HOUSING FINANCE POLICY CENTER

HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

August 2016

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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INTRODUCTION

Private mortgage insurers gain market share over FHA

In the second quarter of 2016, the market share of private mortgage insurers (PMI) surpassed that of the FHA (page 32) for the first time in two years. The PMI share of mortgages originated with insurance increased from 33 percent in Q1 to 38 percent in Q2 while FHA's share declined from 41 percent to 34 percent over the same period. The PMI net insurance written increased by 56 percent to $72 billion in Q2, the highest quarterly volume since Q1 2008.

The private mortgage insurers adjusted their pricing in April this year, reducing premiums for lower risk borrowers and increasing them for higher credit risk borrowers. Because of this change, some of the former who previously would have obtained FHA mortgages will now find GSE execution more economical. We have also seen a more focused effort by some larger lenders to take advantage of lower down payment lending available through the GSEs, as we have discussed here.

Whatever is driving the shift, this development simply restores the FHA/PMI market share to the levels seen in 2014. FHA reduced its upfront mortgage insurance premium by 50 basis points in Jan 2015, driving a significant jump in its market share, from 34 percent in 2014 to 40 percent in 2015, and a corresponding fall in that of the PMIs, from 40 to 35 percent. Todays' market share split between FHA and PMI closely mirrors the 2014 level.

If the PMIs take away a significant volume of FHA's lower credit risk business, over time that shift towards a riskier mix of borrowers will put pressure on the FHA's balance sheet. Indeed, it may increase the pressure on FHA to lower premiums in an attempt to take some of that higher quality business back.

HFPC Seminar on emerging issues in mortgage servicing

Last week, the Urban Institute and CoreLogic co-hosted a seminar on issues affecting mortgage servicing, including the rising cost of servicing, especially for nonperforming loans, the uncertain cost of servicing those loans, CFPB's recent update of its Servicing Rule, the need for servicing compensation reforms, and the impact of these issues on credit availability. Moderated by Faith Schwartz, principal at Housing Finance System Strategies, speakers included Milken Institute senior fellow in residence Ed Demarco, Laurie Maggiano, program manager at CFPB, bipartisan policy commission fellow Michael Stegman, HFPC director Laurie Goodman, and Raghu Kakumanu, senior vice president at Wells Fargo. Despite lack of consensus, most panelists agreed that the current servicing compensation model is flawed and must be fixed to adequately align the interests of borrowers, servicers and other stakeholders.

INSIDE THIS ISSUE

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- Originator profitability measure jumped to the highest level since 2013 (page 13)
- First-time homebuyer share of GSE loans dropped slightly in May (page 17)
- Loans in serious delinquency/foreclosure declined to 3.1 percent in Q2 2016 (page 19)
- Average g-fee slightly down for Fannie and flat for Freddie in Q2 2016 (page 21)
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- Special quarterly feature includes GSE default, composition, loss severity, and repurchase indicators (pages 34-41)

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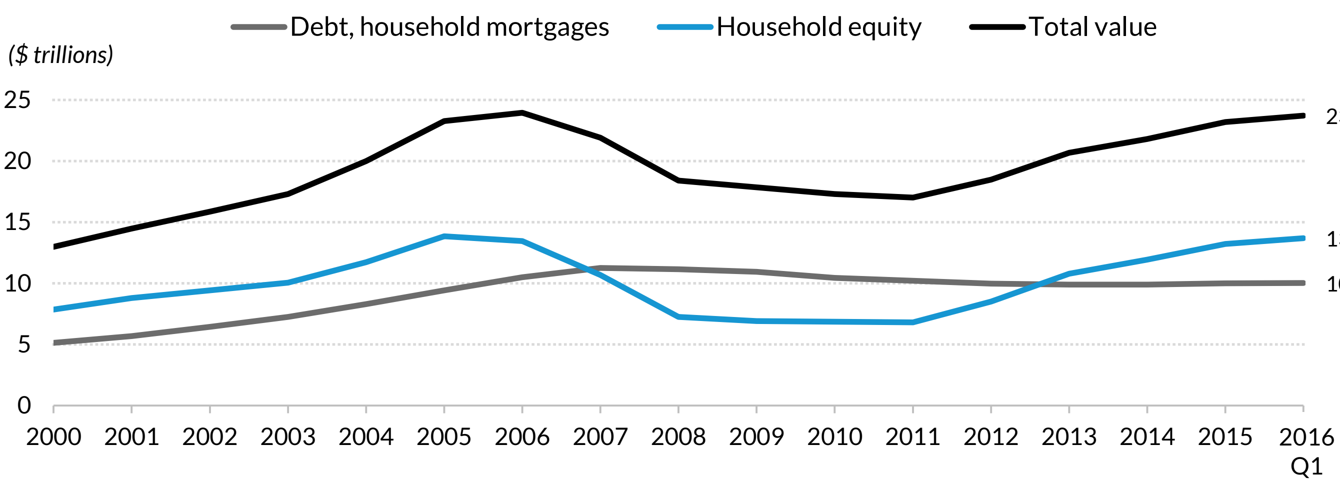
GSEs under Conservatorship

MARKET SIZE OVERVIEW

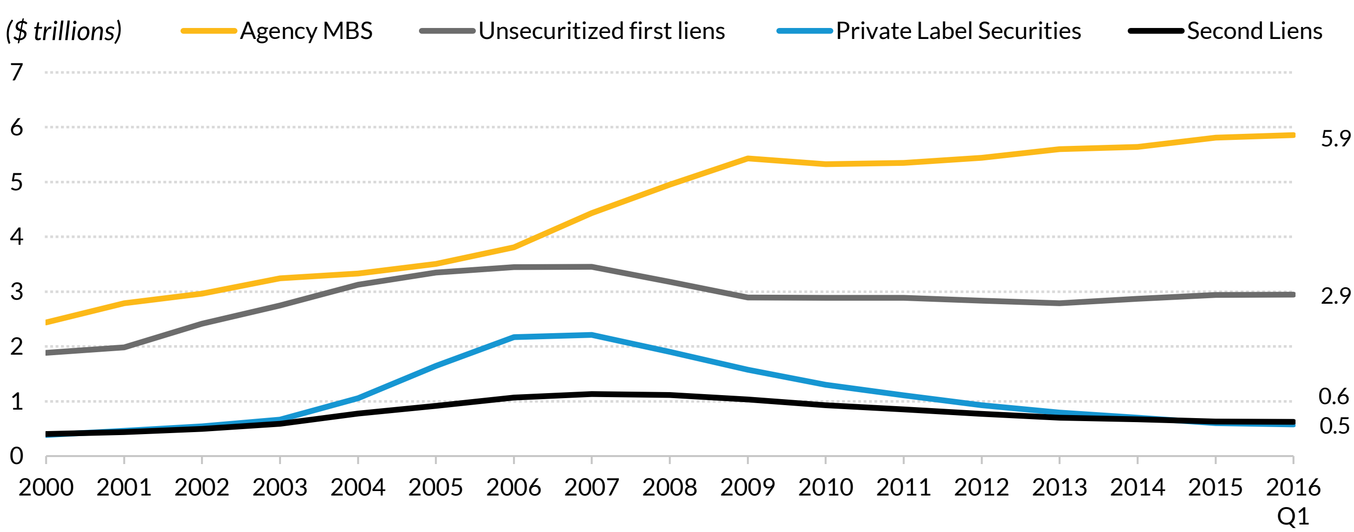
The Federal Reserve's Flow of Funds report has consistently indicated an increasing total value of the housing market driven by growing household equity since 2012, and the trend continued according to the latest data, covering Q1 2016. Total debt and mortgages increased slightly to $10.01 trillion, while household equity increased to $13.70 trillion. Agency MBS make up 58.5 percent of the total mortgage market, private-label securities make up 5.8 percent, and unsecuritized first liens at the GSEs, commercial banks, savings institutions, and credit unions make up 29.4 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

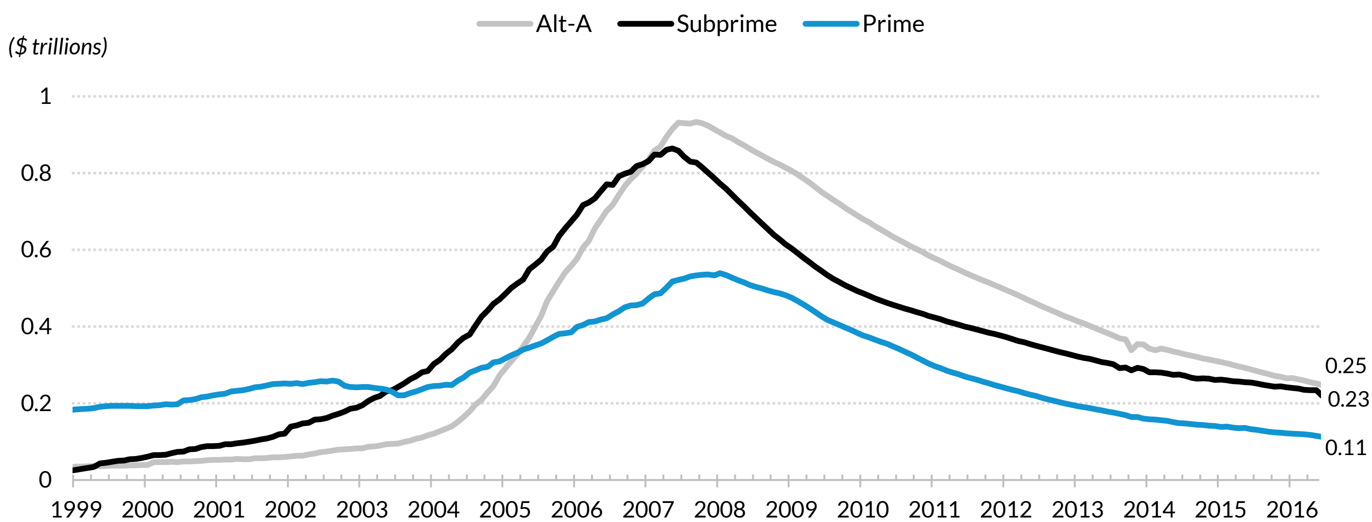


Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute.
Note: Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions.

MARKET SIZE OVERVIEW

As of June 2016, debt in the private-label securitization market totaled $600 billion and was split among prime (19.4 percent), Alt-A (42.8 percent), and subprime (37.8 percent) loans. In July 2016, outstanding securities in the agency market totaled $5.93 trillion and were 44.7 percent Fannie Mae, 27.5 percent Freddie Mac, and 27.8 percent Ginnie Mae. Ginnie Mae had more outstanding securities than Freddie for the third consecutive month.

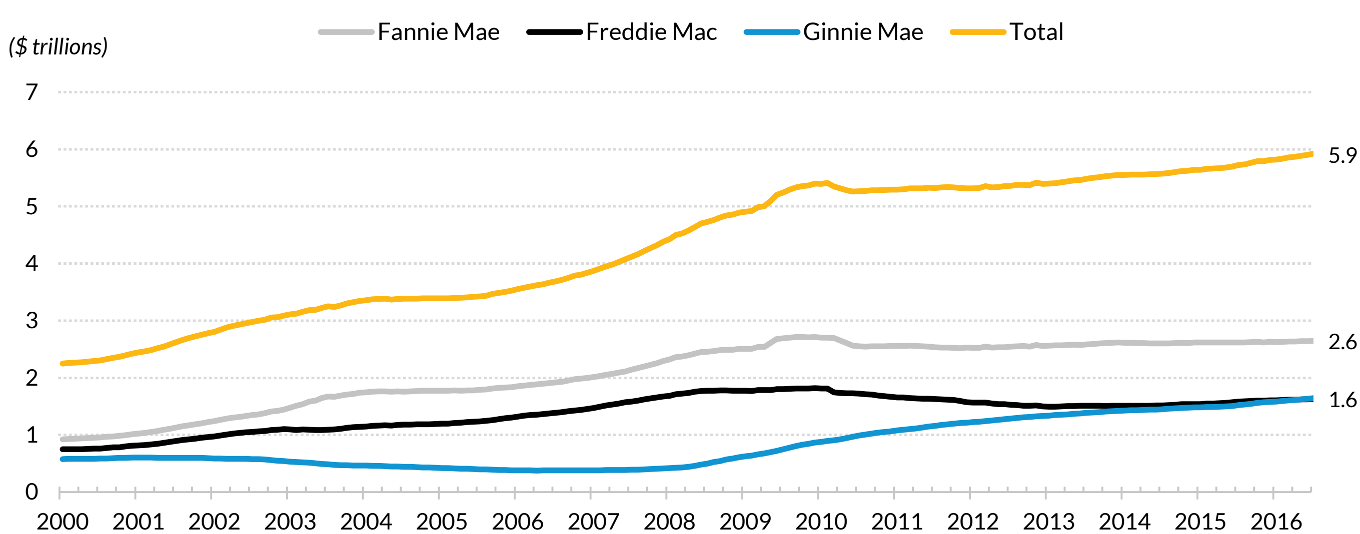
Private-Label Securities by Product Type



Sources: CoreLogic and Urban Institute.

June 2016

Agency Mortgage-Backed Securities



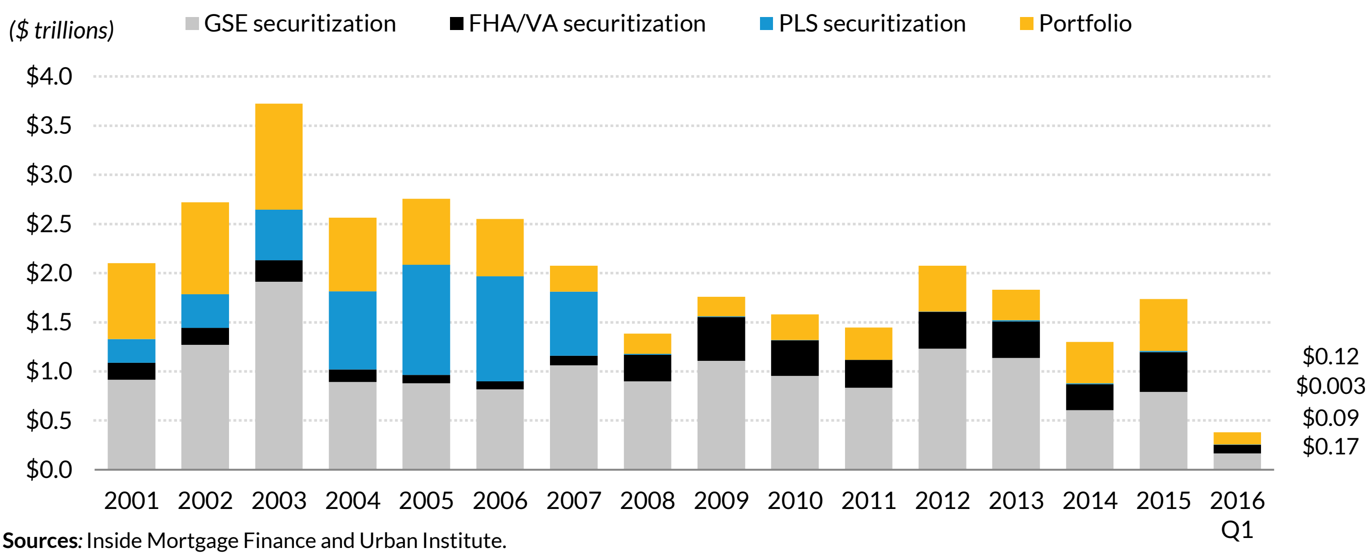
July 2016

Sources: eMBS and Urban Institute.

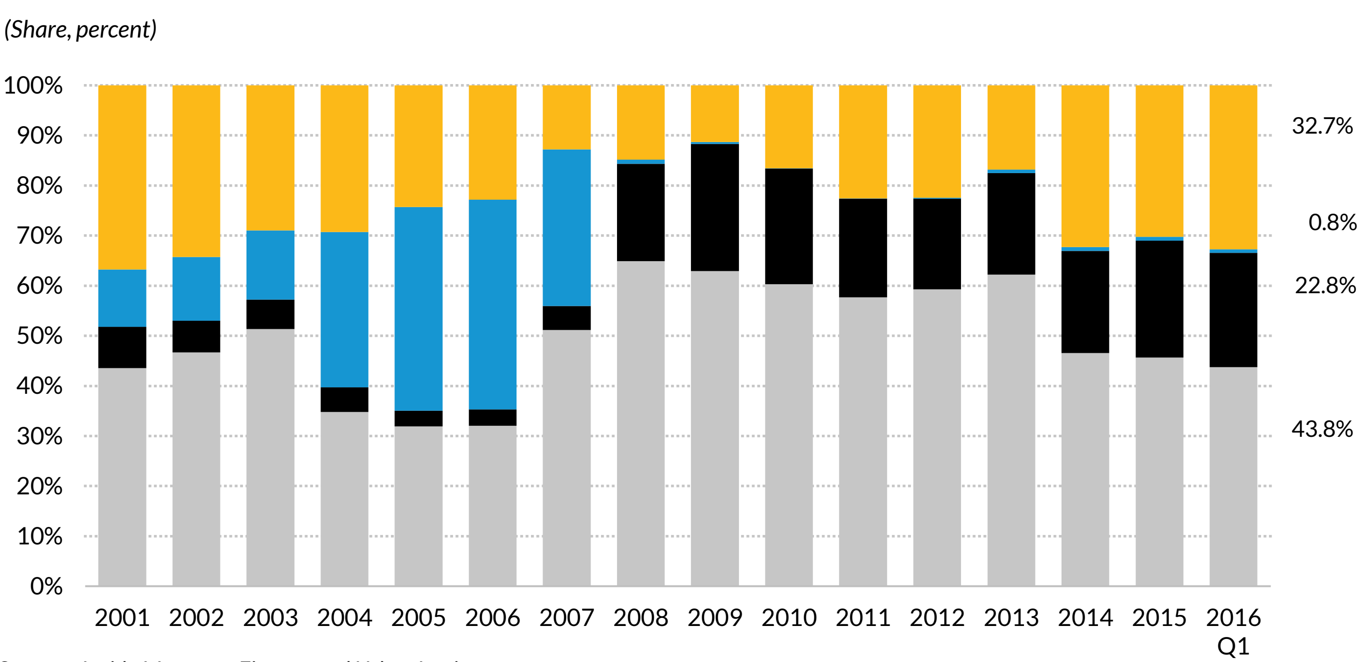
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

First lien originations in the first quarter of 2016 totaled approximately $380 billion. The share of portfolio originations rose to 33 percent, while the GSE share dropped to 44 percent from 46 percent in 2015. With credit risk so benign, and g-fees relatively high, banks are willing to hold more of the risk. FHA/VA originations account for another 23 percent, and the private label originations account for 0.8 percent.



Sources: Inside Mortgage Finance and Urban Institute.



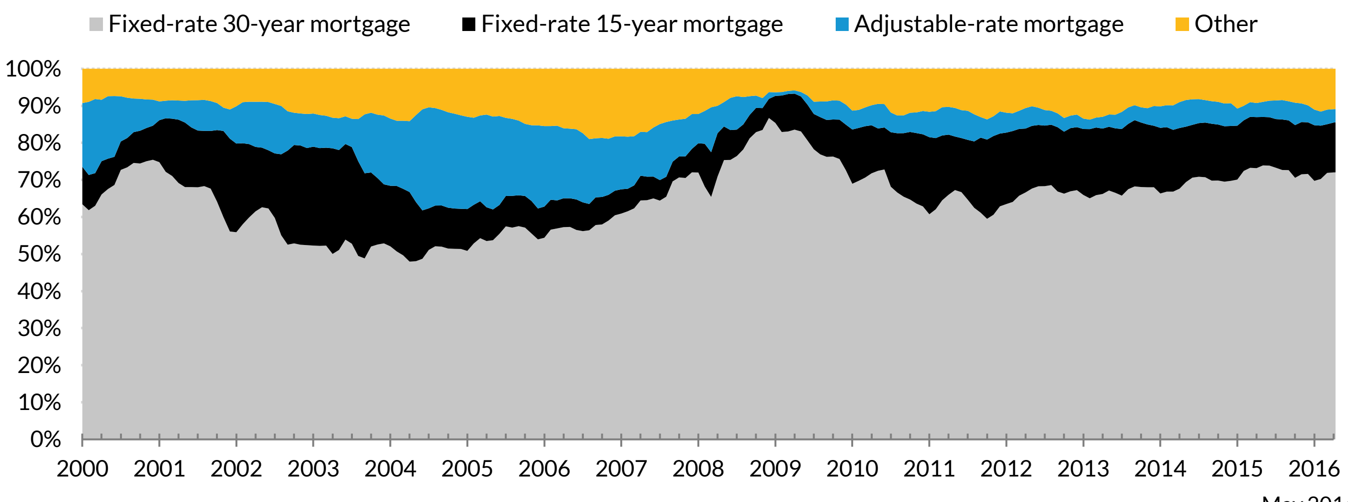
Sources: Inside Mortgage Finance and Urban Institute.

OVERVIEW

MORTGAGE ORIGINATION PRODUCT TYPE

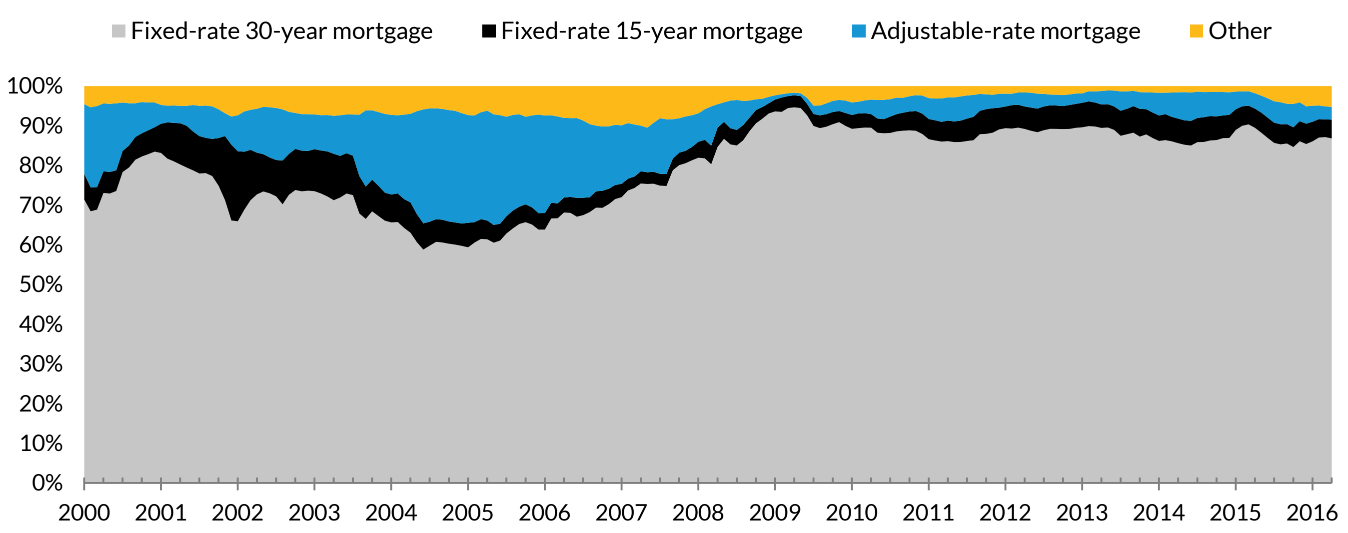
Adjustable-rate mortgages (ARMs) accounted for as much as 27 percent of all new originations during the peak of the recent housing bubble in 2004 (top chart). They fell to a historic low of 1 percent in 2009, and then slowly grew to a high of 7.2 percent in May 2014. Since then they began to decline again to 3.4 percent of total originations in May 2016. 15-year fixed-rate mortgages (FRMs), predominantly a refinance product, comprise 13.7 percent of new originations. If we exclude refinances (bottom chart), the share of 30-year FRMs in May 2016 stood at 86.6 percent, with 15-year FRMs at 4.6 percent, and ARMs at 3.3 percent.

All Originations



Sources: CoreLogic Servicing and Urban Institute.

Purchase Loans Only



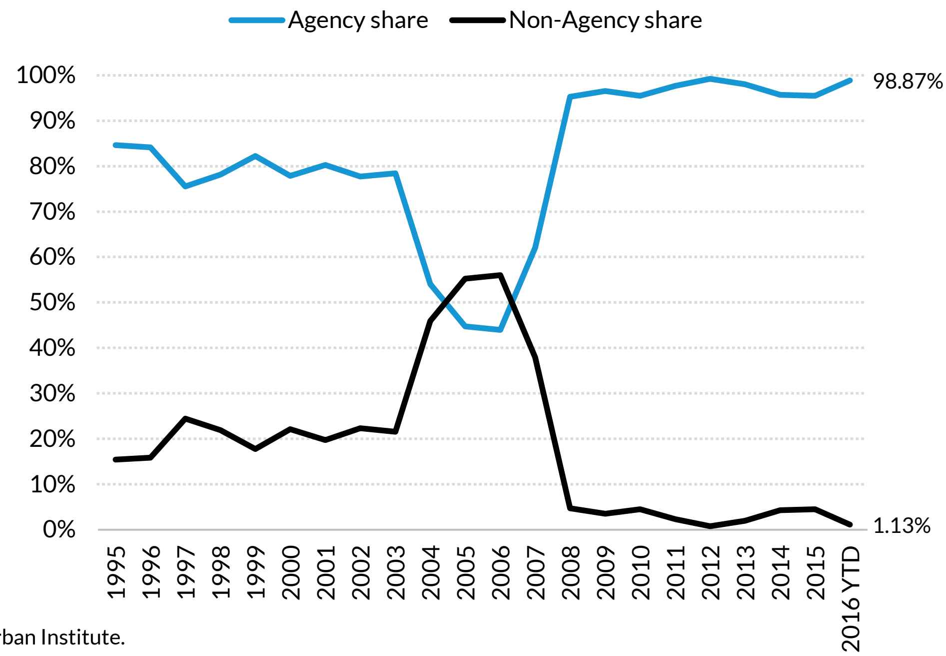
Sources: CoreLogic Servicing and Urban Institute.

OVERVIEW

SECURITIZATION VOLUME AND COMPOSITION

Agency/Non-Agency Share of Residential MBS Issuance

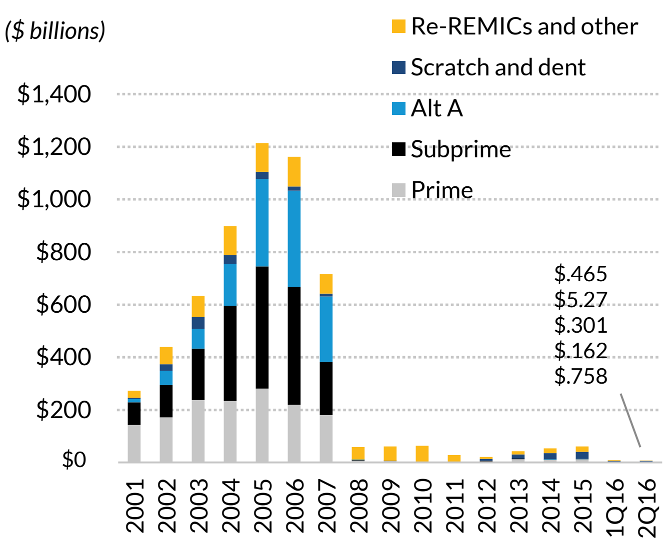
The non-agency share of mortgage securitizations in the first seven months of 2016 was 1.13%, compared to 4.5% in 2015 and 4.3% in 2014. Moreover, of the limited securitization that is getting done, the bulk of the volume is in non-performing and re-performing (scratch and dent) deals .The volume of 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 July 2016.

Non-Agency MBS Issuance

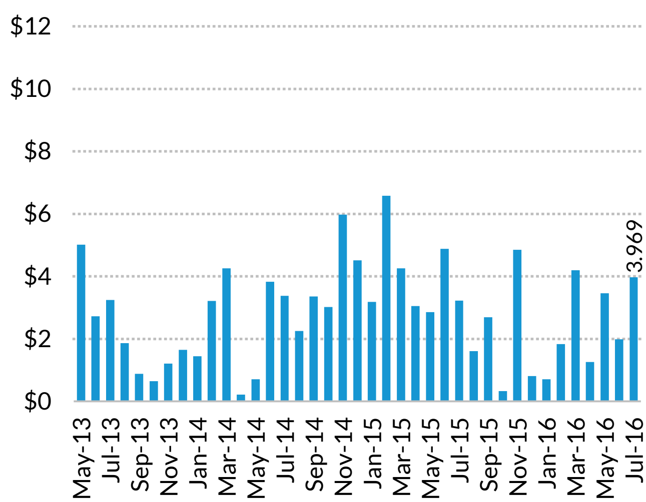
($ billions)



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization

($ billions)

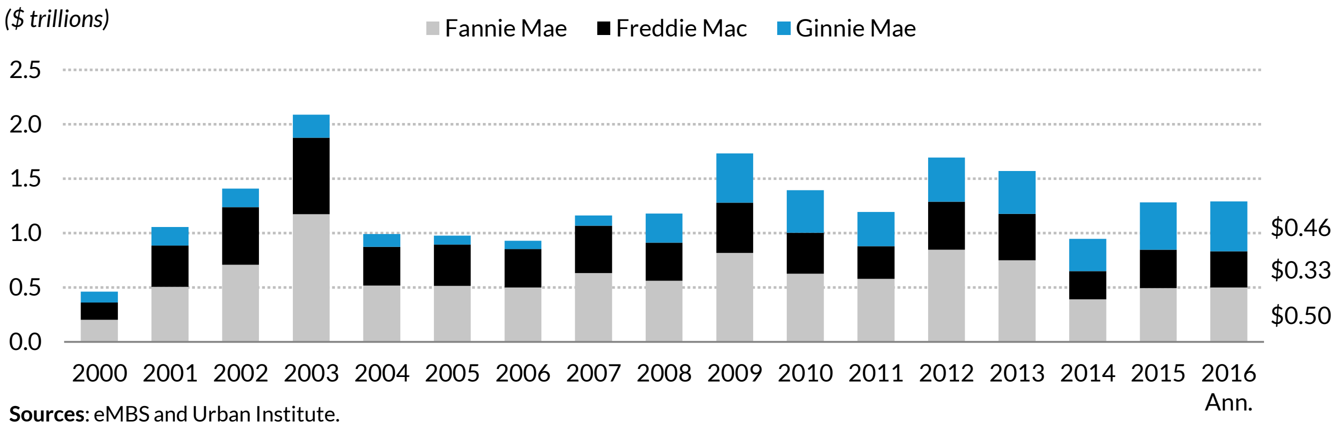


Sources: Inside Mortgage Finance and Urban Institute.
Note: Monthly figures equal total non-agency MBS issuance minus Re-REMIC issuance.

OVERVIEW
AGENCY ACTIVITY: VOLUMES AND PURCHASE/ REFI COMPOSITION

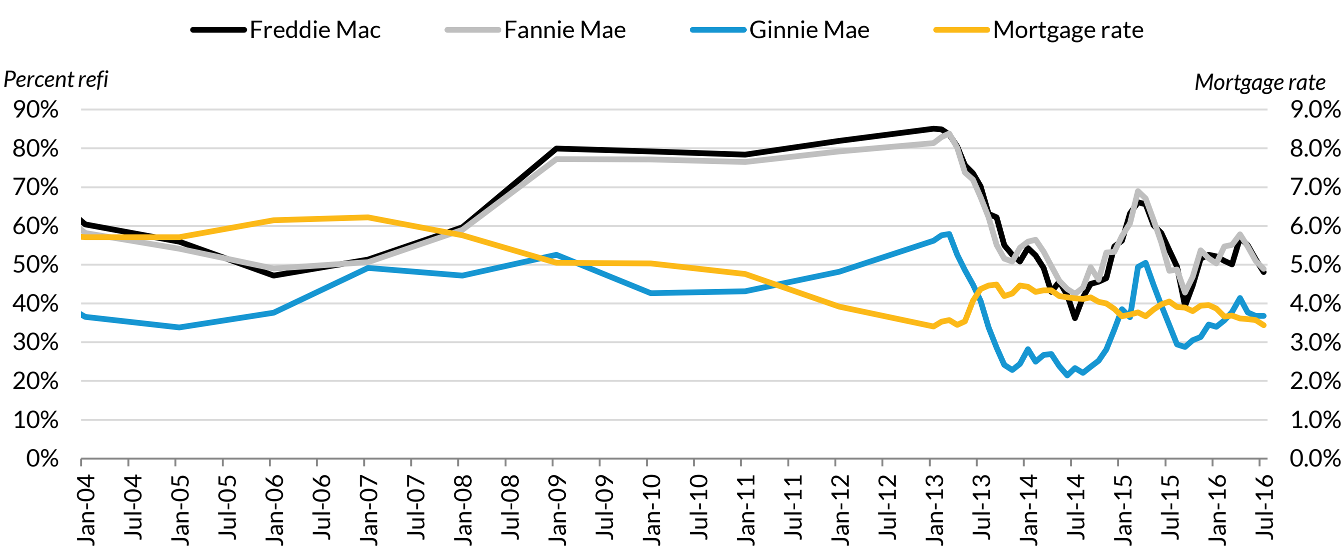
Agency issuance totaled $752.2 billion in the first seven months of 2016, slightly down from $766.8 billion for the same period a year ago. In July 2016, refinances stayed high at 48 and 49 percent of the Freddie Mac's and Fannie Mae's business, reflecting recent declines in mortgage rates. The GNMA 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 June 2016.

Percent Refi at Issuance



Sources: eMBS and Urban Institute.
Note: Based on at-issuance balance.

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 $1,762 billion and $1,825 of originations, respectively, while MBA predicts $1,741 billion in originations. Freddie expects a marginally higher share of refis in 2016 than 2015, while the MBA and Fannie expect the refi shares to be lower. 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	336	385	350	47	55	47
2016 Q2	509	515	510	42	50	46
2016 Q3	496	490	518	41	48	42
2016 Q4	420	435	363	39	45	39
2017 Q1	334	390	295	45	38	34
2017Q2	429	420	380	32	35	26
2017Q3	421	380	390	30	30	24
2017 Q4	372	360	318	31	25	26
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	1762	1825	1741	42	49	44
FY 2017	1556	1550	1383	34	32	27

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 project rates of 3.5%, 3.6%, and 3.7%, respectively. For 2017, their respective projections are 3.5%, 4.0%, and 4.2%.

Housing Starts and Homes Sales

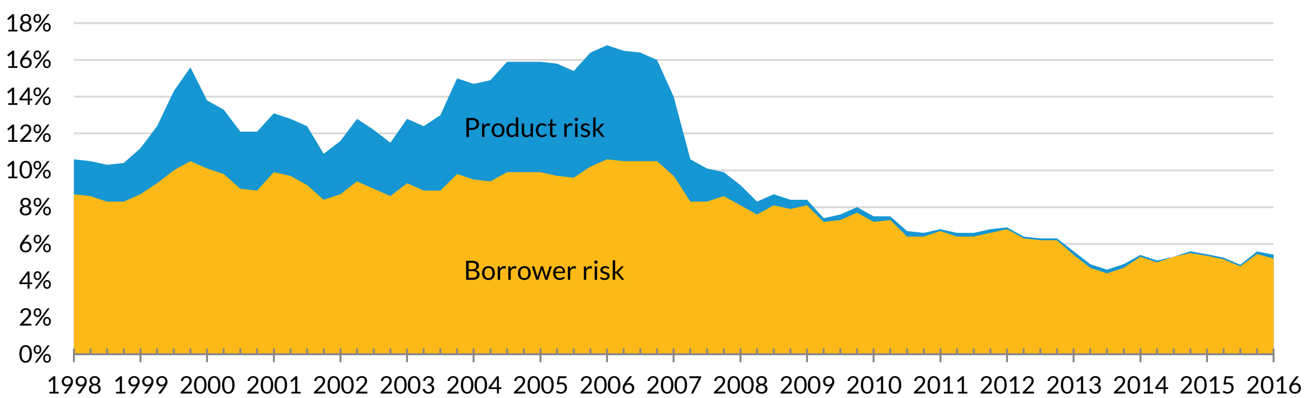
Year	Housing Starts, thousands			Home Sales. thousands				
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Existing, MBA estimate	New, MBA Estimate
FY 2013	925	920	930	5519	5520	5505	5073	432
FY 2014	1003	1000	1001	5377	5380	5360	4920	440
FY 2015	1112	1110	1108	5751	5750	5740	5237	503
FY 2016	1188	1260	1183	5990	5960	6069	5490	579
FY 2017	1337	1510	1265	6163	6160	6409	5759	650

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)

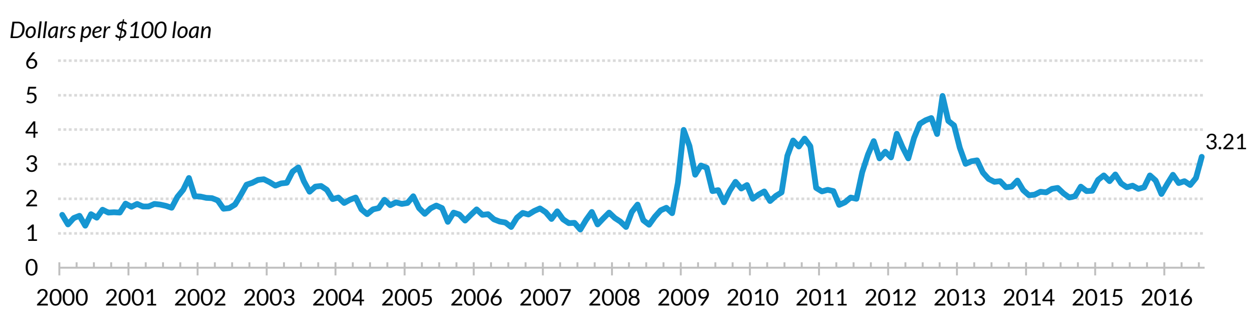
HFPC's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the percentage of owner-occupied purchase loans that are likely to default. The index shows that credit availability declined slightly to 5.4 percent in 2016 Q1, down from 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, the highest level since January 2013

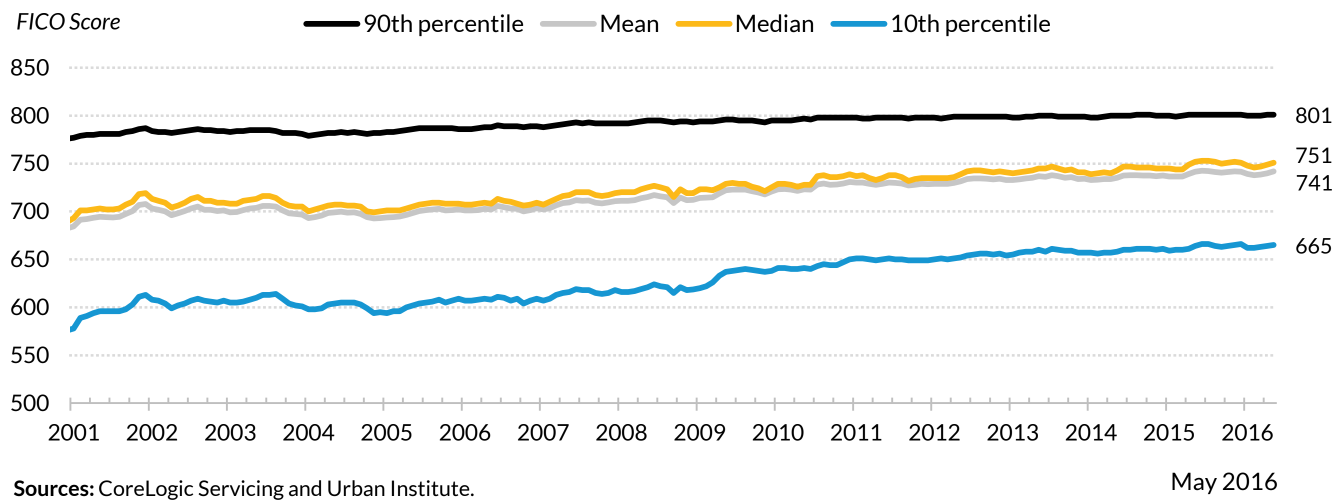


Sources: Federal Reserve Bank of New York, updated monthly and available at this link: http://www.ny.frb.org/research/epr/2013/1113fust.html and Urban Institute.
Note: OPUC stands for "originator profits and unmeasured costs" as discussed in Fuster et al. (2013). The OPUC series is a monthly (4-week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

CREDIT AVAILABILITY FOR PURCHASE LOANS

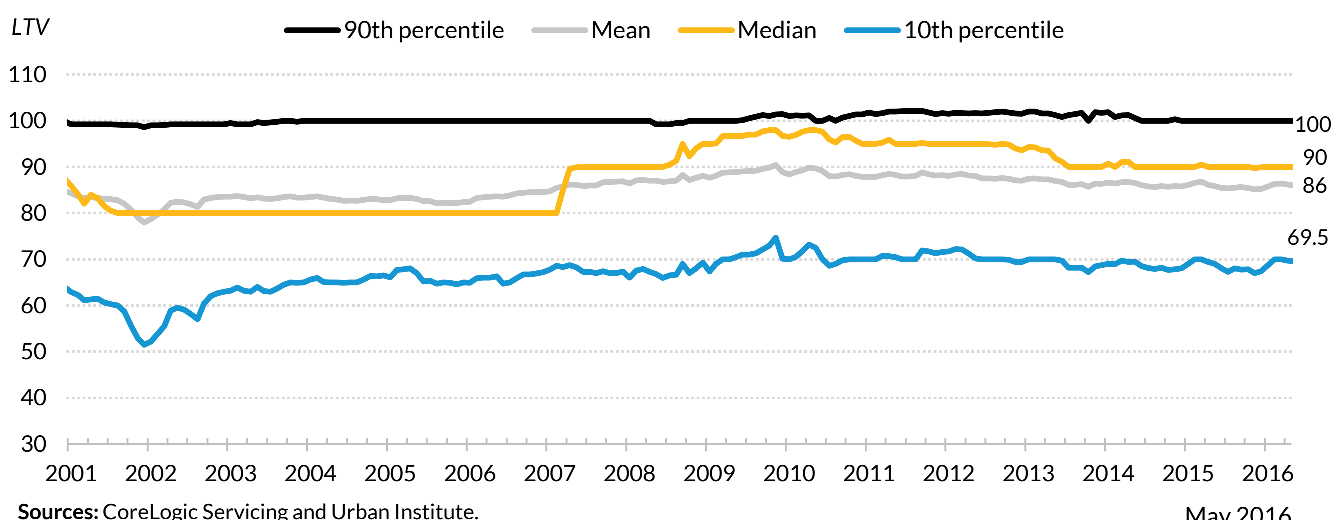
Access to credit has become extremely tight, especially for borrowers with low FICO scores. The mean and median FICO scores on new originations have both drifted up about 40 and 43 points over the last decade. The 10th percentile of FICO scores, which represents the lower bound of creditworthiness needed to qualify for a mortgage, stood at 665 as of May 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 Servicing and Urban Institute.
Note: Purchase-only loans.

Combined LTV at Origination

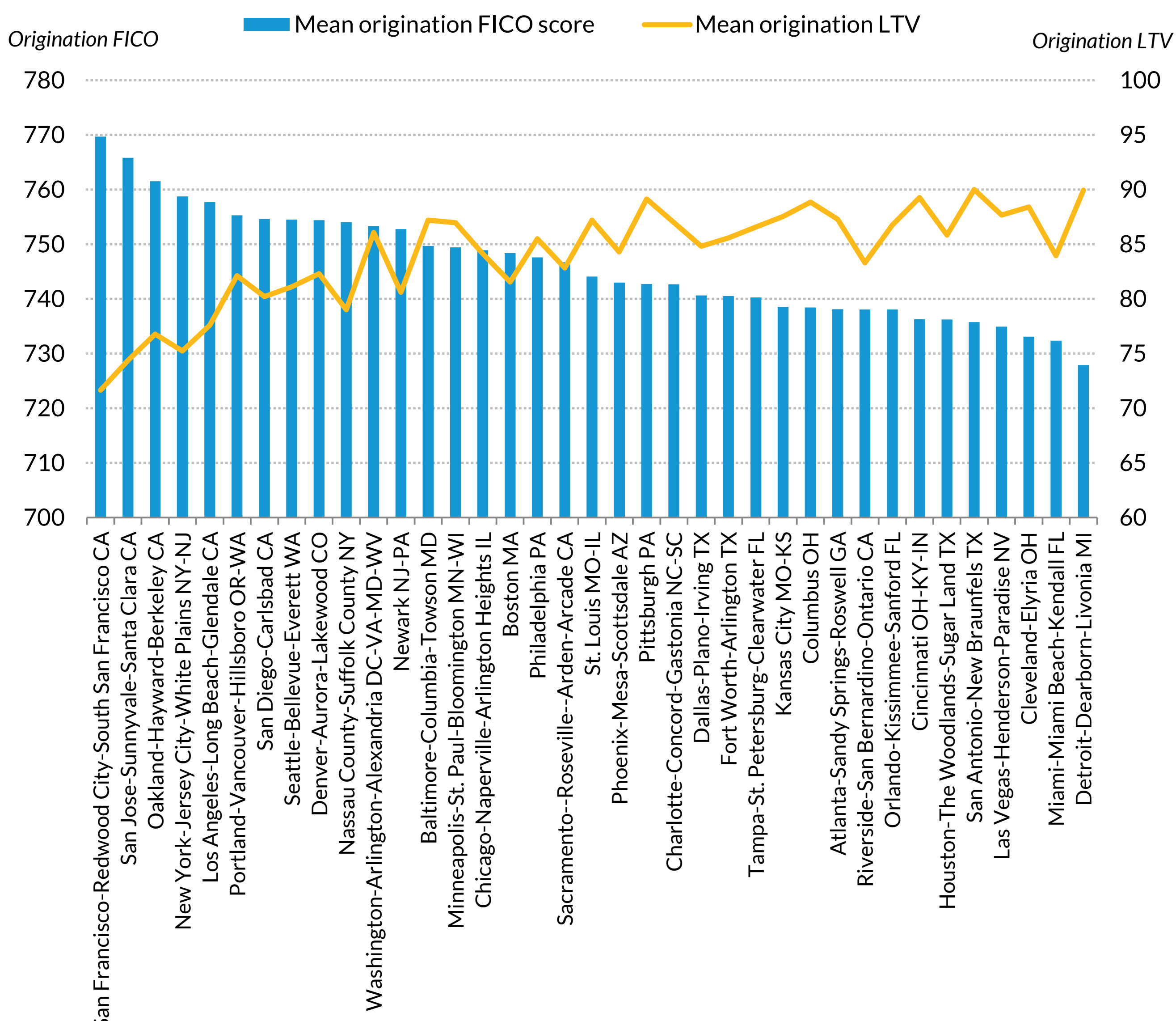


Sources: CoreLogic Servicing and Urban Institute.
Note: Purchase-only loans.

CREDIT AVAILABILITY FOR PURCHASE LOANS

Credit has been tight for all borrowers with less-than-stellar credit scores, but there are significant variations across MSAs. 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 728. 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



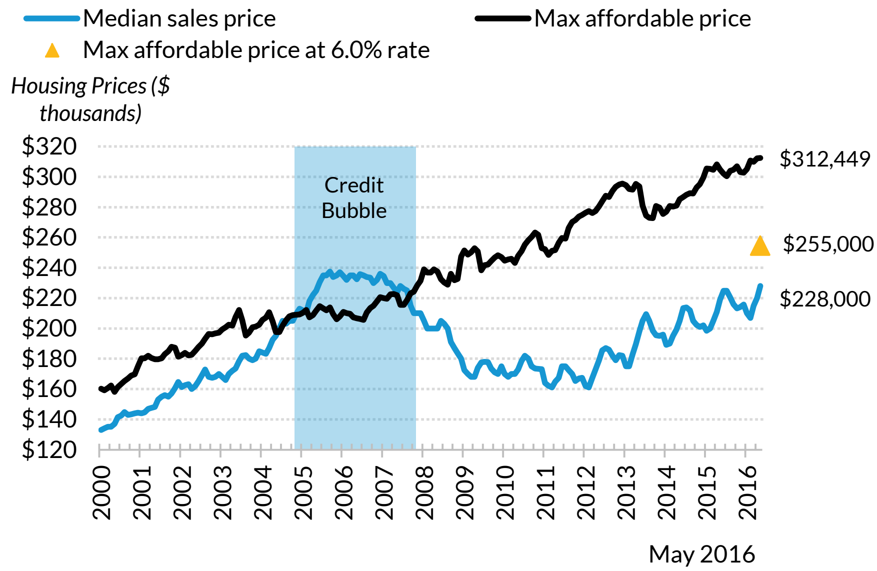
Sources: CoreLogic Servicing as of May 2016 and Urban Institute.
Note: Purchase-only loans.

HOUSING AFFORDABILITY

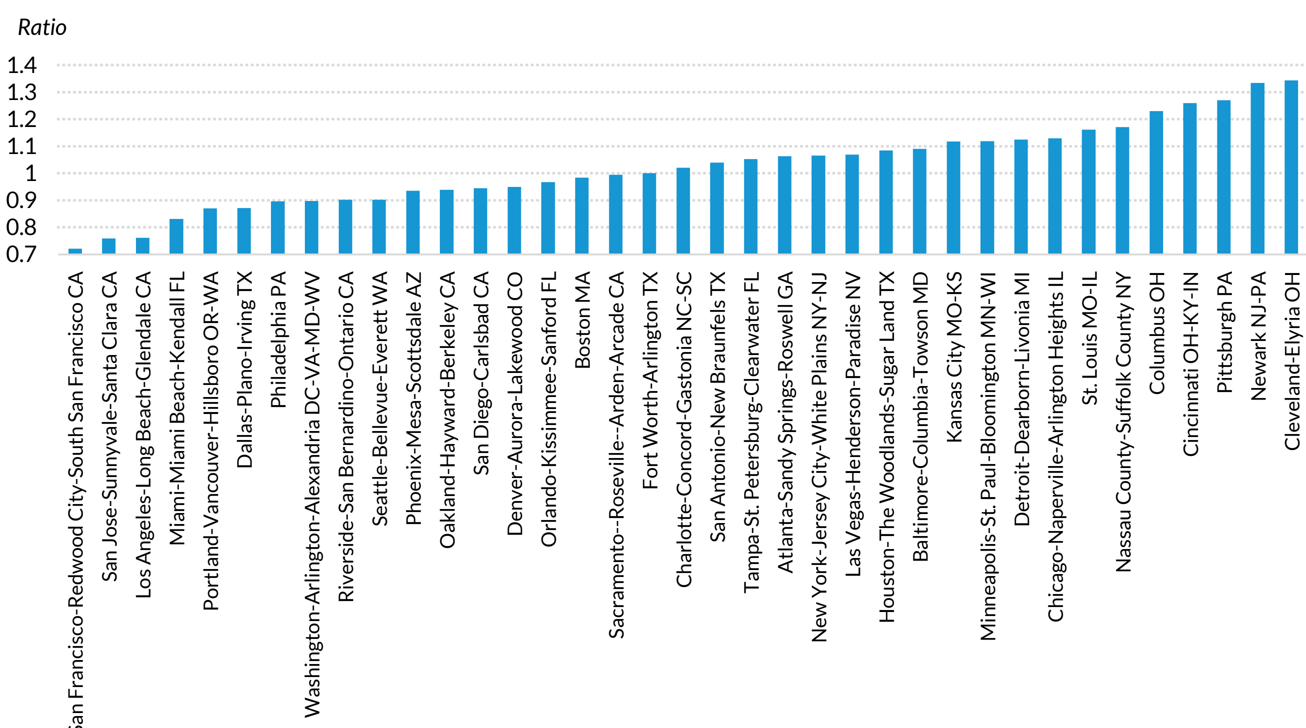
National Housing Affordability Over Time

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

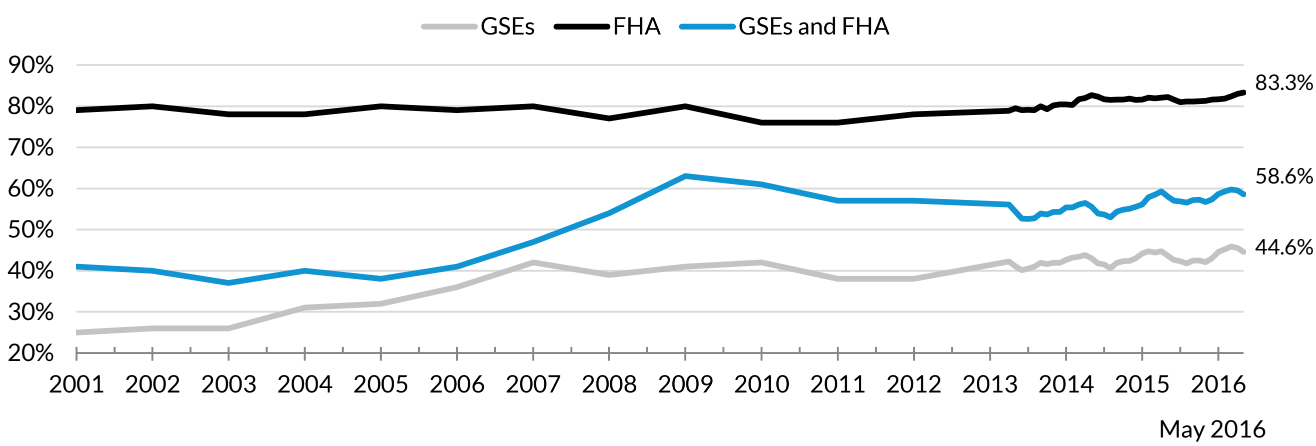


Sources: CoreLogic, US Census, Freddie Mac and Urban Institute calculations based on NAR methodology.
Note: Index is calculated relative to home prices in 2000-03. A ratio above 1 indicates higher affordability in May 2016 than in 2000-03.

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In May 2016, the first-time homebuyer share of GSE purchase loans edged down to 44.6 percent. The FHA has always been more focused on first-time homebuyers, with its first-time homebuyer share hovering around 80 percent and now rose to 83.3 percent. The bottom table shows that based on mortgages originated in May 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

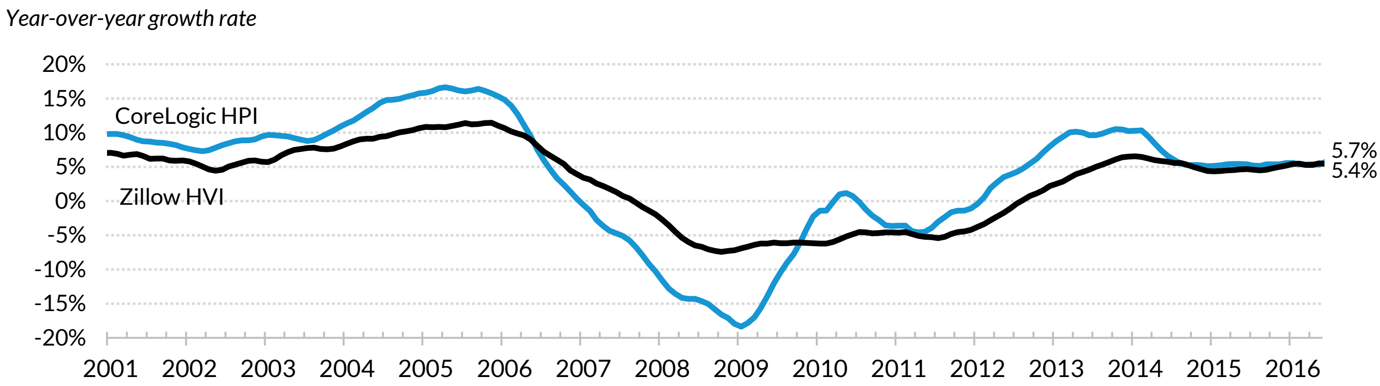
	GSEs		FHA		GSEs and FHA	
Characteristics	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount ($)	225,720	249,836	188,859	217,261	207,451	242,837
Credit Score	741.44	756.19	679.73	687.18	711.74	741.37
LTV (%)	86.64	79.92	95.68	94.78	90.67	82.67
DTI (%)	33.29	34.14	40.56	41.5	36.78	35.71
Loan Rate (%)	3.88	3.77	3.82	3.75	3.85	3.77

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

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 40.5 percent from the trough, national house prices still must grow 7.2 percent to reach pre-crisis peak levels. At the MSA level, five of the top 15 MSAs have reached their peak HPI– New York, NY; 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 31 and 34 percent to return to peak levels, respectively.

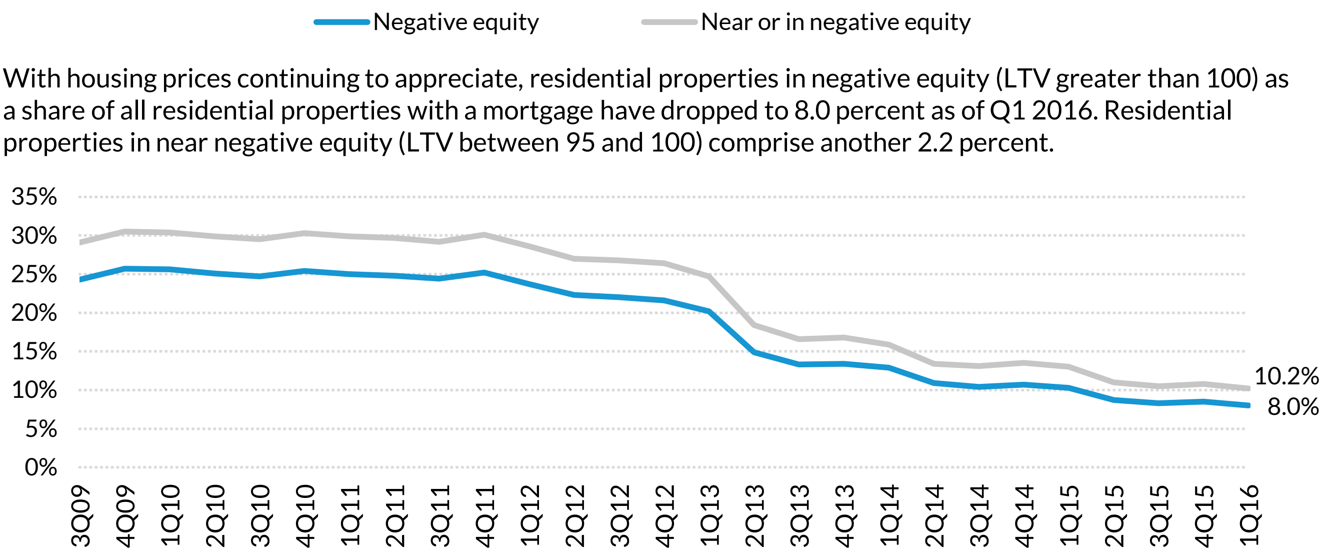
MSA	HPI changes (%)			% Rise needed to achieve peak
	2000 to peak	Peak to trough	Trough to current	
United States	93.7	-33.6	40.5	7.2
New York-Jersey City-White Plains NY-NJ	113.1	-16.4	27.6	-6.3
Los Angeles-Long Beach-Glendale CA	177.6	-38.6	56.6	4.1
Chicago-Naperville-Arlington Heights IL	66.1	-36.1	30.2	20.2
Atlanta-Sandy Springs-Roswell GA	37.9	-33.4	50.0	0.1
Washington-Arlington-Alexandria DC-VA-MD-WV	155.6	-34.4	33.1	14.5
Houston-The Woodlands-Sugar Land TX	39.7	-14.1	42.3	-18.2
Phoenix-Mesa-Scottsdale AZ	123.8	-52.9	61.6	31.3
Riverside-San Bernardino-Ontario CA	186.3	-52.9	58.8	33.6
Dallas-Plano-Irving TX	34.1	-14.0	46.7	-20.8
Minneapolis-St. Paul-Bloomington MN-WI	73.2	-30.5	35.2	6.5
Seattle-Bellevue-Everett WA	91.0	-29.4	57.1	-9.9
Denver-Aurora-Lakewood CO	35.6	-13.5	58.7	-27.2
Baltimore-Columbia-Towson MD	122.9	-24.5	11.8	18.5
San Diego-Carlsbad CA	145.0	-37.7	48.7	7.9
Anaheim-Santa Ana-Irvine CA	161.1	-35.9	45.9	6.9

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

NEGATIVE EQUITY & SERIOUS DELINQUENCY

Negative Equity Share

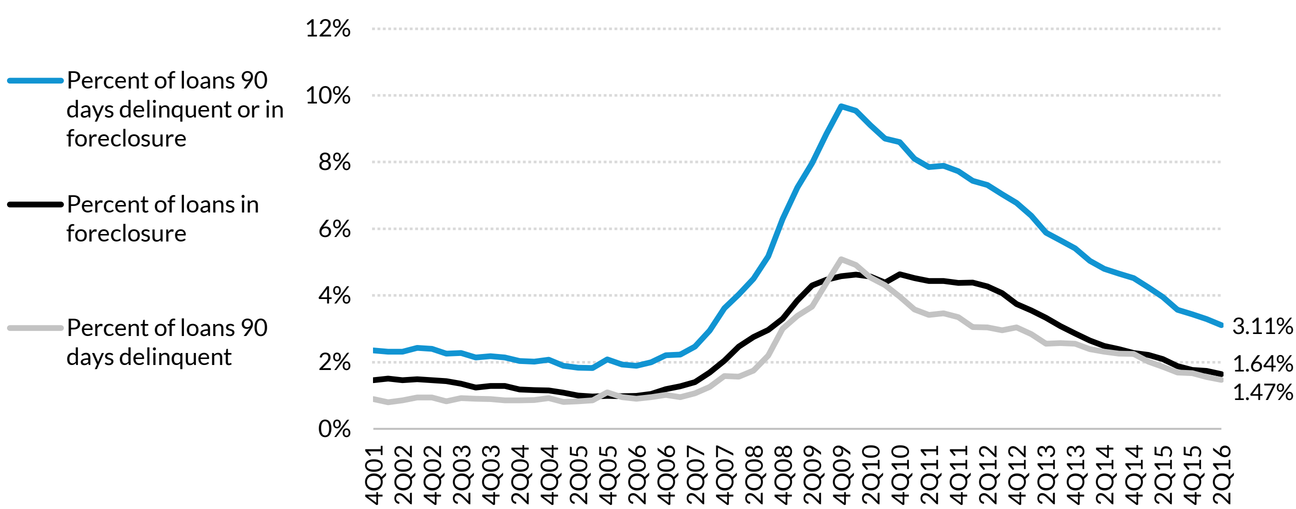
With housing prices continuing to appreciate, residential properties in negative equity (LTV greater than 100) as a share of all residential properties with a mortgage have dropped to 8.0 percent as of Q1 2016. Residential properties in near negative equity (LTV between 95 and 100) comprise another 2.2 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.

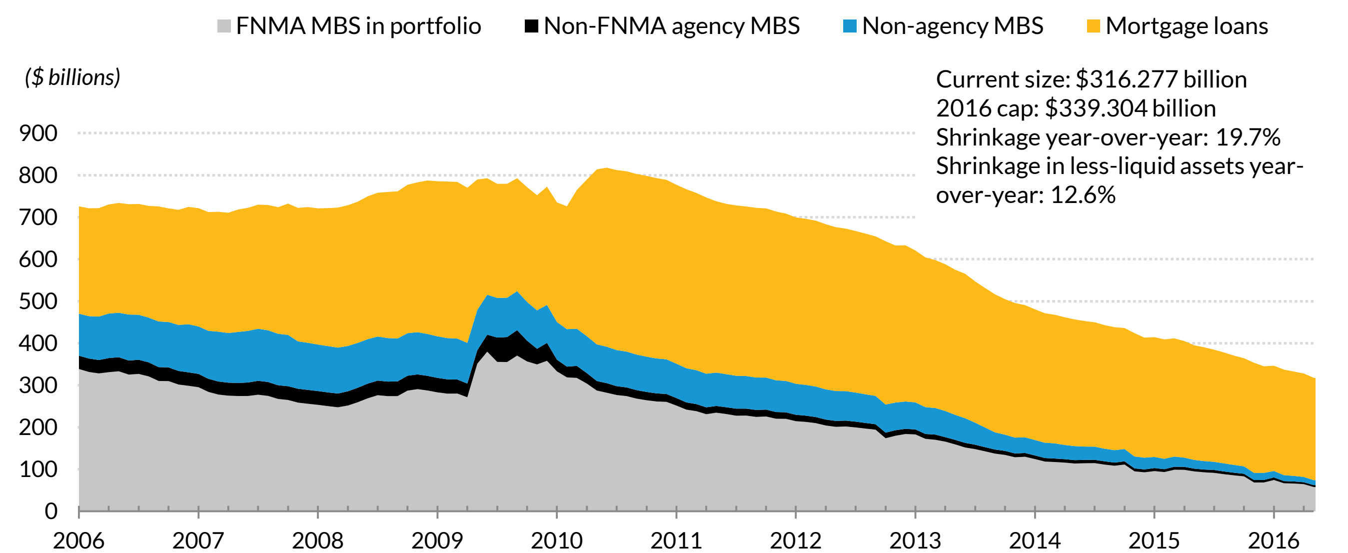


Sources: Mortgage Bankers Association and Urban Institute.

GSE PORTFOLIO WIND-DOWN

Both GSEs continue to contract their portfolios; since June 2015, Fannie Mae contracted by 19.6 percent and Freddie Mac by 16.3 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.

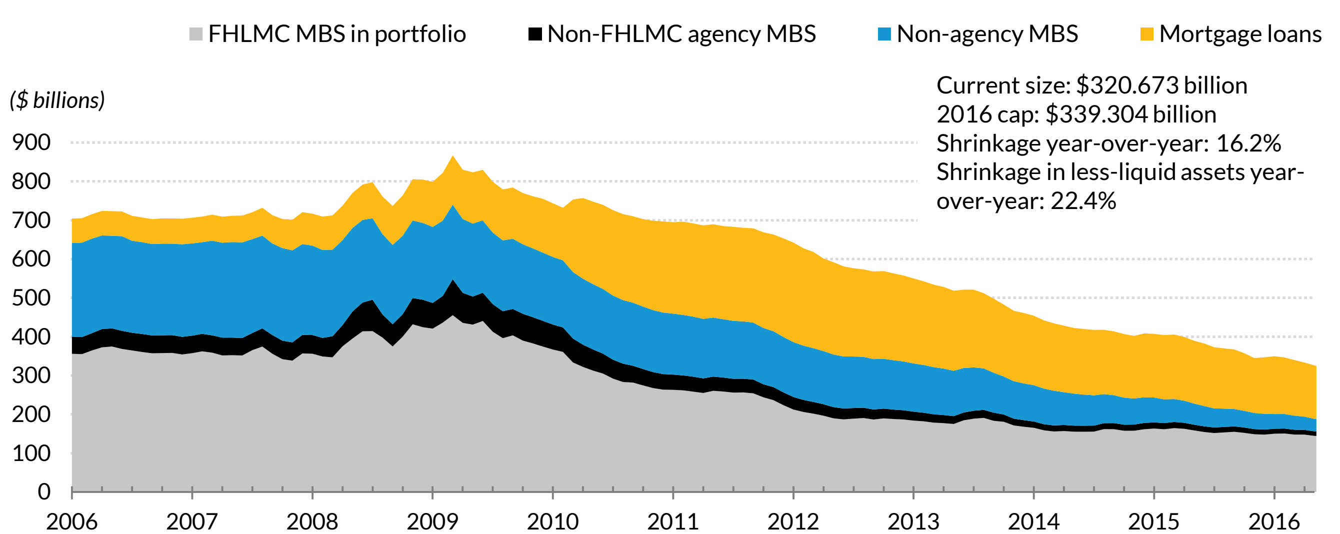
Fannie Mae Mortgage-Related Investment Portfolio Composition



Sources: Fannie Mae and Urban Institute.

June 2016

Freddie Mac Mortgage-Related Investment Portfolio Composition



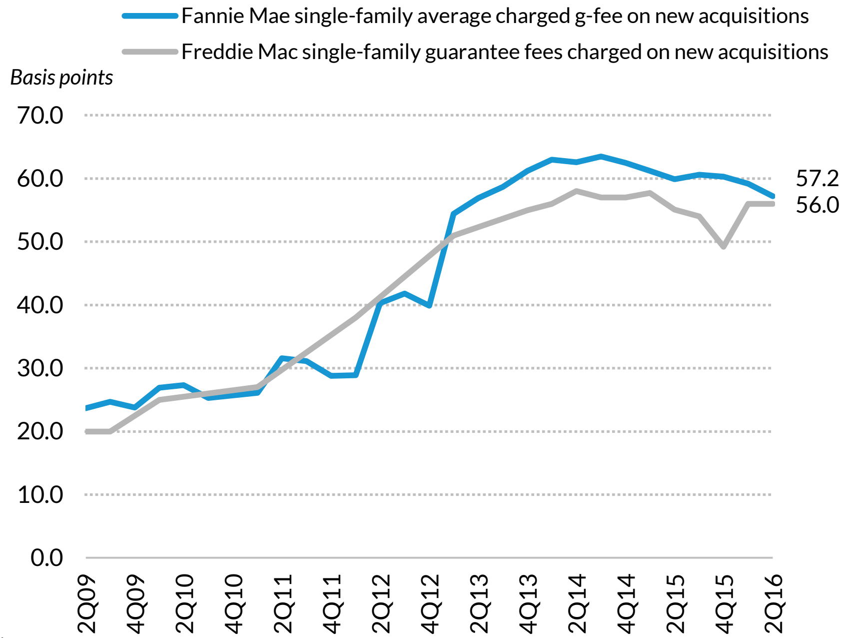
June 2016

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 30.88%.

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)

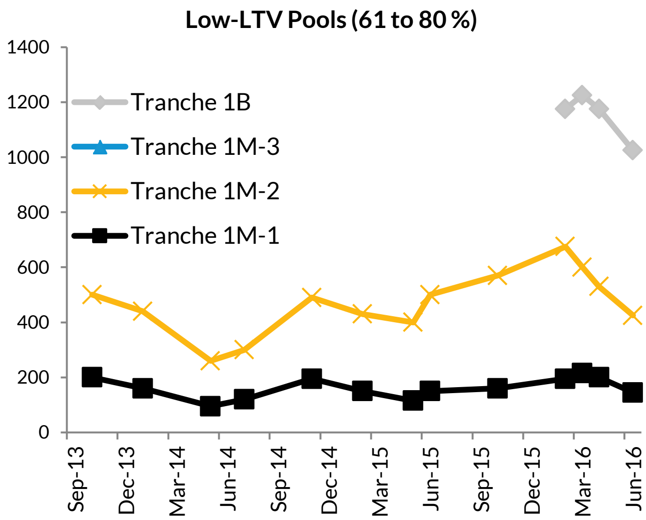
Date	Transaction	Reference Pool Size ($ m)	Amount Issued ($m)	% of Reference Pool Covered
July 2013	STACR Series 2013 – DN1	$22,584	$500	2.2%
November 2013	STACR Series 2013 – DN2	$35,327	$630	1.8%
February 2014	STACR Series 2014 – DN1	$32,077	$1,008	3.1%
April 2014	STACR Series 2014 – DN2	$28,147	$966	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%
Total		**$543,573**	**$16,513**	**3.0%**
Percent of Freddie Mac's Total Book of Business		**30.88%**		

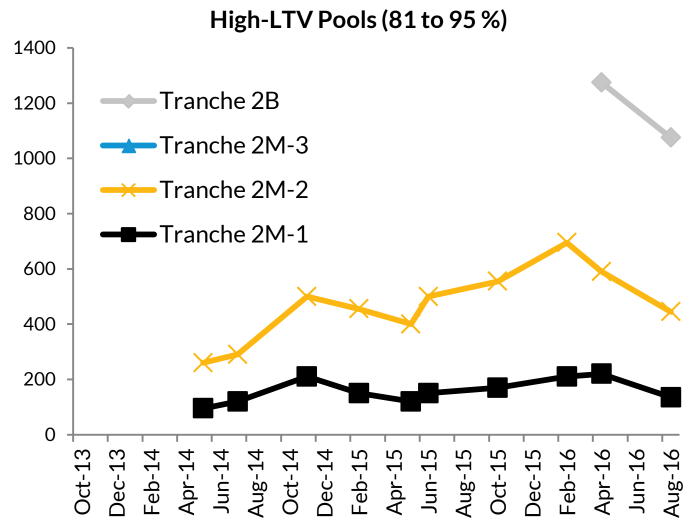
Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Classes A-H, M-1H, M-2H, and B-H are reference tranches only. These classes are not issued or sold. The risk is retained by Fannie Mae and Freddie Mac. "CE" = credit enhancement.

GSE RISK-SHARING SPREADS

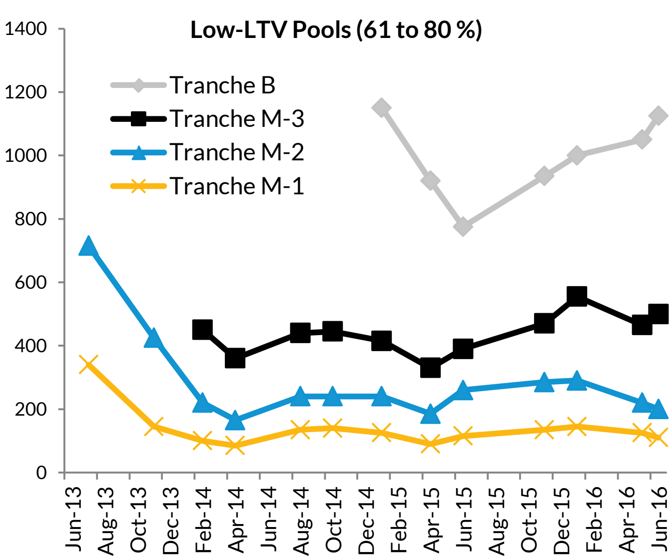
CAS and STACR spreads have moved around considerably since 2013, with the bottom mezzanine tranche and the first loss bonds experiencing considerably more volatility than the top mezzanine bonds (the M-1 in two tranche deals, the M-1 and M-2 in three tranche deals). Tranche B in particular has been highly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

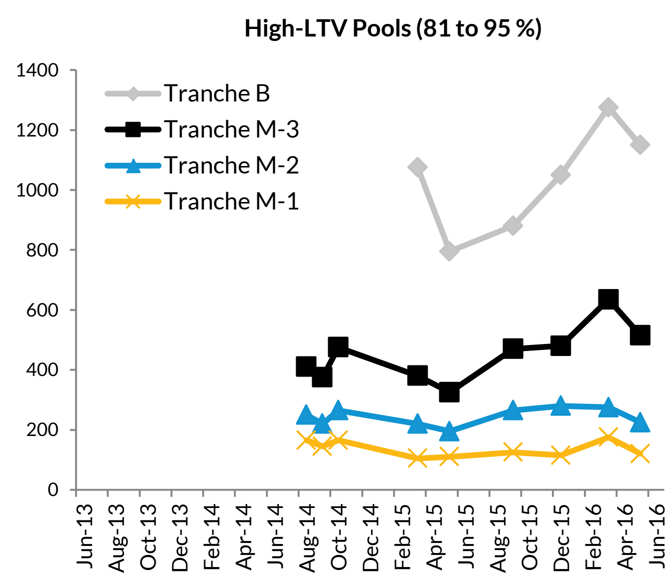
Fannie Mae CAS Spreads at-issuance (basis points over 1-month LIBOR)





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



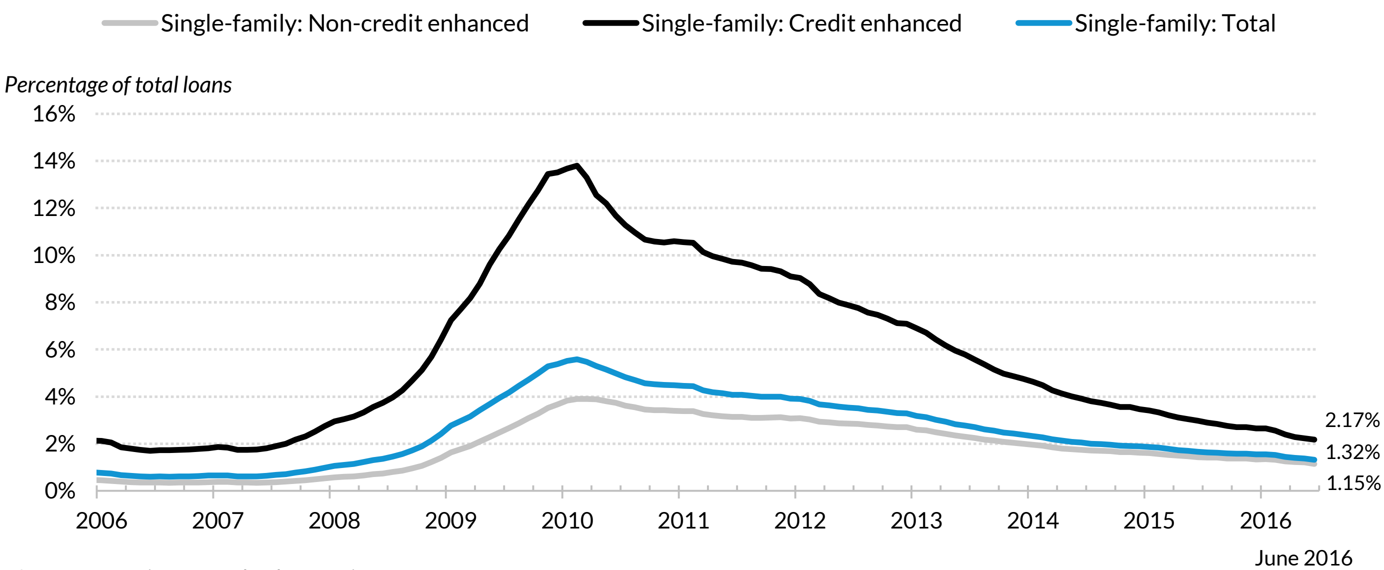


Sources: Fannie Mae, Freddie Mac Press Releases and Urban Institute.

GSES UNDER CONSERVATORSHIP
SERIOUS DELINQUENCY RATES

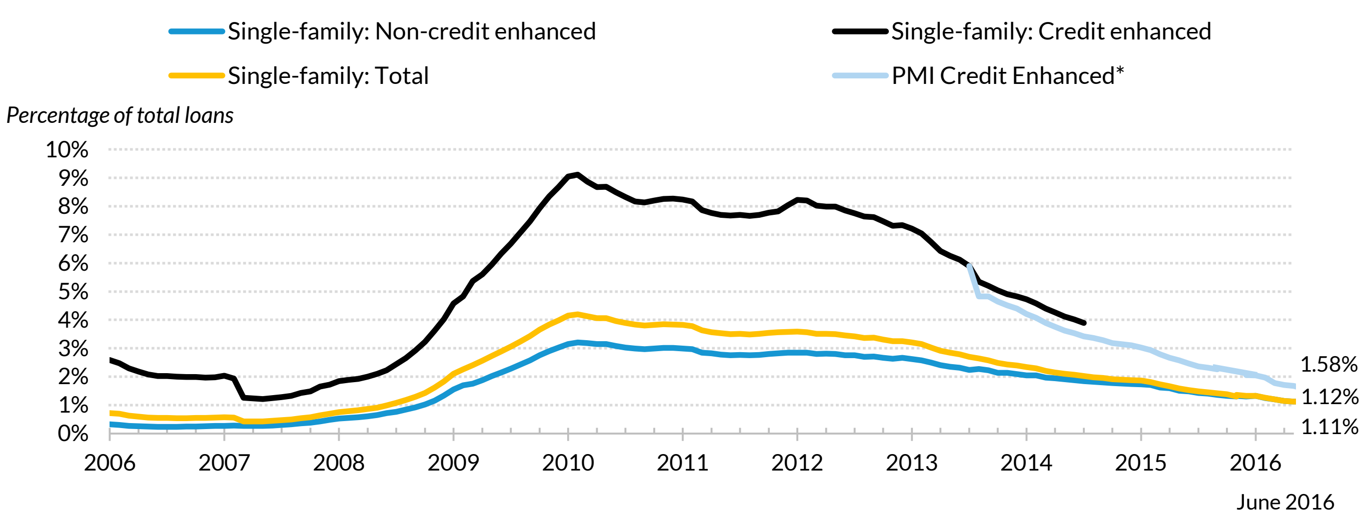
Serious delinquency rates of GSE loans continue to decline as the legacy portfolio is resolved and the pristine, post-2009 book of business exhibits very low default rates. As of June 2016, 1.32 percent of the Fannie portfolio and 1.12 percent of the Freddie portfolio were seriously delinquent, down from 1.66 percent for Fannie and 1.53 percent for Freddie in June 2015.

Serious Delinquency Rates–Fannie Mae



Sources: Fannie Mae and Urban Institute.

Serious Delinquency Rates–Freddie Mac

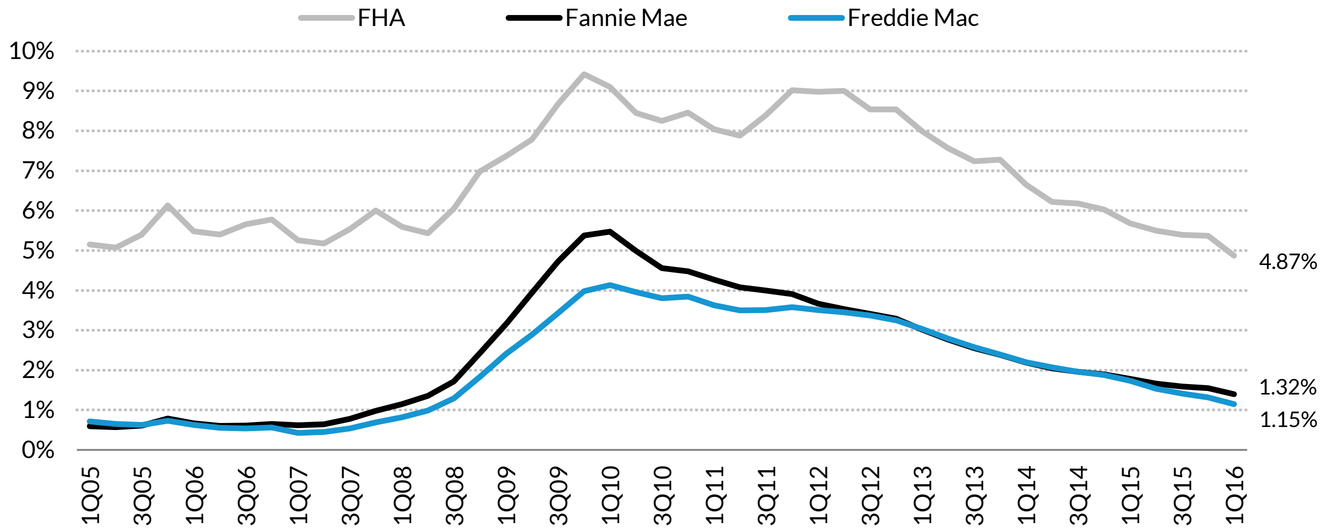


Sources: Freddie Mac and Urban Institute.
Note*: Following a change in Freddie reporting in September 2014, we switched from reporting credit enhanced delinquency rates to PMI credit enhanced delinquency rates.

GSES UNDER CONSERVATORSHIP
SERIOUS DELINQUENCY RATES

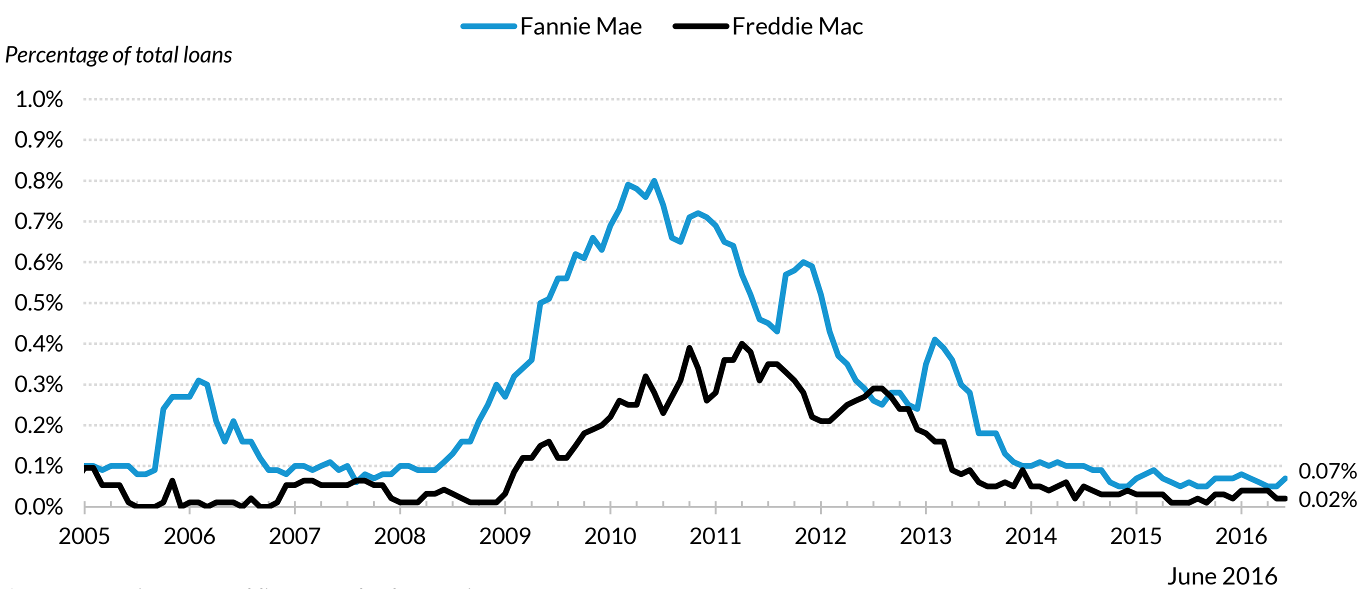
Serious delinquencies for FHA and GSE single-family loans continue to decline. GSE delinquencies remain higher relative to 2005-2007, while FHA delinquencies (which are much higher than their GSE counterparts) are now at levels similar to 2005-2007. GSE multifamily delinquencies have declined to pre-crisis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

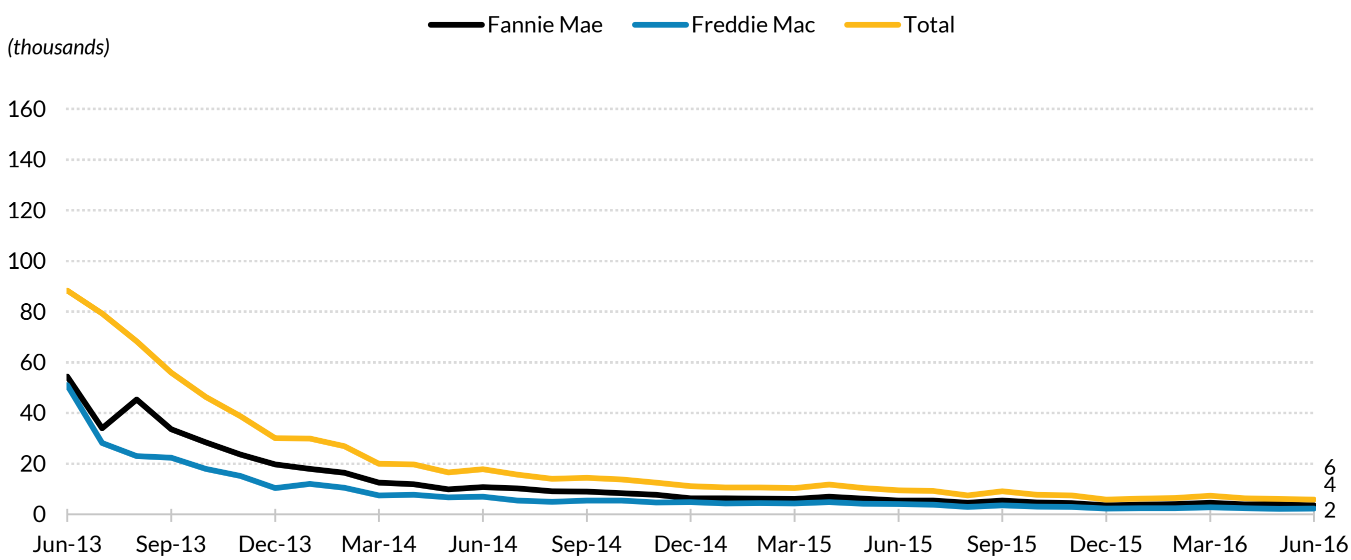


Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Multifamily serious delinquency rate is the unpaid balance of loans 60 days or more past due, divided by the total unpaid balance.

GSES UNDER CONSERVATORSHIP
REFINANCE ACTIVITY

The Home Affordable Refinance Program (HARP) refinances have slowed considerably. Two factors are responsible for this: (1) higher interest rates, leaving fewer eligible loans where refinancing is economically advantageous (in-the-money), and (2) a 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

	June 2016	Year-to-date 2016	Inception to date	2015	2014	2013
Total refinances	88,047	858,961	23,441,965	2,084,936	1,536,788	4,081,911
Total HARP refinances	7,549	39,976	3,418,854	110,109	212,488	892,914
Share 80–105 LTV	74.2%	77.6%	70.2%	76.5%	72.5%	56.4%
Share 105–125 LTV	16.4%	15.0%	17.2%	15.6%	17.2%	22.4%
Share >125 LTV	9.4%	7.4%	12.6%	8.0%	10.3%	21.2%
All other streamlined refinances	12,765	81,711	3,821,741	218,244	268,026	735,210

Sources: FHFA Refinance Report and Urban Institute.

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, have no more than one delinquent payment in the past year and none in the past six months. There are 304,531 eligible loans, but 41 percent are out-of-the-money because the closing cost would exceed the long-term savings, leaving 181,106 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 5,047,981 loans in this category, 4,320,136 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 Director Mel Watt announced in May 2014 that they are not planning to extend the cutoff date. On May 8, 2015 Director Watt extended the deadline for the HARP program for an additional year, until the end of 2016.

Total loan count	27,025,253
Loans that do not meet pay history requirement	1,288,587
Loans that meet pay history requirement:	25,736,666
Pre-June 2009 origination	5,352,513
Post-June 2009 origination	20,384,153

Loans Meeting HARP Pay History Requirements

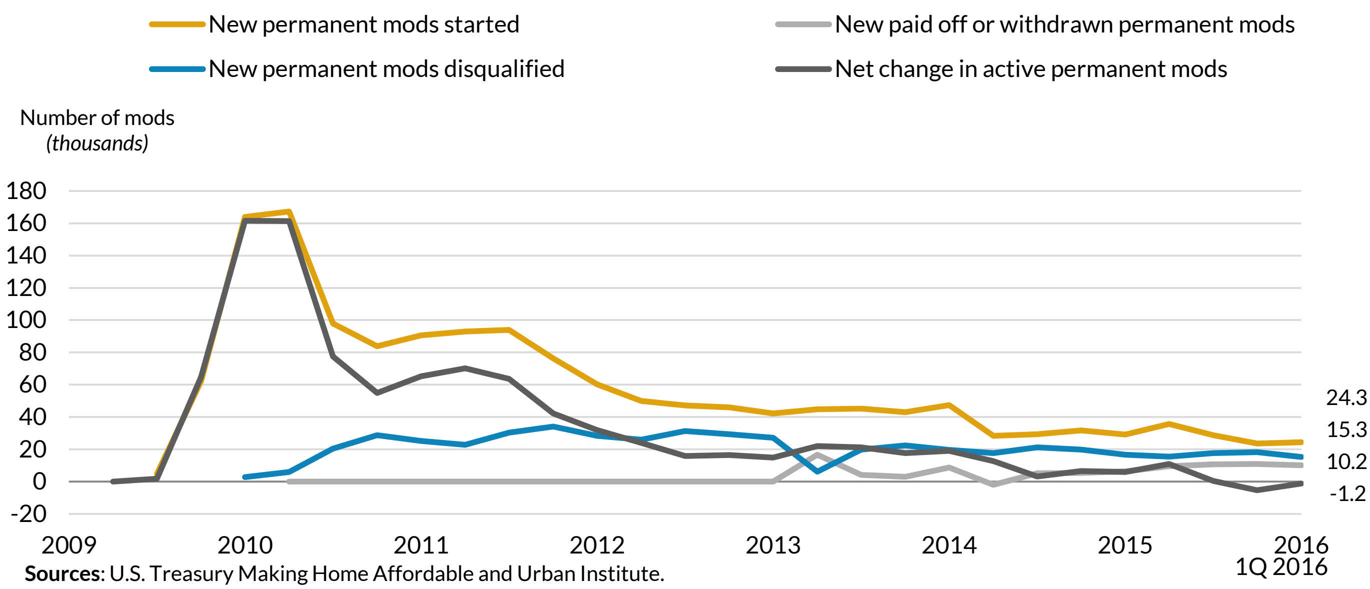
Pre-June 2009			
LTV category	*In-the-money*	*Out-of-the-money*	*Total*
≤80	4,320,136	727,846	5,047,981
>80	181,106	123,425	304,531
Total	4,501,242	851,271	5,352,513
Post-June 2009			
LTV category	*In-the-money*	*Out-of-the-money*	*Total*
≤80	7,320,193	10,673,669	17,993,862
>80	1,333,734	1,056,557	2,390,292
Total	8,653,927	11,730,226	20,384,153

Sources: CoreLogic Prime Servicing as of June 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.

MODIFICATION ACTIVITY
HAMP ACTIVITY

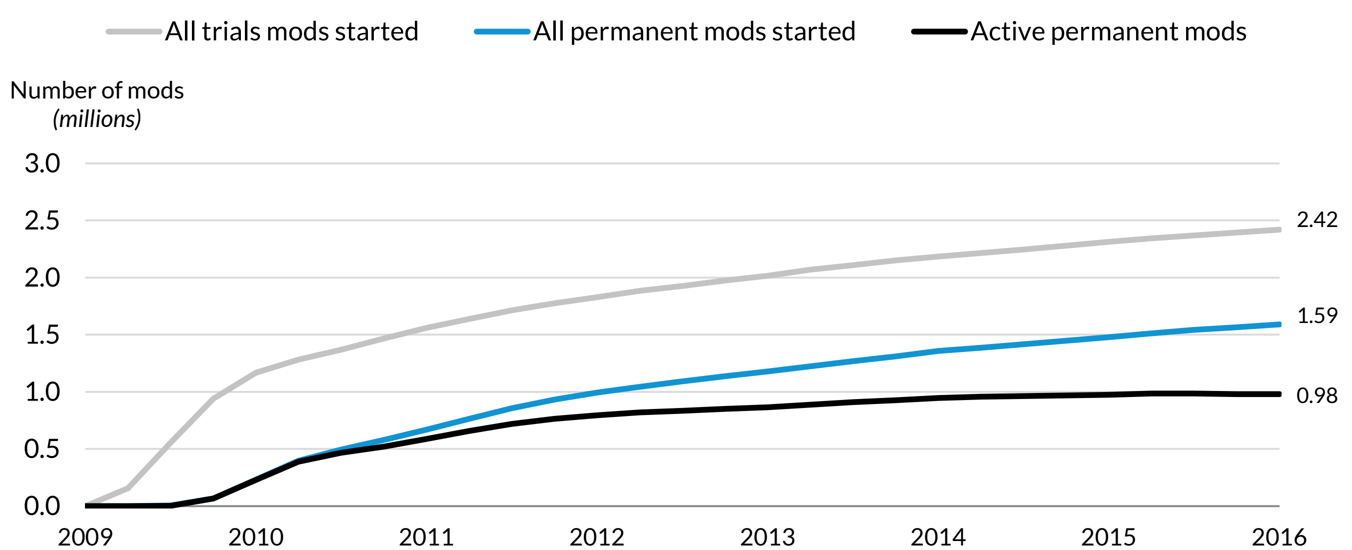
In Q1 2016, the number of active permanent modifications fell by another 1,157 mortgages, after its first ever decline of 5,408 mortgages last quarter. There are two factors behind this change: Fewer new permanent modifications were made, and more active modifications became inactive because 1) borrowers pay off or withdraw their modifications and 2) modifications fail and then become disqualified. 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



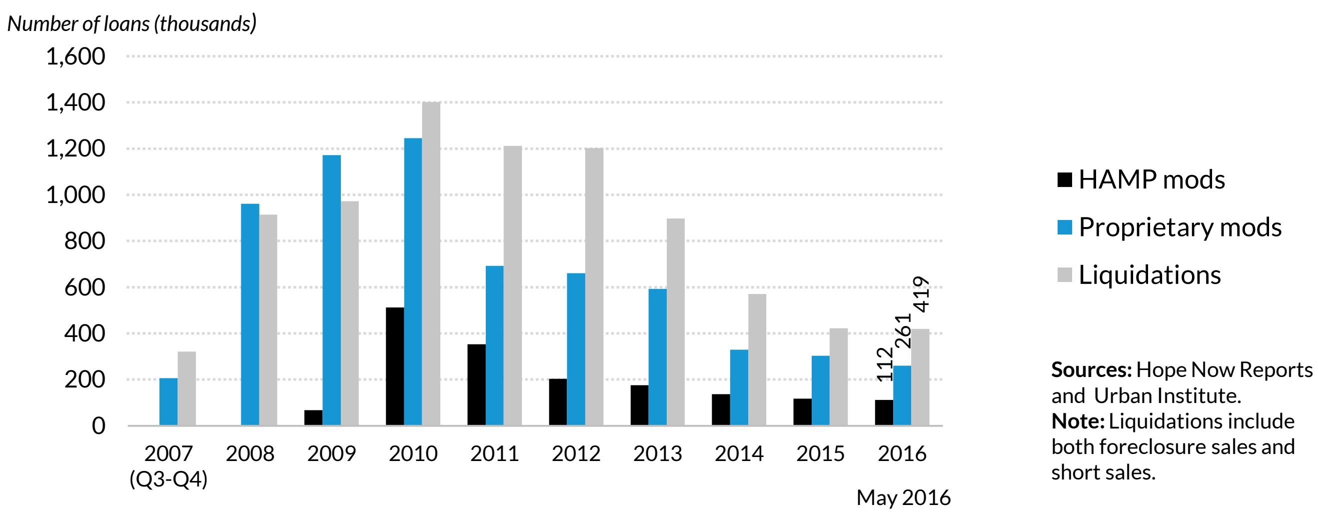
Sources: U.S. Treasury Making Home Affordable and Urban Institute.

1Q 2016

MODIFICATIONS AND LIQUIDATIONS

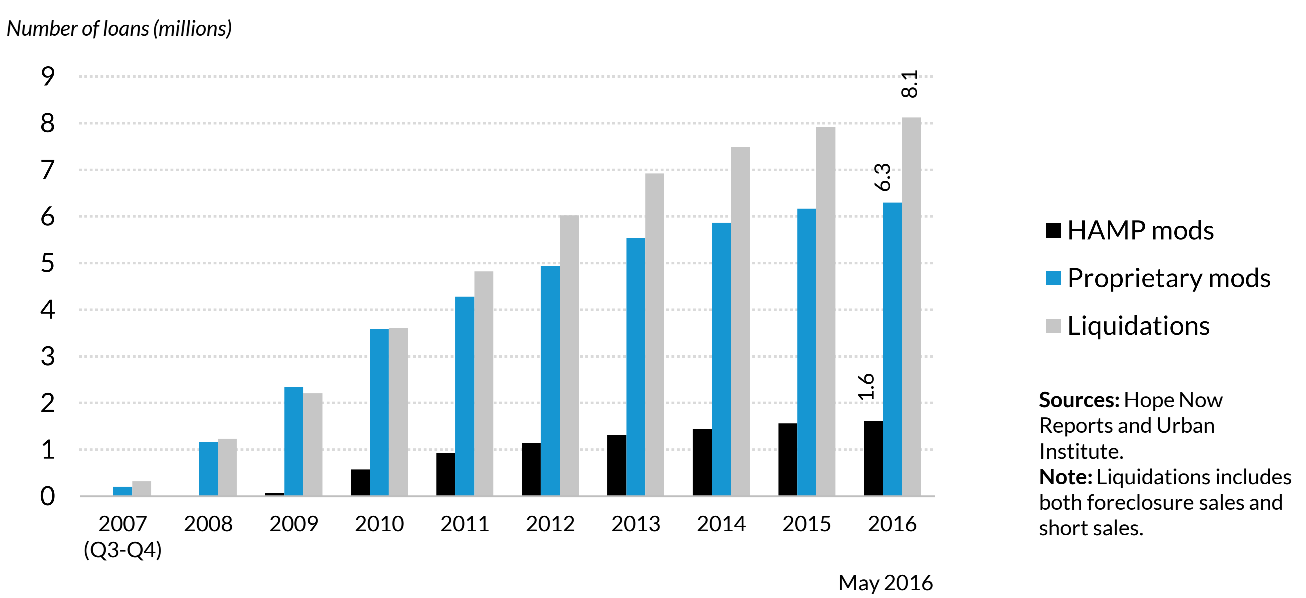
Total modifications (HAMP and proprietary) are now roughly equal to total liquidations. Hope Now reports show 7,916,816 borrowers have received a modification since Q3 2007, compared with 8,125,279 liquidations in the same period. Modification activity slowed significantly in 2014 and has continued to do so, averaging 31,178 in the first six months of 2016. Liquidations have also continued to decline, averaging 34,919 per month in the first six months of 2016 compared to 38,739 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 $752.2 billion in the first seven months of 2016, a slight 1.9 percent decrease 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	$484.72	$267.51	$752.23
%Change year-over-year	-6.5%	7.8%	-1.9%
2016 Ann.	$830.95	$458.59	$1,289.54

Agency Net Issuance

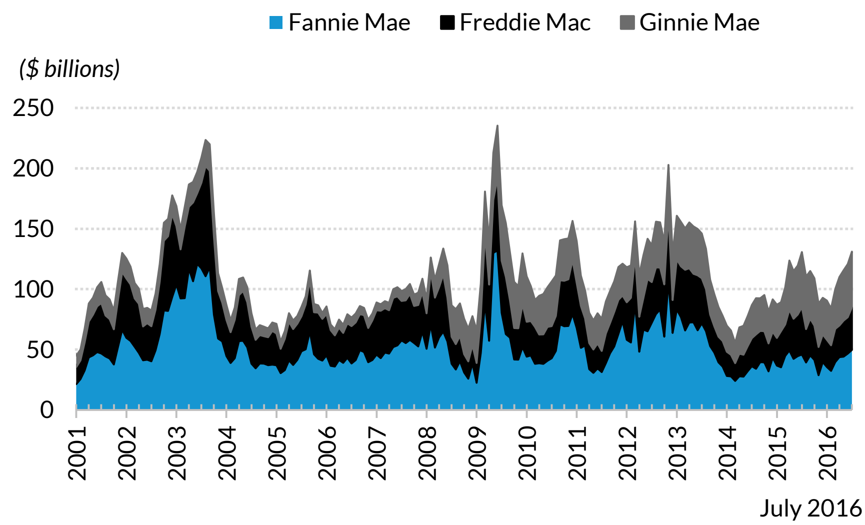
Issuance Year	GSEs	Ginnie Mae	Total
2000	$159.8	$29.3	$189.1
2001	$367.8	-$9.9	$357.9
2002	$357.6	-$51.2	$306.4
2003	$335.0	-$77.6	$257.4
2004	$83.3	-$40.1	$43.2
2005	$174.4	-$42.2	$132.1
2006	$313.6	$0.3	$313.8
2007	$514.7	$30.9	$545.5
2008	$314.3	$196.4	$510.7
2009	$249.5	$257.4	$506.8
2010	-$305.5	$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	$44.1	$67.4	$111.4
%Change year-over-year	0.25%	82.26%	37.70%
2016 Ann.	$75.6	$115.5	$191.1

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

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

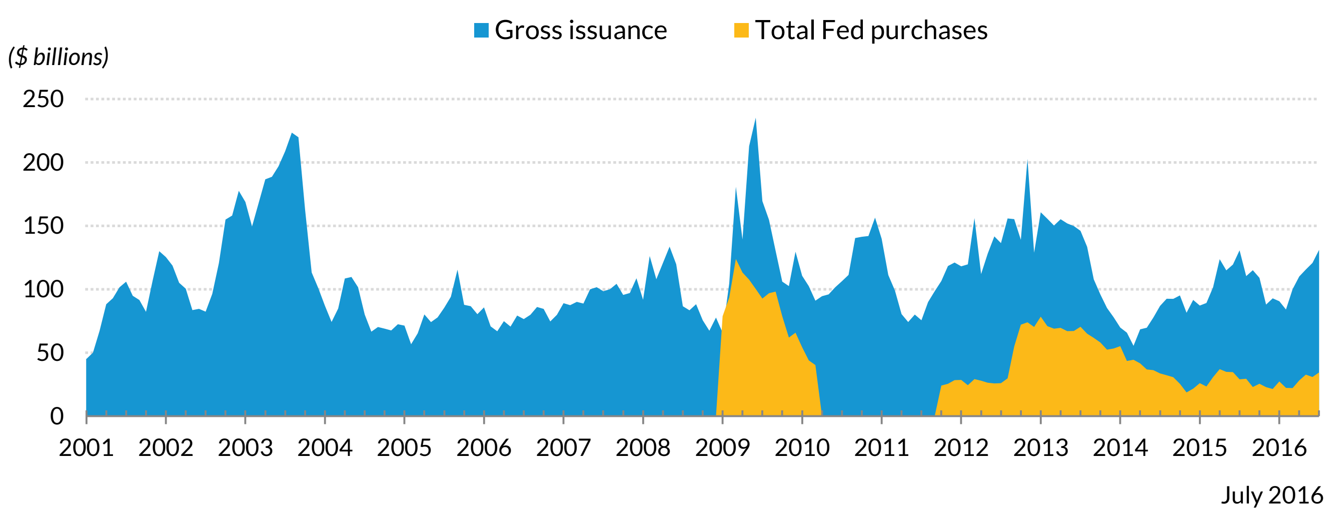
While government and GSE lending have dominated the mortgage market since the crisis, there has been a change in the mix. The Ginnie Mae share reached a peak of 28 percent of total agency issuance in 2010, declined to 25 percent in 2013, and has bounced back sharply since then. The Ginnie Mae issuance stood at 35 percent in July 2016, as the FHA refinance activity surged with the reduction of 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 significantly 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 July 2016, total Fed purchase edged up to $34.5 billion, yielding Fed absorption of gross issuance of 26.3 percent, slightly up from 25.6 percent last month.



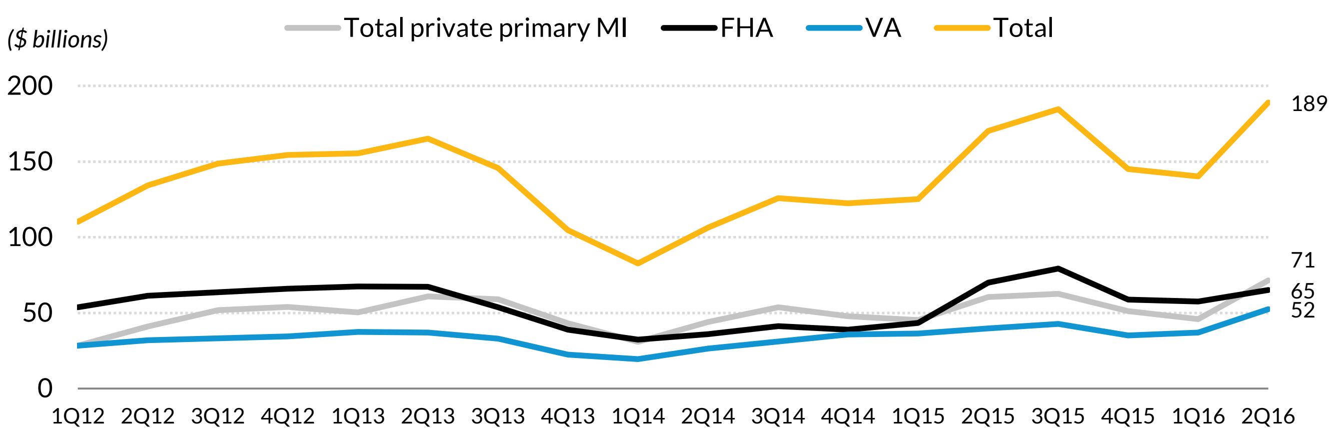
Sources: eMBS, Federal Reserve Bank of New York and Urban Institute.

AGENCY ISSUANCE

MORTGAGE INSURANCE ACTIVITY

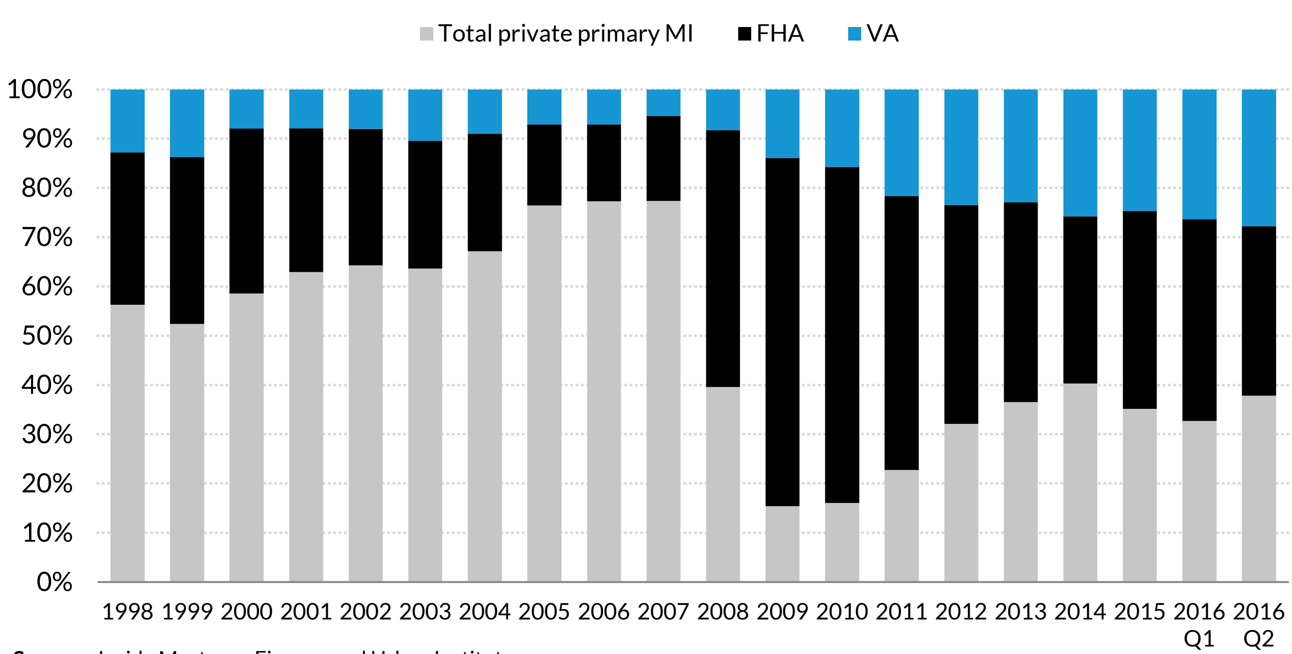
MI Activity

In 2016 Q2, 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.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

FANNIE MAE COMPOSITION

Since 2008, the composition of loans purchased by Fannie Mae has shifted towards borrowers with higher FICO scores. For example, 68.6 percent of loans originated from 2011 to Q2 2015 were for borrowers with FICO scores above 750, compared to 40.7 percent of borrowers in 2007 and 36.7 percent from 1999-2004.

Balance on 30-year, Fixed-rate, Full-doc, Amortizing Loans

Origination Year	Origination FICO	LTV				Total
		≤70	70 to 80	80 to 90	>90	
1999-2004	≤700	9.4%	15.1%	4.5%	4.5%	33.4%
	700 to 750	9.2%	14.2%	3.4%	3.2%	30.1%
	>750	15.5%	16.1%	2.7%	2.3%	36.7%
	Total	34.1%	45.4%	10.7%	10.0%	100.0%
2005	≤700	12.6%	15.5%	3.4%	2.3%	33.8%
	700 to 750	9.8%	13.3%	2.1%	1.4%	26.6%
	>750	17.4%	18.6%	2.1%	1.4%	39.6%
	Total	39.7%	47.5%	7.7%	5.1%	100.0%
2006	≤700	12.7%	16.1%	3.5%	2.2%	34.5%
	700 to 750	8.9%	13.5%	2.2%	1.3%	25.9%
	>750	15.8%	20.1%	2.4%	1.4%	39.7%
	Total	37.3%	49.8%	8.1%	4.9%	100.0%
2007	≤700	10.8%	15.1%	5.3%	3.1%	34.3%
	700 to 750	7.8%	12.5%	3.0%	1.7%	25.0%
	>750	15.2%	20.1%	3.3%	2.0%	40.7%
	Total	33.8%	47.7%	11.6%	6.8%	100.0%
2008	≤700	7.6%	7.2%	2.9%	2.0%	19.7%
	700 to 750	7.8%	11.9%	4.1%	2.7%	26.4%
	>750	19.0%	25.7%	5.8%	3.4%	53.9%
	Total	34.4%	44.7%	12.7%	8.1%	100.0%
2009-2010	≤700	3.6%	2.9%	0.3%	0.2%	6.9%
	700 to 750	8.2%	10.8%	1.7%	0.8%	21.5%
	>750	32.3%	33.5%	4.0%	1.7%	71.5%
	Total	44.1%	47.2%	6.0%	2.7%	100.0%
2011-2Q15	≤700	2.8%	4.3%	1.0%	1.4%	9.6%
	700 to 750	5.5%	9.7%	2.8%	3.9%	21.8%
	>750	23.2%	30.9%	7.0%	7.6%	68.6%
	Total	31.5%	44.9%	10.8%	12.9%	100.0%
Total		35.3%	45.9%	9.9%	9.1%	100.0%

Sources: Fannie Mae and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q2 2015. The percentages are weighted by origination balance.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

FANNIE MAE DEFAULT RATE

While the composition of Fannie Mae loans originated in 2007 was similar to that of 2004 and earlier vintage years, 2007 loans experienced a much higher default rate due to the sharp drop in home values in the recession. Originations from 2009 and later have pristine credit characteristics and a more favorable home price environment, contributing to very low default rates.

Default Rate on 30-year, Fixed-rate, Full-doc, Amortizing Loans

Origination Year	Origination FICO	LTV				Total
		≤70	70 to 80	80 to 90	>90	
1999-2004	≤700	3.6%	4.5%	6.0%	6.9%	4.8%
	700 to 750	1.2%	1.9%	2.8%	2.9%	1.9%
	>750	0.4%	0.8%	1.5%	1.7%	0.7%
	Total	1.5%	2.4%	3.8%	4.5%	2.4%
2005	≤700	13.5%	17.1%	19.7%	21.4%	16.3%
	700 to 750	6.2%	9.6%	12.5%	13.0%	8.8%
	>750	2.2%	4.4%	7.0%	8.0%	3.7%
	Total	6.7%	10.0%	14.2%	15.4%	9.3%
2006	≤700	17.9%	22.0%	25.4%	27.1%	21.2%
	700 to 750	8.5%	13.0%	15.7%	16.5%	11.8%
	>750	2.9%	5.7%	9.0%	9.4%	4.9%
	Total	9.3%	13.0%	17.9%	19.2%	12.3%
2007	≤700	19.2%	23.1%	30.5%	30.9%	23.7%
	700 to 750	8.2%	13.2%	18.9%	18.3%	12.7%
	>750	2.7%	5.6%	10.8%	10.6%	5.2%
	Total	9.2%	13.2%	21.8%	21.7%	13.4%
2008	≤700	14.1%	16.7%	22.8%	22.9%	17.2%
	700 to 750	4.9%	7.8%	12.6%	12.4%	8.1%
	>750	1.2%	2.7%	6.1%	6.8%	2.8%
	Total	4.9%	6.3%	11.9%	12.6%	7.0%
2009-2010	≤700	3.5%	4.6%	4.5%	5.7%	4.0%
	700 to 750	0.9%	1.7%	2.2%	2.7%	1.5%
	>750	0.2%	0.5%	1.0%	1.3%	0.4%
	Total	0.6%	1.0%	1.5%	2.0%	0.9%
2011-2Q15	≤700	0.7%	0.8%	0.8%	0.9%	0.8%
	700 to 750	0.2%	0.3%	0.3%	0.4%	0.3%
	>750	0.0%	0.1%	0.1%	0.1%	0.1%
	Total	0.1%	0.2%	0.2%	0.3%	0.2%
Total		2.1%	3.0%	4.8%	4.1%	3.0%

Sources: Fannie Mae and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q2 2015, with performance information on these loans through Q1 2016. Default is defined as more than six months delinquent or disposed of via short sales, third-party sales, deeds-in-lieu of foreclosure, or real estate owned (REO acquisitions).

FREDDIE MAC COMPOSITION

Since 2008, the composition of loans purchased by Freddie Mac has shifted towards borrowers with higher FICO scores. For example, 64.2 percent of loans originated from 2011 to Q2 2015 were for borrowers with FICO scores above 750, compared to 38.9 percent of borrowers in 2007 and 33.3 percent from 1999-2004.

Balance on 30-year, Fixed-rate, Full-doc, Amortizing Loans

Origination Year	Origination FICO	LTV				Total
		≤70	70 to 80	80 to 90	>90	
1999-2004	≤700	7.8%	16.6%	5.5%	5.6%	35.5%
	700 to 750	8.9%	16.0%	3.4%	3.2%	31.5%
	>750	13.6%	15.6%	2.3%	1.8%	33.3%
	Total	30.3%	48.2%	11.2%	10.6%	100.0%
2005	≤700	10.6%	17.0%	3.4%	2.9%	33.9%
	700 to 750	9.4%	15.4%	2.0%	1.6%	28.4%
	>750	15.8%	18.8%	1.7%	1.4%	37.7%
	Total	35.8%	51.2%	7.0%	5.9%	100.0%
2006	≤700	10.1%	17.3%	3.4%	3.2%	34.0%
	700 to 750	8.3%	16.1%	1.9%	1.5%	27.9%
	>750	14.4%	20.7%	1.7%	1.3%	38.1%
	Total	32.8%	54.1%	7.1%	6.0%	100.0%
2007	≤700	9.2%	15.5%	4.6%	4.8%	34.0%
	700 to 750	7.5%	14.3%	2.6%	2.6%	27.0%
	>750	14.4%	19.5%	2.5%	2.5%	38.9%
	Total	31.1%	49.4%	9.7%	9.9%	100.0%
2008	≤700	7.3%	8.7%	3.1%	2.1%	21.3%
	700 to 750	9.2%	13.1%	3.7%	2.4%	28.3%
	>750	21.6%	21.5%	4.7%	2.6%	50.4%
	Total	38.1%	43.3%	11.5%	7.1%	100.0%
2009-2010	≤700	3.9%	3.2%	0.3%	0.2%	7.7%
	700 to 750	9.3%	11.9%	1.7%	0.9%	23.8%
	>750	32.5%	31.0%	3.6%	1.4%	68.5%
	Total	45.8%	46.1%	5.6%	2.5%	100.0%
2011-2Q15	≤700	3.4%	4.1%	1.0%	1.4%	10.0%
	700 to 750	7.0%	11.8%	3.0%	4.1%	25.9%
	>750	21.6%	29.7%	6.2%	6.8%	64.2%
	Total	32.0%	45.5%	10.2%	12.3%	100.0%
Total		34.1%	47.7%	9.5%	8.9%	100.0%

Sources: Freddie Mac and Urban Institute.
Note: Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q2 2015. The percentages are weighted by origination balance. The Freddie Mac analysis included mortgages with original terms of 241-420 months, to be consistent with Fannie Mae data, which contained only 30-year mortgages.

FREDDIE MAC DEFAULT RATE

While the composition of Freddie Mac loans originated in 2007 was similar to that of 2004 and earlier vintage years, 2007 loans experienced a much higher default rate due to the sharp drop in home values in the recession. Originations from 2009 and later have pristine credit characteristics and a more favorable home price environment, contributing to very low default rates.

Default Rate on 30-year, Fixed-rate, Full-doc, Amortizing Loans

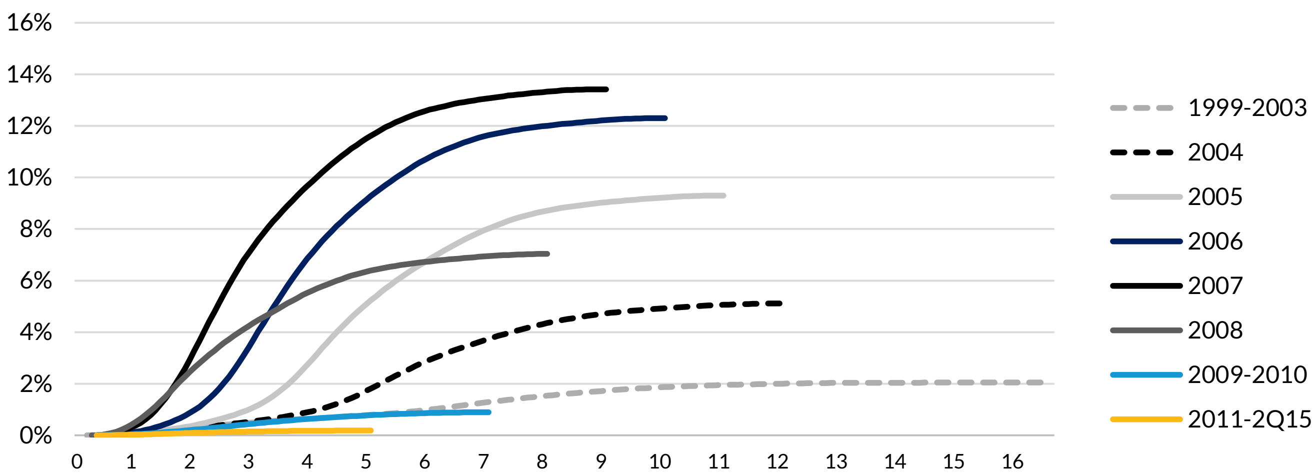
Origination Year	Origination FICO	LTV				Total
		≤70	70 to 80	80 to 90	>90	
1999-2004	≤700	3.0%	4.1%	6.4%	6.8%	4.7%
	700 to 750	1.0%	1.6%	2.7%	2.8%	1.7%
	>750	0.4%	0.8%	1.4%	1.7%	0.7%
	Total	1.2%	2.2%	4.2%	4.8%	2.4%
2005	≤700	11.8%	16.1%	19.1%	20.6%	15.4%
	700 to 750	5.6%	9.3%	12.3%	12.7%	8.5%
	>750	2.0%	4.4%	7.0%	8.1%	3.7%
	Total	5.8%	9.8%	14.3%	15.6%	9.0%
2006	≤700	15.5%	20.6%	23.9%	26.3%	20.0%
	700 to 750	7.8%	12.5%	15.0%	15.1%	11.4%
	>750	2.7%	5.9%	8.8%	9.4%	4.9%
	Total	7.9%	12.6%	17.8%	19.8%	11.8%
2007	≤700	16.6%	22.1%	27.8%	30.4%	22.5%
	700 to 750	7.7%	13.3%	17.7%	18.1%	12.6%
	>750	2.6%	6.2%	10.1%	11.2%	5.5%
	Total	8.0%	13.3%	20.5%	22.3%	13.2%
2008	≤700	12.8%	16.6%	22.9%	22.0%	16.8%
	700 to 750	4.6%	8.2%	12.7%	11.4%	7.9%
	>750	1.3%	3.2%	6.6%	6.2%	2.9%
	Total	4.3%	7.4%	13.0%	12.7%	7.3%
2009-2010	≤700	2.9%	4.2%	4.5%	4.9%	3.6%
	700 to 750	0.7%	1.6%	1.9%	2.3%	1.3%
	>750	0.2%	0.5%	1.0%	1.1%	0.4%
	Total	0.5%	1.1%	1.5%	1.9%	0.9%
2011-2Q15	≤700	0.4%	0.5%	0.4%	0.5%	0.4%
	700 to 750	0.1%	0.2%	0.2%	0.2%	0.2%
	>750	0.0%	0.0%	0.1%	0.1%	0.0%
	Total	0.1%	0.1%	0.1%	0.2%	0.1%
Total		2.1%	3.7%	5.6%	5.7%	3.5%

Sources: Freddie Mae and Urban Institute.
Note: Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q2 2015, with performance information on these loans through Q4 2015. Default is defined as six months delinquent or disposed of via short sales, third-party sales, deeds-in-lieu of foreclosure, or real estate owned (REO acquisitions). The Freddie Mac analysis included mortgages with original terms of 241-420 months, to be consistent with Fannie Mae data, which contained only 30-year mortgages.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA
DEFAULT RATE BY VINTAGE

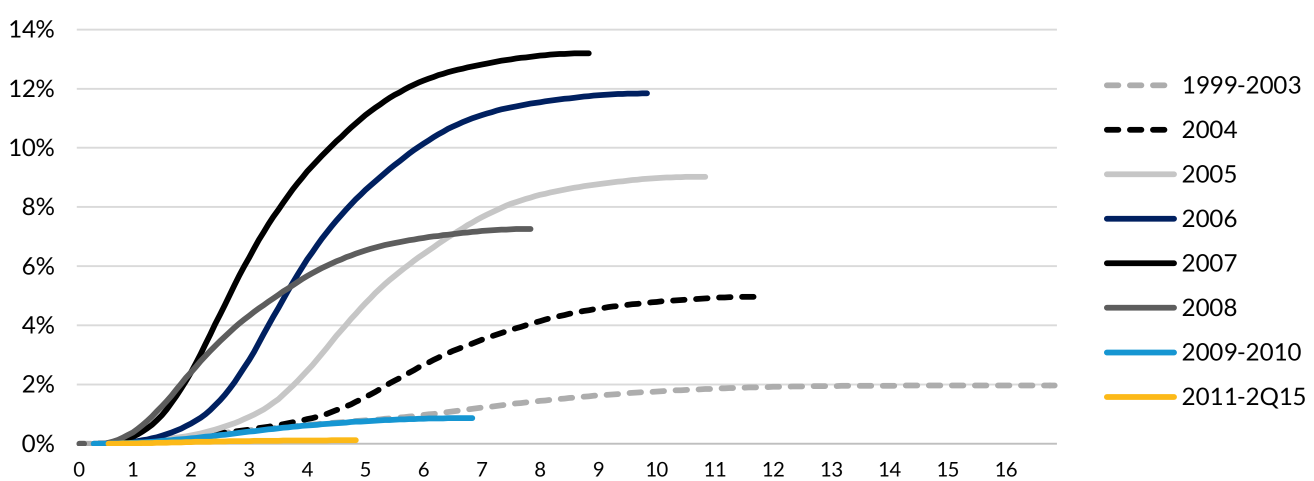
With cleaner books of business and the housing recovery underway, default rates for the GSEs are much lower than they were just a few years ago. For Fannie Mae and Freddie Mac's 1999-2003 vintages, cumulative defaults total around 2 percent, while cumulate defaults for the 2007 vintage are around 13 percent. For both Fannie Mae and Freddie Mac, cumulative defaults from post-2009 vintages are on pace to fall below pre-2003 levels. For Fannie loans 61 months after origination, the cumulative default rate from 2009-10 and 2011-Q2 2015 are about 0.78 and 0.18 percent, respectively, compared to the cumulative default rate from 1999-2003 of 0.79 percent. For Freddie loans 58 months after origination, the cumulative default rates total 0.74 percent from 2009-10 and 0.11 percent from 2011-Q2 2015, compared to the 0.76 percent default rate from 1999-2003.

Fannie Mae Cumulative Default Rate by Vintage Year



Sources: Fannie Mae and Urban Institute.

Freddie Mac Cumulative Default Rate by Vintage Year

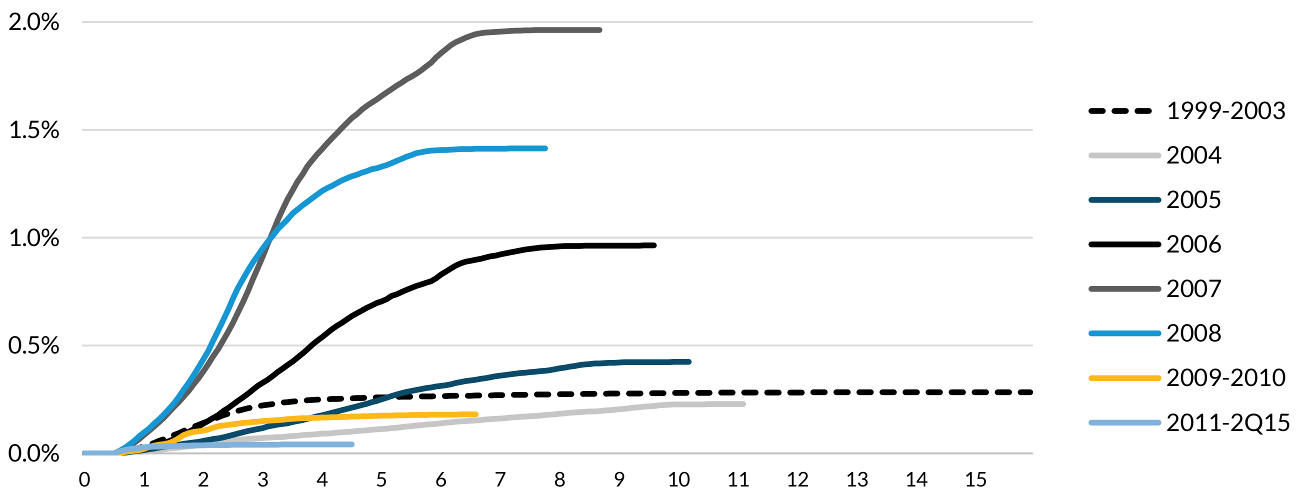


Sources: Freddie Mac and Urban Institute.
Note: The Freddie Mac analysis included mortgages with original terms of 241-420 months, to be consistent with Fannie Mae data, which contained only 30-year mortgages.

REPURCHASE RATE BY VINTAGE

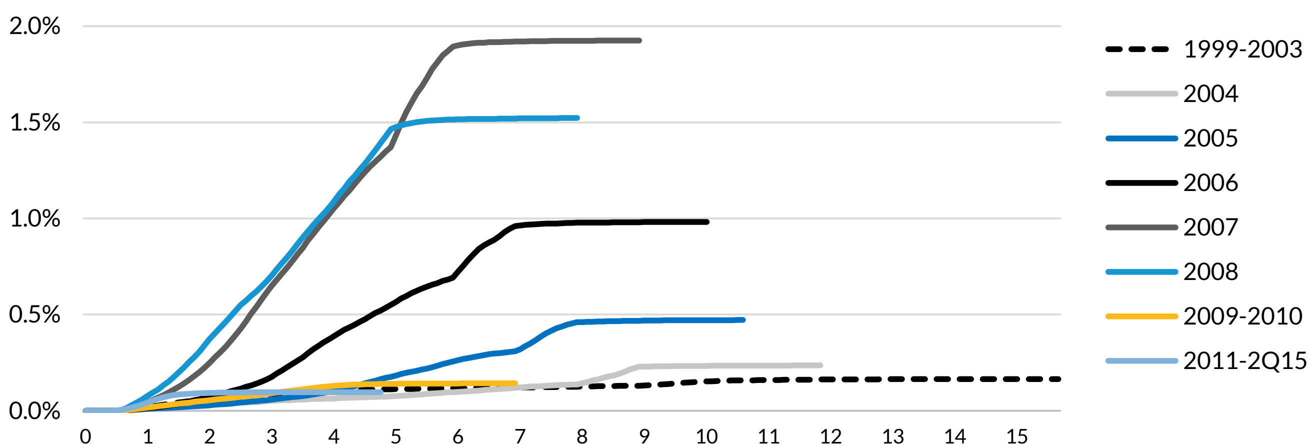
These figures show the cumulative percentage of fixed-rate, full documentation, amortizing 30-year loans of a given vintage that Fannie and Freddie have put back to lenders due to reps and warrants violations. Note that the put-backs are generally quite small, with the exception of the 2006-2008 vintages. These numbers exclude loans put back through global settlements, which are not done at the loan level. Moreover, lenders' attitudes are formed by the total share of put-backs on their books. The database used in this analysis, while very characteristic of new production, excludes many loans that are likely to be put back, including limited documentation loans, non-traditional products (such as interest-only loans), and loans with pool insurance policies.

Fannie Mae Repurchase Rate by Vintage Year



Sources: Fannie Mae and Urban Institute.

Freddie Mac Repurchase Rate by Vintage Year



Sources: Freddie Mac and Urban Institute.
Note: The Freddie Mac analysis included mortgages with original terms of 241-420 months, to be consistent with Fannie Mae data, which contained only 30-year mortgages.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

LOSS SEVERITY

Both Fannie Mae and Freddie Mac's credit data now include the status of the loan after it has experienced a credit event (default). A credit event is defined as a delinquency of 180 days or more, a deed-in-lieu, short sale, foreclosure sale of REO sale. We look at each of the loans and categorize them as to their present status—for Fannie Mae loans (top table) 18.4 percent are current, 11.7 percent are prepaid, 13.9 percent are still in the pipeline and 56.0 percent have already liquidated (deed-in-lieu, short sale, foreclosure sale, REO sale). Freddie Mac's results (bottom table) are very similar. The right side of both tables shows the severity of all loans that have liquidated, broken down by LTV buckets: total Fannie and Freddie severities are in the 43-45 percent range.

Fannie Mae - Liquidation Rates and Severities for D180+ loans

Year	Paths for D180+ Loans (% of total count)				Severity for Already Liquidated Loans			
	Paths With No Eventual Loss		Paths With Eventual Loss					
	Current	Prepay	Still in the Pipeline	% Already Liquidated Loans	<=60	60-80	>80	Total
1999-2004	14.88%	18.05%	11.62%	55.45%	29.3%	41.3%	24.6%	33.8%
2005	18.78%	7.72%	12.85%	60.64%	37.9%	49.8%	36.2%	46.0%
2006	19.67%	6.31%	12.58%	61.44%	46.6%	55.5%	38.6%	51.3%
2007	22.01%	6.66%	13.88%	57.45%	46.8%	55.4%	37.5%	49.0%
2008	23.05%	8.63%	15.29%	53.02%	41.7%	51.8%	30.2%	42.3%
2009-2010	18.54%	13.31%	24.42%	43.74%	38.0%	43.2%	24.1%	38.3%
2011-2Q15	15.54%	11.66%	50.01%	22.79%	57.0%	55.5%	42.5%	49.4%
Total	18.36%	11.74%	13.89%	56.02%	40.5%	50.2%	31.5%	43.5%

Freddie Mac - Liquidation Rates and Severities for D180+ loans

Year	Paths for D180+ Loans (% of total count)				Severity for Already Liquidated Loans			
	Paths With No Eventual Loss		Paths With Eventual Loss					
	Current	Prepay	Still In The Pipeline	% Already Liquidated Loans	<=60	60-80	>80	Total
1999-2004	13.04%	16.21%	11.19%	59.57%	26.7%	41.2%	27.9%	34.6%
2005	16.63%	7.00%	12.77%	63.60%	36.2%	49.9%	37.0%	46.2%
2006	16.74%	5.63%	12.32%	65.30%	43.7%	55.2%	39.5%	51.1%
2007	17.62%	5.43%	13.65%	63.31%	47.0%	55.4%	39.2%	49.6%
2008	19.61%	7.56%	15.94%	56.90%	40.3%	51.9%	35.1%	45.1%
2009-2010	15.92%	12.41%	26.00%	45.67%	27.5%	37.4%	18.0%	32.8%
2011-2Q15	15.47%	12.85%	49.78%	21.90%	13.0%	28.6%	8.8%	19.4%
Total	15.87%	9.90%	13.31%	60.93%	38.8%	50.5%	34.2%	44.7%

Sources: Fannie Mae, Freddie Mac, and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q2 2015, with performance information on these loans through Q1 2016. Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q2 2015, with performance information on these loans through Q4 2015. The Freddie Mac analysis included mortgages with original terms of 241-420 months, to be consistent with Fannie Mae data, which contained only 30-year mortgages.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

LOSS COMPONENTS

The tables below show the components of loss among Fannie and Freddie loans that have experienced a loss, broken down by vintage year. Loss is defined as the unpaid principal balance of the loan less proceeds from the sale of the home and any recoveries from mortgage insurance or other items, plus expenses and interest loss. For the entire period, for all Fannie Mae loans that experienced losses (top table) the average severity was 47.1 percent. Approximately 8 percent of the loans that liquidated did not experience a loss. Thus the overall severity was 43.5 percent, the number we saw in the top table of page 40. Freddie Mac numbers in the bottom table are very similar.

Fannie Mae - Loss Component for already liquidated loans

Year	Liquidation with A Positive Loss						
	Mean defaulted UPB ($)	Net sale proceeds / defaulted UPB	Credit Proceeds/ defaulted UPB	Other Proceeds / defaulted UPB	Expenses /defaulted UPB	Interest Loss / defaulted UPB	Severity
1999-2004	109517.69	-68.6%	-8.4%	-1.7%	29.0%	8.6%	42.1%
2005	171088.44	-63.3%	-4.9%	-0.9%	17.9%	8.4%	47.8%
2006	185561.15	-59.0%	-4.8%	-1.0%	15.3%	9.1%	52.3%
2007	194703.37	-58.7%	-7.6%	-1.1%	15.9%	9.2%	49.8%
2008	191659.31	-62.5%	-8.9%	-1.0%	17.8%	8.7%	44.1%
2009-2010	180733.72	-67.5%	-4.2%	-0.7%	17.5%	6.5%	41.4%
2011-2Q15	150218.41	-47.0%	-4.9%	-0.5%	9.2%	4.7%	57.6%
Total	159061.92	-62.6%	-6.9%	-1.2%	19.1%	8.7%	47.1%

Note: Expenses include Foreclosure cost, repair cost, asset recovery cost, miscellaneous expenses and tax costs.

Freddie Mac - Loss Component for already liquidated loans

Year	Liquidation with A Positive Loss						
	Mean defaulted UPB ($)	Net sale proceeds / defaulted UPB	MI recoveries / defaulted UPB	Non-MI recoveries / defaulted UPB	Expenses / defaulted UPB	Interest Loss/ /defaulted UPB	Severity
1999-2004	110445.2	-69.8%	-10.3%	-1.9%	13.1%	10.8%	42.0%
2005	172361.62	-63.6%	-5.4%	-1.1%	9.0%	9.9%	48.7%
2006	185402.43	-59.7%	-5.3%	-1.1%	8.2%	10.9%	53.0%
2007	187442.08	-58.8%	-8.0%	-1.1%	8.2%	11.1%	51.4%
2008	196335.27	-62.8%	-7.7%	-1.1%	8.2%	11.0%	47.6%
2009-2010	186359.54	-74.4%	-4.0%	-1.0%	8.5%	7.7%	36.8%
2011-2Q15	157939.73	-78.2%	-7.6%	-1.0%	8.5%	5.6%	27.2%
Total	161453.91	-63.2%	-7.3%	-1.3%	9.4%	10.7%	48.4%

Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q2 2015, with performance information on these loans through Q1 2016. Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q2 2015, with performance information on these loans through Q4 2015. The Freddie Mac analysis included mortgages with original terms of 241-420 months, to be consistent with Fannie Mae data, which contained only 30-year mortgages.

RELATED HFPC WORK
PUBLICATIONS AND EVENTS

Upcoming Events

September 21 Data Talk: The Decline in Mobility and the Implications for the Mortgage Market *with Raven Molloy, Chief, Real Estate Finance Section, Research and Statistics Division, Board of Governors of the Federal Reserve System and Sam Khater, Deputy Chief Economist, CoreLogic. Please check our events page for more information.*

Publications

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

A More Promising Road to GSE Reform
Authors: Jim Parrott, Lewis Ranieri, Gene Sperling, Mark M. Zandi, Barry Zigas
Date: March 31, 2016

Comparing Credit Profiles of American Renters and Owners
Authors: Wei Li, Laurie Goodman
Date: March 17, 2016

Project

Housing Finance Reform Incubator

Blog Posts

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Date: July 28, 2016

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Date: June 21, 2016

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Date: June 9, 2016

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Date: June 8, 2016

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