HOUSING FINANCE POLICY CENTER

HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

September 2016

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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

Government's role in the mortgage market is shrinking. How could we achieve more?

The mortgage market has witnessed a decent return of private capital in recent years. For the first half of 2016, the GSEs share of total first lien originations was approximately 43 percent, with FHA/VA comprising around 23 percent and bank portfolios the remaining 34 percent. In other words, seven out of ten mortgages today are being made via government backed channels. While that number is still high compared to the five out of ten during the pre-bubble era, it is significantly lower than the 2008 level, when the GSEs, FHA and VA combined were behind nearly 9 out of 10 new mortgages (page 8, bottom chart). Clearly, we have made great progress in bringing back private capital. But what more could be done to further reduce the government's role?

The bottom chart on page 8, which shows the first lien origination share for each channel, can be quite instructive in answering that question. The first insight from this chart is that the vast majority of reduction in government's role has come from the GSE channel.

The GSEs' share of first lien originations peaked at 65 percent in 2008 but stood at roughly 43 percent in Q2 2016, a welcome reduction of 22 percentage points. Over the same period the share of bank portfolio lending, the predominant source of private capital currently, has increased from 15 to 34 percent, or by 19 percentage points. The GSEs have been able to reduce their footprint mainly because current g-fees are too high relative to the credit risk. And given this positive risk-reward, banks have been finding it more profitable to hold on to higher quality mortgages than sell them to GSEs or to other investors (and forgo the profits).

But the exact opposite has happened within the FHA/VA channel. FHA/VA's combined share of first lien originations has actually increased since 2008, from 19 percent to 23 percent today. Why? Mainly because private-label securities investors, who were the predominant provider of credit to less creditworthy borrowers pre-crisis, completely fled the market in 2008 and remain nearly absent even today. While there has been a very small amount of non-QM lending – in some cases backed by private-equity firms or hedge funds – for the vast majority of low- and moderate-income borrowers, FHA is the only source of credit currently. And with no signs of a material revival of the PLS market, there is no reason to expect a reduction in FHA's role either. Although the Treasury Department has taken some early steps to revive the PLS market, lot more work is needed before investors will come back to this market in any measurable way.

There are only two ways to further reduce government's role: we can either expect further shrinkage in the GSEs' market share, or PLS market stakeholders can speed up efforts to give this market a new life. Achieving further reduction in the GSEs' role, on top of the existing 22 percentage point pull back would not only run into the problem of diminishing returns, but would also hurt the mortgage market by tightening credit even more at a time when we should be expanding it. On the other hand, intensifying efforts to revive the PLS market offers much greater promise. This approach would not only offer greater potential for further reducing government's role, but would also help drive a much needed expansion the credit box at the lower end of the credit spectrum.

INSIDE THIS ISSUE

- The total value of the US Housing Market continued to rise in Q2 2016, driven by a $372 billion increase in household equity (Page 6)
- Portfolios accounted for a larger share of first lien originations in Q2 2016 (Page 8)
- The GSEs and MBA have all increased their mortgage origination volume projections for 2016 (page 12)
- Revised and more accurate FICO and LTV measures based on new data sources (Pages 14 and 15)
- First-time homebuyer share of both GSE and FHA loans has declined in June (page 17)
- The share of loans in negative equity declined YOY to 7.1 percent in Q2 2016 (page 19)

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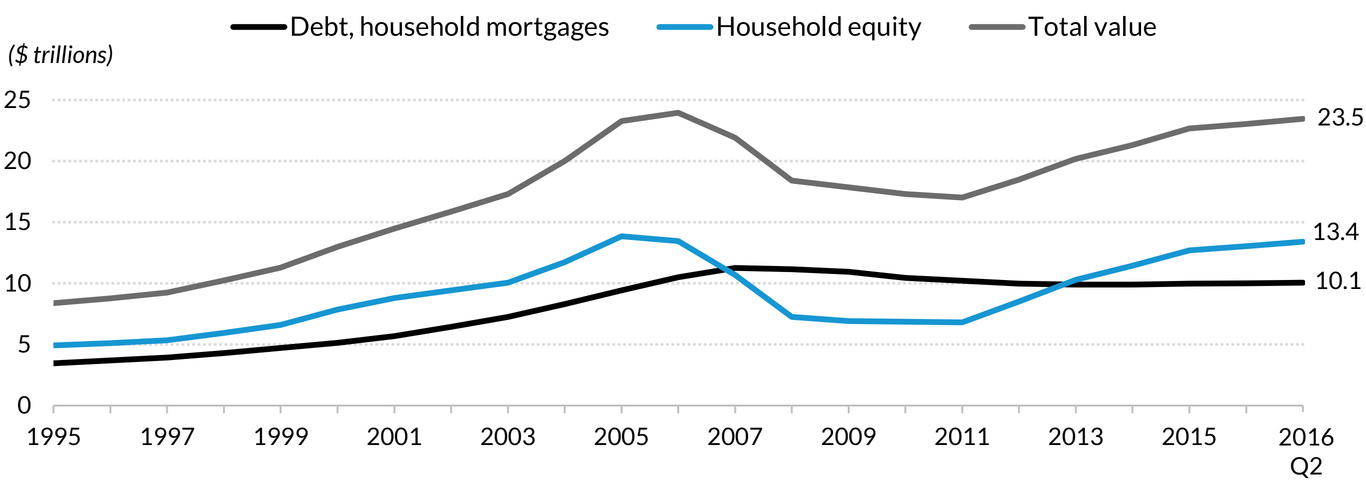
MARKET SIZE OVERVIEW

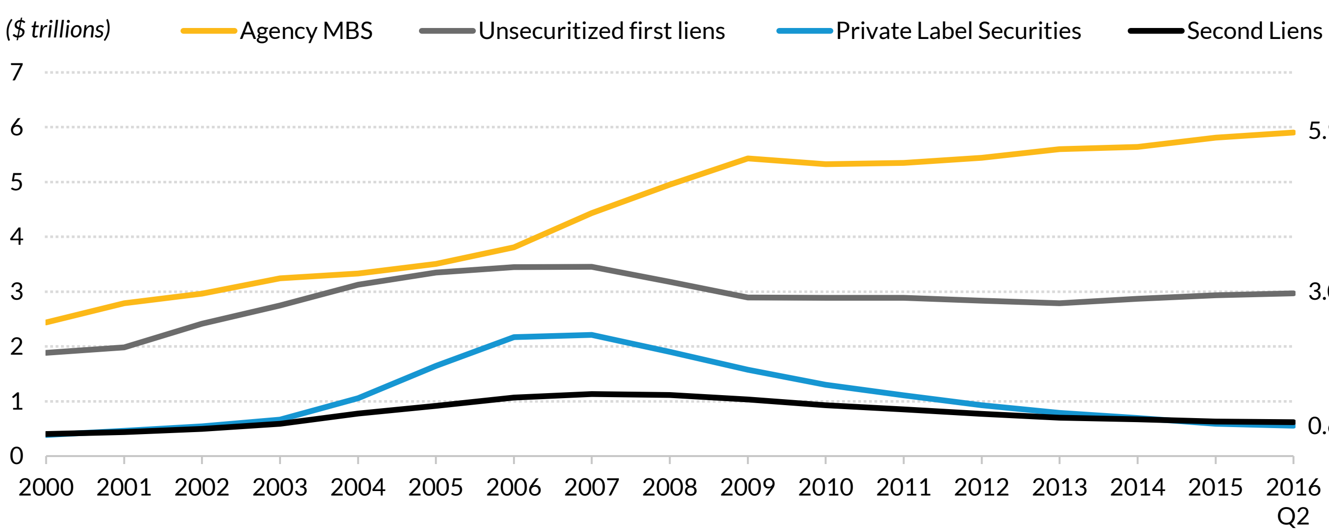
The Federal Reserve's Flow of Funds report has consistently indicated an increasing total value of the housing market driven by growing household equity since 2012, and the trend continued according to the latest data, covering Q2 2016. Total debt and mortgages increased to $10.1 trillion, and household equity increased to $13.40 trillion, bringing the total value of the housing market up slightly to $23.5 trillion. Agency MBS make up 58.7 percent of the total mortgage market, private-label securities make up 5.6 percent, and unsecuritized first liens at the GSEs, commercial banks, savings institutions, and credit unions make up 29.6 percent. Second liens comprise the remaining 6.2 percent of the total.

Value of the US Housing Market



Sources: Federal Reserve Flow of Funds and Urban Institute.

Size of the US Residential Mortgage Market



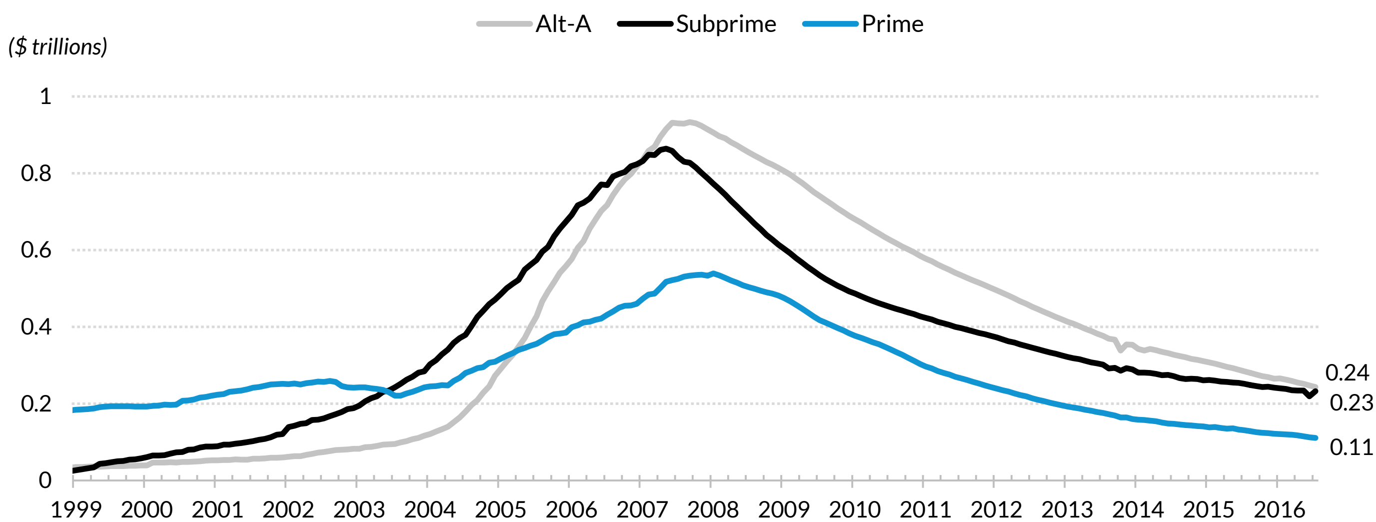
Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute.
Note: Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions.

OVERVIEW

MARKET SIZE OVERVIEW

As of July 2016, debt in the private-label securitization market totaled $587 billion and was split among prime (18.8 percent), Alt-A (41.5 percent), and subprime (39.6 percent) loans. In August 2016, outstanding securities in the agency market totaled $5.96 trillion and were 44.6 percent Fannie Mae, 27.6 percent Freddie Mac, and 27.9 percent Ginnie Mae. Ginnie Mae had more outstanding securities than Freddie for the fourth consecutive month.

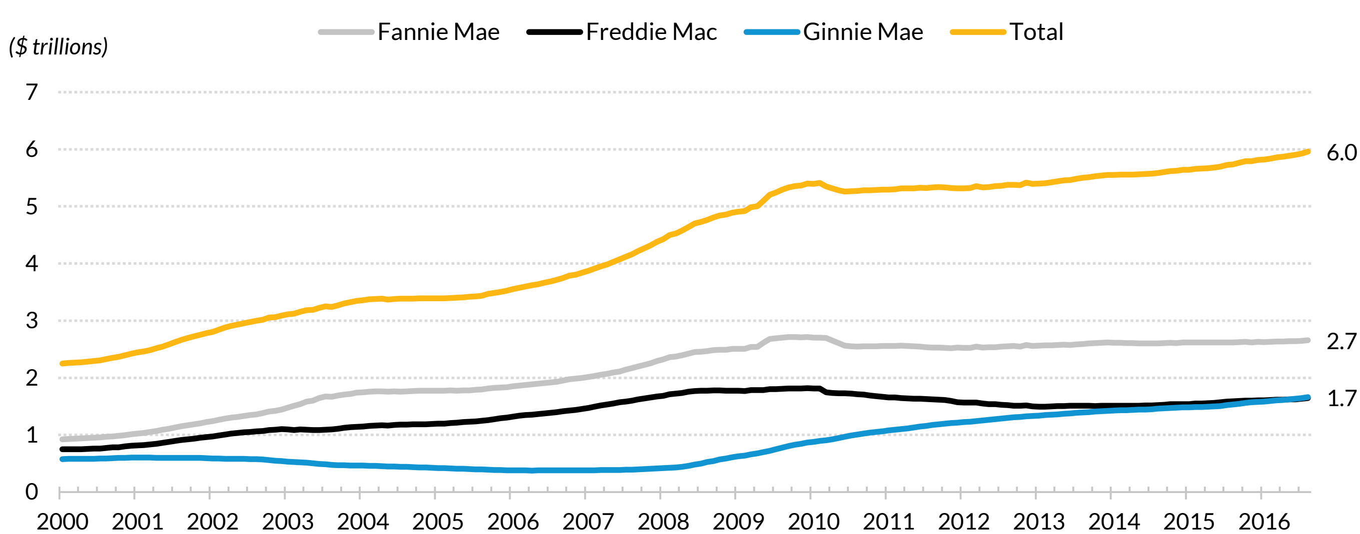
Private-Label Securities by Product Type



Sources: CoreLogic and Urban Institute.

July 2016

Agency Mortgage-Backed Securities



August 2016

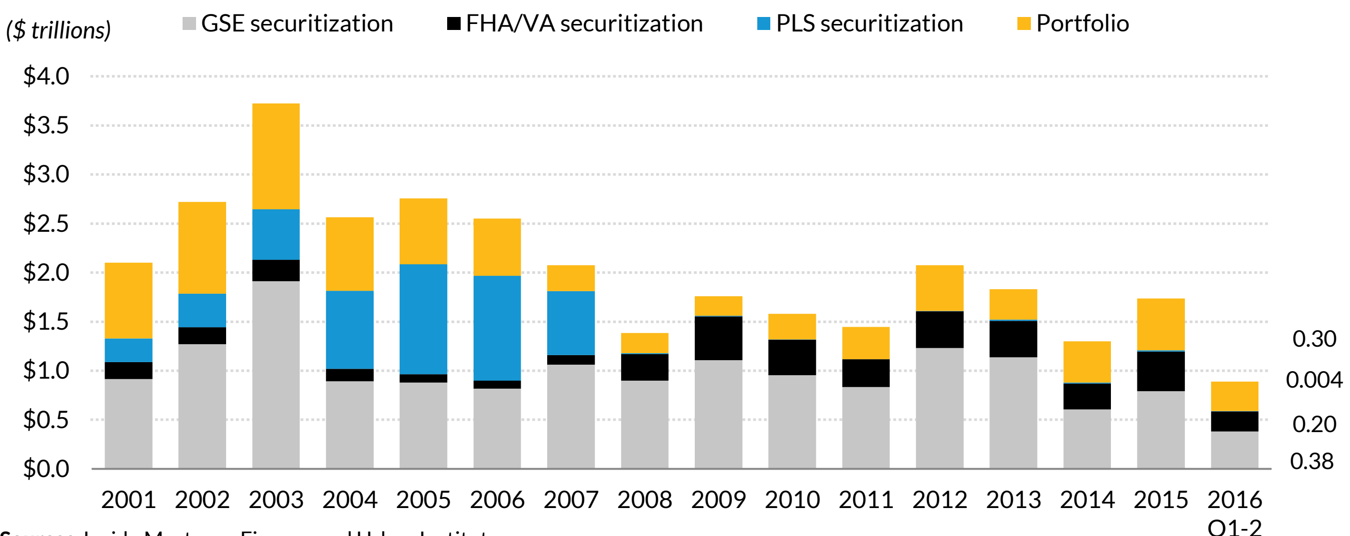
Sources: eMBS and Urban Institute.

OVERVIEW

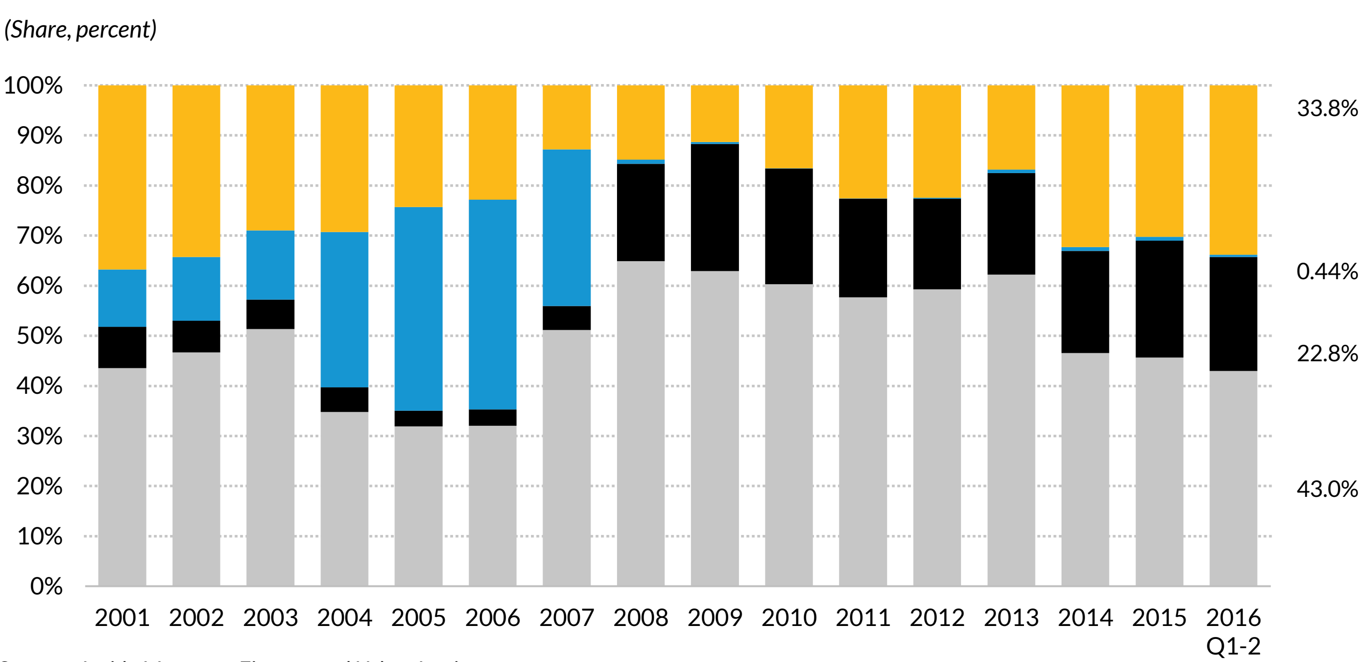
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

First lien originations in the first two quarters of 2016 totaled approximately $890 billion. The share of portfolio originations was 33.8 percent, while the GSE share dropped to 43 percent from 47 in 2014, reflecting a small loss of market share to FHA due to the FHA premium cut. FHA/VA originations account for another 23 percent, and the private label originations account for 0.4 percent.



Sources: Inside Mortgage Finance and Urban Institute.



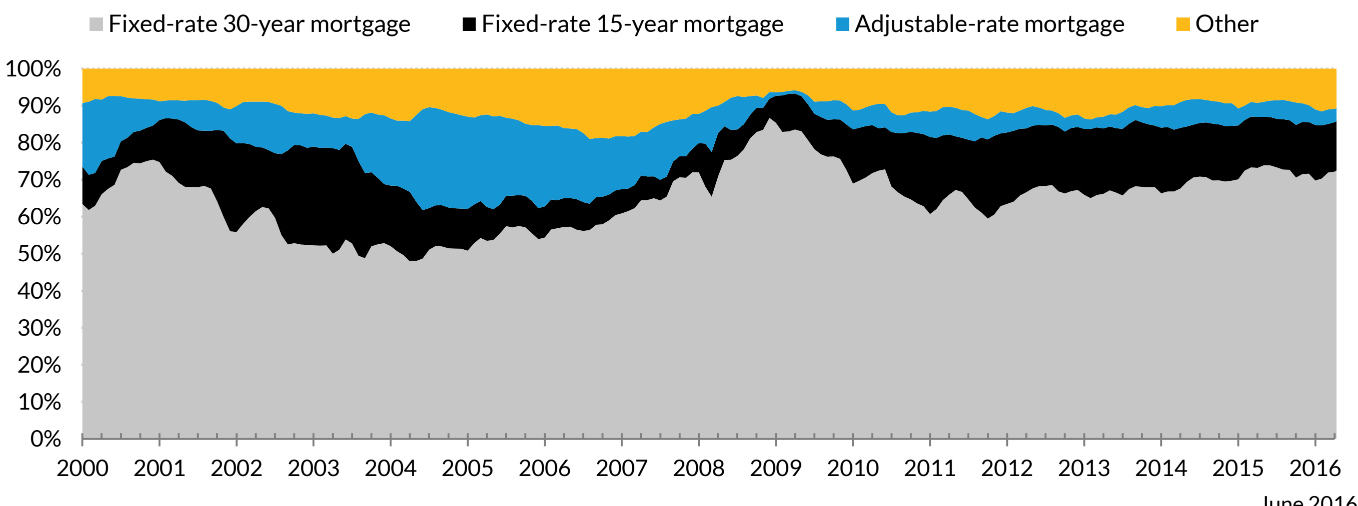
Sources: Inside Mortgage Finance and Urban Institute.

OVERVIEW

MORTGAGE ORIGINATION PRODUCT TYPE

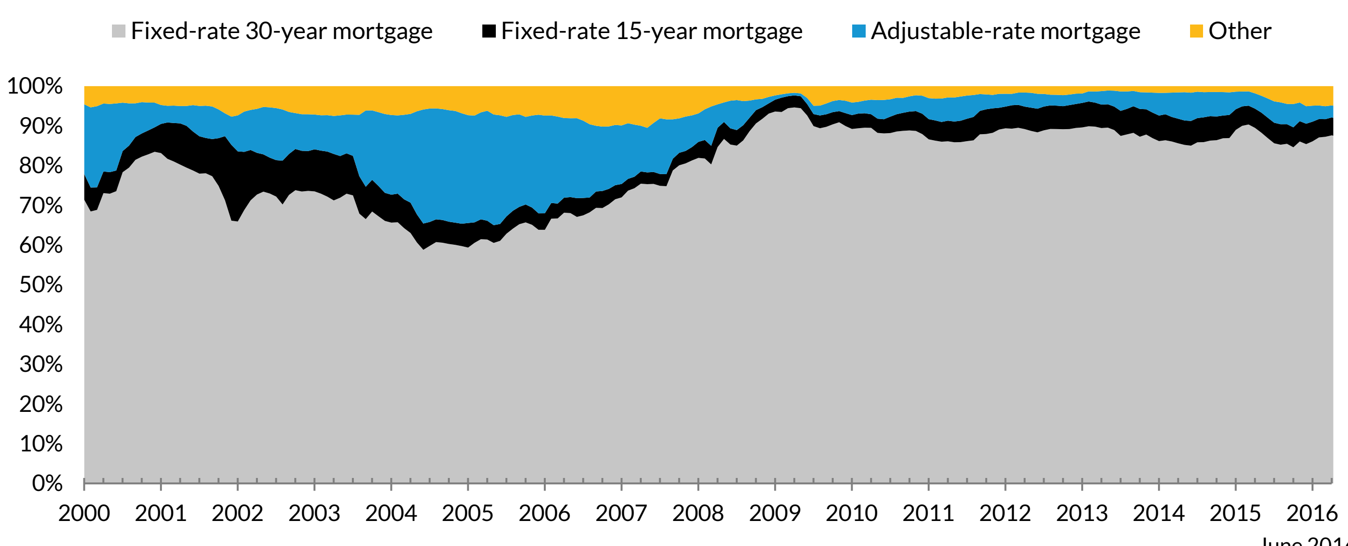
Adjustable-rate mortgages (ARMs) accounted for as much as 27 percent of all new originations during the peak of the recent housing bubble in 2004 (top chart). They fell to a historic low of 1 percent in 2009, and then slowly grew to a high of 7.2 percent in May 2014. Since then they began to decline again to 3.7 percent of total originations in June 2016. 15-year fixed-rate mortgages (FRMs), predominantly a refinance product, comprise 13.3 percent of new originations. If we exclude refinances (bottom chart), the share of 30-year FRMs in June 2016 stood at 85.9 percent, 15-year FRMs at 4.8 percent, and ARMs at 3.5 percent.

All Originations



Sources: CoreLogic Servicing and Urban Institute.

Purchase Loans Only

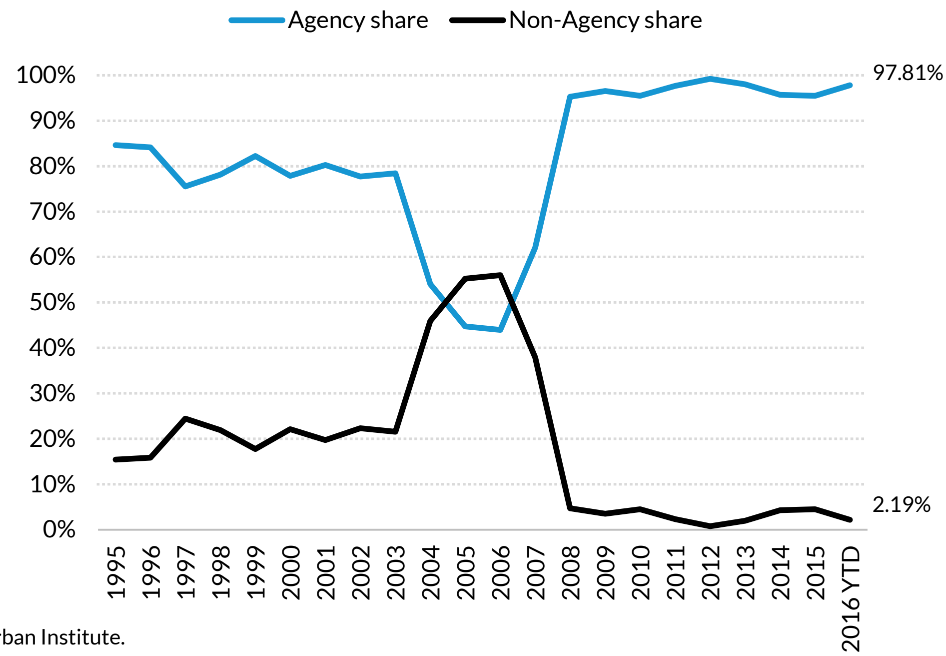


Sources: CoreLogic Servicing and Urban Institute.

SECURITIZATION VOLUME AND COMPOSITION

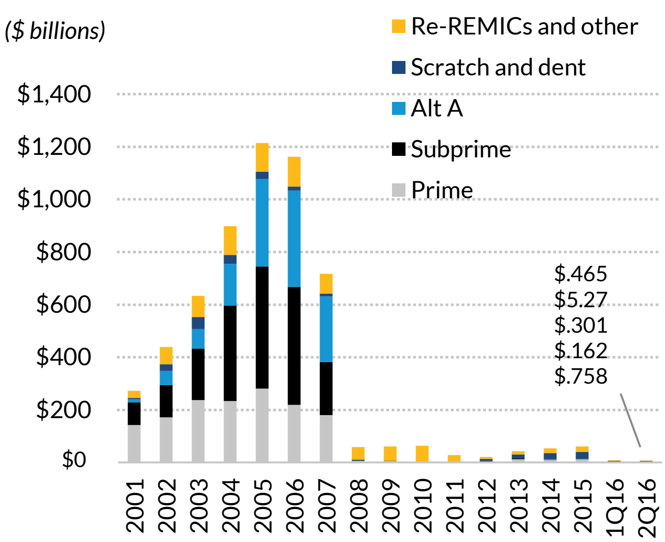
Agency/Non-Agency Share of Residential MBS Issuance

The non-agency share of mortgage securitizations in the first half of 2016 was 2.19%, compared to 4.5% in 2015 and 4.3% in 2014. Moreover, of the limited securitization that is getting done, the bulk of the volume is in non-performing and re-performing (scratch and dent) deals .The volume of prime securitizations in the second quarter of 2016 totaled $0.76 billion, representing a decline of $2.35 billion compared to the second quarter of 2015. However, both are tiny compared to pre-crises levels.



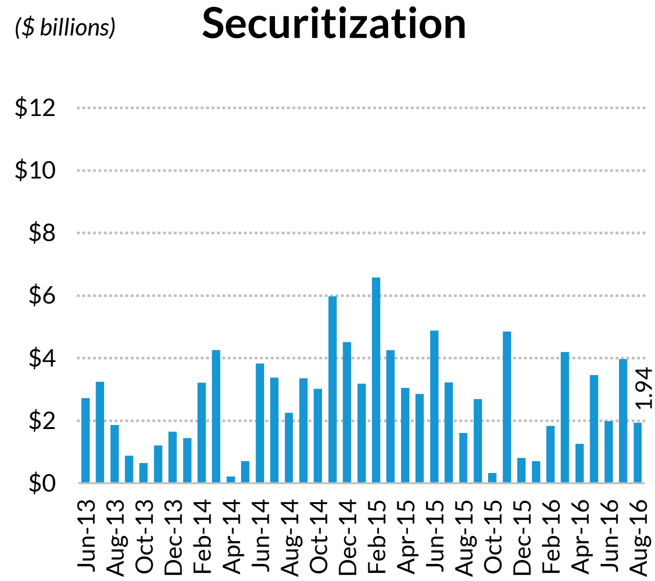
Sources: Inside Mortgage Finance and Urban Institute.
Note: Based on data from August 2016.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization



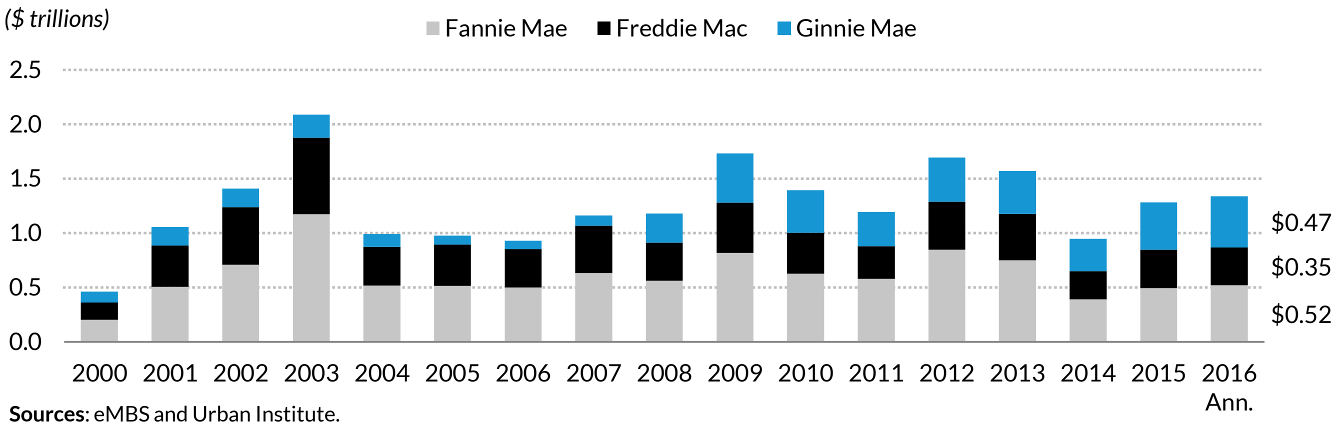
Sources: Inside Mortgage Finance and Urban Institute.
Note: Monthly figures equal total non-agency MBS issuance minus Re-REMIC issuance.

OVERVIEW

AGENCY ACTIVITY: VOLUMES AND PURCHASE/ REFI COMPOSITION

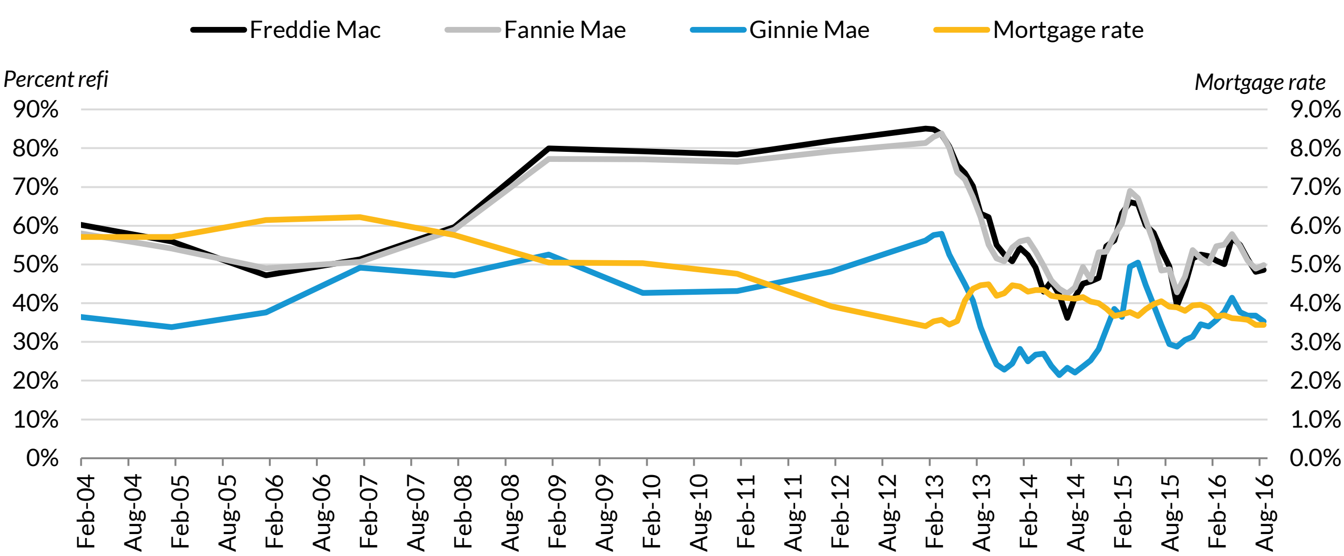
Agency issuance totaled $891.8 billion in first eight months of 2016, slightly up from $877.2 billion for the same period a year ago. In August 2016, refinances stayed high at 48 and 49 percent of the Freddie Mac's and Fannie Mae's business, reflecting recent declines in mortgage rates. The GNMA response to interest rate changes since 2015, both increases and decreases, has been somewhat larger than the GSE response, due to the 50 bps cut in the FHA premium in January 2015. The Ginnie Mae refinance volume stood at 37 percent in July 2016, down since April 2015 but still high relative to the past two years.

Agency Gross Issuance



Sources: eMBS and Urban Institute.
Note: Annualized figure based on data from August 2016.

Percent Refi at Issuance



Sources: eMBS and Urban Institute.
Note: Based on at-issuance balance. Figure based on data from August 2016.

STATE OF THE MARKET

MORTGAGE ORIGINATION PROJECTIONS

Fannie Mae, Freddie Mac and MBA have all increased their predictions of origination volume for 2016. Fannie Mae and Freddie Mac anticipate a total of $1,803 billion and $2,000 of origination, respectively, while MBA predicts $1,838 billion. For refi shares, Freddie and MBA have slightly increased their prediction for 2016 from 2015. Fannie, Freddie and MBA all forecast housing starts and new home sales to be substantially higher in 2016 than in 2015.

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
2016 Q1	338	385	350	46	55	47
2016 Q2	506	535	510	43	49	46
2016 Q3	519	595	561	45	50	47
2016 Q4	439	485	417	43	47	47
2017 Q1	334	340	366	46	43	44
2017Q2	428	460	430	33	39	28
2017Q3	414	470	417	31	33	22
2017 Q4	372	380	327	31	30	25
FY 2013	1866	1925	1845	60	59	60
FY 2014	1301	1350	1261	40	39	40
FY 2015	1711	1750	1630	46	48	46
FY 2016	1803	2000	1838	44	50	47
FY 2017	1548	1650	1540	35	36	30

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. Regarding interest rates, the yearly averages for 2013, 2014, and 2015 were 4.0%, 4.2% and 3.9%, respectively. For 2016, Fannie Mae, Freddie Mac, and MBA all project rates of 3.6%. For 2017, their respective projections are 3.5%, 3.7%, 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 2013	925	920	930	5519	5520	5505	5073	432
FY 2014	1003	1000	1001	5377	5380	5360	4920	440
FY 2015	1112	1110	1108	5751	5750	5740	5237	503
FY 2016	1187	1200	1183	5990	6040	6068	5486	582
FY 2017	1337	1400	1265	6163	6160	6393	5745	648

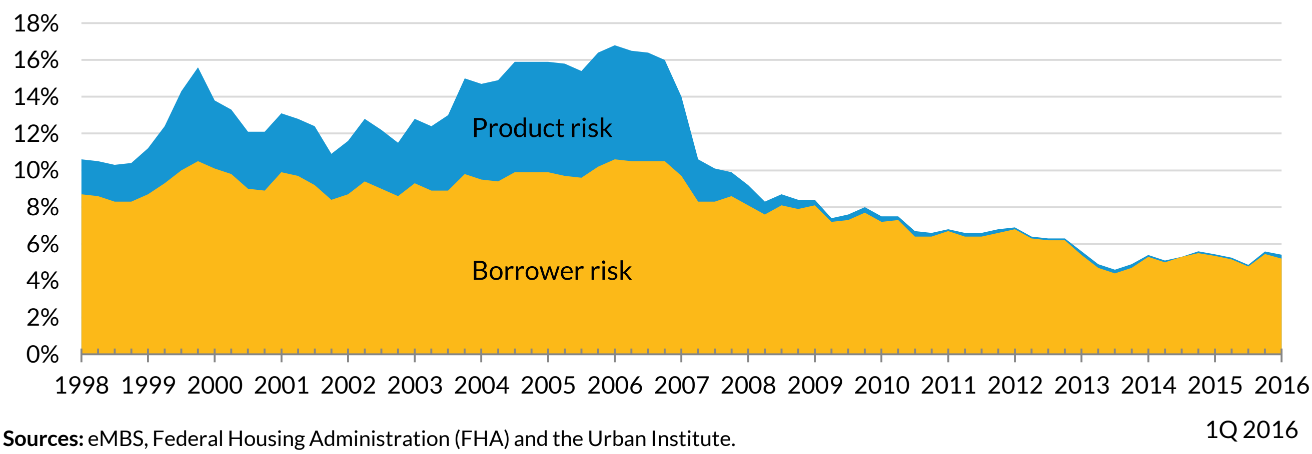
Sources: Mortgage Bankers Association, Fannie Mae, Freddie Mac and Urban Institute.
Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market; column labels indicate source of estimate.

STATE OF THE MARKET

CREDIT AVAILABILITY AND ORIGINATOR PROFITABILITY

Housing Credit Availability Index (HCAI)

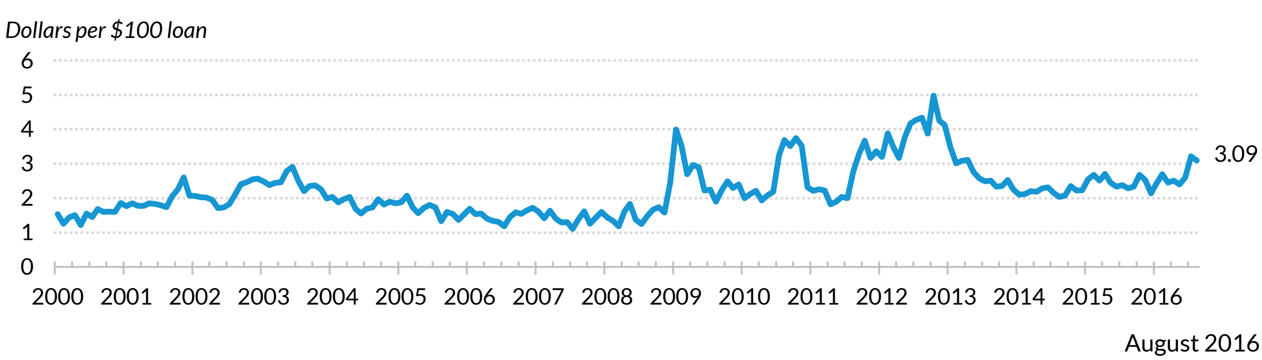
HFPC's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the percentage of owner-occupied purchase loans that are likely to default. The index shows that credit availability declined slightly to 5.4 percent in 2016 Q1, down from 5.6 percent in the previous quarter. The measure is less than half of the 2001-2003 standard of 12.5 percent. More information about HCAI, including the breakdown by market segment, is available here.



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

Originator Profitability and Unmeasured Costs

When originator profitability is high, mortgage rates tend to be less responsive to the general level of interest rates, as originators are capacity-constrained. The measure used here, Originator Profitability and Unmeasured Costs (OPUC), is formulated and calculated by the Federal Reserve Bank of New York. It looks at the price at which the originator actually sells the mortgage into the secondary market and adds the value of retained servicing (both base and excess servicing, net of g-fees) as well as points paid by the borrower. Driven by the post-Brexit decline in interest rates, this measure rose sharply to $3.21 in July 2016, but is down slightly to $3.09 for August 2016.



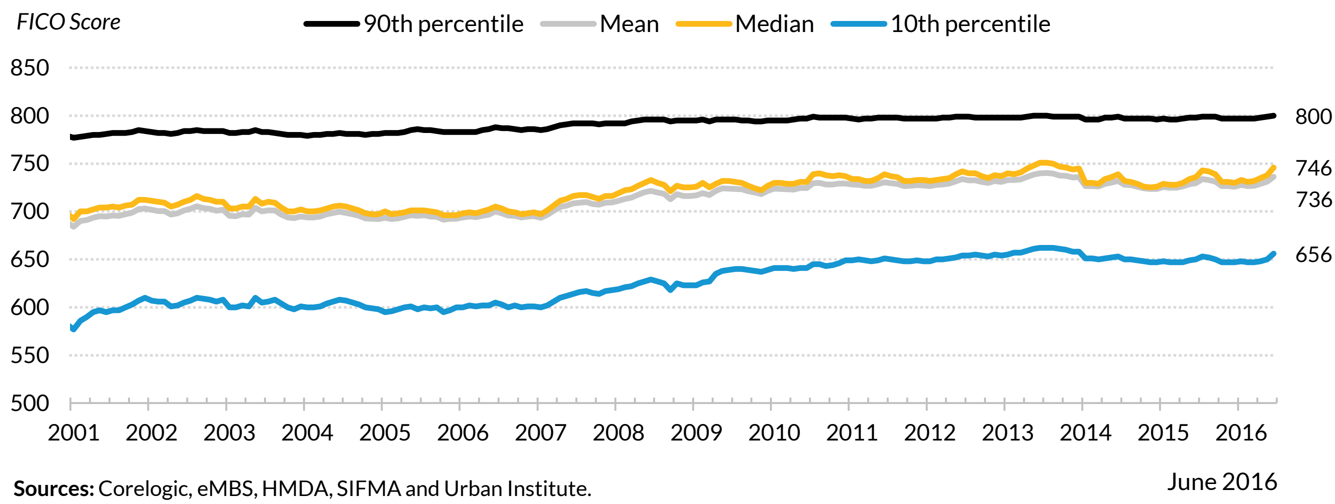
Sources: Federal Reserve Bank of New York, updated monthly and available at this link: http://www.ny.frb.org/research/epr/2013/1113fust.html and Urban Institute.
Note: OPUC stands for "originator profits and unmeasured costs" as discussed in Fuster et al. (2013). The OPUC series is a monthly (4-week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

STATE OF THE MARKET

CREDIT AVAILABILITY FOR PURCHASE LOANS

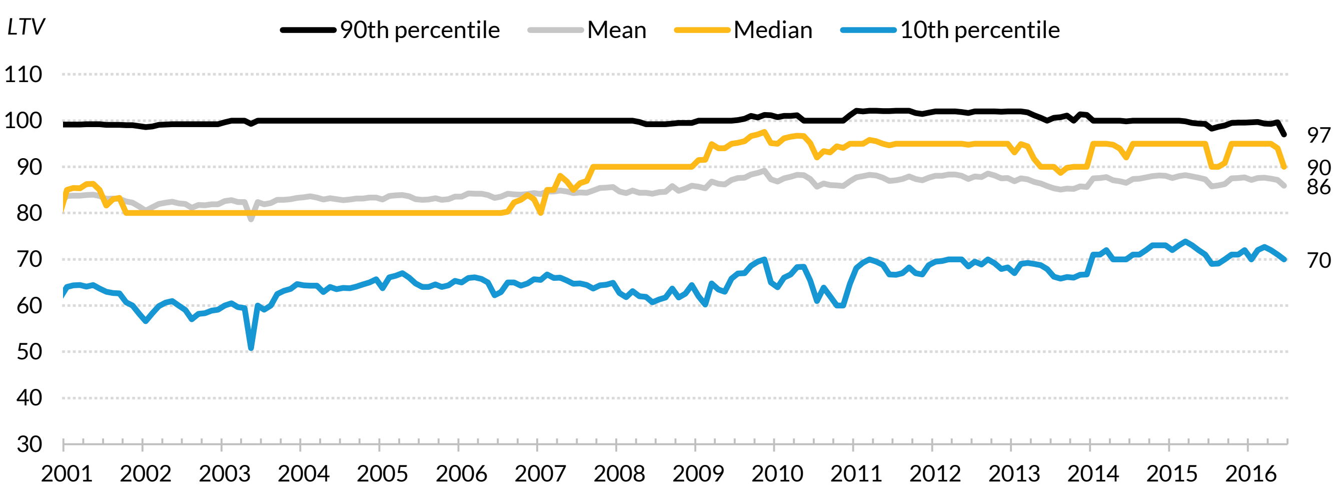
Access to credit has become extremely tight, especially for borrowers with low FICO scores. The mean and median FICO scores on new originations have both drifted up about 36 and 41 points over the last decade. The 10th percentile of FICO scores, which represents the lower bound of creditworthiness needed to qualify for a mortgage, stood at 656 as of June 2016. Prior to the housing crisis, this threshold held steady in the low 600s. LTV levels at origination remain relatively high, averaging 86, 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

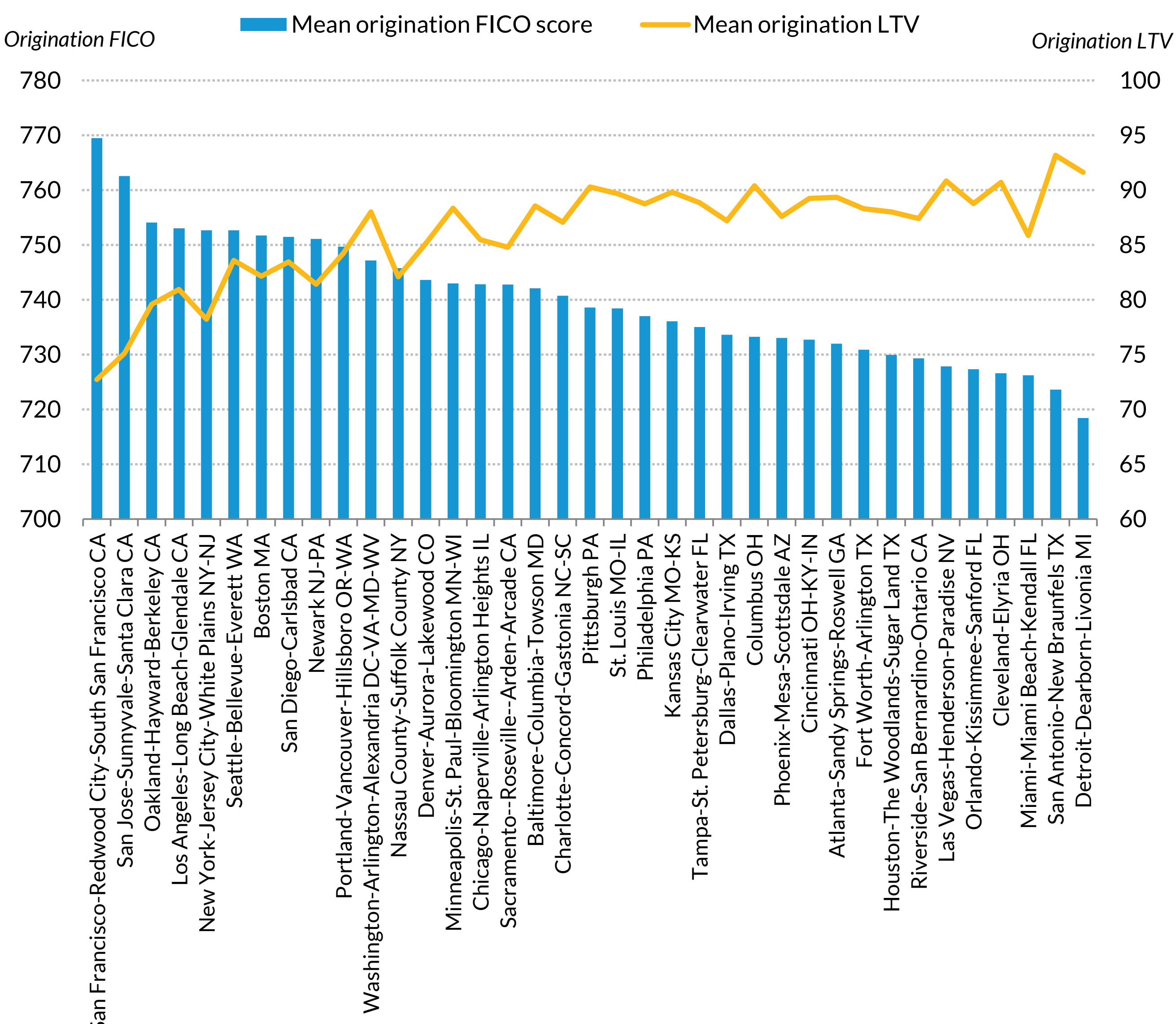


Sources: Corelogic, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes owner-occupied purchase loans only

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 770, while in Detroit-Dearborn-Livonia, MI it is 718. 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



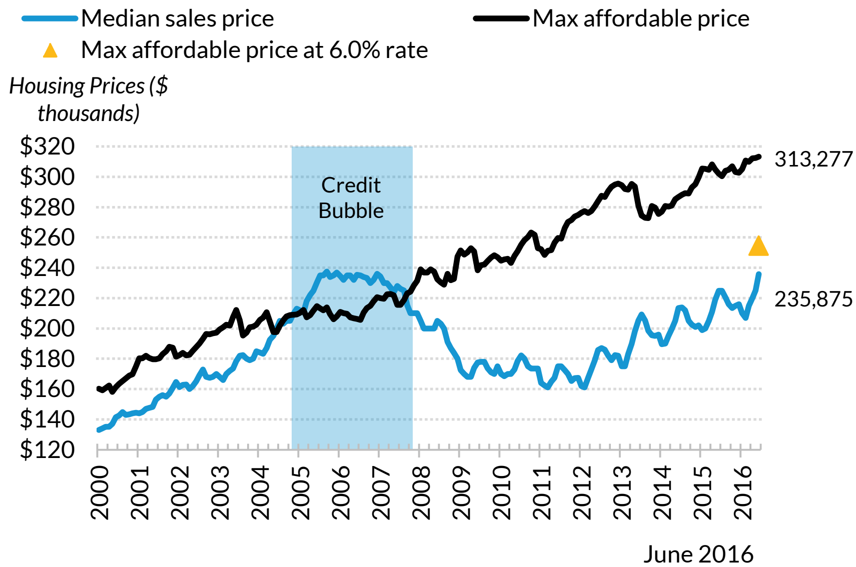
Sources: Corelogic, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes owner-occupied purchase loans only. Data as of June 2016.

HOUSING AFFORDABILITY

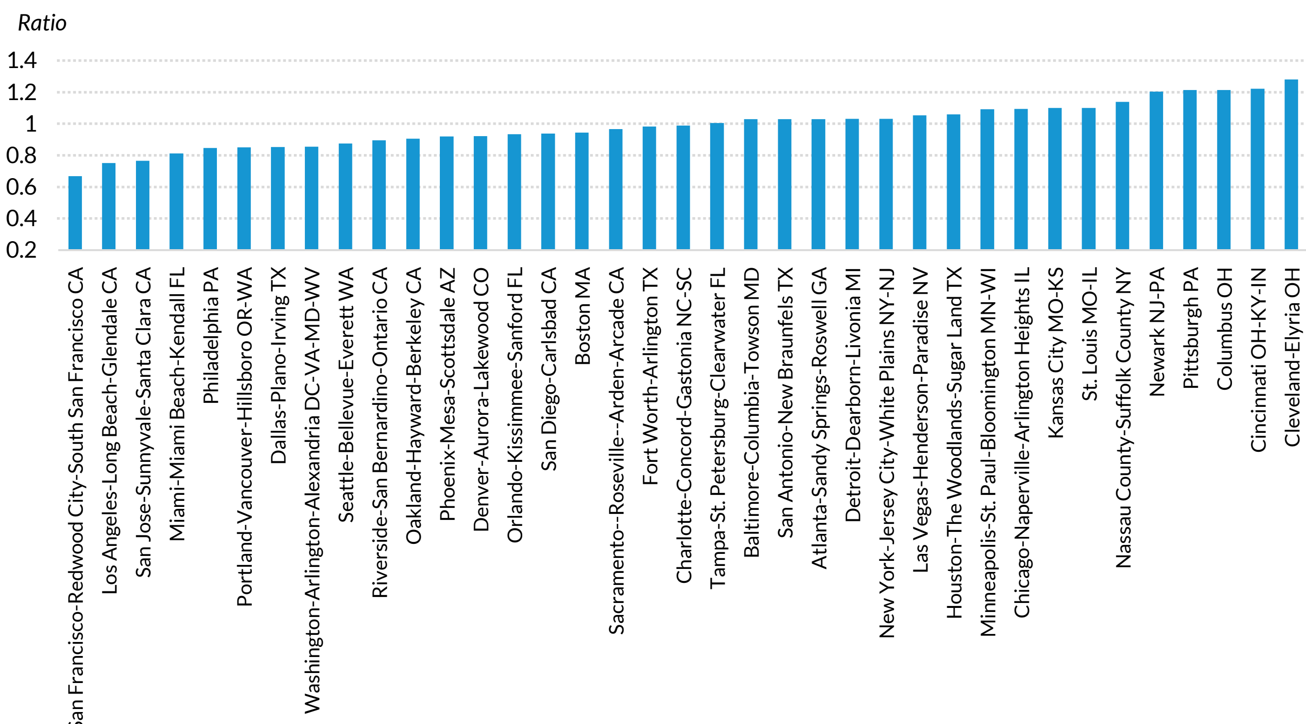
National Housing Affordability Over Time

Home prices are still very affordable by historical standards, despite increases over the last four years. Even if interest rates rose to 6 percent, affordability would 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

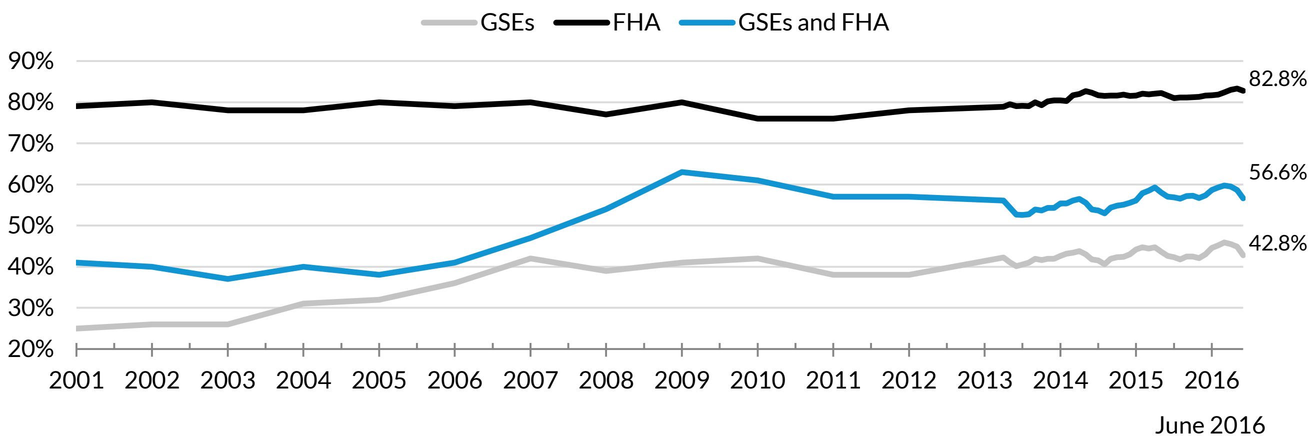


Sources: CoreLogic, US Census, Freddie Mac and Urban Institute calculations based on NAR methodology.
Note: Index is calculated relative to home prices in 2000-03. A ratio above 1 indicates higher affordability in June 2016 than in 2000-03.

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In June 2016, the first-time homebuyer share of GSE purchase loans continued to decline to 42.8 percent. The FHA has always been more focused on first-time homebuyers, with its first-time homebuyer share hovering around 80 percent and now stood at 82.8 percent in June 2016, slightly down from the peak of 83.3 percent of last month. 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.

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

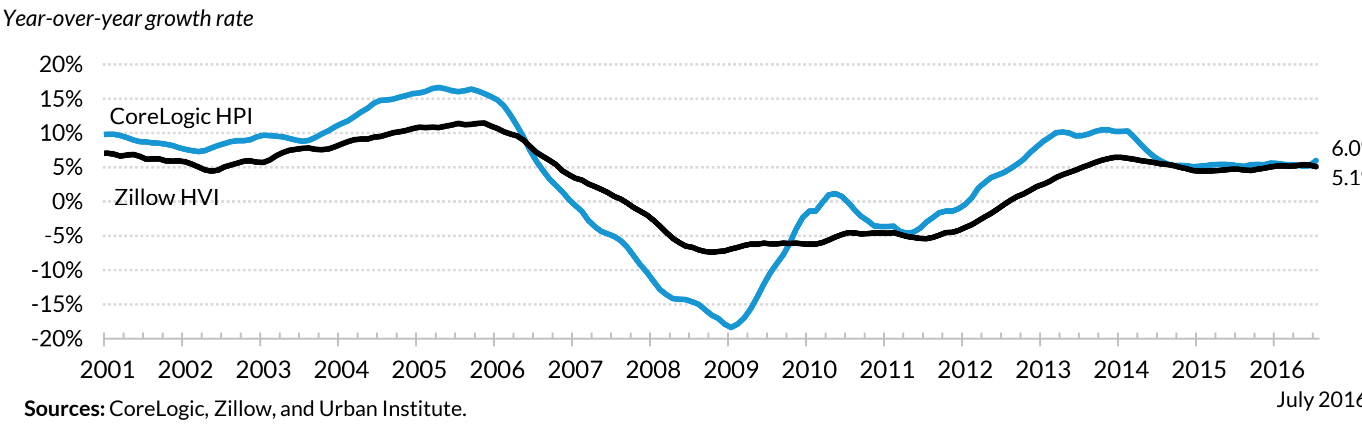
	GSEs		FHA		GSEs and FHA	
Characteristics	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount ($)	227,839	252,895	191,879	219,588	210,861	246,166
Credit Score	742.15	756.24	680.38	686.79	713.01	742.21
LTV (%)	86.48	79.64	95.66	94.61	90.44	82.17
DTI (%)	33.35	34.16	40.71	41.58	36.82	35.66
Loan Rate (%)	3.85	3.75	3.81	3.73	3.83	3.74

Sources: eMBS and Urban Institute.
Note: Based on owner-occupied purchase mortgages originated in June 2016.

STATE OF THE MARKET
HOME PRICE INDICES

National Year-Over-Year HPI Growth

While the strong year-over-year house 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.



Sources: CoreLogic, Zillow, and Urban Institute.

Changes in CoreLogic HPI for Top MSAs

Despite rising 41.3 percent from the trough, national house prices still must grow 6.5 percent to reach pre-crisis peak levels. At the MSA level, six of the top 15 MSAs have reached their peak HPI– New York, NY; Atlanta, GA; Houston, TX; Dallas, TX; Seattle, WA and Denver, CO. Two MSAs particularly hard hit by the boom and bust– Phoenix, AZ and Riverside, CA– would need to rise 30 and 33 percent to return to peak levels, respectively.

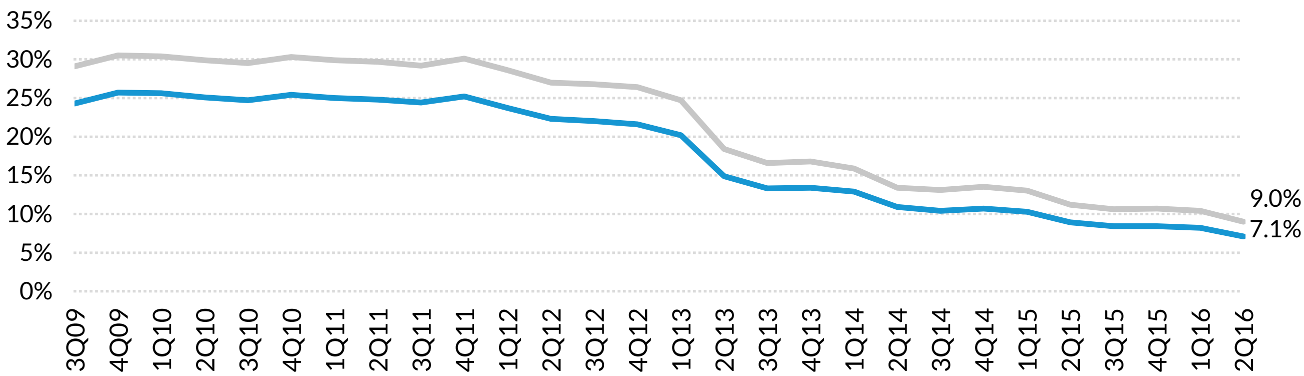
MSA	HPI changes (%)			% Rise needed to achieve peak
	2000 to peak	Peak to trough	Trough to current	
United States	93.7	-33.5	41.3	6.5
New York-Jersey City-White Plains NY-NJ	113.0	-16.4	28.3	-6.7
Los Angeles-Long Beach-Glendale CA	177.6	-38.6	57.1	3.7
Chicago-Naperville-Arlington Heights IL	66.1	-36.1	31.6	18.9
Atlanta-Sandy Springs-Roswell GA	37.9	-33.3	50.8	-0.6
Washington-Arlington-Alexandria DC-VA-MD-WV	155.6	-34.4	33.5	14.1
Houston-The Woodlands-Sugar Land TX	39.7	-14.1	43.0	-18.6
Phoenix-Mesa-Scottsdale AZ	123.8	-52.8	62.8	30.3
Riverside-San Bernardino-Ontario CA	186.3	-52.8	60.1	32.5
Dallas-Plano-Irving TX	34.1	-13.9	47.8	-21.4
Minneapolis-St. Paul-Bloomington MN-WI	73.2	-30.5	35.7	6.1
Seattle-Bellevue-Everett WA	91.0	-29.3	57.7	-10.3
Denver-Aurora-Lakewood CO	35.6	-13.5	60.3	-27.9
Baltimore-Columbia-Towson MD	122.8	-24.6	12.9	17.5
San Diego-Carlsbad CA	145.0	-37.7	49.4	7.4
Anaheim-Santa Ana-Irvine CA	161.0	-35.8	46.6	6.3

Sources: CoreLogic HPIs and Urban Institute. Data as of July 2016.
Note: This table includes the largest 15 Metropolitan areas by mortgage count.

NEGATIVE EQUITY & SERIOUS DELINQUENCY

Negative Equity Share

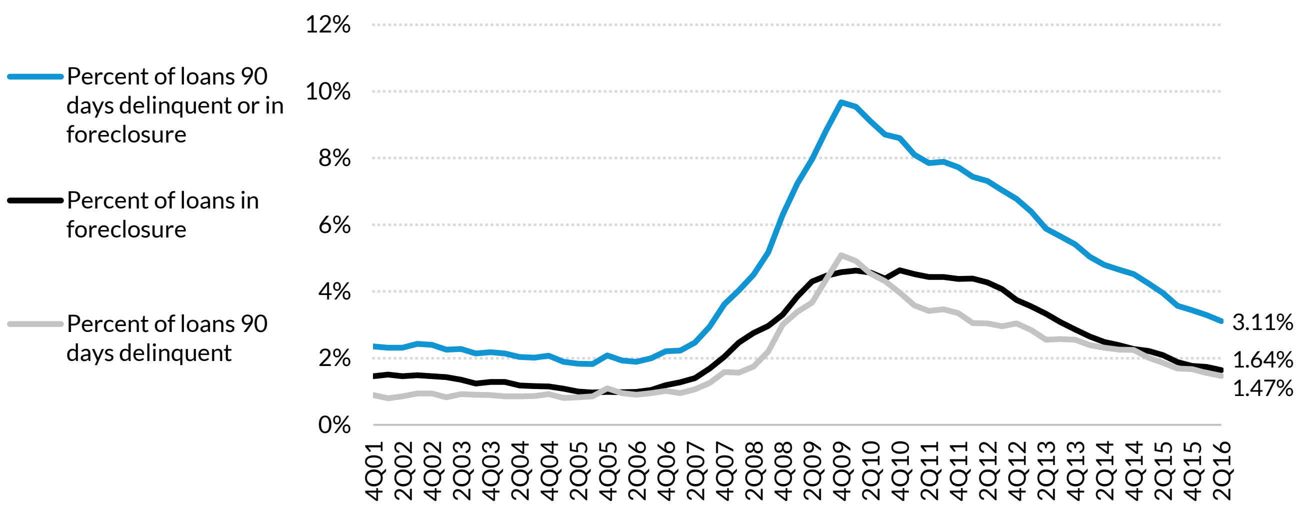
With housing prices continuing to appreciate, residential properties in negative equity (LTV greater than 100) as a share of all residential properties with a mortgage have dropped to 7.1 percent as of Q2 2016. Residential properties in near negative equity (LTV between 95 and 100) comprise another 1.9 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.

Loans in Serious Delinquency/Foreclosure

Serious delinquencies and foreclosures continue to decline with the housing recovery, but remain quite high relative to the early 2000s. Loans 90 days delinquent or in foreclosure totaled 3.1 % in the second quarter of 2016, down from 4.0% for the same quarter a year earlier.

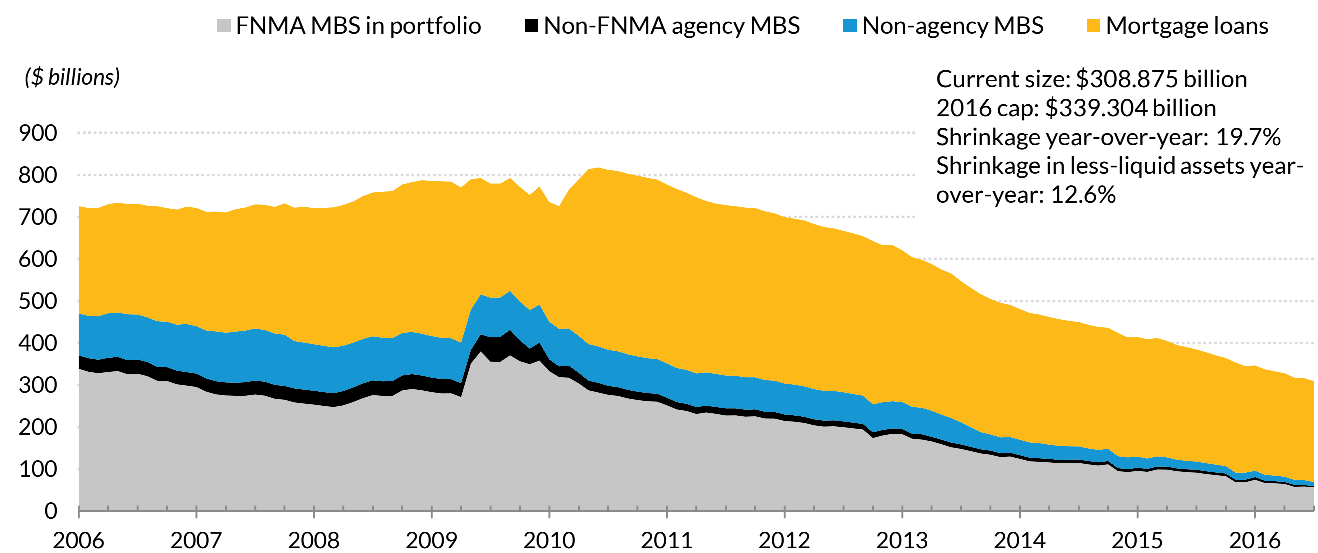


Sources: Mortgage Bankers Association and Urban Institute.

GSE PORTFOLIO WIND-DOWN

Both GSEs continue to contract their portfolios; since July 2015, Fannie Mae contracted by 19 percent and Freddie Mac by 14.4 percent. They are shrinking their less liquid assets (mortgage loans and non-agency MBS) at close to the same pace that they are shrinking their entire portfolio. Even though it is early in the year, both GSEs are under their 2016 caps.

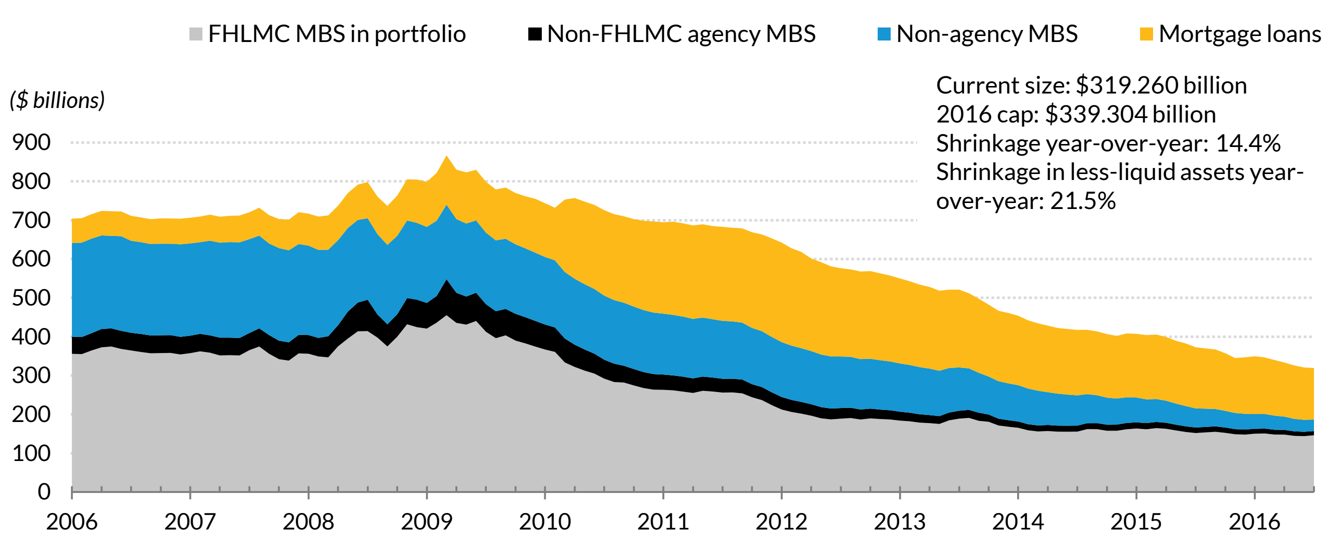
Fannie Mae Mortgage-Related Investment Portfolio Composition



Sources: Fannie Mae and Urban Institute.

July 2016

Freddie Mac Mortgage-Related Investment Portfolio Composition



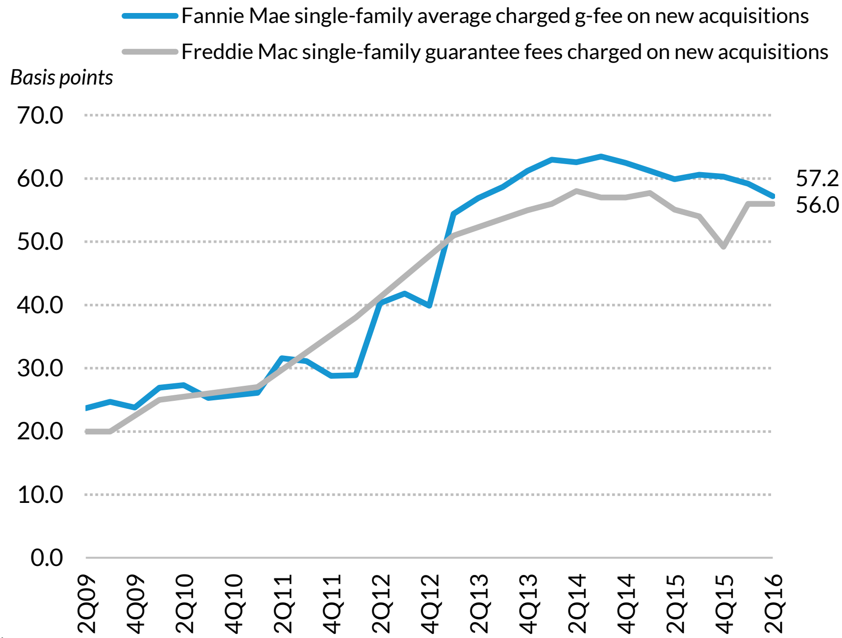
July 2016

Sources: Freddie Mac and Urban Institute.

EFFECTIVE GUARANTEE FEES

Guarantee Fees Charged on New Acquisitions

Fannie's average charged g-fee on new single-family originations edged down to 57.2 bps in Q2 2016, down slightly from 59.9 bps in the same quarter last year. Freddie's fee stayed at 56.0 bps in Q2 2016, up slightly from 54.0 bps in Q2 2015. This is still a marked increase over 2012 and 2011, and has contributed to the GSEs' profits. Fannie's new Loan-Level Price Adjustments (LLPAs), effective September 2015, are shown in the second table. The Adverse Market Delivery Charge (AMDC) of 0.25 percent is eliminated, and LLPAs for some borrowers are slightly increased to compensate for the revenue lost from the AMDC. As a result, the new LLPAs have had a modest impact on GSE pricing.



Sources: Fannie Mae, Freddie Mae and Urban Institute.

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. FHFA's 2016 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 22.0% of its outstanding guarantees, while Freddie's STACR covers 32.67 %.

Fannie Mae – Connecticut Avenue Securities (CAS)

Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
October 2013	CAS 2013 – C01	$26,756	$675	2.5%
January 2014	CAS 2014 – C01	$29,309	$750	2.6%
May 2014	CAS 2014 – C02	$60,818	$1,600	2.6%
July 2014	CAS 2014 – C03	$78,234	$2,050	2.6%
November 2014	CAS 2014 – C04	$58,873	$1,449	2.5%
February 2015	CAS 2015 – C01	$50,192	$1,469	2.9%
May 2015	CAS 2015 – C02	$45,009	$1,449	3.2%
June 2015	CAS 2015 – C03	$48,326	$1,100	2.3%
October 2015	CAS 2015 – C04	$43,599	$1,446	3.3%
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-16	CAS 2016 - C05	$38,668	$1,202	3.1%
Total		**$621,936**	**$17,653**	**2.8%**
Percent of Fannie Mae's Total Book of Business		**22.00%**		

Freddie Mac – Structured Agency Credit Risk (STACR)

Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
July 2013	STACR Series 2013 – DN1	$22,584	$500	2.2%
November 2013	STACR Series 2013 – DN2	$35,327	$630	1.8%
February 2014	STACR Series 2014 – DN1	$32,077	$1,008	3.1%
April 2014	STACR Series 2014 – DN2	$28,147	$966	3.4%
August 2014	STACR Series 2014 – DN3	$19,746	$672	3.4%
August 2014	STACR Series 2014 – HQ1	$9,975	$460	4.6%
September 2014	STACR Series 2014 – HQ2	$33,434	$770	2.3%
October 2014	STACR Series 2014 – DN4	$15,741	$611	3.9%
October 2014	STACR Series 2014 – HQ3	$8,001	$429	5.4%
February 2015	STACR Series 2015 – DN1	$27,600	$880	3.2%
March 2015	STACR Series 2015 – HQ1	$16,552	$860	5.2%
April 2015	STACR Series 2015 – DNA1	$31,876	$1,010	3.2%
May 2015	STACR Series 2015 – HQ2	$30,325	$426	1.4%
June 2015	STACR Series 2015 – DNA2	$31,986	$950	3.0%
September 2015	STACR Series 2015 – HQA1	$19,377	$872	4.5%
November 2015	STACR Series 2015 – DNA3	$34,706	$1,070	3.1%
December 2015	STACR Series 2015 – HQA2	$17,100	$590	3.5%
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%
Total		**$543,573**	**$16,513**	**3.0%**
Percent of Freddie Mac's Total Book of Business		**32.67%**		

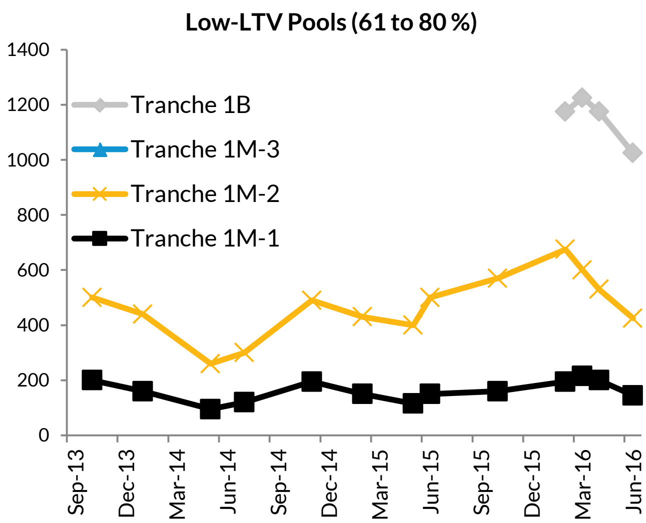
Sources: Fannie Mae, Freddie Mac and Urban Institute.

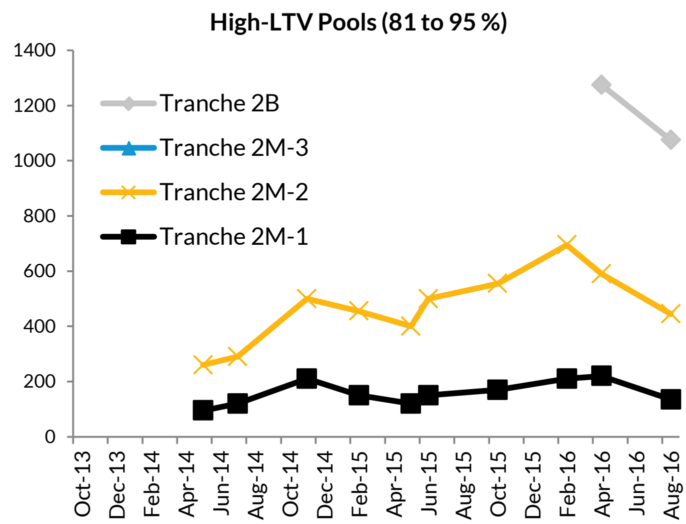
Note: Classes A-H, M-1H, M-2H, and B-H are reference tranches only. These classes are not issued or sold. The risk is retained by Fannie Mae and Freddie Mac. "CE" = credit enhancement.

GSE RISK-SHARING SPREADS

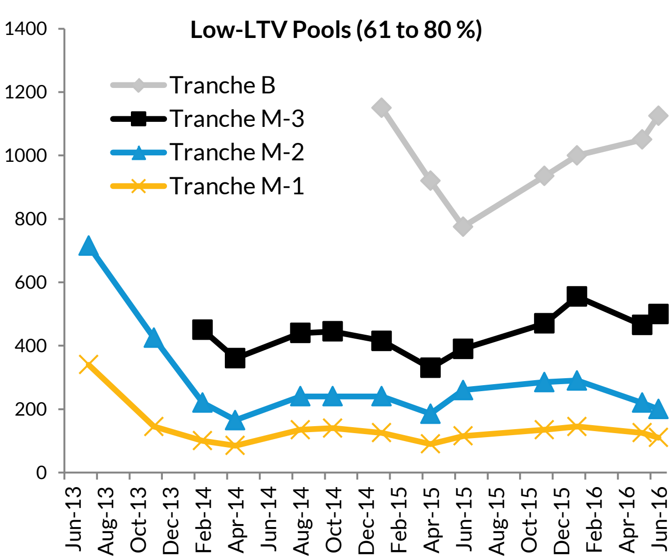
CAS and STACR spreads have moved around considerably since 2013, with the bottom mezzanine tranche and the first loss bonds experiencing considerably more volatility than the top mezzanine bonds (the M-1 in two tranche deals, the M-1 and M-2 in three tranche deals). Tranche B in particular has been highly 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.

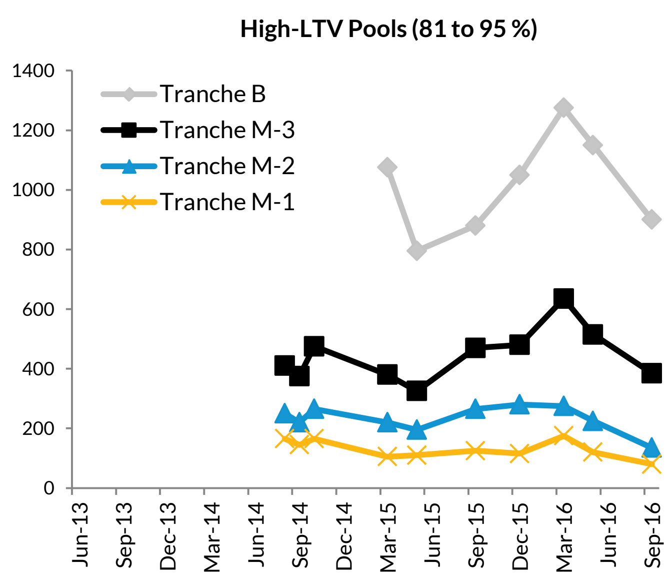
Fannie Mae CAS Spreads at-issuance (basis points over 1-month LIBOR)





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



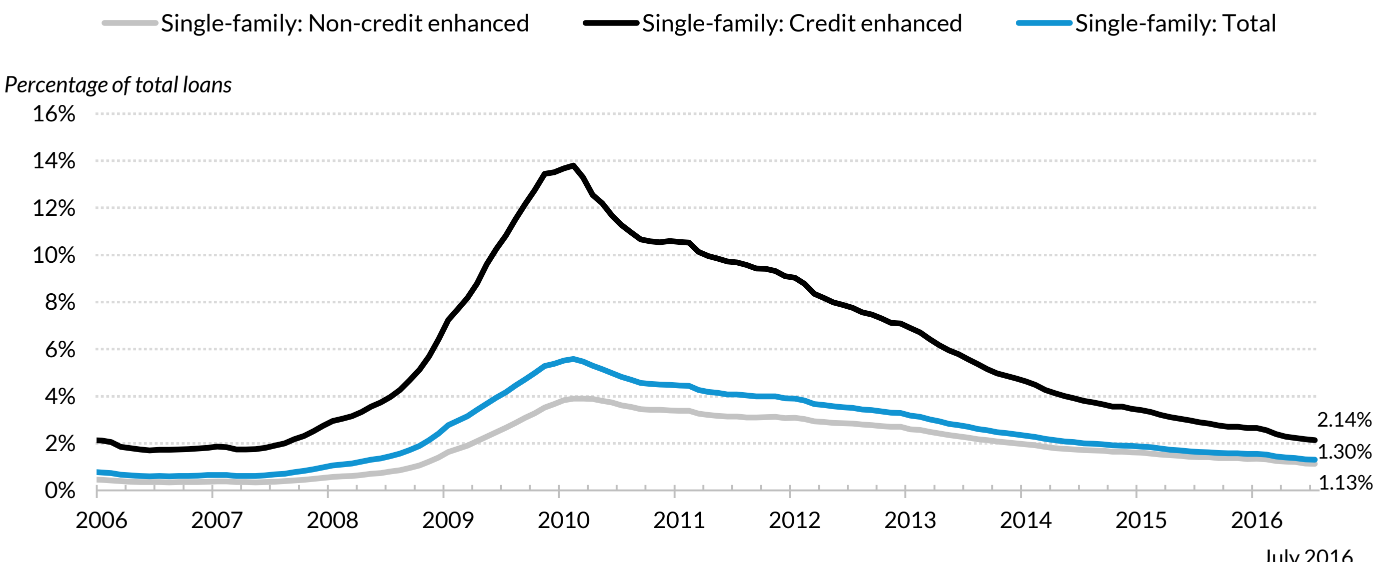


Sources: Fannie Mae, Freddie Mac Press Releases and Urban Institute.

GSES UNDER CONSERVATORSHIP
SERIOUS DELINQUENCY RATES

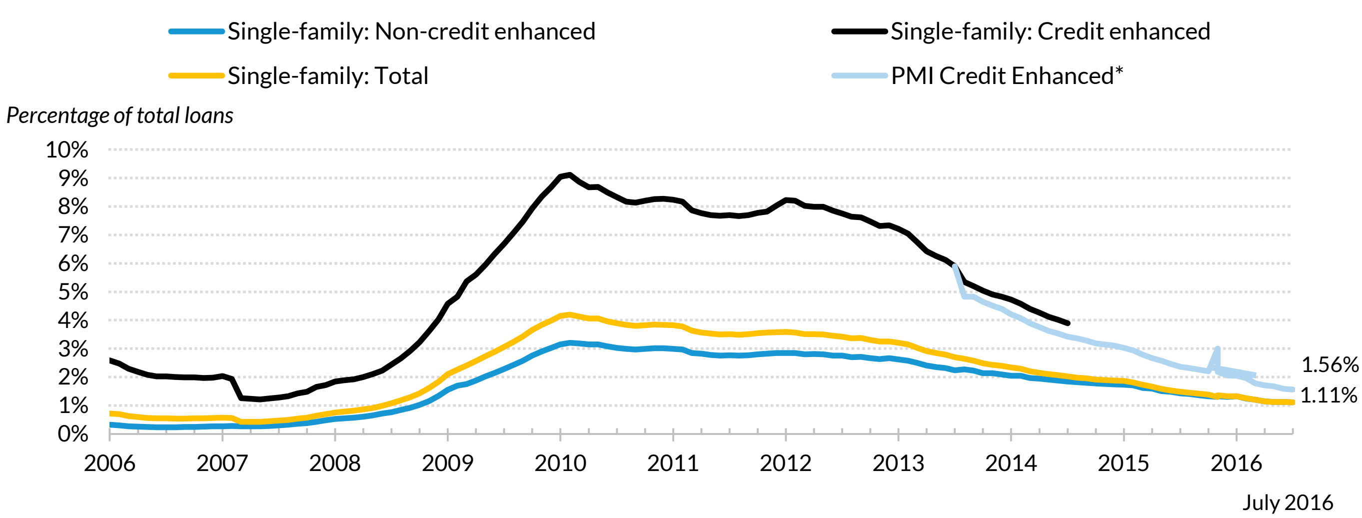
Serious delinquency rates of GSE loans continue to decline as the legacy portfolio is resolved and the pristine, post-2009 book of business exhibits very low default rates. As of July 2016, 1.30 percent of the Fannie portfolio and 1.11 percent of the Freddie portfolio were seriously delinquent, down from 1.63 percent for Fannie and 1.48 percent for Freddie in July 2015.

Serious Delinquency Rates–Fannie Mae



Sources: Fannie Mae and Urban Institute.

Serious Delinquency Rates–Freddie Mac

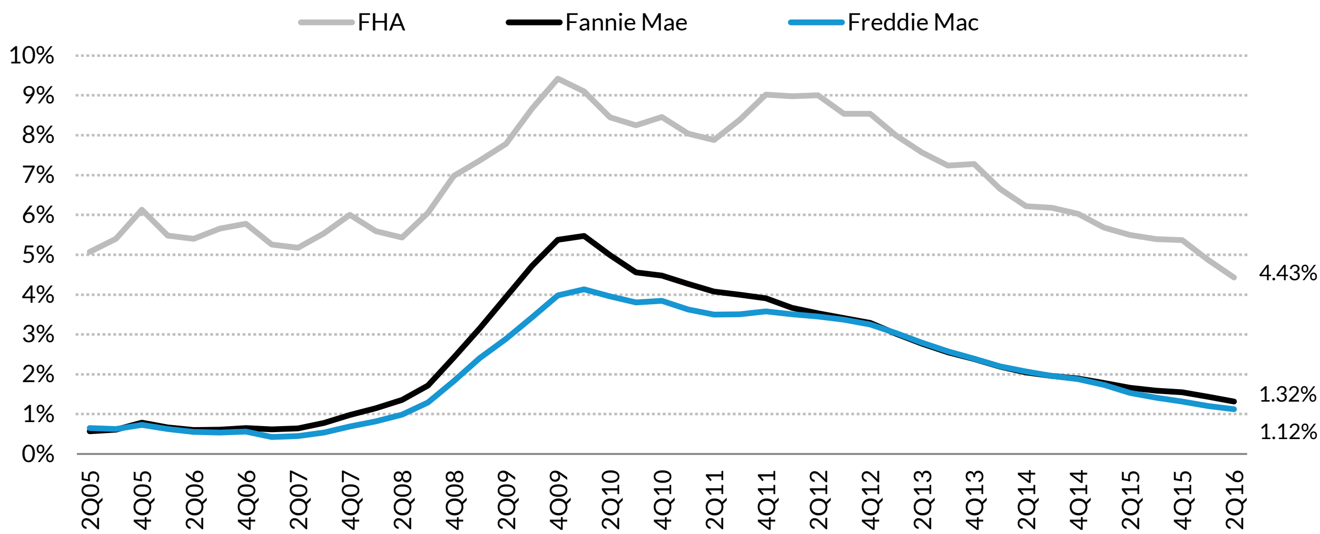


Sources: Freddie Mac and Urban Institute.
Note*: Following a change in Freddie reporting in September 2014, we switched from reporting credit enhanced delinquency rates to PMI credit enhanced delinquency rates.

GSES UNDER CONSERVATORSHIP
SERIOUS DELINQUENCY RATES

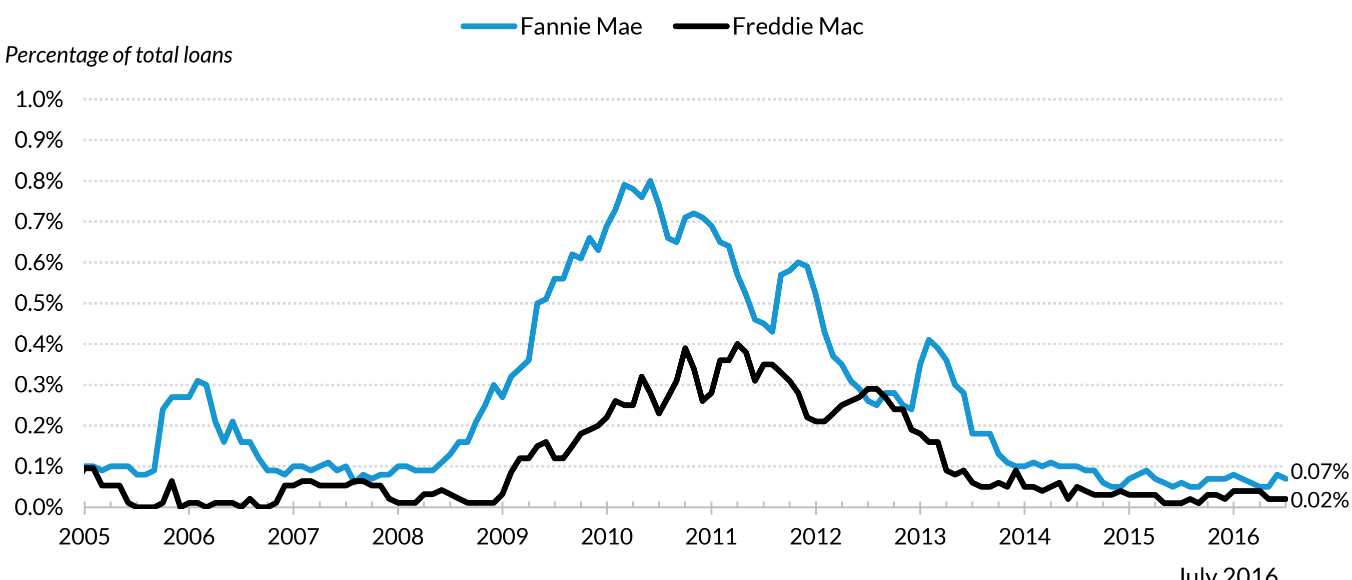
Serious delinquencies for FHA and GSE single-family loans continue to decline. GSE delinquencies remain higher relative to 2005-2007, while FHA delinquencies (which are much higher than their GSE counterparts) are now at levels similar to 2005-2007. GSE multifamily delinquencies have declined to pre-crisis 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.

Serious Delinquency Rates–Multifamily GSE Loans

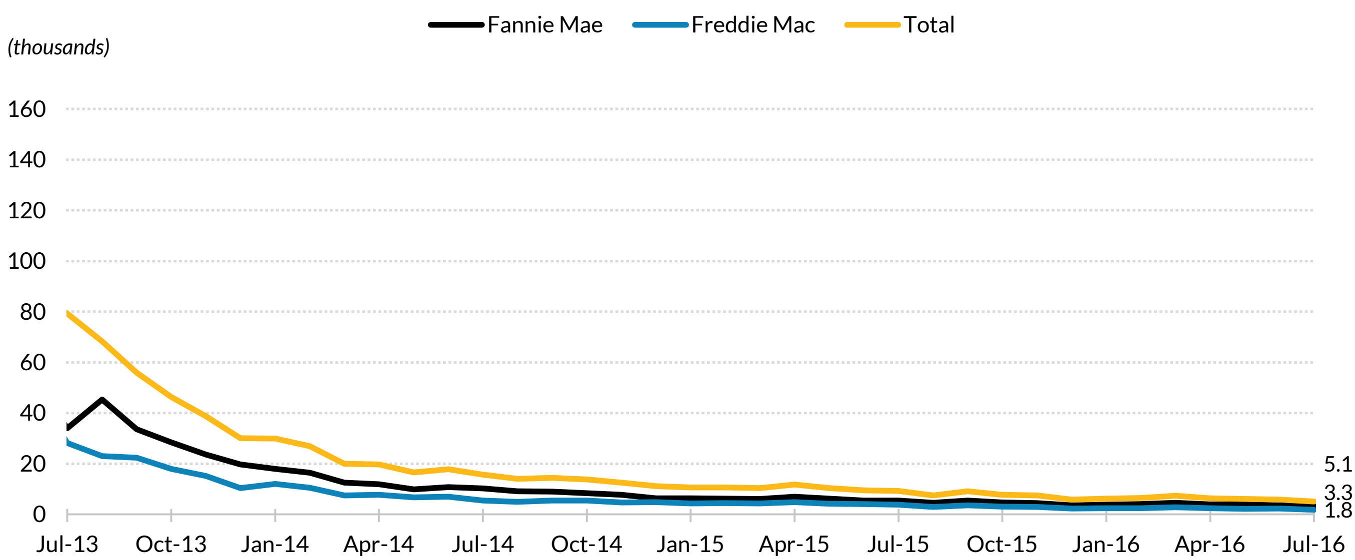


Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Multifamily serious delinquency rate is the unpaid balance of loans 60 days or more past due, divided by the total unpaid balance.

GSES UNDER CONSERVATORSHIP
REFINANCE ACTIVITY

The Home Affordable Refinance Program (HARP) refinances have slowed considerably, reflecting the considerable number of borrowers who have already refinanced. Since the program's Q2 2009 inception, HARP refinances total 3.4 million, accounting for 15 percent of all GSE refinances in this period.

Total HARP Refinance Volume



Sources: FHFA Refinance Report and Urban Institute.

HARP Refinances

	July 2016	Year-to-date 2016	Inception to date	2015	2014	2013
Total refinances	170,323	1,118,315	23,612,288	2,084,936	1,536,788	4,081,911
Total HARP refinances	5,121	43,418	3,423,975	110,109	212,488	892,914
Share 80–105 LTV	82.1%	78.7%	70.3%	76.5%	72.5%	56.4%
Share 105–125 LTV	12.9%	14.6%	17.1%	15.6%	17.2%	22.4%
Share >125 LTV	5.0%	6.8%	12.6%	8.0%	10.3%	21.2%
All other streamlined refinances	12,813	95,064	3,834,554	218,244	268,026	735,210

Sources: FHFA Refinance Report and Urban Institute.

GSES UNDER CONSERVATORSHIP

GSE LOANS: POTENTIAL REFINANCES

To qualify for HARP, a loan must be originated before the June 2009 cutoff date, have a marked-to-market loan-to-value (MTM LTV) ratio above 80, and have no more than one delinquent payment in the past year and none in the past six months. There are 289,442 eligible loans, but 41 percent are out-of-the-money because the closing cost would exceed the long-term savings, leaving 169,935 loans where a HARP refinance is both permissible and economically advantageous for the borrower. Loans below the LTV minimum but meeting all other HARP requirements are eligible for GSE streamlined refinancing. Of the 5,028,697 loans in this category, 4,298,407 are in-the-money.

Almost 80 percent of the GSE book of business that meets the pay history requirements was originated after the June, 2009 cutoff date. FHFA extended the deadline for the HARP program until Sept 30, 2017 to create a transition period for a new high LTV refi product planned to launch toward the end of 2017.

Total loan count	27,052,964
Loans that do not meet pay history requirement	1,237,196
Loans that meet pay history requirement:	25,815,768
Pre-June 2009 origination	5,318,139
Post-June 2009 origination	20,497,629

Loans Meeting HARP Pay History Requirements

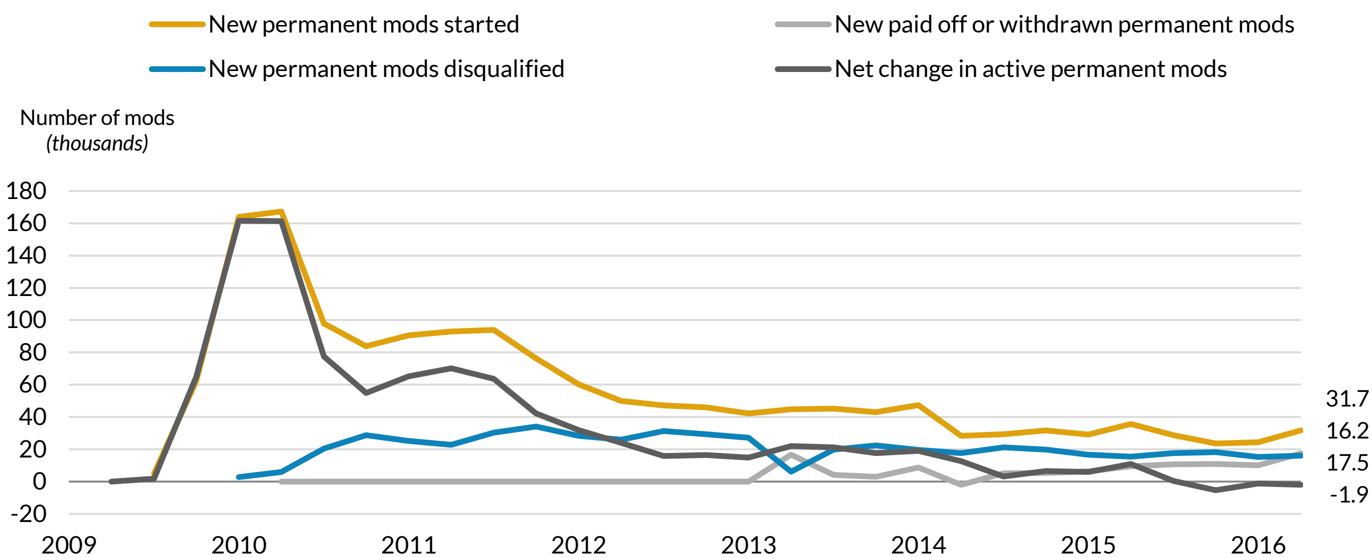
Pre-June 2009			
LTV category	*In-the-money*	*Out-of-the-money*	*Total*
≤80	4,298,407	730,290	5,028,697
>80	169,935	119,507	289,442
Total	4,468,342	849,797	5,318,139
Post-June 2009			
LTV category	*In-the-money*	*Out-of-the-money*	*Total*
≤80	7,328,570	10,831,980	18,160,550
>80	1,269,526	1,067,554	2,337,079
Total	8,598,096	11,899,534	20,497,629

Sources: CoreLogic Prime Servicing as of July 2016 and Urban Institute.
Note: Figures are scaled up from source data to account for data coverage of the GSE active loan market (based on MBS data from eMBS).
Shaded box indicates HARP-eligible loans that are in-the-money.

HAMP ACTIVITY

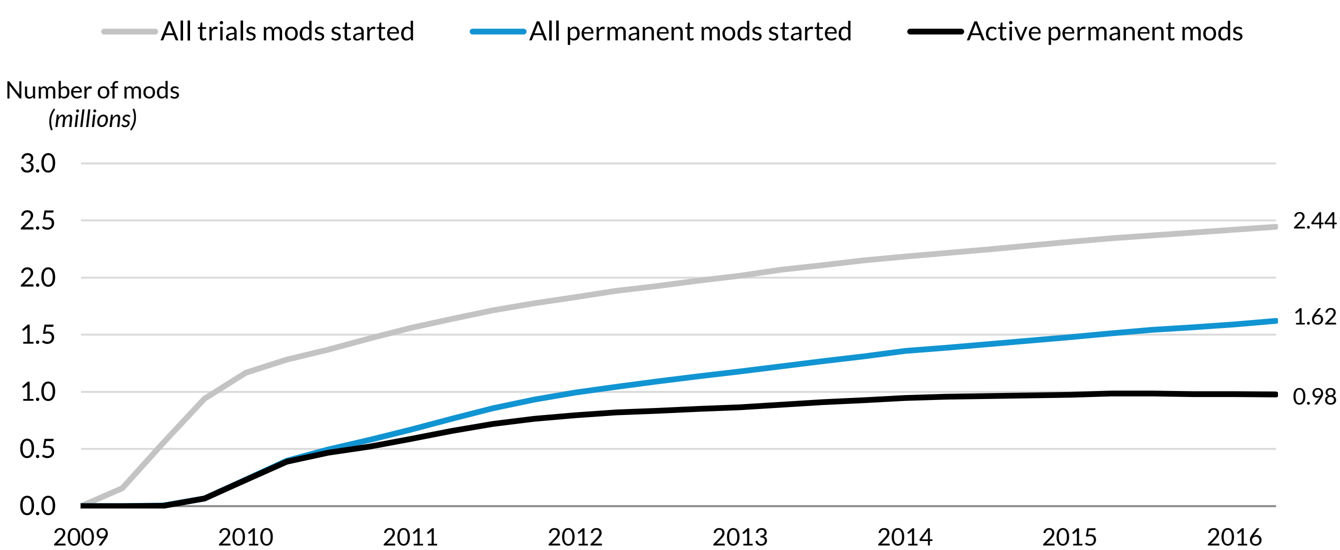
In Q2 2016, the number of active permanent modifications continued to fall by 1,928 mortgages, the third consecutive quarter with a decline since Q4 2015. There are three factors behind this change: Fewer new permanent modifications were made, some modifications failed because the borrowers did not make their payments, and a small number of borrowers either paid off their mortgage or withdrew their application. As a result, active permanent mods declined to 0.98 million.

New HAMP Modications



Sources: U.S. Treasury Making Home Affordable and Urban Institute.

Cumulative HAMP Modifications



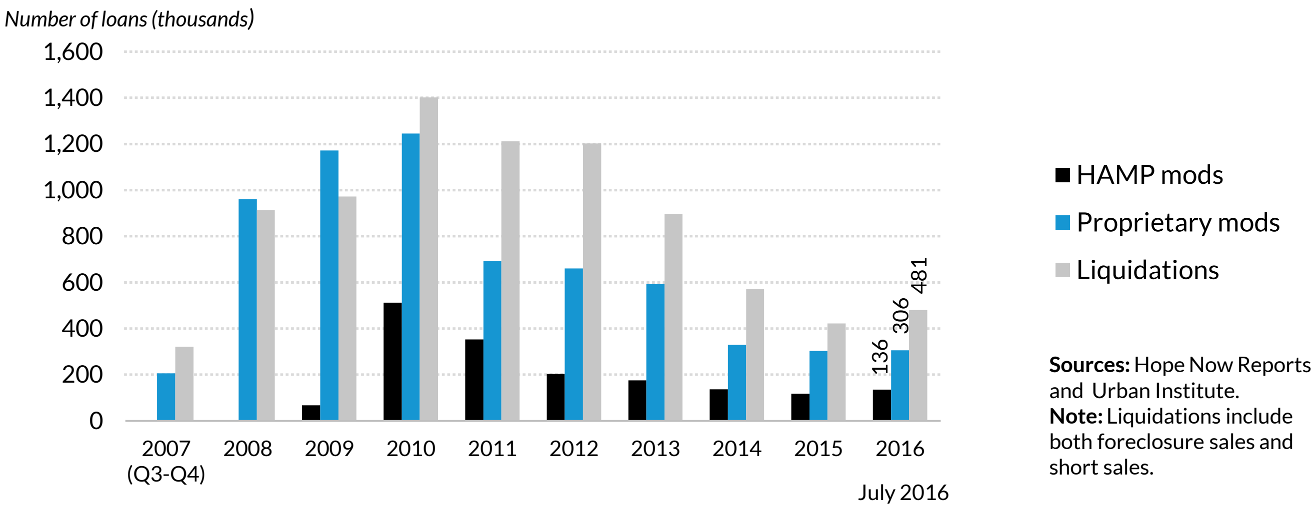
Sources: U.S. Treasury Making Home Affordable and Urban Institute.

MODIFICATION ACTIVITY

MODIFICATIONS AND LIQUIDATIONS

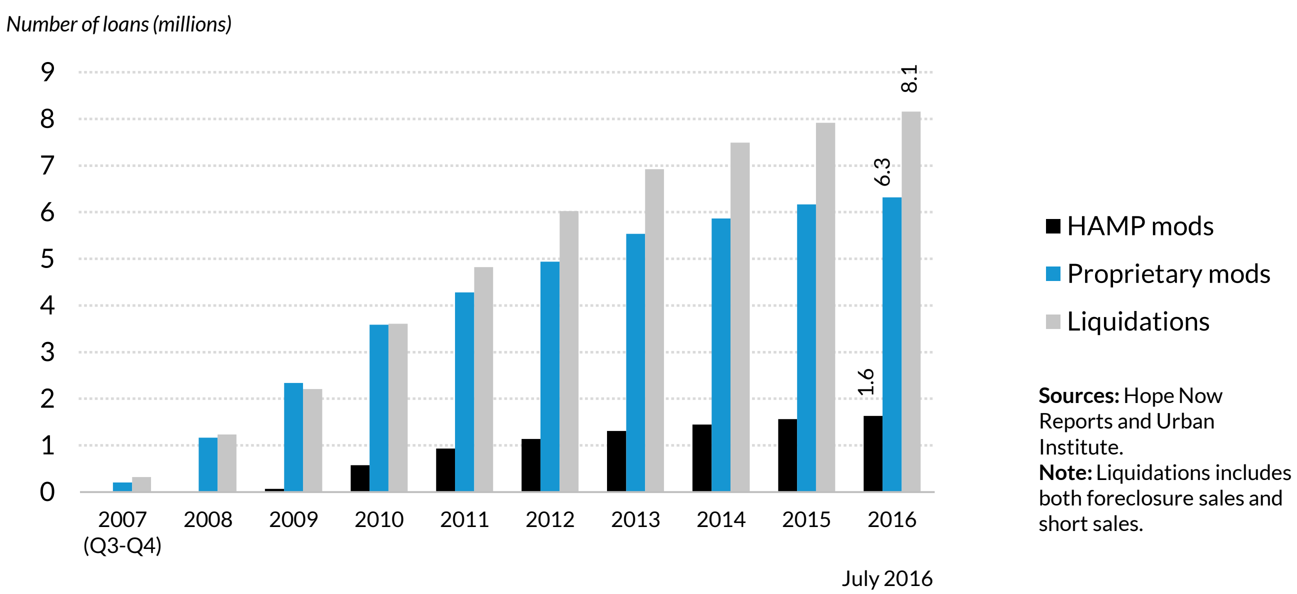
Total modifications (HAMP and proprietary) are now roughly equal to total liquidations. Hope Now reports show 7,951,631 borrowers have received a modification since Q3 2007, compared with 8,156,258 liquidations in the same period. Modification activity slowed significantly in 2014 and has continued to do so, averaging 31,178 in the first six months of 2016. Liquidations have also continued to decline, averaging 34,356 per month in the first six months of 2016 compared to 37,970 per month in the same period a year ago.

Loan Modifications and Liquidations



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

Cumulative Modifications and Liquidations



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

AGENCY ISSUANCE

AGENCY GROSS AND NET ISSUANCE

The agency gross issuance totaled $891.8 billion in the first eight months of 2016, a slight 1.7 percent increase year-over-year. Net issuance (which excludes repayments, prepayments, and refinances on outstanding mortgages) remains low.

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 YTD	$577.5	$314.2	$891.7
%Change year-over-year	-1.4%	7.7%	1.7%
2016 Ann.	$866.3	$471.4	$1,337.7

Agency Net Issuance

Issuance Year	GSEs	Ginnie Mae	Total
2000	$159.8	$29.3	$189.1
2001	$367.8	-$9.9	$357.9
2002	$357.6	-$51.2	$306.4
2003	$335.0	-$77.6	$257.4
2004	$83.3	-$40.1	$43.2
2005	$174.4	-$42.2	$132.1
2006	$313.6	$0.3	$313.8
2007	$514.7	$30.9	$545.5
2008	$314.3	$196.4	$510.7
2009	$249.5	$257.4	$506.8
2010	-$305.5	$198.2	-$107.3
2011	-$133.4	$149.4	$16.0
2012	-$46.5	$118.4	$71.9
2013	$66.5	$85.8	$152.3
2014	$30.3	$59.8	$90.1
2015	$75.0	$94.5	$169.5
2016 YTD	$65.4	$81.1	$146.5
%Change year-over-year	45.7%	57.0%	51.7%
2016 Ann.	$98.1	$121.6	$219.7

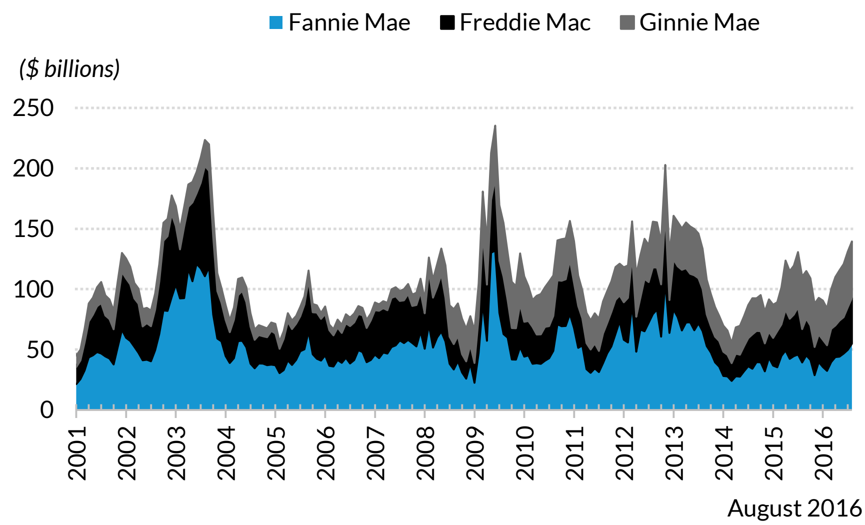
Sources: eMBS and Urban Institute.
Note: Dollar amounts are in billions. Annualized figure based on data from August 2016.

AGENCY ISSUANCE

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

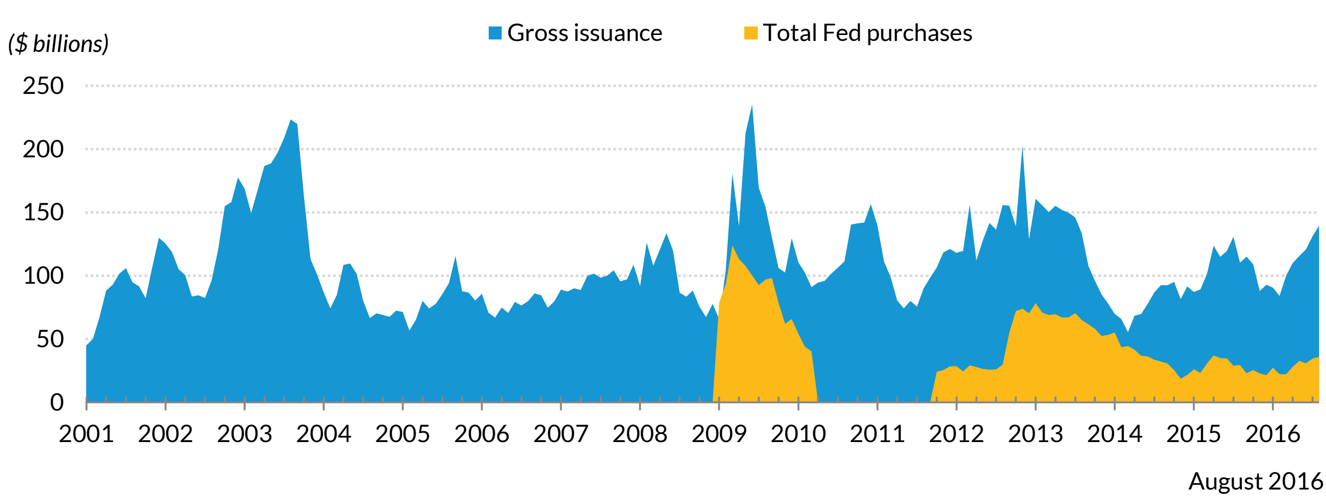
While government and GSE lending have dominated the mortgage market since the crisis, there has been a change in the mix. The Ginnie Mae share reached a peak of 28 percent of total agency issuance in 2010, declined to 25 percent in 2013, and has bounced back sharply since then. The Ginnie Mae issuance stood at 33 percent in August 2016, as the FHA refinance activity surged with the reduction in the FHA insurance premium.



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 2016, total Fed purchase edged up to $36.0 billion while agency gross issuance went up more to $139.5 billion, yielding Fed absorption of gross issuance of 25.8 percent, slightly down from 26.3 percent last month.

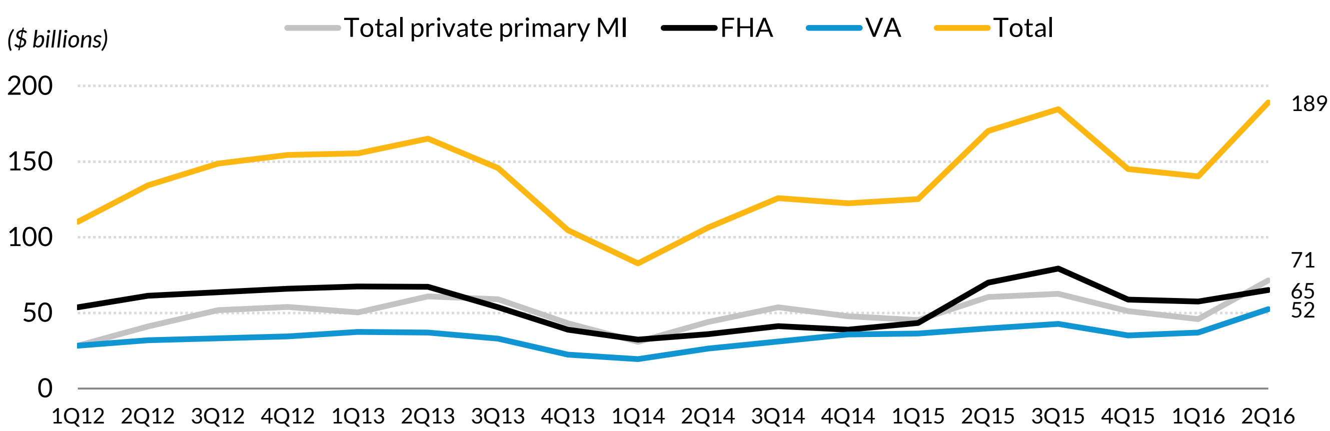


Sources: eMBS, Federal Reserve Bank of New York and Urban Institute.

AGENCY ISSUANCE
MORTGAGE INSURANCE ACTIVITY

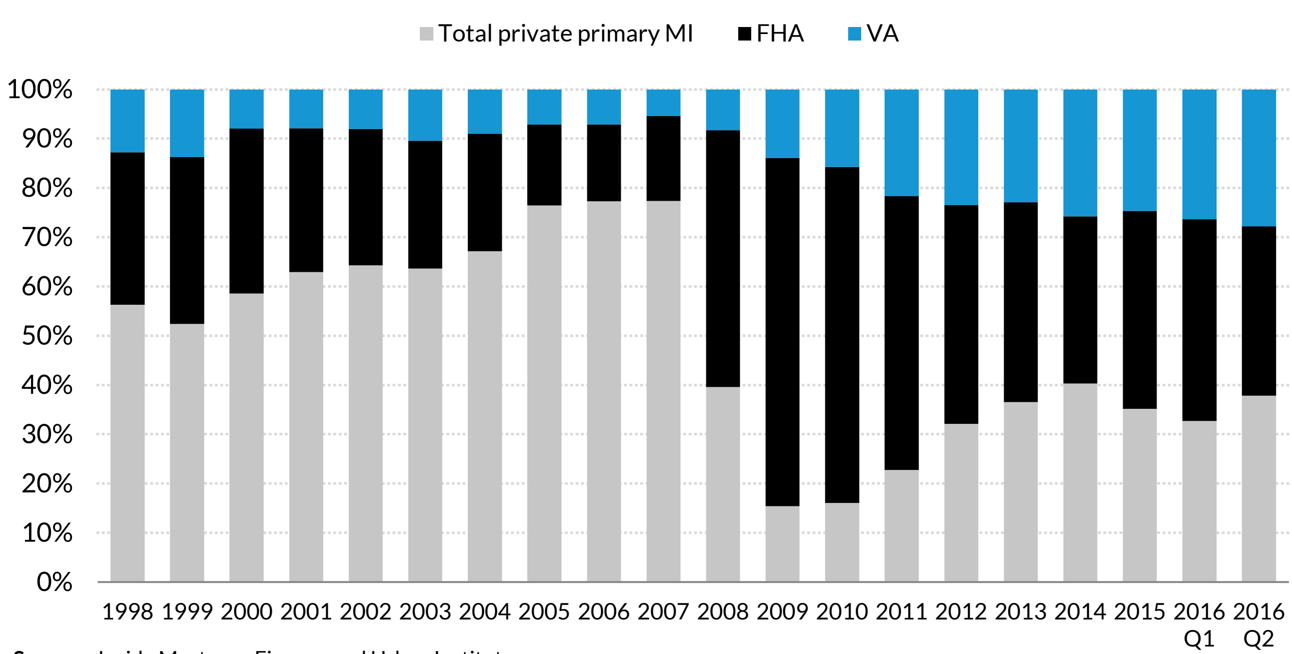
MI Activity

In Q2 2016, mortgage insurance activity via the FHA, VA and private insurers rose significantly to $189 billion, up from last quarter's $140.2 billion and up 11 percent year-over-year from the same quarter in 2015. FHA's market share fell to 34 percent in 2016 Q2 (from 41 percent the previous quarter), while the private insurance market's share increased to 38 percent (from 33 percent the previous quarter).



Sources: Inside Mortgage Finance and Urban Institute.

MI Market Share



Sources: Inside Mortgage Finance and Urban Institute.

AGENCY ISSUANCE

MORTGAGE INSURANCE ACTIVITY

FHA premiums rose significantly in the years following the housing crash, with annual premiums rising 170% from 2008 to 2013 as FHA worked to shore up its finances. In January 2015, President Obama announced a 50 bps cut in the annual insurance premiums, making FHA mortgages more attractive than GSE mortgages for both low and high credit score 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% down will now find FHA more economic for all borrowers except those with FICO scores of 760 or above.

FHA MI Premiums for Typical Purchase Loan

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

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

Initial Monthly Payment Comparison: FHA vs. PMI

Assumptions	
Property Value	$250,000
Loan Amount	$241,250
LTV	96.5
Base Rate	
Conforming	3.40%
FHA	3.00%

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	$1,206	$1206	$1,206	$1,206	$1,206	$1,206	$1,206	$1,206
PMI	$1,618	$1,557	$1,513	$1,392	$1,342	$1,288	$1,241	$1,201
PMI Advantage	($413)	($351)	($307)	($186)	($136)	($82)	($35)	$5

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
PUBLICATIONS AND EVENTS

Upcoming Events

November 2 Data, Demand, and Demographics: A Symposium on Housing Finance *with Ed Glaeser, Fred and Eleanor Glimp Professor of Economics at Harvard University; Bill Emerson, CEO, Quicken Loans; Frank Nothaft, Chief Economist, CoreLogic; Ted Tozer, President, Ginnie Mae; and Sarah Rosen Wartell, President, Urban Institute. Please check our events page for more information.*

Publications

Women are Better than Men at Paying their Mortgages
Authors: Laurie Goodman, Jun Zhu, Bing Bai
Date: September 6, 2016

How to Improve Fannie and Freddie's Risk-Sharing Effort
Authors: Laurie Goodman, Jim Parrott, Ellen Seidman, Mark M. Zandi
Date: August 26, 2016

FHA Clarifies Financing on Properties with PACE Loans
Author: Laurie Goodman
Date: July 20, 2016

How Much House Do Americans Really Own? Measuring America's Accessible Housing Wealth by Geography and Age
Authors: Wei Li, Laurie Goodman
Date: July 14, 2016

HUD's Recent Changes to the Distressed Asset Stabilization Program: A Positive Development
Author: Laurie Goodman
Date: July 11, 2016

A More Promising Road to GSE Reform: Governance and Capital
Authors: Jim Parrott, Lewis Ranieri, Gene Sperling, Mark M. Zandi, Barry Zigas
Date: June 14, 2016

Default and Loss Experience for Two-to-Four-Unit Properties
Authors: Laurie Goodman, Jun Zhu
Date: May 16, 2016

The Downside of an Illiquid Market
Authors: Karan Kaul, Laurie Goodman
Date: May 6, 2016

FHFA Announces Principal Reduction: Why the Numbers Are So Small and Why It Still Matters
Authors: Jim Parrott, Jun Zhu, Laurie Goodman
Date: April 18, 2016

Project

Housing Finance Reform Incubator

Blog Posts

Why the surge in PMI activity won't force FHA to cut premiums anytime soon
Author: Karan Kaul
Date: September 15, 2016

We're still shortchanging women when it comes to mortgages
Author: Laurie Goodman, Jun Zhu, Bing Bai
Date: September 8, 2016

Squeaky-clean loans lead to near-zero borrower defaults- and that is not a good thing
Author: Laurie Goodman
Date: August 31, 2016

To ease access to mortgages, we must reform mortgage servicing now
Author: Karan Kaul
Date: August 29, 2016

Housing Counseling should help with more than just homebuying
Authors: Brett Theodos, Ellen Seidman
Date: August 1,2016

Evidence in Detroit's housing market shows mixed results
Authors: Bing Bai, Bhargavi Ganesh
Date: July 28, 2016

We need more apartments and houses, but the challenges differ for each
Authors: Alanna McCargo, Bhargavi Ganesh
Date: July 21, 2016

US Homeowners are sitting on $7 trillion in spendable housing wealth
Authors: Wei Li, Laurie Goodman
Date: July 14, 2016

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