HOUSING FINANCE POLICY CENTER

HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

September 2017

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.

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HOUSING FINANCE POLICY CENTER STAFF

Laurie Goodman
Center Co-Director

Alanna McCargo
Center Co-Director

Edward Golding
Senior Fellow

Jim Parrott
Senior Fellow

Sheryl Pardo
Associate Director of Communications

Todd Hill
Policy & Research Program Manager

Jun Zhu
Senior Research Associate

Bing Bai
Research Associate I

Karan Kaul
Research Associate I

Bhargavi Ganesh
Research Assistant

Sarah Strochak
Research Assistant

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INTRODUCTION

What can recent hurricanes tell us about GSE credit risk transfer?

The GSEs' capital markets risk transfer programs that began in 2013 have proven to be very successful in bringing in private capital, reducing the government's role in the mortgage market and reducing taxpayer risk. Investor demand for Fannie Mae's CAS and Freddie Mac's STACR securities overall has been robust, in large part because of an improving economy and extremely low delinquency rates for loans underlying these securities.

Enter hurricanes Harvey, Irma and Maria. These three storms have inflicted substantial damage to homes in the affected areas. Many of these homes have mortgages backed by Fannie Mae and Freddie Mac, and many of these mortgages in turn are in the reference pools of mortgages underlying CAS and STACR securities. It is too early to know what the eventual losses might look like – that will depend on the extent of the damage, insurance coverage (including flood insurance), and the degree to which loss mitigation will succeed in minimizing borrower defaults and foreclosures.

Depending on how all of these factors eventually play out, investors in the riskiest tranches of CAS and STACR securities could witness marginally higher than expected losses. Up until Harvey, CRT markets had not experienced a real shock that threatened to affect the credit performance of underlying mortgages (except after Brexit, whose impact on the US mortgage market proved to be minimal). The arrival of these storms therefore in some ways is the first real test of the resiliency of credit risk transfer market.

It is also the first test for the GSEs in balancing the needs of borrowers with those of CRT investors. In some of the earlier fixed severity deals, investor losses were triggered when a loan went 180 days delinquent (i.e. experienced a credit event). Hence, forbearance of more than six months could trigger a credit event. Fannie Mae put out a press release that it would wait 20 months from the point at which disaster relief was granted before evaluating whether a loan in a CAS deal experienced a credit event. While most of Freddie's STACR deals had language that dealt with this issue, a few of the very early deals did not; no changes were made to these deals. Both Freddie Mac and Fannie Mae have provided investors with an exposure assessment of the volume of affected loans in order to allow them to better estimate their risk exposure.

So how has the market responded so far? In the immediate aftermath of the first storm, spreads on CRT bonds generally widened by about 40 basis points, meaning investors demanded a higher rate of return. But thereafter, spreads have tightened by about 20 basis points, suggesting that many investors saw this as a good buying opportunity. This is precisely how capital markets are intended to work. If spreads had continued to widen substantially, that would have signaled a breakdown in investor confidence in future performance of these securities. The fact that that did not happen is an encouraging sign for the continued evolution of the credit risk transfer market.

To be clear, it is still very early to reasonably estimate what eventual investor losses will look like. As the process of damage assessment continues and more robust loss estimates come in, one can expect CAS/STACR pricing to fluctuate. But early pricing strongly indicates that investors' underlying belief in these securities is largely intact. This matters because it tells the GSEs that the CRT market is resilient enough to withstand shocks and gives them confidence to further expand these offerings.

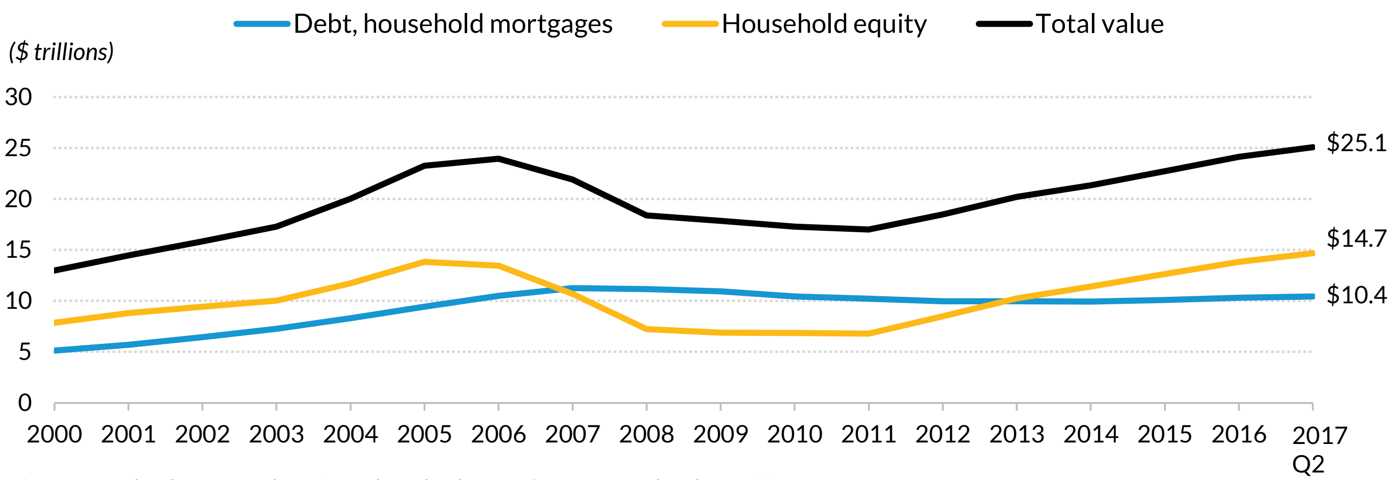
INSIDE THIS ISSUE

- The total value of the US Housing Market continued to rise in Q2 2017 (Page 6).
- First lien originations in first half of 2017 was down 6 percent year-over-year (Page 8).
- Agency refinance rates stabilized in August 2017, after the prolonged decline since the election day (page 11).
- The share of homeowners in negative equity continued to decline; it stands at 5.4% in Q2 of 2017 (page 22).
- Fannie Mae is now below the long run portfolio cap of $250 billion; the GSEs are each required to be below that level by year-end 2018 (Page 24).
- Agency net issuance is up 44.3 percent year-over-year for the first eight months of 2017, coming off a robust net issuance year in 2016 (Page 30).

MARKET SIZE OVERVIEW

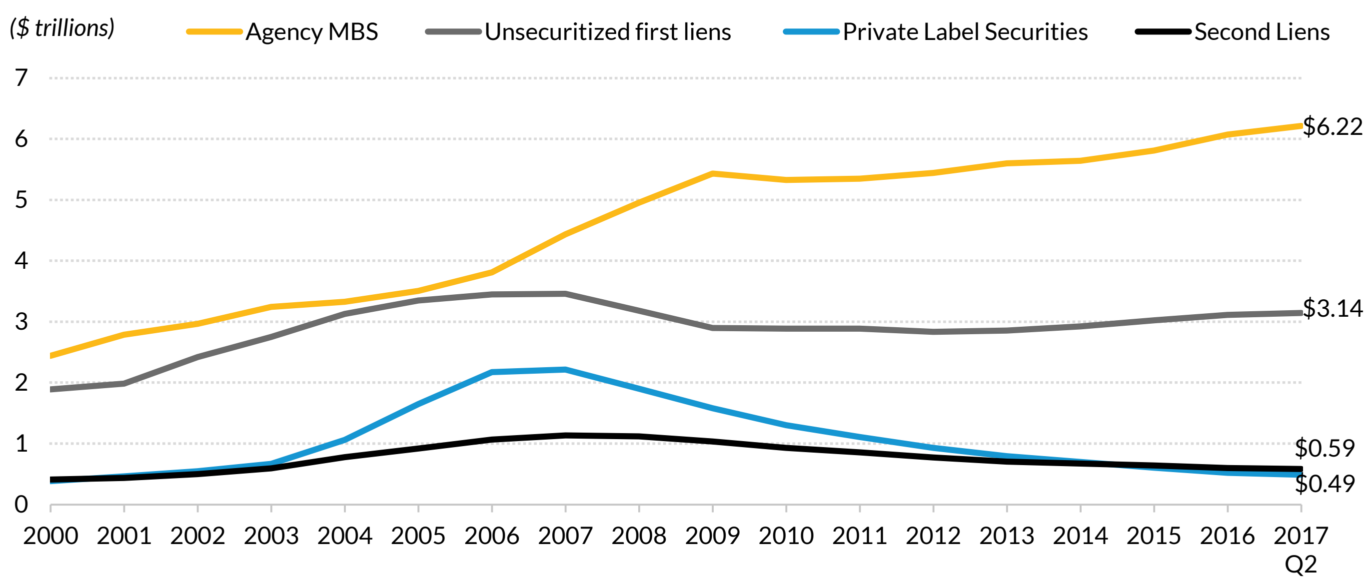
The Federal Reserve's Flow of Funds report has consistently indicated an increasing total value of the housing market driven by growing household equity since 2012, and 2017 Q2 was no different. While total debt and mortgages was stable at $10.4 trillion, household equity reached a new high of $14.7 trillion, bringing the total value of the housing market to $25.1 trillion, surpassing the pre-crisis peak of $23.9 trillion in 2006. Agency MBS make up 59.6 percent of the total mortgage market, private-label securities make up 4.7 percent, and unsecuritized first liens at the GSEs, commercial banks, savings institutions, and credit unions make up 30.1 percent. Second liens comprise the remaining 5.6 percent of the total.

Value of the US Housing Market



Sources: Federal Reserve Flow of Funds and Urban Institute. *Last updated June 2017.*

Size of the US Residential Mortgage Market



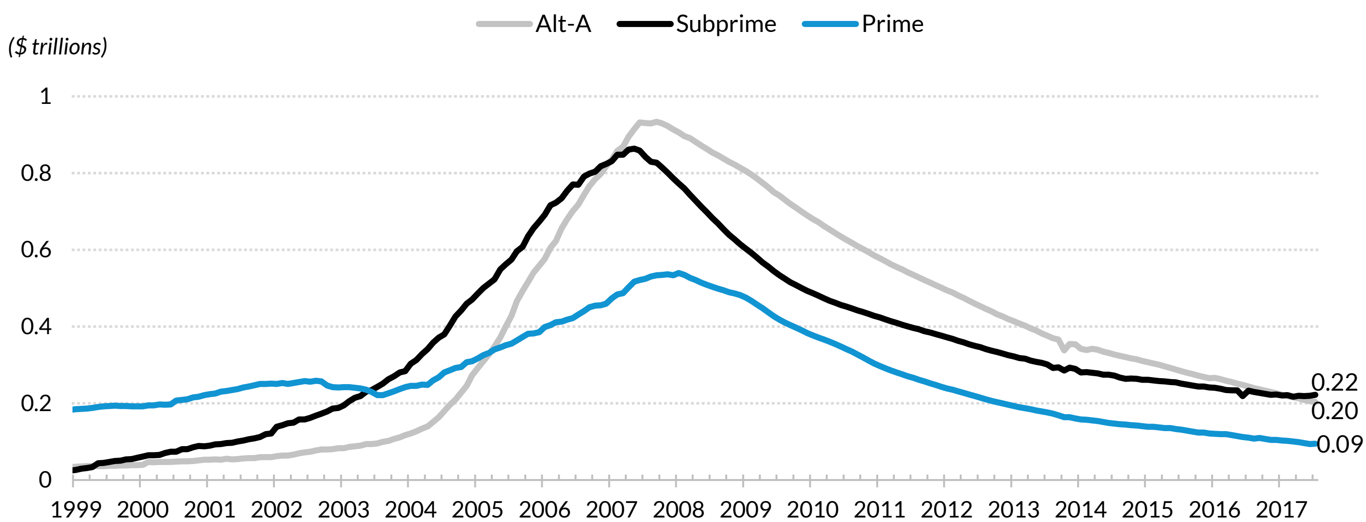
Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute. *Last updated June 2017.* **Note:** Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions.

OVERVIEW

MARKET SIZE OVERVIEW

As of July 2017, debt in the private-label securitization market totaled $520 billion and was split among prime (18.2 percent), Alt-A (39.1 percent), and subprime (42.6 percent) loans. In August 2017, outstanding securities in the agency market totaled $6.27 trillion and were 44.0 percent Fannie Mae, 27.3 percent Freddie Mac, and 28.7 percent Ginnie Mae. Ginnie Mae had more outstanding securities than Freddie Mac since May 2016.

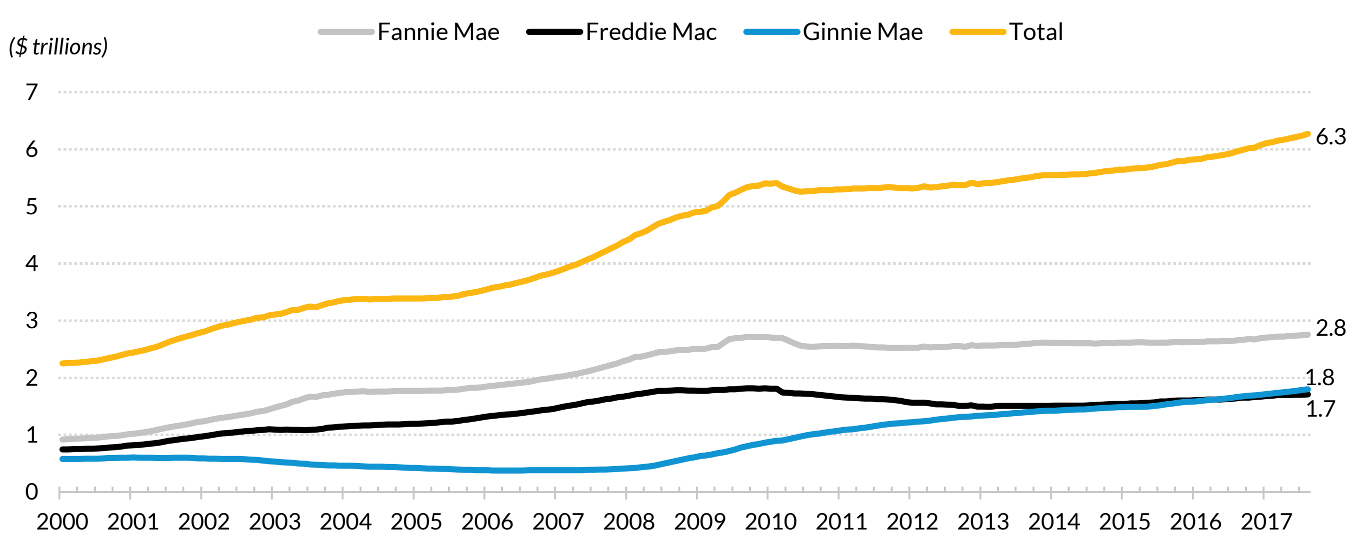
Private-Label Securities by Product Type



Sources: CoreLogic and Urban Institute.

July 2017

Agency Mortgage-Backed Securities



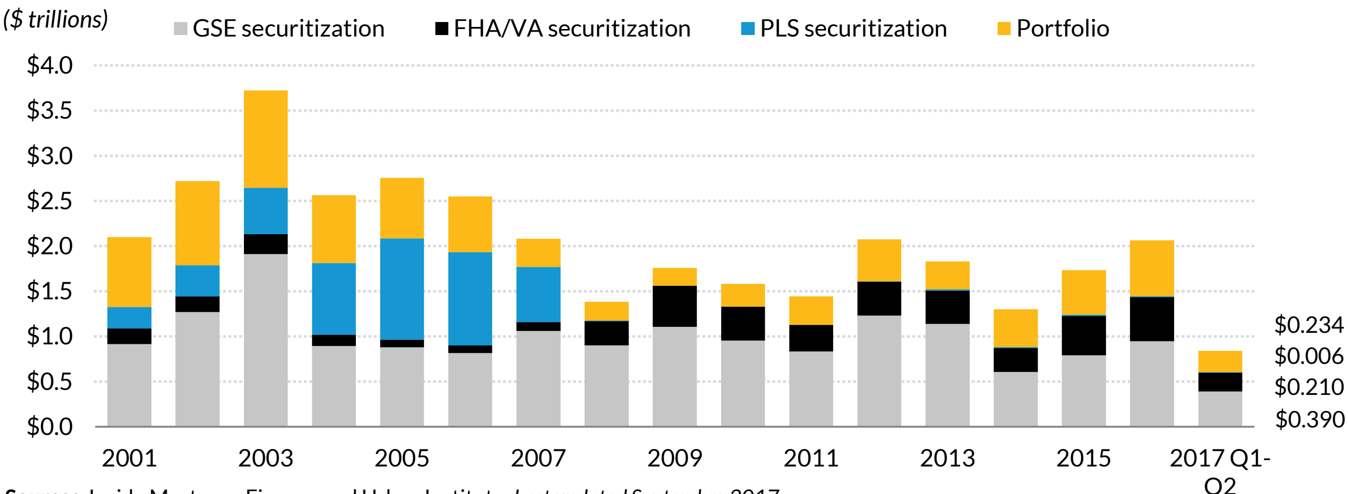
August 2017

Sources: eMBS and Urban Institute.

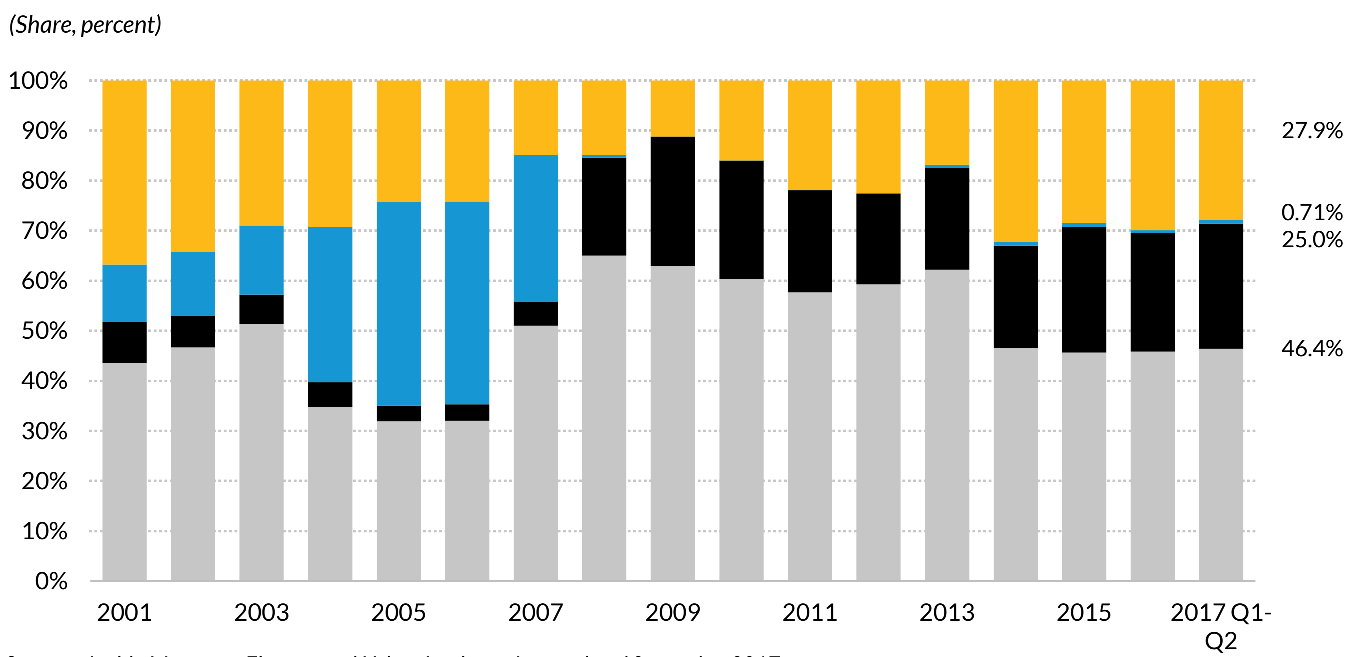
OVERVIEW
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

After a record high origination year in 2016 ($2.1 trillion), the first lien originations totaled $840 billion in the first half of 2017, down 6 percent from the same period last year, mostly due to the elevated interest rates. The share of portfolio originations was 28 percent, down slightly from 30 percent in 2016. The GSE share stayed at about 46 percent. The FHA/VA share was slightly up: 25 percent for the first half of 2017 versus 24 percent in 2016. Origination of private-label securities was well under 1 percent in both periods.



Sources: Inside Mortgage Finance and Urban Institute. *Last updated September 2017.*



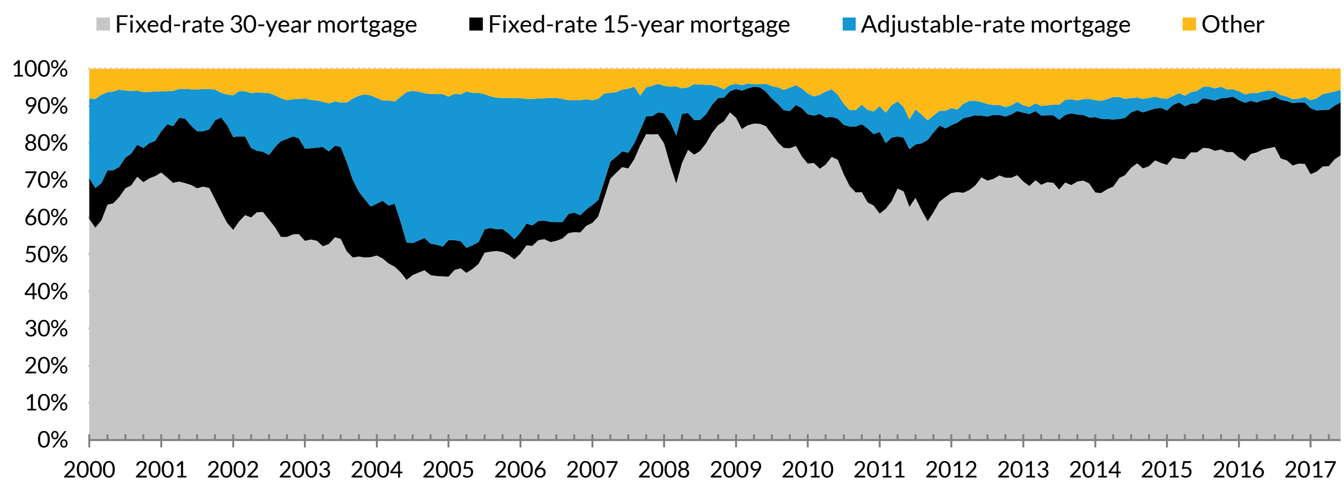
Sources: Inside Mortgage Finance and Urban Institute. *Last updated September 2017.*

OVERVIEW

MORTGAGE ORIGINATION PRODUCT TYPE

Adjustable-rate mortgages (ARMs) accounted for as much as 42 percent of all new originations during the peak of the 2005 housing bubble (top chart). The ARMs fell to an historic low of 1 percent in 2009, and then slowly grew to a high of 6 percent in April 2014. Since then, ARMs began to decline again to 3.3 percent in June 2017. The 15-year fixed-rate mortgage (FRM), predominantly a refinance product, accounted for 14.3 percent of new originations. If we exclude refinances (bottom chart), the share of 30-year FRMs in June 2017 stood at 89.5 percent, 15-year FRMs at 6.1 percent, and ARMs at 3.0 percent.

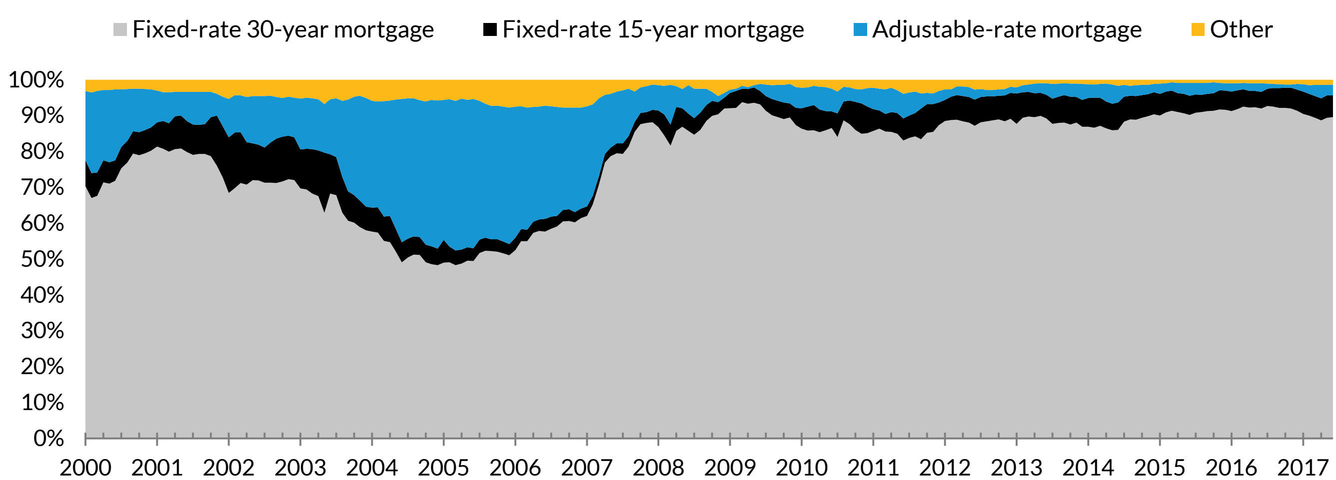
All Originations



Sources: Corelogic, eMBS, HMDA, SIFMA and Urban Institute.

June 2017

Purchase Loans Only



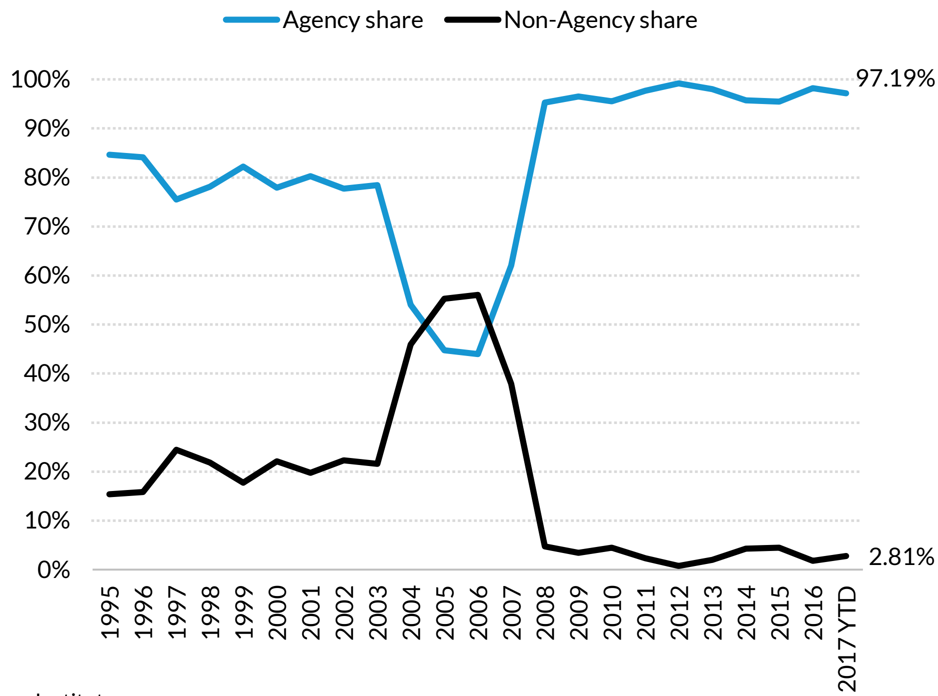
Sources: Corelogic, eMBS, HMDA, SIFMA and Urban Institute.

June 2017

SECURITIZATION VOLUME AND COMPOSITION

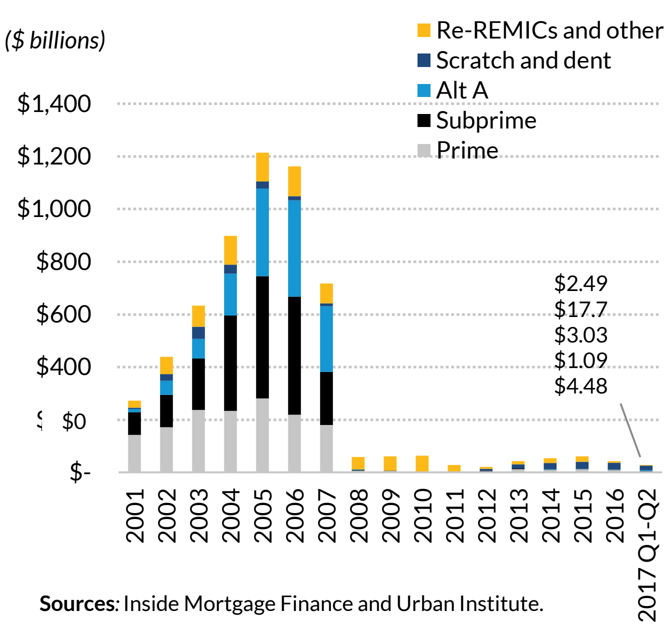
Agency/Non-Agency Share of Residential MBS Issuance

The non-agency share of mortgage securitizations in the eight months of 2017 was 2.8 percent, compared to 1.8 percent in 2016 and 4.5 percent in 2015. The non-agency securitization volume totaled $28.8 billion in H1 2017, a 32 percent increase over the same period in 2016. Much of the volume was in non-performing and re-performing (scratch and dent) deals. The volume of prime securitizations in H1 2017 totaled $4.48 billion, higher than H1 2016 ($3.68 billion). Non-agency securitizations continue to be tiny compared to pre-crisis levels.



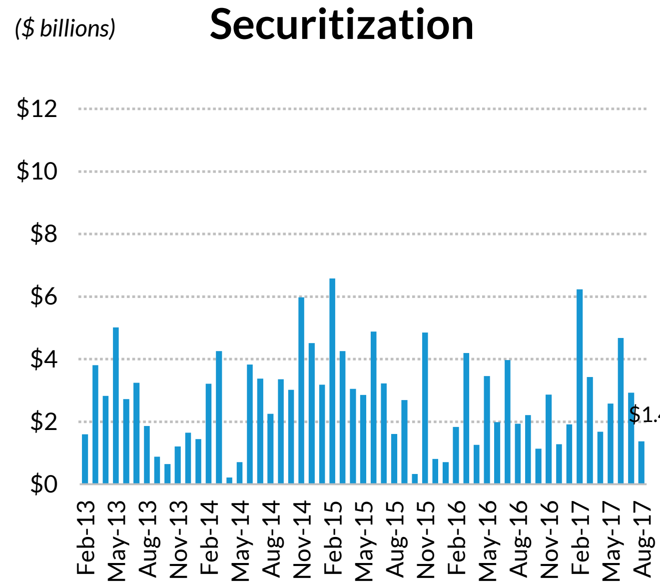
Sources: Inside Mortgage Finance and Urban Institute.
Note: Based on data from August 2017.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization

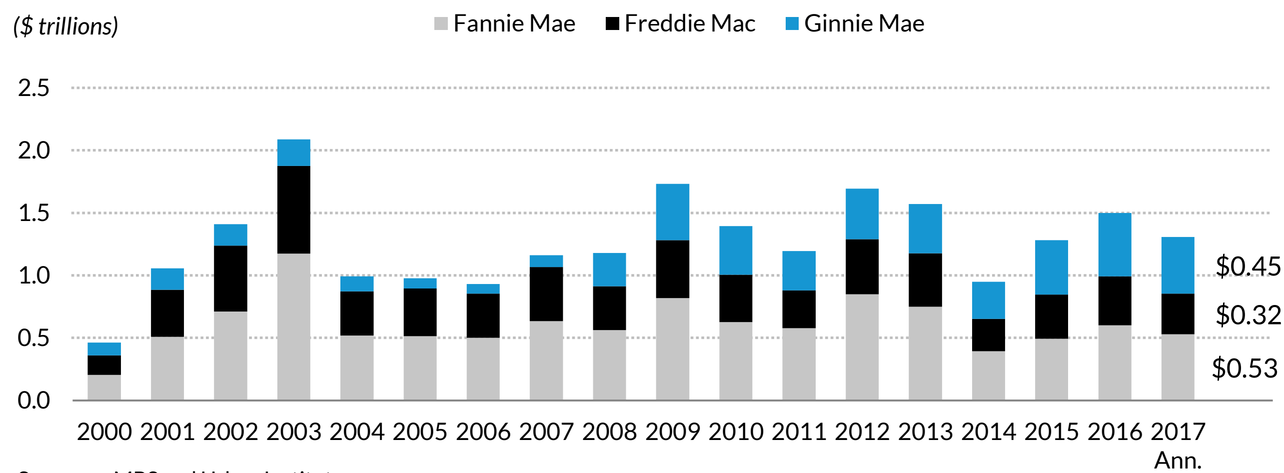


Sources: Inside Mortgage Finance and Urban Institute.
Note: Monthly figures equal total non-agency MBS issuance minus Re-REMIC issuance. *Last updated August 2017.*

AGENCY ACTIVITY: VOLUMES AND PURCHASE/ REFI COMPOSITION

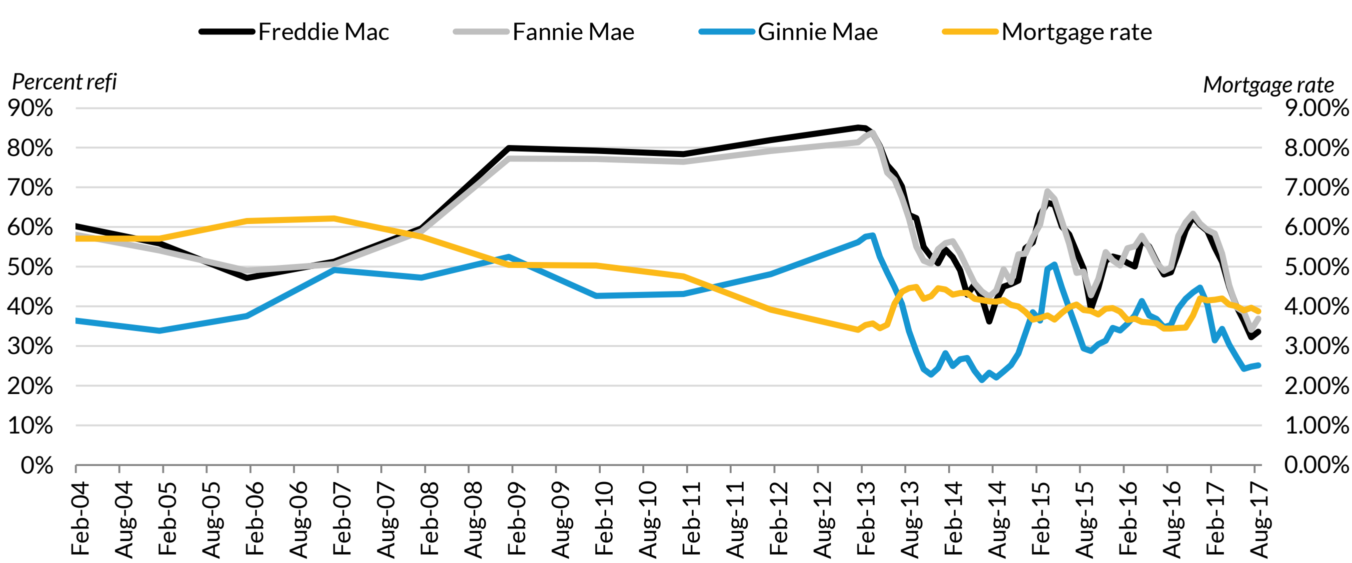
Agency issuance totaled $871.5 billion in the first eight months of 2017, slightly down from $891.8 billion a year ago. Refinances have declined sharply since the election day in late 2016, but have begun to stabilize in August 2017, and now stand at 34, 37 and 25 percent of Fannie Mae, Freddie Mac and Ginnie Mae's businesses, respectively, as mortgage rates moved lower from the post-election high levels.

Agency Gross Issuance



Sources: eMBS and Urban Institute.
Note: Annualized figure based on data from August 2017.

Percent Refi at Issuance



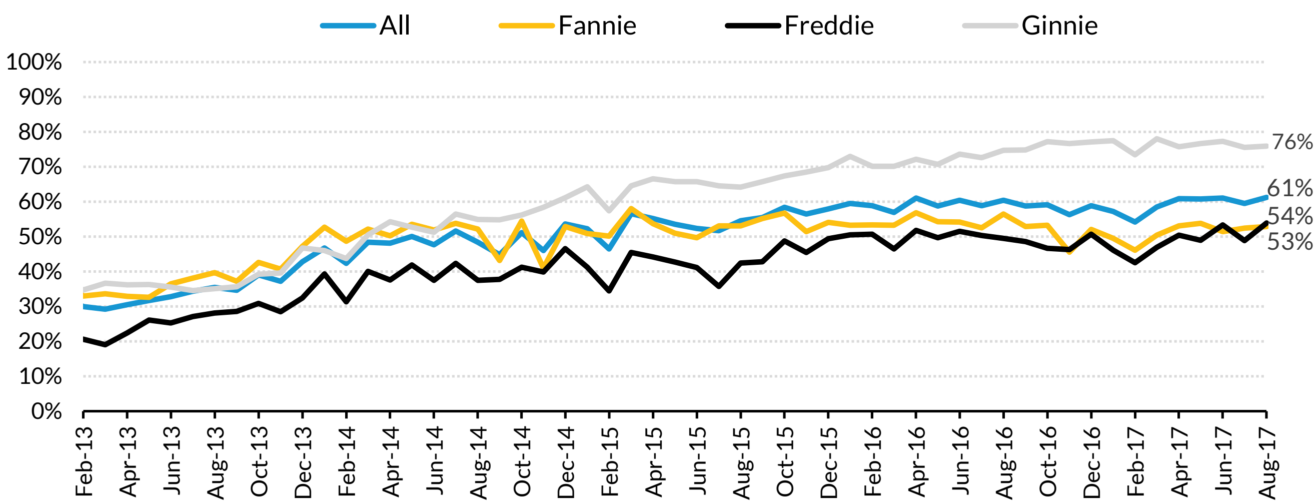
Sources: eMBS and Urban Institute.
Note: Based on at-issuance balance. Figure based on data from August 2017

OVERVIEW

NONBANK ORIGINATION SHARE

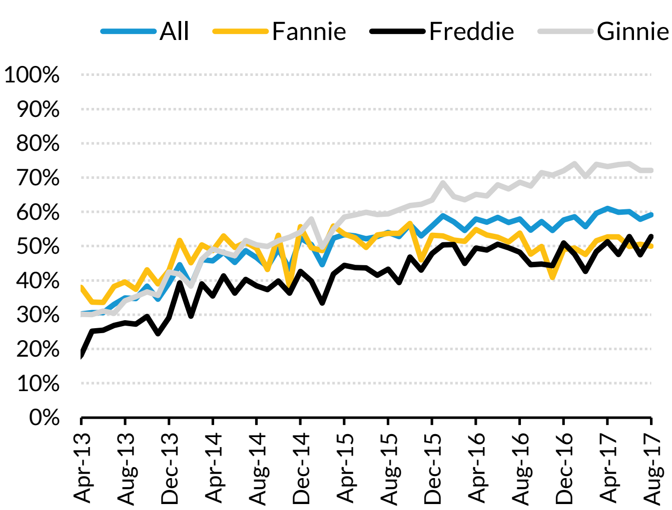
Though nonbank origination share has increased for all three agencies since 2013, the percentage stayed steady month-over-month. This month, Freddie and Fannie had nonbank originator shares between 53-54 percent, while Ginnie Mae's nonbank share was at 76 percent. Nonbank originator share is higher for refinance than for purchases across all three agencies.

Nonbank Origination Share: All Loans



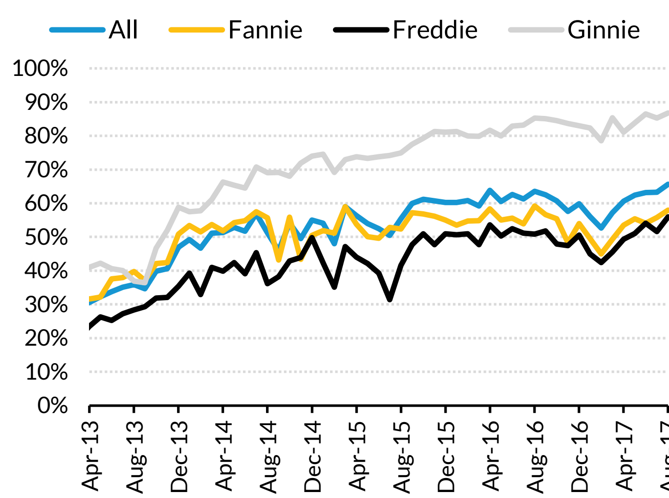
Sources: *eMBS and Urban Institute.*

Nonbank Origination Share: Purchase Loans



Sources: *eMBS and Urban Institute*

Nonbank Origination Share: Refi Loans



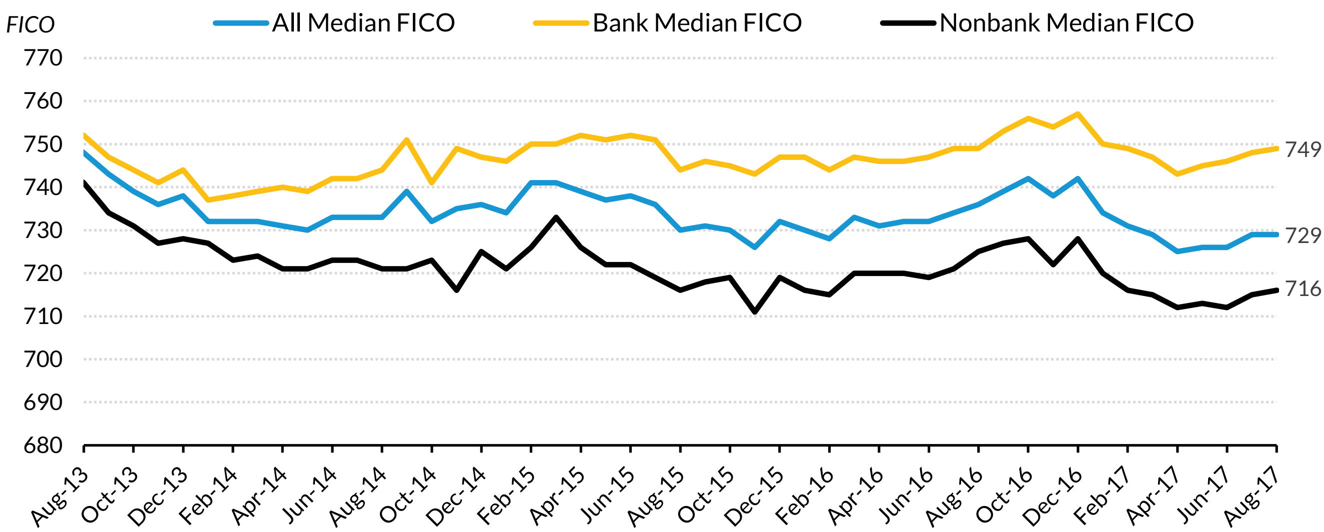
Sources: *eMBS and Urban Institute*

OVERVIEW

NONBANK CREDIT BOX

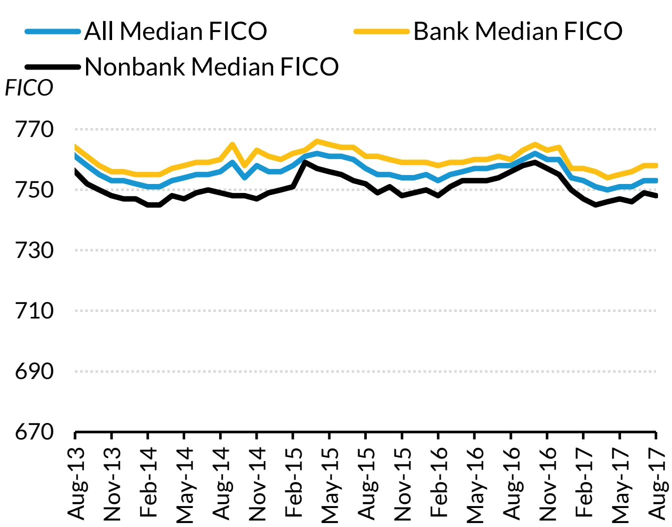
Nonbank originators have played a key role in opening up access to credit. The median GSE and the median Ginnie Mae FICO scores for loans originated by nonbanks are lower than their bank counterparts. Within the GSE space, both bank and nonbank FICOs have declined since 2014 with further relaxation in FICOs in 2017. In contrast within the Ginnie Mae space, FICO scores for bank originations have increased since 2014 while nonbank FICO has declined. This largely reflects the sharp cut-back in FHA lending by many banks.

Agency FICO: Bank vs. Nonbank



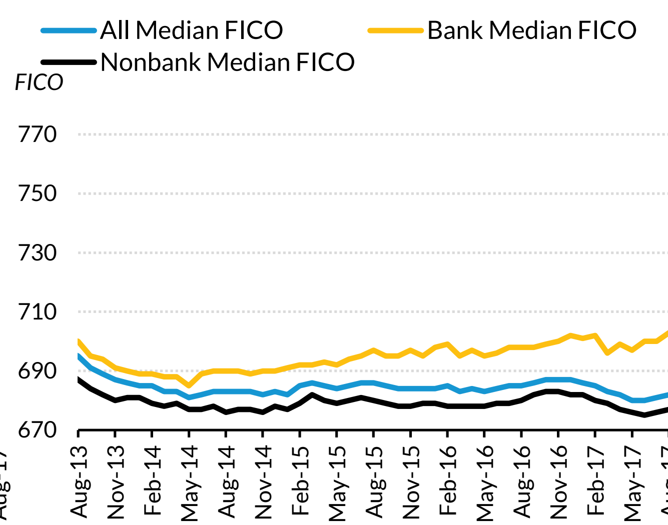
Sources: *eMBS and Urban Institute.*

GSE FICO: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

Ginnie Mae FICO: Bank vs. Nonbank



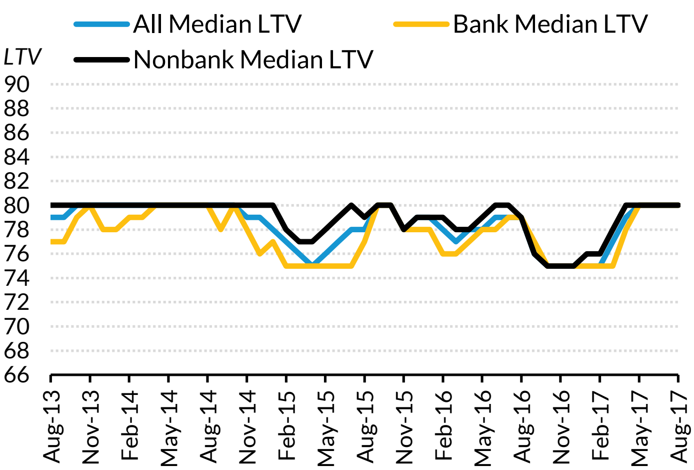
Sources: *eMBS and Urban Institute.*

OVERVIEW

NONBANK CREDIT BOX

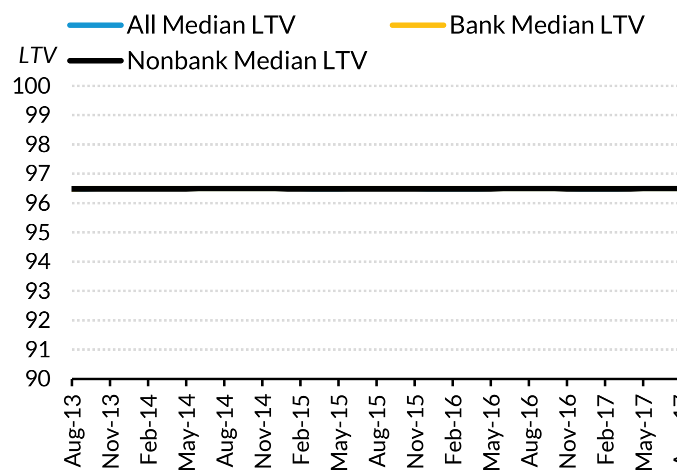
The median LTV ratios for loans originated by nonbanks are similar to their bank counterparts, while the median DTIs for nonbank loans are higher, indicating the nonbanks are more accommodating in this dimension as well as in the FICO dimension. Note that in 2017 there has been a measurable increase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

GSE LTV: Bank vs. Nonbank



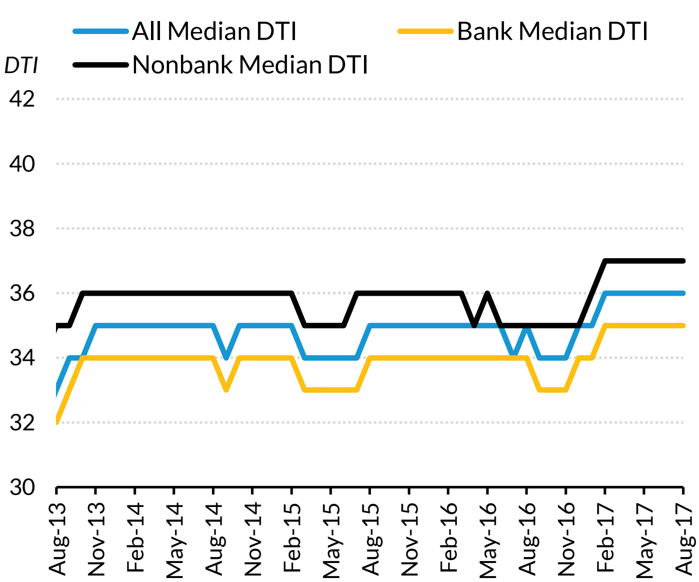
Sources: *eMBS and Urban Institute.*

Ginnie Mae LTV: Bank vs. Nonbank



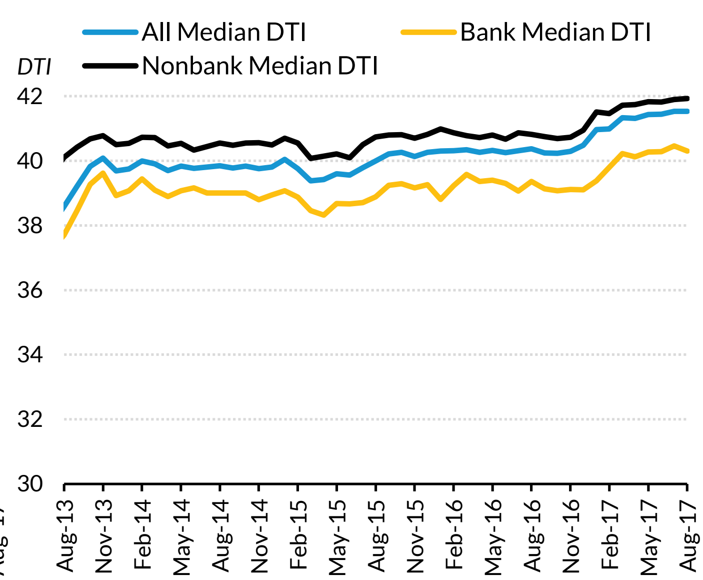
Sources: *eMBS and Urban Institute.*

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

Origination volume for calendar year 2016 was close to $2.0 trillion. In 2017, Fannie Mae, Freddie Mac and MBA expect origination volume to be in the $1.55-$1.65 trillion range, owing to a sharp decline in refinance activity due to rising interest rates. In 2017, the share of refinances is expected to be in the 33-34 percent range, representing a drop from the 48 percent refi share in 2016. Fannie, Freddie, and MBA all forecast 2017 housing starts to total 1.21 to 1.24 million units, an increase from 2016. Home sales forecasts for 2017 range from 6.20-6.28 million, a rise from 2016 levels.

Total Originations and Refinance Shares

Period	Originations ($ billions)			Refi Share (%)		
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	FNMA estimate	FHLMC estimate	MBA estimate
2017 Q1	393	397	361	48	42	41
2017 Q2	454	490	463	33	26	32
2017 Q3	453	500	455	32	32	30
2017 Q4	366	413	348	28	32	31
2018 Q1	312	324	345	33	30	30
2018 Q2	432	482	445	24	25	24
2018 Q3	435	487	443	23	24	23
2018 Q4	390	402	355	26	23	28
FY 2014	1301	1350	1261	40	39	40
FY 2015	1730	1750	1679	47	45	46
FY 2016	2052	2125	1891	48	48	48
FY 2017	1649	1545	1612	34	33	33
FY 2018	1541	1500	1588	25	25	26

Sources: Fannie Mae, Freddie Mac, Mortgage Bankers Association and Urban Institute.
Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market. Column labels indicate source of estimate. Regarding interest rates, the yearly averages for 2014, 2015, and 2016 were 3.6%, 3.7%, and 3.6%. For 2017, the respective projections for Fannie, Freddie, and MBA are 4.1%, 4.2%, and 4.2%.

Housing Starts and Homes Sales

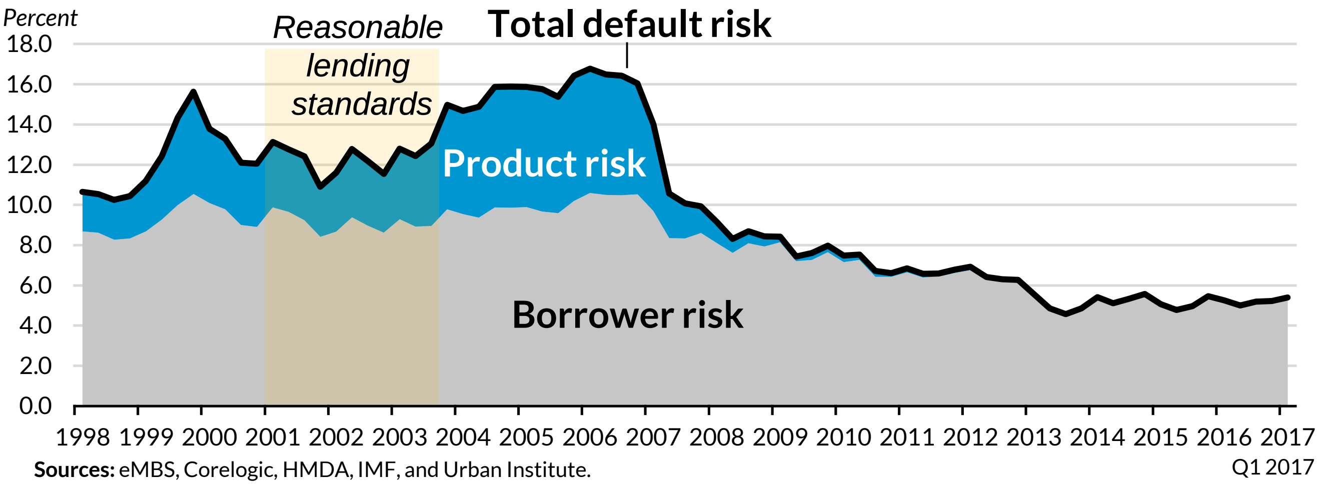
Year	Housing Starts, thousands			Home Sales. thousands				
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Existing, MBA estimate	New, MBA Estimate
FY 2014	1003	1000	1001	5377	5380	5360	4920	440
FY 2015	1112	1110	1108	5751	5750	5740	5237	503
FY 2016	1174	1170	1177	6011	6010	6001	5440	561
FY 2017	1219	1240	1210	6203	6200	6282	5659	623
FY 2018	1328	1360	1338	6352	6300	6702	6007	695

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

CREDIT AVAILABILITY AND ORIGINATOR PROFITABILITY

Housing Credit Availability Index (HCAI)

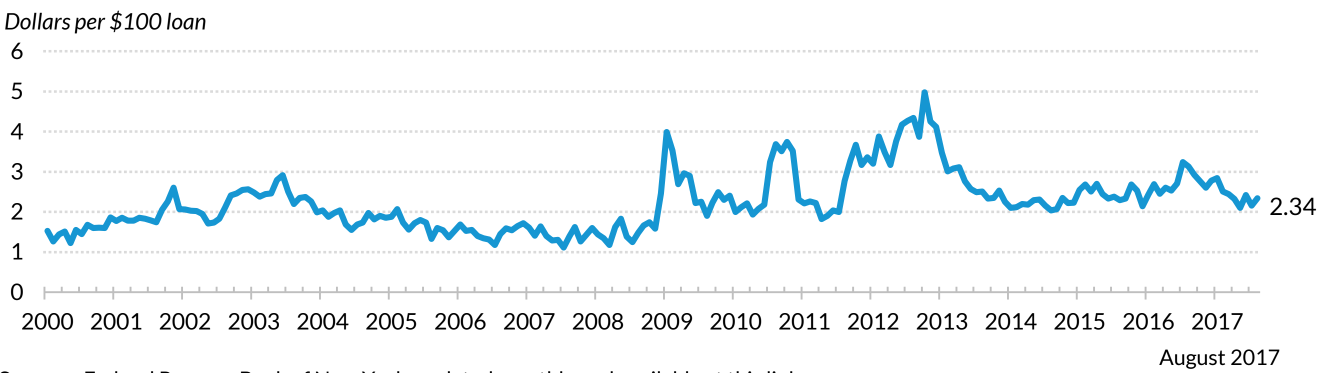
HFPC's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to default. The index shows that credit availability increased slightly to 5.4 in the first quarter of 2017 (Q1 2017), up from 5.2 in Q4 2016 and the highest level since 2016. The measure is less than half of the 2001-2003 standard of 12.5 percent. HCAI is likely to go up further with the post-election spike in interest rates, as lender may expand the credit box when origination volumes drop. More information about the HCAI, including the breakdown by market segment, is available here.



Sources: eMBS, Corelogic, HMDA, IMF, and Urban Institute.
Note: Default is defined as 90 days or more delinquent at any point. *Last updated July 2017.*

Originator Profitability and Unmeasured Costs

When originator profits are higher, mortgage volumes are less responsive to changes in interest rates, because originators are at capacity. Originator Profitability and Unmeasured Costs (OPUC), formulated and calculated by the Federal Reserve Bank of New York, is a good relative measure of originator profitability. OPUC uses the sales price of the mortgage in the secondary market (less par) and adds two additional sources of profitability; retained servicing (both base and excess servicing, net of g-fees) and points paid by the borrower. Driven by the post-Brexit decline in interest rates, OPUC rose sharply to $3.21 in July 2016. With the post-election high interest rates, OPUC now stands at $2.34.

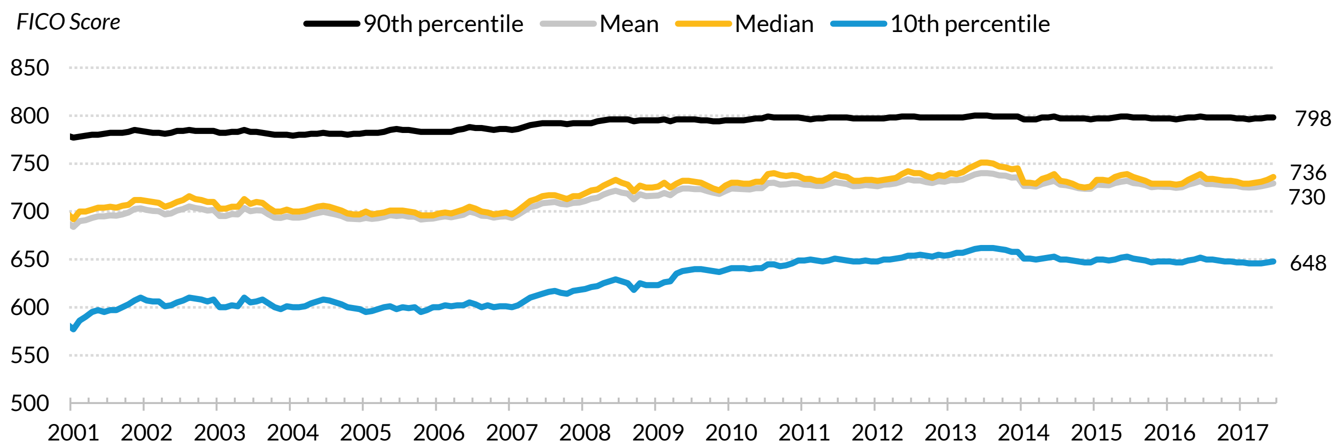


Sources: Federal Reserve Bank of New York, updated monthly and available at this link: http://www.ny.frb.org/research/epr/2013/1113fust.html and Urban Institute.
Note: OPUC is a is a monthly (4-week moving) average as discussed in Fuster et al. (2013).

CREDIT AVAILABILITY FOR PURCHASE LOANS

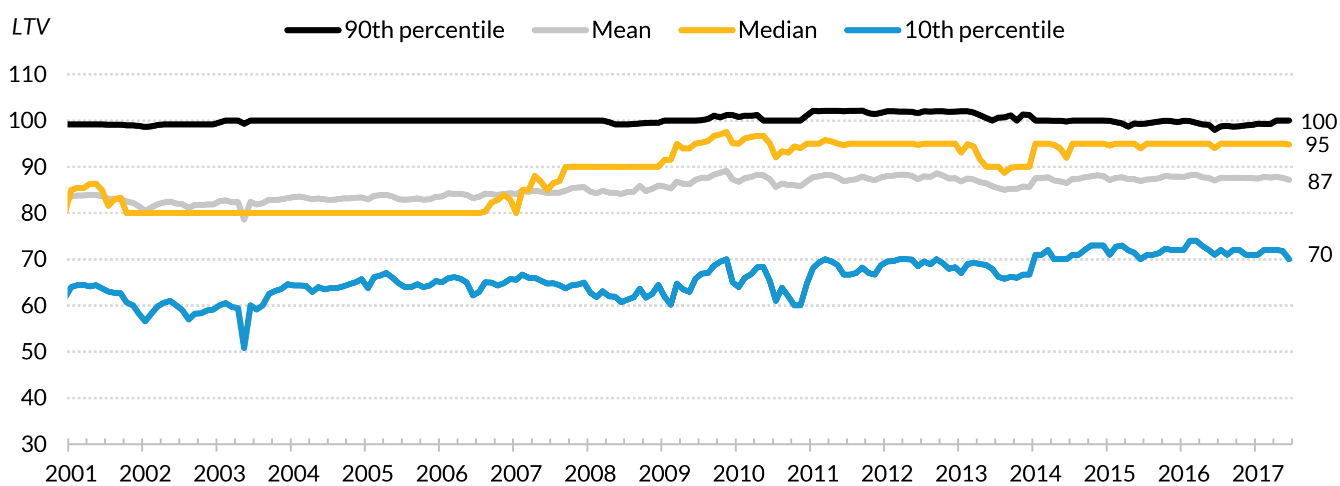
Access to credit has become extremely tight, especially for borrowers with low FICO scores. The mean and median FICO scores on new purchase originations have both drifted up about 21 and 20 points over the last decade, respectively. The 10th percentile of FICO scores, which represents the lower bound of creditworthiness needed to qualify for a mortgage, stood at 648 as of June 2017. Prior to the housing crisis, this threshold held steady in the low 600s. LTV levels at origination remain relatively high, averaging 87.2, which reflects the large number of FHA purchase originations.

Borrower FICO Score at Origination



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

Combined LTV at Origination



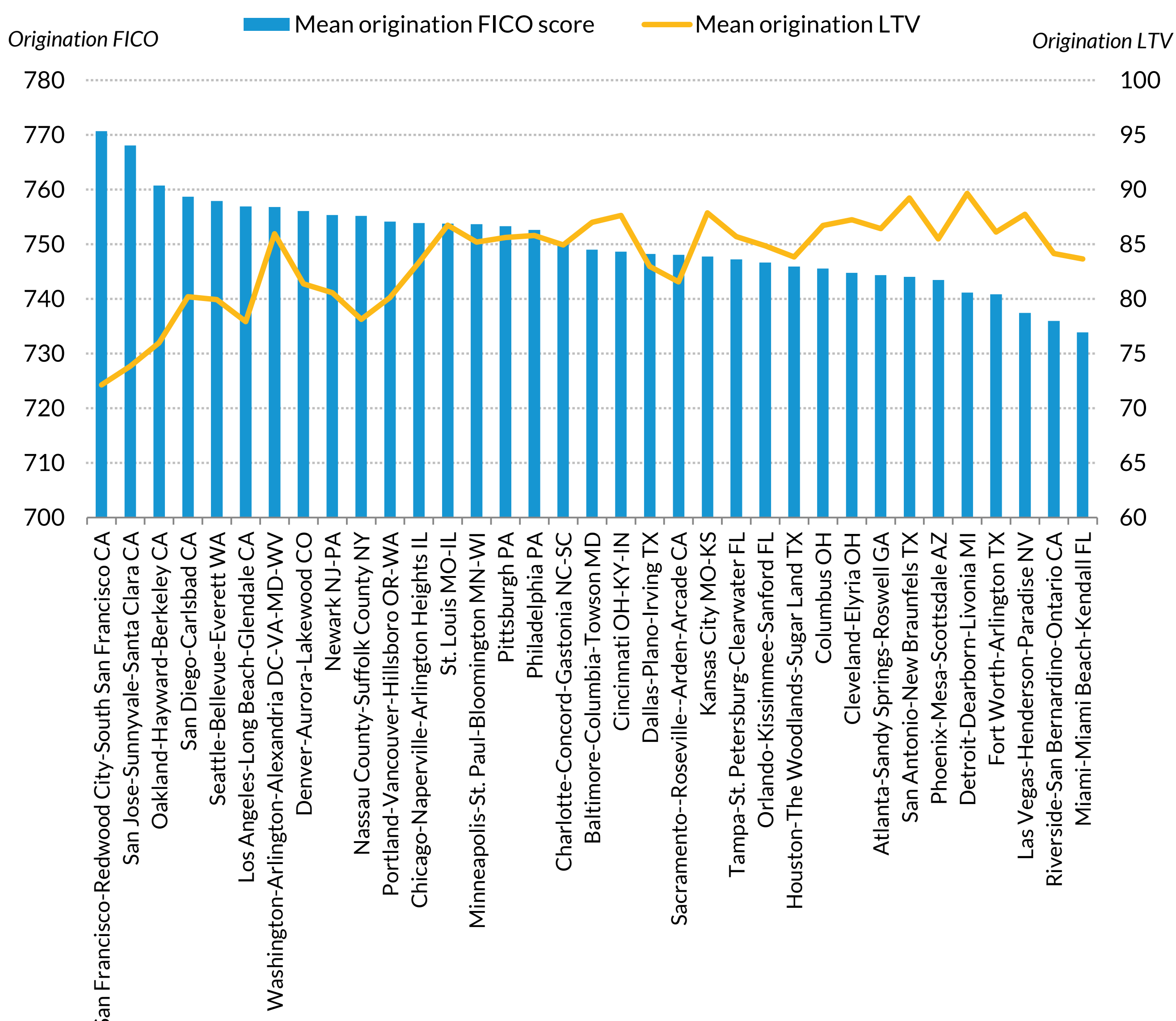
Sources: Corelogic, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes owner-occupied purchase loans only.

June 2017

CREDIT AVAILABILITY FOR PURCHASE LOANS

Credit has been tight for all borrowers with less-than-stellar credit scores--especially in MSAs with high housing prices. For example, the mean origination FICO for borrowers in San Francisco- Redwood City- South San Francisco, CA is 771, while in Miami-Miami Beach-Kendall, FL it is 734. 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



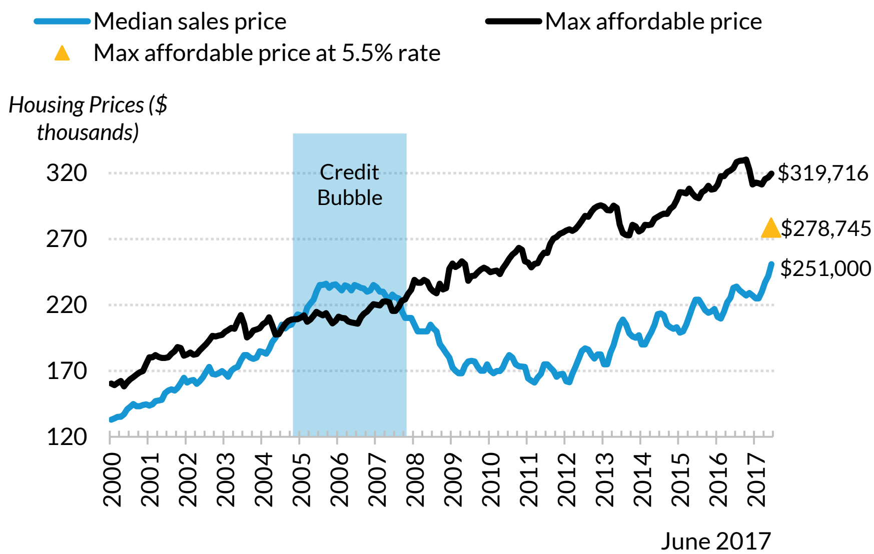
Sources: Corelogic, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes owner-occupied purchase loans only. Data as of June 2017.

STATE OF THE MARKET
HOUSING AFFORDABILITY

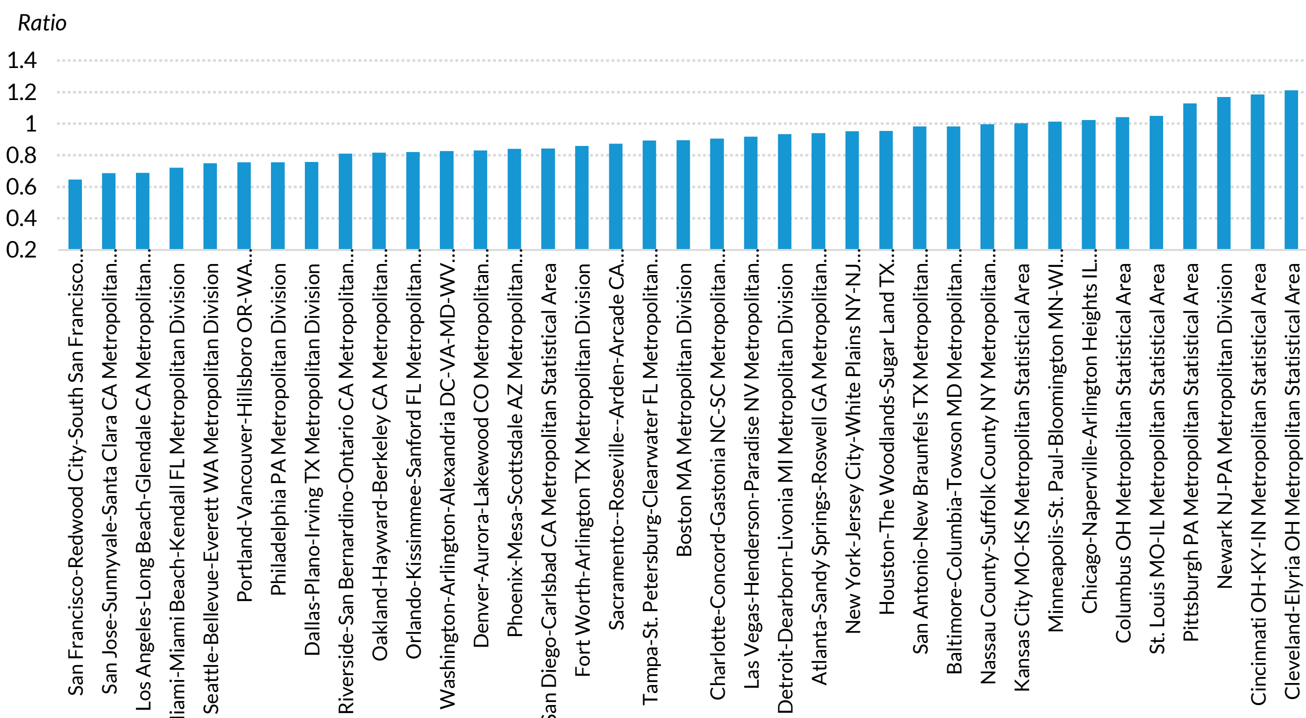
National Housing Affordability Over Time

Home prices are still very affordable by historic standards, despite increases over the last four years and the recent interest rate hikes. Even if interest rates rise to 5.5 percent, affordability would still be at the long term historical average. The bottom chart shows that some areas are much more affordable than others.

Sources: CoreLogic, US Census, Freddie Mac and Urban Institute.
Note: The maximum affordable price is the house price that a family can afford putting 20 percent down, with a monthly payment of 28 percent of median family income, at the Freddie Mac prevailing rate for 30-year fixed-rate mortgage, and property tax and insurance at 1.75 percent of housing value.



Affordability Adjusted for MSA-Level DTI

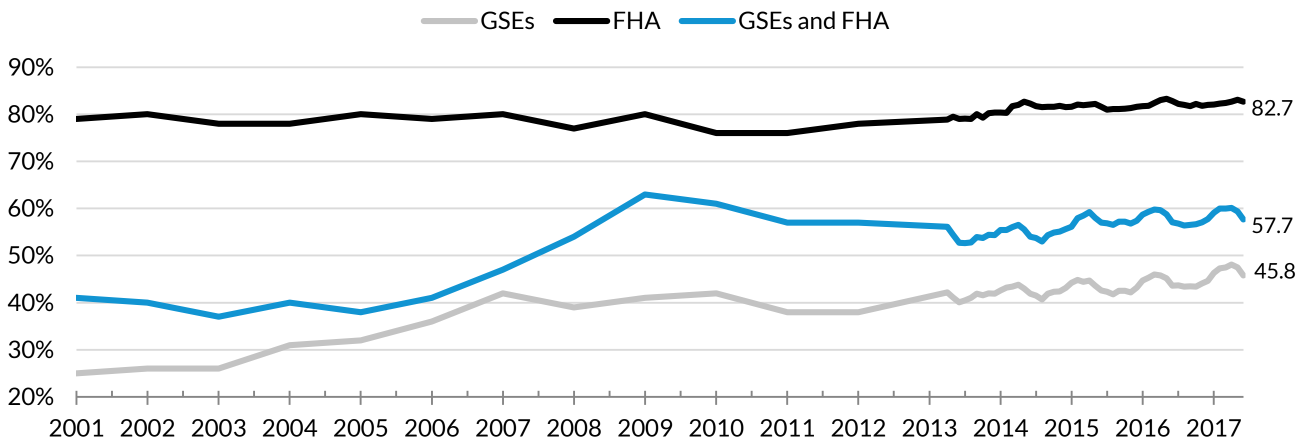


Sources: CoreLogic, US Census, Freddie Mac and Urban Institute calculations based on NAR methodology.
Note: Index is calculated relative to home prices in 2000-03. A ratio above 1 indicates higher affordability in June 2017 than in 2000-03.

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In June 2017, the first-time homebuyer share of GSE purchase loans fell for the second consecutive month to 45.8 percent, after hitting the highest level in recent history in April (48.1 percent). The FHA has always been more focused on first-time homebuyers, with its first-time homebuyer share hovering around 80 percent and stood at 82.7 percent in June 2017. The bottom table shows that based on mortgages originated in June 2016, the average first-time homebuyer was more likely than an average repeat buyer to take out a smaller loan and have a lower credit score and higher LTV and DTI, thus requiring a higher interest rate.



Sources: eMBS, Federal Housing Administration (FHA) and Urban Institute.
Note: All series measure the first-time homebuyer share of purchase loans for principal residences.

June 2017

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

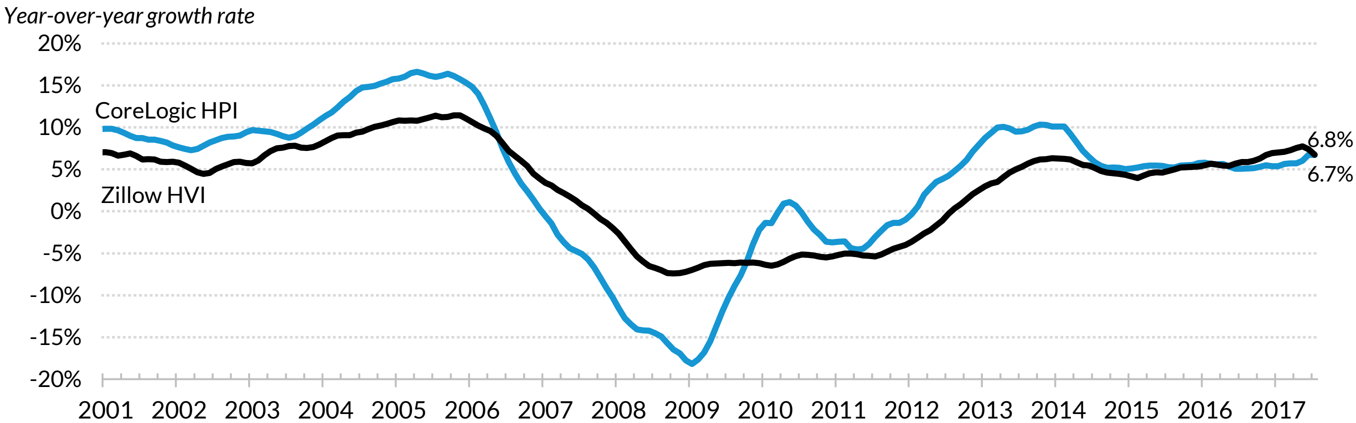
	GSEs		FHA		GSEs and FHA	
Characteristics	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount ($)	230,311	256,609	200,840	226,085	217,273	251,408
Credit Score	740.5	756.0	676.8	684.2	712.4	743.8
LTV (%)	86.8	78.9	95.6	94.1	90.7	81.5
DTI (%)	34.1	34.8	42.0	43.1	37.6	36.2
Loan Rate (%)	4.22	4.10	4.19	4.11	4.21	4.10

Sources: eMBS and Urban Institute.
Note: Based on owner-occupied purchase mortgages originated in June 2017.

HOME PRICE INDICES

National Year-Over-Year HPI Growth

While the strong year-over-year home price growth from 2012 to 2013 has slowed somewhat, home price appreciation remains robust as measured by the repeat sales index from CoreLogic and hedonic index from Zillow. We will continue to closely monitor how rising mortgage rates impact this strong growth.



Sources: CoreLogic, Zillow, and Urban Institute.

July 2017

Changes in CoreLogic HPI for Top MSAs

After rising 49.1 percent from the trough, national house prices only need to grow 0.5 percent to reach pre-crisis peak levels. At the MSA level, Nine of the top 15 MSAs have reached their peak HPI– New York, NY; Los Angeles, CA; Atlanta, GA; Houston, TX; Dallas, TX; Minneapolis, MN; Seattle, WA; Denver, CO and San Diego, CA. Two MSAs particularly hard hit by the boom and bust– Phoenix, AZ and Riverside, CA– would need to rise 22 and 23 percent to return to peak levels, respectively.

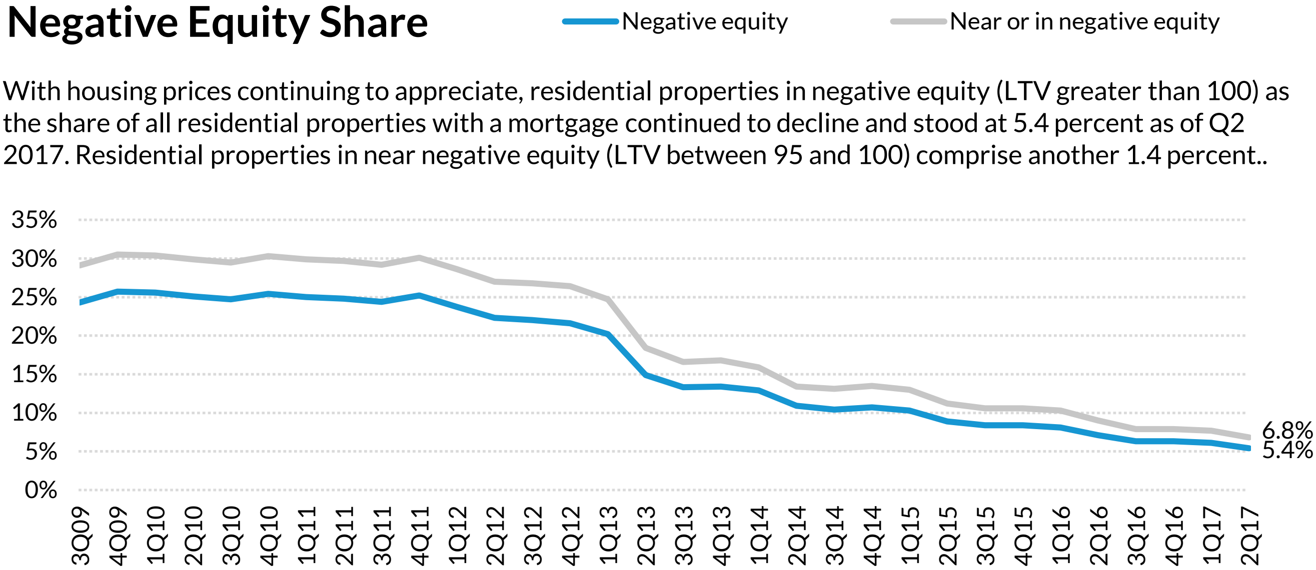
MSA	HPI changes (%)			% Rise needed to achieve peak
	2000 to peak	Peak to trough	Trough to current	
United States	93.7	-33.3	49.1	0.5
New York-Jersey City-White Plains NY-NJ	112.0	-16.7	30.4	-8.0
Los Angeles-Long Beach-Glendale CA	177.2	-38.4	68.1	-3.4
Chicago-Naperville-Arlington Heights IL	66.0	-35.7	36.3	14.2
Atlanta-Sandy Springs-Roswell GA	38.0	-32.9	59.7	-6.7
Washington-Arlington-Alexandria DC-VA-MD-WV	155.3	-34.2	37.6	10.4
Houston-The Woodlands-Sugar Land TX	39.7	-14.0	46.2	-20.4
Phoenix-Mesa-Scottsdale AZ	123.7	-52.7	72.9	22.2
Riverside-San Bernardino-Ontario CA	186.1	-52.7	71.1	23.5
Dallas-Plano-Irving TX	34.3	-13.8	57.2	-26.3
Minneapolis-St. Paul-Bloomington MN-WI	73.0	-30.4	44.6	-0.6
Seattle-Bellevue-Everett WA	90.9	-29.1	80.9	-22.1
Denver-Aurora-Lakewood CO	35.6	-13.2	73.5	-33.6
Baltimore-Columbia-Towson MD	122.8	-24.6	16.4	13.9
San Diego-Carlsbad CA	145.0	-37.5	60.5	-0.2
Anaheim-Santa Ana-Irvine CA	160.7	-35.7	53.8	1.2

Sources: CoreLogic HPIs and Urban Institute. Data as of July 2017.
Note: This table includes the largest 15 Metropolitan areas by mortgage count.

STATE OF THE MARKET
NEGATIVE EQUITY & SERIOUS DELINQUENCY

Negative Equity Share

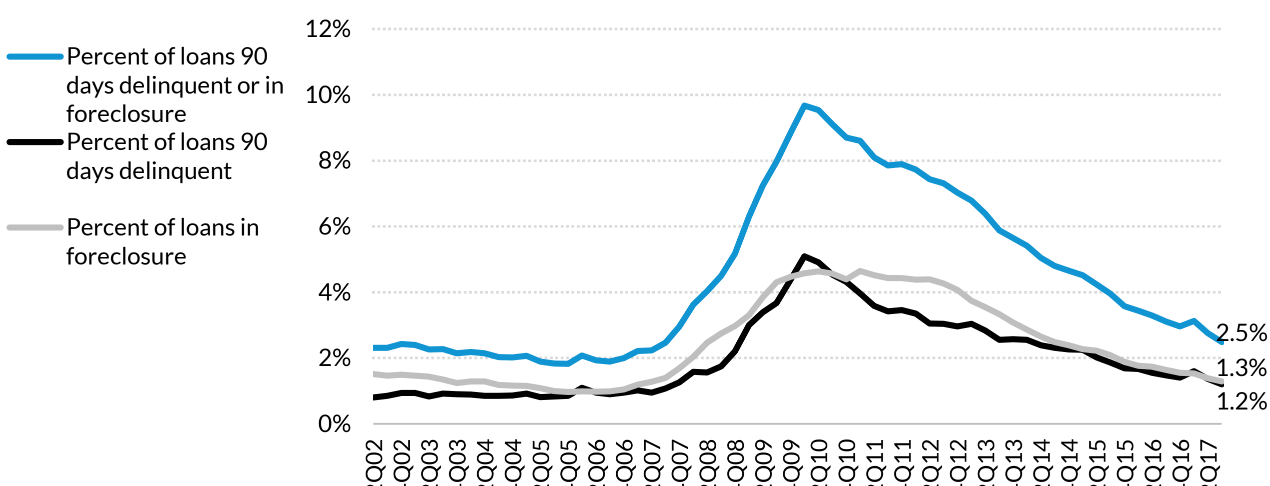
With housing prices continuing to appreciate, residential properties in negative equity (LTV greater than 100) as the share of all residential properties with a mortgage continued to decline and stood at 5.4 percent as of Q2 2017. Residential properties in near negative equity (LTV between 95 and 100) comprise another 1.4 percent..



Sources: CoreLogic and Urban Institute.
Note: CoreLogic negative equity rate is the percent of all residential properties with a mortgage in negative equity. Loans with negative equity refer to loans above 100 percent LTV. Loans near negative equity refer to loans above 95 percent LTV. *Last updated September 2017.*

Loans in Serious Delinquency/Foreclosure

90 day delinquencies continued their decline from 1.37 to 1.2 percent in Q2 2017. The percent of loans in foreclosure continued to edge down to 1.29 percent. The combined delinquencies totaled 2.49 percent in Q2 2017, down from 2.76 percent in Q1 2017 and 3.11 percent for the same quarter a year earlier.



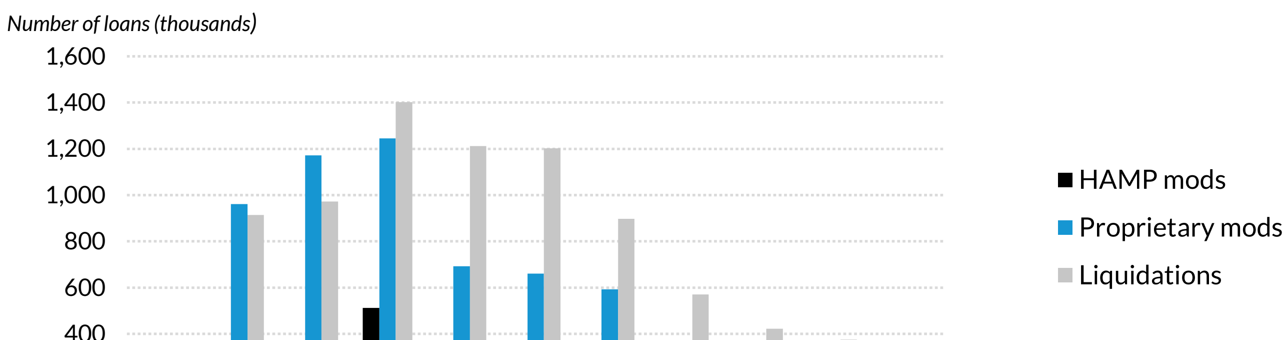
Sources: Mortgage Bankers Association and Urban Institute. *Last updated May 2017.*

STATE OF THE MARKET

MODIFICATIONS AND LIQUIDATIONS

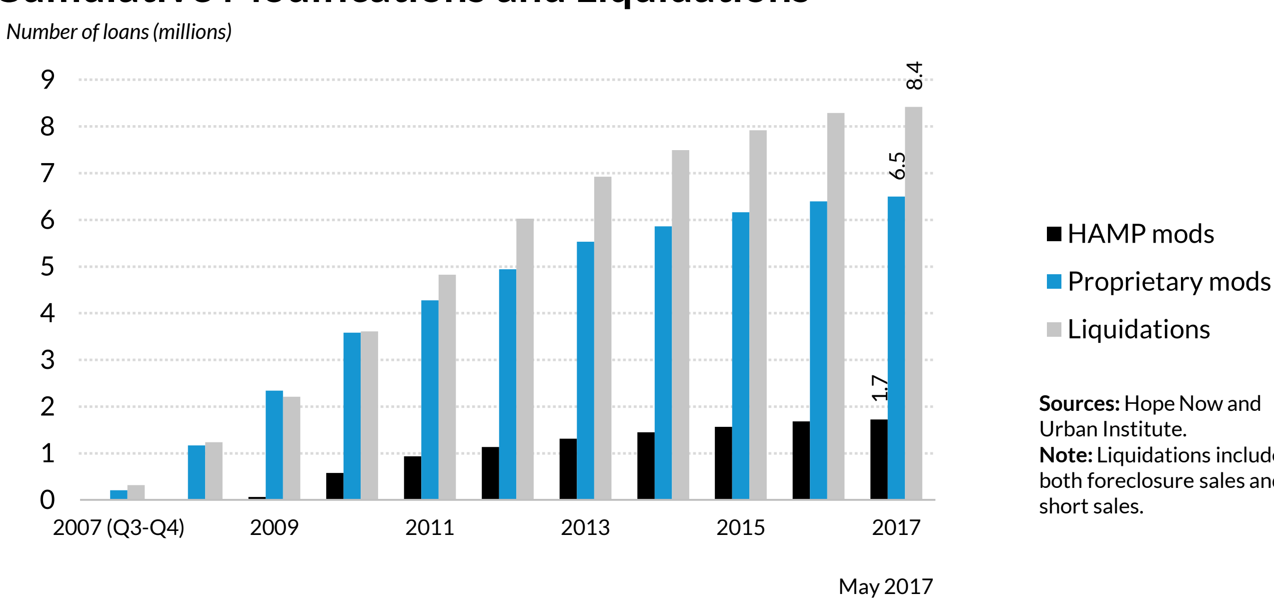
Total modifications (HAMP and proprietary) are now roughly equal to total liquidations. Hope Now reports show 8,242,918 borrowers have received a modification since Q3 2007, compared with 8,422,434 liquidations in the same period. Modifications and liquidations have slowed significantly over the past few years. In the first five months of 2017, there were just 142,640 modifications and 132,3692 liquidations.

Loan Modifications and Liquidations



Sources: Hope Now and Urban Institute.
Note: Liquidations include both foreclosure sales and short sales.

Cumulative Modifications and Liquidations

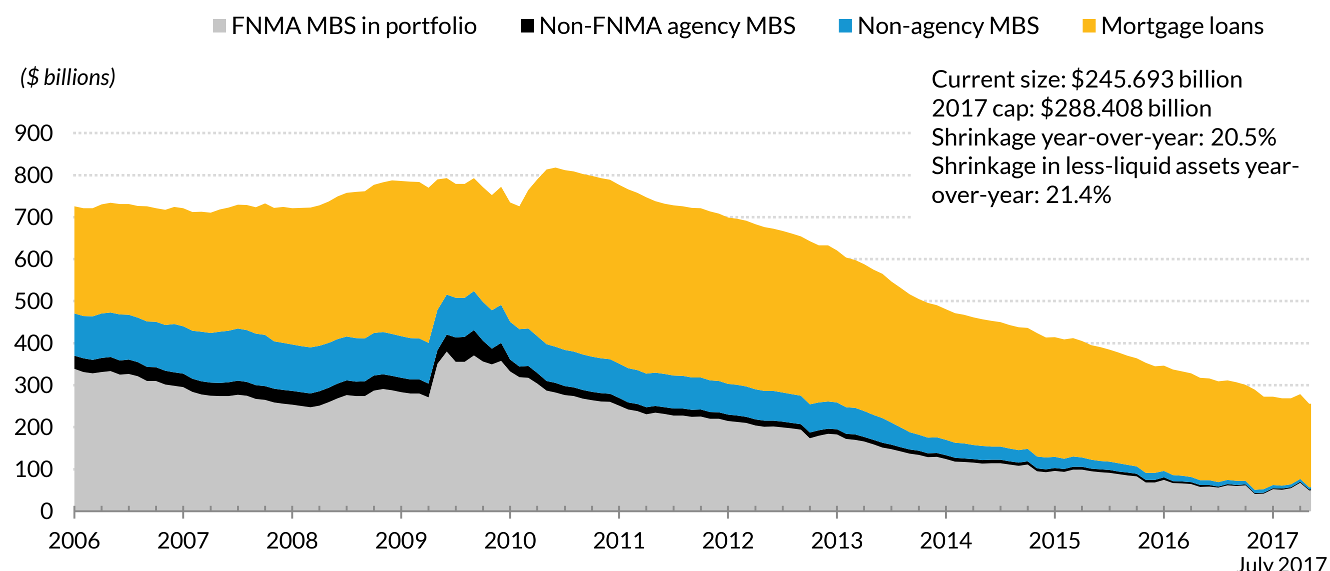


Sources: Hope Now and Urban Institute.
Note: Liquidations includes both foreclosure sales and short sales.

GSE PORTFOLIO WIND-DOWN

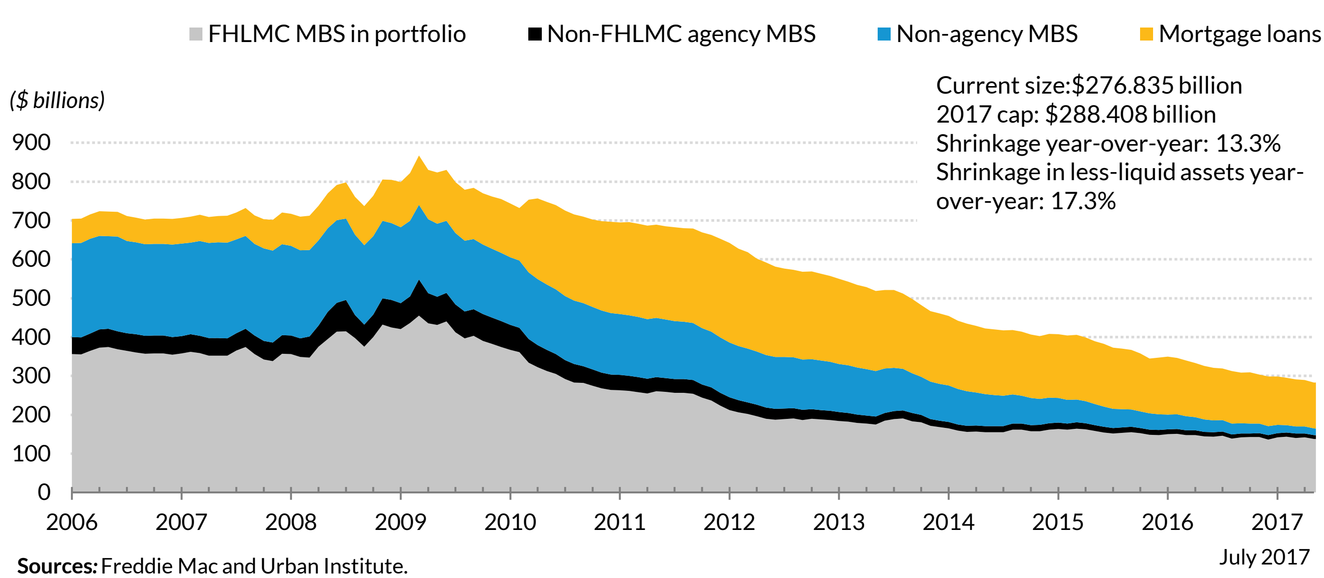
Both GSEs continue to contract their portfolios. Since July 2016, Fannie Mae has contracted by 20.5 percent and Freddie Mac by 13.3 percent. They are shrinking their less liquid assets (mortgage loans and non-agency MBS) faster than they are shrinking their entire portfolio. As of July 2017, both Fannie Mae and Freddie Mac are below their year-end 2017 portfolio cap. Fannie Mae is now below the long run portfolio cap of $250 billion that each GSE is required to reach by year-end 2018.

Fannie Mae Mortgage-Related Investment Portfolio Composition



Sources: Fannie Mae and Urban Institute.

Freddie Mac Mortgage-Related Investment Portfolio Composition

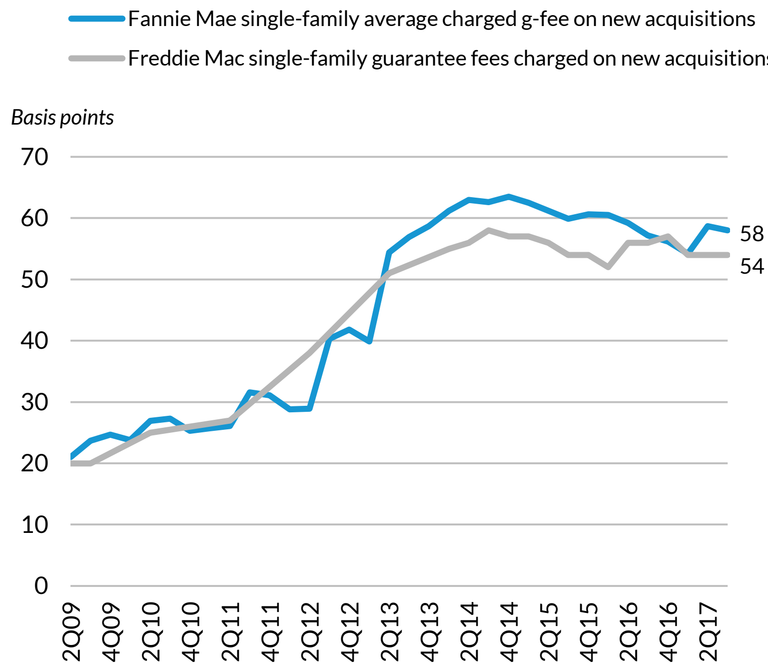


Sources: Freddie Mac and Urban Institute.

EFFECTIVE GUARANTEE FEES

Guarantee Fees Charged on New Acquisitions

The latest 10-K indicates that Fannie's average g-fees on new acquisitions decreased from 58.7 to 58.0 bps in Q2 2017 and Freddie's remained flat at 54 bps. This is a marked increase over 2012 and 2011, and has contributed to the GSEs' profits. The GSE's latest Loan-Level Pricing Adjustments (LLPAs) were effective in September 2015; the bottom table shows the Fannie Mae LLPAs, which are expressed as upfront charges. Note that the September 2015 changes were very modest, and did not have a material impact on GSE pricing. In particular, the Adverse Market Delivery Charge (ADMC) of 0.25 percent was eliminated, and LLPAs for some borrowers were slightly increased to compensate for the revenue loss.



Sources: Fannie Mae, Freddie Mae and Urban Institute.
Last updated August 2017.

Fannie Mae Upfront Loan-Level Price Adjustments (LLPAs)

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

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

GSE RISK-SHARING TRANSACTIONS

Fannie Mae and Freddie Mac have been laying off back-end credit risk through CAS and STACR as well as through reinsurance transactions. They have also done a few front-end transactions with originators and experimented with deep mortgage insurance coverage with private mortgage insurers. FHFA's 2017 scorecard requires the GSEs to lay off credit risk on 90 percent of newly acquired loans in categories targeted for transfer. Fannie Mae's CAS issuances to date cover 33 percent of its outstanding guarantees, while Freddie's STACR covers 44 percent. In August 2017, Fannie Mae issued a $31.9 billion CAS deal.

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%
February 2016	CAS 2016 – C01	$28,882	$945	3.3%
March 2016	CAS 2016 – C02	$35,004	$1,032	2.9%
April 2016	CAS 2016 – C03	$36,087	$1,166	3.2%
July 2016	CAS 2016 – C04	$42,179	$1,322	3.1%
August 2016	CAS 2016 - C05	$38,668	$1,202	3.1%
November 2016	CAS 2016 - C06	$33,124	$1,024	3.1%
December 2016	CAS 2016 – C07	$22,515	$702	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%
Total		**$908,372**	**$26,886**	**3.0%**
Percent of Fannie Mae's Total Book of Business		**32.79%**		

Freddie Mac – Structured Agency Credit Risk (STACR)

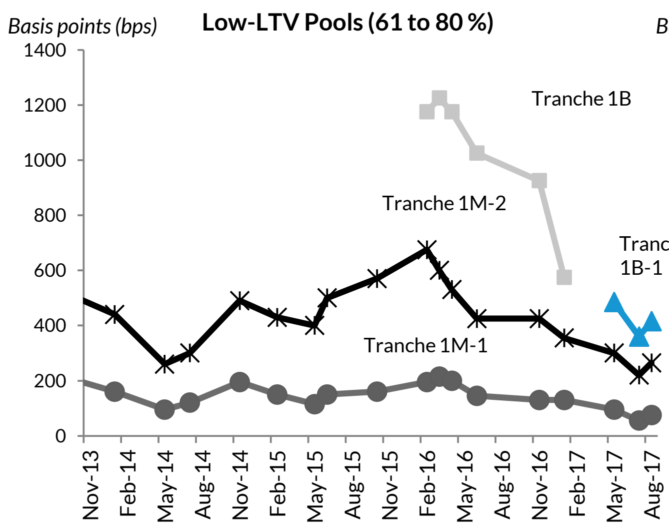
Date	Transaction	Reference Pool Size ($ m)	Amount Issued ($m)	% of Reference Pool Covered
2013	STACR 2013 deals	$57,912	$1,130	2.0%
2014	STACR 2014 deals	$147,120	$4,916	3.3%
2015	STACR 2015 deals	$209,521	$6,658	3.2%
January 2016	STACR Series 2016 – DNA1	$35,700	$996	2.8%
March 2016	STACR Series 2016 – HQA1	$17,931	$475	2.6%
May 2016	STACR Series 2016 – DNA2	$30,589	$916	3.0%
May 2016	STACR Series 2016 – HQA2	$18,400	$627	3.4%
June 2016	STACR Series 2016 – DNA3	$26,400	$795	3.0%
September 2016	STACR Series 2016 – HQA3	$15,709	$515	3.3%
September 2016	STACR Series 2016 – DNA4	$24,845	$739	3.0%
October 2016	STACR Series 2016 - HQA4	$13,847	$478	3.5%
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%
Total		**$769,668**	**$21,908**	**2.8%**
Percent of Freddie Mac's Total Book of Business		**43.73%**		

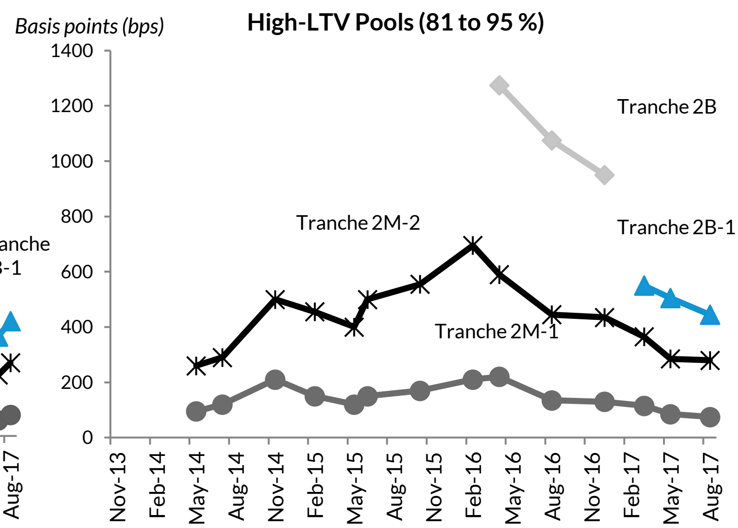
Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Classes A-H, M-1H, M-2H, and B-H are reference tranches only. These classes are not issued or sold. The risk is retained by Fannie Mae and Freddie Mac. "CE" = credit enhancement.

GSE RISK-SHARING SPREADS

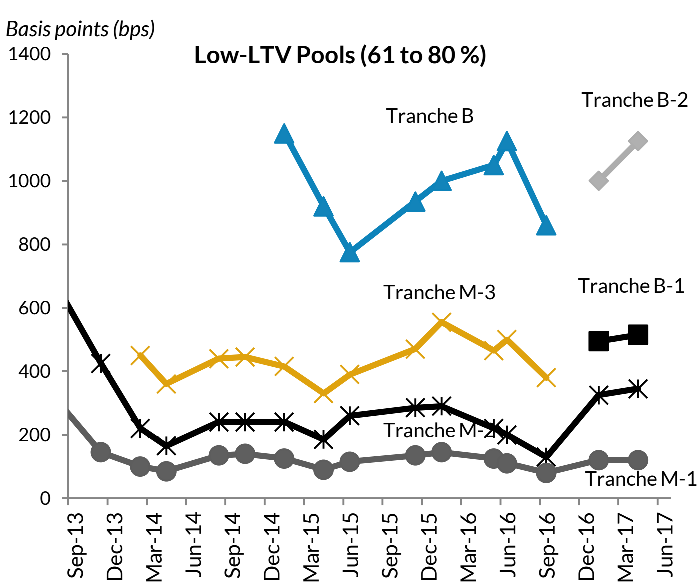
CAS and STACR spreads have moved around considerably since 2013, with the bottom mezzanine tranche and the first loss bonds experiencing considerably more volatility than the top mezzanine bonds. Tranche B in particular has been highly volatile because of its first loss position. Spreads widened especially during Q1 2016 due to falling oil prices, concerns about global economic growth and the slowdown in China. Since then spreads have resumed their downward trend but remain volatile. However, there has been no new deal activity in September. Secondary market spreads, not reflected here, show some widening post Hurricane Harvey and Irma.

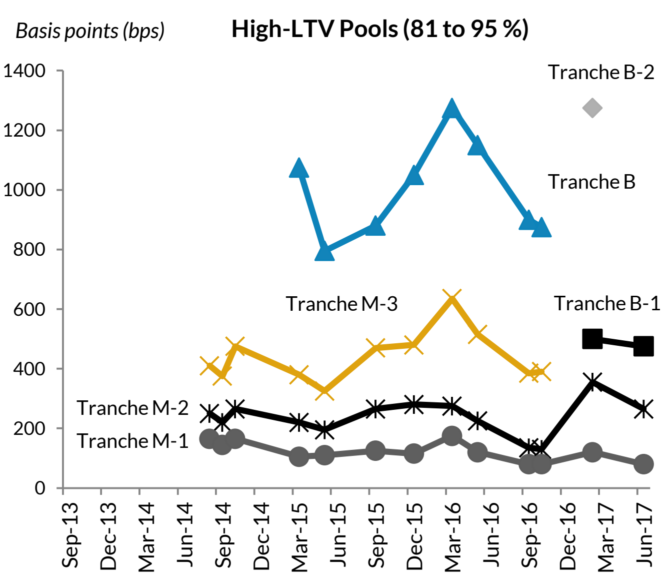
Fannie Mae CAS Spreads at-issuance (basis points over 1-month LIBOR)





Freddie Mac STACR Spreads at-issuance (basis points over 1-month LIBOR)



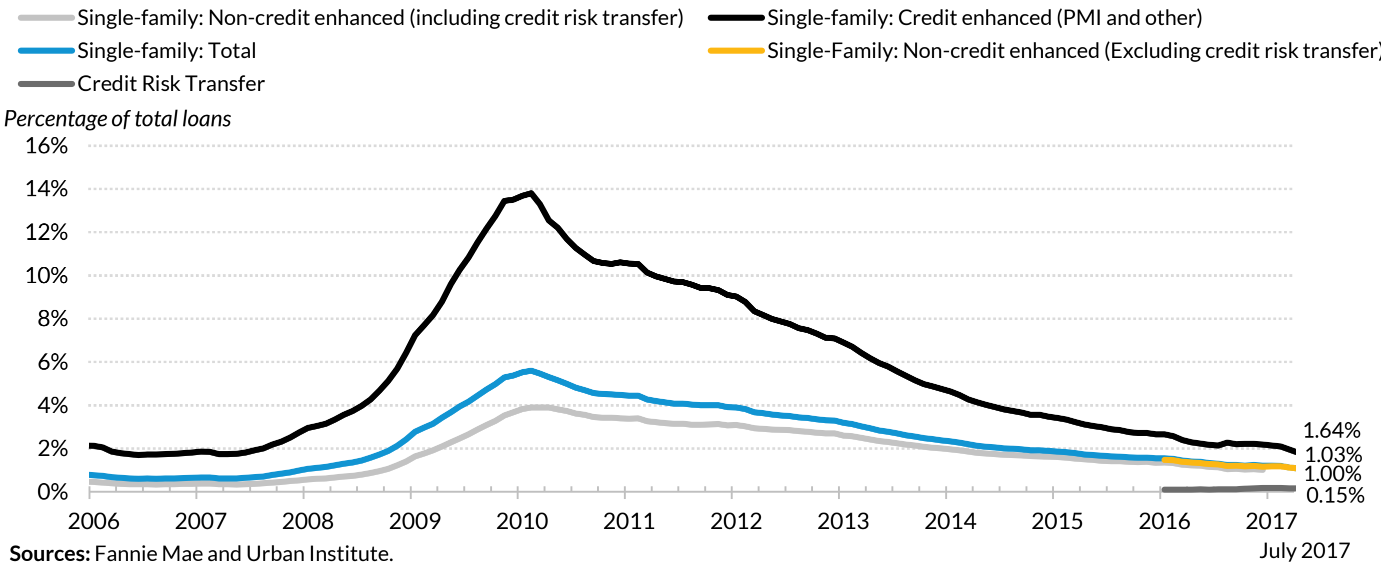


Sources: Fannie Mae, Freddie Mac Press Releases and Urban Institute.

GSES UNDER CONSERVATORSHIP
SERIOUS DELINQUENCY RATES

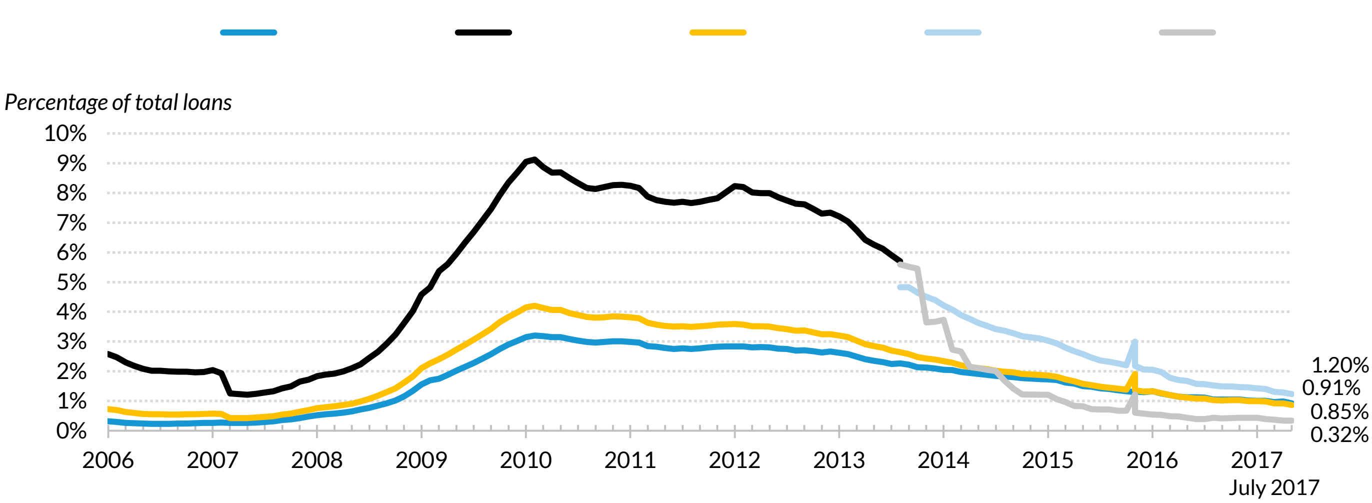
Serious delinquency rates of GSE loans continue to decline as the legacy portfolio is resolved and the pristine, post-2009 book of business exhibits very low default rates. As of July 2017, 1.00 percent of the Fannie portfolio and 0.85 percent of the Freddie portfolio were seriously delinquent, down from 1.30 percent for Fannie and 1.08 percent for Freddie in July 2016.

Serious Delinquency Rates–Fannie Mae



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

Serious Delinquency Rates–Freddie Mac

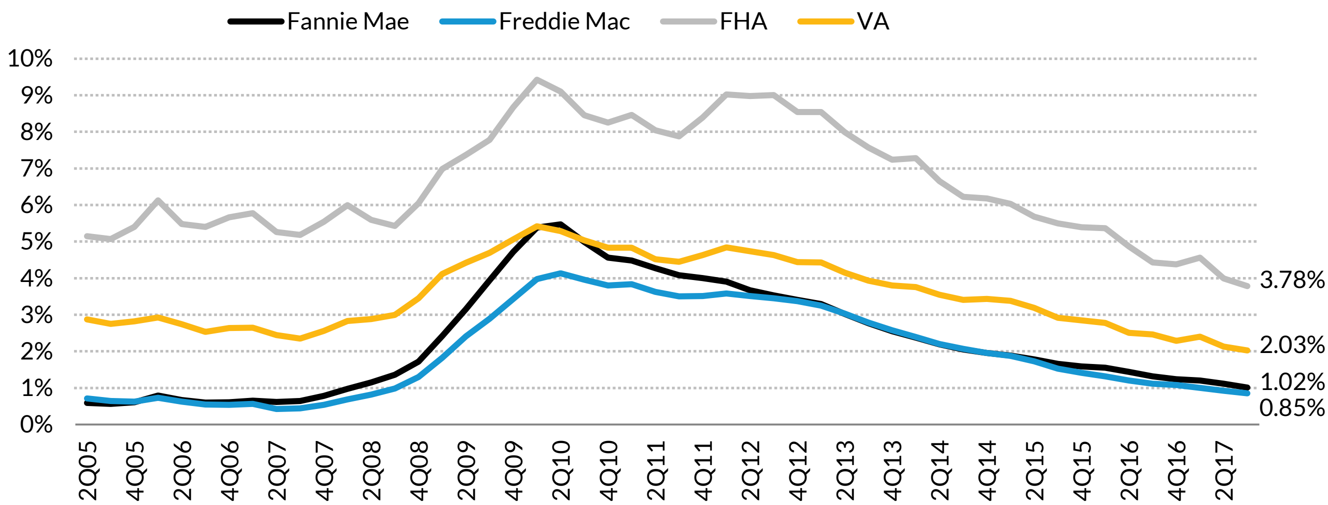


Sources: Freddie Mac and Urban Institute.
Note*: Following a change in Freddie reporting in September 2014, we switched from reporting credit enhanced delinquency rates to PMI and other credit enhanced delinquency rates. Freddie reported these two categories for credit-enhanced loans going back to August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

SERIOUS DELINQUENCY RATES

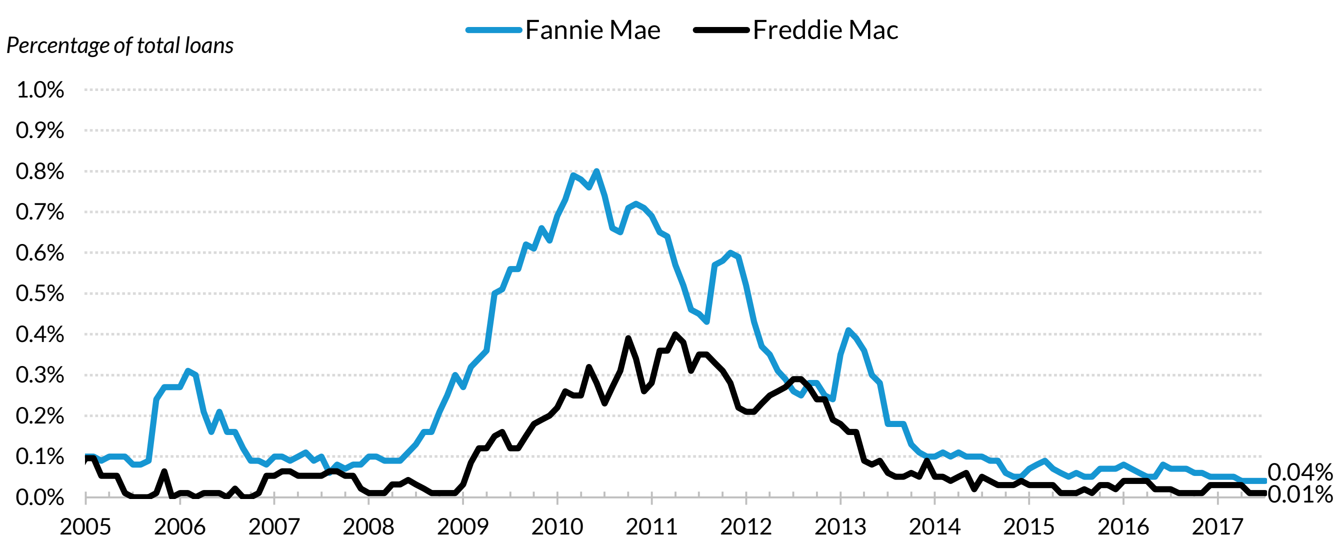
Serious delinquencies for GSE single-family loans continued to decline. After the seasonal uptick in Q4 2016, both FHA and VA delinquencies resumed their decline to 3.78 and 2.03 percent through Q2 2017. GSE delinquencies remain higher relative to 2005-2007, while FHA and VA delinquencies (which are higher than their GSE counterparts) are at levels lower than 2005-2007. GSE multifamily delinquencies have declined to pre-crisis levels, although they did not reach problematic levels even in the worst years of the crisis.

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.

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

The agency gross issuance totaled $871.5 billion in the first eight months of 2017, a 2.3 percent decrease year-over-year. When measured on monthly basis, the agency gross issuance was lower year over year for six consecutive months since March. If we annualize year to date gross issuance, volume is down sharply from 2016. Net issuance (which excludes repayments, prepayments, and refinances on outstanding mortgages) was up 32.9 percent versus the same period in 2016, on track to become the most robust net issuance year in recent history.

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	$991.59	$508.18	$1,499.77
2017 YTD	$568.43	$303.02	$871.45
2017 YTD %Change YOY	-1.6%	-3.6%	-2.3%
2017 Ann	$852.65	$454.53	$1,307.18

Agency Net Issuance

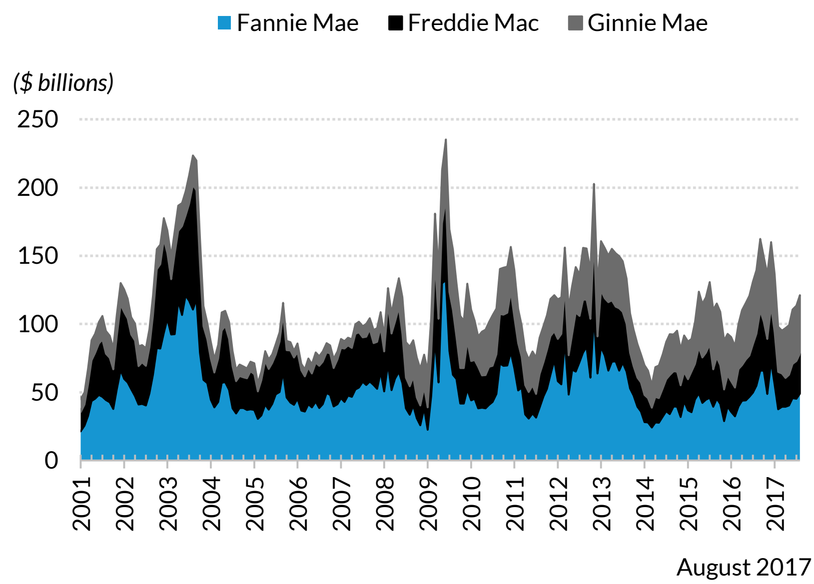
Issuance Year	GSEs	Ginnie Mae	Total
2000	$159.8	$29.3	$189.1
2001	$368.4	-$9.9	$358.5
2002	$357.2	-$51.2	$306.1
2003	$334.9	-$77.6	$257.3
2004	$82.5	-$40.1	$42.4
2005	$174.2	-$42.2	$132.0
2006	$313.6	$0.2	$313.8
2007	$514.9	$30.9	$545.7
2008	$314.8	$196.4	$511.3
2009	$250.6	$257.4	$508.0
2010	-$303.2	$198.3	-$105.0
2011	-$128.4	$149.6	$21.2
2012	-$42.4	$119.1	$76.8
2013	$69.1	$87.9	$157.0
2014	$30.5	$61.6	$92.1
2015	$75.1	$97.3	$172.5
2016	$135.5	$125.3	$260.8
2017 YTD	$101.4	$94.7	$196.1
2017 YTD %Change YOY	55.30%	15.15%	32.91%
2017 Ann	$152.1	$142.1	$294.2

Sources: eMBS and Urban Institute.
Note: Dollar amounts are in billions. Annualized figure based on data from August 2017.

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

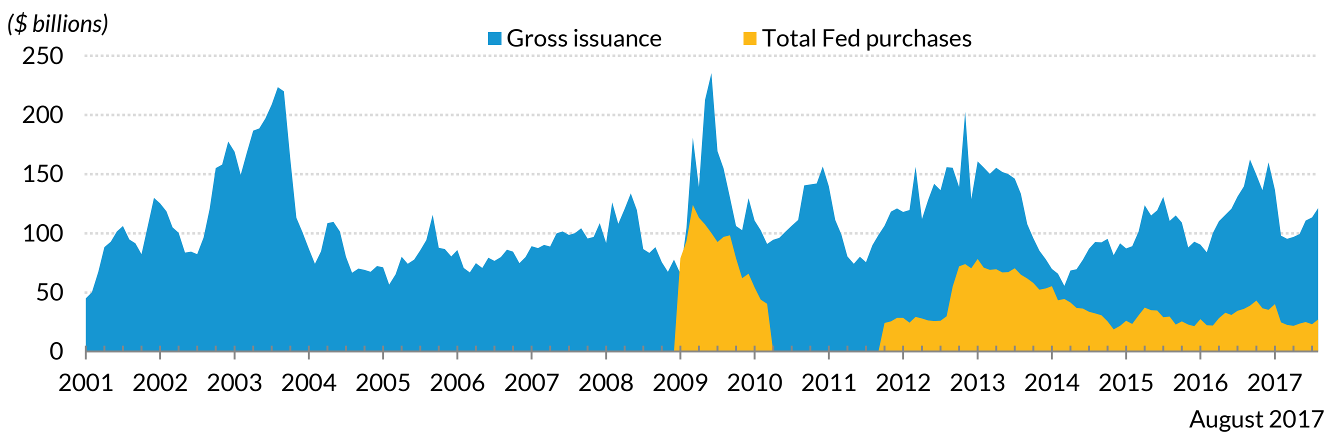
While government and GSE lending have dominated the mortgage market since the crisis, there has been a change in the mix. The Ginnie Mae share reached a peak of 28 percent of total agency issuance in 2010, declined to 25 percent in 2013, and has bounced back sharply since then. With the elevated mortgage rates since the election, monthly agency issuance has been lower year over year for six consecutive months since March. Less dependent on refinances, Ginnie Mae gross issuance experienced less of a drop, driving its share up to 35 percent in August 2017.



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

Fed Absorption of Agency Gross Issuance

In October 2014, the Fed ended its purchase program, but continued buying at a much reduced level, reinvesting funds from pay downs on mortgages and agency debentures into the mortgage market. Since then, the Fed's absorption of gross issuance has been between 20 and 30 percent. In August 2017, agency gross issuance edged up to $121.1 billion while total Fed purchase increased more to $27.3 billion, yielding Fed absorption of gross issuance of 22.5 percent, up from 20.3 percent last month. In their September 2017 meeting, the Fed announced the balance sheet reduction plan, which would reduce the size of both their mortgage and treasury portfolios, will begin in October. This is a slow wind down; initially, the Fed would continue to reinvest, but by less than their run off.



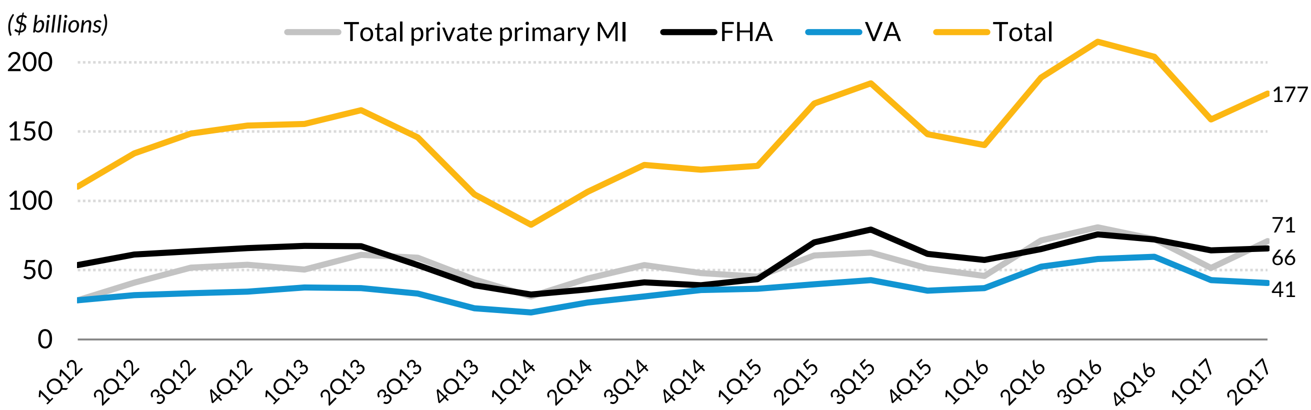
Sources: eMBS, Federal Reserve Bank of New York and Urban Institute.

AGENCY ISSUANCE

MORTGAGE INSURANCE ACTIVITY

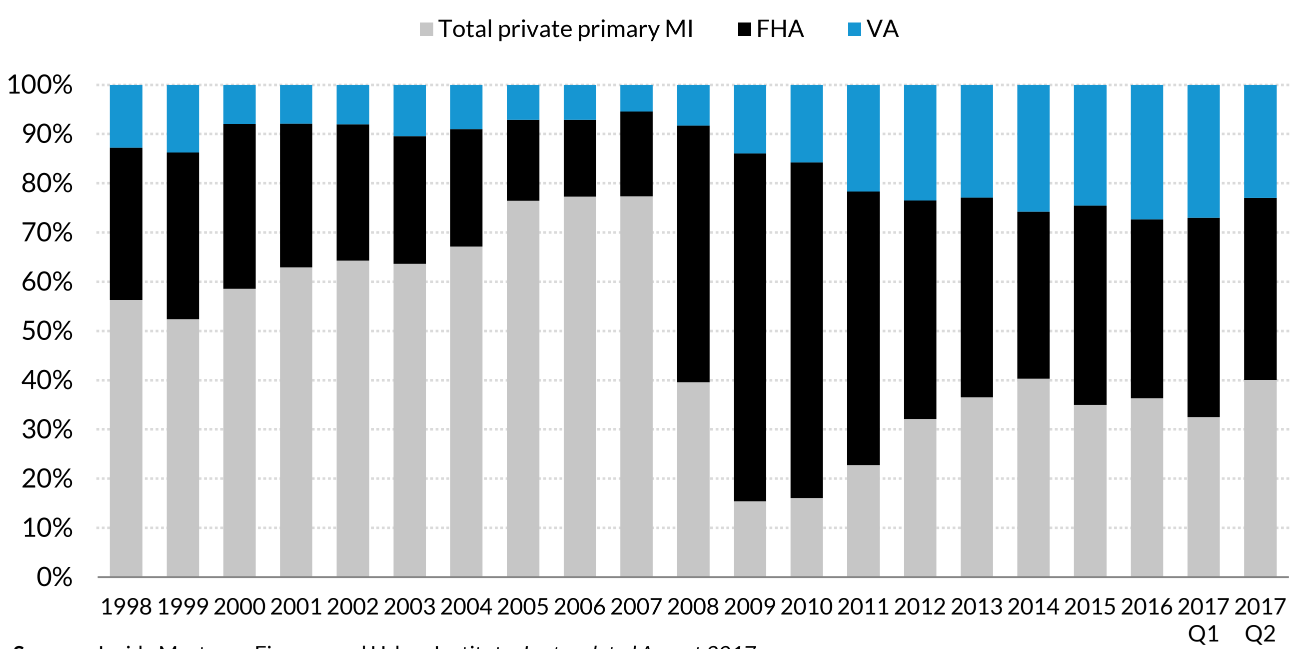
MI Activity

In 2017 Q2, mortgage insurance activity via the FHA, VA and private insurers rose from previous quarter's $159 billion to $177 billion, but it was still down 6 percent year-over-year from the same quarter in 2016. This quarter's increase is mainly driven by private mortgage insurers' $19 billion growth, while FHA edged up slightly and VA activity declined. FHA's market share fell from 41 to 37 percent and VA share fell from 27 to 23 percent in 2017 Q2, while the private insurance market's share increased to 40 percent (from 32 percent the previous quarter).



Sources: Inside Mortgage Finance and Urban Institute. *Last updated August 2017.*

MI Market Share



Sources: Inside Mortgage Finance and Urban Institute. *Last updated August 2017.*

AGENCY ISSUANCE

MORTGAGE INSURANCE ACTIVITY

FHA premiums rose significantly in the years following the housing crash, with annual premiums rising 170 percent from 2008 to 2013 as FHA worked to shore up its finances. In January 2015, President Obama announced a 50 bps cut in annual insurance premiums, making FHA mortgages more attractive than GSE mortgages for all borrowers. The April 2016 reduction in PMI rates for borrowers with higher FICO scores 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 760 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	4.12%
FHA	4.02%

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	$1,334	$1,334	$1,334	$1,334	$1,334	$1,334	$1,334	$1,334
PMI	$1,708	$1,646	$1,601	$1,480	$1,429	$1,388	$1,340	$1,300
PMI Advantage	($374)	($312)	($267)	($146)	($95)	($54)	($6)	$34

Sources: Genworth Mortgage Insurance, Ginnie Mae and Urban Institute.
Note: Mortgage insurance premiums listed in percentage points. Grey shade indicates FHA monthly payment is more favorable, while light blue indicates PMI is more favorable. The PMI monthly payment calculation does not include special programs like Fannie Mae's HomeReady and Freddie Mac's Home Possible (HP), both offer more favorable rates for low- to moderate-income borrowers.
LLPA= Loan Level Price Adjustment, described in detail on page 21.

RELATED HFPC WORK

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Projects

The Mortgage Servicing Collaborative

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Housing Credit Availability Index (HCAI)

Publications

Mortgage Insurance Data at a Glance
Authors: Laurie Goodman, Alanna McCargo, Sheryl Pardo, Jun Zhu, Bing Bai, Karan Kaul, Bhargavi Ganesh
Date: August 22, 2017

Sixty Years of Private Mortgage Insurance in the United States
Authors: Laurie Goodman, Karan Kaul
Date: August 22, 2017

The Impact of Higher Interest Rates on the Mortgage Market
Authors: Laurie Goodman
Date: August 10, 2017

In Need of an Update: Credit Scoring in the Mortgage Market
Authors: Laurie Goodman
Date: July 27, 2017

The Common Securitization Platform
Authors: Jim Parrott
Date: July 19, 2017

Fannie Mae Raises the DTI Limit
Authors: Edward Golding, Laurie Goodman, Jun Zhu
Date: July 19, 2017

GSE Financing of Single-Family Rentals
Authors: Laurie Goodman, Karan Kaul
Date: May 10, 2017

Clarifying the Choices in Housing Finance Reform
Authors: Jim Parrott
Date: March 13, 2017

Quantifying the Tightness of Mortgage Credit and Assessing Policy Actions
Authors: Laurie Goodman
Date: March 9, 2017

Blog Posts

How HARP saved borrowers billions and improved the housing finance system
Authors: Jim Parrott, Laurie Goodman, Karan Kaul, Jun Zhu
Date: September 20, 2017

Visualizing Hurricane Harvey's impact on Houston's neighborhoods
Authors: Bhargavi Ganesh, Sarah Strochak
Date: September 15, 2017

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Why the single-family rental merger won't hurt homebuyers or renters
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Six ways the GSEs can better achieve their mission to serve the underserved
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Progress on the single security is an unheralded success
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Date: July 11, 2017

FICO scores of approved borrowers are dropping. So is it easier to purchase a home?
Authors: Karan Kaul, Bing Bai
Date: July 5, 2017

New FDIC tool can help community banks expand access to mortgages
Authors: Karan Kaul, Laurie Goodman
Date: June 20, 2017

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