



HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

June 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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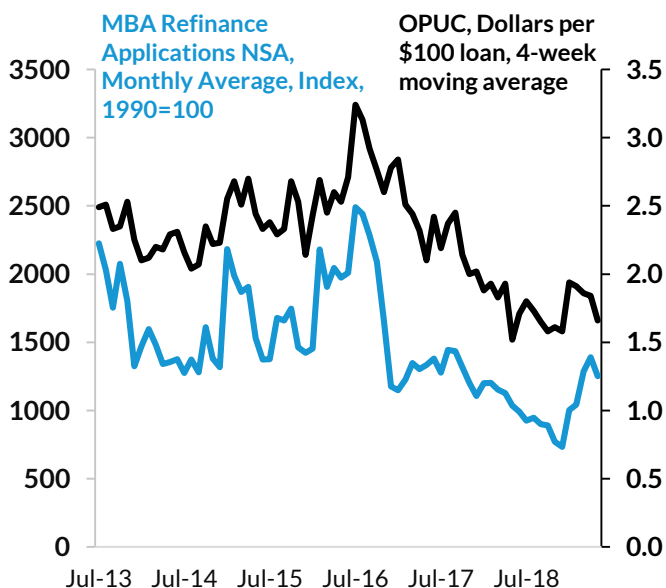
INTRODUCTION

Managing Lending Capacity Over Short-Run Interest Rate Cycles

Freddie Mac's benchmark 30-year fixed mortgage rate, obtained from its primary mortgage market survey (PMMS), averaged 3.84 percent for the week ending June 20th, down significantly from 4.94 percent in early November 2018. The drop in mortgage rates is largely due to a decline in the 10-Year Treasury Note rate which fell from a weekly average of 3.21 percent in early November 2018 to a 2.05 percent average over the week including June 21st. Longer-term interest rates have been dragged down by concerns about weaker economic growth and recent expectations of a Fed rate cut.

A key implication of falling mortgage rates is that eligible borrowers can now save money on their mortgage payments by refinancing. The Mortgage Bankers Association's (MBA) weekly mortgage applications survey and mortgage rate trends indicate that borrowers do respond predictably to declines in rates. Refinancing applications tend to rise when mortgage rates fall and typically drop when mortgage rates climb. Since November 2018, when mortgage rates reached their most recent peak, refinance applications have risen, per the MBA survey.

MBA Mortgage Refi Apps and OPUC

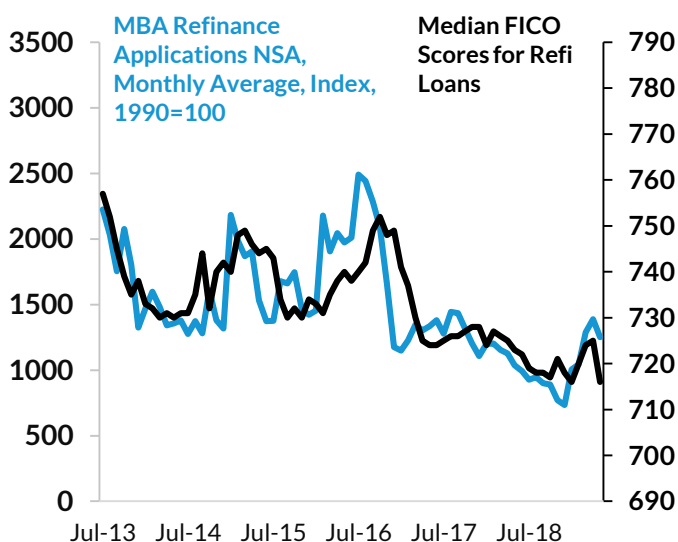


A surge in refinancing resulting from falling rates can improve originator profits. Likewise, fewer refinancings can weigh on originator profits. Originator profitability and unmeasured costs (see page 19), one measure of profitability estimated by

the Federal Reserve Bank of New York, is generally elevated when interest rates are low. Lower rates fuel refinancing demand and capacity constrained lenders respond by charging higher fees. Conversely, when interest rates are higher and refinance activity lower, competition drives profitability down and lenders' capacity grows.

One way lenders match capacity with consumer demand cycles is by adjusting credit availability, often using FICO scores. Typically, capacity constrained lenders respond to lower rates and stronger refinance demand by restricting credit to higher FICO borrowers. In contrast, lenders respond to falling demand by expanding access to lower FICO borrowers. The chart below, showing the relationship between refi credit scores and mortgage applications illustrates this clearly.

MBA Mortgage Refi Apps and Median FICO Scores for Refis



INSIDE THIS ISSUE

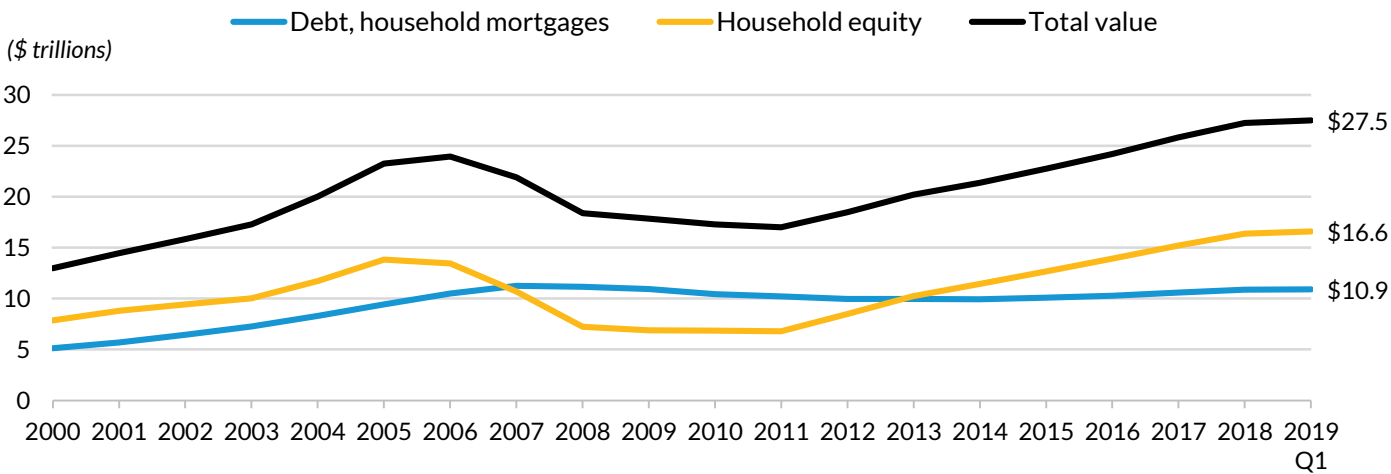
- Total equity in the housing market grew in Q1 2019 to \$16.6 trillion, while total mortgage debt remained steady at \$10.9 trillion (page 6).
- First lien originations totaled \$335 billion in Q1 2019, with mortgages held in portfolio accounting for 37.3 percent of total originations, up 8 percentage points from Q1 2018 (page 8).
- The share of refinances resulting in at least a 5 percent larger loan was 76 percent in Q1 2019, down from 82 percent in Q4 2018 (page 10).
- Median debt-to-income ratios for originations in the GSE and Ginnie channels declined slightly to 37 and 42.9 percent respectively, reflecting lower interest rates (page 18).

OVERVIEW

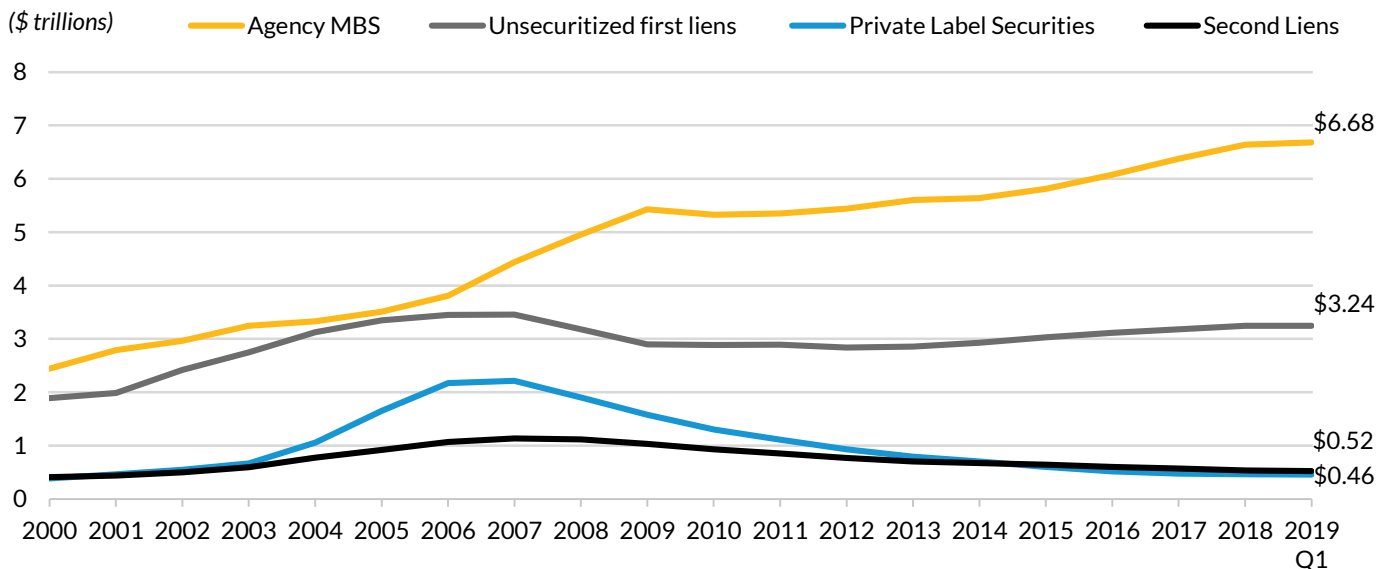
MARKET SIZE OVERVIEW

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 Q1 2019 was no different. While total mortgage debt outstanding was steady at \$10.9 trillion, household equity ticked up from \$16.4 trillion in Q4 2018 to \$16.6 trillion in Q1 2019, bringing the total value of the housing market to \$27.5 trillion, 14.9 percent higher than the pre-crisis peak in 2006. Agency MBS account for 61.3 percent of the total mortgage debt outstanding, private-label securities make up 4.2 percent, and unsecuritized first liens make up 29.7 percent. Second liens comprise the remaining 4.8 percent of the total.

Value of the US Housing Market



Size of the US Residential Mortgage Market

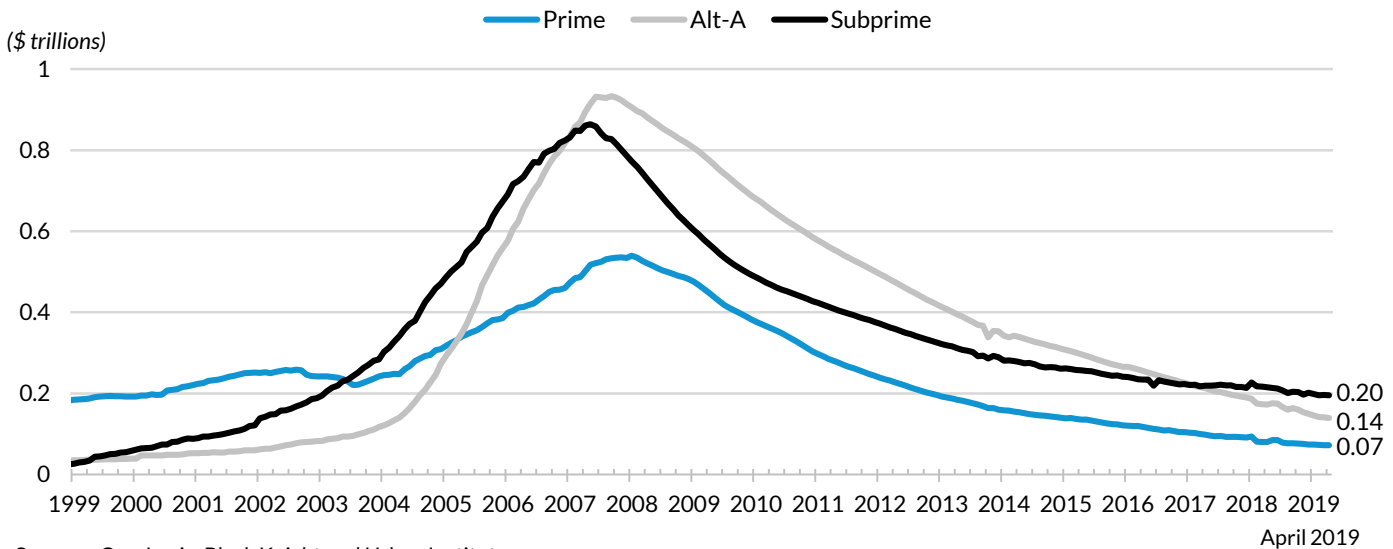


OVERVIEW

MARKET SIZE OVERVIEW

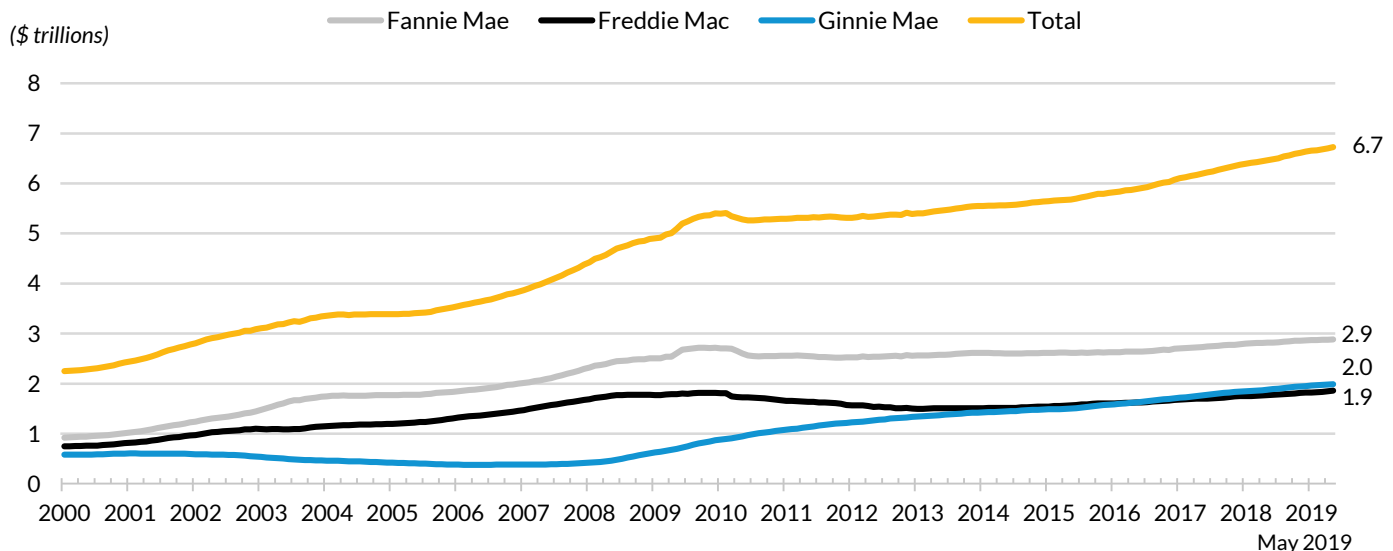
As of April 2019, debt in the private-label securitization market totaled \$406 billion and was split among prime (17.7 percent), Alt-A (34.3 percent), and subprime (48.0 percent) loans. In May 2019, outstanding securities in the agency market totaled \$6.7 trillion, 42.8 percent of which was Fannie Mae, 27.6 percent Freddie Mac, and 29.6 percent Ginnie Mae. Ginnie Mae has had more outstanding securities than Freddie Mac since May 2016.

Private-Label Securities by Product Type



Sources: CoreLogic, Black Knight and Urban Institute.

Agency Mortgage-Backed Securities



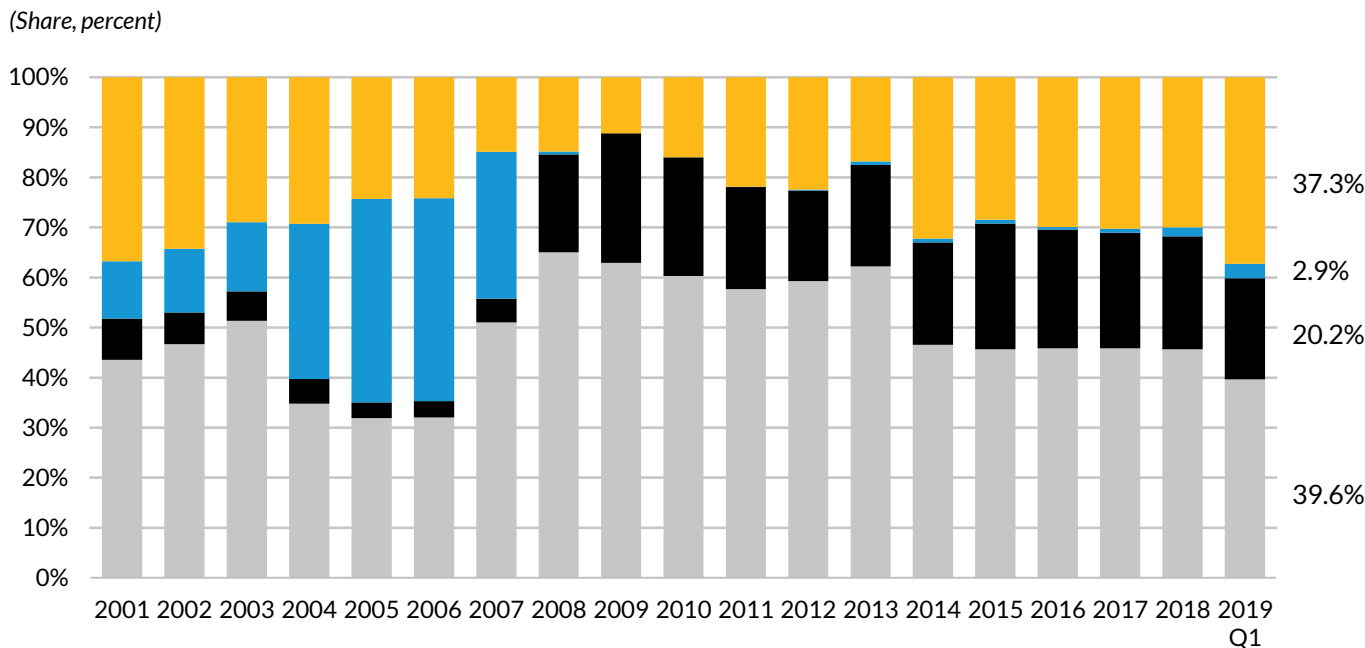
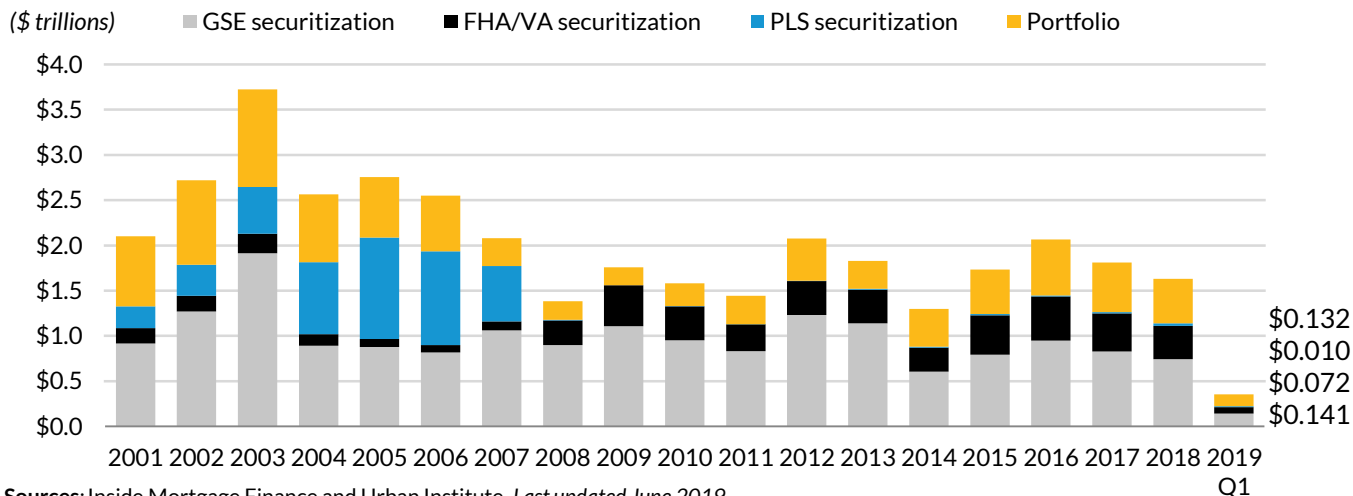
Sources: eMBS and Urban Institute.

OVERVIEW

ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

In the first quarter of 2019, first lien originations totaled \$335 billion, down slightly from \$380 billion in Q1 2018. The share of portfolio originations was 37.3 percent in Q1 2019, up significantly from 29.0 percent in the same period of 2018. The GSE share was down at 37.3 percent, compared to 46.3 percent in Q1 2018. The FHA/VA share fell slightly, at 20.2 percent compared to 22.9 percent in the same period last year. Private-label securitization at 2.9 percent was relatively high compared to the share of 0 percent ten years ago, but remains a fraction of its share in the pre-bubble years.

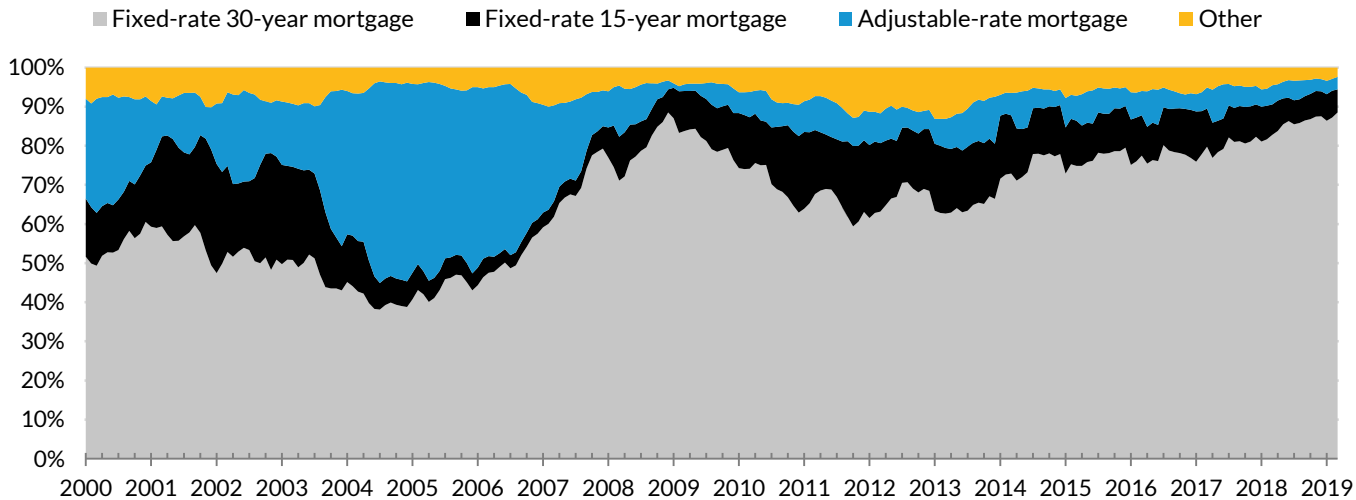


OVERVIEW

PRODUCT COMPOSITION AND REFINANCE SHARE

Adjustable-rate mortgages (ARMs) accounted for as much as 52 percent of all new originations during the peak of the housing bubble (top chart). The ARM share fell to an historic low of 1 percent in 2009, and then slowly increased to a high of 12 percent in December 2013. The March 2019 share of 3.2 percent is below the March 2018 share of 4.9 percent but an increase over the previous month's share of 3.0 percent. The 15-year fixed-rate mortgage, predominantly a refinance product, accounted for 5.9 percent of new originations in March 2019. Since late 2018, while there has been some month-to-month variation, the refinance share (bottom chart) has generally grown for both the GSEs and Ginnie Mae as interest rates have dropped.

Product Composition

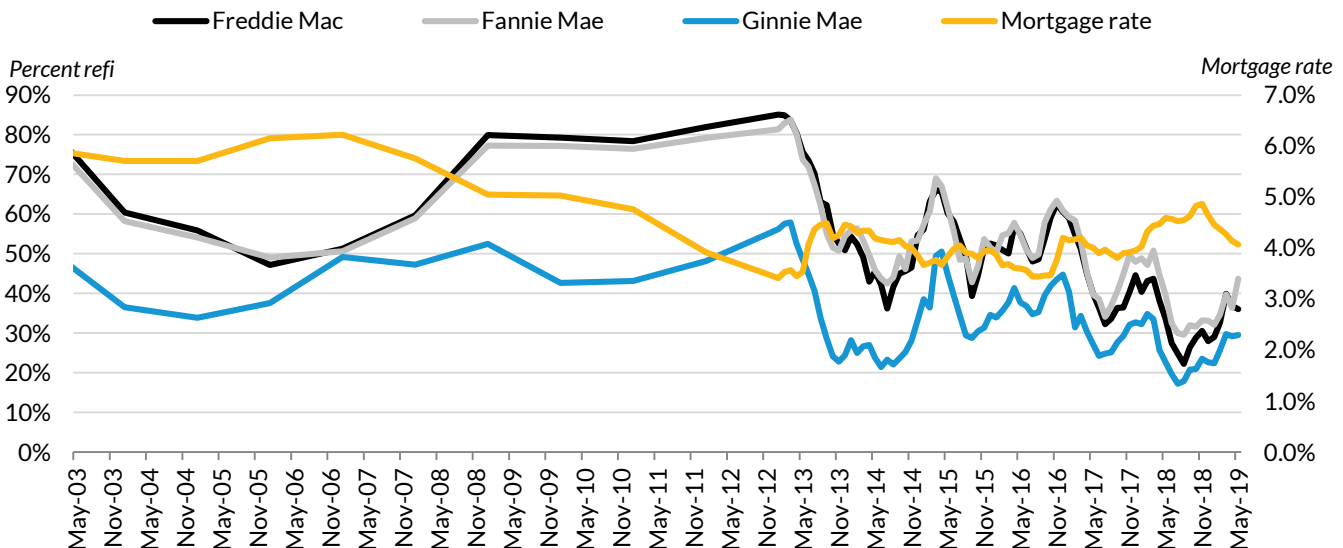


Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.

March 2019

Note: Includes purchase and refinance originations.

Percent Refi at Issuance



Sources: eMBS and Urban Institute.

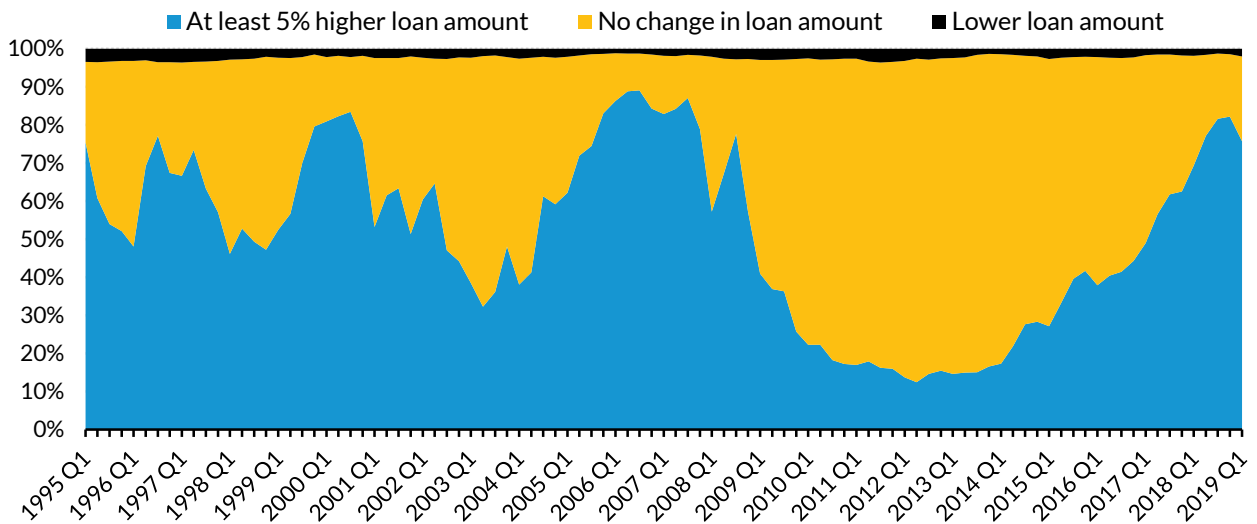
Note: Based on at-issuance balance. Figure based on data from May 2019.

OVERVIEW

CASH-OUT REFINANCES

When mortgage rates are low, the share of cash-out refinances tends to be small, as refinancing allows borrowers to save money by taking advantage of lower rates. But when rates are high, the cash-out refinance share is higher since the rate reduction incentive is gone and the only reason to refinance is to take out equity. The cash-out share of all refinances fell from 82 percent in the fourth quarter of 2018 to 76 percent in the first quarter of 2019, likely reflecting increased rate-refi activity amid falling rates in Q1 2019. 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.

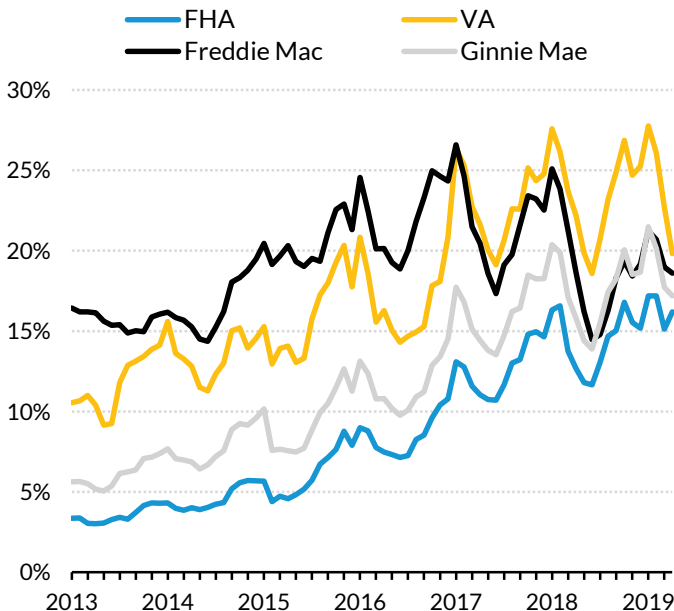
Loan Amount after Refinancing



Sources: Freddie Mac and Urban Institute.

Note: Estimates include conventional mortgages only.

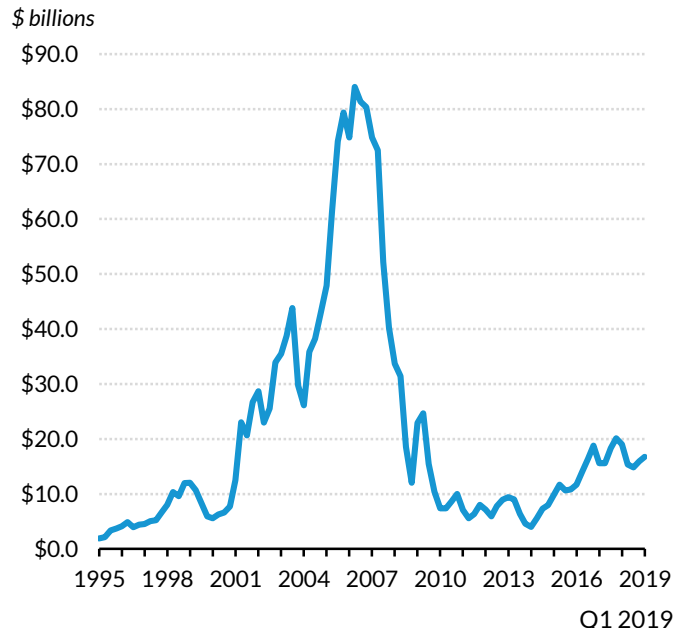
Cash-out Refi Share of All Originations



Sources: eMBS and Urban Institute.

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

Cash-out Refi Volume



Sources: Freddie Mac and Urban Institute.

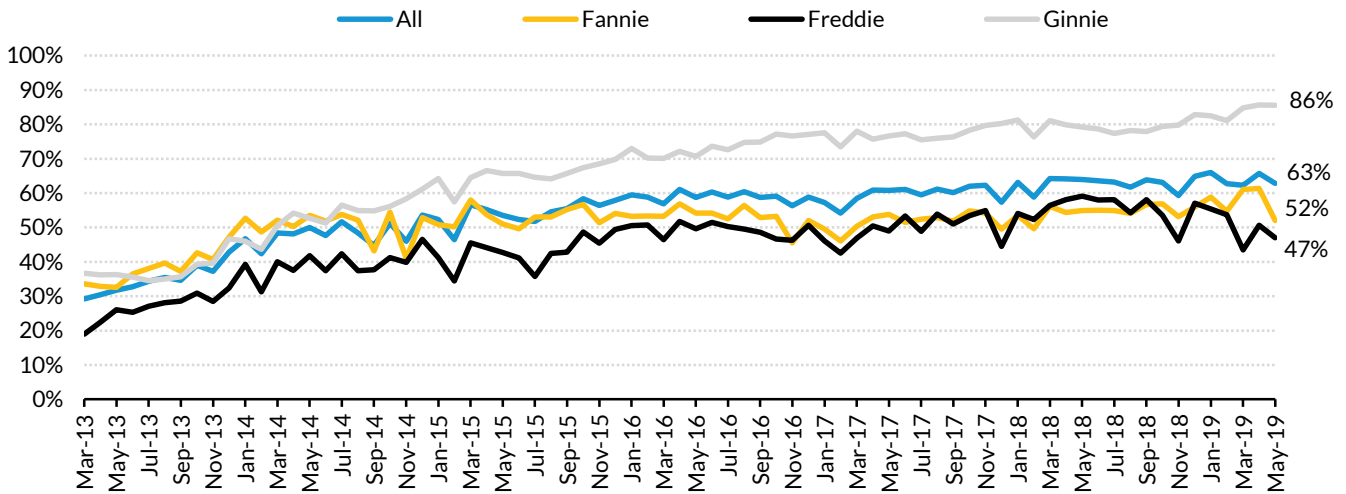
Note: Estimates include conventional mortgages only.

OVERVIEW

AGENCY NONBANK ORIGINATION SHARE

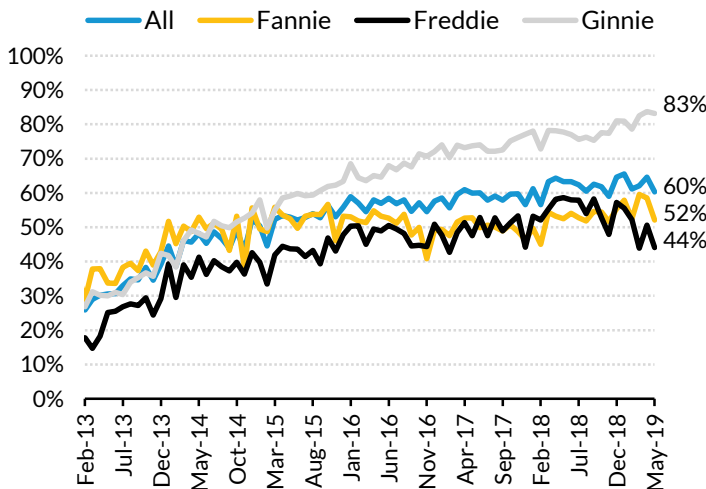
The nonbank origination share has been rising steadily for all three agencies since 2013. The Ginnie Mae nonbank share has been consistently higher than the GSEs, remaining at a record high of 86 percent in May 2019. Freddie and Fannie's nonbank shares both fell in May, to 47 and 52 percent respectively (note that these numbers can be volatile on a month-to-month basis.) Ginnie Mae, Fannie Mae and Freddie Mac all have higher nonbank origination shares for refi activity than for purchase activity.

Nonbank Origination Share: All Loans



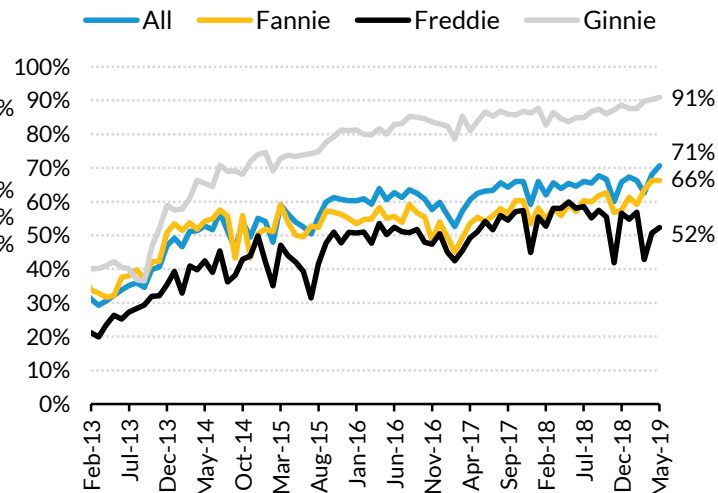
Sources: eMBS and Urban Institute.

Nonbank Origination Share: Purchase Loans



Sources: eMBS and Urban Institute.

Nonbank Origination Share: Refi Loans



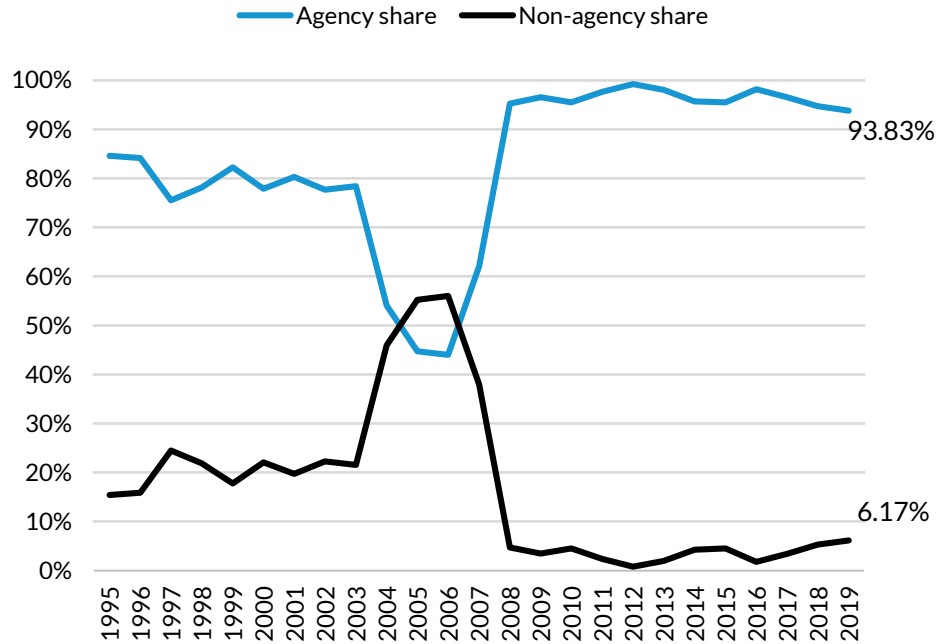
Sources: eMBS and Urban Institute.

OVERVIEW

SECURITIZATION VOLUME AND COMPOSITION

Agency/Non-Agency Share of Residential MBS Issuance

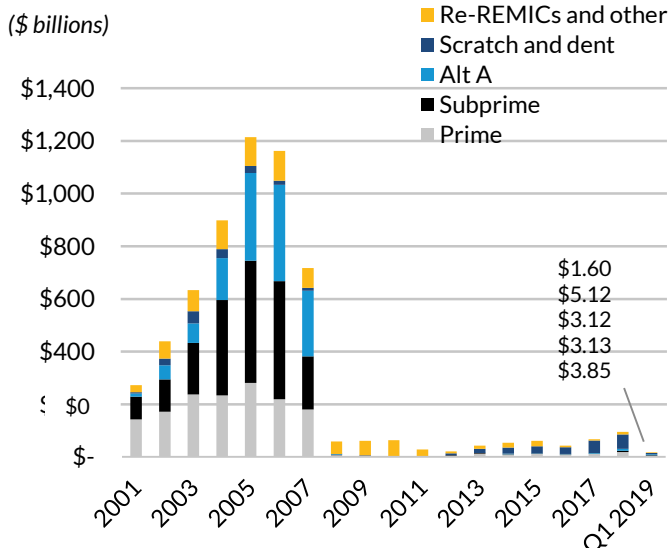
The non-agency share of mortgage securitizations has increased gradually over the post-crisis years, from 1.8 percent in 2016 to 4.4 percent in 2018. It was even higher, 6.17 percent, as of May 2019. Non-agency securitization volume totaled \$16.83 billion for Q1 2019, slightly higher than the \$16.79 billion in Q1 2018, with a change in the mix. Alt-A and subprime securitizations continue to grow, with subprime securitizations more than tripling and Alt-A securitizations more than doubling since this same period last year. Non-agency securitizations continue to be tiny compared to pre-crisis levels.



Sources: Inside Mortgage Finance and Urban Institute.

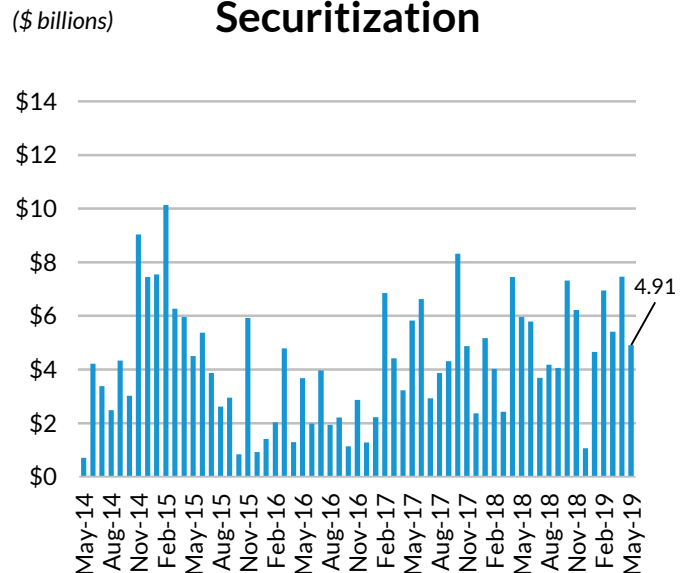
Note: Based on data from May 2019.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization



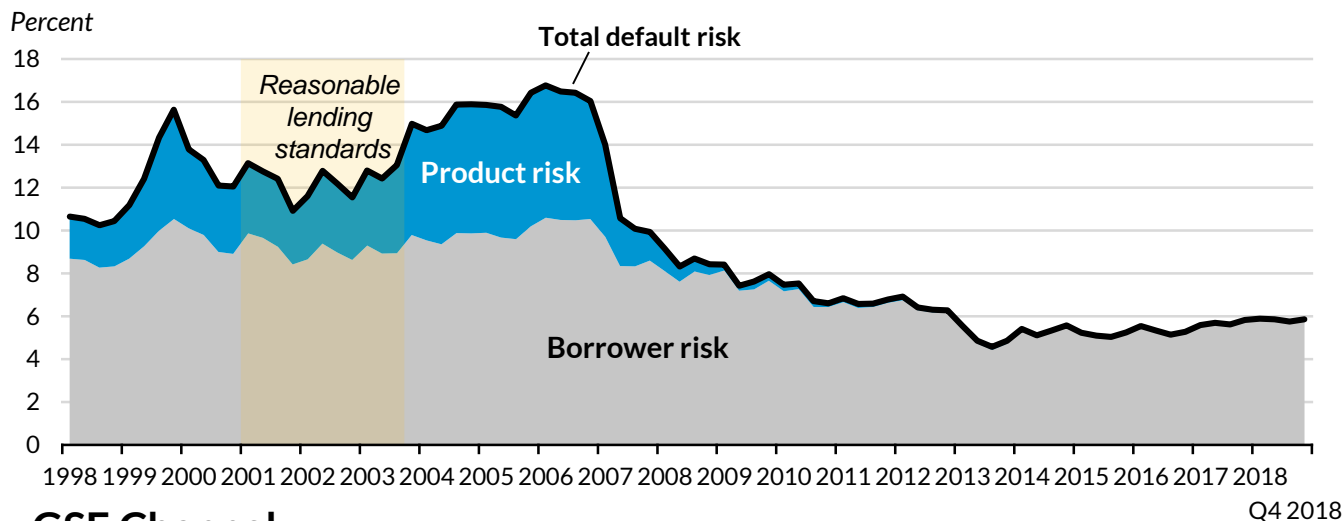
Sources: Inside Mortgage Finance and Urban Institute.

CREDIT BOX

HOUSING CREDIT AVAILABILITY INDEX

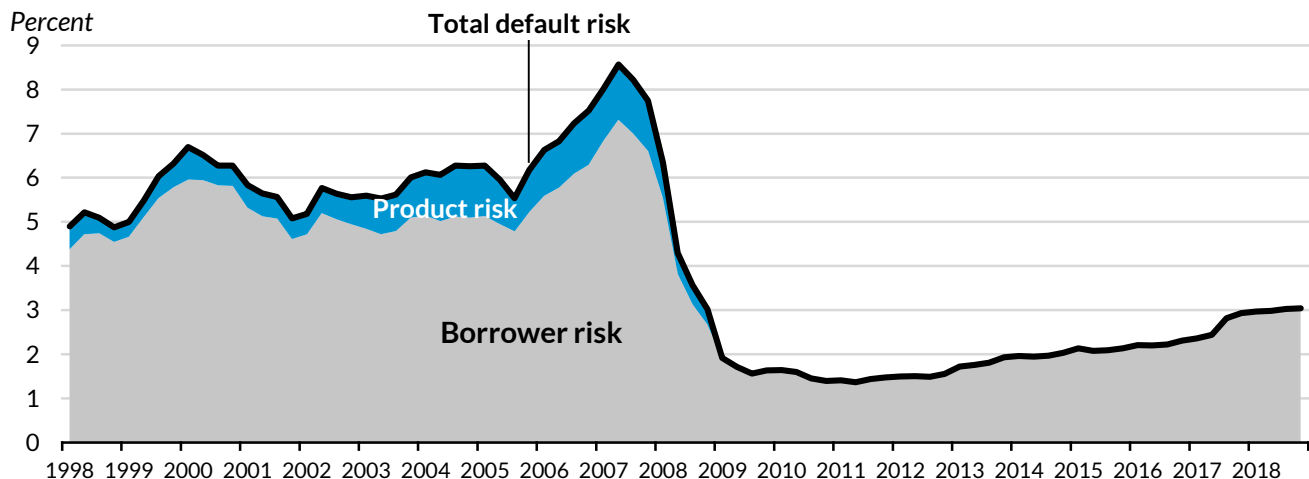
The Urban Institute's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to go 90+ days delinquent over the life of the loan. The index shows that mortgage credit availability increased to 5.85 percent in Q4 2018, up from the previous quarter (5.75 percent) and slightly higher than the fourth quarter of 2017 (5.83 percent). This quarter's increase was driven by an increase in risk taken by the portfolio and private-label securities channels. Credit also expanded in both the GSE and government channels, but only marginally. More information about the HCAI is available [here](#).

All Channels



GSE Channel

The GSE market has expanded the credit box for borrowers more effectively than the government channel in recent years. The downward trend of credit availability in the GSE channel began a reversal in Q2 2011. From Q2 2011 to Q4 2018, the total risk taken by the GSE channel has more than doubled, from 1.4 percent to 3.0 percent.



Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.

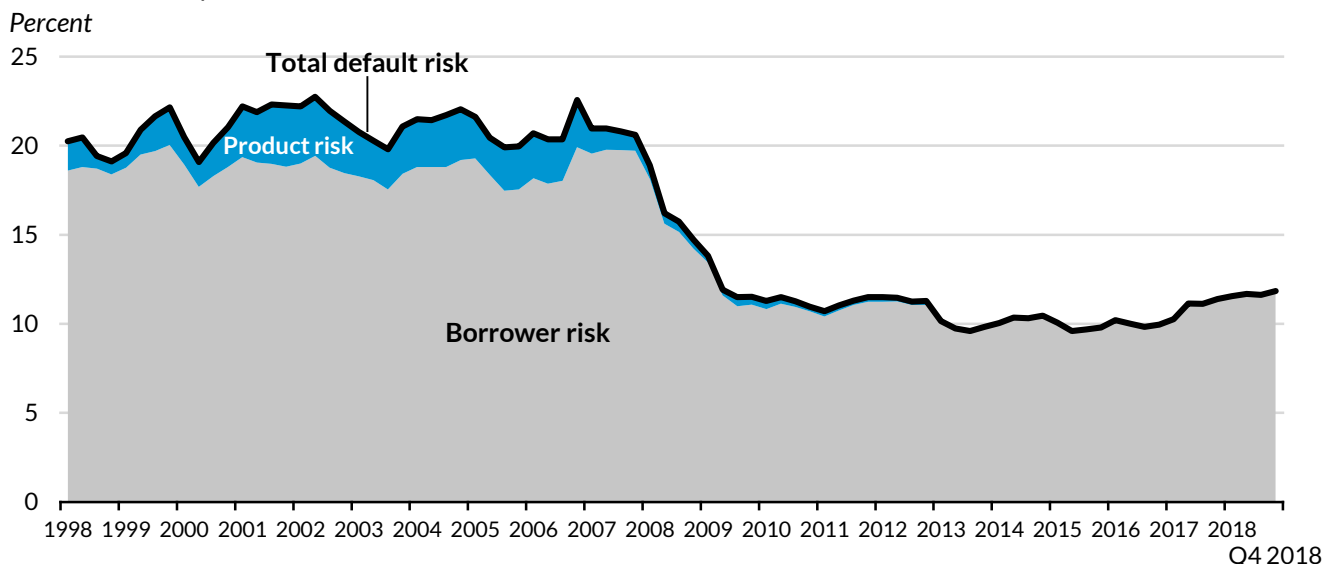
Note: Default is defined as 90 days or more delinquent at any point. Last updated April 2019.

CREDIT BOX

HOUSING CREDIT AVAILABILITY INDEX

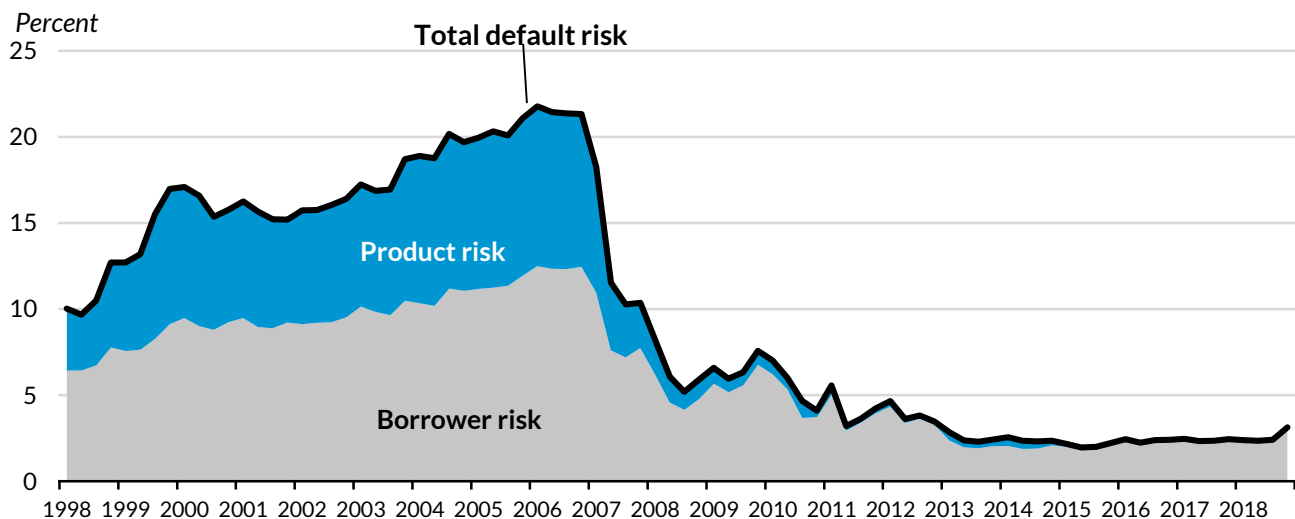
Government Channel

The total default risk the government channel is willing to take bottomed out at 9.6 percent in Q3 2013. It has fluctuated at or above that number since then. In the past nine quarters since Q4 2016, the risk in the government channel has increased from 9.9 to 11.8 percent, the highest level since 2009, but still about half the pre-bubble level of 19 to 23 percent.



Portfolio and Private Label Securities Channels

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. Borrower risk increased in the Q4 2018, driven primarily by a decline in FICO scores and an increase in high-LTV lending. Total risk in the PP channel was 3.1 percent in Q4 2018, up from 2.4 the previous quarter. This is the highest level since 2012 and driven largely by the expansion of “non-QM” lending in the private-label securitization market.



Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.

Note: Default is defined as 90 days or more delinquent at any point. Last updated April 2019.

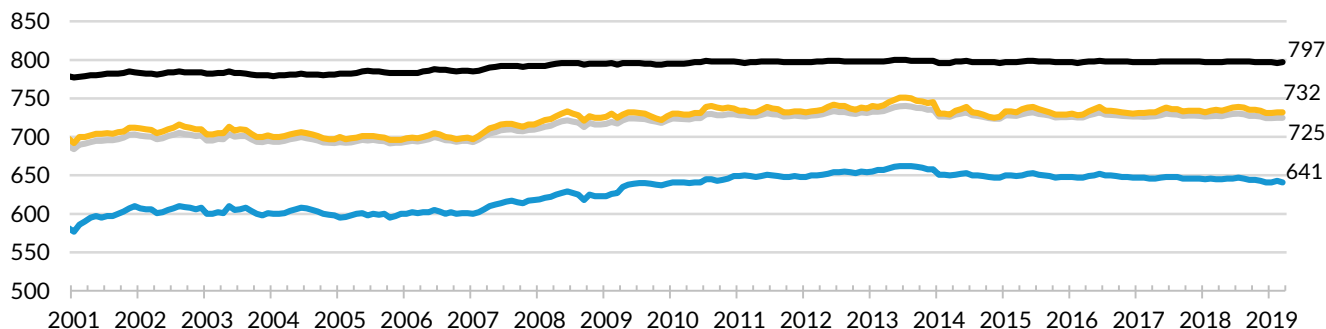
CREDIT AVAILABILITY FOR PURCHASE LOANS

Access to credit remains tight, especially for lower FICO borrowers. The median FICO for current purchase loans is about 32 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, fell to 641 in March 2019 compared to low-600s pre-bubble. The median LTV at origination of 95 percent remains relatively high, reflecting the rise of FHA and VA lending. Although current median DTI of 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

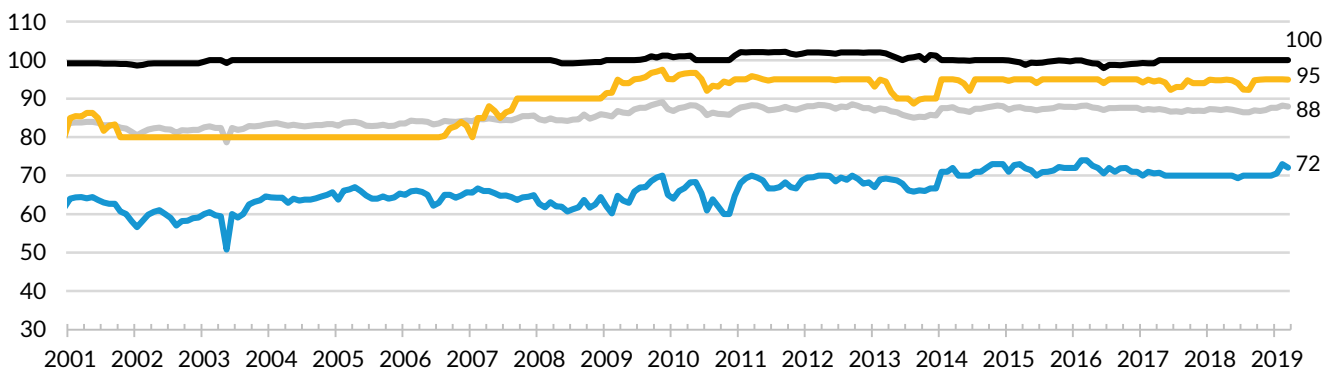
Borrower FICO Score at Origination

FICO Score



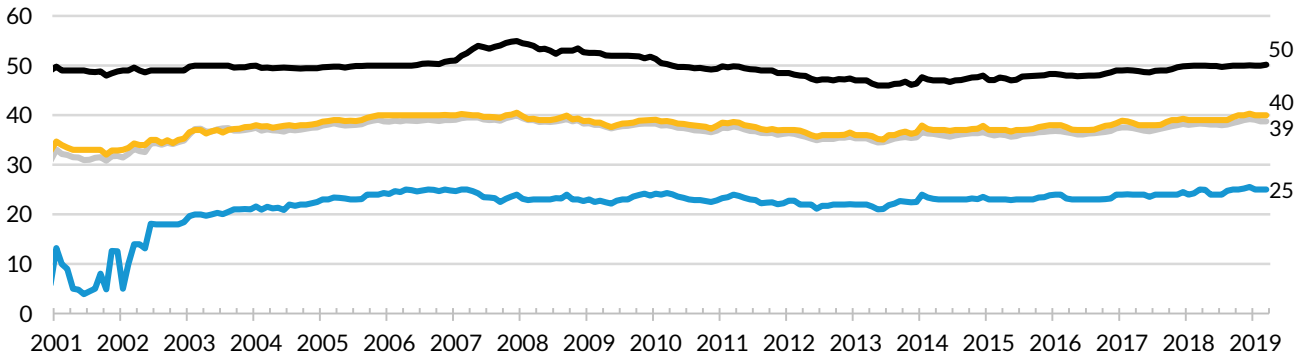
Combined LTV at Origination

LTV



DTI at Origination

DTI



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

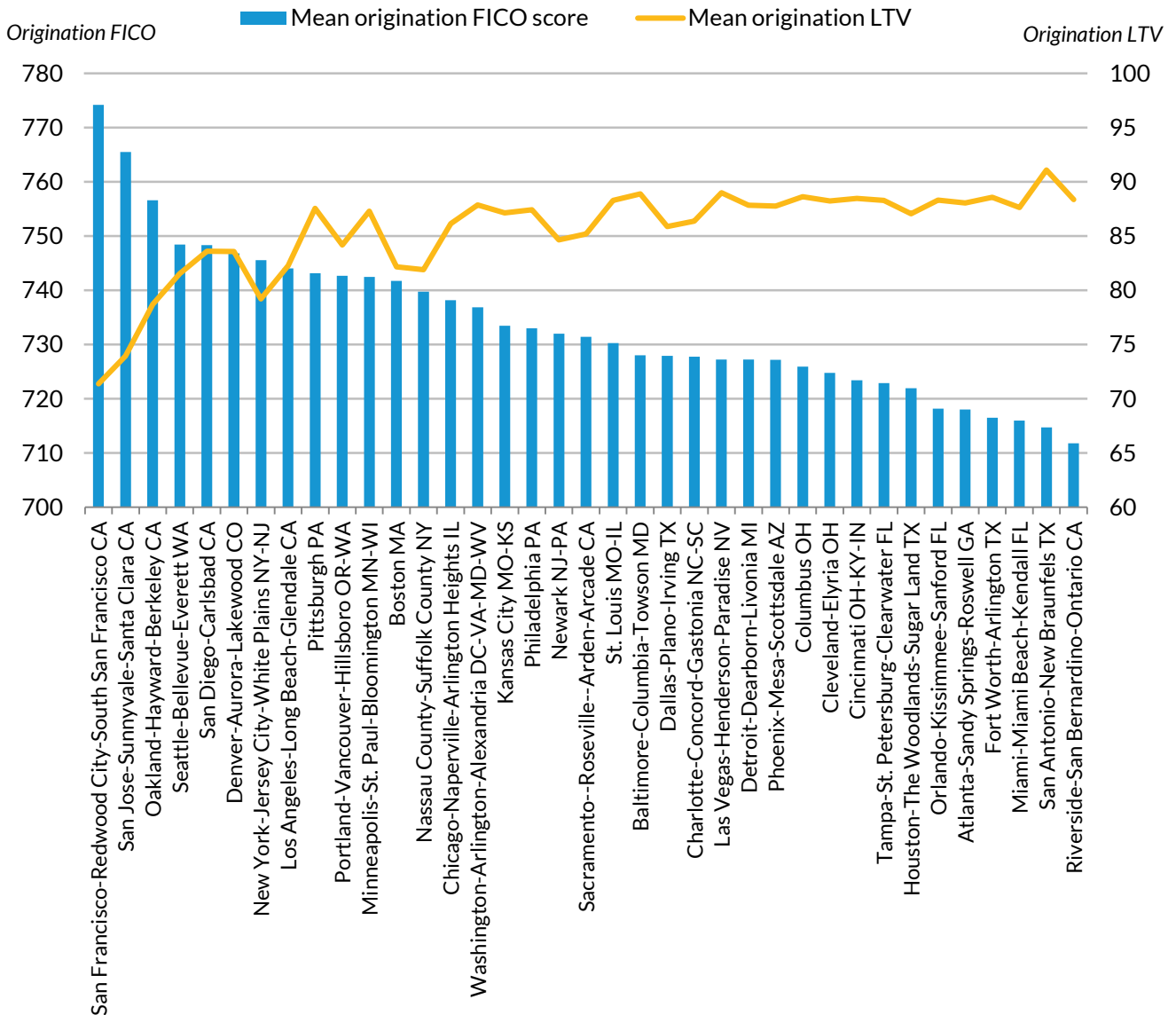
Note: Includes owner-occupied purchase loans only. DTI data prior to April 2018 is from CoreLogic; after that date, it is from Black Knight. Data as of March 2019.

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 774. 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.

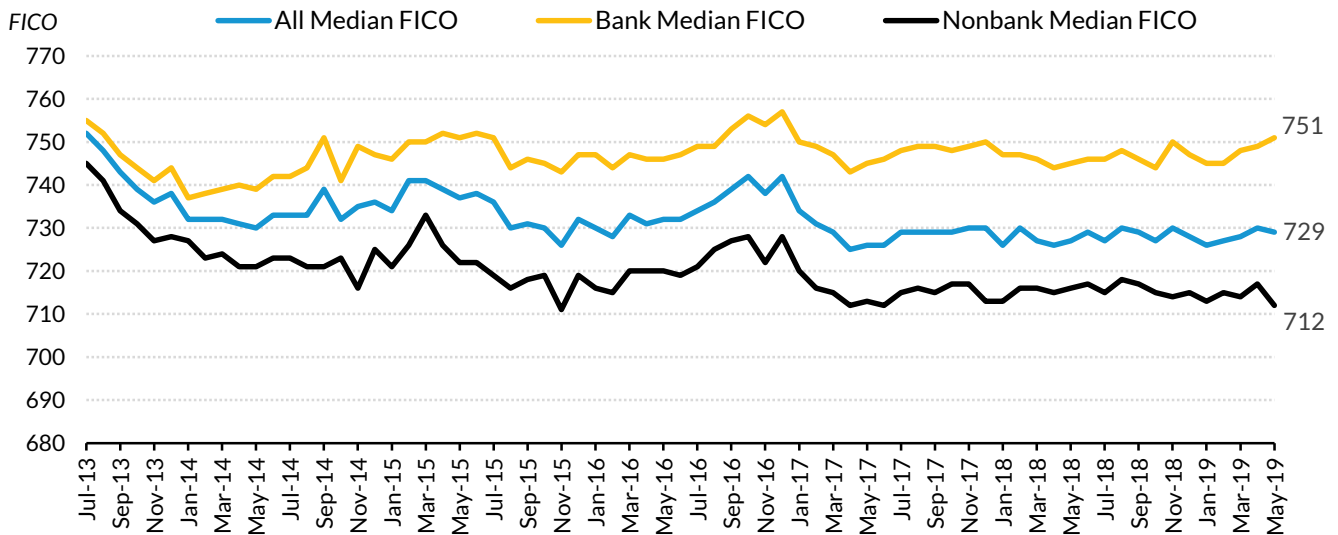
Note: Includes owner-occupied purchase loans only. Data as of March 2019.

CREDIT BOX

AGENCY NONBANK CREDIT BOX

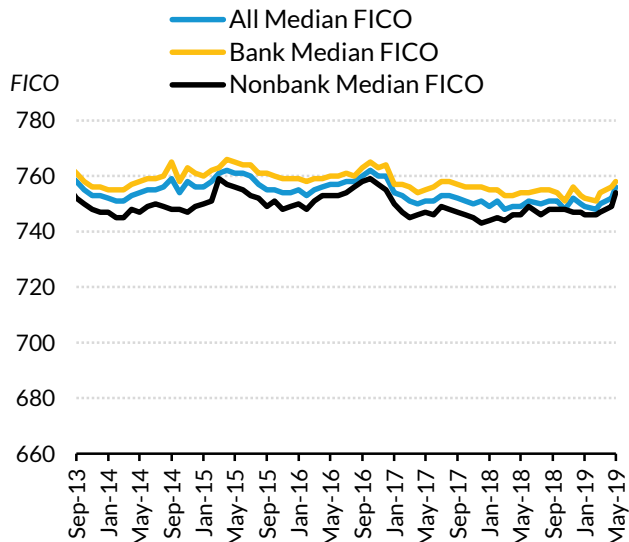
Nonbank originators have played a key role in opening up access to credit. Median GSE and Ginnie Mae FICO's for nonbank originations are lower than their bank counterparts, with a larger differential in the Ginnie Mae market. Within the GSE space, bank FICO's have declined slightly since 2014 and nonbank FICO's are roughly constant. By contrast, for Ginnie Mae originations from 2014-2018, FICO scores for bank originations rose while nonbank FICO's fell, reflecting a sharp cut-back in FHA lending by many banks. As was pointed out on page 11, banks now comprise only about 14 percent of Ginnie Mae originations. However, since late 2018, many banks have relaxed their overlays, and bank FICO's have drifted down; they remain higher than their non-bank counterparts.

Agency FICO: Bank vs. Nonbank



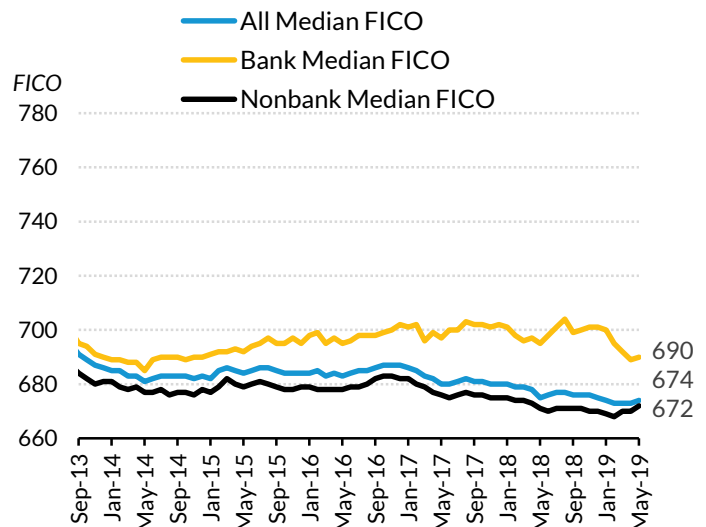
Sources: eMBS and Urban Institute.

GSE FICO: Bank vs. Nonbank



Sources: eMBS and Urban Institute.

Ginnie Mae FICO: Bank vs. Nonbank



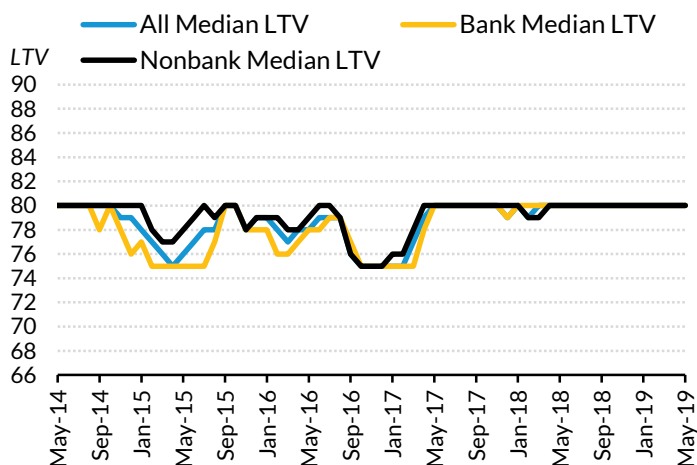
Sources: eMBS and Urban Institute.

CREDIT BOX

AGENCY NONBANK CREDIT BOX

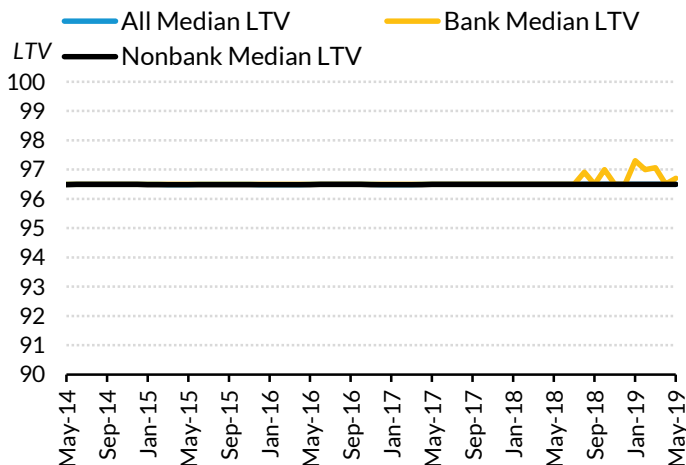
The median LTVs for nonbank and bank originations are comparable, while the median DTI for nonbank loans is higher than for bank loans, indicating that nonbanks are more accommodating in both this and the FICO dimension. Since early 2017, there has been a substantial increase in DTIs, which has partially reversed in the past few months. 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 decreased slightly.

GSE LTV: Bank vs. Nonbank



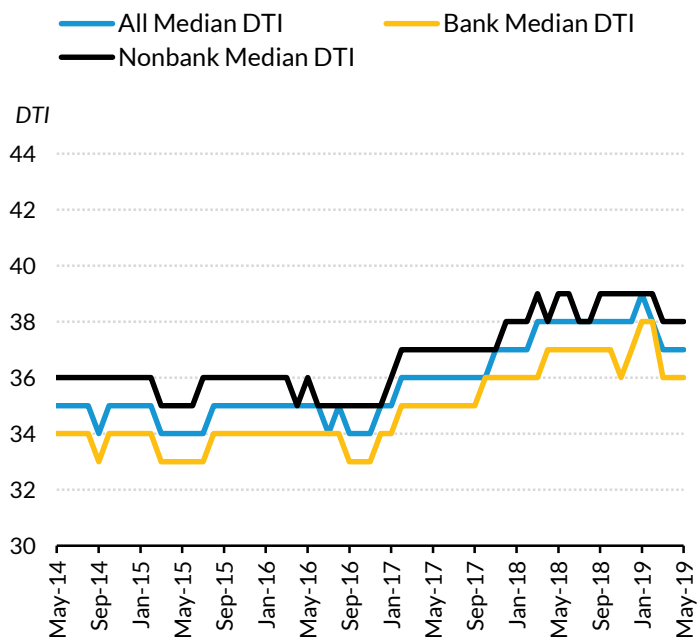
Sources: eMBS and Urban Institute.

Ginnie Mae LTV: Bank vs. Nonbank



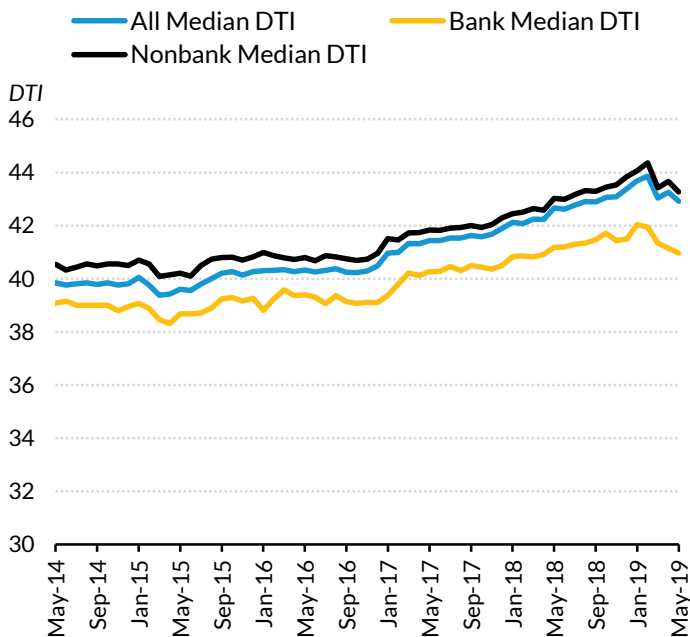
Sources: eMBS and Urban Institute.

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

With the drop in interest rates over the past few months, Fannie Mae, Freddie Mac and the MBA estimate 2019 volume to be between \$1.7-1.8 trillion, which is higher than the \$1.64 trillion in 2018. This increased origination estimate follows drops in origination volumes, due to drops in refinancing activity, over the past few years: 2018 was down from \$1.76-\$1.83 trillion in 2017, and 2017 was down from \$1.89-2.05 trillion in 2016.

Total Originations and Refinance Shares

Period	Originations (\$ billions)			Refi Share (percent)		
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	FNMA estimate	FHLMC estimate	MBA estimate
2018 Q1	368	377	342	38	40	37
2018 Q2	476	440	452	27	29	26
2018 Q3	429	435	457	26	25	24
2018 Q4	365	384	392	27	26	27
2019 Q1	326	355	325	33	39	30
2019 Q2	495	511	501	30	33	29
2019 Q3	459	489	515	28	31	28
2019 Q4	401	419	396	28	30	24
2015	1730	1750	1679	47	45	46
2016	2052	2125	1891	49	47	49
2017	1826	1807	1760	36	37	35
2018	1637	1636	1643	29	30	28
2019	1680	1774	1,737	29	33	28
2020	1653	1715	1683	26	28	24

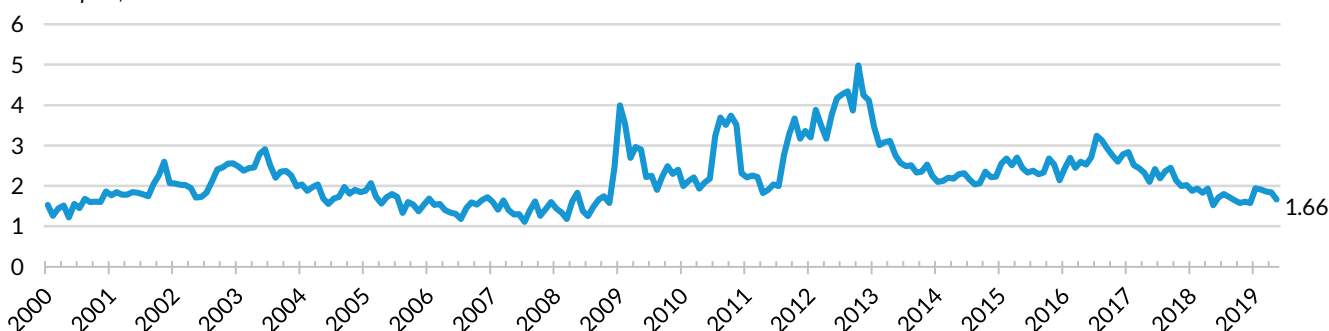
Sources: Fannie Mae, Freddie Mac, Mortgage Bankers Association and Urban Institute.

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 4.0, 4.1, and 4.0 percent.

Originator Profitability and Unmeasured Costs

In May 2019, Originator Profitability and Unmeasured Costs (OPUC) stood at \$1.66 per \$100 loan, which is near the lower end of the range for the past 10 years, a decline from April 2019, but still up a bit over the final months of 2018. OPUC, formulated and calculated by the Federal Reserve Bank of New York, is a good relative measure of originator profitability. OPUC uses the sales price of a mortgage in the secondary market (less par) and adds two sources of profitability; retained servicing (both base and excess servicing, net of g-fees), and points paid by the borrower. OPUC is generally high when interest rates are low, as originators are capacity constrained due to refinance demand and have no incentive to reduce rates. Conversely, when interest rates are higher and refi activity low, competition forces originators to lower rates, driving profitability down.

Dollars per \$100 loan



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

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

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

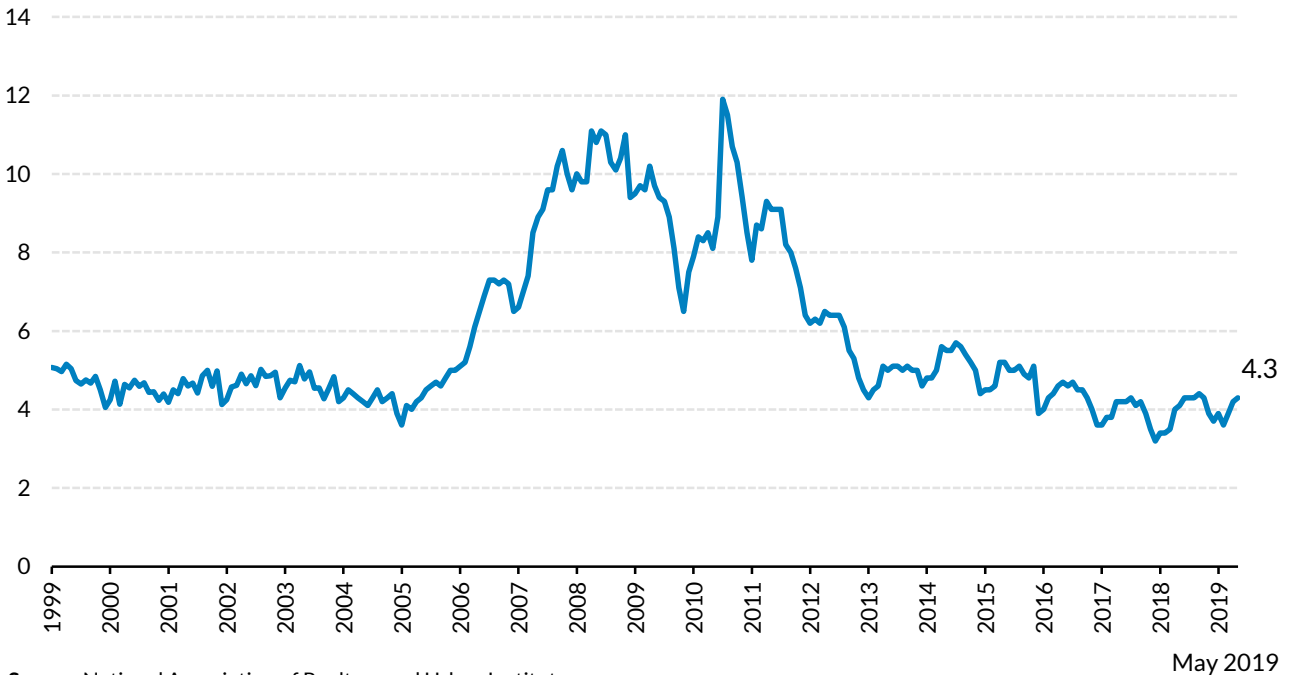
STATE OF THE MARKET

HOUSING SUPPLY

Strong demand for housing in recent years, coupled with historically low new home construction has shrunk the supply of for-sale homes to 4.3 months in May 2019, although, continuing the trend from Q1 2019, this number is up from 4.1 months in May 2018. Pre-crisis it averaged 4.6 months. Fannie Mae, Freddie Mac, the MBA and the NAHB forecast 2019 housing starts to be 1.23 to 1.26 million units, very similar to 2018. Fannie Mae, Freddie Mac and the MBA predict total home sales in 2019 to outpace 2018, at 6.0-6.1 million units. The NAHB also predicts higher home sales in 2019 at 5.3 million.

Months of Supply

Months of supply



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	5523
2018	1250	1250	1250	1249	5957	5960	5958	5359
2019	1231	1260	1231	1243	6015	6030	6059	5295
2020	1255	1350	1270	1286	6074	6190	6169	5331

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

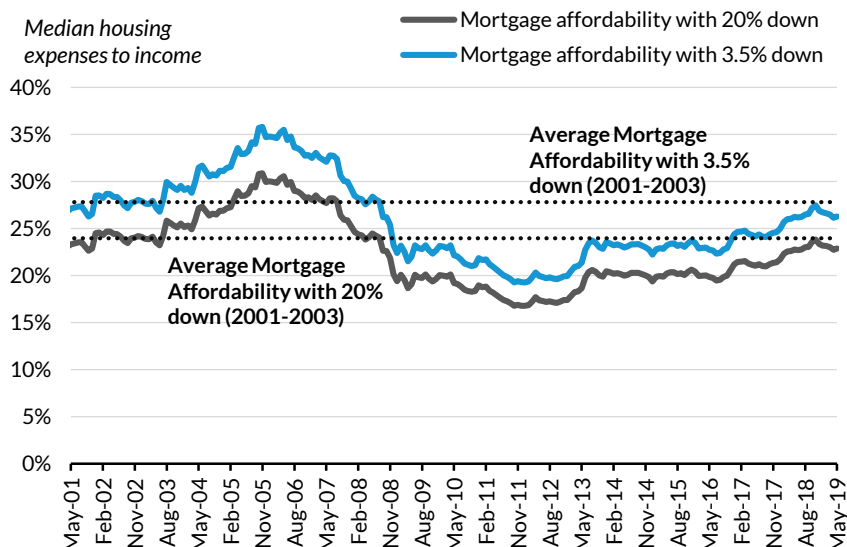
Note: Shaded boxes indicate forecasted figures; column labels indicate source of estimate. NAHB home sales estimate is for single-family sales only, it excludes condos and co-ops. Other figures include all single-family sales.

STATE OF THE MARKET

HOUSING AFFORDABILITY

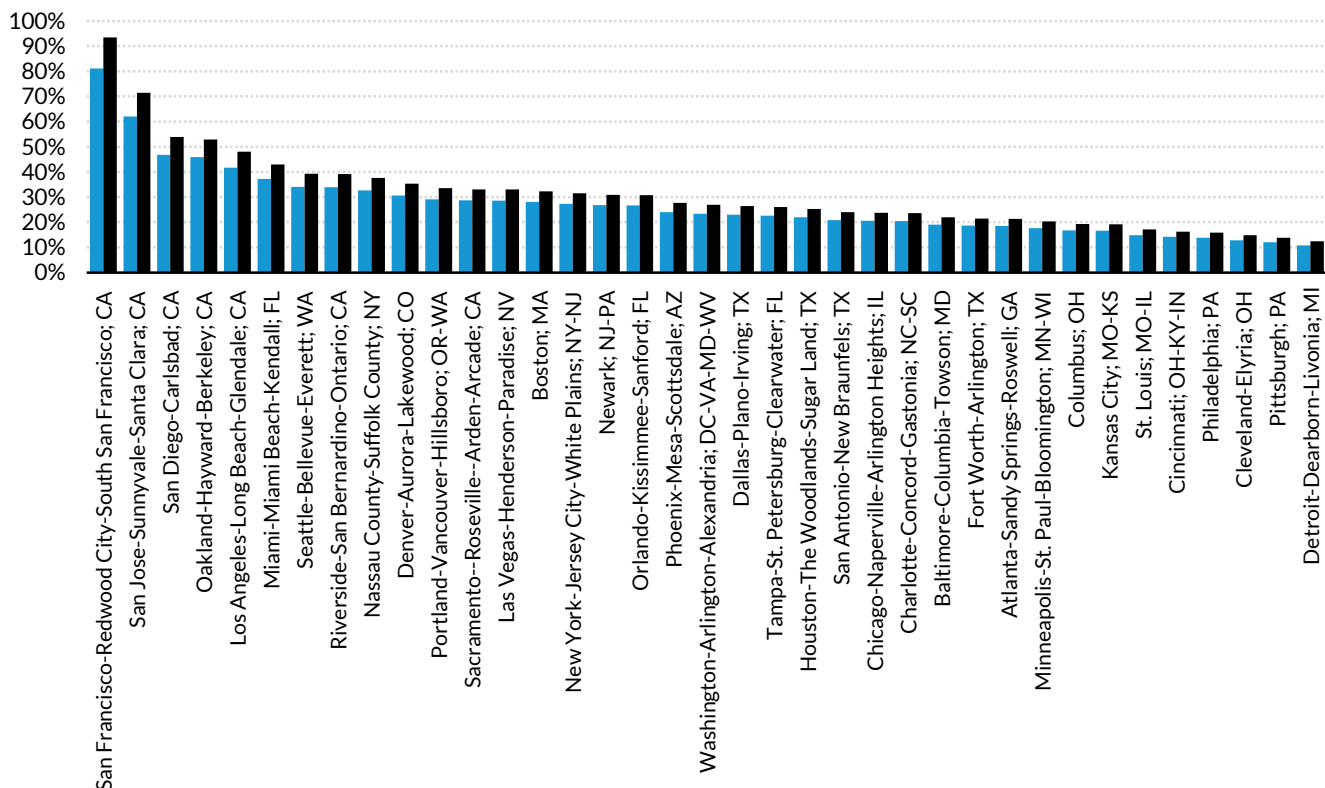
National Mortgage Affordability Over Time

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 May 2019, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 22.9 percent; with 3.5 down, it is 26.3 percent. Since February, the median housing expenses to income ratio has been slightly lower than the 2001-2003 average. As shown in the bottom picture, mortgage affordability varies widely by MSA.



Mortgage Affordability by MSA

Mortgage affordability index



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

Note: Mortgage affordability is the share of median family income devoted to the monthly principal, interest, taxes, and insurance payment required to buy the median home at the Freddie Mac prevailing rate 2018 for a 30-year fixed-rate mortgage and property tax and insurance at 1.75 percent of the housing value. Data for the bottom chart as of Q4 2018.

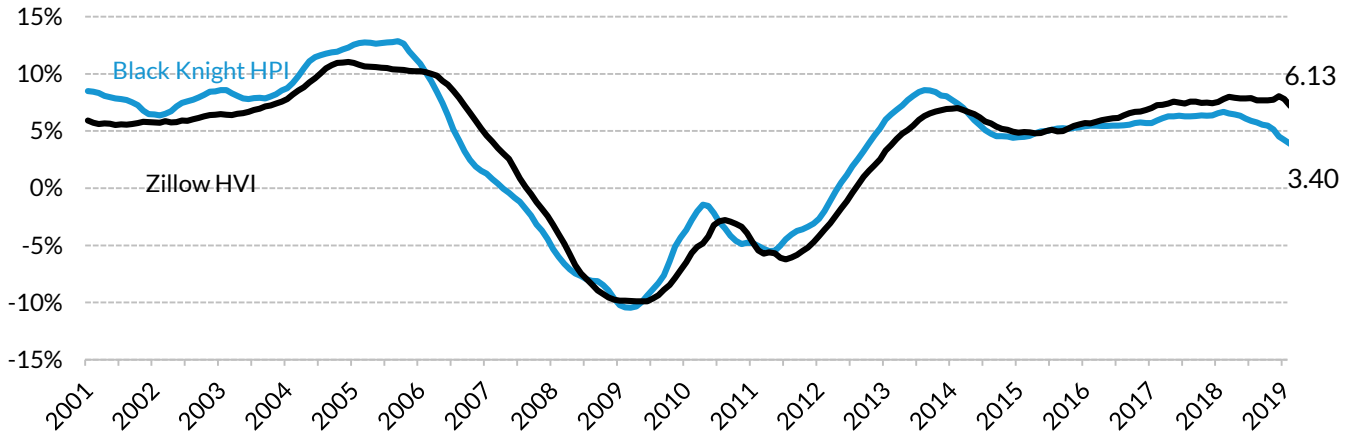
STATE OF THE MARKET

HOME PRICE INDICES

National Year-Over-Year HPI Growth

Year-over-year home price appreciation continued to slow in April 2019, as measured by both Black Knight's repeat sales index and Zillow's hedonic index. We will be monitoring home prices carefully as the Spring home buying season is upon us. We would expect the lower end of the market to fair better than the upper end, as low-end inventory is very tight.

Year-over-year growth



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

Changes in Black Knight HPI for Top MSAs

After rising 51.5 percent from the trough, national house prices are now 12.8 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 10.2 and 10.4 percent, respectively, below peak values.

MSA	HPI changes (%)			% above peak
	2000 to peak	Peak to trough	Trough to current	
United States	75.7	-25.6	51.5	12.8
New York-Jersey City-White Plains, NY-NJ	127.8	-22.4	42.0	10.2
Los Angeles-Long Beach-Glendale, CA	180.0	-38.1	82.2	12.7
Chicago-Naperville-Arlington Heights, IL	67.1	-38.4	45.7	-10.2
Atlanta-Sandy Springs-Roswell, GA	32.5	-35.6	77.0	13.9
Washington-Arlington-Alexandria, DC-VA-MD-WV	149.2	-28.4	35.4	-3.0
Houston-The Woodlands-Sugar Land, TX	29.3	-6.6	46.2	36.5
Phoenix-Mesa-Scottsdale, AZ	113.2	-51.1	90.8	-6.7
Riverside-San Bernardino-Ontario, CA	175.7	-51.7	85.5	-10.4
Dallas-Plano-Irving, TX	26.4	-7.2	64.9	53.1
Minneapolis-St. Paul-Bloomington, MN-WI	69.3	-30.3	57.3	9.6
Seattle-Bellevue-Everett, WA	90.4	-33.0	105.4	37.6
Denver-Aurora-Lakewood, CO	34.0	-12.1	90.5	67.4
Baltimore-Columbia-Towson, MD	123.2	-24.2	21.5	-7.9
San Diego-Carlsbad, CA	148.4	-37.6	74.4	8.9
Anaheim-Santa Ana-Irvine, CA	163.3	-35.3	63.1	5.6

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

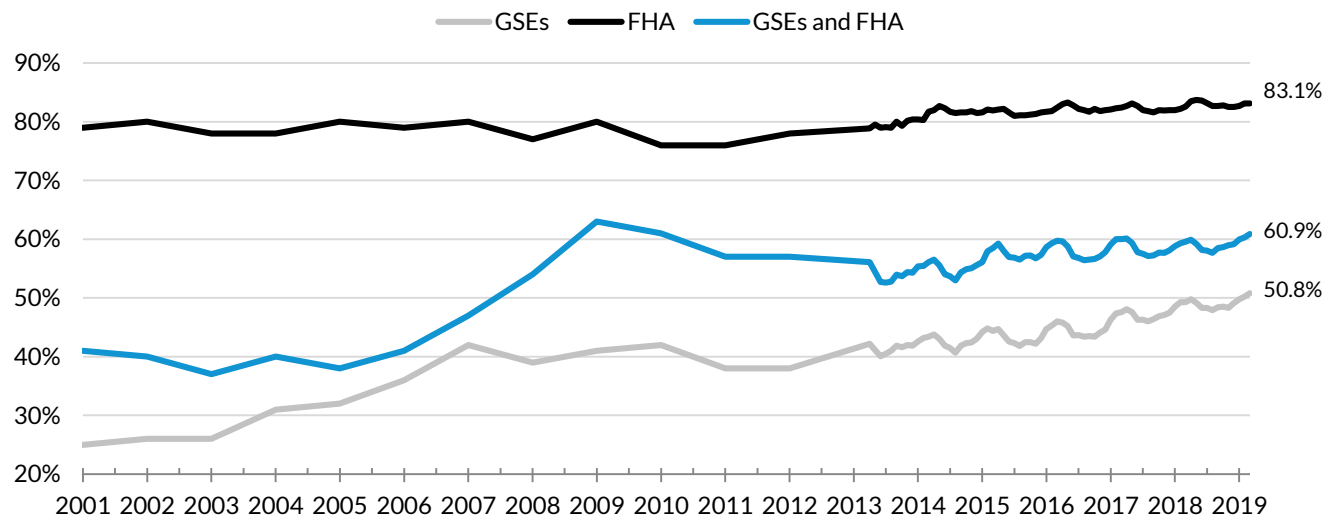
Note: This table includes the largest 15 Metropolitan areas by mortgage count.

STATE OF THE MARKET

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In March 2019, the first-time homebuyer (FTHB) share for FHA and GSE purchase loans both increased, with the combined FTHB share reaching 60.9 percent, the highest level in the last decade. The FTHB share for FHA, which has always been more focused on first time homebuyers, remained at 83.1 percent in March 2019. The GSE FTHB share in March was 50.8 percent, an historic high. The bottom table shows that based on mortgages originated in March 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.

March 2019

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

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

Characteristics	GSEs		FHA		GSEs and FHA	
	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount (\$)	243,594	268,874	208,951	228,536	229,271	262,297
Credit Score	740	755	666	673	710	741
LTV (%)	88	80	96	94	91	82
DTI (%)	36	37	44	45	39	38
Loan Rate (%)	4.65	4.56	4.82	4.69	4.72	4.58

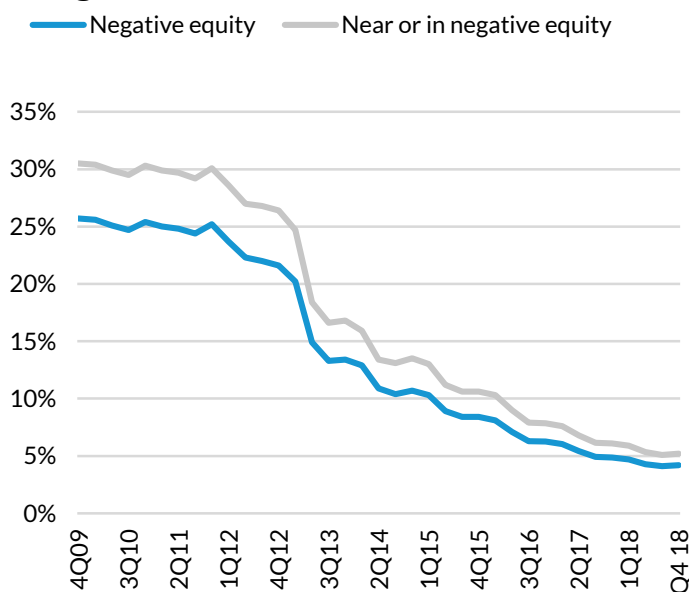
Sources: eMBS and Urban Institute.

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

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 1.96 percent in the first 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 8,582,314 borrowers received a modification from Q3 2007 to Q1 2019, compared with 8,807,889 liquidations in the same period.

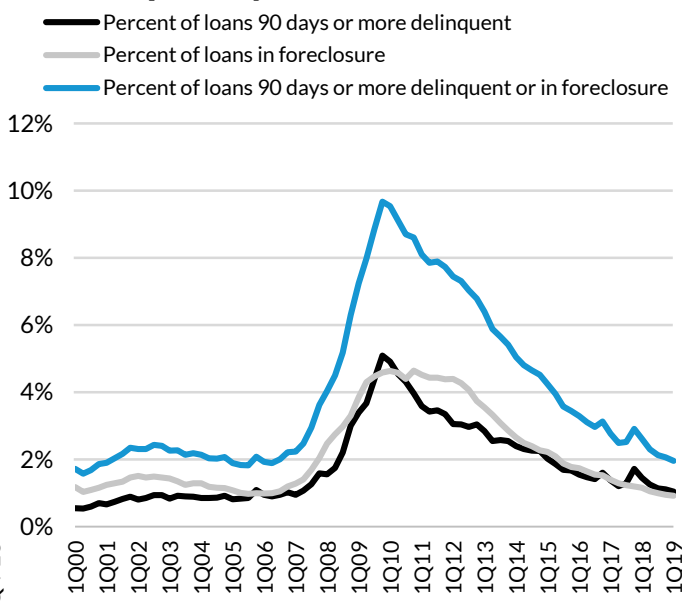
Negative Equity Share



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.

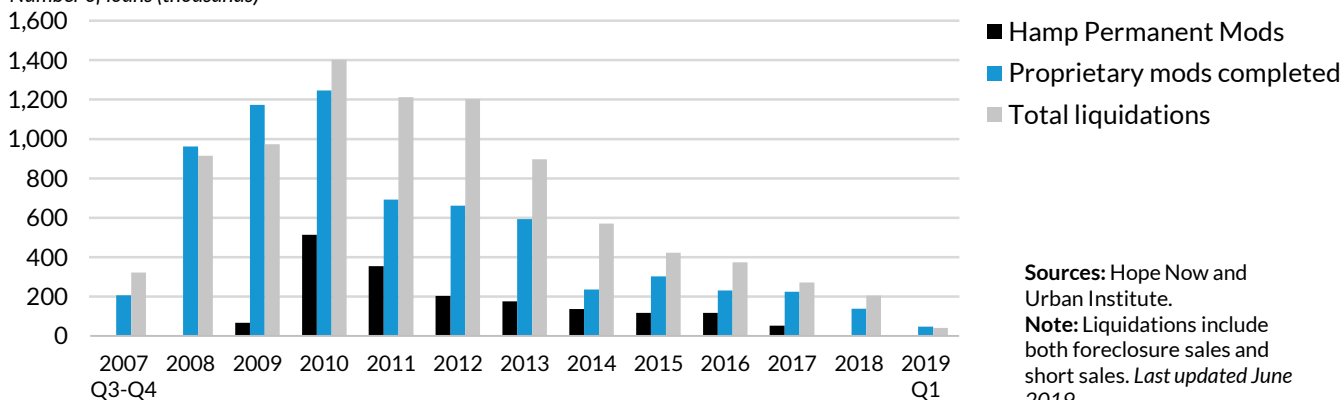
Loans in Serious Delinquency/Foreclosure



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

Loan Modifications and Liquidations

Number of loans (thousands)



Sources: Hope Now and Urban Institute.

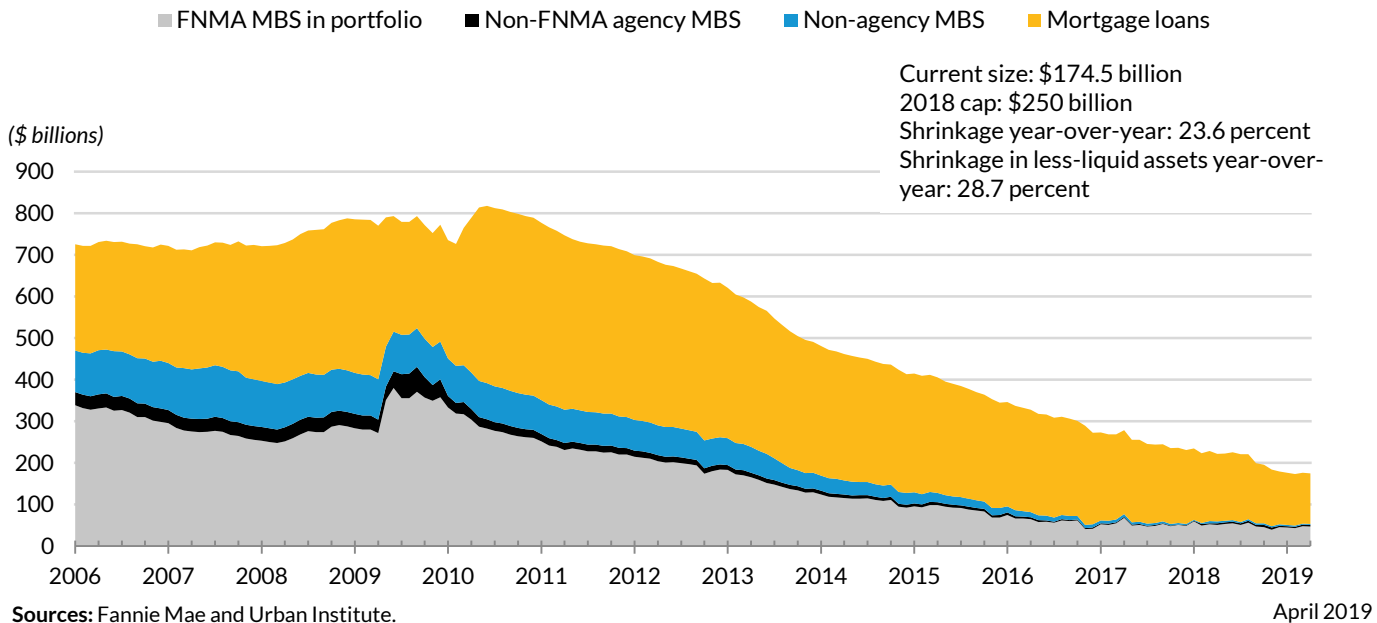
Note: Liquidations include both foreclosure sales and short sales. Last updated June 2019.

GSES UNDER CONSERVATORSHIP

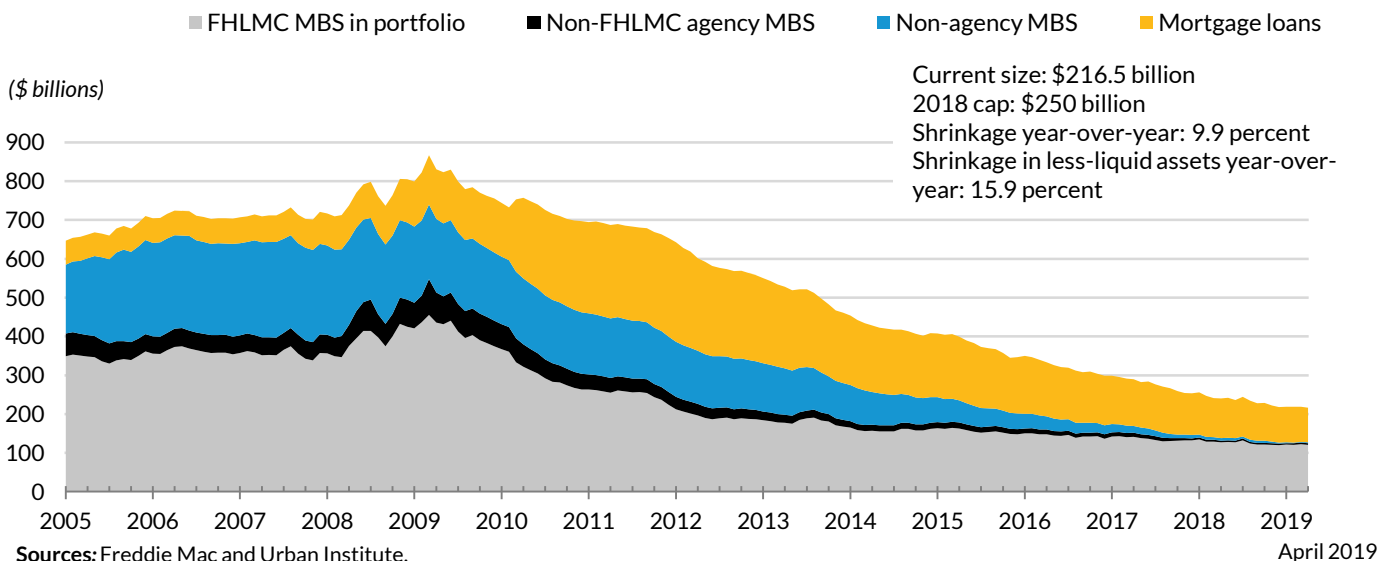
GSE PORTFOLIO WIND-DOWN

Both GSEs continue to contract their retained portfolios. Since April 2018, Fannie Mae has contracted by 23.6 percent and Freddie Mac by 9.9 percent. They are shrinking their less-liquid assets (mortgage loans and non-agency MBS) faster than they are shrinking their entire portfolio. The Fannie Mae and Freddie Mac portfolios are now both 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



Freddie Mac Mortgage-Related Investment Portfolio Composition



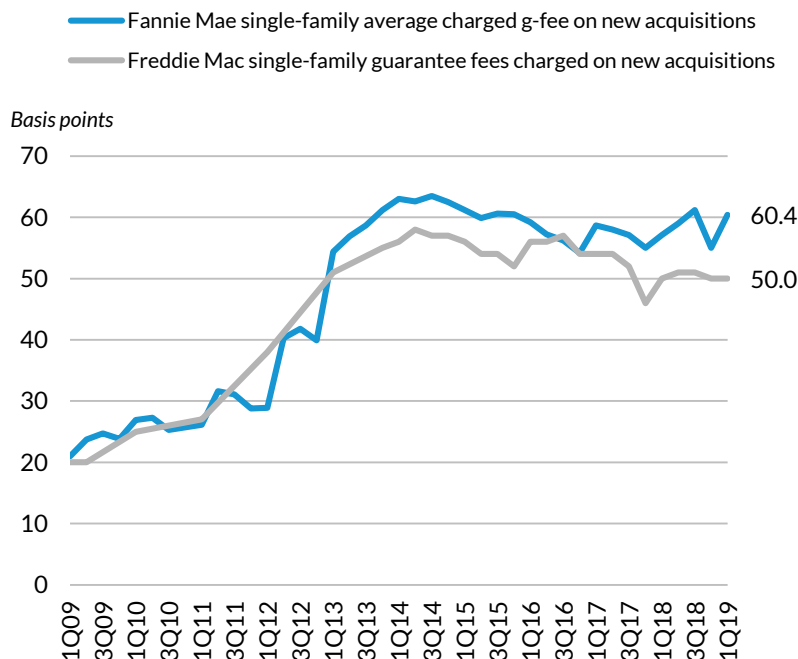
GSES UNDER CONSERVATORSHIP

EFFECTIVE GUARANTEE FEES

Guarantee Fees Charged on New Acquisitions

Fannie Mae's 2019 10-Q indicates that its average g-fees charged on new acquisitions grew from 55.0 to 60.4 bps in Q1 2019 while Freddie remained at 50.0. 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 May 2019.



Fannie Mae Upfront Loan-Level Price Adjustments (LLPAs)

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

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

GSES UNDER CONSERVATORSHIP

GSE RISK-SHARING TRANSACTIONS

Fannie Mae and Freddie Mac have been laying off back-end credit risk through CAS and STACR deals and through reinsurance transactions. They have also done front-end transactions with originators and reinsurers, and experimented with deep mortgage insurance coverage with private mortgage insurers. FHFA's 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 \$1.245 trillion; Freddie's STACR totals \$1.209 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
April 2019	CAS 2019 - R03	\$21,000	\$857	4.1
Total		\$1,245,172	\$38,217	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
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
Total		\$1,214,817	\$32,961	2.7

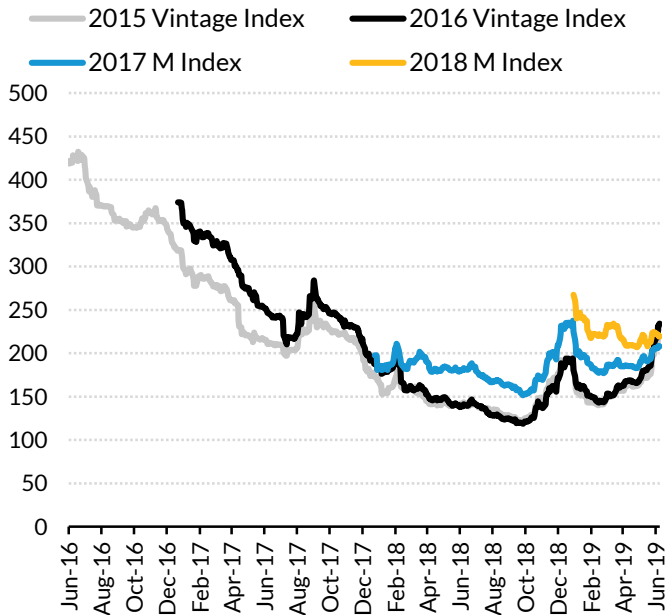
Sources: Fannie Mae, Freddie Mac and Urban Institute. **Note:** Classes A-H, M-1H, M-2H, and B-H are reference tranches only. These classes are not issued or sold. The risk is retained by Fannie Mae and Freddie Mac. "CE" = credit enhancement.

GSES UNDER CONSERVATORSHIP

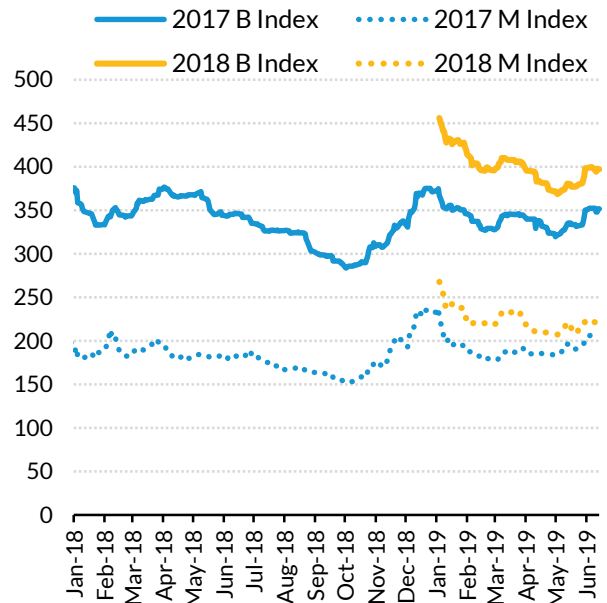
GSE RISK-SHARING INDICES

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, 2017 and 2018 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 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.

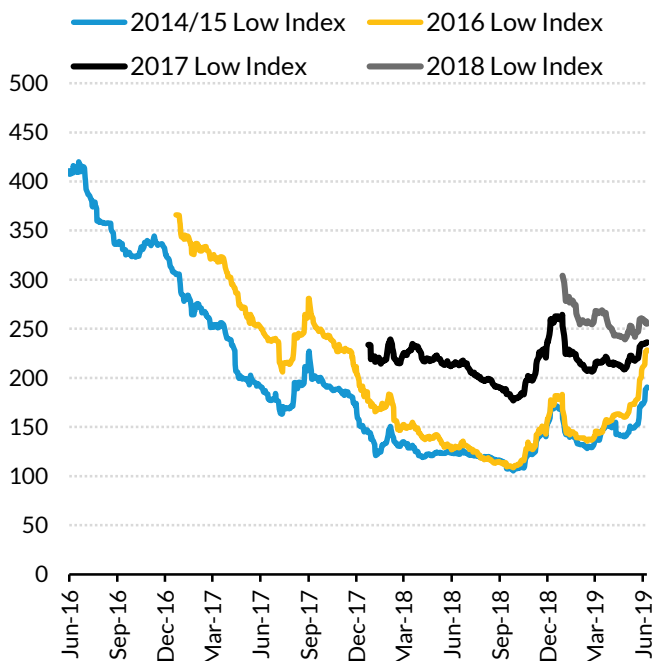
By Vintage



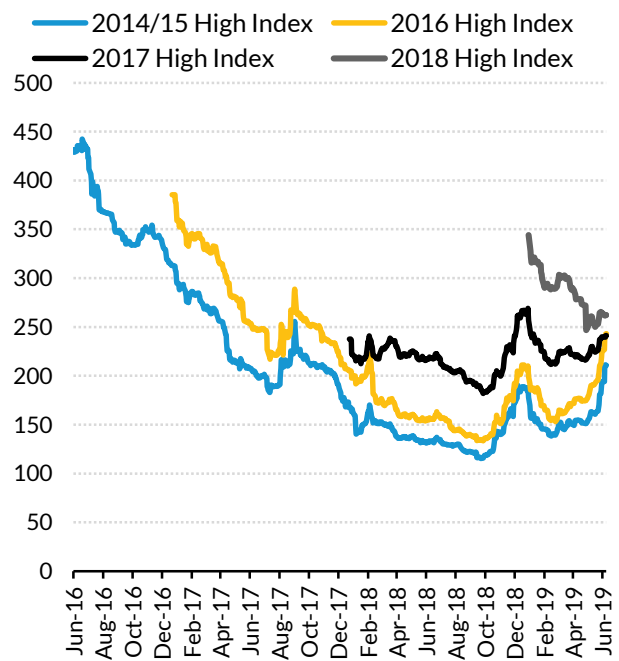
2017 and 2018 Indices



Low Indices



High Indices



Sources: Vista Data Services and Urban Institute.

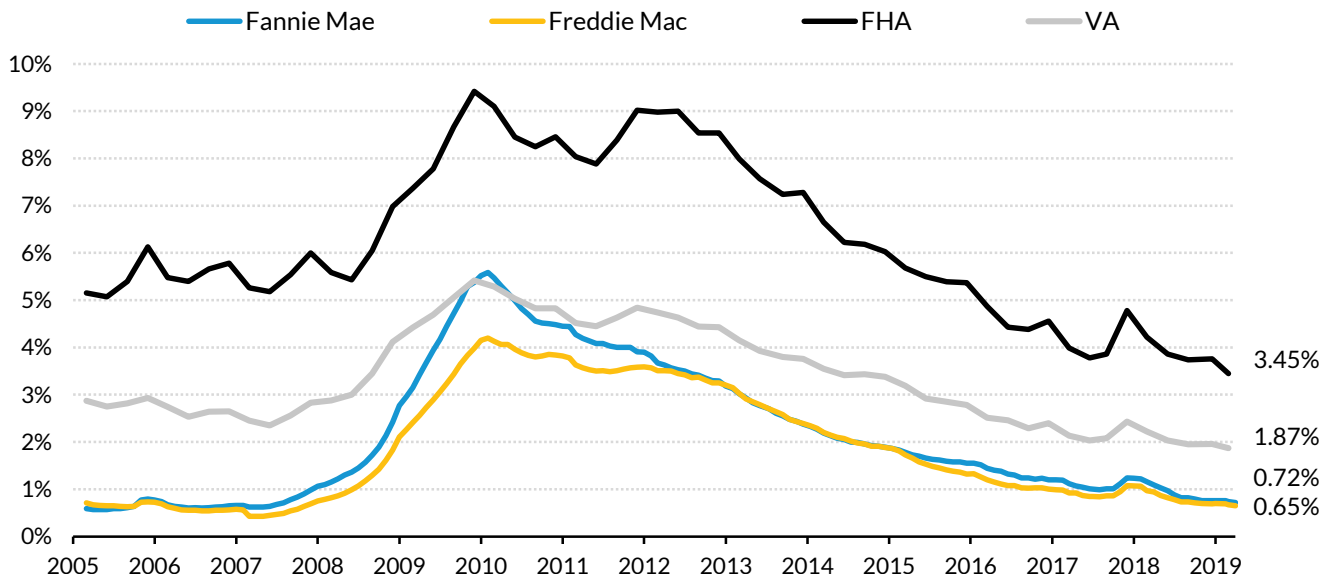
Note: Data as of May 15, 2019.

GSES UNDER CONSERVATORSHIP

SERIOUS DELINQUENCY RATES

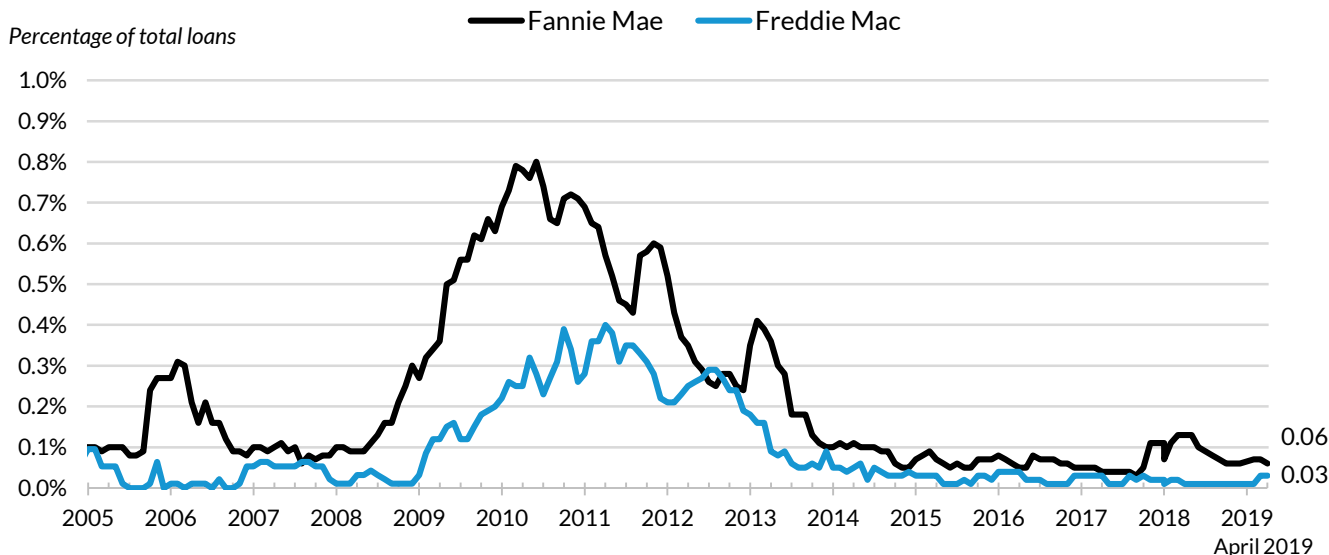
Serious delinquencies for single-family GSE, FHA, and VA loans declined in 2018 and in the first quarter of 2019. GSE delinquencies remain slightly higher relative to 2005-2007, while FHA and VA delinquencies (which are higher than their GSE counterparts) are at levels lower than 2005-2007. GSE multifamily 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 April 2019. GSE delinquencies are reported monthly, last updated May 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

Gross issuance was \$450 billion in the first five months of 2019, down 6.1 percent from the same period in 2018. Issuance in January and February 2019 was much lower than in January and February 2018, while March through May outpaced the previous year. Net issuance (which excludes repayments, prepayments, and refinances on outstanding mortgages) totaled \$91.7 billion in the first five months of 2019, or \$220.1 billion on an annualized basis, up 0.6 percent from the same period in 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 YTD	\$299.4	\$150.8	\$450.1
2019 YTD % Change YOY	-5.4%	-7.6%	-6.1%
2019 Ann.	\$718.5	\$361.8	\$1,080.3

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	\$53.9	\$37.8	\$91.7
2019 YTD % Change YOY	6.7%	-7.1%	0.6%
2019 Ann.	\$129.3	\$90.8	\$220.1

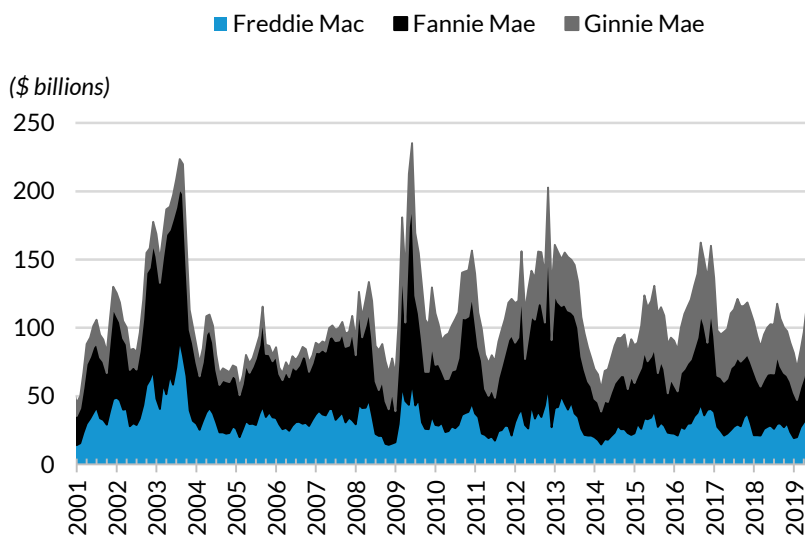
Sources: eMBS and Urban Institute.

Note: Dollar amounts are in billions. Data as of May 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 33.0 percent in May 2019. This share increase reflected both increases in the purchase share and in the refi share. More precisely, on the refi side there was a proportionately sharper curtailment in the GSE refis than in Ginnie Mae refis.

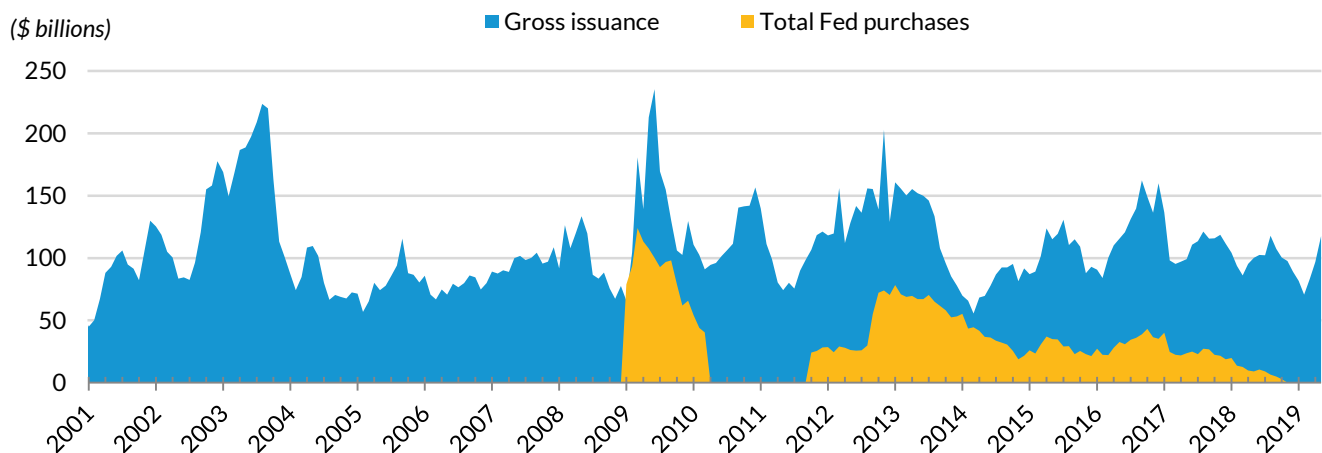


Sources: eMBS, Federal Reserve Bank of New York, and Urban Institute.

May 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 May 2019 Fed purchases totaled \$270 million, corresponding to Fed absorption of gross issuance of 0.23 percent.



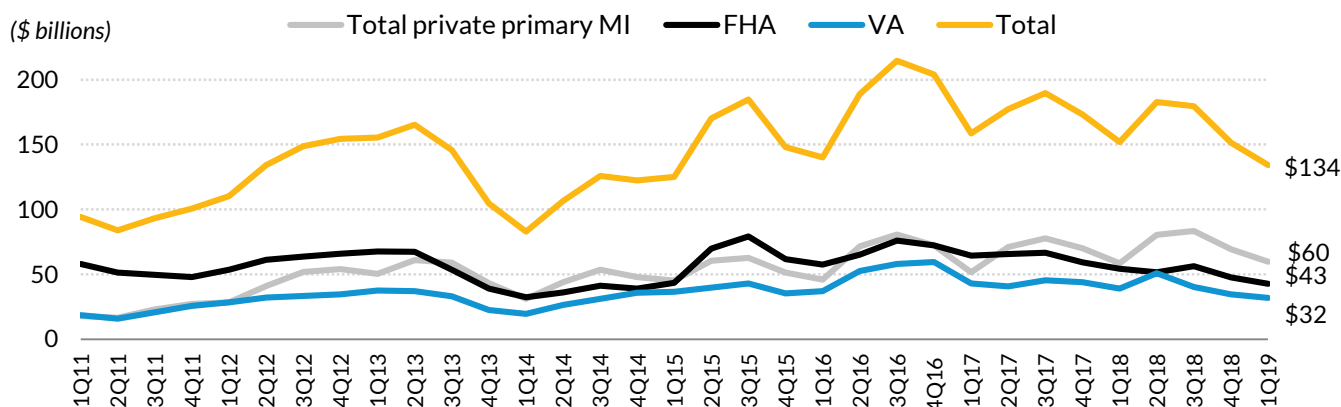
Sources: eMBS, Federal Reserve Bank of New York and Urban Institute.

May 2019

MORTGAGE INSURANCE ACTIVITY

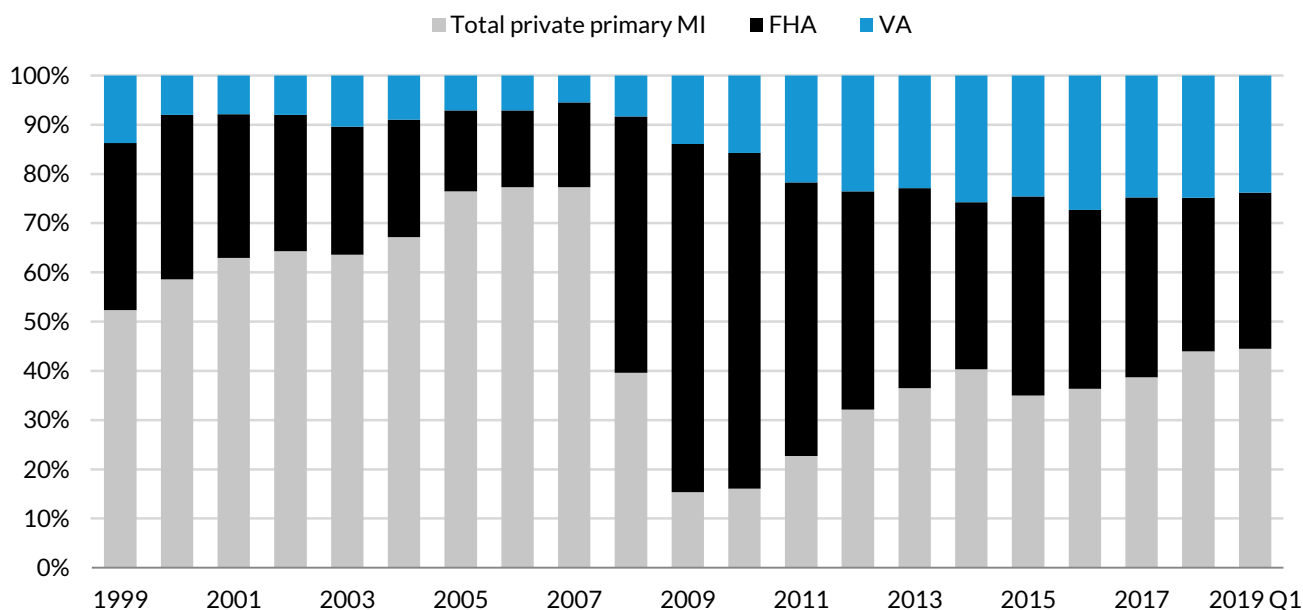
MI Activity

Mortgage insurance activity via the FHA, VA and private insurers declined from \$152 billion in Q1 2018 to \$134 billion in Q1 2019, an 11.7 percent drop. In the first quarter of 2019, private mortgage insurance written decreased by \$9.69 billion, FHA decreased by \$4.98 billion and VA decreased by \$2.62 billion from the previous quarter, reflecting seasonality. During this period, the VA share grew from 22.8 to 23.8 percent, while the private mortgage insurers share fell from 45.8 to 44.5 percent and the FHA share remained constant compared to the previous quarter.



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

MI Market Share



Sources: Inside Mortgage Finance and Urban Institute. Last updated May 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 720 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	4.07							
FHA	4.11							

FICO	620 - 639	640 - 659	660 - 679	680 - 699	700 - 719	720 - 739	740 - 759	760 +
FHA MI Premiums								
FHA UFMIP	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
FHA MIP	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
PMI								
GSE LLPA*	3.50	2.75	2.25	1.50	1.50	1.00	0.75	0.75
PMI Annual MIP	2.25	2.05	1.90	1.40	1.15	0.95	0.75	0.55
Monthly Payment								
FHA	\$1,358	\$1,358	\$1,358	\$1,358	\$1,358	\$1,358	\$1,358	\$1,358
PMI	\$1,714	\$1,652	\$1,607	\$1,485	\$1,435	\$1,381	\$1,333	\$1,293
PMI Advantage	-\$355	-\$293	-\$249	-\$127	-\$77	-\$22	\$25	\$65

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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Acknowledgments

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

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

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

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