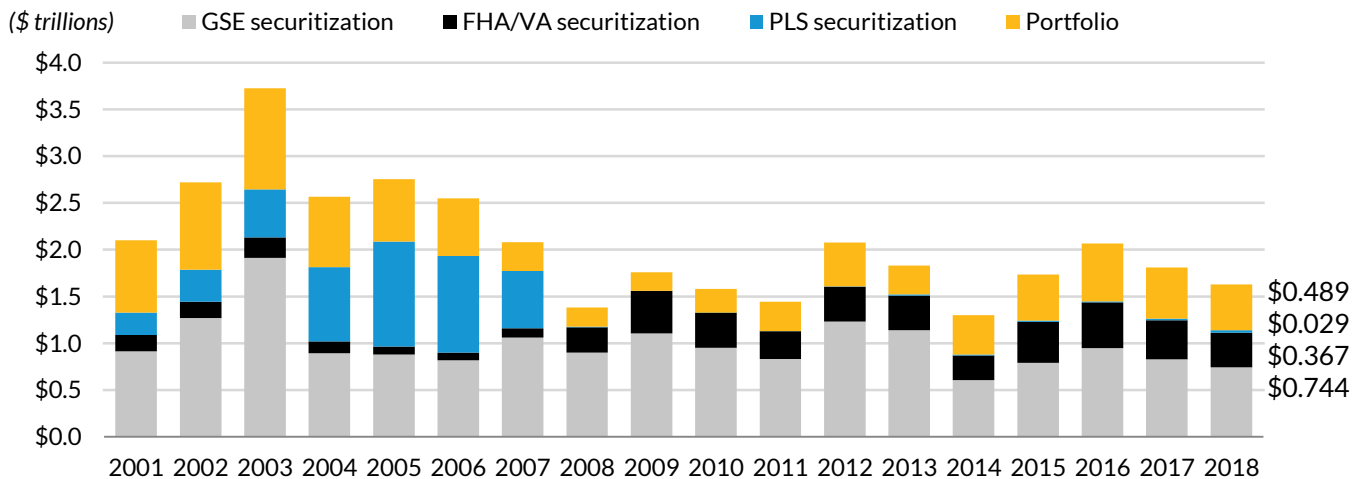


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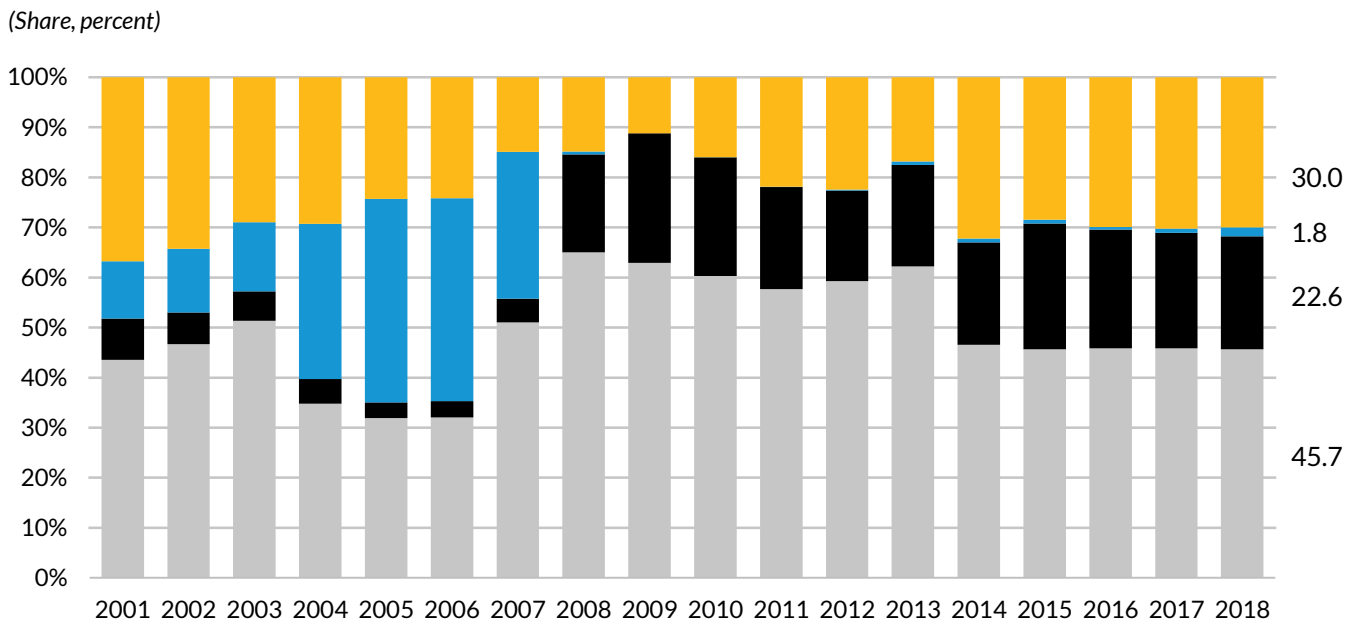
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

In 2018, first lien originations totaled \$1.63 trillion, down from \$1.81 billion in 2017, as higher interest rates curtailed refinance activity. The share of portfolio originations was 30 percent in 2018, down slightly from 30.3 percent in 2017. The GSE share was flat, at just above 45 percent. The FHA/VA share was down slightly: 22.6 percent in 2018 versus 23 percent in 2017. Private-label securitization finished at just under 2 percent share in 2018, the highest since 2007, but a small fraction of its share in the pre-bubble years.



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



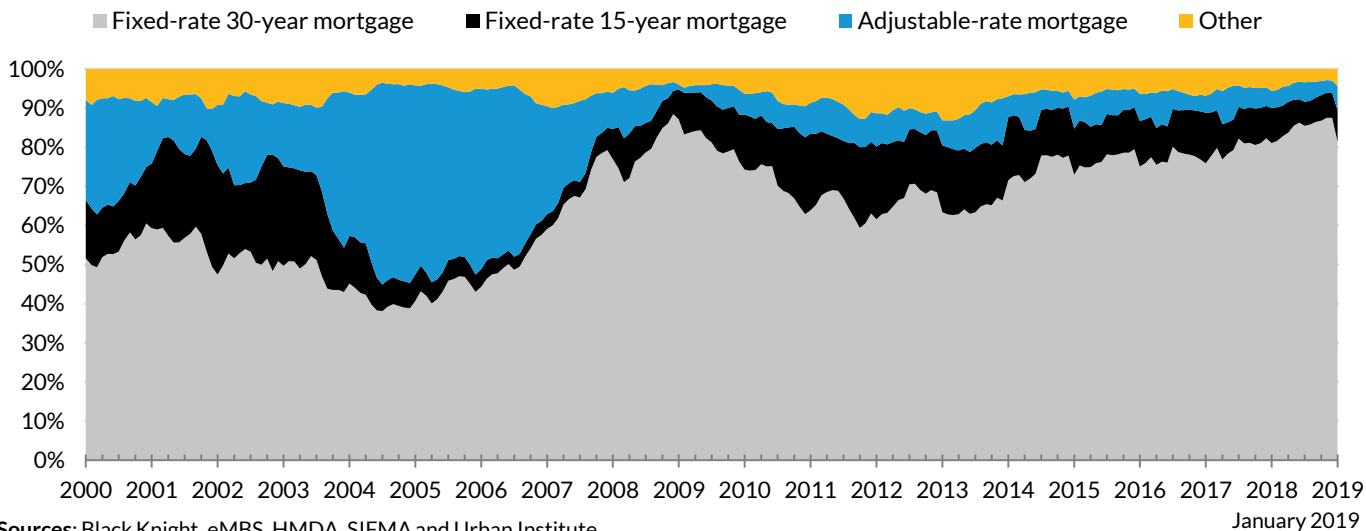
Sources: Inside Mortgage Finance and Urban Institute. Last updated March 2019.

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 ARM share fell to a historic low of 1 percent in 2009, and then slowly increased to a high of 12 percent in December 2013. It has since declined to its January 2019 level of 6.2 percent. The 15-year fixed-rate mortgage, predominantly a refinance product, accounted for 8.0 percent of new originations in January 2019. The refinance share (bottom chart) is highly seasonal, typically increasing in winter months when purchase activity is low. Higher rates in fall 2018 drove the refi share down to historical lows, but the refi share has increased slightly with rates falling in 2019.

Product Composition

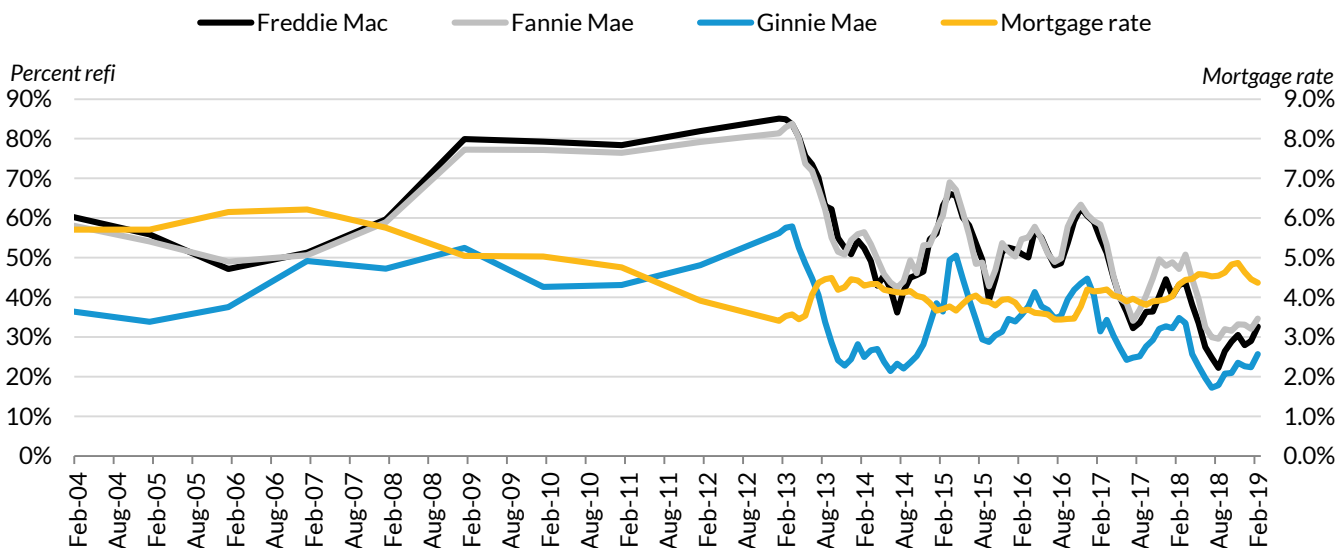


Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.

Note: Includes purchase and refinance originations.

January 2019

Percent Refi at Issuance



Sources: eMBS and Urban Institute.

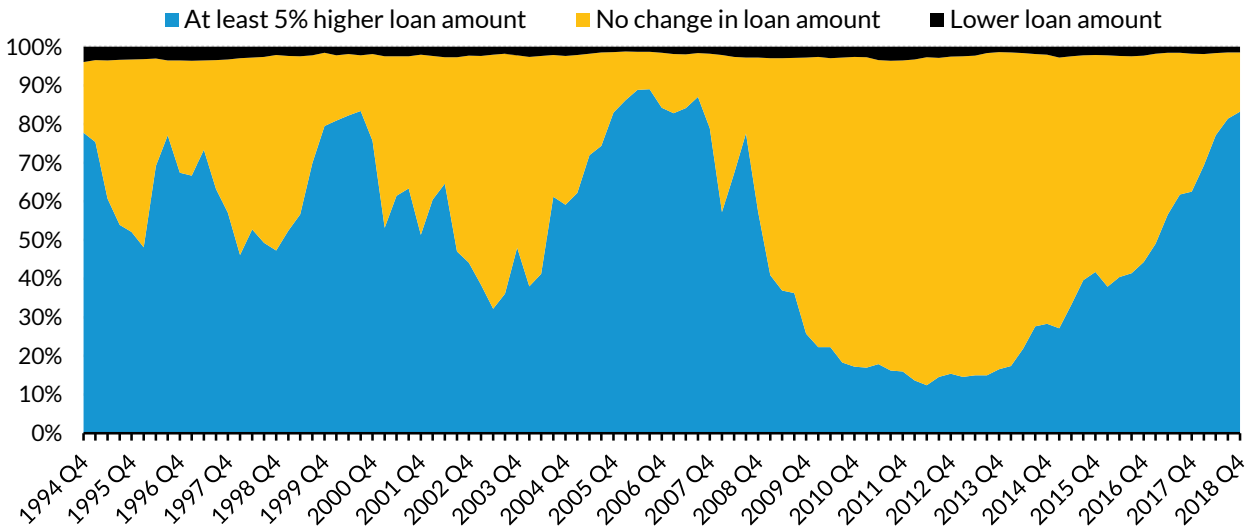
Note: Based on at-issuance balance. Figure based on data from February 2019.

OVERVIEW

CASH-OUT REFINANCES

When mortgage rates are low, the share of cash-out refinances tends to be small, as refinancing allows borrowers to save money by taking advantage of lower rates. But when rates are high, the cash-out refinance share is higher: borrowers have no incentive to refinance for a rate reduction; the only reason for a refinance is to take out equity. In the fourth quarter of 2018, the cash-out share of all refinances was 83 percent, mostly reflecting the drop in rate refinances. FHA's cash-out refinance share remains the lowest. While the cash-out refinance share for conventional mortgages is close to bubble era peak, cash out volumes are substantially lower.

Loan Amount after Refinancing

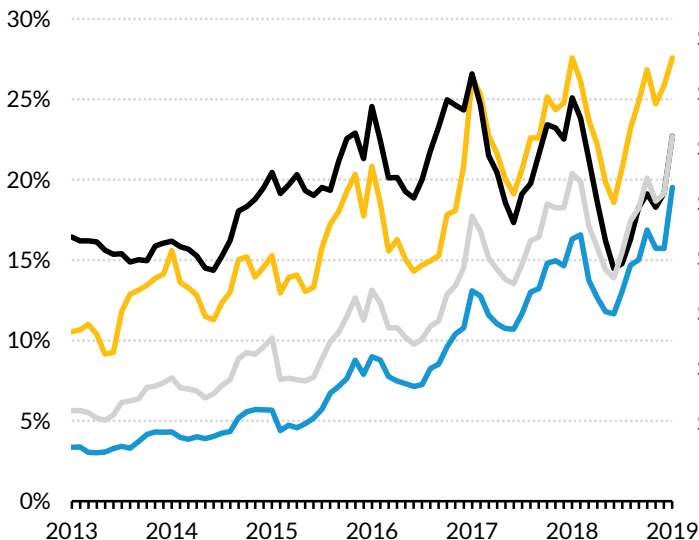


Sources: Freddie Mac and Urban Institute.

Note: Estimates include conventional mortgages only.

Cash-out Refi Share of All Originations

— FHA — VA — Freddie Mac — Ginnie Mae

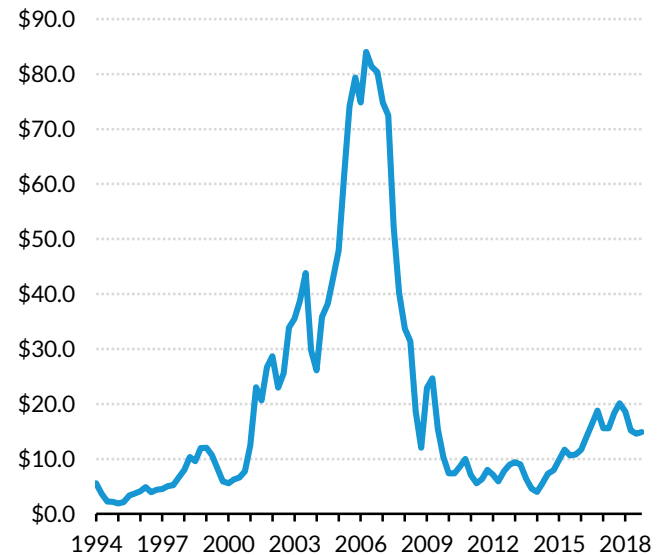


Sources: eMBS and Urban Institute.

Note: Cash-out refinance data not available for Fannie Mae. Data as of January 2019.

Cash-out Refi Volume

\$ billions



Sources: Freddie Mac and Urban Institute.

Note: Estimates include conventional mortgages only.

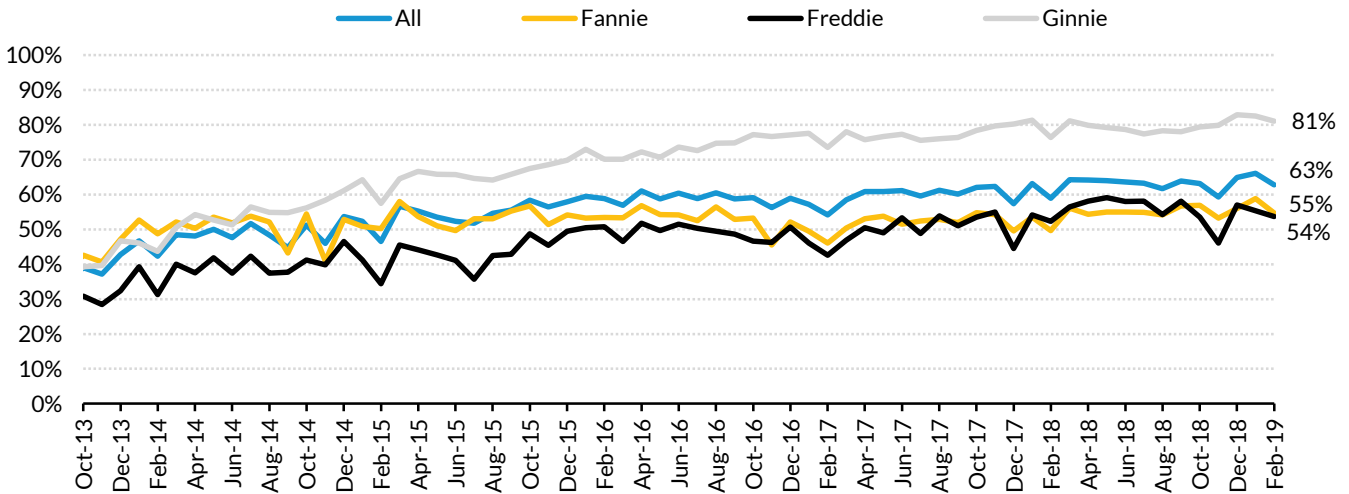
Q4 2018

OVERVIEW

AGENCY NONBANK ORIGINATION SHARE

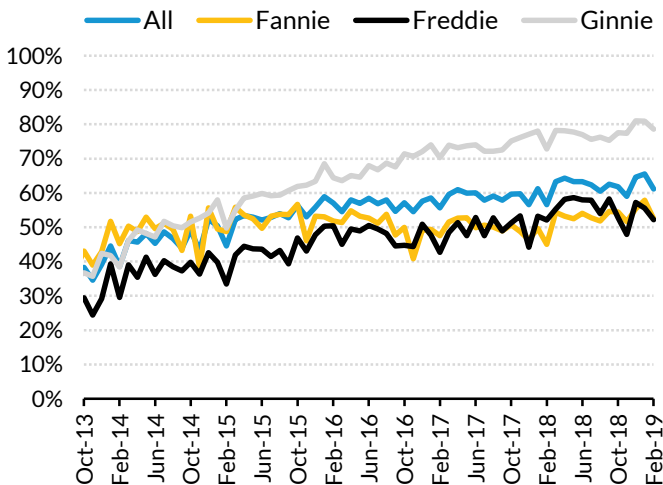
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, standing at 81 percent in February 2019. Both Fannie Mae and Freddie Mac nonbank shares fell slightly from Jan to Feb 2019, with Freddie falling for the second straight month to 54 percent and Fannie to 55 percent (note that these numbers can be volatile on a month to month basis.) The nonbank origination share is higher for refinance loans than for purchase loans for all three agencies, although the differential is the largest for Ginnie.

Nonbank Origination Share: All Loans



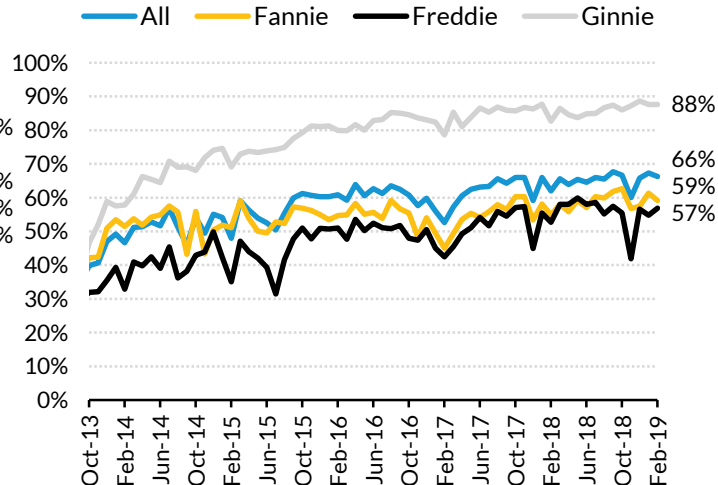
Sources: eMBS and Urban Institute.

Nonbank Origination Share: Purchase Loans



Sources: eMBS and Urban Institute.

Nonbank Origination Share: Refi Loans



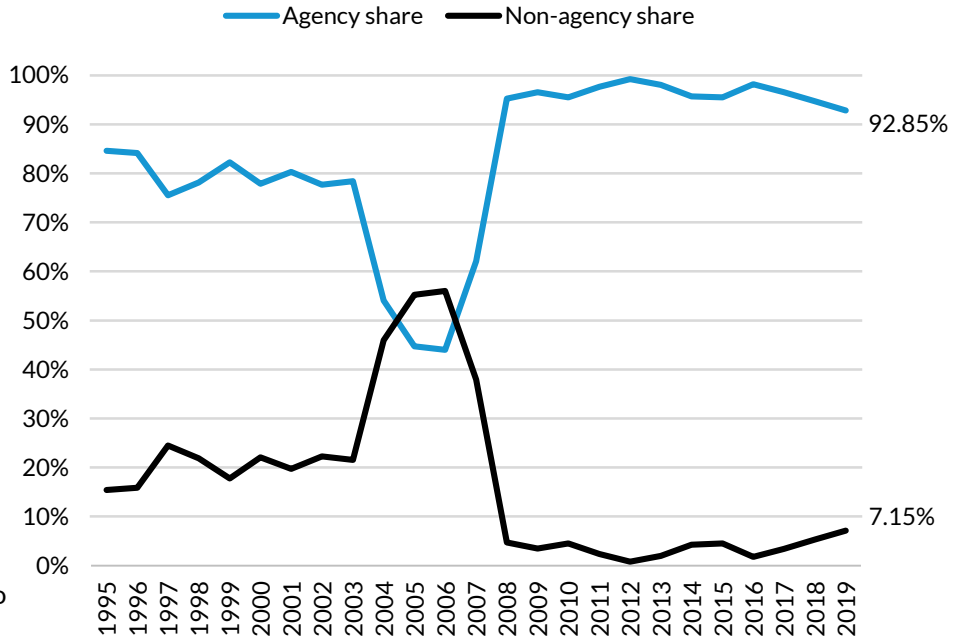
Sources: eMBS and Urban Institute.

OVERVIEW

SECURITIZATION VOLUME AND COMPOSITION

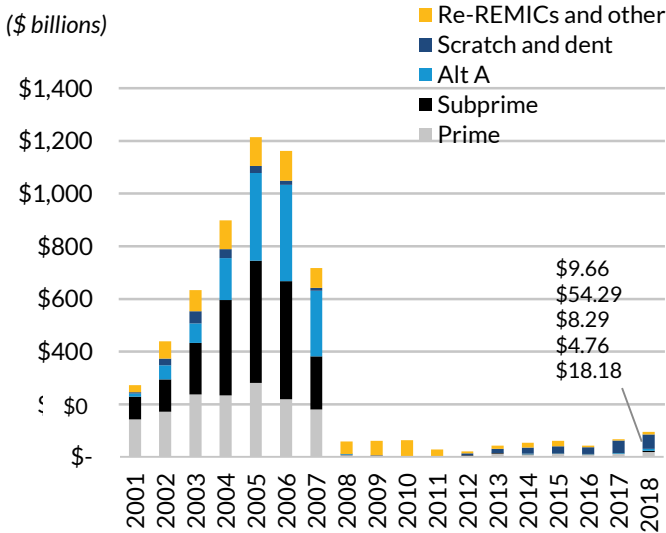
Agency/Non-Agency Share of Residential MBS Issuance

Non-agency share of mortgage securitizations has increased gradually over the years, from 1.8 percent in 2016 to 4.4 percent in 2018. It was even higher, 7.15 percent, in February 2019. Non-agency securitization volume totaled \$95.2 billion for the year 2018, a 41 percent increase over 2017, but there is a change in the mix. The relatively small Alt A and subprime securitization groups showed the largest growth, with subprime securitizations more than doubling and Alt A securitizations more than quadrupling since 2017. Non-agency securitizations continue to be tiny compared to pre-crisis levels.



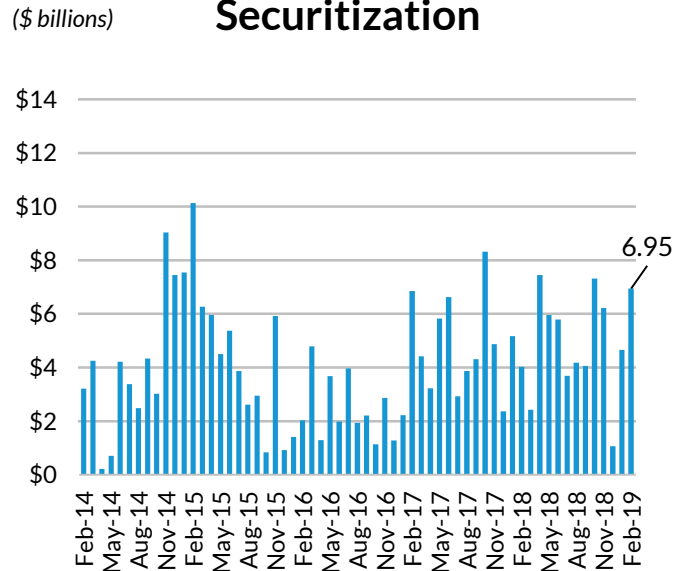
Sources: Inside Mortgage Finance and Urban Institute.
 Note: Based on data from February 2019.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization



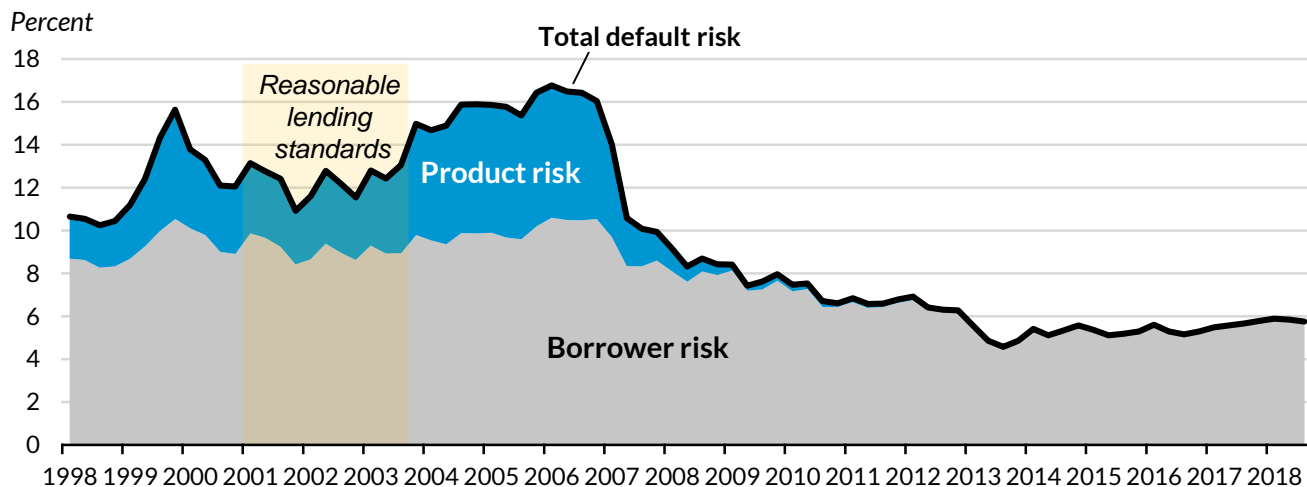
Sources: Inside Mortgage Finance and Urban Institute. 12

CREDIT BOX

HOUSING CREDIT AVAILABILITY INDEX

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, 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](#).

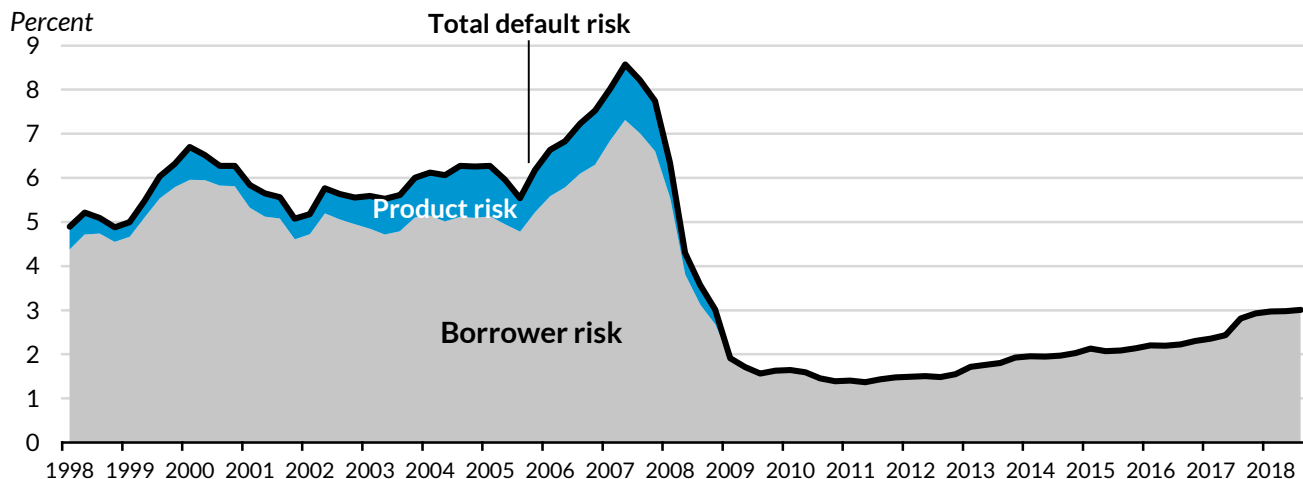
All Channels



GSE Channel

Q3 2018

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.

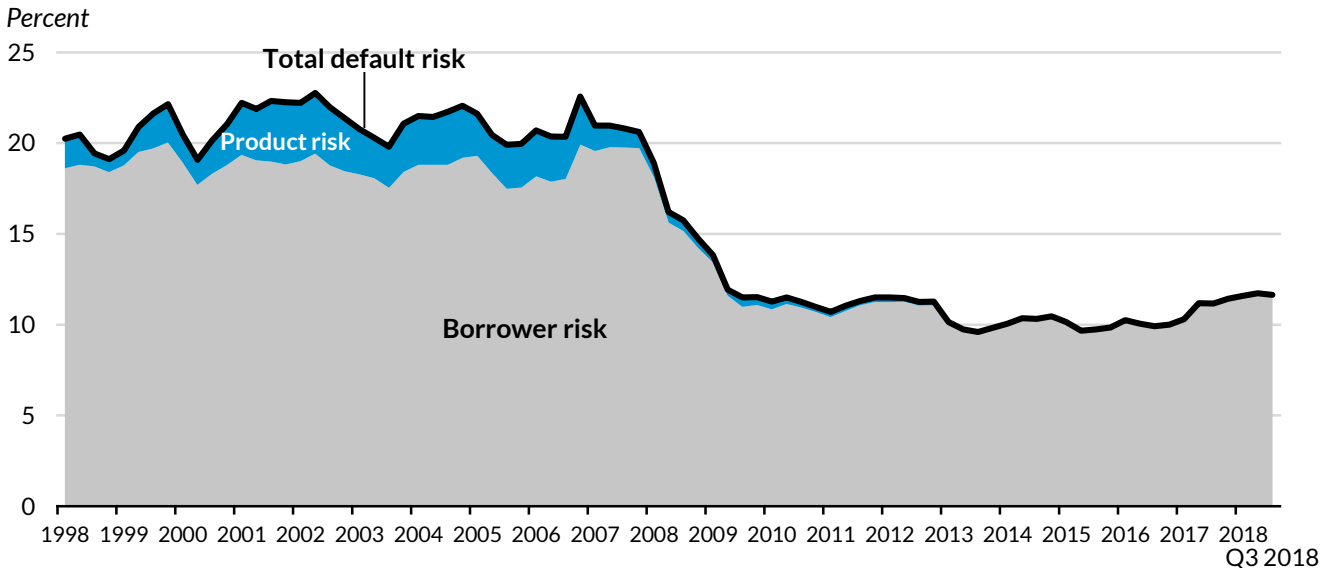
Q3 2018

CREDIT BOX

HOUSING CREDIT AVAILABILITY INDEX

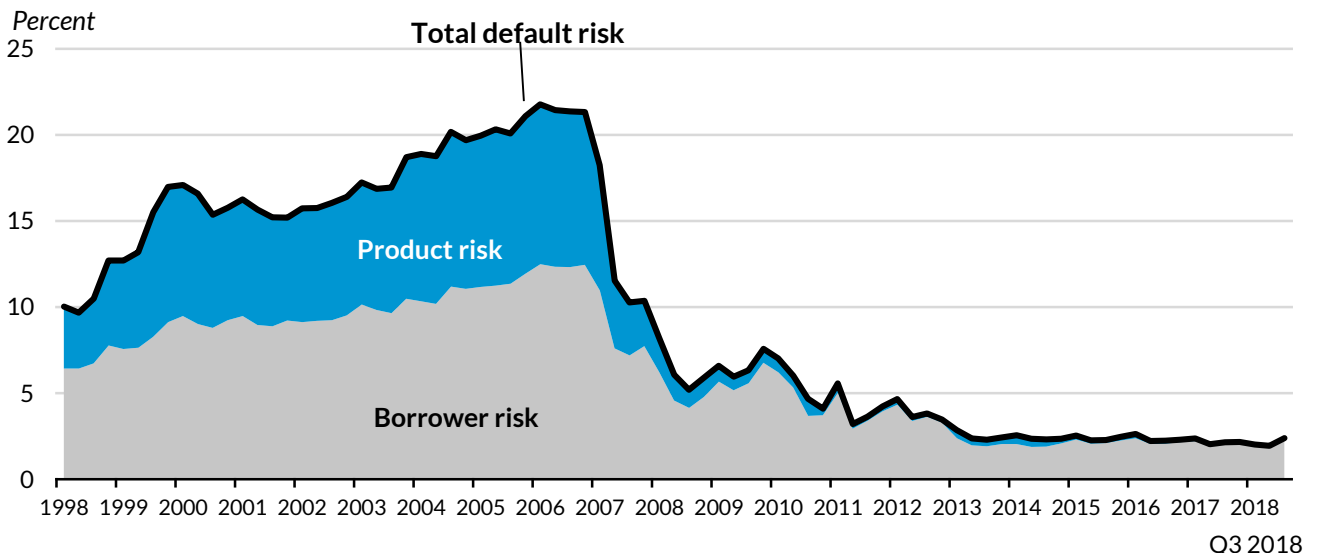
Government Channel

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, 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 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 percent 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.

Q3 2018

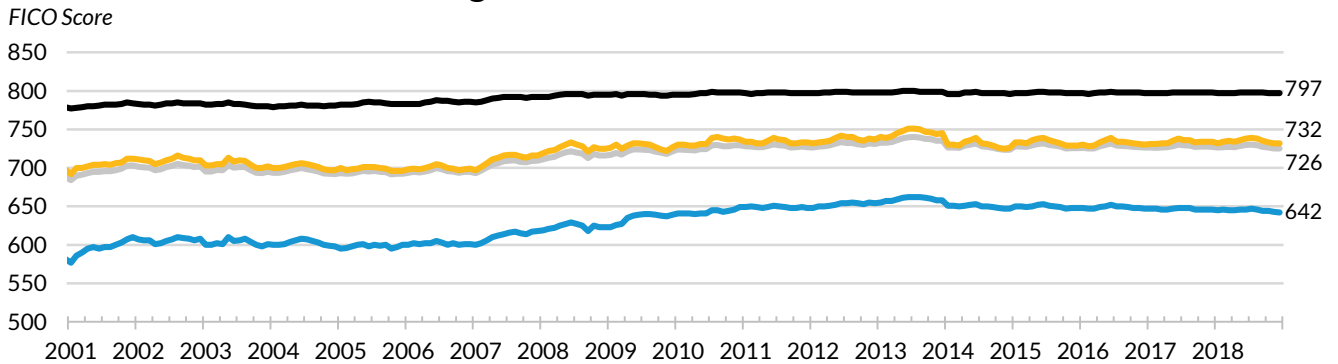
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CREDIT AVAILABILITY FOR PURCHASE LOANS

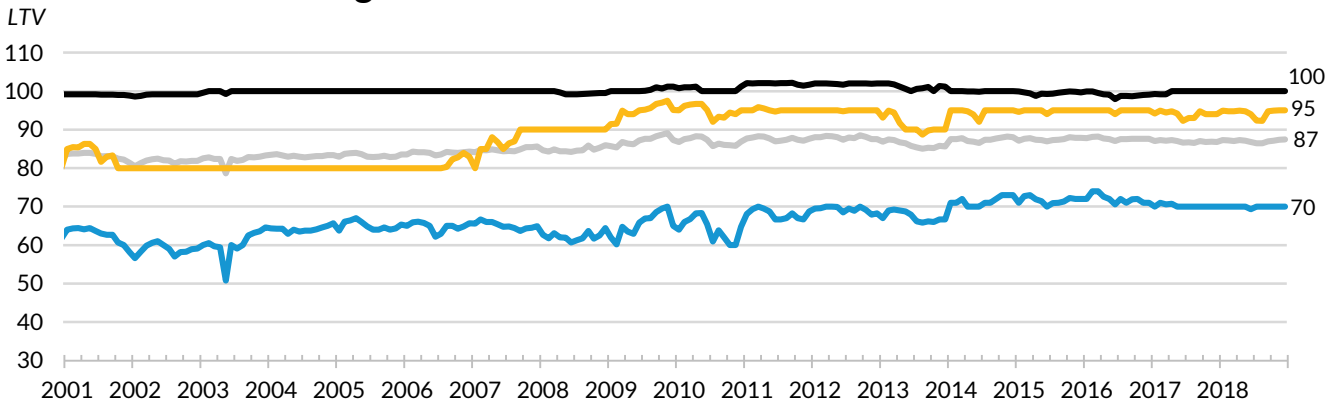
Access to credit remains tight, especially for lower FICO borrowers. Median FICO for current purchase loans is about 30 points higher than the pre-crisis level of around 700. The 10th percentile, which represents the lower bound of creditworthiness to qualify for a mortgage, was 642 in December 2018 compared to low-600s pre-bubble. Median LTV at origination of 95 percent remains relatively high, reflecting the rise of FHA and VA 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.

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

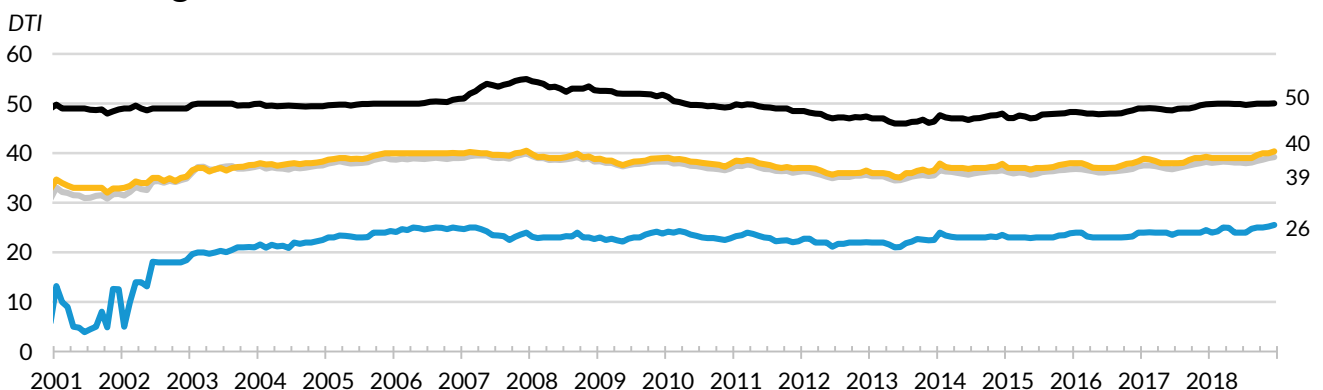
Borrower FICO Score at Origination



Combined LTV at Origination



DTI at Origination



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

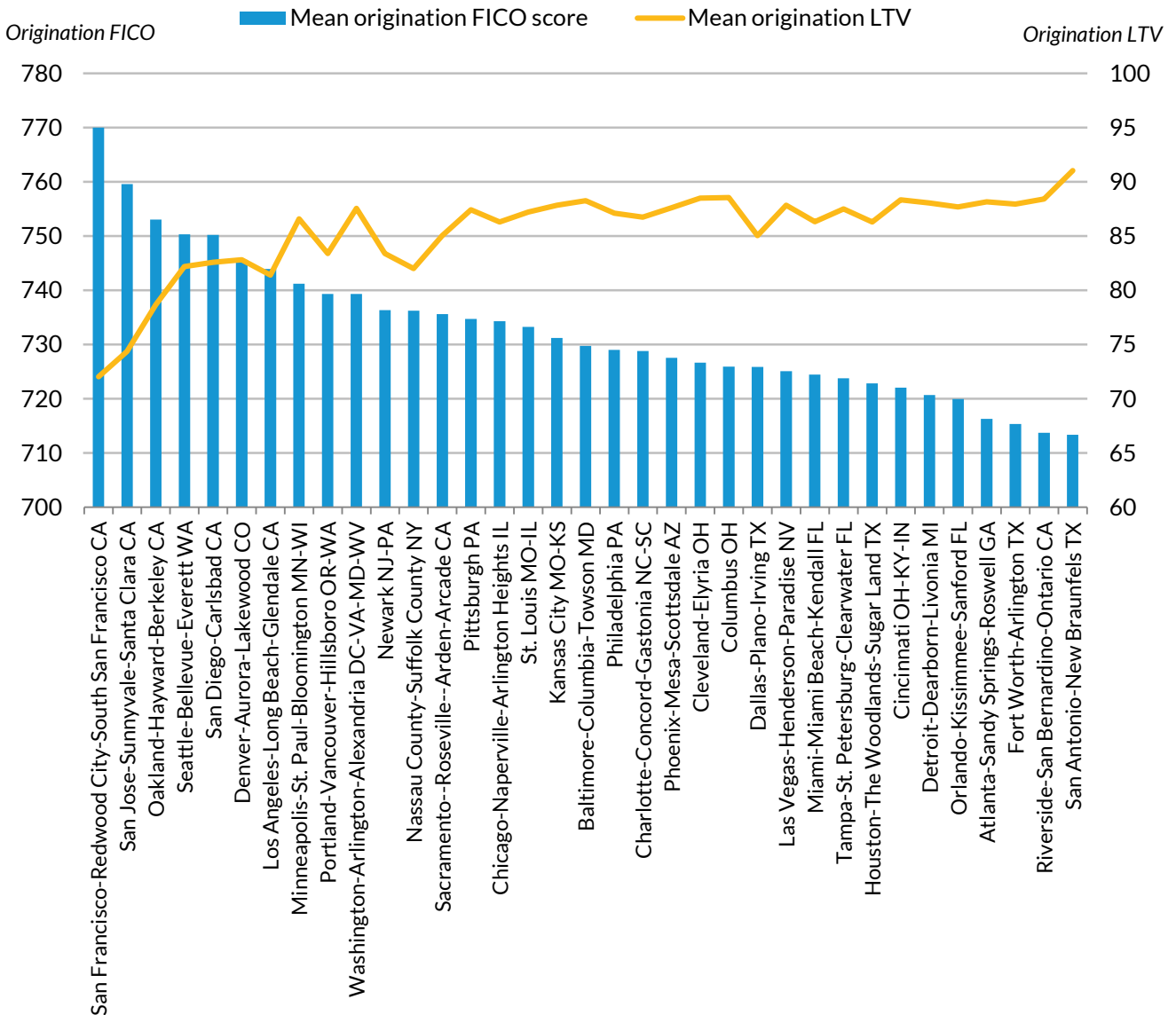
Note: Includes owner-occupied purchase loans only. DTI data prior to April 2018 is from CoreLogic; after that date, it is from Black Knight. Data as of December 2018.

CREDIT BOX

CREDIT AVAILABILITY BY MSA FOR PURCHASE LOANS

Credit has been tight for all borrowers with less-than-stellar credit scores- especially in MSAs with high housing prices. For example, the mean origination FICO for borrowers in San Francisco-Redwood City-South San Francisco, CA is 770, while in San Antonio-New Braunfels TX it is 713. 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.

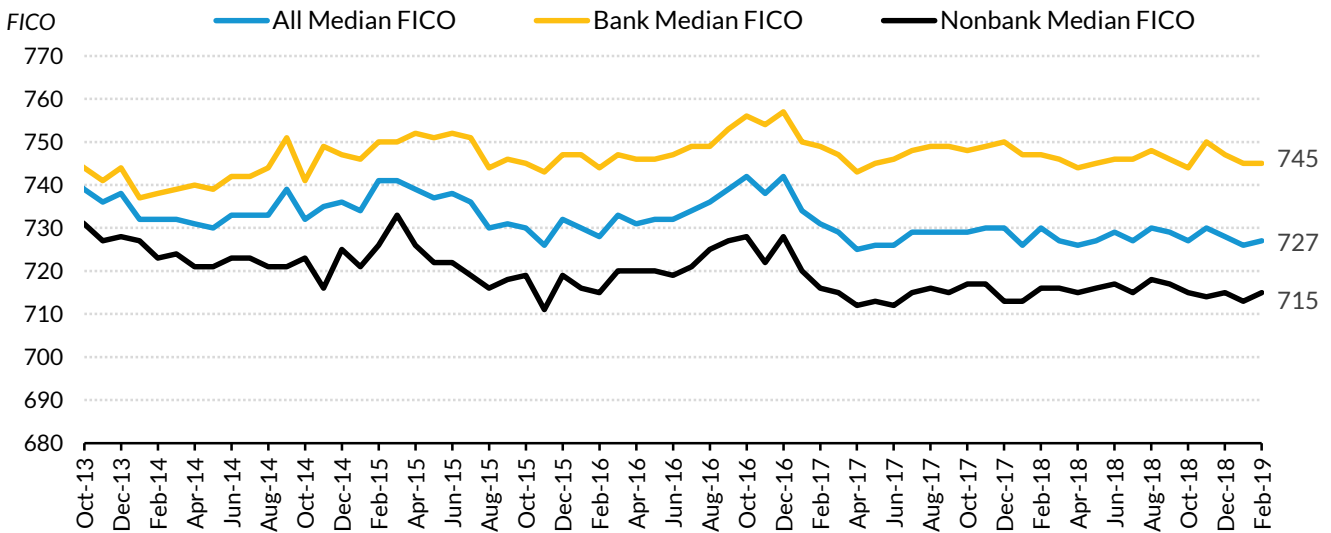
Note: Includes owner-occupied purchase loans only. Data as of December 2018.

CREDIT BOX

AGENCY NONBANK CREDIT BOX

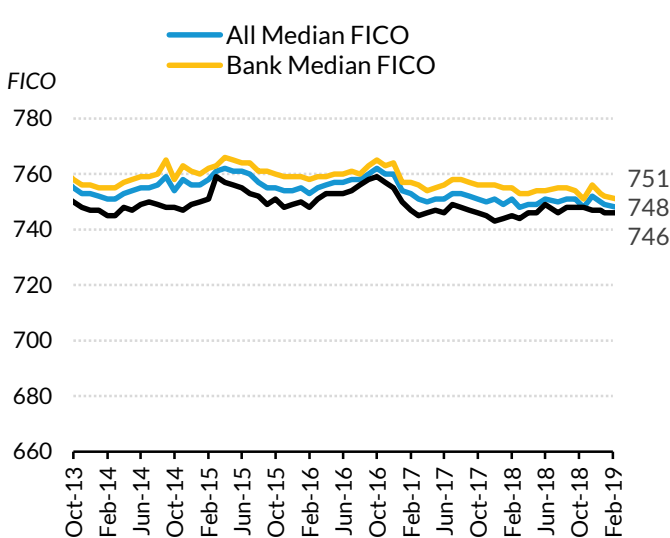
Nonbank originators have played a key role in opening up access to credit. Median GSE and Ginnie Mae FICOs for nonbank originations are lower than their bank counterparts, with a larger differential in the Ginnie Mae market. Within the GSE space, bank FICOs have declined slightly since 2014 and nonbank 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



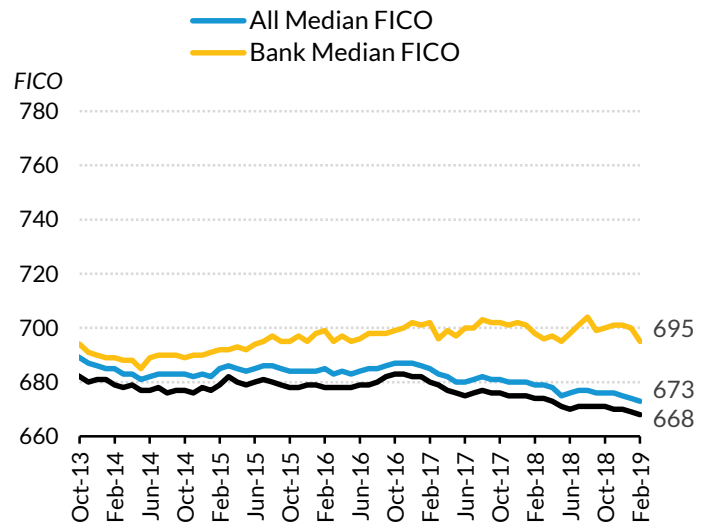
Sources: eMBS and Urban Institute.

GSE FICO: Bank vs. Nonbank



Sources: eMBS and Urban Institute.

Ginnie Mae FICO: Bank vs. Nonbank



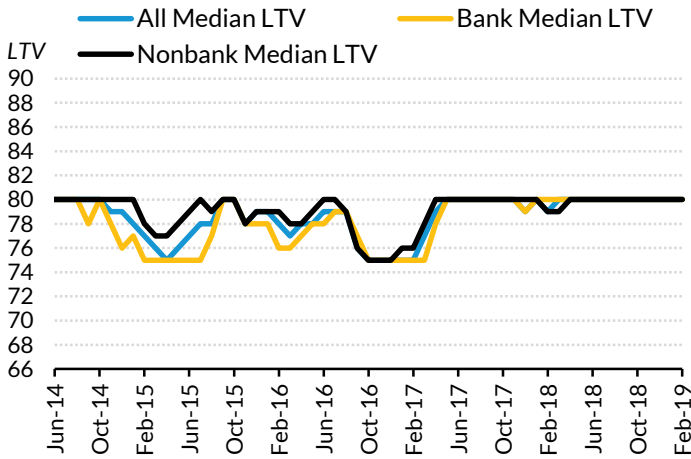
Sources: eMBS and Urban Institute.

CREDIT BOX

AGENCY NONBANK CREDIT BOX

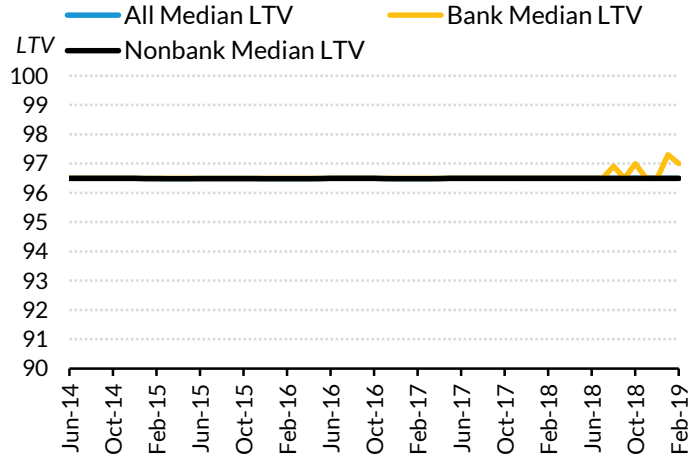
The median LTV for nonbank and bank originations are comparable, while the median DTIs for nonbank loans are higher, indicating that nonbanks are more accommodating in this dimension as well as in the FICO dimension. Since early 2017 there has been a sustained increase in DTIs. This is true for both 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 relative to incomes, and the reduction in refinance volumes makes lenders more willing to work a bit harder to get a loan approved for a marginal borrower.

GSE LTV: Bank vs. Nonbank



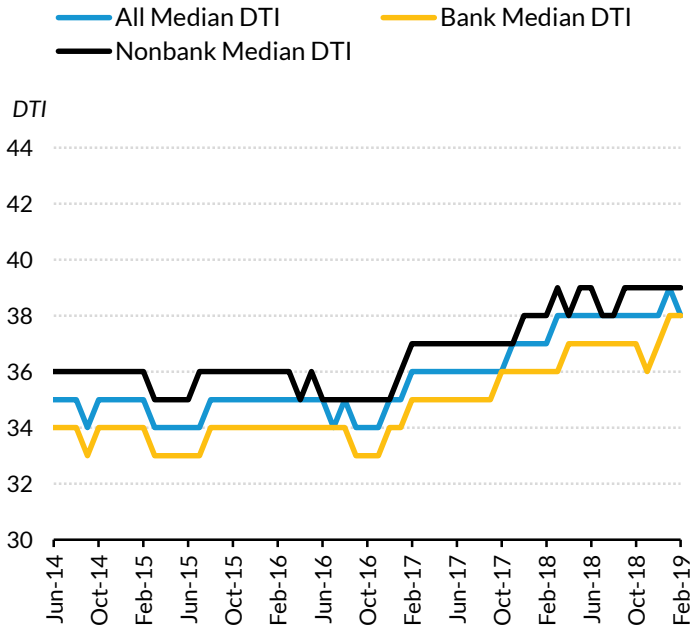
Sources: eMBS and Urban Institute.

Ginnie Mae LTV: Bank vs. Nonbank



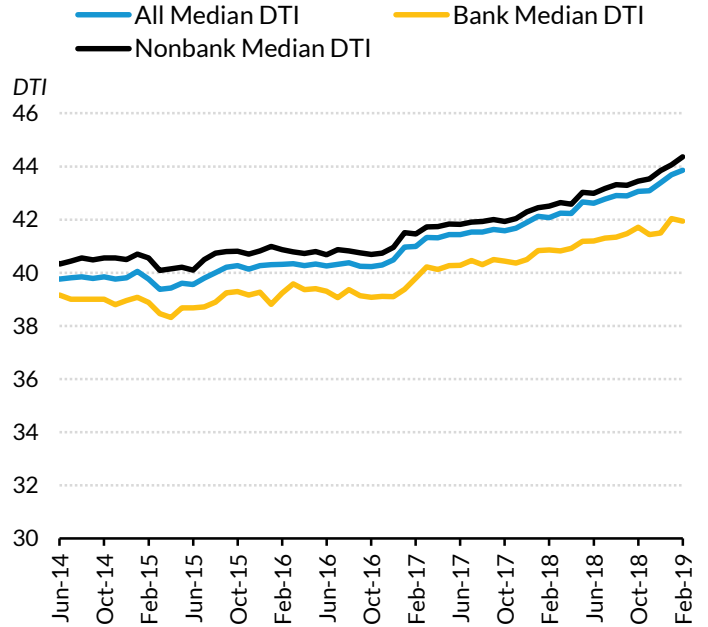
Sources: eMBS and Urban Institute.

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 estimated 2018 origination volume in the \$1.60-1.65 trillion range, lower than the \$1.76-1.82 trillion range in 2017 and much lower than the \$1.89-2.05 trillion in 2016. The differences owe primarily to a decline the refi volumes: from 47-49 percent in 2016, to 35-37 percent in 2017, to 28 -30 percent in 2018. 2019 origination volumes are expected to be close to 2018 volumes despite a further drop in the refi share.

Total Originations and Refinance Shares

Period	Originations (\$ billions)			Refi Share (percent)		
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	FNMA estimate	FHLMC estimate	MBA estimate
2018 Q1	374	377	342	39	40	37
2018 Q2	447	452	452	25	29	26
2018 Q3	422	435	457	24	25	24
2018 Q4	366	382	392	27	26	27
2019 Q1	321	359	309	32	38	30
2019 Q2	445	455	448	25	29	22
2019 Q3	437	459	460	24	28	22
2019 Q4	390	399	396	26	27	24
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	1600	1646	1643	28	30	28
FY 2019	1594	1672	1629	26	30	24
FY 2020	1637	1669	1683	24	26	24

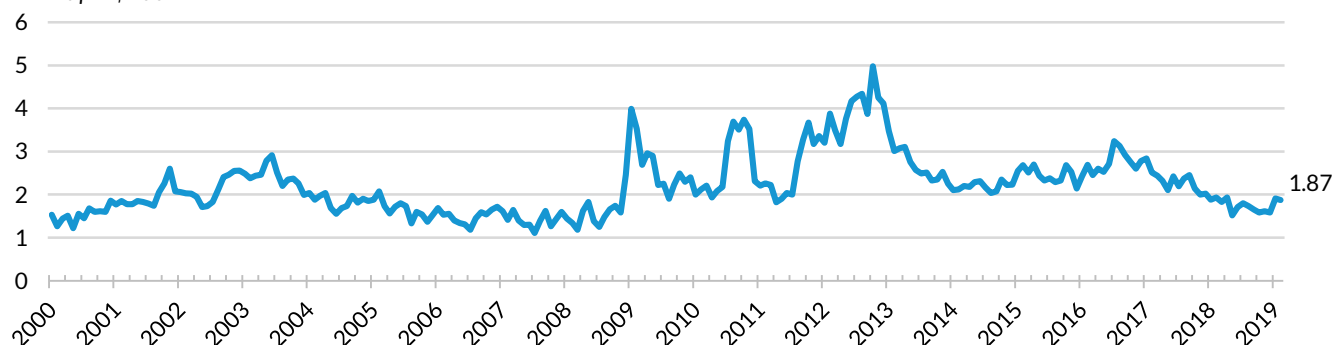
Sources: Fannie Mae, Freddie Mac, Mortgage Bankers Association and Urban Institute.

Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market. Regarding interest rates, the yearly averages for 2015, 2016, 2017 and 2018 were 3.9, 3.8, 4.0 and 4.6 percent. For 2019, the respective projections for Fannie, Freddie, and MBA are 4.4, 4.5, and 4.8 percent.

Originator Profitability and Unmeasured Costs

In February 2019, Originator Profitability and Unmeasured Costs (OPUC) stood at \$1.87 per \$100 loan, which is near the lower end of the range for the past 10 years, a slight decline from January 2019, but still up a bit over the past few months. 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.

Dollars per \$100 loan



Sources: Federal Reserve Bank of New York, updated monthly and available at this link:

<http://www.ny.frb.org/research/epr/2013/1113fust.html> and Urban Institute.

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

STATE OF THE MARKET

HOUSING SUPPLY

Strong demand for housing in recent years, coupled with historically low new home construction has shrunk the supply of for-sale homes to 3.5 months. Pre-crisis this number averaged 4.6 months. Fannie Mae, Freddie Mac and the MBA forecast 2019 housing starts to be 1.26 to 1.29 million units. Fannie Mae and Freddie Mac predict total home sales to remain under 6.0 million units in 2019, while the MBA predicts a higher 6.2 million.

Months of Supply

Months of supply



Source: National Association of Realtors and Urban Institute.

February 2019

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	1242	1250	1260	5962	5970	5990	5378	612
FY 2019	1256	1270	1285	5970	5940	6196	5561	635
FY 2020	1288	1330	1320	6114	6140	6381	5711	670

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

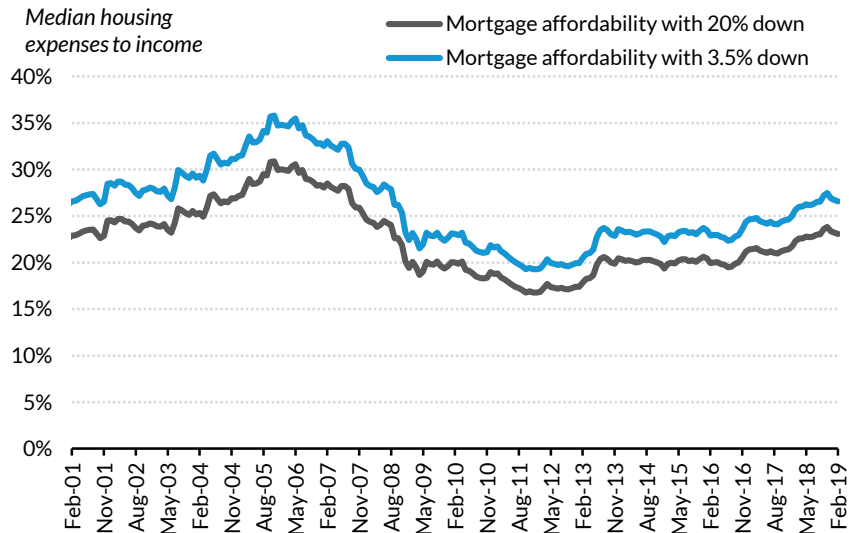
Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market; column labels indicate source of estimate.

STATE OF THE MARKET

HOUSING AFFORDABILITY

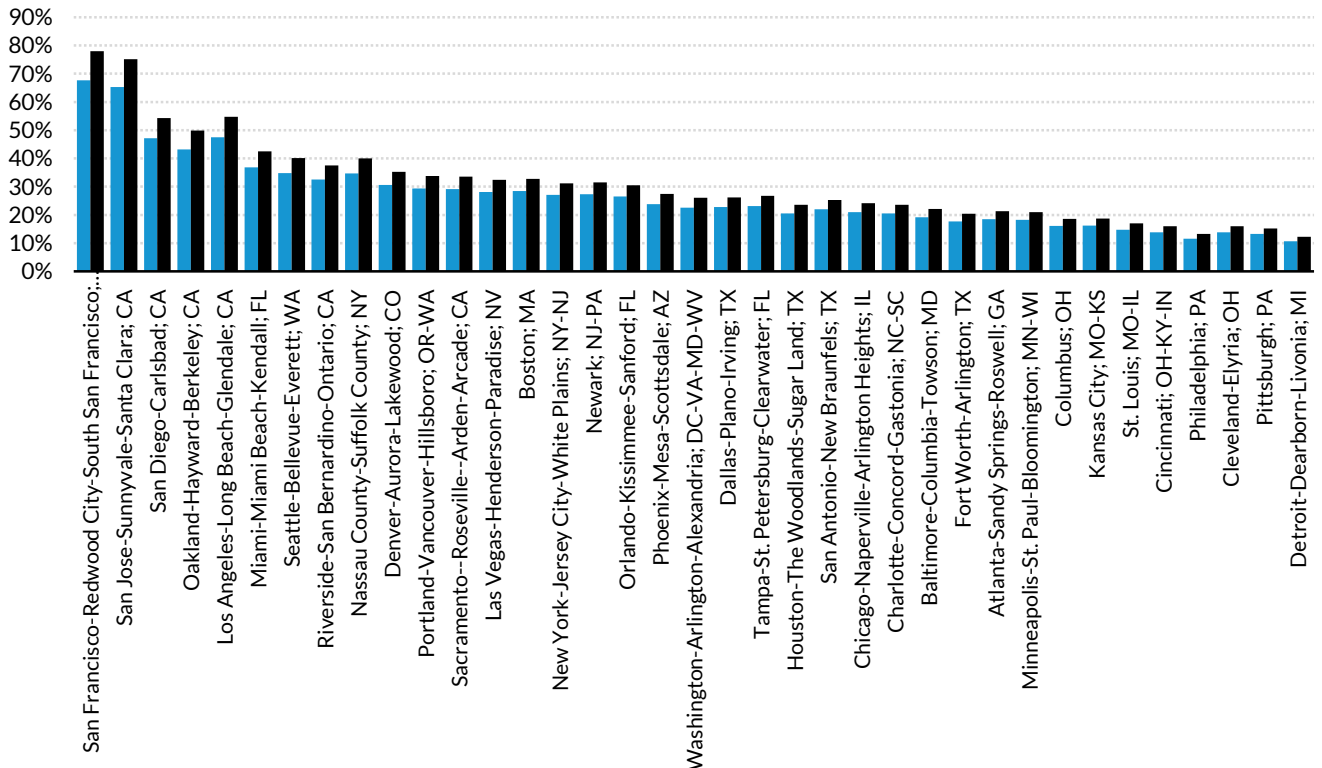
National Mortgage Affordability Over Time

Home prices remain affordable by historical standards, despite price increases over the last 6.5 years and interest rate increases. As of February 2019, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 23.1 percent; with 3.5 down, it is 26.6 percent. As of February, the median housing expenses to income ratio was slightly lower than the 2001-2003 average. As shown in the bottom picture, mortgage affordability varies widely by MSA.



Mortgage Affordability by MSA

Mortgage affordability index



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

Note: Mortgage affordability is the share of median family income devoted to the monthly principal, interest, taxes, and insurance payment required to buy the median home at the Freddie Mac prevailing rate 2018 for a 30-year fixed-rate mortgage and property tax and insurance at 1.75 percent of the housing value. Data for the bottom chart as of Q3 2018.

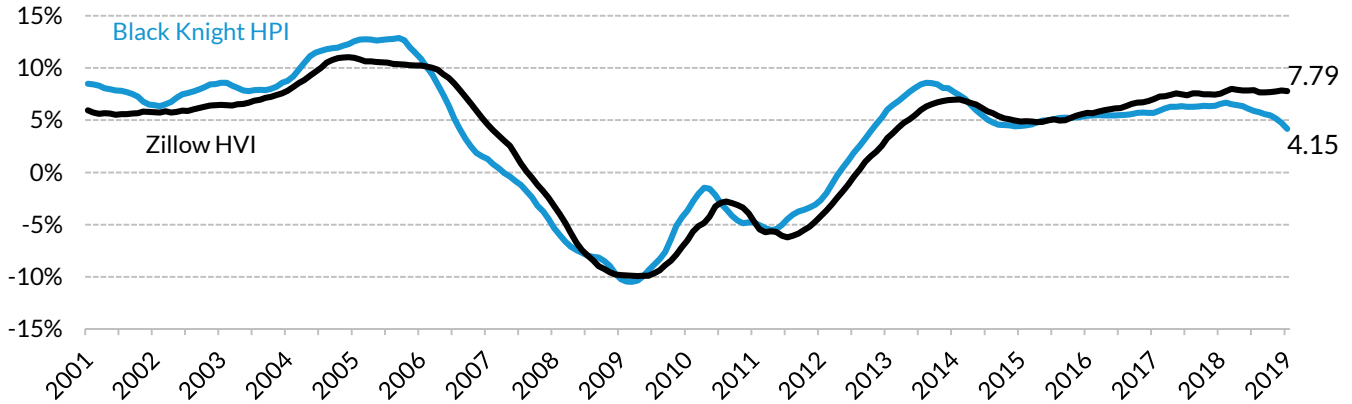
STATE OF THE MARKET

HOME PRICE INDICES

National Year-Over-Year HPI Growth

Year-over-year home price appreciation continued to slow in January 2019, as measured by Black Knight's repeat sales index, less so as measured by Zillow's hedonic index. We will be monitoring the impact of rising interest rates on home prices. Generally, rising interest rates (generally observed in tandem with a strong economy and higher inflation) have been associated with robust home price increases, despite the impact on affordability. With the Fed now on hold, we may well see more muted house price increases.

Year-over-year growth



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

Changes in Black Knight HPI for Top MSAs

After rising 47.9 percent from the trough, national house prices are now 10.0 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 12.2 percent, respectively, below peak values.

MSA	HPI changes (%)			% above peak
	2000 to peak	Peak to trough	Trough to current	
United States	75.8	-25.6	47.9	10.0
New York-Jersey City-White Plains, NY-NJ	127.9	-22.3	41.8	10.2
Los Angeles-Long Beach-Glendale, CA	180.1	-38.2	79.6	11.0
Chicago-Naperville-Arlington Heights, IL	67.1	-38.4	41.4	-13.0
Atlanta-Sandy Springs-Roswell, GA	32.6	-35.8	72.0	10.5
Washington-Arlington-Alexandria, DC-VA-MD-WV	149.2	-28.3	30.9	-6.2
Houston-The Woodlands-Sugar Land, TX	29.4	-6.7	42.9	33.3
Phoenix-Mesa-Scottsdale, AZ	113.4	-51.2	85.7	-9.3
Riverside-San Bernardino-Ontario, CA	175.8	-51.8	82.3	-12.2
Dallas-Plano-Irving, TX	26.5	-7.2	61.8	50.2
Minneapolis-St. Paul-Bloomington, MN-WI	69.1	-30.2	50.9	5.3
Seattle-Bellevue-Everett, WA	90.6	-33.0	92.1	28.8
Denver-Aurora-Lakewood, CO	34.0	-12.1	83.8	61.6
Baltimore-Columbia-Towson, MD	123.6	-24.1	17.5	-10.8
San Diego-Carlsbad, CA	148.4	-37.5	69.2	5.7
Anaheim-Santa Ana-Irvine, CA	163.4	-35.3	60.3	3.8

Sources: Black Knight HPI and Urban Institute. Data as of January 2019.

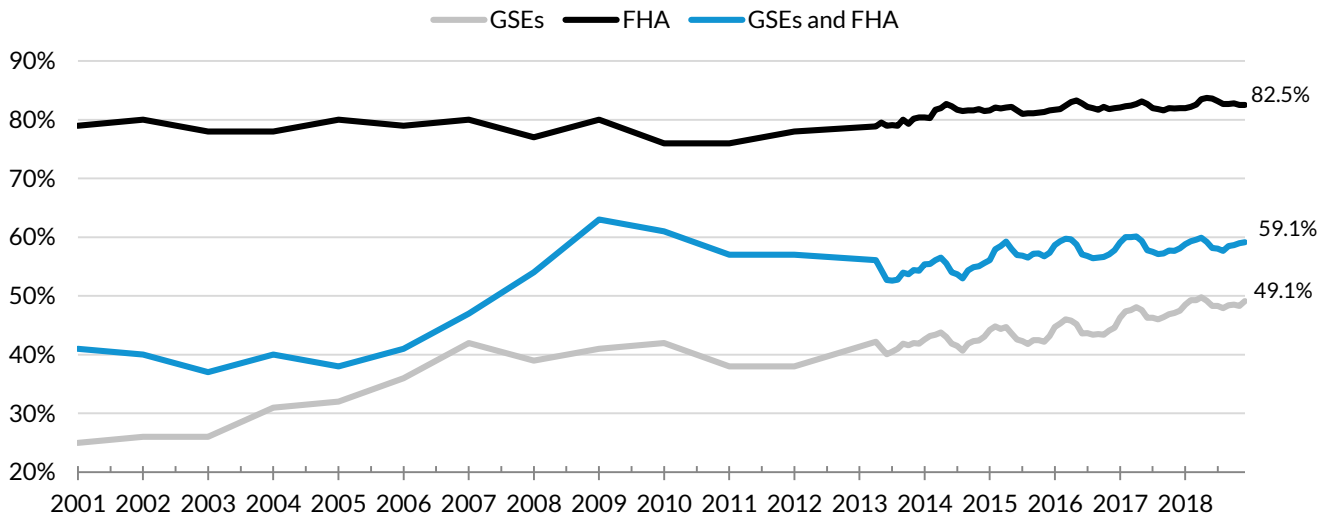
Note: This table includes the largest 15 Metropolitan areas by mortgage count.

STATE OF THE MARKET

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In December 2018, the first time homebuyer (FTHB) share of purchase loans increased very slightly for conventional mortgages and remained flat for FHA mortgages compared to the previous month. The FTHB share for FHA, which has always been more focused on first time homebuyers, stood at 82.5 percent in December 2018. The GSE FTHB share in December 2018 was 49.1 percent. The bottom table shows that based on mortgages originated in December 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.

December 2018

Note: All series measure the first-time homebuyer share of purchase loans for principal residences.

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

Characteristics	GSEs		FHA		GSEs and FHA	
	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount (\$)	236,396	258,435	210,464	225,919	225,926	253,246
Credit Score	738	754	668	675	710	741
LTV (%)	87	79	95	94	91	81
DTI (%)	37	37	44	45	40	39
Loan Rate (%)	5.09	5.00	5.19	5.11	5.13	5.02

Sources: eMBS and Urban Institute.

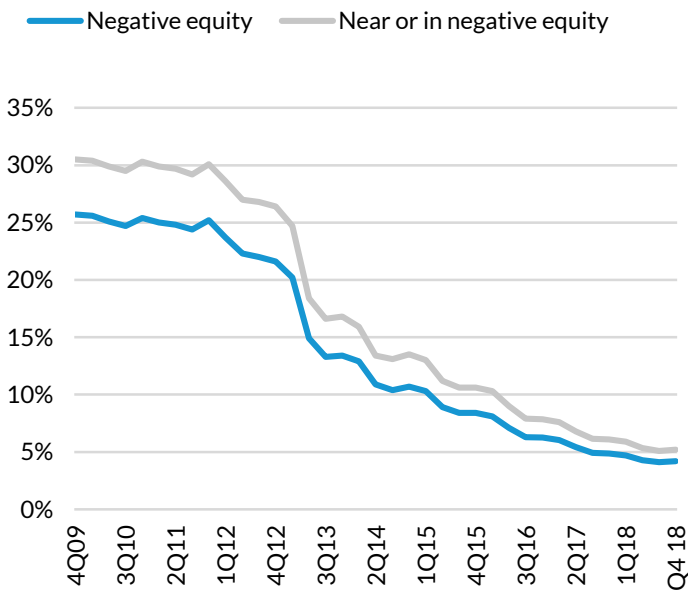
Note: Based on owner-occupied purchase mortgages originated in December 2018.

STATE OF THE MARKET

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 than 5 percent equity. Loans that are 90 days delinquent or in foreclosure have also been in a long decline, falling to 2.06 percent in the fourth quarter. New loan modifications and liquidations (bottom) have continued to decline. Since Q3, 2007, total loan modifications (HAMP and proprietary) are roughly equal to total liquidations. Hope Now reports show 8,491,929 borrowers received a modification from Q3 2007 to Q2 2018, compared with 8,673,435 liquidations in the same period.

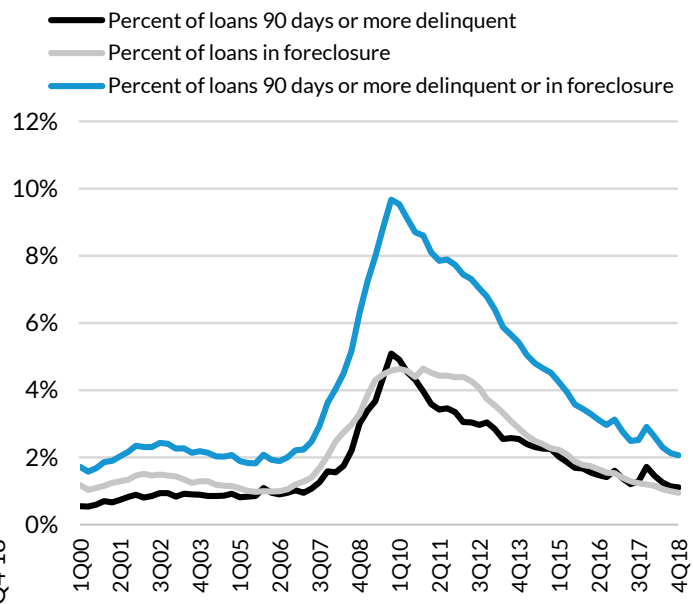
Negative Equity Share



Sources: CoreLogic and Urban Institute.

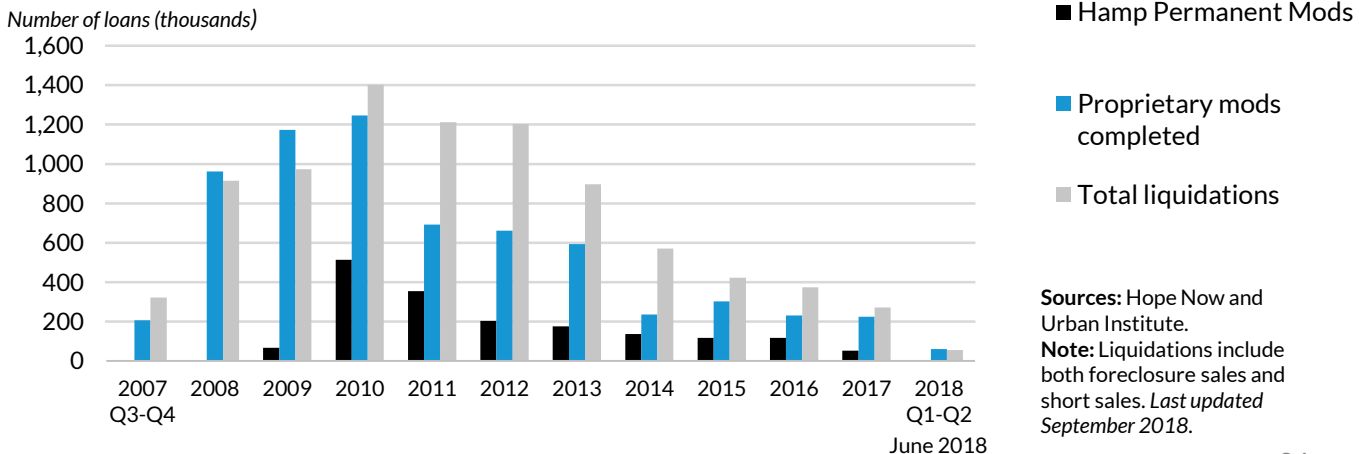
Note: Loans with negative equity refer to loans above 100 percent LTV. Loans near negative equity refer to loans above 95 percent LTV. Last updated March 2019.

Loans in Serious Delinquency/Foreclosure



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

Loan Modifications and Liquidations



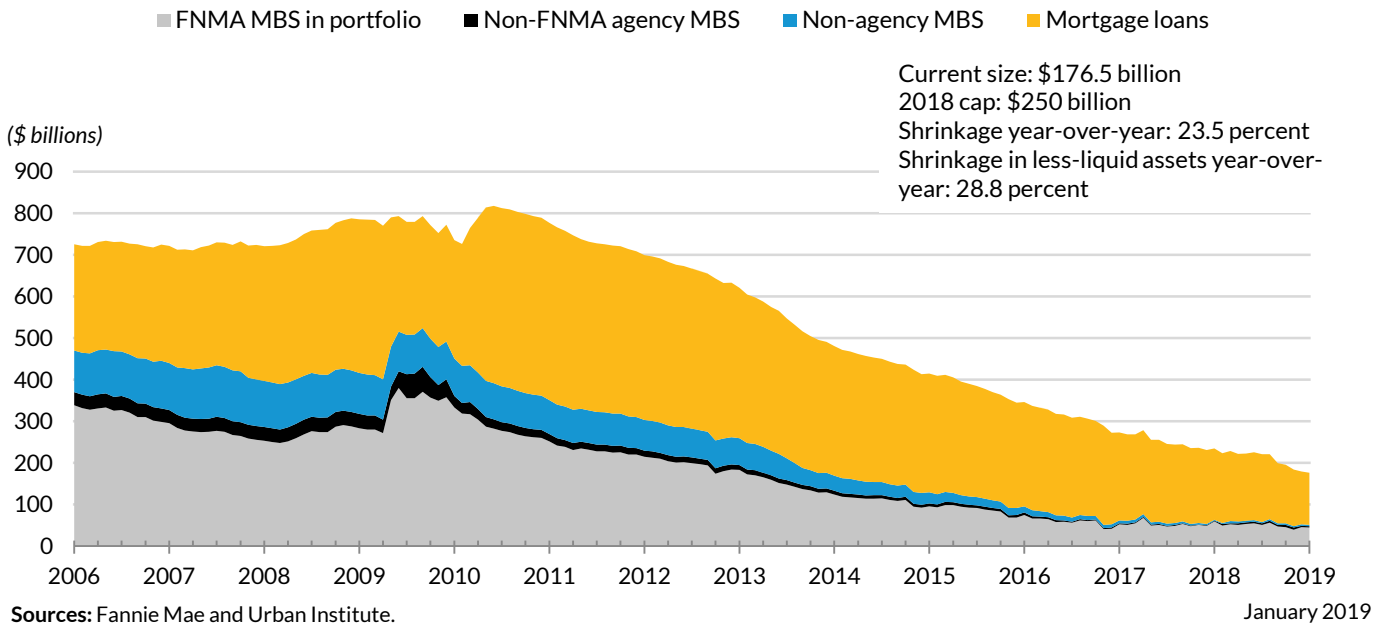
Sources: Hope Now and Urban Institute. Note: Liquidations include both foreclosure sales and short sales. Last updated September 2018.

GSES UNDER CONSERVATORSHIP

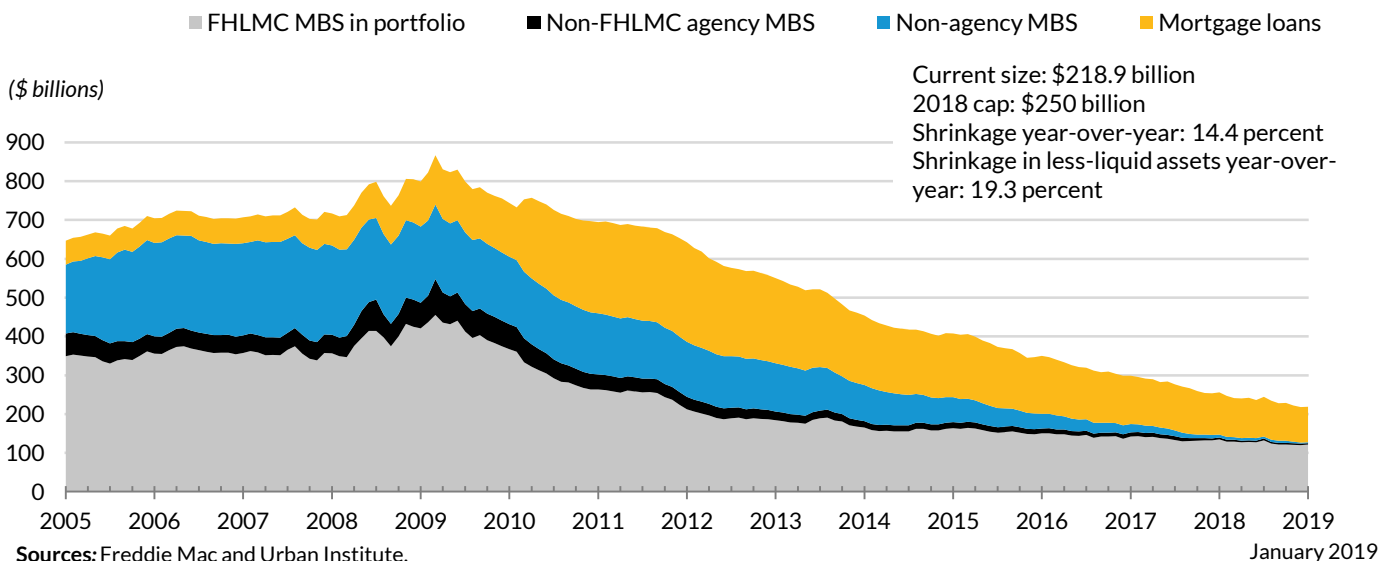
GSE PORTFOLIO WIND-DOWN

Both GSEs continue to contract their retained portfolios. Since January 2018, Fannie Mae has contracted by 23.5 percent and Freddie Mac by 14.4 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



Freddie Mac Mortgage-Related Investment Portfolio Composition



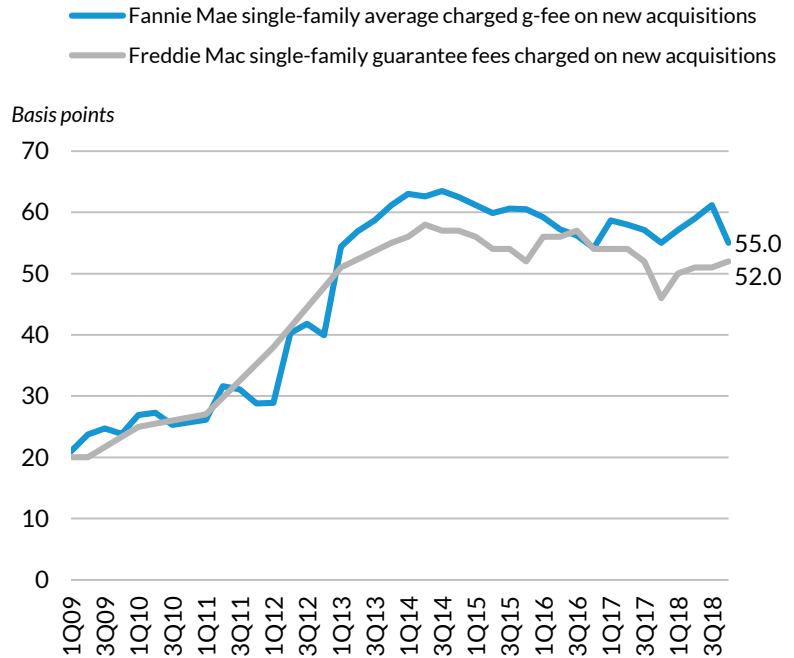
GSES UNDER CONSERVATORSHIP

EFFECTIVE GUARANTEE FEES

Guarantee Fees Charged on New Acquisitions

Fannie Mae's 2018 10-K indicates that its average g-fees charged on new acquisitions fell from 61.2 to 55.0 bps in Q4 2018 while Freddie rose to 52.0 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 Mac and Urban Institute.
Last updated February 2019.



Fannie Mae Upfront Loan-Level Price Adjustments (LLPAs)

Credit Score	LTV (%)							
	≤60	60.01 - 70	70.01 - 75	75.01 - 80	80.01 - 85	85.01 - 90	90.01 - 95	95.01 - 97
> 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 \$1.203 trillion, while Freddie's STACR totals \$1.124 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
January 2019	CAS 2019 – R01	\$28,000	\$960	3.4
February 2019	CAS 2019 – R02	\$27,000	\$1,000	3.7
Total		\$1,203,172	\$37,360	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
January 2019	STACR Series 2019 – DNA1	\$24,600	\$714	2.9
February 2019	STACR Series 2019 – HQA1	\$20,760	\$640	3.1
Total		\$1,124,445	\$31,317	2.8

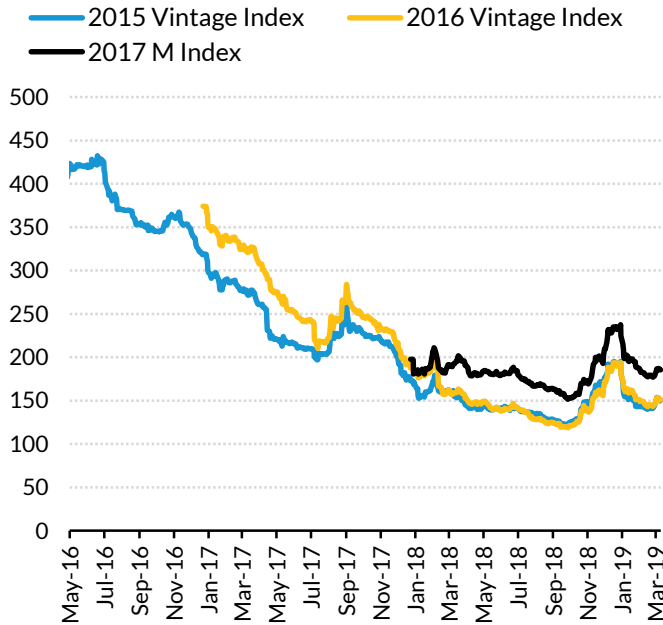
Sources: Fannie Mae, Freddie Mac and Urban Institute. **Note:** Classes A-H, M-1H, M-2H, and B-H are reference tranches only. These classes are not issued or sold. The risk is retained by Fannie Mae and Freddie Mac. "CE" = credit enhancement.

GSES UNDER CONSERVATORSHIP

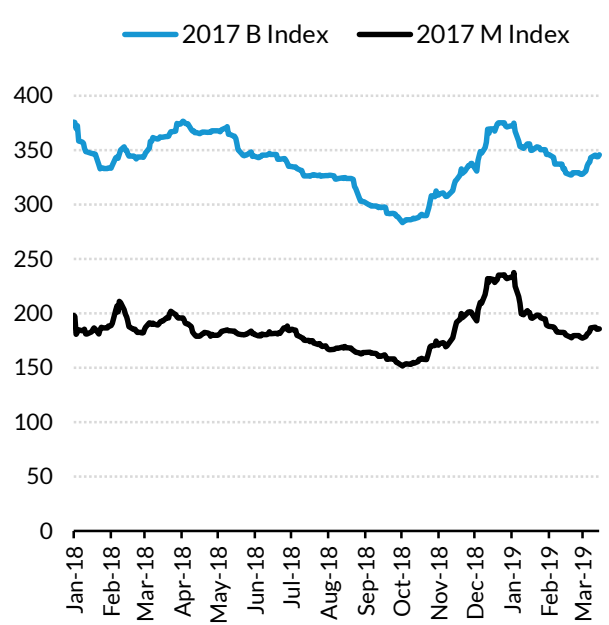
GSE RISK-SHARING INDICES

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.

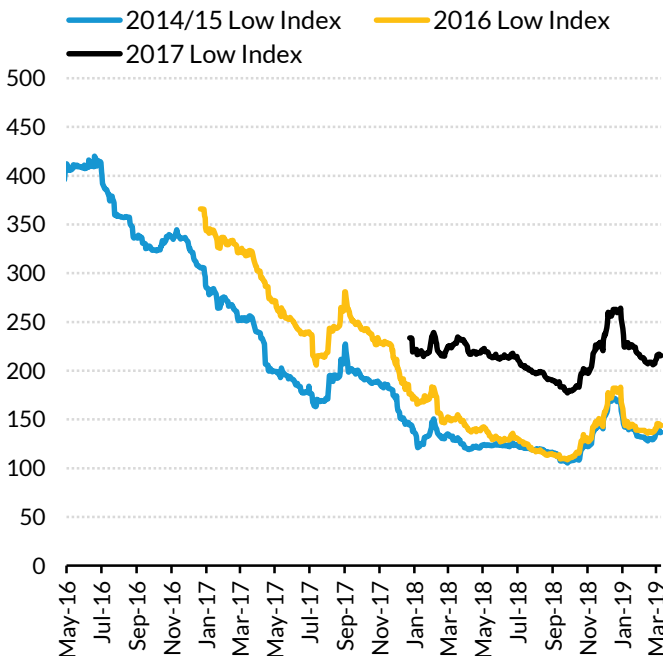
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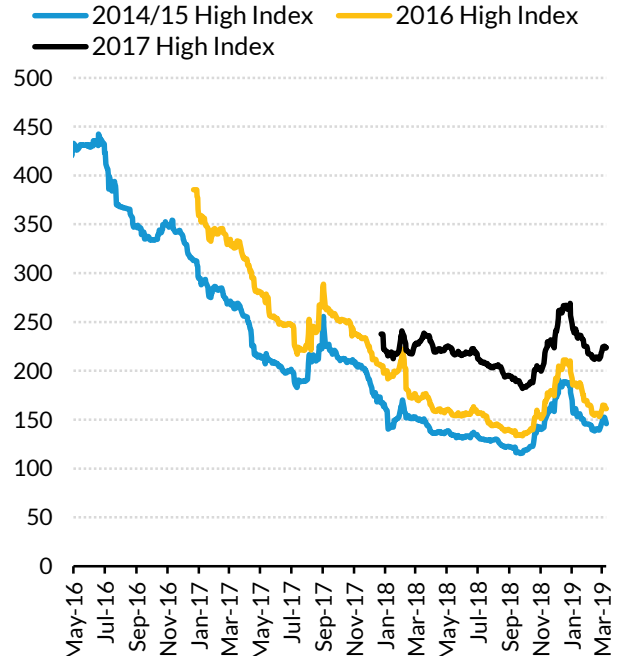
2017 Indices



Low Indices



High Indices



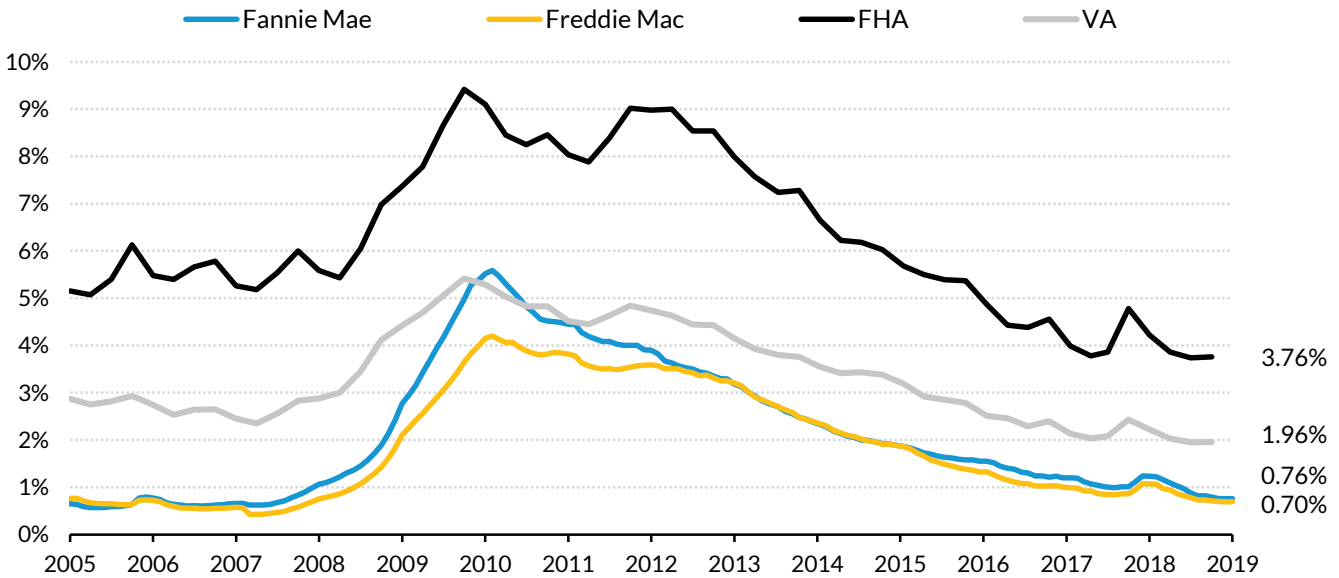
Sources: Vista Data Services and Urban Institute.
 Note: Data as of March 15, 2019.

GSES UNDER CONSERVATORSHIP

SERIOUS DELINQUENCY RATES

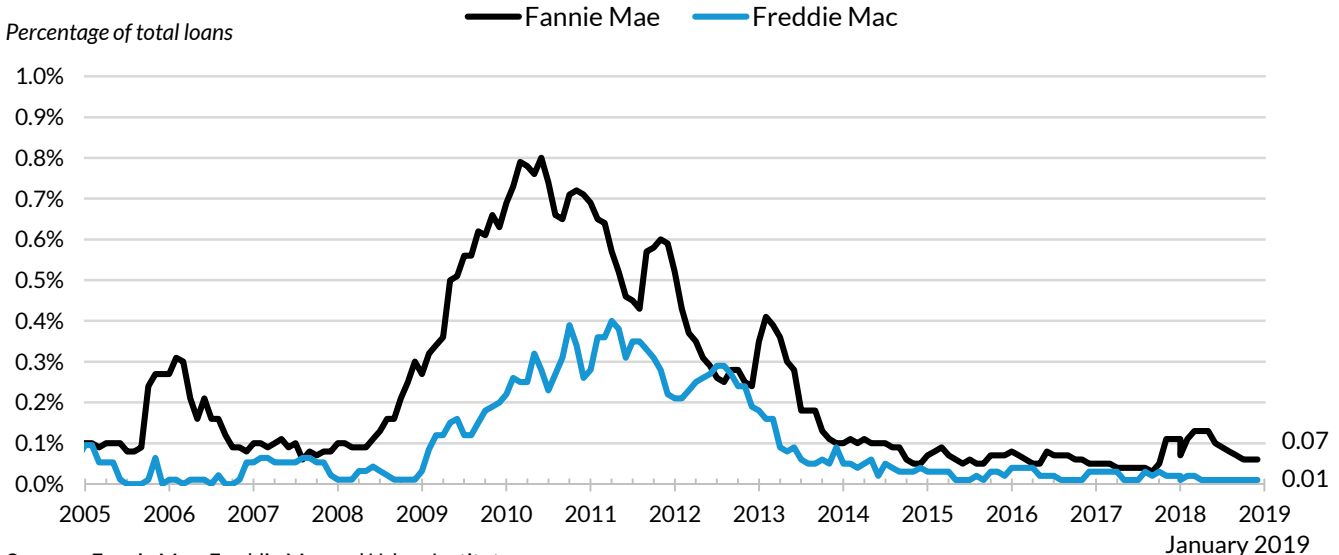
Serious delinquencies for single-family GSE, FHA, and VA loans continued their decline in 2018, after hurricane related uptick at the end of 2017. GSE delinquencies remain high relative to 2005-2007, while FHA and VA delinquencies (which are higher than their GSE counterparts) are at levels lower than 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 February 2019. GSE delinquencies are reported monthly, last updated March 2019.

Serious Delinquency Rates—Multifamily GSE Loans



Sources: Fannie Mae, Freddie Mac and Urban Institute.

Note: Multifamily serious delinquency rate is the unpaid balance of loans 60 days or more past due, divided by the total unpaid balance.

AGENCY ISSUANCE

AGENCY GROSS AND

NET ISSUANCE

Agency gross issuance was \$152.3 billion in the first two months of 2019, or \$913.5 billion on an annualized basis, down 23.6 percent compared to full year 2018 gross issuance. When measured on a monthly basis, agency gross issuance year-over-year has been declining for 22 consecutive months since March 2017, reflecting higher mortgage rates. Net issuance (which excludes repayments, prepayments, and refinances on outstanding mortgages) totaled \$26.9 billion YTD 2019, or \$161.6 billion on an annualized basis, down 38.2 percent compared to full year 2018 net issuance.

Agency Gross Issuance

Issuance Year	GSEs	Ginnie Mae	Total
2000	\$360.6	\$102.2	\$462.8
2001	\$885.1	\$171.5	\$1,056.6
2002	\$1,238.9	\$169.0	\$1,407.9
2003	\$1,874.9	\$213.1	\$2,088.0
2004	\$872.6	\$119.2	\$991.9
2005	\$894.0	\$81.4	\$975.3
2006	\$853.0	\$76.7	\$929.7
2007	\$1,066.2	\$94.9	\$1,161.1
2008	\$911.4	\$267.6	\$1,179.0
2009	\$1,280.0	\$451.3	\$1,731.3
2010	\$1,003.5	\$390.7	\$1,394.3
2011	\$879.3	\$315.3	\$1,194.7
2012	\$1,288.8	\$405.0	\$1,693.8
2013	\$1,176.6	\$393.6	\$1,570.1
2014	\$650.9	\$296.3	\$947.2
2015	\$845.7	\$436.3	\$1,282.0
2016	\$991.6	\$508.2	\$1,499.8
2017	\$877.3	\$455.6	\$1,332.9
2018	\$795.0	\$400.6	\$1,195.3
2019 YTD	\$99.8	\$52.5	\$152.3
2019 YTD % Change YOY	-23.6%	-22.2%	-23.1%
2019 Ann.	\$598.7	\$314.8	\$913.5

Agency Net Issuance

Issuance Year	GSEs	Ginnie Mae	Total
2000	\$159.80	\$29.30	\$189.10
2001	\$368.40	-\$9.90	\$358.50
2002	\$357.20	-\$51.20	\$306.10
2003	\$334.90	-\$77.60	\$257.30
2004	\$82.50	-\$40.10	\$42.40
2005	\$174.20	-\$42.20	\$132.00
2006	\$313.60	\$0.20	\$313.80
2007	\$514.90	\$30.90	\$545.70
2008	\$314.80	\$196.40	\$511.30
2009	\$250.60	\$257.40	\$508.00
2010	-\$303.20	\$198.30	-\$105.00
2011	-\$128.40	\$149.60	\$21.20
2012	-\$42.40	\$119.10	\$76.80
2013	\$69.10	\$87.90	\$157.00
2014	\$30.50	\$61.60	\$92.10
2015	\$75.10	\$97.30	\$172.50
2016	\$135.50	\$126.10	\$261.60
2017	\$168.50	\$131.30	\$299.70
2018	\$147.70	\$113.90	\$261.60
2019 YTD	\$12.8	\$14.1	\$26.9
2019 YTD % Change YOY	-44.3%	-5.4%	-29.0%
2019 Ann.	\$76.8	\$84.8	\$161.6

Sources: eMBS and Urban Institute.

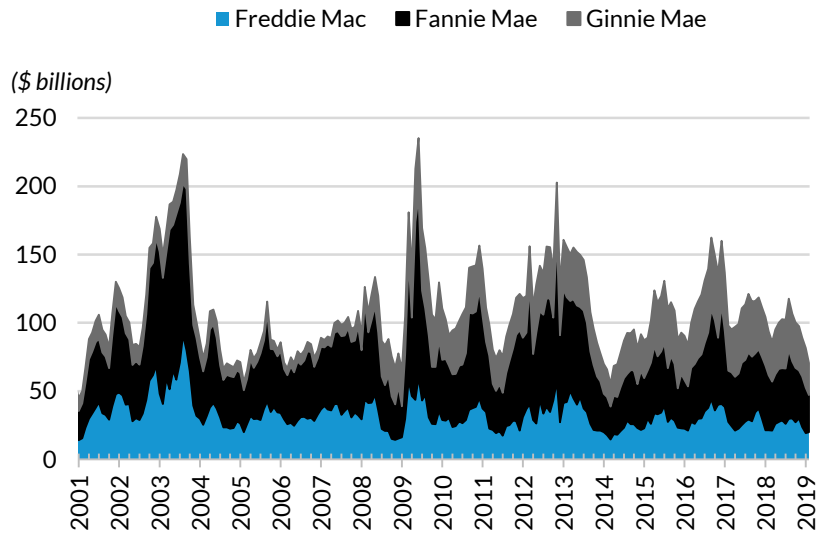
Note: Dollar amounts are in billions. Data as of February 2019.

AGENCY ISSUANCE

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

While FHA, VA and GSE lending have dominated the mortgage market since the crisis, there has been a change in the mix. The Ginnie Mae share of new issuances has risen from a precrisis level of 10-12% to 33.2% in February 2019, reflecting origination increases at 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.

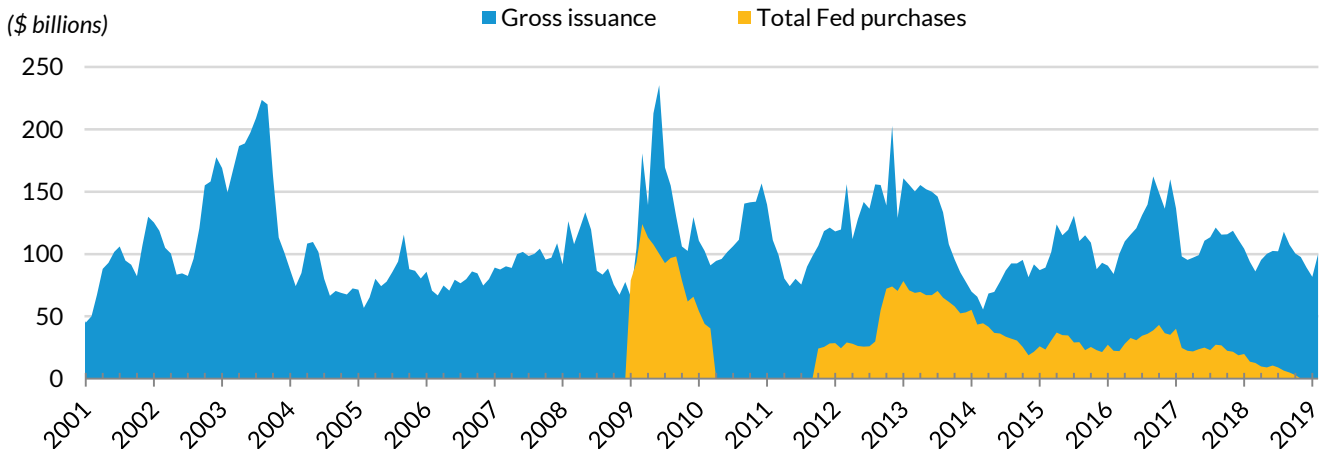


Sources: eMBS, Federal Reserve Bank of New York, and Urban Institute.

February 2019

Fed Absorption of Agency Gross Issuance

The Fed has begun to wind down its portfolio, and we are beginning to see the effects in slower absorption rates. During the period October 2014-September 2017, the Fed ended its purchase program, but was reinvesting funds from mortgages and agency debt into the mortgage market, absorbing 20-30 percent of agency gross issuance. 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 February 2019 Fed purchases totaled \$286 million, corresponding to Fed absorption of gross issuance of 0.29 percent.



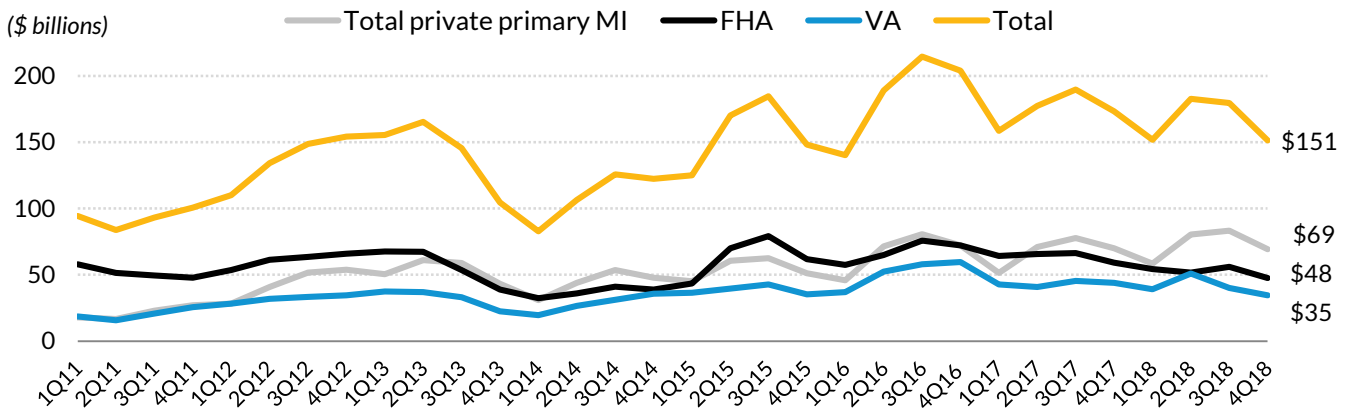
Sources: eMBS, Federal Reserve Bank of New York and Urban Institute.

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AGENCY ISSUANCE MORTGAGE INSURANCE ACTIVITY

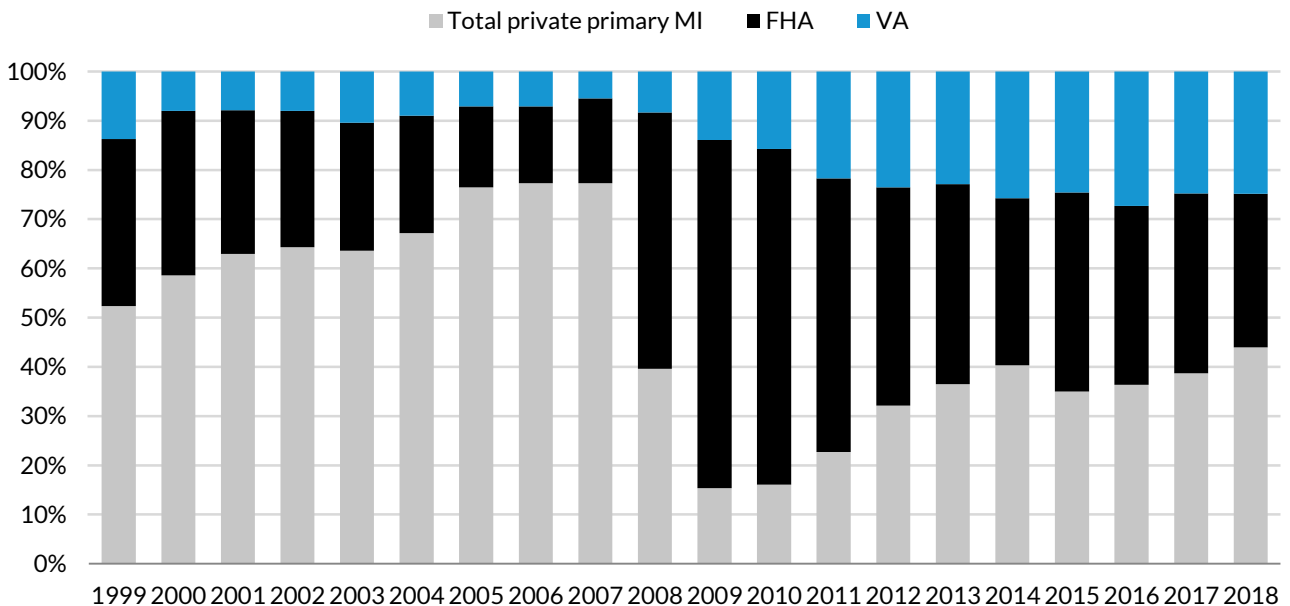
MI Activity

Mortgage insurance activity via the FHA, VA and private insurers declined from \$173 billion in Q4 2017 to \$151 billion in Q4 2018, or 12.6 percent. In the final quarter of 2018, private mortgage insurance written decreased by \$13.99 billion, FHA decreased by \$8.59 billion and VA decreased by \$5.61 billion from the previous quarter, reflecting seasonality. During this period, the VA share grew from 22.4 percent to 22.8, while the private mortgage insurers share fell from 46.4 to 45.8 percent and the FHA share remained constant compared to the previous quarter.



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

MI Market Share



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

AGENCY ISSUANCE

MORTGAGE INSURANCE ACTIVITY

FHA premiums rose significantly in the years following the housing crash, with annual premiums rising from 50 to 135 basis points between 2008 to 2013 as FHA worked to shore up its finances. In January 2015, President Obama announced a 50 bps cut in annual insurance premiums, making FHA mortgages more attractive than GSE mortgages for the overwhelming majority of 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	4.55
FHA	4.59

FICO	620 - 639	640 - 659	660 - 679	680 - 699	700 - 719	720 - 739	740 - 759	760 +
FHA MI Premiums								
FHA UFMIP	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
FHA MIP	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
PMI								
GSE LLPA*	3.50	2.75	2.25	1.50	1.50	1.00	0.75	0.75
PMI Annual MIP	1.86	1.65	1.54	1.21	0.99	0.87	0.70	0.58
Monthly Payment								
FHA	\$1,428	\$1,428	\$1,428	\$1,428	\$1,428	\$1,428	\$1,428	\$1,428
PMI	\$1,706	\$1,642	\$1,605	\$1,516	\$1,472	\$1,433	\$1,392	\$1,368
PMI Advantage	(\$278)	(\$214)	(\$177)	(\$89)	(\$44)	(\$6)	\$36	\$60

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 blue indicates PMI is more favorable. The PMI monthly payment calculation does not include special programs like Fannie Mae's HomeReady and Freddie Mac's Home Possible (HP), both offer more favorable rates for low- to moderate-income borrowers.

LLPA= Loan Level Price Adjustment, described in detail on page 25.

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