HOUSING FINANCE POLICY CENTER

HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

January 2020

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

Introducing the Housing Supply Chartbook

Since 2009, housing demand has outstripped supply, quite significantly in some areas. In 2018—the latest full year for which we have comprehensive data—we estimate that 1.2 million households were formed. This compares with net new production of 850,000 units (1.2 million new single-family and multifamily housing units were completed, and 100,000 new manufactured housing units were shipped, but roughly 450,000 units go obsolete each year, for a net addition to the housing stock of 850,000 units). This created a 350,000-unit shortage in 2018 alone. This shortage has contributed to the increase in home prices and rents, a trend that will continue for the foreseeable future absent policy changes.

The good news is that housing as an issue has been elevated in the national consciousness, and several presidential candidates have released housing plans that recognize how critical supply is to solving the affordability crisis. This is a significant departure from past elections. In addition, many policies governing the levers that could boost housing supply, such as zoning rules and building codes, are often determined by state and local governments. In addition, builders face labor cost and availability challenges as well as other barriers to construction.

To help people understand the state of the nation's housing supply, we have created a new [Housing Supply Chartbook](). The chartbook seeks to answer a broad range of questions, such as these:

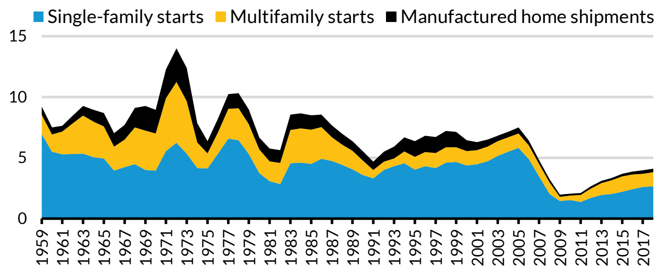
- How much housing do we have, and how much is attributable to single-family homes, town homes and condominiums, apartments, and manufactured homes?
- How does what we have today compare with what we have had in past decades, and how has this changed since the Great Recession?
- How much and what kind of new housing are we producing?
- Are we producing enough of the kind of housing we need?
- How old is our housing stock?
- What are the regional differences in housing supply?
- Is it more expensive today to build homes and apartment buildings than it was in the past, and if so, why?
- What is happening to the cost of labor, construction supplies, and land, and how expensive are these inputs compared with past decades?
- What does housing contribute to the national economy (today and historically)?

As you peruse the housing supply chartbook, you will see the story of our current supply crisis unfold.

Growth in the total US housing stock has been muted. The nation's housing stock expanded 20 percent to 138 million homes between 2000 and 2018, but after taking population growth into account, the total housing stock has expanded only 3 percent and has actually contracted 0.2 percent since 2008.

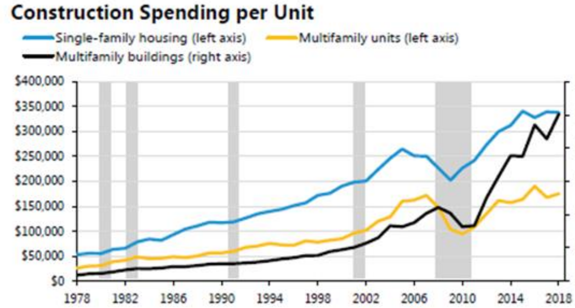
Housing production is significantly lower than its average between 2000 and 2003, the last period generally considered normal (before the run-up to the crash). New housing production has increased 123 percent since 2009 but remains 28 percent below its 2000–03 average annual level of 1.87 million units. Single-family starts and manufactured housing shipments remain 35 and 48 percent below their respective 2000–03 annual averages, but multifamily starts are 10 percent higher.

Population-Adjusted Housing Production



Private single-family construction spending per unit completed is elevated. Over the economic recovery, private single-family construction costs on average have outpaced broader consumer inflation. On a per-completion basis, total spending in 2018, $344,701, was 70 percent higher than its 2009 low of $202,528. In contrast, consumer inflation has risen by 17 percent over the same period.

Construction Spending per Unit



The number of multifamily units completed has recovered, but these units are in larger buildings. At 348,000 the number of completed multifamily units in 2018 is 6 percent above its 2006 level. However, the number of completed multifamily buildings has fallen 60 percent over the same period. Multifamily construction spending per building reached $5.0 million in 2018, 186 percent above its 2006 level of $1.8 million.

As a share of gross domestic product (GDP), residential fixed investment (RFI) is highly variable and tends to lead business cycles. RFI falls heading into a recession and accelerates out of one. In 2018 and the first half of 2019, real RFI fell, sparking fears of a recession. But more recent numbers have partially alleviated these concerns.

INSIDE THIS ISSUE

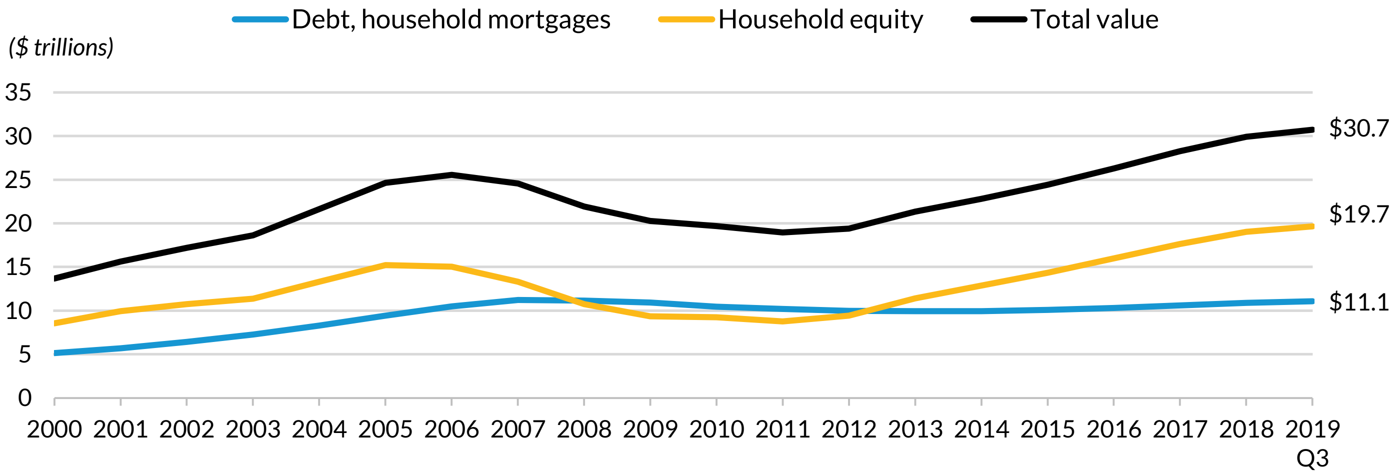
- The cash-out refi shares for FHA and VA have fallen in recent months, likely reflecting the impact of latest policy changes by HUD and Ginnie Mae to limit cash-out refi activity (Page 10).
- Mortgage credit availability remains tight by historical standards: Overall Credit Availability declined for the third consecutive quarter in Q3 2019 (Page 13).
- After increasing to 40 percent in 2018, median purchase DTI fell over the course of 2019 to 39 percent, driven by falling rates (Page 15).
- Median FICO score for agency originations rose to a 3-year high in December 2019 (Page 17).

OVERVIEW

MARKET SIZE OVERVIEW

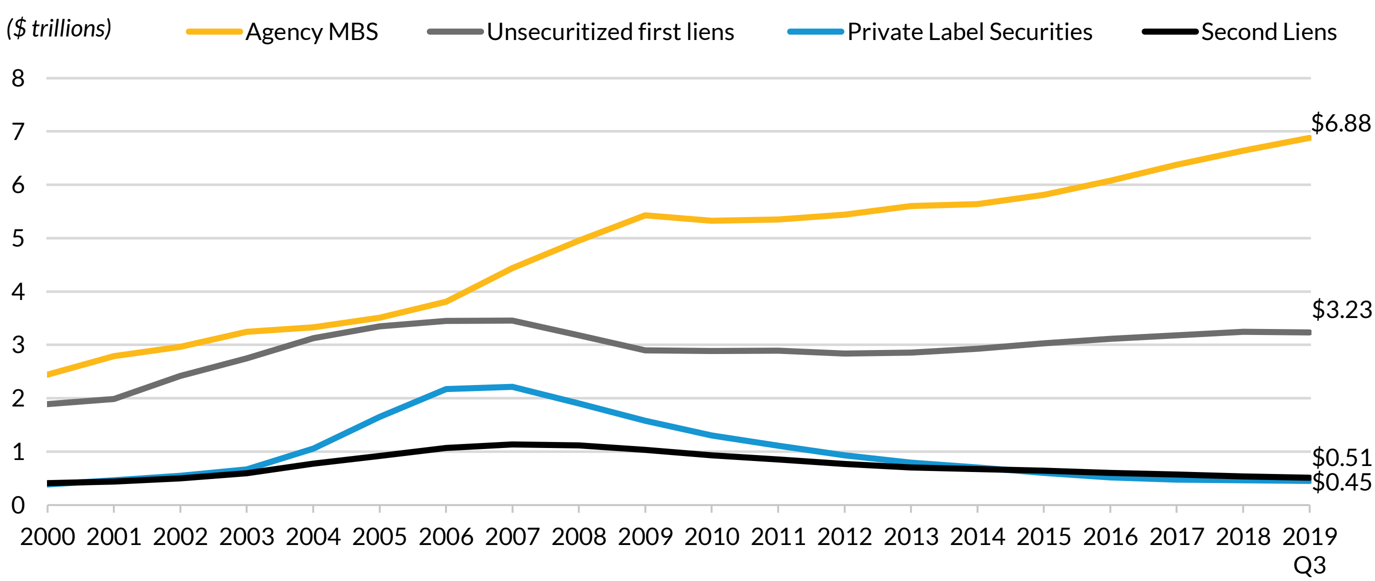
The Federal Reserve's Flow of Fund Report has indicated a gradually increasing total value of the housing market, driven primarily by growing home equity since 2012. The Q3 2019 numbers show that while total household equity was steady this quarter at $19.7 trillion, mortgage debt outstanding grew slightly from $11.0 trillion in Q2 to $11.1 trillion in Q3 2019, bringing the total value of the housing market to $30.7 trillion, 20.3 percent higher than the pre-crisis peak in 2006. Agency MBS account for 62.2 percent of the total mortgage debt outstanding, private-label securities make up 4.1 percent, and unsecuritized first liens make up 29.2 percent. Second liens comprise the remaining 4.6 percent of the total.

Value of the US Housing Market



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

Size of the US Residential Mortgage Market



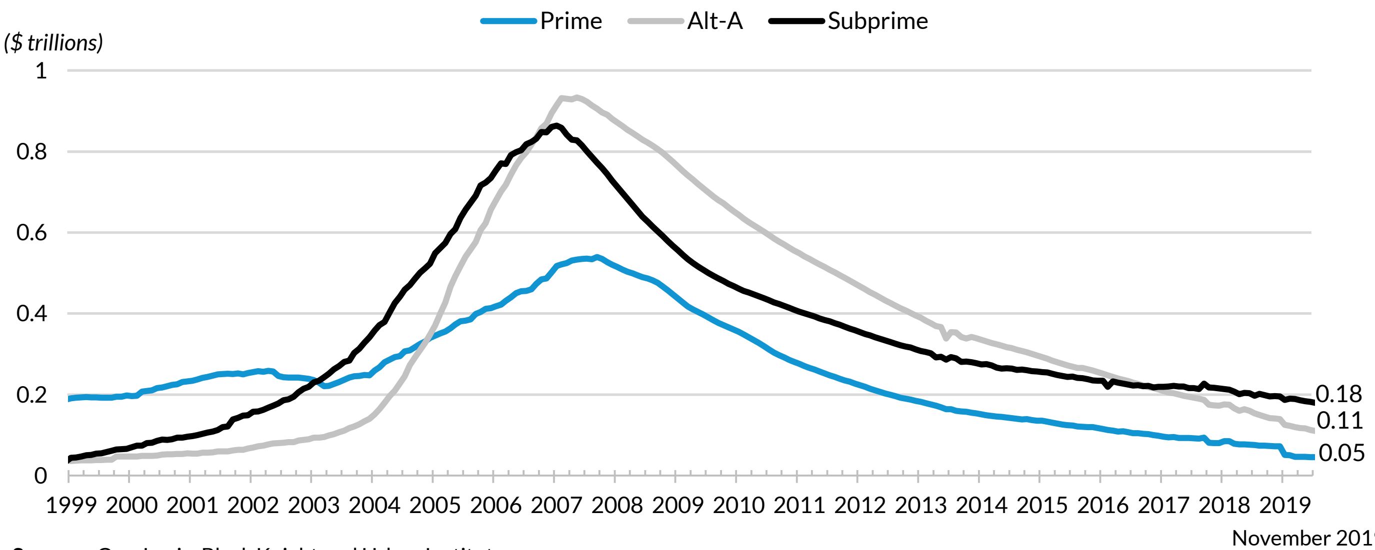
Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, eMBS and Urban Institute. *Last updated December 2019.*
Note: Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions.

OVERVIEW

MARKET SIZE OVERVIEW

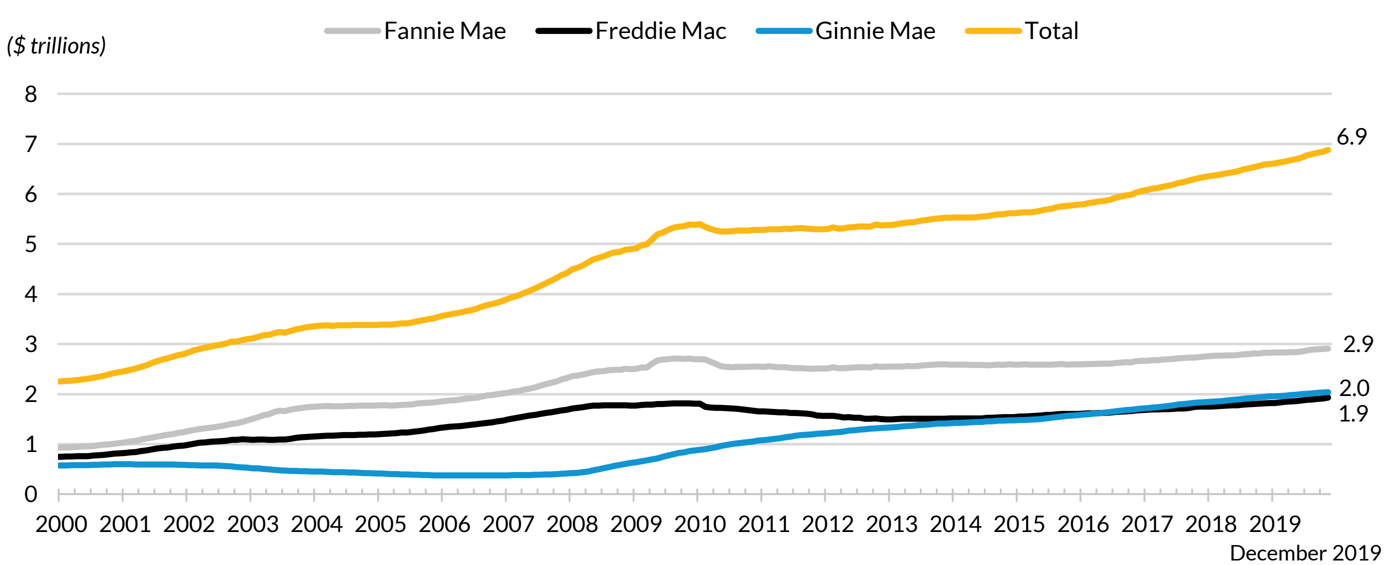
As of November 2019, debt in the private-label securitization market totaled $335 billion and was split among prime (13.5 percent), Alt-A (33.0 percent), and subprime (53.6 percent) loans. In December 2019, outstanding securities in the agency market totaled $6.9 trillion, 42.3 percent of which was Fannie Mae, 28.0 percent Freddie Mac, and 29.7 percent Ginnie Mae. Ginnie Mae has had more outstanding securities than Freddie Mac since June 2016.

Private-Label Securities by Product Type



Sources: CoreLogic, Black Knight and Urban Institute.

Agency Mortgage-Backed Securities



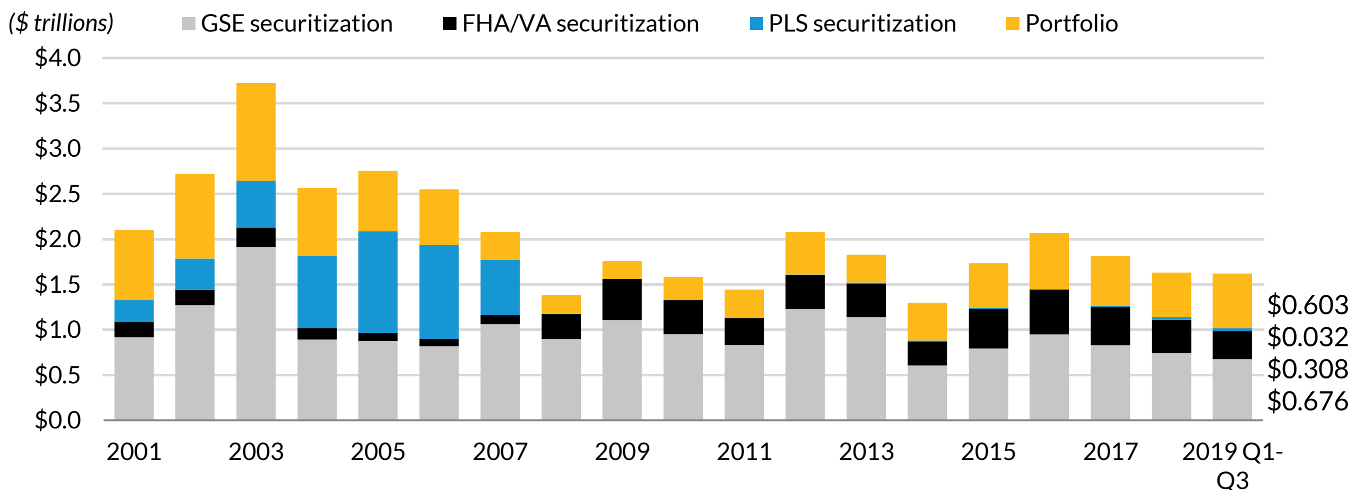
Sources: eMBS and Urban Institute.

OVERVIEW

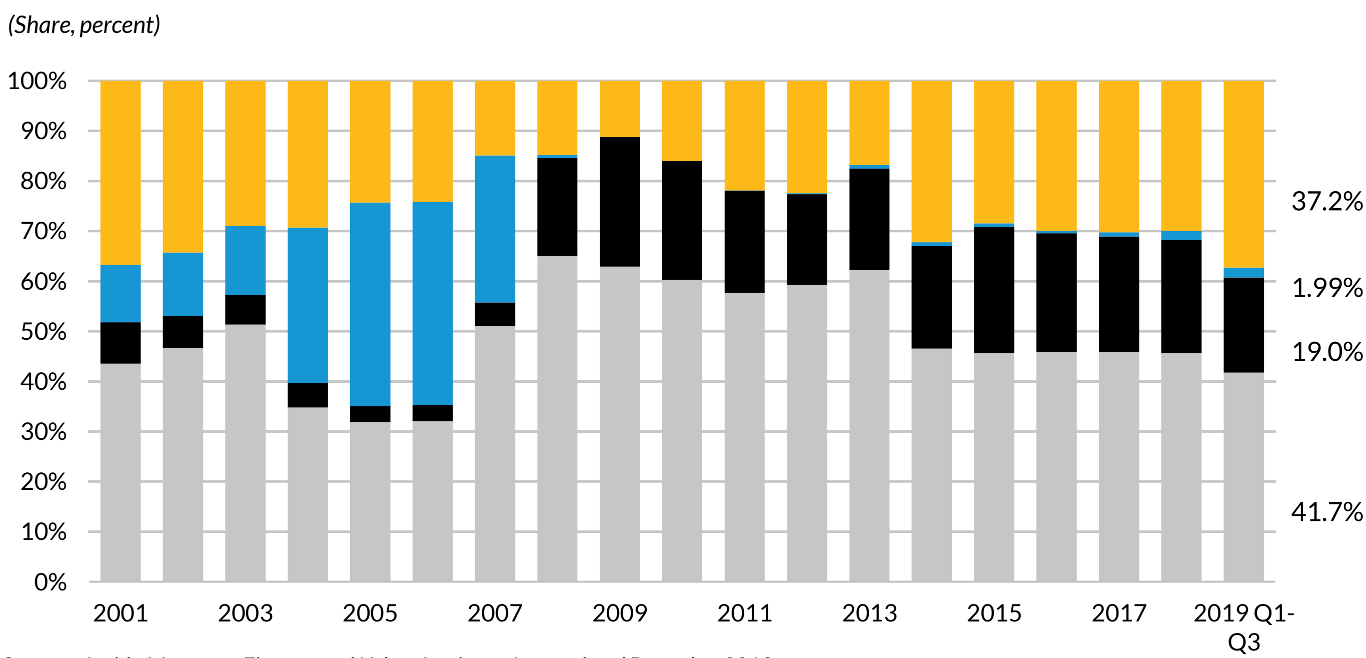
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

At the end of Q3 2019, first lien originations totaled $1.62 trillion, up from $1.26 trillion in the same period of 2018 and slightly below the full year 2018 volume of $1.63 trillion. The share of portfolio originations was 37.2 percent through Q3 2019, up significantly from 30.9 percent in the same period of 2018. The GSE share was down at 41.7 percent, compared to 45.1 percent in the first three quarters of 2018. The FHA/VA share fell to 19.0 percent, as compared to 22.1 percent in the same period last year. Private-label securitization at 2.0 percent maintained the same share as one year ago, but remains a fraction of its share in the pre-bubble years.



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



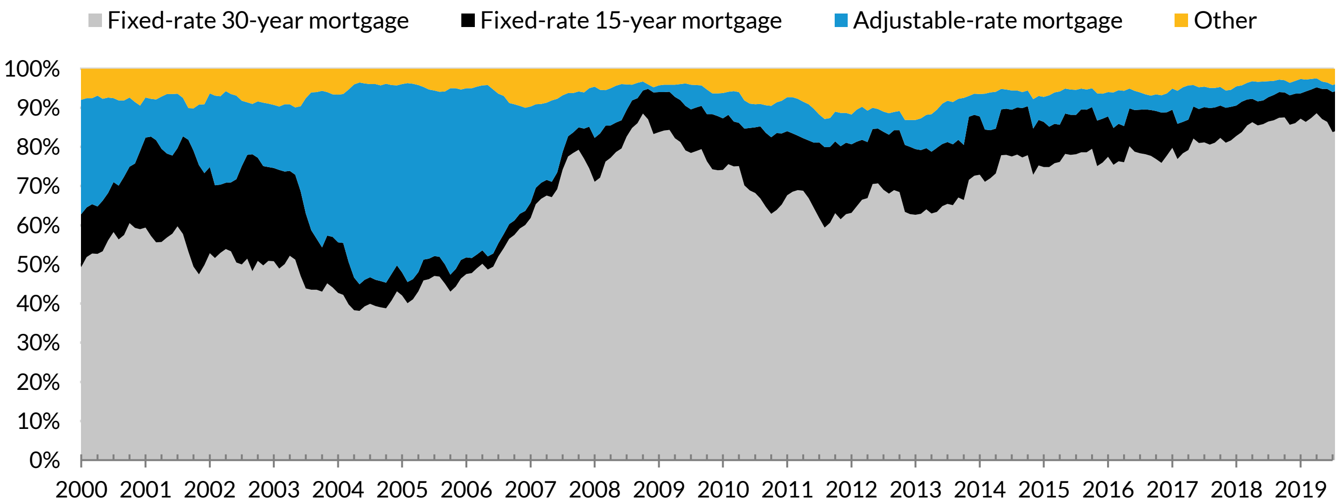
Sources: Inside Mortgage Finance and Urban Institute. *Last updated December 2019.*

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 an historic low of 1 percent in 2009, and then slowly increased to a high of 12 percent in December 2013. The October 2019 share of 1.8 percent is only marginally above the historical low reached in 2009. The 15-year fixed-rate mortgage, predominantly a refinance product, accounted for 10.2 percent of new originations in October 2019. Since late 2018, while there has been some month-to-month variation, the refinance share (bottom chart) has generally grown for both the GSEs and Ginnie Mae as interest rates have dropped.

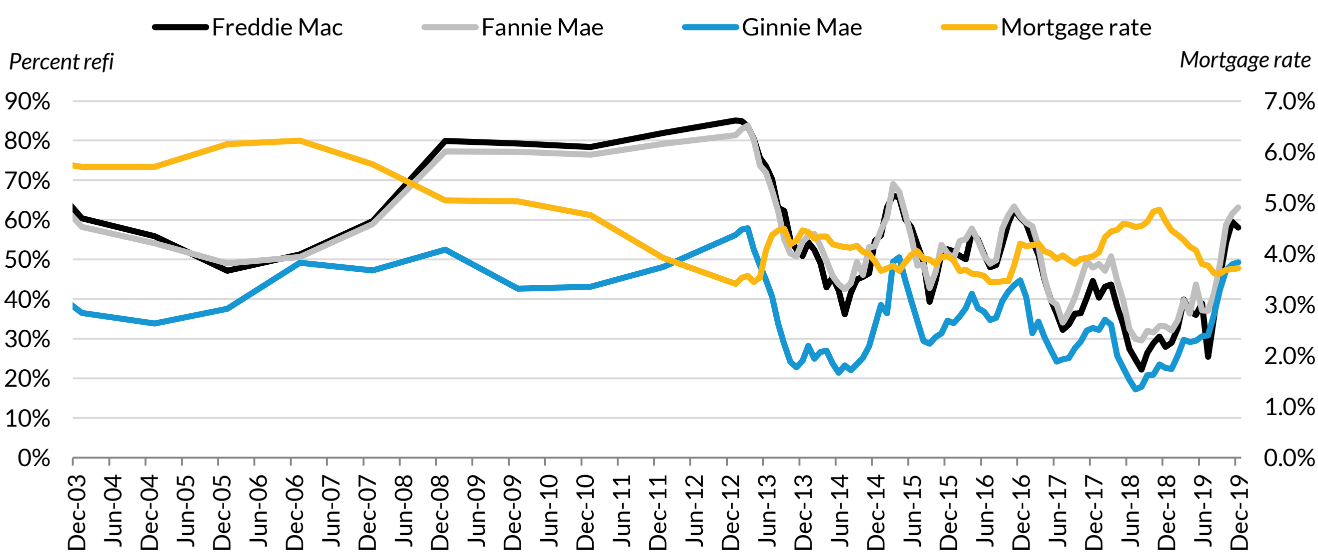
Product Composition



October 2019

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

Percent Refi at Issuance

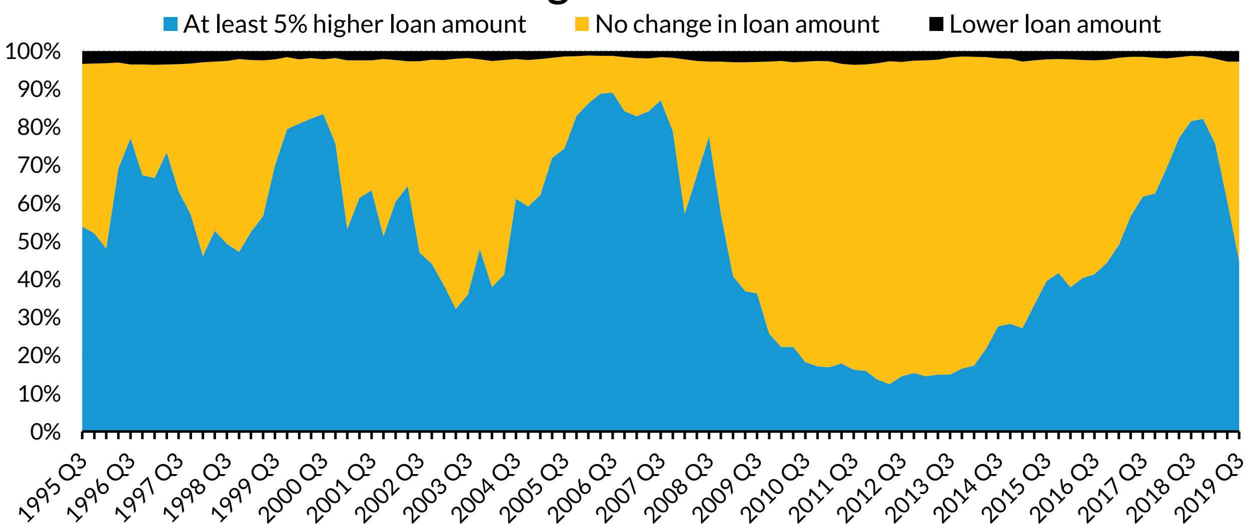


Sources: eMBS and Urban Institute.
Note: Based on at-issuance balance. Figure based on data from December 2019.

OVERVIEW
CASH-OUT REFINANCES

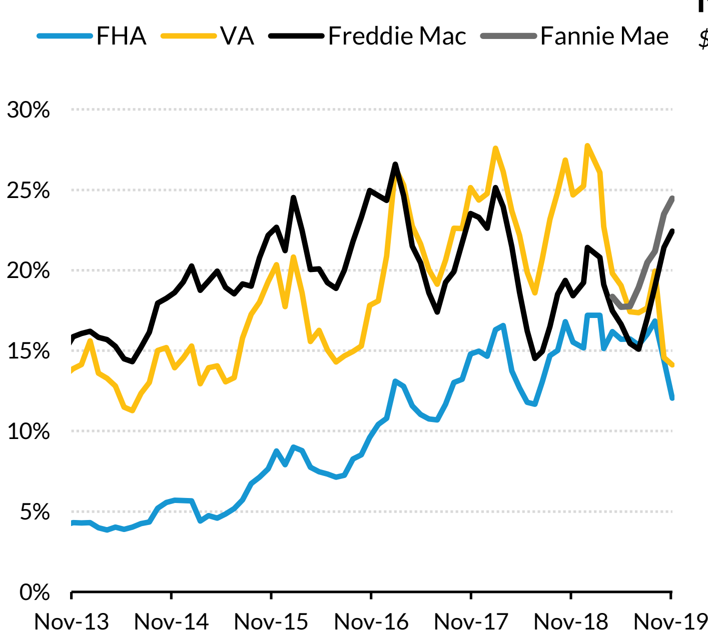
When mortgage rates are low, the share of cash-out refinances tends to be relatively smaller, as refinancing allows borrowers to save money by taking advantage of lower rates. But when rates are high, the cash-out refinance share is higher since the rate reduction incentive is gone and the only reason to refinance is to take out equity. The cash-out share of all refinances fell from 61 percent in the second quarter of 2019 to 45 percent in the third quarter, reflecting increased rate-refi activity due to falling rates in 2019 Q3. While the cash-out refinance share for conventional mortgages may seem high at 45 percent, equity take-out volumes are substantially lower than during the bubble years. The cash out refi shares for FHA and VA has fallen in the last few months, likely reflecting the impact of the latest policy changes by HUD and Ginnie Mae to limit cash-out refi activity, while the cash out refi share for the GSEs has risen.

Loan Amount after Refinancing



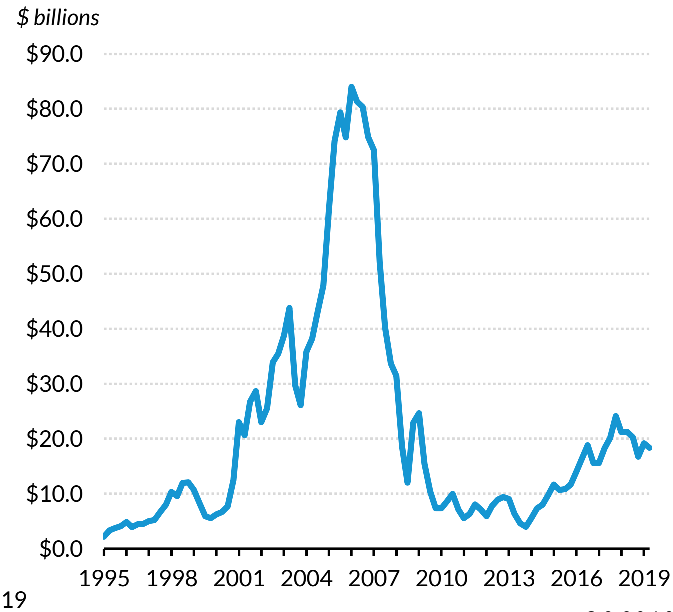
Sources: Freddie Mac and Urban Institute.
Note: Estimates include conventional mortgages only.

Cash-out Refi Share of All Originations



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

Equity Take-Out from Conventional Mortgage Refinance Activity



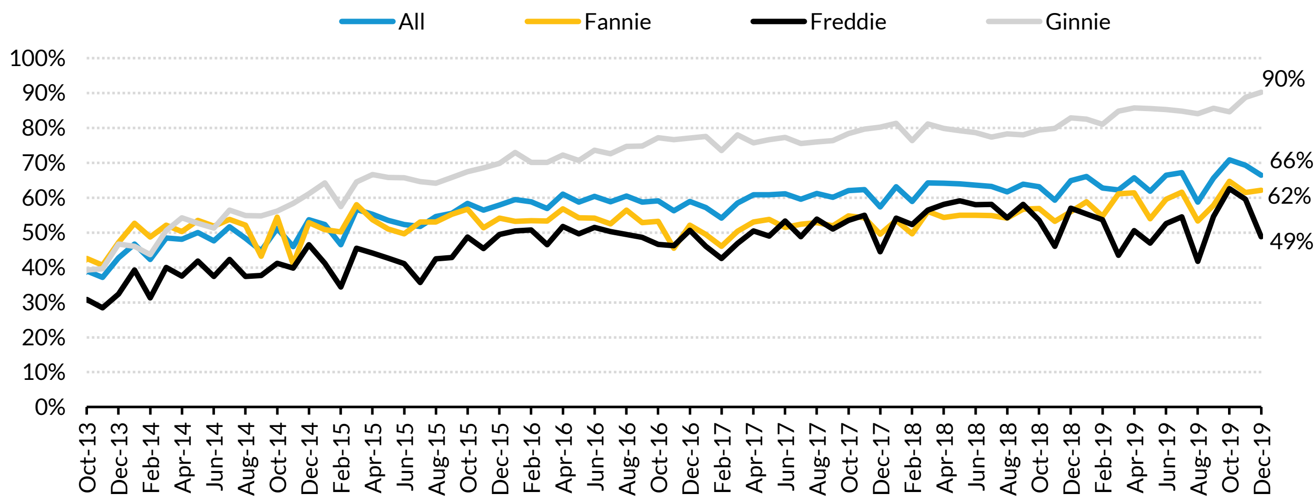
Sources: Freddie Mac and Urban Institute.
Note: Estimates include conventional mortgages only.

OVERVIEW

AGENCY NONBANK ORIGINATION SHARE

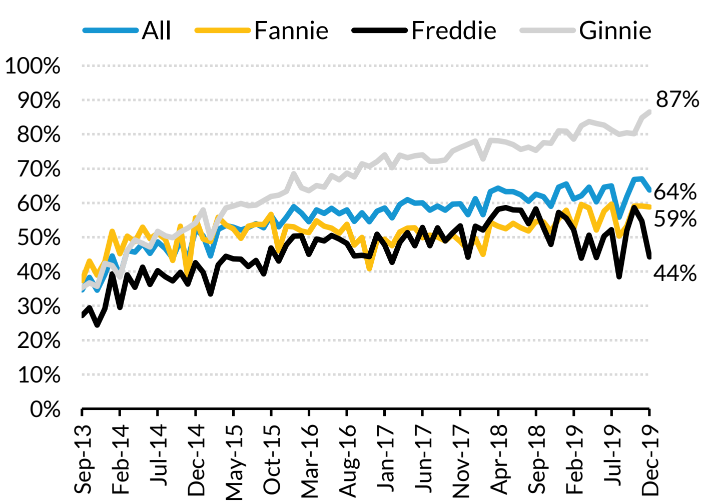
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, rising slightly to 90 percent in December, a new record. Fannie's nonbank shares increased very slightly in December, to 62 percent, while Freddie's nonbank shares declined significantly, from 60 to 49 percent (note that these numbers can be volatile on a month-to-month basis.) Ginnie Mae, Fannie Mae and Freddie Mac all have higher nonbank origination shares for refi activity than for purchase activity.

Nonbank Origination Share: All Loans



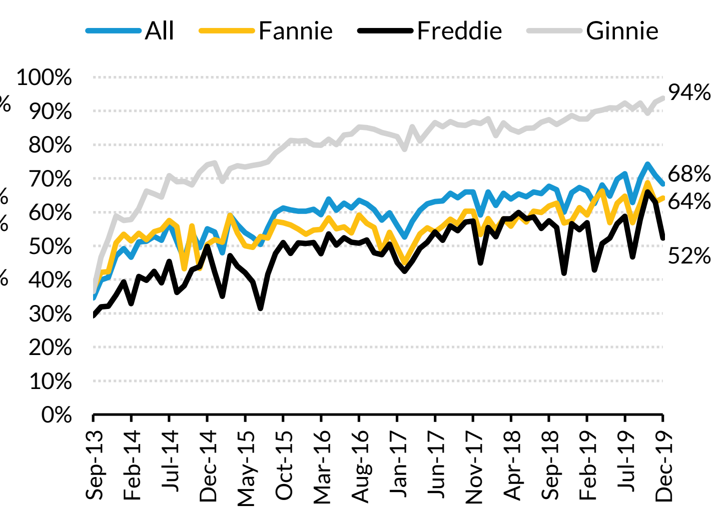
Sources: *eMBS and Urban Institute.*

Nonbank Origination Share: Purchase Loans



Sources: *eMBS and Urban Institute.*

Nonbank Origination Share: Refi Loans

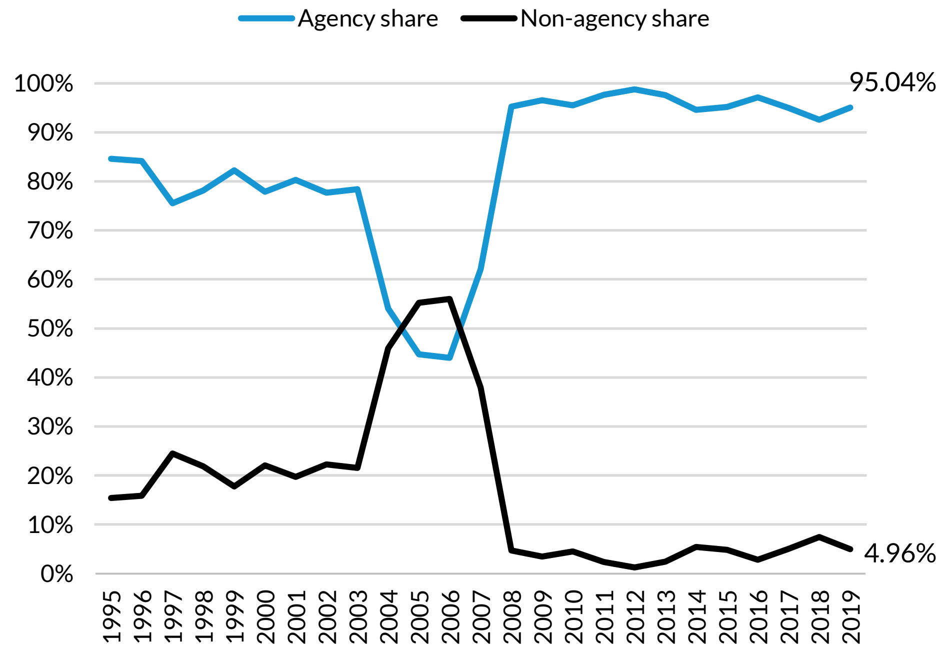


Sources: *eMBS and Urban Institute.*

SECURITIZATION VOLUME AND COMPOSITION

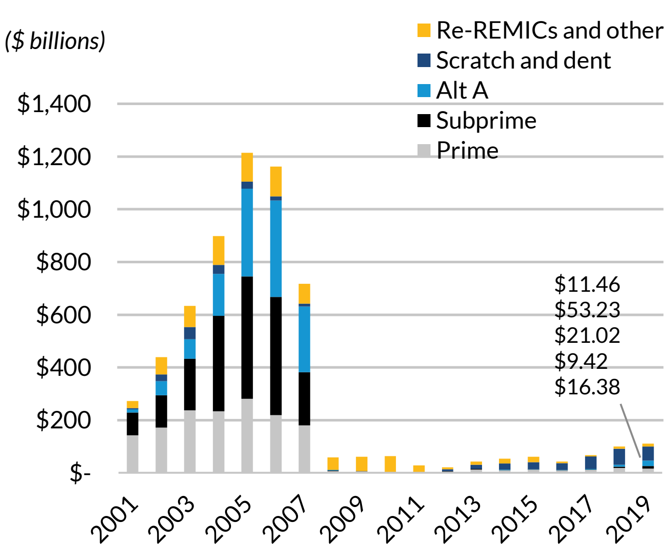
Agency/Non-Agency Share of Residential MBS Issuance

The non-agency share of mortgage securitizations has increased gradually over the post-crisis years, from 1.8 percent in 2016 to 7.4 percent in 2018. It fell to 4.96 percent for 2019. Non-agency securitization volume totaled $111.52 billion in 2019,an increase relative to 2018's $100.55 billion total. But there is a change in the mix. Alt-A and subprime securitizations have grown, while scratch and dent securitizations have fallen since the same period last year. Non-agency securitizations continue to be tiny compared to pre-crisis levels.



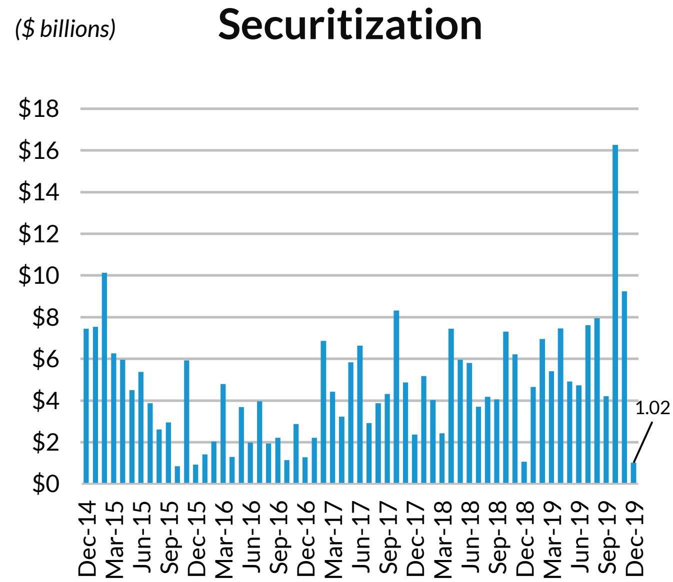
Sources: Inside Mortgage Finance and Urban Institute.
Note: Based on data from December 2019. Monthly non-agency volume is subject to revision.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization



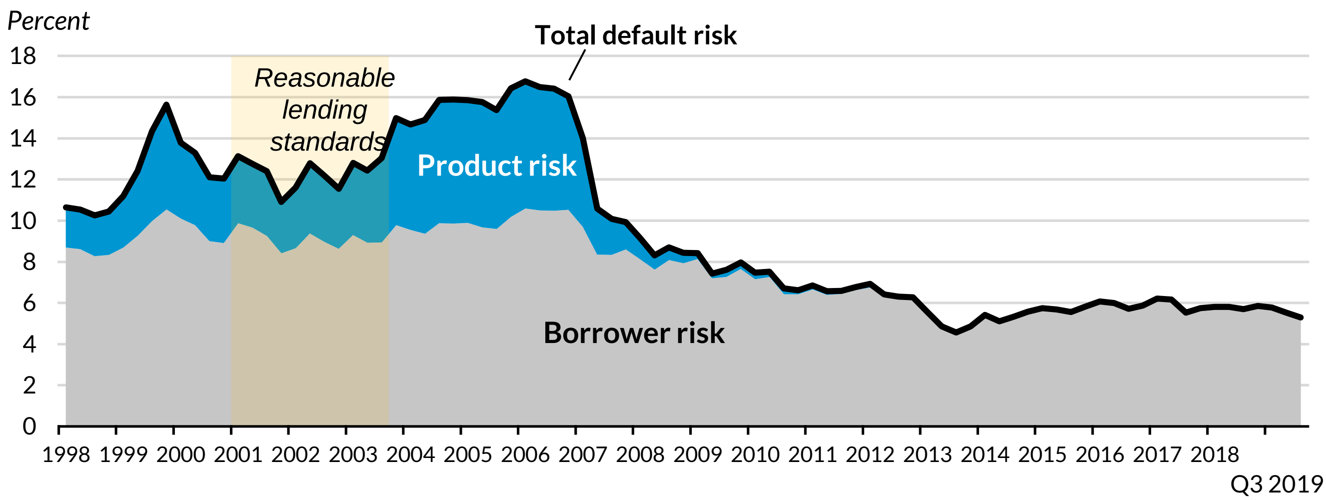
Sources: Inside Mortgage Finance and Urban Institute.

CREDIT BOX

HOUSING CREDIT AVAILABILITY INDEX

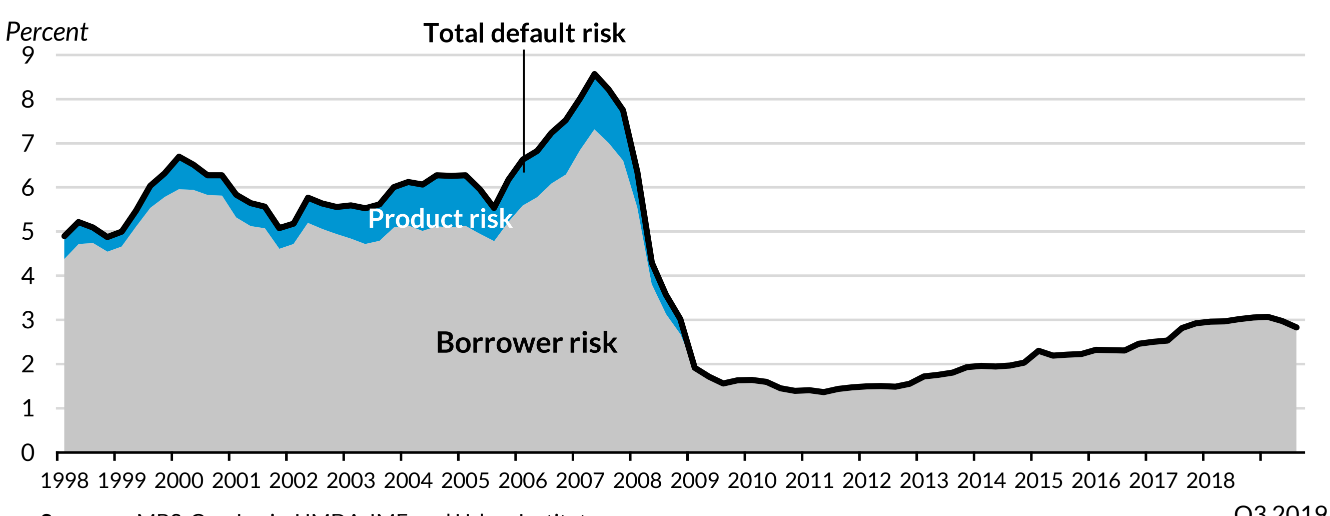
The Urban Institute's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to go 90+ days delinquent over the life of the loan. The Housing Finance Policy Center's latest credit availability index (HCAI) shows that mortgage credit availability decreased slightly to 5.29 percent in the third quarter of 2019 (Q3 2019), down marginally from the previous quarter. The decline was driven by a small drop in credit availability in all three channels, with the largest decrease in the government channel, as well as a small increase in the portfolio and private label share, which is relatively lower risk. More information about the HCAI is available here.

All Channels



GSE Channel

The GSE market has expanded the credit box proportionately more than the government channel in recent years, although the GSE box is still much narrower. The trend toward greater credit availability in the GSE channel began in Q2 2011. From Q2 2011 to Q3 2019, the total risk taken by the GSE channel has doubled, from 1.4 percent to 2.8 percent. This is still very modest by pre-crisis standards.



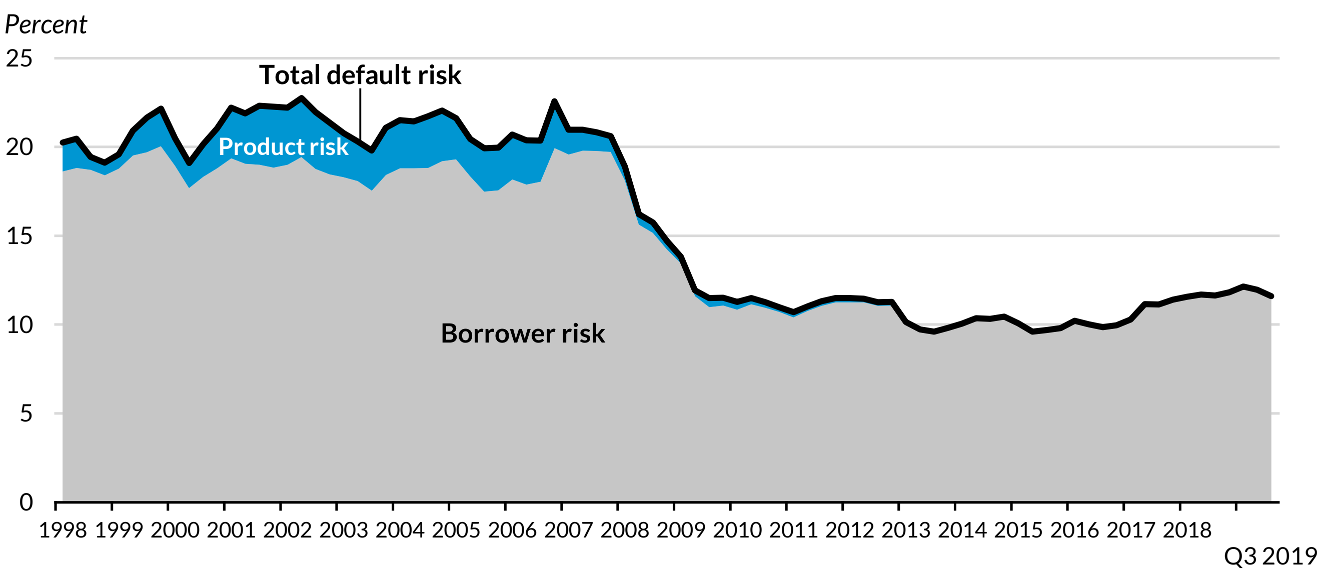
Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.
Note: Default is defined as 90 days or more delinquent at any point. *Last updated January 2020.*

CREDIT BOX

HOUSING CREDIT AVAILABILITY INDEX

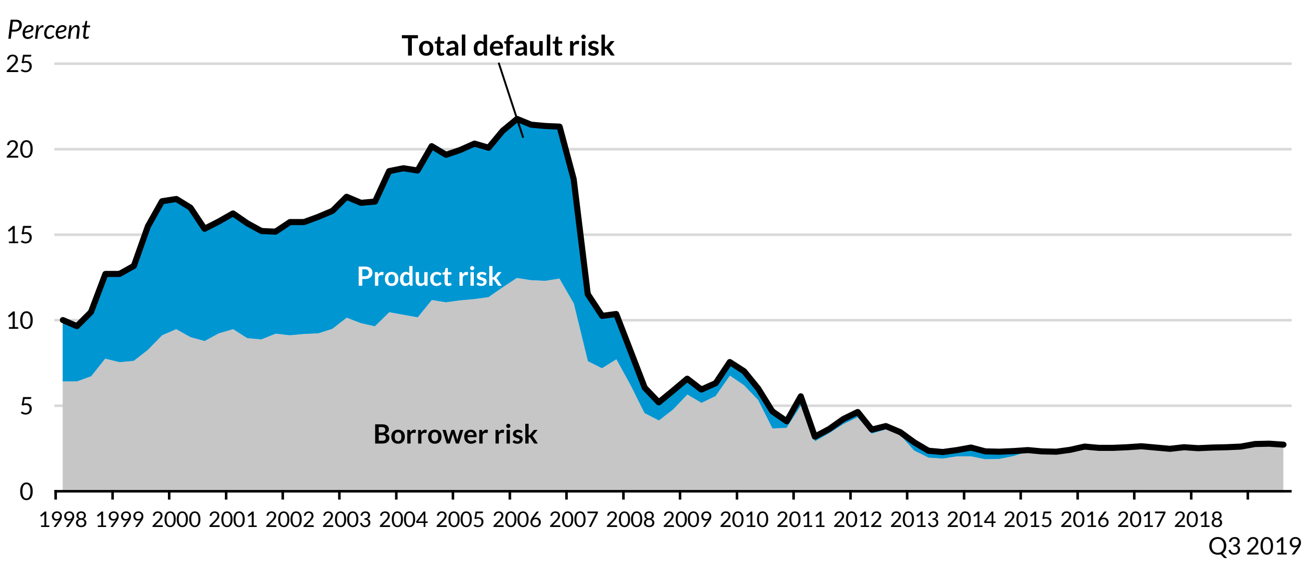
Government Channel

The total default risk the government channel is willing to take bottomed out at 9.6 percent in Q3 2013. It has gradually increased since then, reaching 11.6 percent in Q3 2019, down marginally from 11.9 percent in Q2 2019.



Portfolio and Private Label Securities Channels

The portfolio and private-label securities (PP) channel took on more product risk than the government and GSE channels during the bubble. After the crisis, PP channel's product and borrower risks dropped sharply. The numbers have stabilized since 2013, with product risk fluctuating below 0.6 percent and borrower risk in the 2.0-3.0 percent range. Borrower risk decreased in the third quarter of 2019, and now stands at 2.72 percent, down from 2.78 percent in Q2 2019. Total risk in the PP channel was 2.73 percent in Q3 2019.



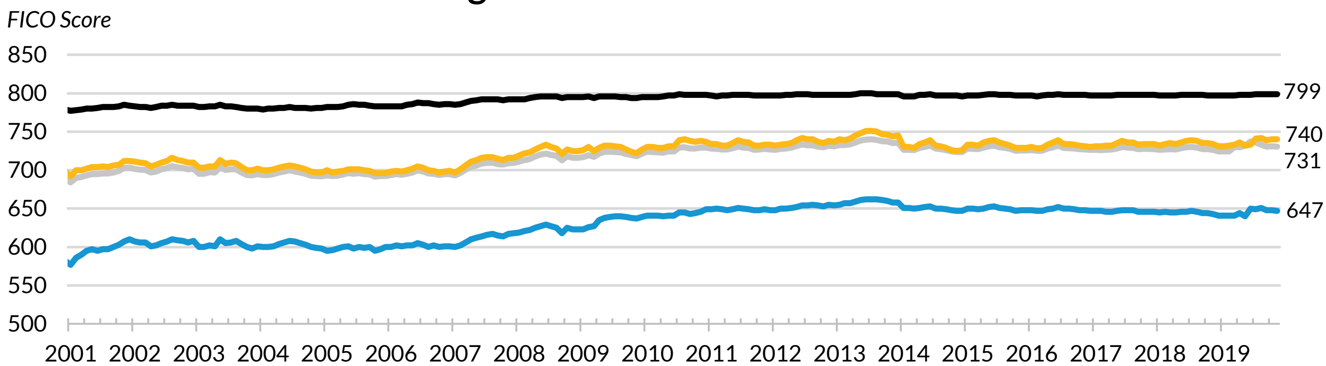
Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.
Note: Default is defined as 90 days or more delinquent at any point. *Last updated January 2020.*

CREDIT AVAILABILITY FOR PURCHASE LOANS

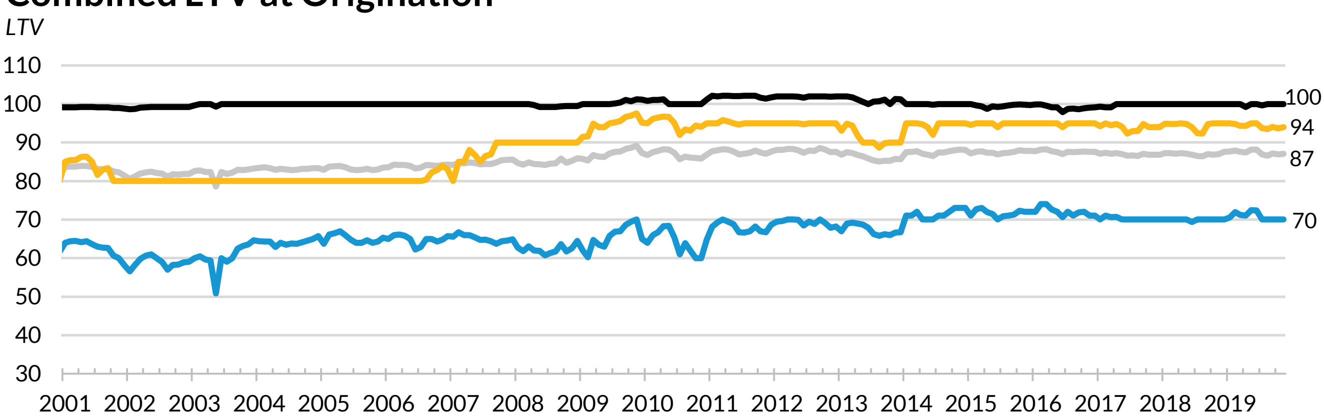
Access to credit remains tight, especially for lower FICO borrowers. The median FICO for current purchase loans is about 40 points higher than the pre-crisis level of around 700. The 10th percentile, which represents the lower bound of creditworthiness to qualify for a mortgage, was 647 in November 2019, compared to low-600s pre-bubble. The median LTV at origination of 94 percent remains relatively high, reflecting the rise of FHA and VA lending. Although current median DTI of 39 percent exceeds the pre-bubble level of 36 percent, higher FICO scores serve as a strong compensating factor.

Mean 90th percentile 10th percentile Median

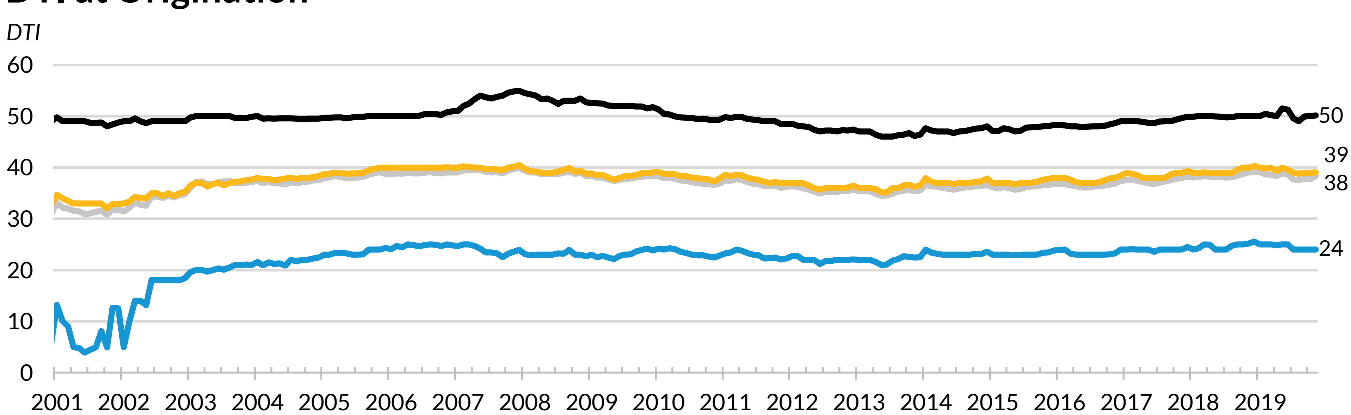
Borrower FICO Score at Origination



Combined LTV at Origination



DTI at Origination



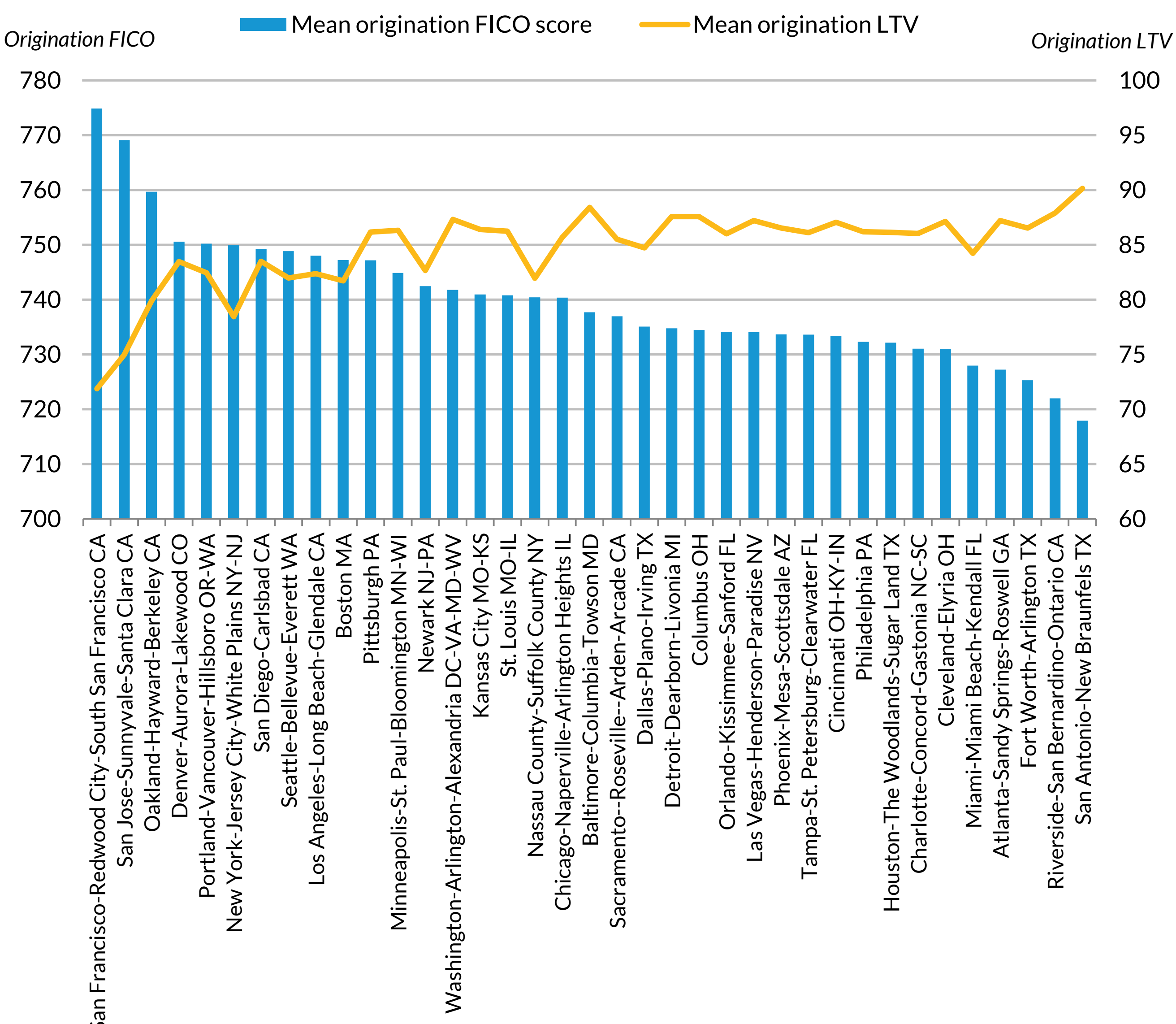
Sources: Black Knight, eMBS, HMDA, SIFMA, CoreLogic and Urban Institute.
Note: Includes owner-occupied purchase loans only. DTI data prior to April 2018 is from CoreLogic; after that date, it is from Black Knight. Data as of November 2019.

CREDIT BOX

CREDIT AVAILABILITY BY MSA FOR PURCHASE LOANS

Credit has been tight for all borrowers with less-than-stellar credit scores—especially in MSAs with high housing prices. For example, the mean origination FICO for borrowers in San Francisco-Redwood City-South San Francisco, CA is just below 775. Across all MSAs, lower average FICO scores tend to be correlated with high average LTVs, as these MSAs rely heavily on FHA/VA financing.

Origination FICO and LTV

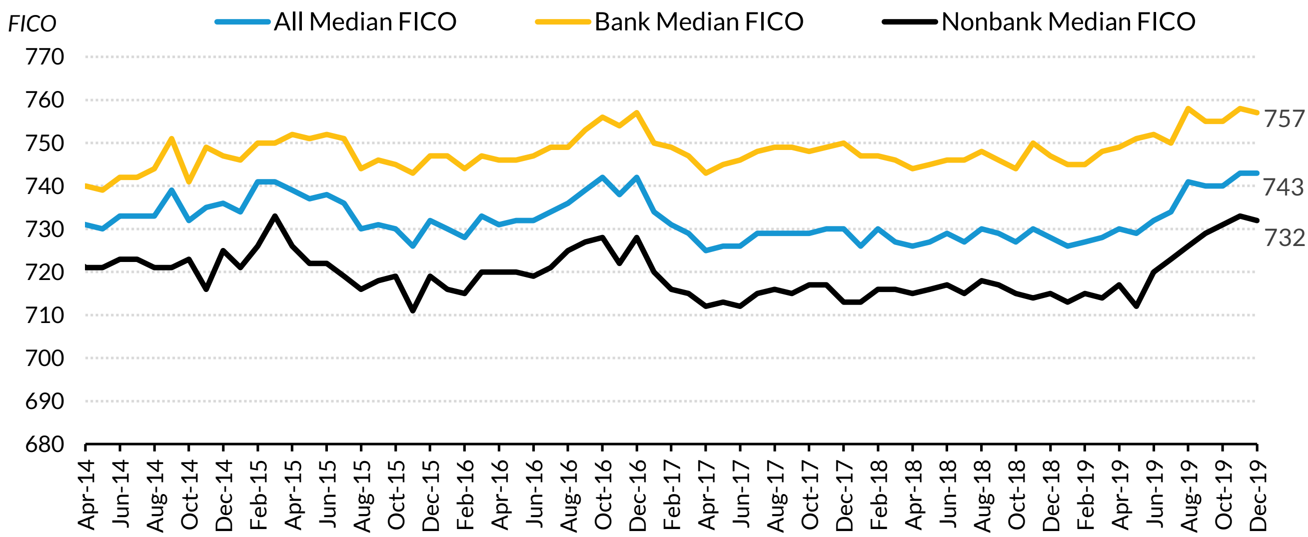


Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes owner-occupied purchase loans only. Data as of November 2019.

AGENCY NONBANK CREDIT BOX

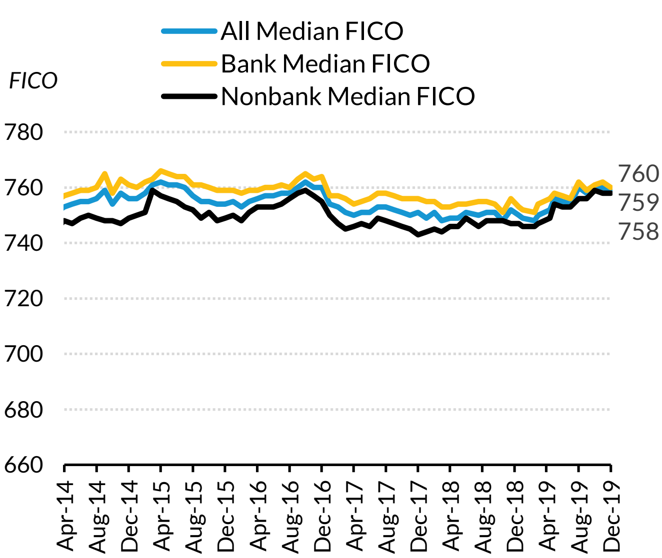
Nonbank originators have played a key role in expanding access to credit. Recently, in the GSE space, FICO scores for banks and nonbanks have nearly converged; the differential is much larger in the Ginnie Mae space. FICO scores for banks and nonbanks in both GSE and Ginnie Mae segments increased over the course of 2019, due to increased refi activity; this activity is skewed toward higher FICO scores. Comparing Ginnie Mae FICO scores today versus five years ago (late 2014), FICO scores have risen significantly for the banks, while those of the non-banks were roughly constant; this reflects a sharp cut-back in FHA lending by many banks. As pointed out on page 11, banks comprise only about 11 percent of Ginnie Mae originations.

Agency FICO: Bank vs. Nonbank



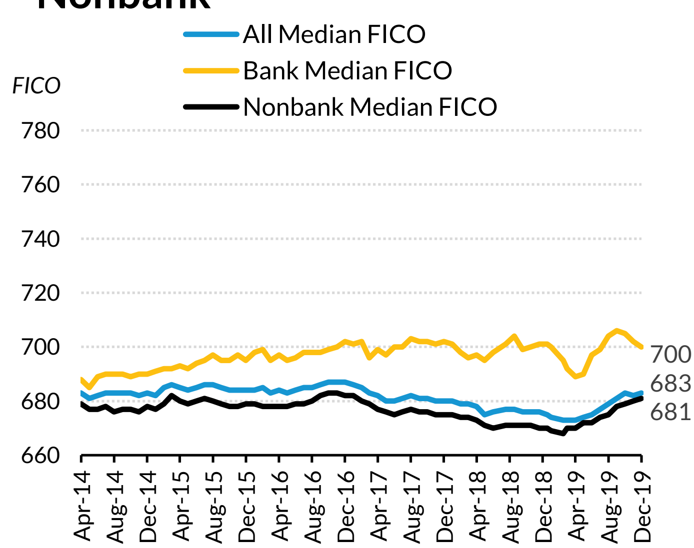
Sources: *eMBS and Urban Institute.*

GSE FICO: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

Ginnie Mae FICO: Bank vs. Nonbank

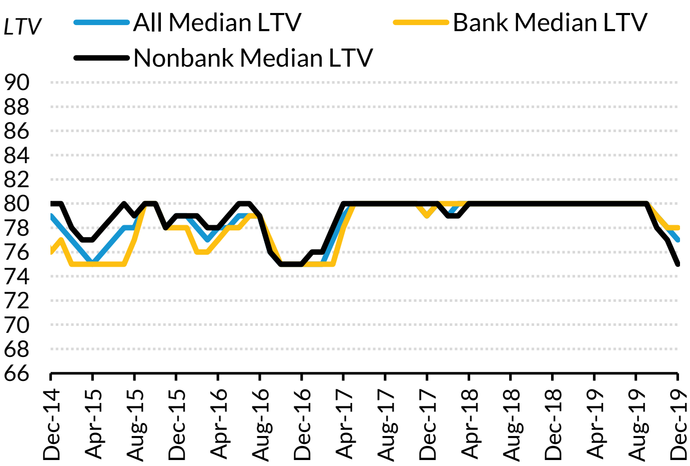


Sources: *eMBS and Urban Institute.*

AGENCY NONBANK CREDIT BOX

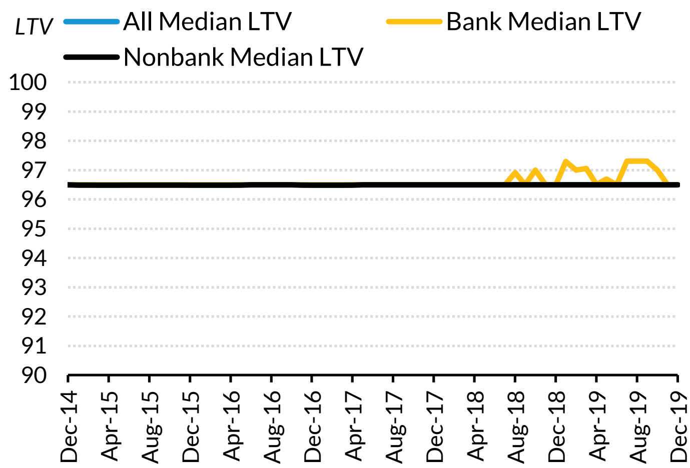
The median LTVs for nonbank and bank originations are comparable, while the median DTI for nonbank loans is higher than for bank loans. From early 2017 to early 2019, there was a sustained increase in DTIs, which has partially reversed beginning in the spring of 2019. This is true for both Ginnie Mae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

GSE LTV: Bank vs. Nonbank



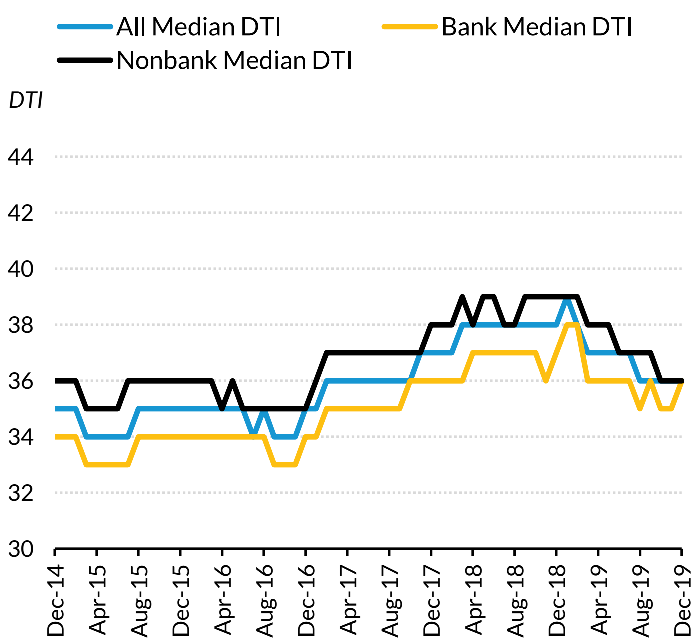
Sources: *eMBS and Urban Institute.*

Ginnie Mae LTV: Bank vs. Nonbank



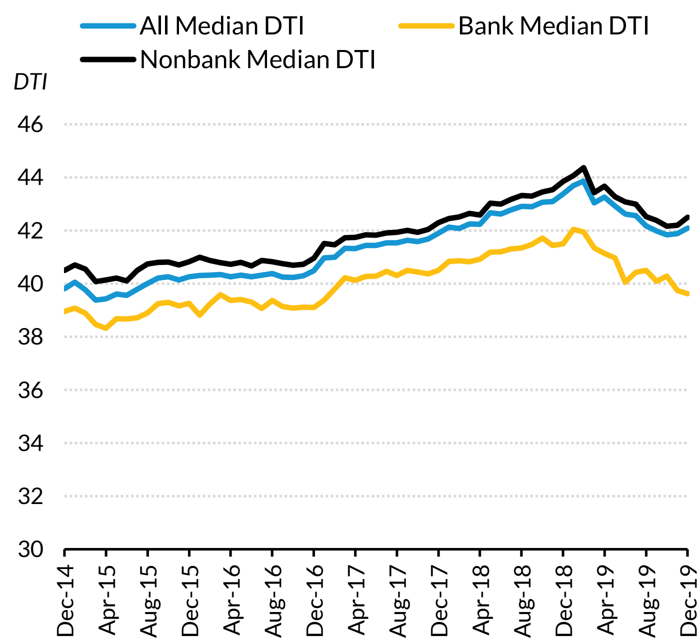
Sources: *eMBS and Urban Institute.*

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 estimate 2020 origination volume to be between $1.9 and $2.1 trillion, on par with 2016, higher than the $1.68-$1.77 trillion in 2018, and slightly lower than the $2.1 to $2.2 trillion in 2019. Origination volume increased substantially from 2018 to 2019 due to strong refinancing activity as mortgage rates fell steeply.

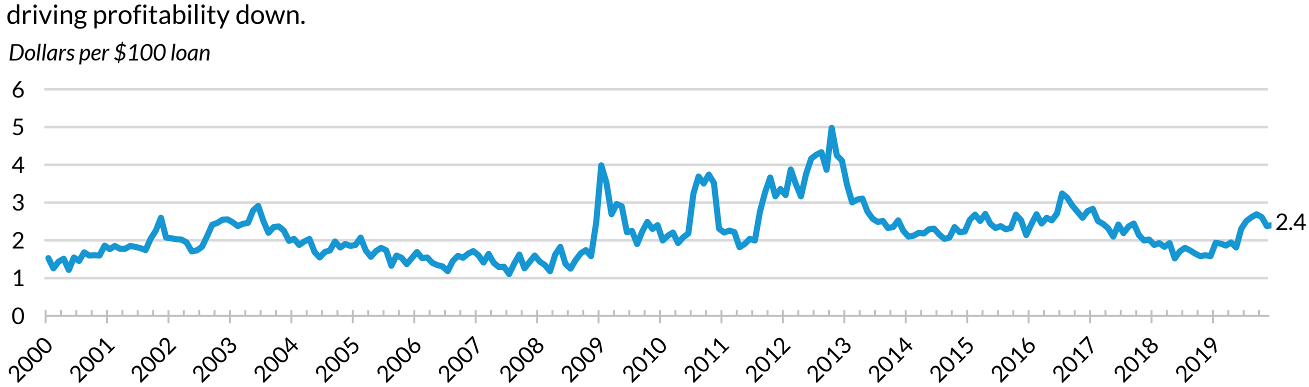
Total Originations and Refinance Shares

Period	Originations ($ billions)			Refi Share (percent)		
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	FNMA estimate	FHLMC estimate	MBA estimate
2018 Q1	410	377	342	38	40	37
2018 Q2	508	440	452	28	29	26
2018 Q3	465	435	457	26	25	24
2018 Q4	383	384	392	29	26	27
2019 Q1	371	355	325	32	37	30
2019 Q2	543	565	501	33	36	29
2019 Q3	708	700	605	47	48	38
2019 Q4	602	487	637	50	38	51
2015	1730	1750	1679	47	45	46
2016	2052	2125	1891	49	47	49
2017	1826	1810	1760	36	37	35
2018	1766	1700	1677	30	32	28
2019	2184	2107	2068	42	40	38
2020	2061	1983	1914	33	33	32

Sources: Fannie Mae, Freddie Mac, Mortgage Bankers Association and Urban Institute.
Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market. Regarding interest rates, the yearly averages for 2015, 2016, 2017 and 2018 were 3.9, 3.8, 4.0 and 4.6 percent. For 2019, the respective projections for Fannie, Freddie, and MBA are 3.9, 3.9, and 3.7 percent.

Originator Profitability and Unmeasured Costs

In December 2019, Originator Profitability and Unmeasured Costs (OPUC) stood at $2.40 per $100 loan, much lower than the 2013 peak, but up from where it started in 2019. OPUC, formulated and calculated by the Federal Reserve Bank of New York, is a good relative measure of originator profitability. OPUC uses the sales price of a mortgage in the secondary market (less par) and adds two sources of profitability; retained servicing (both base and excess servicing, net of g-fees), and points paid by the borrower. OPUC is generally high when interest rates are low, as originators are capacity constrained due to refinance demand and have no incentive to reduce rates. Conversely, when interest rates are higher and refi activity low, competition forces originators to lower rates, driving profitability down.

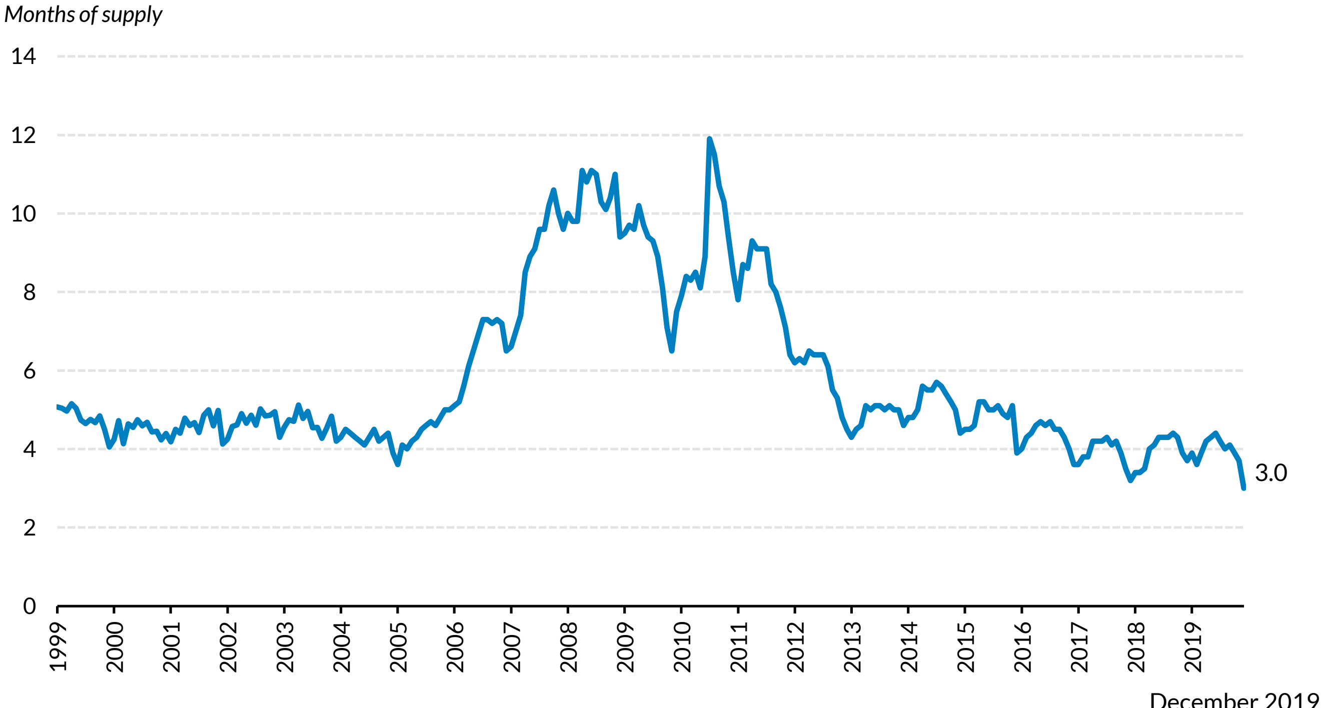


Sources: Federal Reserve Bank of New York, updated monthly and available at this link: http://www.ny.frb.org/research/epr/2013/1113fust.html and Urban Institute.
Note: OPUC is a is a monthly (4-week moving) average as discussed in Fuster et al. (2013).

STATE OF THE MARKET
HOUSING SUPPLY

Strong demand for housing in recent years, coupled with historically low new home construction has led to a low, 3.0 months, supply of for-sale homes in December 2019. This level is below the 3.7 months in December 2018. Pre-crisis it averaged 4.6 months. Fannie Mae, Freddie Mac, the MBA and the NAHB forecast 2020 housing starts to be 1.28 to 1.36 million units, slightly outpacing 2019 levels. Fannie Mae, Freddie Mac, and the MBA predict total home sales of 6.1 to 6.2 million units in 2020, slightly above 2019 levels.

Months of Supply



Source: National Association of Realtors and Urban Institute.

Housing Starts and Homes Sales

Year	Housing Starts, thousands				Home Sales. thousands			
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, NAHB estimate	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, NAHB estimate*
2015	1112	1110	1108	1107	5751	5750	5740	5125
2016	1174	1170	1177	1177	6011	6010	6001	5385
2017	1203	1200	1208	1208	6123	6120	6158	5522
2018	1250	1250	1250	1250	5957	5960	5956	5357
2019	1276	1250	1298	1266	6022	6000	6022	5460
2020	1360	1280	1325	1303	6146	6200	6200	5595

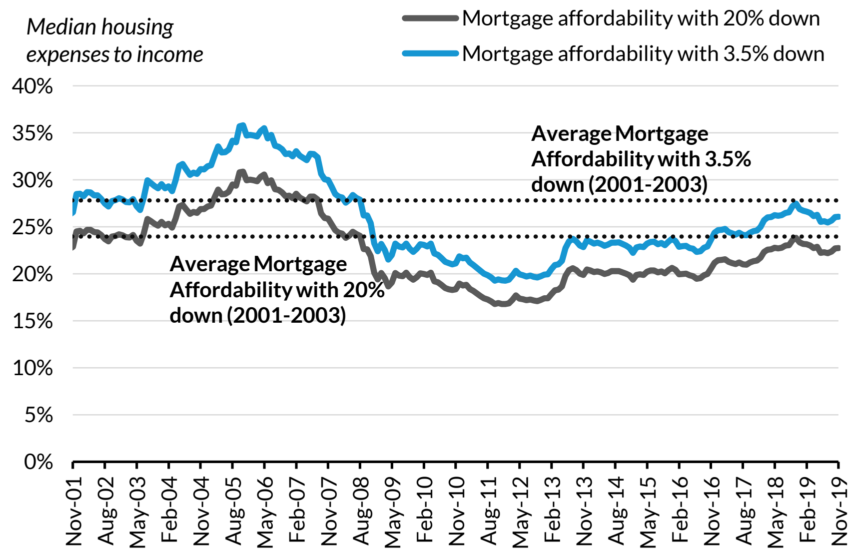
Sources: Mortgage Bankers Association, Fannie Mae, Freddie Mac, National Association of Home Builders and Urban Institute.
Note: Shaded boxes indicate forecasted figures; column labels indicate source of estimate. *NAHB home sales estimate is for single-family structures only, it excludes condos and co-ops. Other figures include all single-family sales.

STATE OF THE MARKET

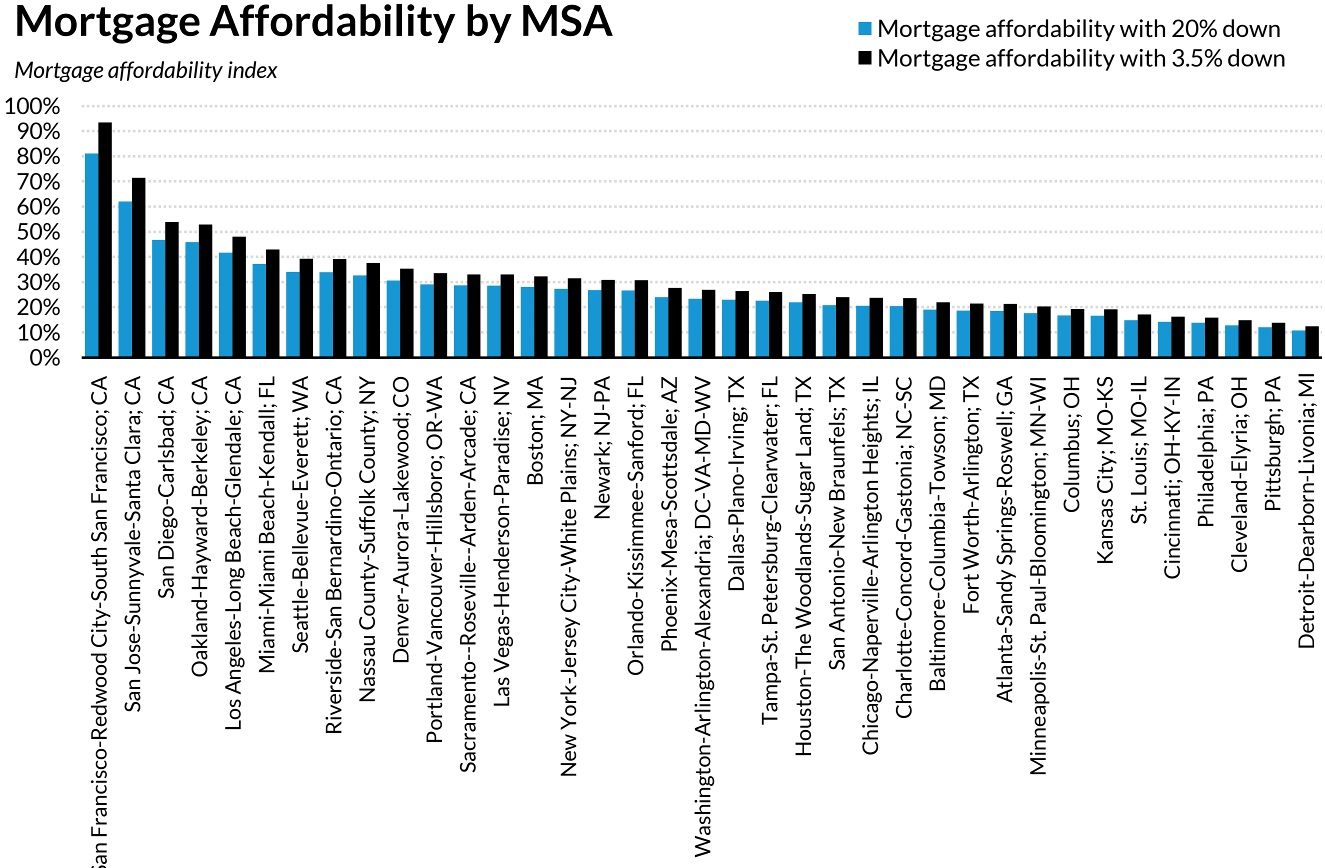
HOUSING AFFORDABILITY

National Mortgage Affordability Over Time

Home prices remain affordable by historic standards, despite price increases over the last 7 years, as interest rates remain relatively low in an historic context. As of November 2019, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 23.9 percent; with 3.5 down, it is 27.8 percent. Since February, the median housing expenses to income ratio has been slightly lower than the 2001-2003 average. As shown in the bottom picture, mortgage affordability varies widely by MSA.



Mortgage Affordability by MSA

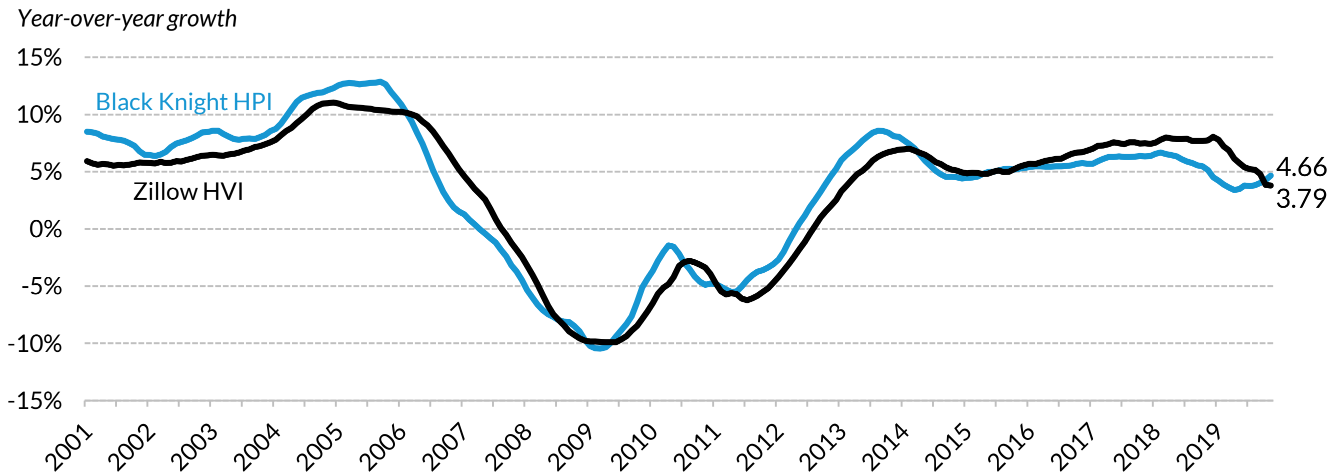


Sources: National Association of Realtors, US Census Bureau, Current Population Survey, American Community Survey, Moody's Analytics, Freddie Mac Primary Mortgage Market Survey, and the Urban Institute.
Note: Mortgage affordability is the share of median family income devoted to the monthly principal, interest, taxes, and insurance payment required to buy the median home at the Freddie Mac prevailing rate *2018* for a 30-year fixed-rate mortgage and property tax and insurance at 1.75 percent of the housing value. Data for the bottom chart as of Q2 2019.

HOME PRICE INDICES

National Year-Over-Year HPI Growth

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



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

Changes in Black Knight HPI for Top MSAs

After rising 54.9 percent from the trough, national house prices are now 15.5 percent higher than pre-crisis peak levels. At the MSA level, ten of the top 15 MSAs have exceeded their pre-crisis peak HPI: New York, NY; Los Angeles, CA; Atlanta, GA; Houston, TX; Dallas, TX; Minneapolis, MN; Seattle, WA; Denver, CO, San Diego, CA, and Anaheim, CA. Two MSAs particularly hard hit by the boom and bust—Chicago, IL and Riverside, CA—are 10.5 and 9.4 percent, respectively, below peak values.

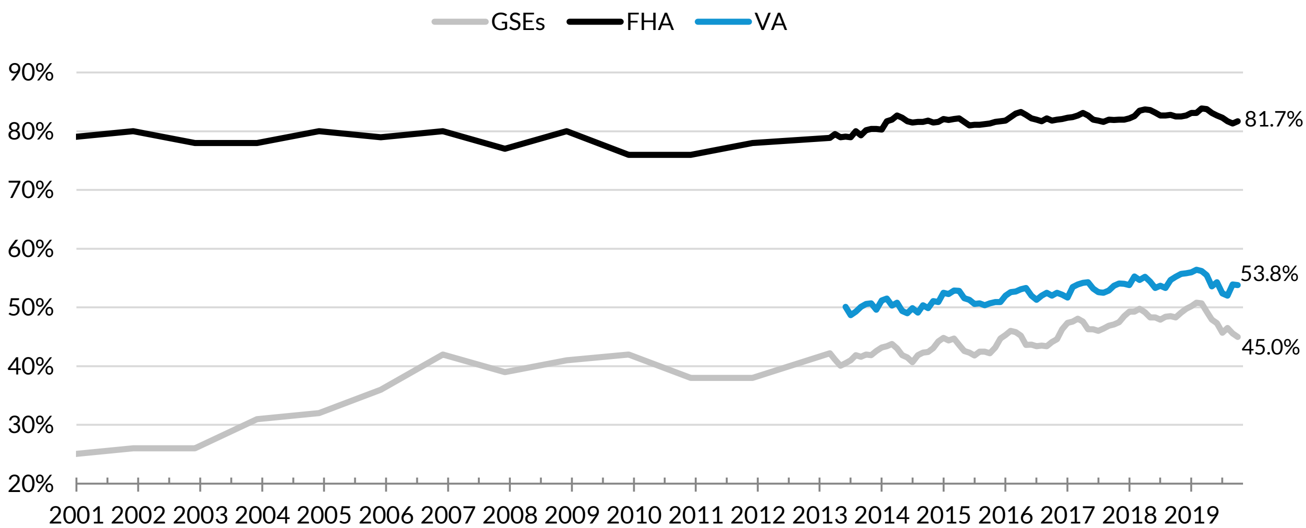
MSA	HPI changes (%)			% above peak
	2000 to peak	Peak to trough	Trough to current	
United States	75.4	-25.4	54.9	15.5
New York-Jersey City-White Plains, NY-NJ	127.9	-22.4	46.0	13.3
Los Angeles-Long Beach-Glendale, CA	179.7	-38.1	87.2	15.8
Chicago-Naperville-Arlington Heights, IL	67.0	-38.4	45.4	-10.5
Atlanta-Sandy Springs-Roswell, GA	32.5	-35.4	80.6	16.7
Washington-Arlington-Alexandria, DC-VA-MD-WV	149.2	-28.4	37.1	-1.8
Houston-The Woodlands-Sugar Land, TX	29.3	-6.6	47.4	37.7
Phoenix-Mesa-Scottsdale, AZ	113.2	-51.1	98.6	-3.0
Riverside-San Bernardino-Ontario, CA	175.2	-51.7	87.3	-9.4
Dallas-Plano-Irving, TX	26.3	-7.2	66.2	54.3
Minneapolis-St. Paul-Bloomington, MN-WI	69.2	-30.5	59.5	10.9
Seattle-Bellevue-Everett, WA	90.5	-33.1	102.9	35.7
Denver-Aurora-Lakewood, CO	34.0	-12.1	91.2	68.0
Baltimore-Columbia-Towson, MD	123.1	-24.4	21.1	-8.5
San Diego-Carlsbad, CA	148.3	-37.5	76.0	10.0
Anaheim-Santa Ana-Irvine, CA	163.1	-35.2	63.8	6.1

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

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In November 2019, the FTHB share for FHA, which has always been more focused on first time homebuyers, rose very slightly to 81.7 percent. The FTHB share of VA lending decreased slightly in November, to 53.8 percent. The GSE FTHB share in November was 45.0 percent. The bottom table shows that based on mortgages originated in November 2019, the average FTHB was more likely than an average repeat buyer to take out a smaller loan, have a lower credit score, and higher LTV and higher DTI, thus paying a higher interest rate.



Sources: eMBS, Federal Housing Administration (FHA) and Urban Institute. November 2019

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

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

	GSEs		FHA		GSEs and FHA	
Characteristics	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount ($)	252,945	274,688	224,131	240,169	240,732	269,084
Credit Score	744	757	672	674	714	744
LTV (%)	88	79	95	94	91	82
DTI (%)	35	36	43	44	39	37
Loan Rate (%)	3.89	3.81	3.94	3.84	3.91	3.82

Sources: eMBS and Urban Institute.

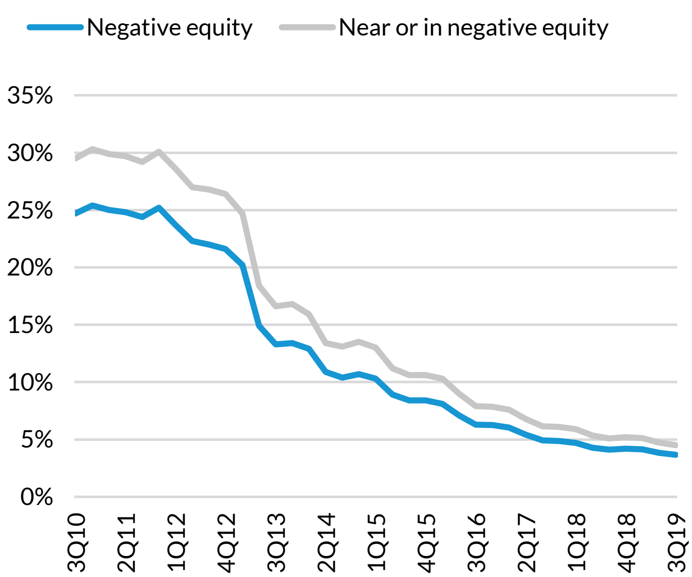
Note: Based on owner-occupied purchase mortgages originated in November 2019.

STATE OF THE MARKET

DELINQUENCIES AND LOSS MITIGATION ACTIVITY

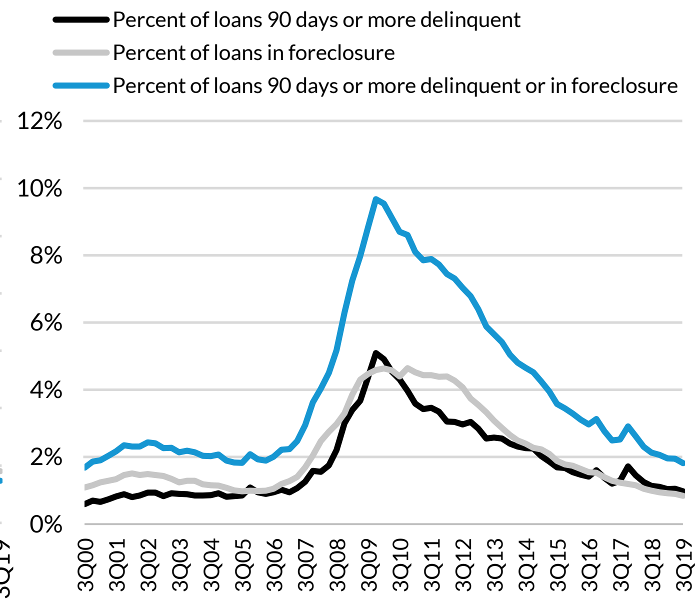
Loans in and near negative equity continued to decline in 3Q 2019; 3.7 percent now have negative equity, an additional 0.8 percent have less then 5 percent equity. Loans that are 90 days delinquent or in foreclosure have also been in a long decline, falling to 1.81 percent in the third quarter of 2019. New loan modifications and liquidations (bottom) have continued to decline. Since Q3, 2007, total loan modifications (HAMP and proprietary) are roughly equal to total liquidations. Hope Now reports show 8,616,341 borrowers received a modification from Q3 2007 to Q2 2019, compared with 8,842,251 liquidations in the same period.

Negative Equity Share



Sources: CoreLogic and Urban Institute.
Note: Loans with negative equity refer to loans above 100 percent LTV. Loans near negative equity refer to loans above 95 percent LTV. *Last updated December 2019.*

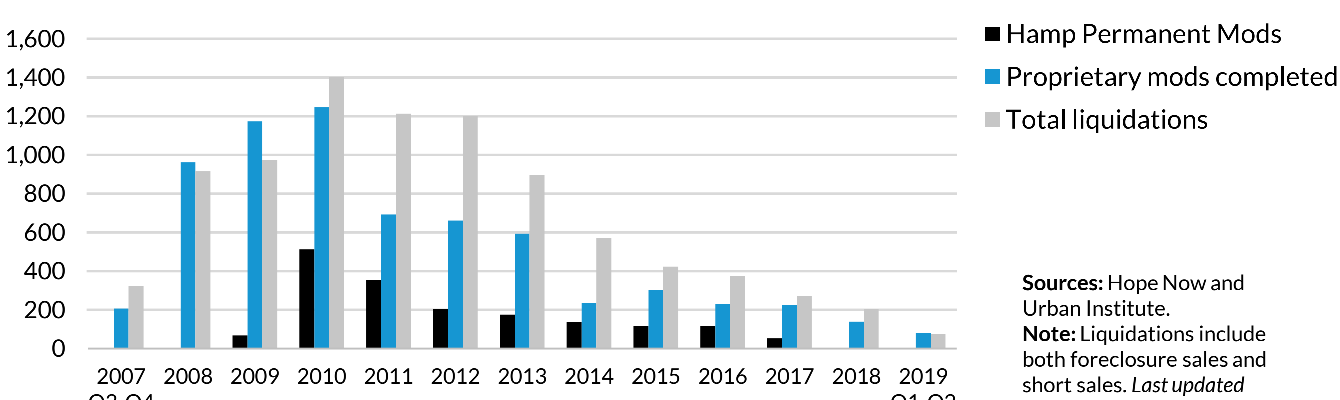
Loans in Serious Delinquency/Foreclosure



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

Loan Modifications and Liquidations

Number of loans (thousands)

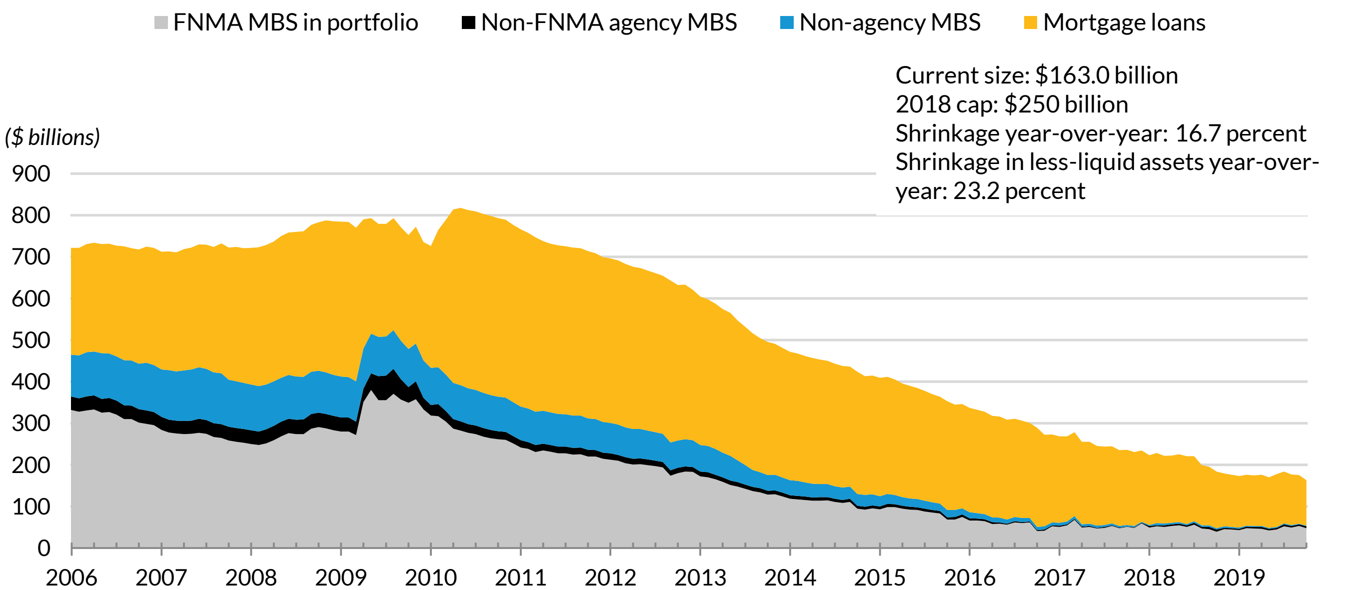


Sources: Hope Now and Urban Institute.
Note: Liquidations include both foreclosure sales and short sales. *Last updated November 2019.*

GSE PORTFOLIO WIND-DOWN

Both GSEs continue to contract their retained portfolios. Since November 2018, Fannie Mae has contracted by 16.7 percent and Freddie Mac by 7.8 percent. They are shrinking their less-liquid assets (mortgage loans and non-agency MBS) faster than they are shrinking their entire portfolio. The Fannie Mae and Freddie Mac portfolios are now both well below the $250 billion maximum portfolio size; they were required to reach this terminal level by year end 2018. Fannie met the target in 2017, Freddie met the target in February 2018.

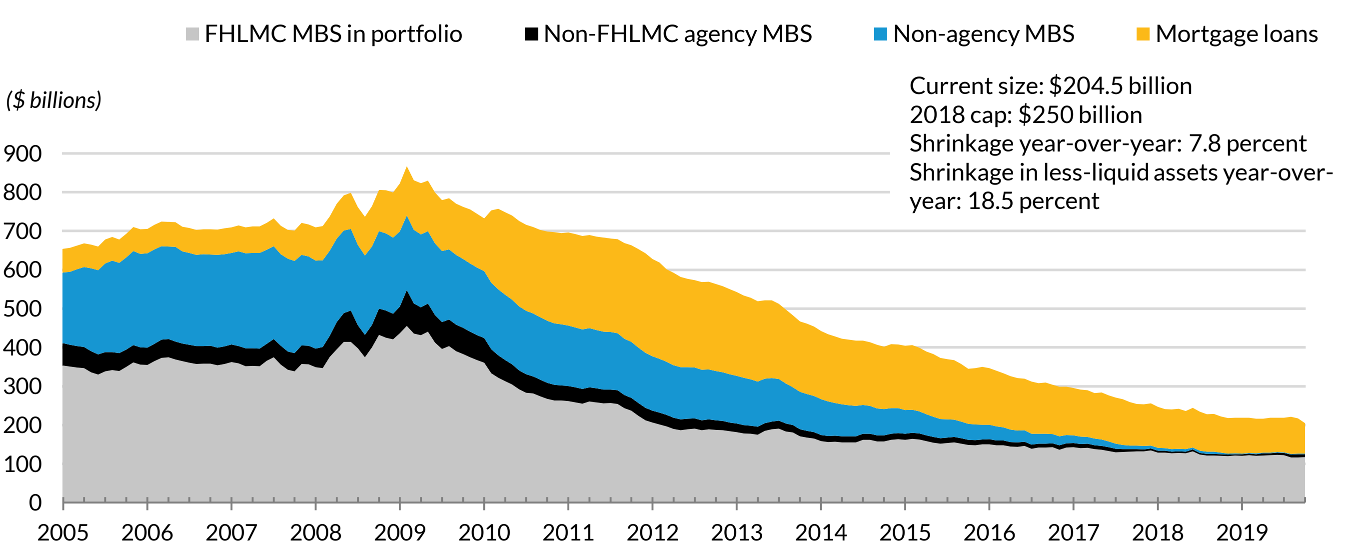
Fannie Mae Mortgage-Related Investment Portfolio Composition



Sources: Fannie Mae and Urban Institute.

November 2019

Freddie Mac Mortgage-Related Investment Portfolio Composition



Sources: Freddie Mac and Urban Institute.

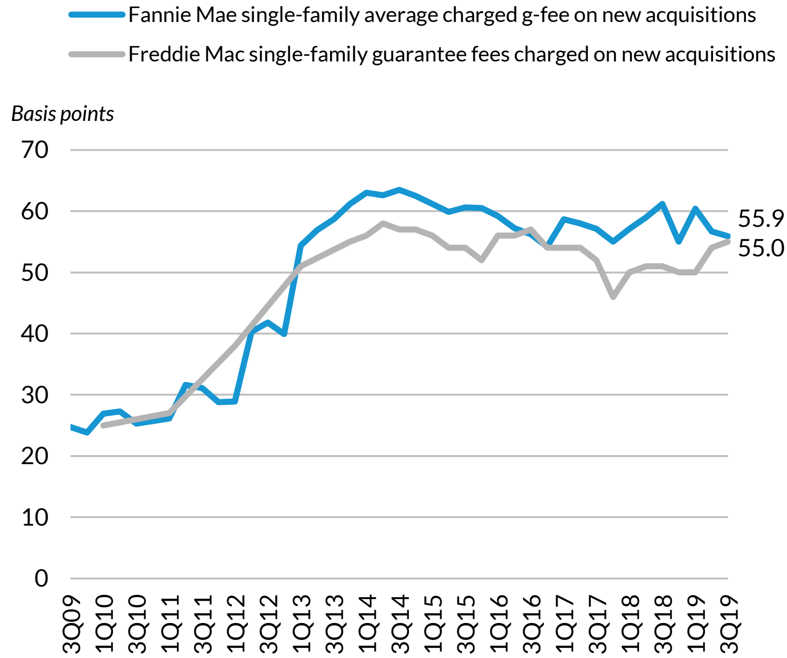
November 2019

GSES UNDER CONSERVATORSHIP

EFFECTIVE GUARANTEE FEES

Guarantee Fees Charged on New Acquisitions

Fannie Mae's average g-fees charged on new acquisitions fell from 56.7 bps in Q2 2019 to 55.9 bps in Q3, while Freddie's rose from 54.0 to 55.0 bps. This quarter is the first time in the last three years the g-fees have been less than 1 bp apart. Today's g-fees are markedly higher than g-fee levels in 2011 and 2012, and have contributed to the GSEs' earnings; the bottom table shows Fannie Mae LLPAs, which are expressed as upfront charges.



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

Fannie Mae Upfront Loan-Level Price Adjustments (LLPAs)

	LTV (%)								
Credit Score	≤60	60.01 – 70	70.01 – 75	75.01 – 80	80.01 – 85	85.01 – 90	90.01 – 95	95.01 – 97	>97
> 740	0.00	0.25	0.25	0.50	0.25	0.25	0.25	0.75	0.75
720 – 739	0.00	0.25	0.50	0.75	0.50	0.50	0.50	1.00	1.00
700 – 719	0.00	0.50	1.00	1.25	1.00	1.00	1.00	1.50	1.50
680 – 699	0.00	0.50	1.25	1.75	1.50	1.25	1.25	1.50	1.50
660 – 679	0.00	1.00	2.25	2.75	2.75	2.25	2.25	2.25	2.25
640 – 659	0.50	1.25	2.75	3.00	3.25	2.75	2.75	2.75	2.75
620 – 639	0.50	1.50	3.00	3.00	3.25	3.25	3.25	3.50	3.50
< 620	0.50	1.50	3.00	3.00	3.25	3.25	3.25	3.75	3.75
Product Feature (Cumulative)									
Investment Property	2.125	2.125	2.125	3.375	4.125	4.125	4.125	4.125	4.125

Sources: Fannie Mae and Urban Institute.
Last updated March of 2019.

GSE RISK-SHARING TRANSACTIONS

Fannie Mae and Freddie Mac have been laying off back-end credit risk through CAS and STACR deals and through reinsurance transactions. They have also done front-end transactions with originators and reinsurers, and experimented with deep mortgage insurance coverage with private mortgage insurers. FHFA's 2020 scorecard requires the GSEs to transfer a significant amount of credit risk to private markets. This is a departure from the 2019 scorecard, which required risk transfer specifically on 90% of new acquisitions. Fannie Mae's CAS issuances since inception total $1.49 trillion; Freddie's STACR totals $1.53 trillion.

Fannie Mae – Connecticut Avenue Securities (CAS)

Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
2013	CAS 2013 deals	$26,756	$675	2.5
2014	CAS 2014 deals	$227, 234	$5,849	2.6
2015	CAS 2015 deals	$187,126	$5,463	2.9
2016	CAS 2016 deals	$236,459	$7,392	3.1
2017	CAS 2017 deals	$264,697	$8,707	3.3
February 2018	CAS 2018 – C01	$44,900	$1,494	3.3
March 2018	CAS 2018 - C02	$26,500	$1,007	3.8
May 2018	CAS 2018 - C03	$31,100	$1,050	3.4
June 2018	CAS 2018 - C04	$24,700	$940	3.8
July 2018	CAS 2018 - C05	$28,700	$983	3.4
October 2018	CAS 2018 - C06	$25,700	$918	3.6
October 2018	CAS 2018 - R07	$24,300	$922	3.8
January 2019	CAS 2019 - R01	$28,000	$960	3.4
February 2019	CAS 2019 - R02	$27,000	$1,000	3.7
April 2019	CAS 2019 - R03	$21,000	$857	4.1
June 2019	CAS 2019 - R04	$25,000	$1,000	4.0
July 2019	CAS 2019 - R05	$24,000	$993	4.1
October 2019	CAS 2019 - R06	$33,000	$1,300	3.9
October 2019	CAS 2019 - R07	$26,600	$998	3.8
November 2019	CAS 2019 - HRP1	$106,800	$963	0.9
January 2020	CAS 2020 - R01	$29,000	$1,030	3.6
Total		**$1,489,572**	**$44,501**	**3.0**

Freddie Mac – Structured Agency Credit Risk (STACR)

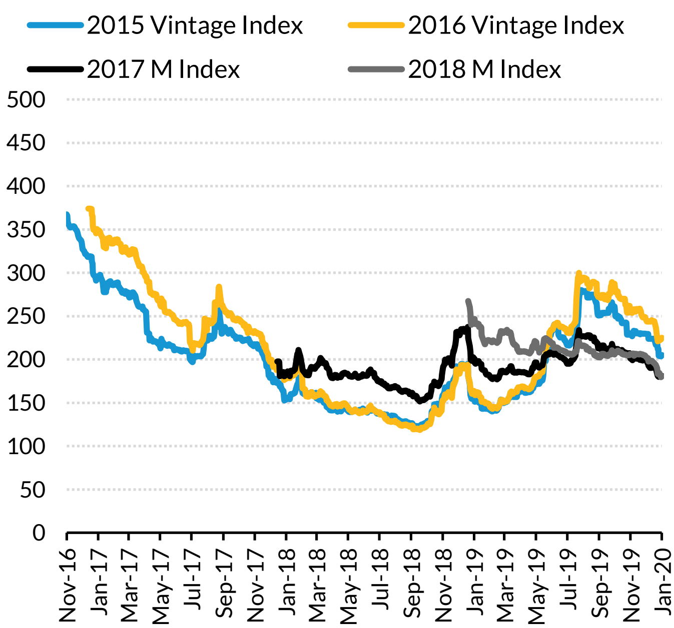
Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
2013	STACR 2013 deals	$57,912	$1,130	2.0
2014	STACR 2014 deals	$147,120	$4,916	3.3
2015	STACR 2015 deals	$209,521	$6,658	3.2
2016	STACR 2016 deals	$199,130	$5,541	2.8
2017	STACR 2017 deals	$248, 821	$5,663	2.3
January 2018	STACR Series 2018 – DNA1	$34,733	$900	2.6
March 2018	STACR Series 2018 – HQA1	$40,102	$985	2.5
June 2018	STACR Series 2018 – DNA2	$49,346	$1,050	2.1
September 2018	STACR Series 2018 – DNA3	$30,000	$820	2.7
October 2018	STACR Series 2018 – HQA2	$36,200	$1,000	2.8
November 2018	STACR Series 2018 – HRP2	$26,200	$1,300	5.0
January 2019	STACR Series 2019 – DNA1	$24,600	$714	2.9
February 2019	STACR Series 2019 – HQA1	$20,760	$640	3.1
March 2019	STACR Series 2019 – DNA2	$20,500	$608	3.0
May 2019	STACR Series 2019 – HQA2	$19,500	$615	3.2
May 2019	STACR Series 2019 – FTR1	$44,590	$140	0.3
June 2019	STACR Series 2019 – HRP1	$5,782	$281	4.9
July 2019	STACR Series 2019 – DNA3	$25,533	$756	3.0
August 2019	STACR Series 2019 – FTR2	$11,511	$284	2.5
September 2019	STACR Series 2019 – HQA3	$19,609	$626	3.2
October 2019	STACR Series 2019 – DNA4	$20,550	$589	2.9
November 2019	STACR Series 2019 – HQA4	$13,399	$432	3.2
December 2019	STACR Series 2019 – FTR3	$22,508	$151	0.7
December 2019	STACR Series 2019 – FTR4	$22,263	$111	0.5
Total		**$1,528,921**	**$35,910**	**2.3**

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

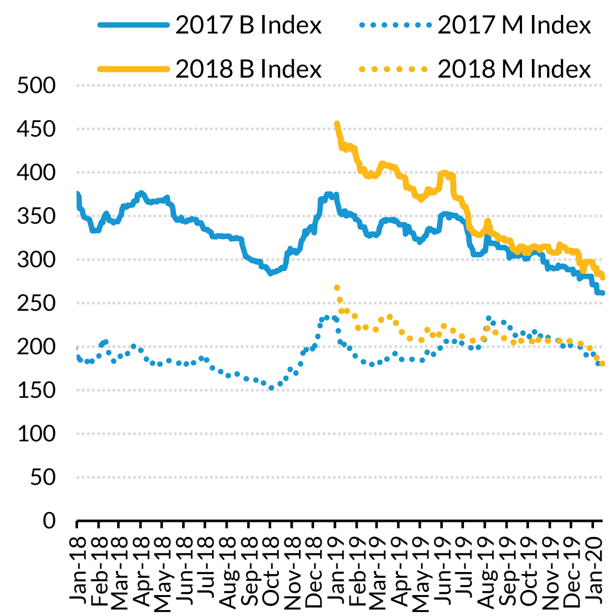
GSE RISK-SHARING INDICES

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

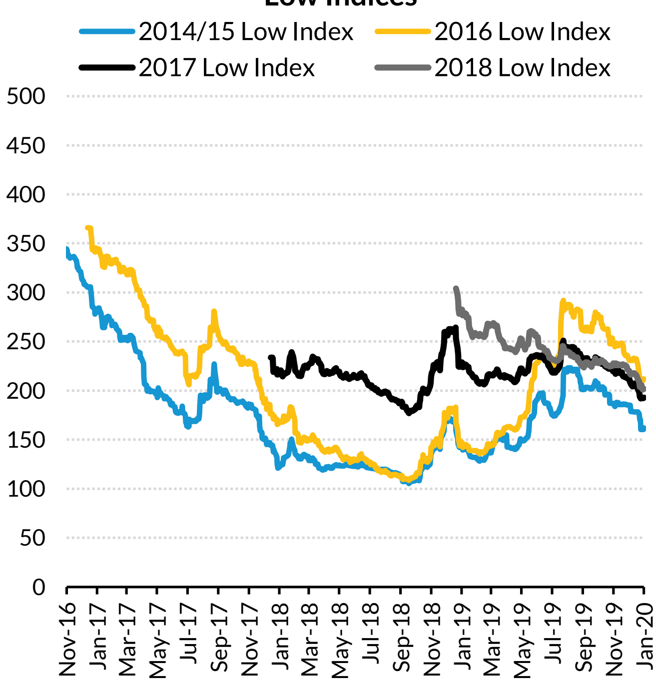
By Vintage



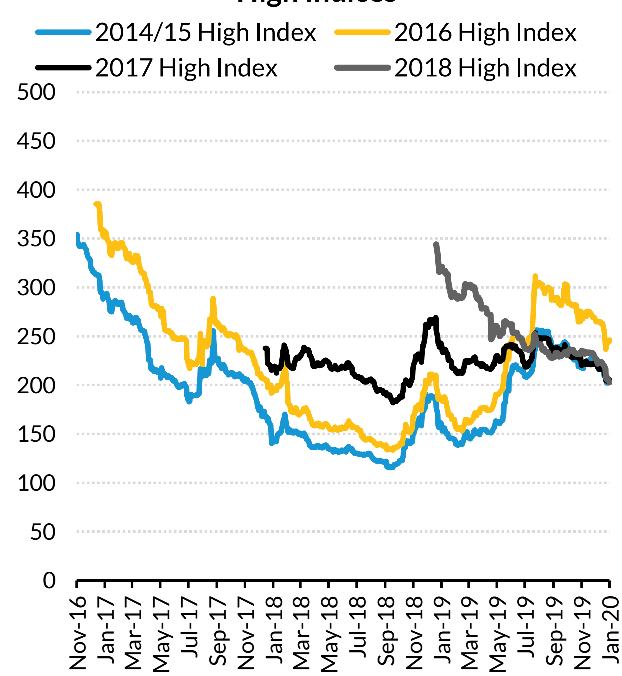
2017 and 2018 Indices



Low Indices



High Indices

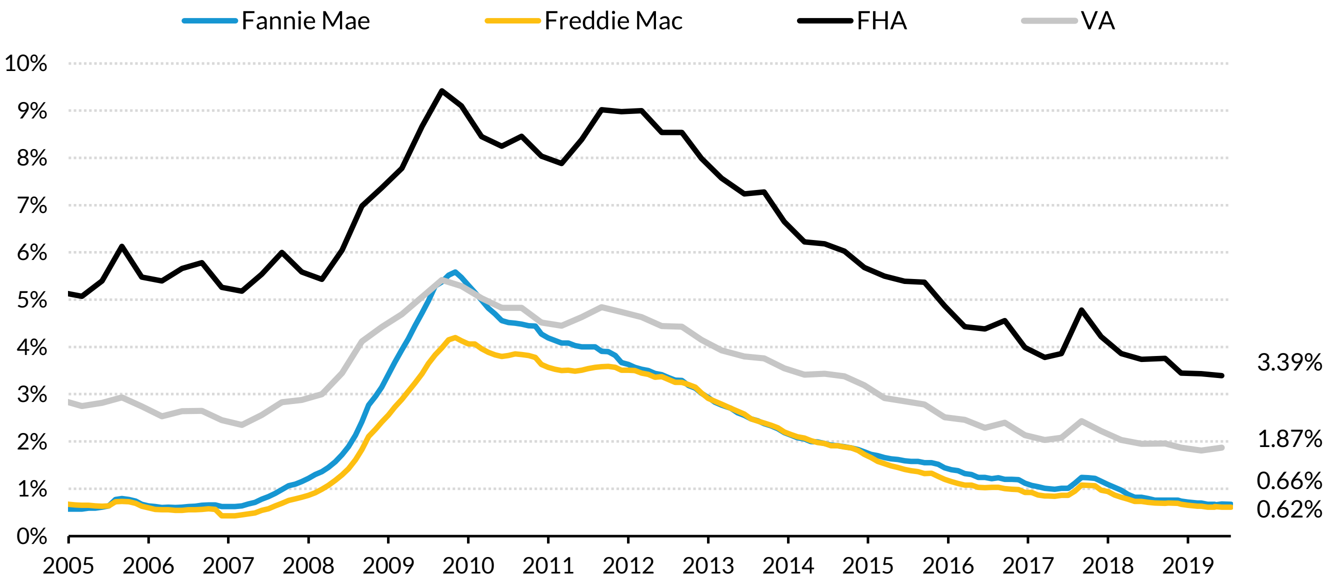


Sources: Vista Data Services and Urban Institute.
Note: Data as of January 15,2020.

SERIOUS DELINQUENCY RATES

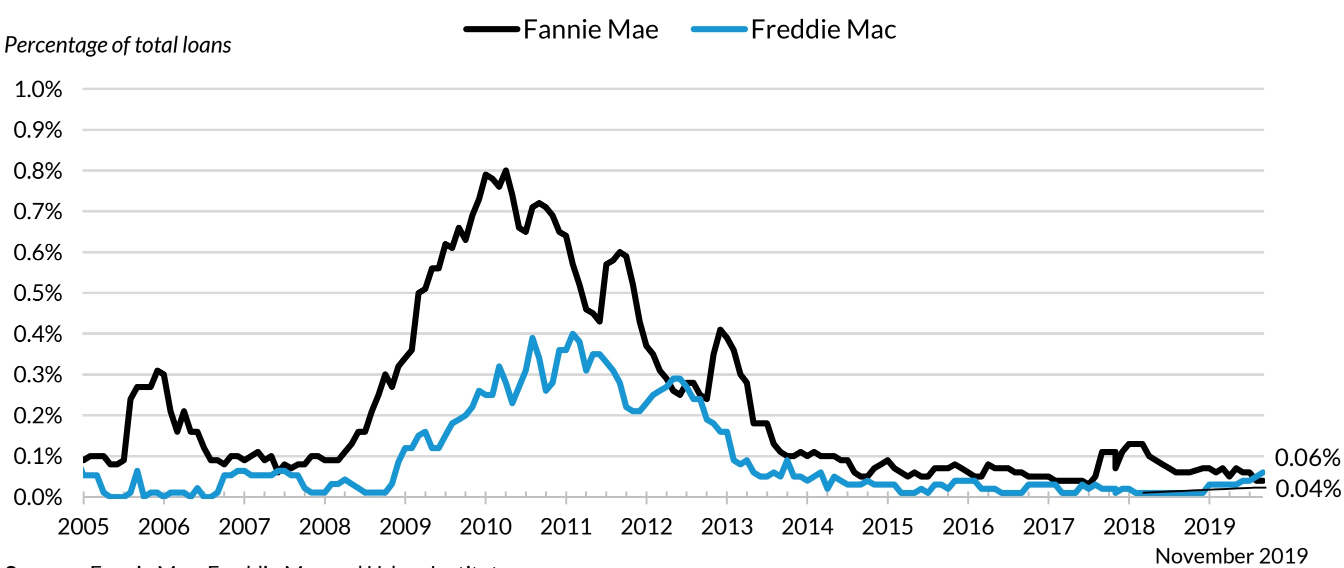
Serious delinquencies rates for single-family GSE loans and FHA loans continued to decline in Q3 2019, while the rate grew slightly for VA loans. GSE delinquencies remain slightly higher relative to 2006-2007, while FHA and VA delinquencies (which are higher than their GSE counterparts) are well below 2006-2007 levels. GSE multifamily delinquencies have declined post-crisis and remain very low.

Serious Delinquency Rates–Single-Family Loans



Sources: Fannie Mae, Freddie Mac, MBA Delinquency Survey and Urban Institute. **Note:** Serious delinquency is defined as 90 days or more past due or in the foreclosure process. Not seasonally adjusted. FHA and VA delinquencies are reported on a quarterly basis, last updated November 2019. GSE delinquencies are reported monthly, last updated January 2020.

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 $1.55 trillion in 2019, up 29.7 percent from 2018. Issuance in January and February 2019 was much lower than in January and February 2018, however the remainder of 2019 far outpaced the previous year. Net issuance (which excludes repayments, prepayments, and refinances on outstanding mortgages) totaled $293.5 billion in 2019, up 12.2 percent from 2018.

Agency Gross Issuance

Issuance Year	GSEs	Ginnie Mae	Total
2000	$360.6	$102.2	$462.8
2001	$885.1	$171.5	$1,056.6
2002	$1,238.9	$169.0	$1,407.9
2003	$1,874.9	$213.1	$2,088.0
2004	$872.6	$119.2	$991.9
2005	$894.0	$81.4	$975.3
2006	$853.0	$76.7	$929.7
2007	$1,066.2	$94.9	$1,161.1
2008	$911.4	$267.6	$1,179.0
2009	$1,280.0	$451.3	$1,731.3
2010	$1,003.5	$390.7	$1,394.3
2011	$879.3	$315.3	$1,194.7
2012	$1,288.8	$405.0	$1,693.8
2013	$1,176.6	$393.6	$1,570.1
2014	$650.9	$296.3	$947.2
2015	$845.7	$436.3	$1,282.0
2016	$991.6	$508.2	$1,499.8
2017	$877.3	$455.6	$1,332.9
2018	$795.0	$400.6	$1,195.3
2019	$1,042.6	$508.6	$1,551.2
2019 % Change over 2018	31.1%	27.0%	29.7%

Agency Net Issuance

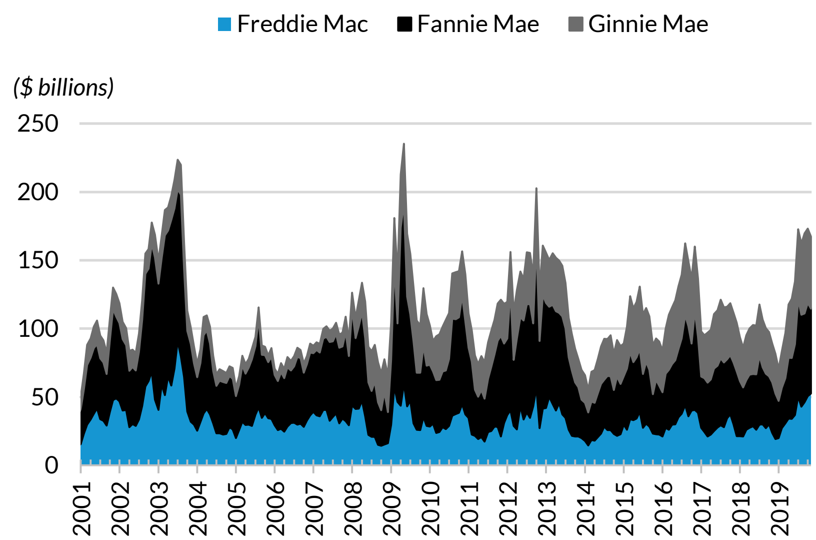
Issuance Year	GSEs	Ginnie Mae	Total
2000	$159.80	$29.30	$189.10
2001	$368.40	-$9.90	$358.50
2002	$357.20	-$51.20	$306.10
2003	$334.90	-$77.60	$257.30
2004	$82.50	-$40.10	$42.40
2005	$174.20	-$42.20	$132.00
2006	$313.60	$0.20	$313.80
2007	$514.90	$30.90	$545.70
2008	$314.80	$196.40	$511.30
2009	$250.60	$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	$30.5	$61.6	$92.1
2015	$75.1	$97.3	$172.5
2016	$127.4	$125.8	$253.1
2017	$168.5	$131.3	$299.7
2018	$149.4	$112.0	$261.5
2019	$197.8	$95.7	$293.5
2019 % Change over 2018	32.3%	-14.6%	12.2%

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

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

While FHA, VA and GSE lending have dominated the mortgage market since the crisis, there has been a change in the mix. The Ginnie Mae share of new issuances has risen from a precrisis level of 10-12 percent to 31.5 percent in December 2019. This share increase reflected both increases in the purchase share and in the refi share; it is down from a high mark over the past two years of 34.4 percent in October.

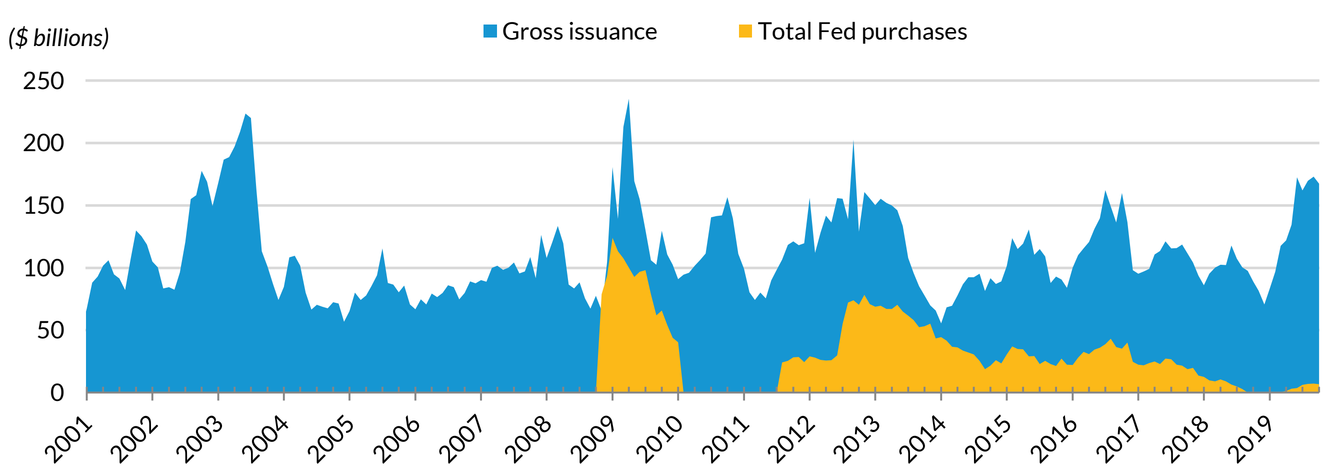


Sources: eMBS, Federal Reserve Bank of New York, and Urban Institute.

December 2019

Fed Absorption of Agency Gross Issuance

The Fed is winding down its MBS portfolio; new MBS purchases are minimal. During the period October 2014 to September 2017, the Fed ended its purchase program, but was reinvesting funds from mortgages and agency debt into the mortgage market, absorbing 20-30 percent of agency gross issuance. The portfolio wind down started in October 2017, with the Fed allowing a pre-established amount of MBS to run off each month. From October 2017 to September 2018, the Fed was still reinvesting, but by less than the prepayments and repayments. In October 2018, the amount of MBS permitted to run off each month (MBS taper) hit the $20 billion cap. Since then the amount of Fed purchases has been tiny; in December 2019 Fed purchases totaled $6.8 billion, corresponding to Fed absorption of gross issuance of 4.07 percent.



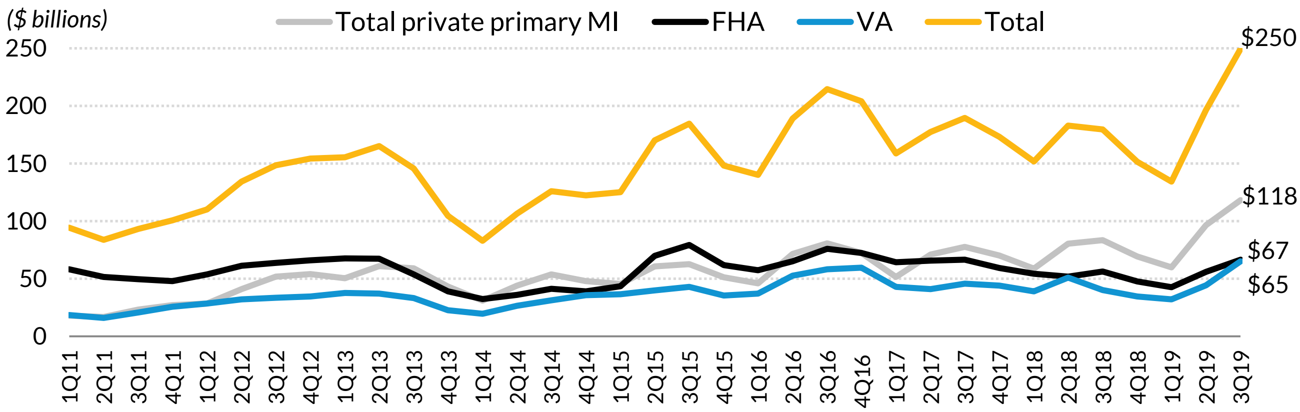
December 2019

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

MORTGAGE INSURANCE ACTIVITY

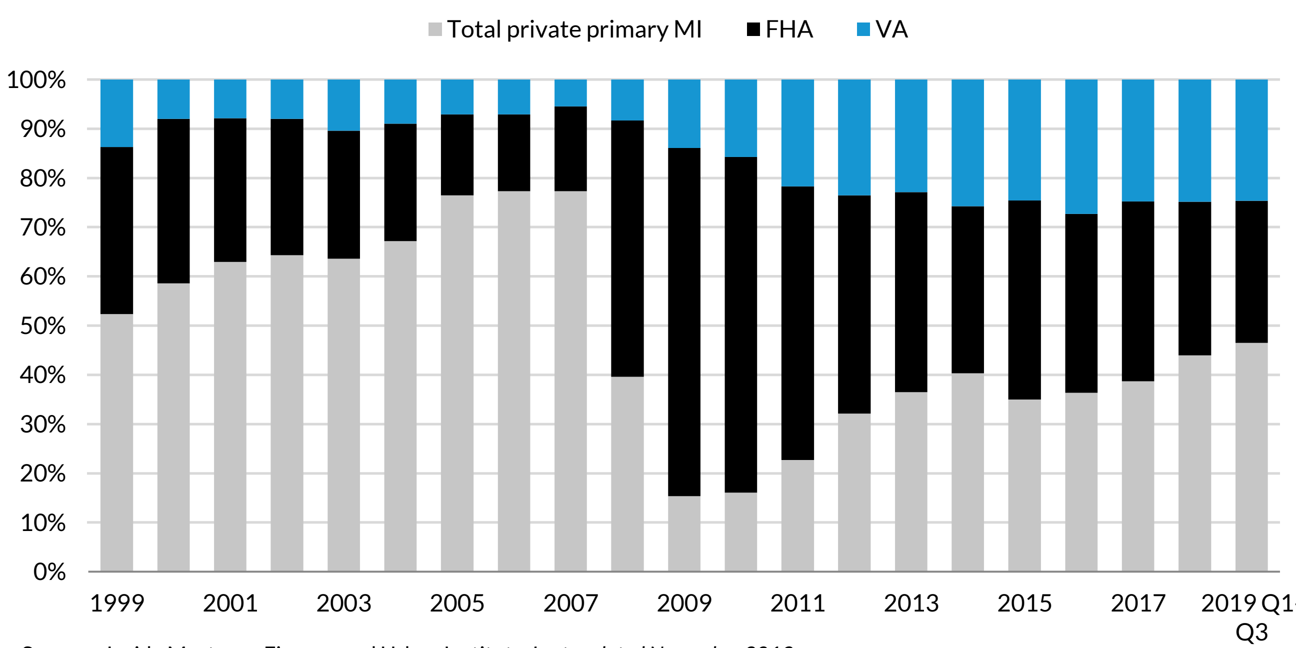
MI Activity

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



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

MI Market Share



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

AGENCY ISSUANCE

MORTGAGE INSURANCE ACTIVITY

FHA premiums rose significantly in the years following the housing crash, with annual premiums rising from 50 to 135 basis points between 2008 to 2013 as FHA worked to shore up its finances. In January 2015, President Obama announced a 50 bps cut in annual insurance premiums, making FHA mortgages more attractive than GSE mortgages for the overwhelming majority of borrowers putting down less than 5%. The April 2016 reduction in PMI rates for borrowers with higher FICO scores and April 2018 reduction for lower FICO borrowers has partially offset that. As shown in the bottom table, a borrower putting 3.5 percent down with a FICO of less than 720 will find FHA financing to be more financially attractive, borrowers with FICOs of 720 and above will find GSE execution with PMI to be more attractive.

FHA MI Premiums for Typical Purchase Loan

Case number date	Upfront mortgage insurance premium (UFMIP) paid	Annual mortgage insurance premium (MIP)
1/1/2001 - 7/13/2008	150	50
7/14/2008 - 4/5/2010*	175	55
4/5/2010 - 10/3/2010	225	55
10/4/2010 - 4/17/2011	100	90
4/18/2011 - 4/8/2012	100	115
4/9/2012 - 6/10/2012	175	125
6/11/2012 - 3/31/2013[a]	175	125
4/1/2013 – 1/25/2015[b]	175	135
Beginning 1/26/2015[c]	175	85

Sources: Ginnie Mae and Urban Institute.
Note: A typical purchase loan has an LTV over 95 and a loan term longer than 15 years. Mortgage insurance premiums are listed in basis points.
* For a short period in 2008 the FHA used a risk based FICO/LTV matrix for MI.
[a] Applies to purchase loans less than or equal to \$625,500. Those over that amount have an annual premium of 150 bps.
[b] Applies to purchase loans less than or equal to \$625,500. Those over that amount have an annual premium of 155 bps.
[c] Applies to purchase loans less than or equal to \$625,500. Those over that amount have an annual premium of 105 bps.

Initial Monthly Payment Comparison: FHA vs. PMI

Assumptions	
Property Value	\$250,000
Loan Amount	\$241,250
LTV	96.5
Base Rate	
Conforming	3.72
FHA	3.83

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	\$1,319	\$1,319	\$1,319	\$1,319	\$1,319	\$1,319	\$1,319	\$1,319
PMI	\$1,585	\$1,521	\$1,485	\$1,398	\$1,354	\$1,316	\$1,274	\$1,250
PMI Advantage	-\$266	-\$202	-\$166	-\$79	-\$35	\$3	\$44	\$69

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

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