HOUSING FINANCE POLICY CENTER

HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

June 2017

URBAN INSTITUTE · ELEVATE · THE · DEBATE

ABOUT THE CHARTBOOK

The Housing Finance Policy Center's (HFPC) mission is to produce analyses and ideas that promote sound public policy, efficient markets, and access to economic opportunity in the area of housing finance. *At A Glance*, a monthly chartbook and data source for policymakers, academics, journalists, and others interested in the government's role in mortgage markets, is at the heart of this mission.

We welcome feedback from our readers on how we can make *At A Glance* a more useful publication. Please email any comments or questions to ataglance@urban.org.

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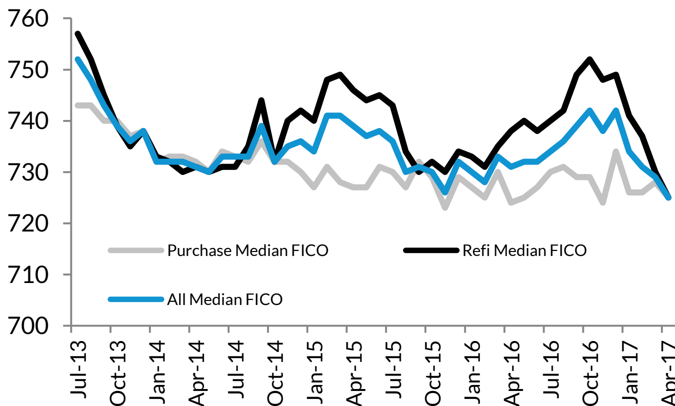
INTRODUCTION

FICO Scores are Dropping: Is Credit Availability Improving?

The median FICO score for agency originations has declined considerably since last fall – from 742 in June 2016 to 725 in April 2017. The present level represents a new post-crisis low (agency median FICO briefly touched 726 in Nov 2015). The top chart on page 14, which shows median purchase FICOs for all channels, displays a similar trend. A drop in FICO scores is very intriguing because it could be a signal of improving credit availability.

To confirm if that indeed is the case, we decided to dig deeper. An analysis of agency FICO scores by loan purpose revealed that the decline was driven almost entirely by refinance scores. Refinance credit scores fell 27 points from October 2016 (752) to April 2017 (725). Purchase FICOs, in contrast, declined only 4 points (729 to 725). The figure below shows this clearly.

Agency FICO Scores by Loan Purpose



Source: eMBS and Urban Institute.

One possible explanation for the refinance-driven reduction in FICOs is that lenders, in the wake of rising rates, are approving more refinance applications from slightly less creditworthy borrowers than before in order to maintain volumes amidst a shrinking pool of in-the-money refinance borrowers. If lenders are indeed refinancing an increasing number of marginal borrowers from this pool, one would expect the average FICO for those that remain in the pool to decline.

An analysis of these "refinancable" borrowers conducted by the Urban Institute confirms this hypothesis. The average FICO for borrowers in the refinancable pool has declined from 716 in Oct 2016 to 705 in May 2017. At the same time, the share of refinancable borrowers declined from 41 percent to 16 percent. Thus, as the pool of refinanceable borrowers has shrunk, lenders have shown more willingness to approve the marginal borrowers' refinance application.

What does this mean for overall credit availability? Not a lot. While a drop in refinance FICOs is certainly good for those homeowners who are now able to reduce their monthly payments, it is a small universe of borrowers. But more importantly, it doesn't help those who can't get a mortgage to purchase a home.

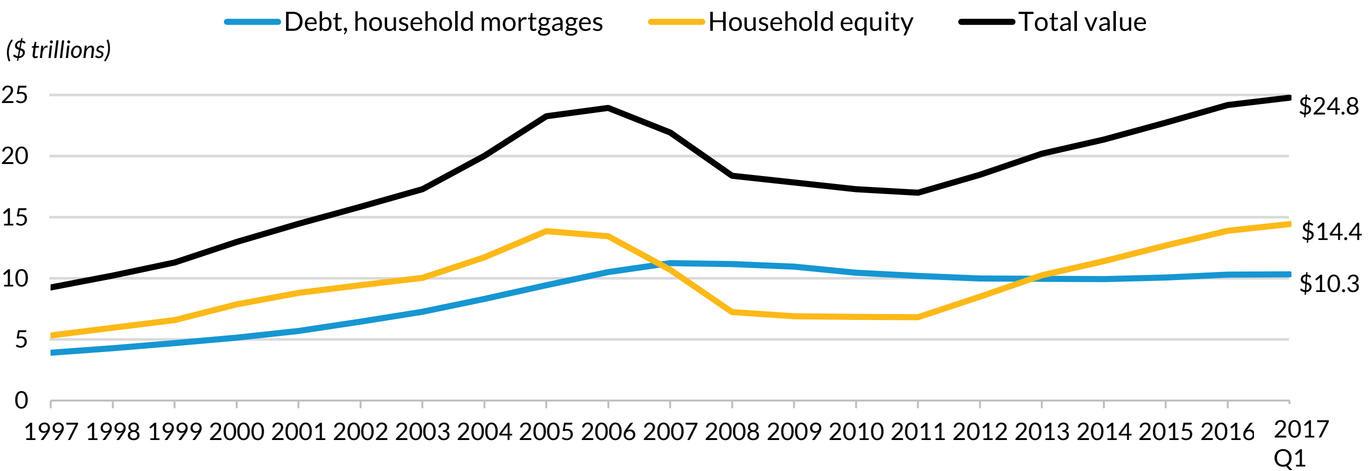
INSIDE THIS ISSUE

- The total value of the US Housing Market continued to rise in Q1 2017, driven by a $546 billion increase in household equity (Page 6)
- Portfolio accounted for a smaller share of first lien originations in Q1 2017 (Page 8)
- The share of loans in negative equity continued the decline to 6.1 percent in Q1 2017 (Page 19)
- With the HAMP sunset at year-end 2016, active permanent HAMP mods continued to decline in Q1 2017 (Page 28)
- Special quarterly feature includes GSE default, composition, loss severity, and repurchase indicators (Pages 34-41)

MARKET SIZE OVERVIEW

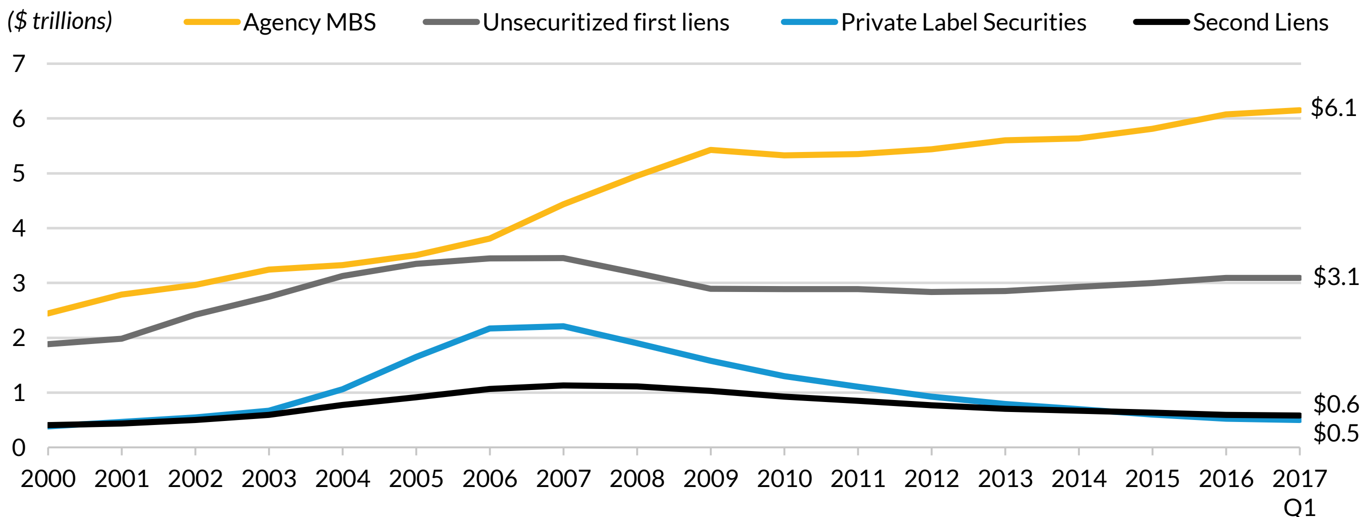
The Federal Reserve's Flow of Funds report has consistently indicated an increasing total value of the housing market driven by growing household equity since 2012, and 2017 Q1 was no different. While total debt and mortgages was stable at $10.3 trillion, household equity reached a new high of $14.4 trillion, bringing the total value of the housing market to $24.8 trillion, surpassing the pre-crisis peak of $23.9 trillion in 2006. Agency MBS make up 59.5 percent of the total mortgage market, private-label securities make up 4.9 percent, and unsecuritized first liens at the GSEs, commercial banks, savings institutions, and credit unions make up 29.9 percent. Second liens comprise the remaining 5.7 percent of the total.

Value of the US Housing Market



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

Size of the US Residential Mortgage Market



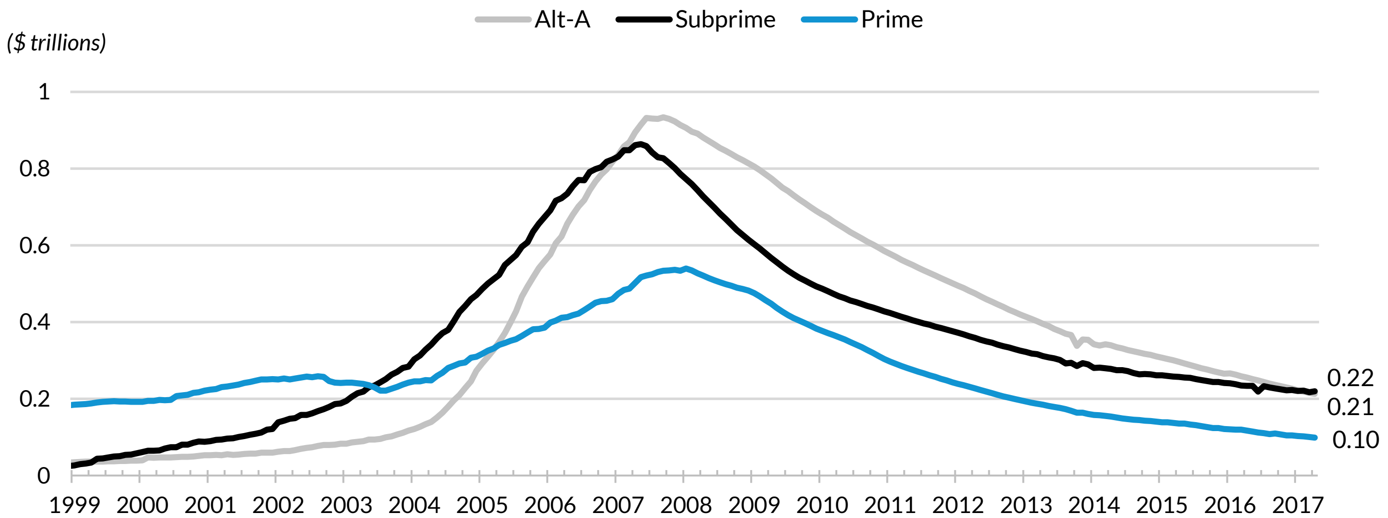
Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute. *Last updated June 2017.*

OVERVIEW

MARKET SIZE OVERVIEW

As of April 2017, debt in the private-label securitization market totaled $531 billion and was split among prime (18.6 percent), Alt-A (40.1 percent), and subprime (41.3 percent) loans. In May 2017, outstanding securities in the agency market totaled $6.19 trillion and were 44.1 percent Fannie Mae, 27.4 percent Freddie Mac, and 28.4 percent Ginnie Mae. Ginnie Mae had more outstanding securities than Freddie since May 2016.

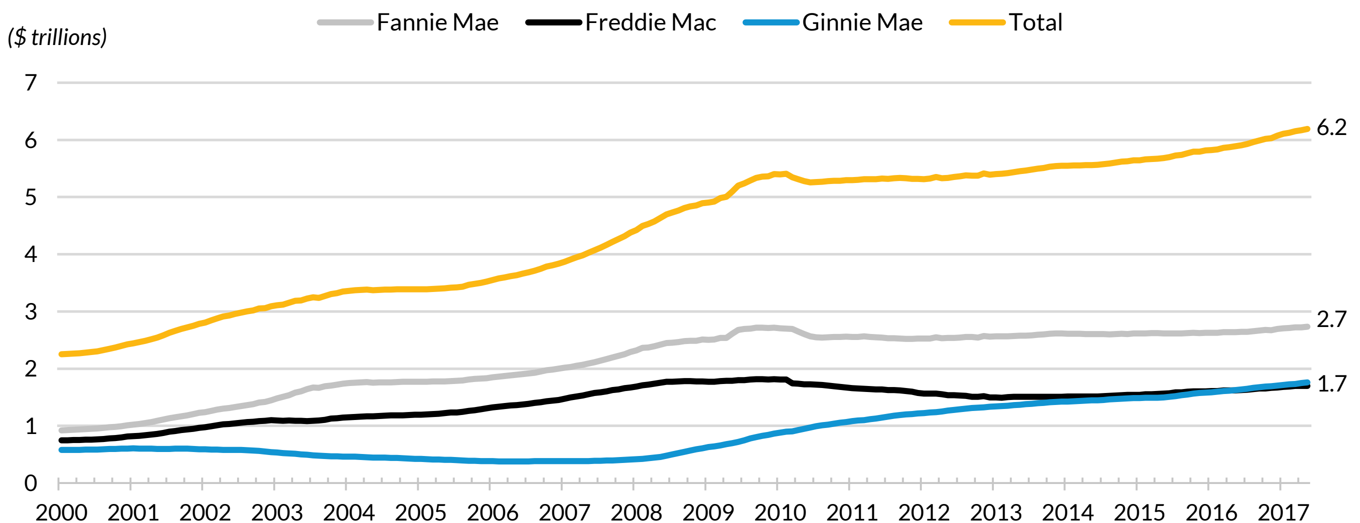
Private-Label Securities by Product Type



Sources: CoreLogic and Urban Institute.

April 2017

Agency Mortgage-Backed Securities



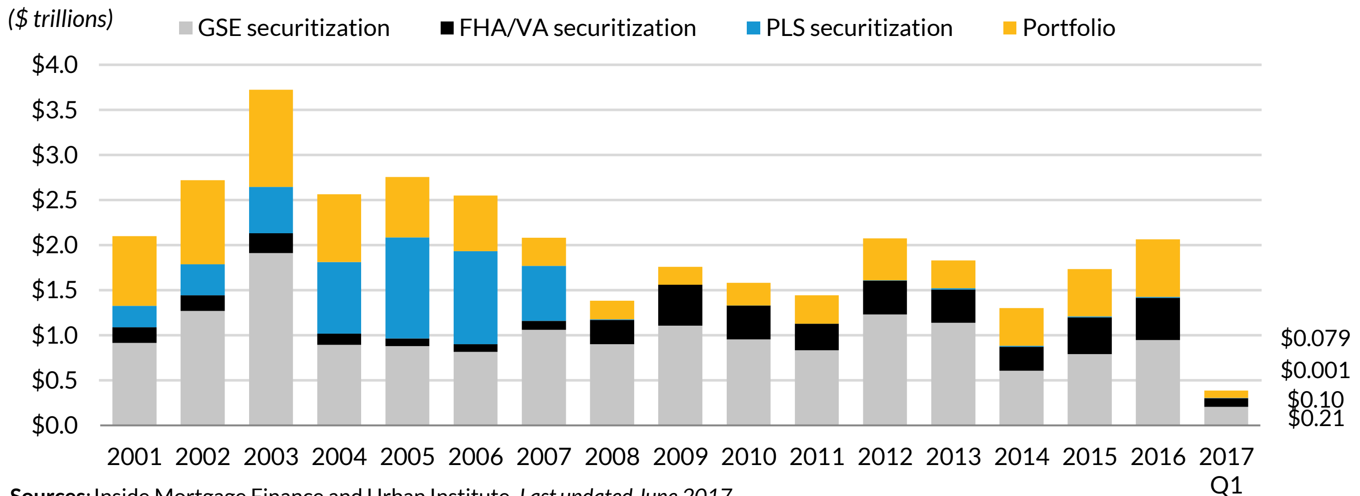
May 2017

Sources: eMBS and Urban Institute.

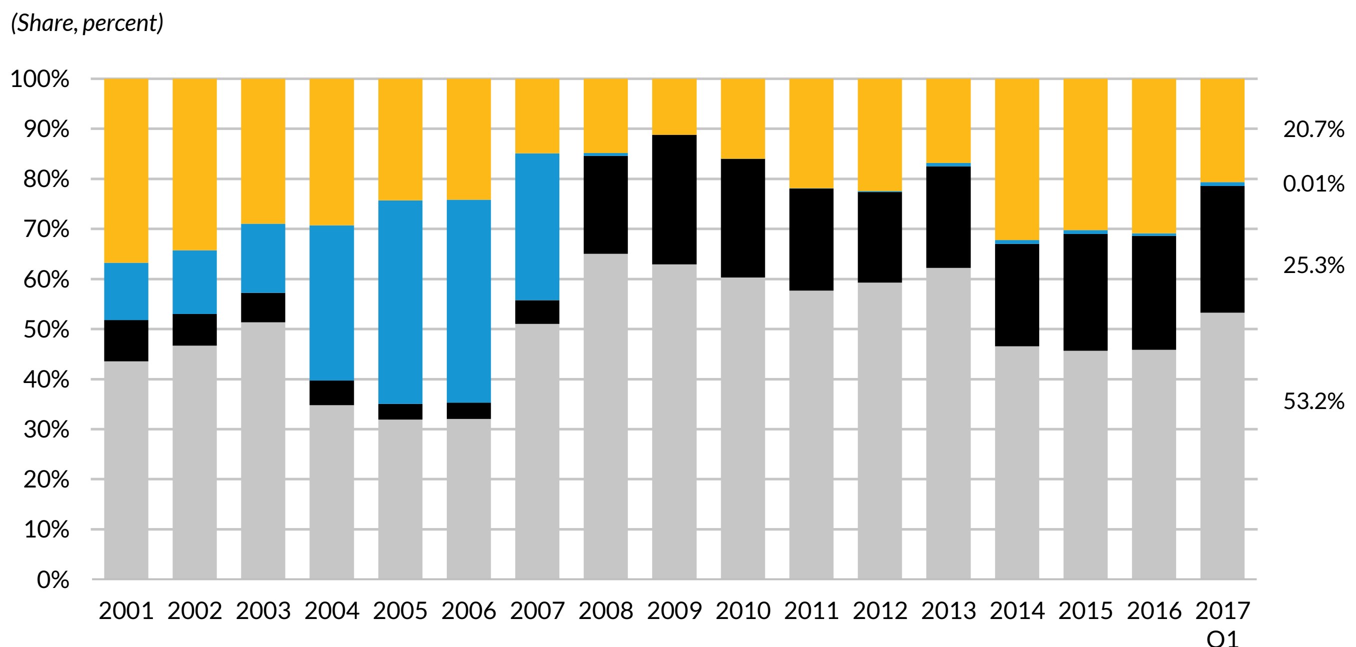
OVERVIEW
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

After a record high origination year in 2016 ($2.1 trillion), the first lien originations is off to a slow start in Q1 2017, totaling $385 million, mostly due to the high interest rates and the seasonal swing. The share of portfolio originations was 21 percent, down sharply from 31 percent in 2016. The GSE share went up to 53 percent, from 46 percent for 2016. The FHA/VA share was slightly up: 25 percent in Q1 2017 versus 23 percent in 2016. Origination of private-label securities was well under 1 percent in both periods.



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



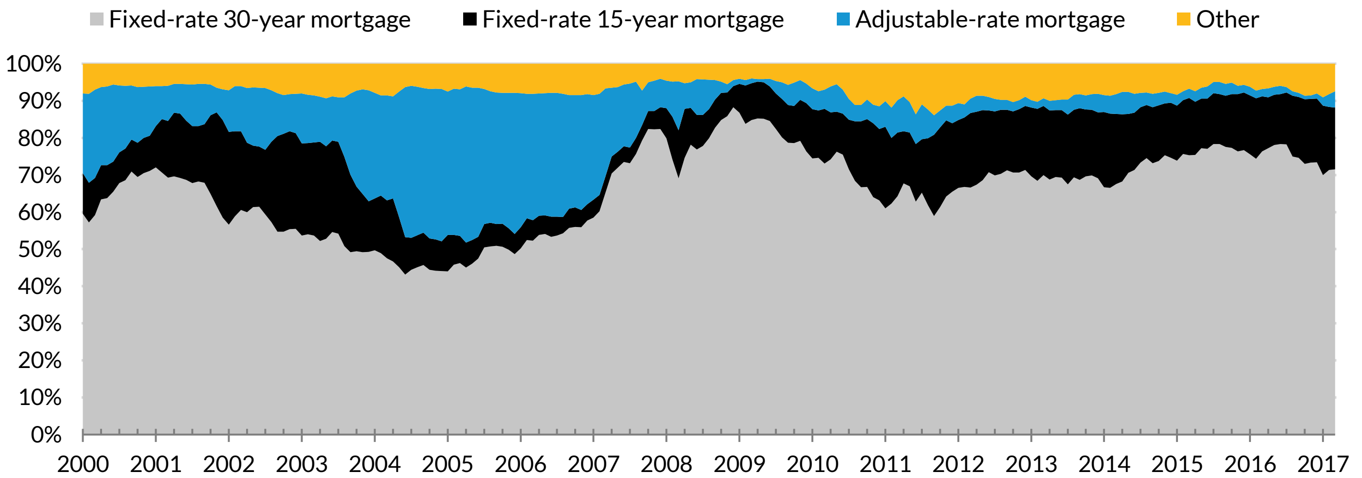
Sources: Inside Mortgage Finance and Urban Institute. *Last updated June 2017.*

OVERVIEW

MORTGAGE ORIGINATION PRODUCT TYPE

Adjustable-rate mortgages (ARMs) accounted for as much as 42 percent of all new originations during the peak of the 2005 housing bubble (top chart). The ARMs fell to an historic low of 1 percent in 2009, and then slowly grew to a high of 6 percent in April 2014. Since then, ARMs began to decline again to 4.4 percent in March 2017. The 15-year fixed-rate mortgage (FRM), predominantly a refinance product, accounted for 16.7 percent of new originations. If we exclude refinances (bottom chart), the share of 30-year FRMs in March 2017 stood at 88.4 percent, 15-year FRMs at 6.3 percent, and ARMs at 3.9 percent.

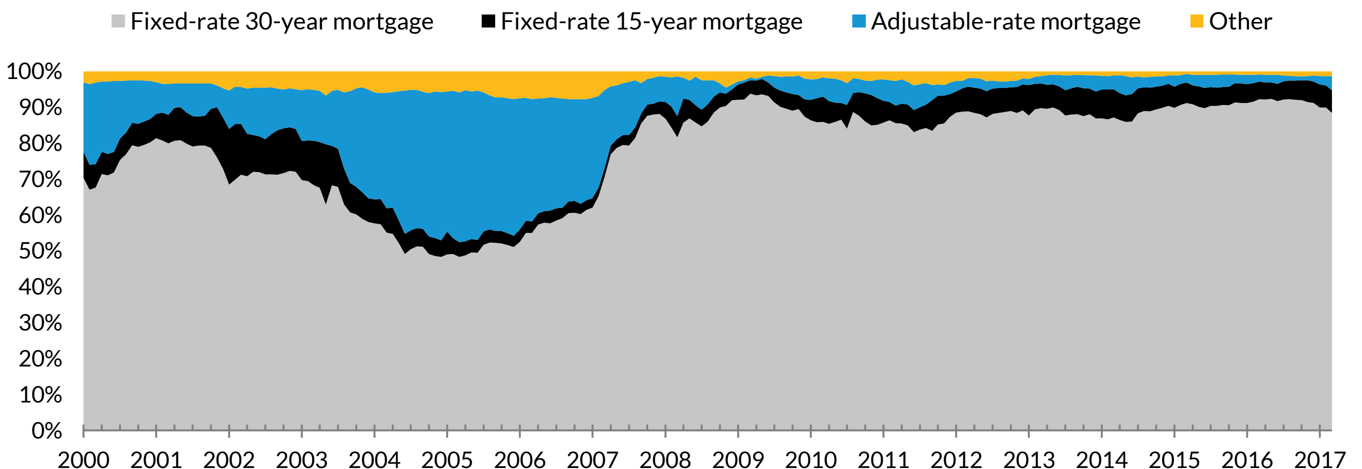
All Originations



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

March 2017

Purchase Loans Only



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

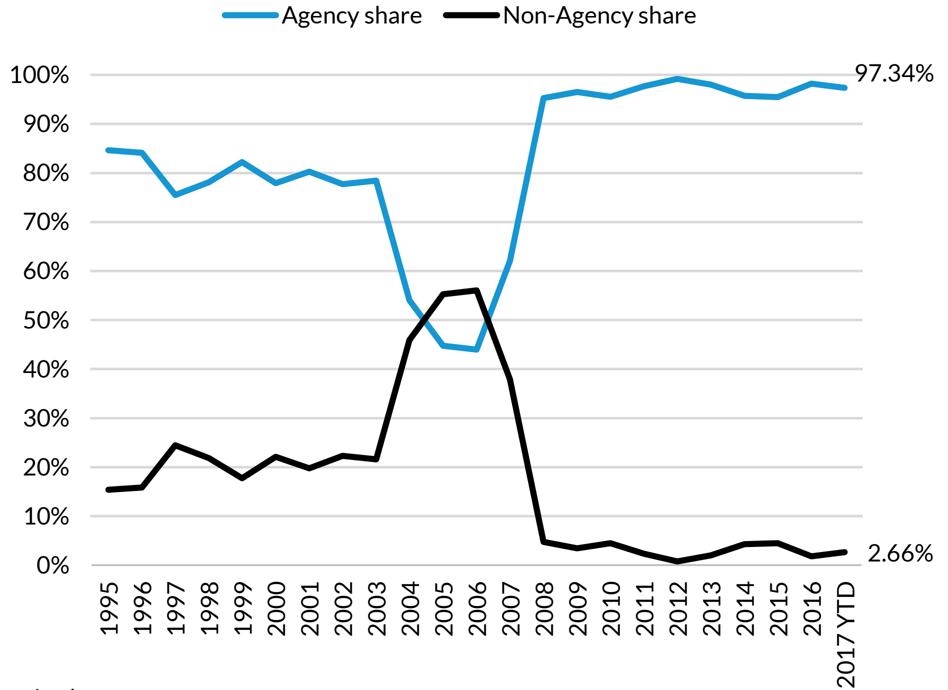
March 2017

OVERVIEW

SECURITIZATION VOLUME AND COMPOSITION

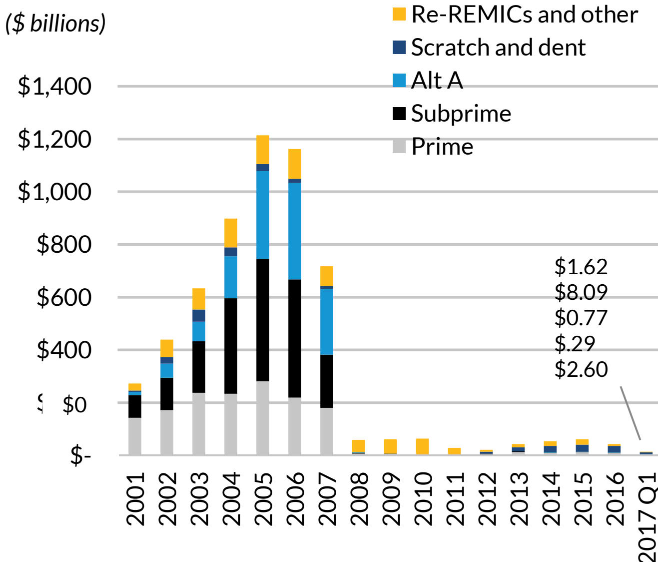
Agency/Non-Agency Share of Residential MBS Issuance

The non-agency share of mortgage securitizations in the first five months of 2017 was 2.7 percent, compared to 1.8 percent in 2016 and 4.5 percent in 2015. The non-agency securitization volume totaled $13.38 billion in Q1 2017, a 67.1 percent increase over the previous quarter. Much of the volume was in non-performing and re-performing (scratch and dent) deals. The volume of prime securitizations in Q1 2017 totaled $2.60 billion, higher than the preceding quarter ($1.57 billion) but lower than Q1 2016 ($2.92 billion). Non-agency securitizations continue to be tiny compared to pre-crisis levels.



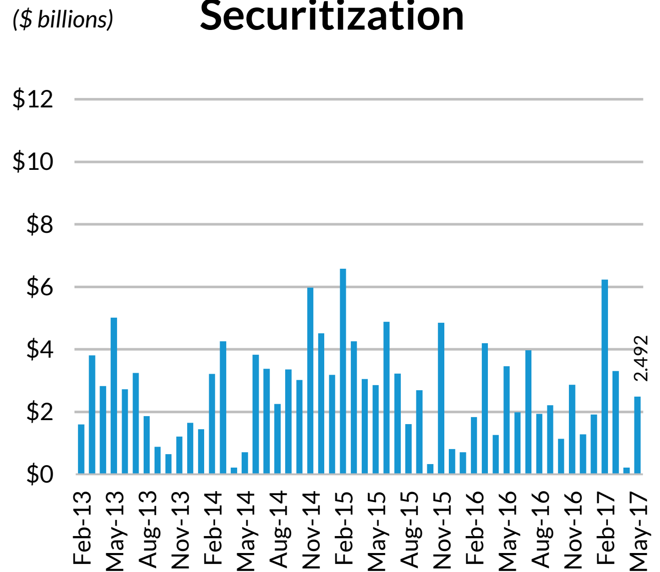
Sources: Inside Mortgage Finance and Urban Institute.
Note: Based on data from May 2017.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization



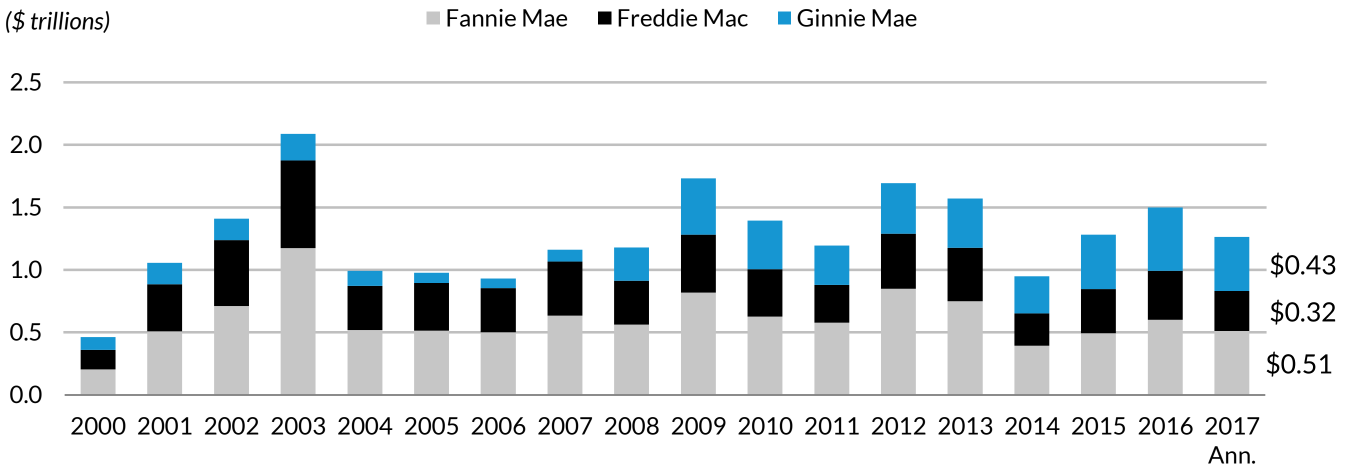
Sources: Inside Mortgage Finance and Urban Institute.
Note: Monthly figures equal total non-agency MBS issuance minus Re-REMIC issuance.

OVERVIEW

AGENCY ACTIVITY: VOLUMES AND PURCHASE/ REFI COMPOSITION

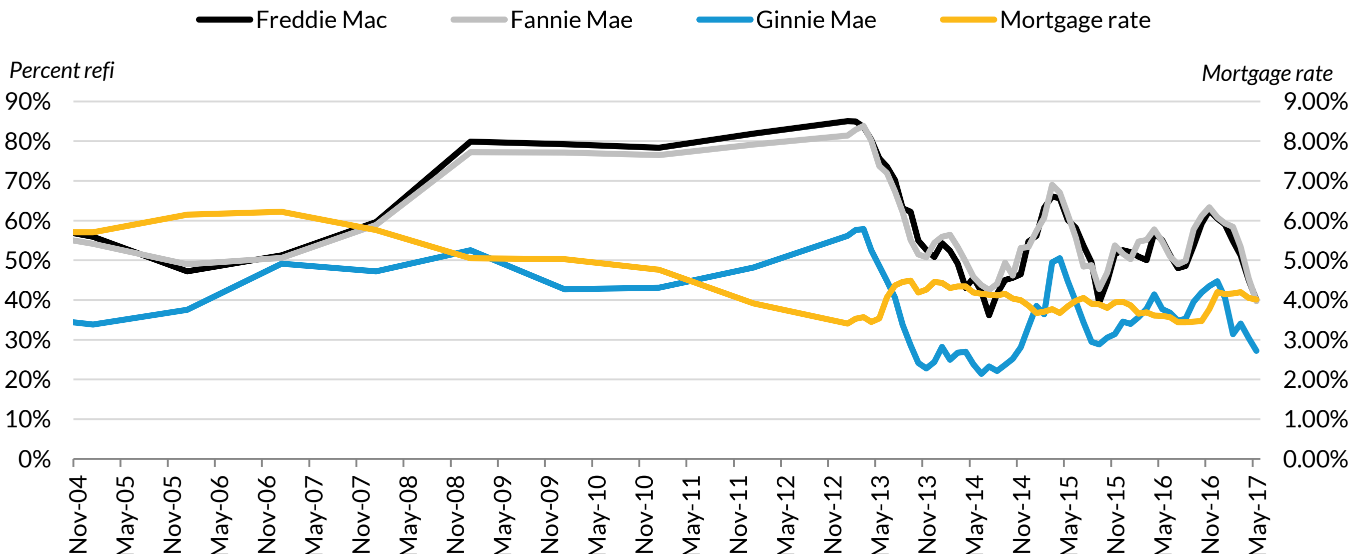
Agency issuance totaled $526.1 billion in the first five months of 2017, slightly up from $500.4 billion a year ago. In May 2017, refinances continued to decline to 40, 40 and 27 percent of Fannie Mae, Freddie Mac and Ginnie Mae's businesses, respectively, because mortgage rates have remained elevated since the election.

Agency Gross Issuance



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

Percent Refi at Issuance



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

STATE OF THE MARKET

MORTGAGE ORIGINATION PROJECTIONS

Origination volume for calendar year 2016 was close to $2.0 trillion. In 2017, Fannie Mae, Freddie Mac and MBA expect origination volume to be in the $1.5-$1.6 trillion range, owing to a sharp decline in refinance activity due to rising interest rates. In 2017, the share of refinances is expected to be in the 33-34 percent range, representing a drop from the 48 percent refi share in 2016. Fannie, Freddie, and MBA all forecast 2017 housing starts to total 1.25 to 1.27 million units, an increase from 2016. Home sales forecasts for 2017 range from 6.02-6.37 million, a rise from 2016 levels.

Total Originations and Refinance Shares

	Originations ($ billions)			Refi Share (%)		
Period	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	FNMA estimate	FHLMC estimate	MBA estimate
2017 Q1	376	397	361	46	42	41
2017 Q2	462	512	463	34	31	32
2017 Q3	423	469	440	27	30	28
2017 Q4	363	377	348	28	28	31
2018 Q1	310	306	345	32	30	30
2018 Q2	419	455	445	23	25	24
2018 Q3	425	460	443	22	24	23
2018 Q4	379	379	355	25	23	28
FY 2014	1301	1350	1261	40	39	40
FY 2015	1730	1750	1679	47	45	46
FY 2016	2052	2125	1891	48	48	48
FY 2017	1624	1545	1612	34	33	33
FY 2018	1533	1500	1588	25	25	26

Sources: Fannie Mae, Freddie Mac, Mortgage Bankers Association and Urban Institute.
Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market. Column labels indicate source of estimate. Regarding interest rates, the yearly averages for 2014, 2015,and 2016 were 3.6%, 3.7%, and 3.6%. For 2017, the respective projections for Fannie, Freddie, and MBA are 4.0%, 4.2%, and 4.2%.

Housing Starts and Homes Sales

	Housing Starts, thousands			Home Sales. thousands				
Year	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Existing, MBA estimate	New, MBA Estimate
FY 2014	1003	1000	1001	5377	5380	5360	4920	440
FY 2015	1112	1110	1108	5751	5750	5740	5237	503
FY 2016	1174	1170	1177	6011	6010	6001	5440	561
FY 2017	1246	1270	1263	6204	6020	6371	5741	630
FY 2018	1333	1360	1360	6349	6020	6733	6038	695

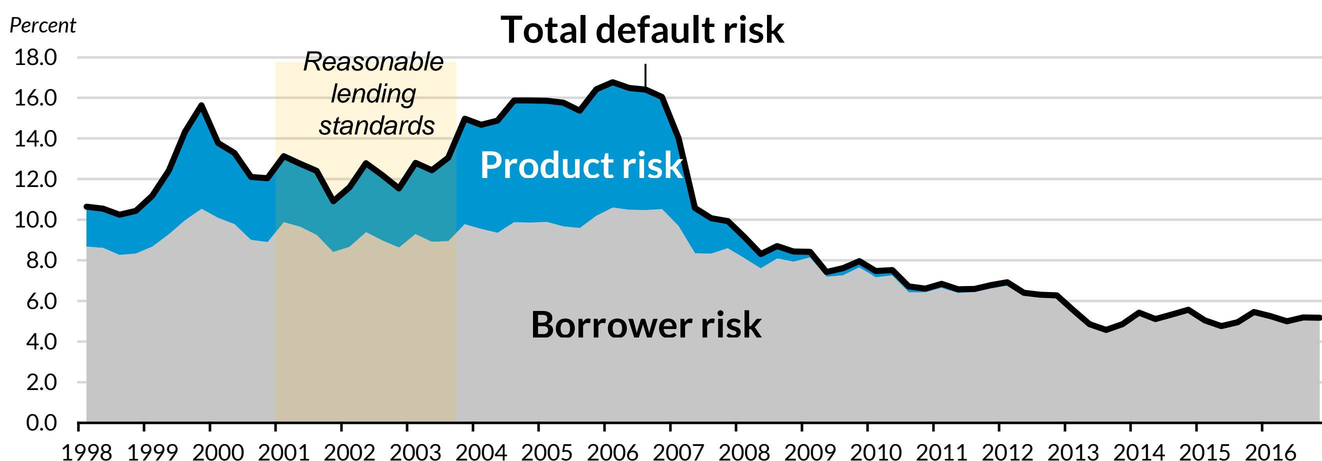
Sources: Mortgage Bankers Association, Fannie Mae, Freddie Mac and Urban Institute.
Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market; column labels indicate source of estimate.

STATE OF THE MARKET

CREDIT AVAILABILITY AND ORIGINATOR PROFITABILITY

Housing Credit Availability Index (HCAI)

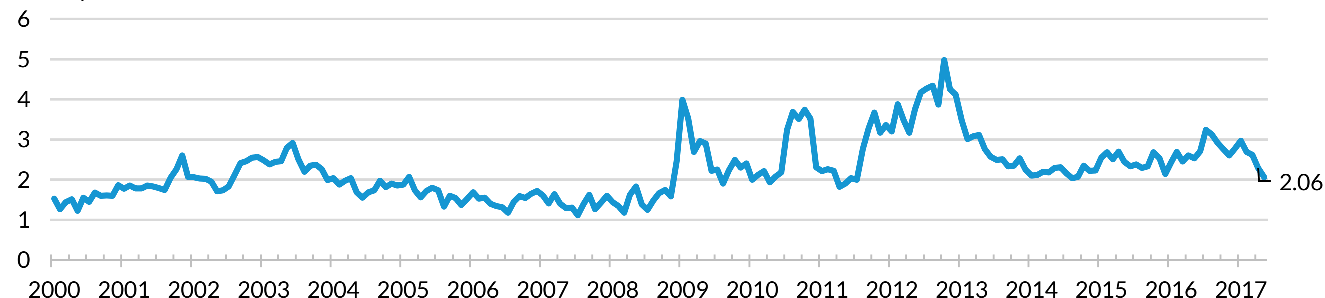
HFPC's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to default. The index shows that credit availability remained flat at 5.2 percent in the fourth quarter of 2016 (Q4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



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

Originator Profitability and Unmeasured Costs

When originator profits are higher, mortgage volumes are less responsive to changes in interest rates, because originators are at capacity. Originator Profitability and Unmeasured Costs (OPUC), formulated and calculated by the Federal Reserve Bank of New York, is a good relative measure of originator profitability. OPUC uses the sales price of the mortgage in the secondary market (less par) and adds two additional sources of profitability; retained servicing (both base and excess servicing, net of g-fees) and points paid by the borrower. Driven by the post-Brexit decline in interest rates, OPUC rose sharply to $3.21in July 2016. Since then it has declined to $2.06 in May 2017, the lowest level since January 2016.

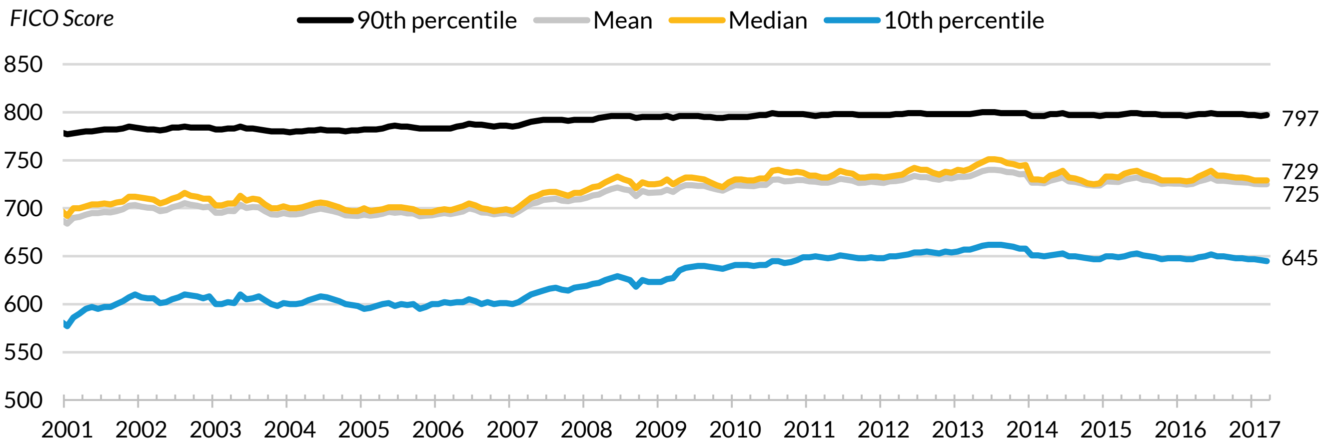


Sources: Federal Reserve Bank of New York, updated monthly and available at this link: http://www.ny.frb.org/research/epr/2013/1113fust.html and Urban Institute.
Note: OPUC is a is a monthly (4-week moving) average as discussed in Fuster et al. (2013).

CREDIT AVAILABILITY FOR PURCHASE LOANS

Access to credit has become extremely tight, especially for borrowers with low FICO scores. The mean and median FICO scores on new originations have both drifted up about 24 and 23 points over the last decade, respectively. The 10th percentile of FICO scores, which represents the lower bound of creditworthiness needed to qualify for a mortgage, stood at 645 as of March 2017. Prior to the housing crisis, this threshold held steady in the low 600s. LTV levels at origination remain relatively high, averaging 88.0, which reflects the large number of FHA purchase originations.

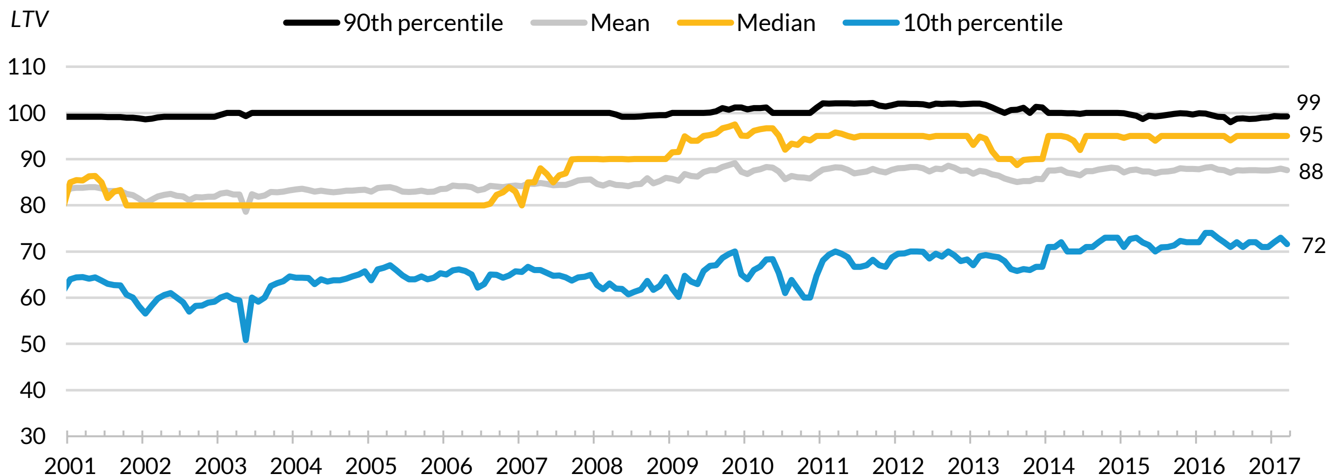
Borrower FICO Score at Origination



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

March 2017

Combined LTV at Origination



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

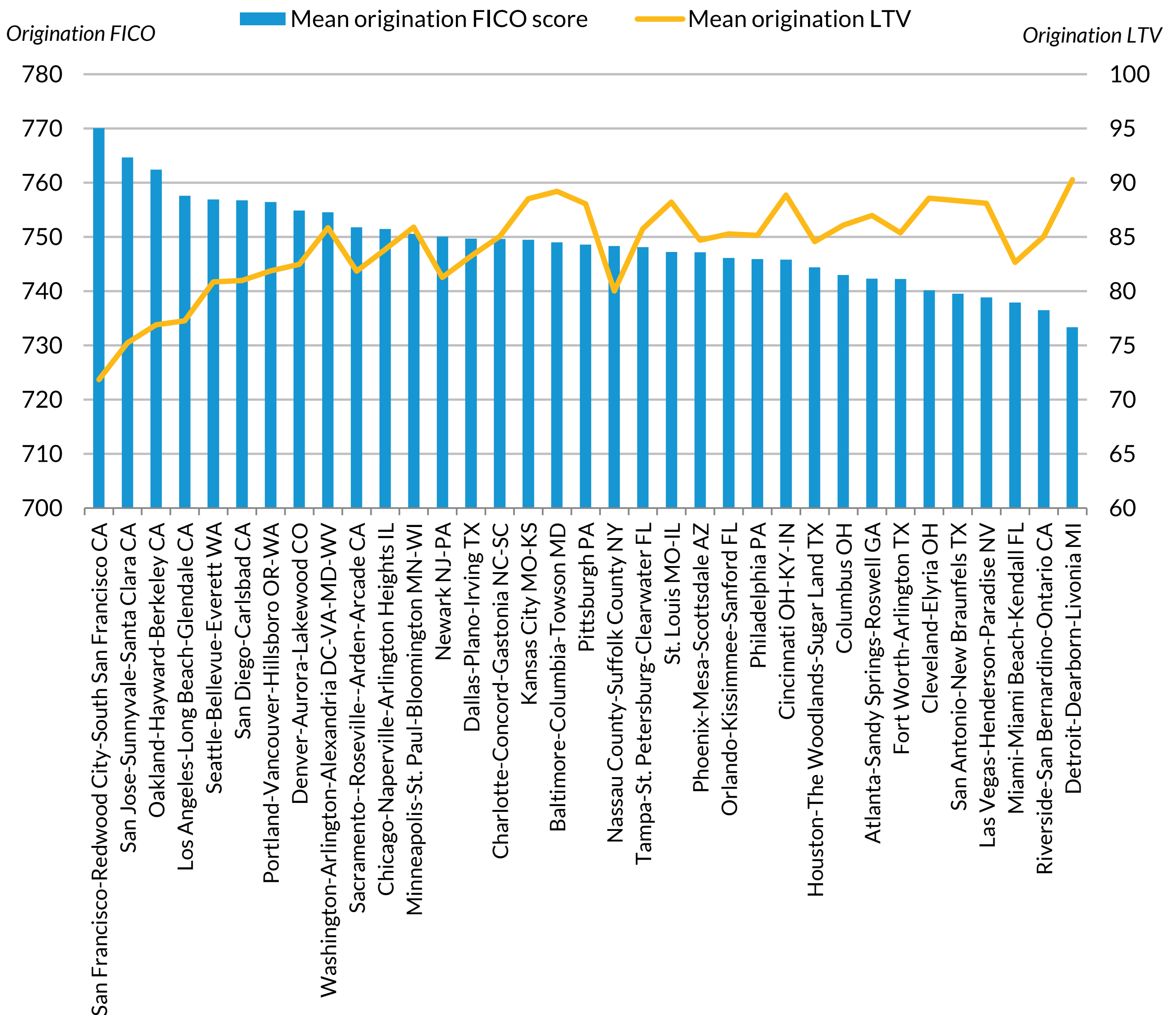
March 2017

STATE OF THE MARKET

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 733. 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



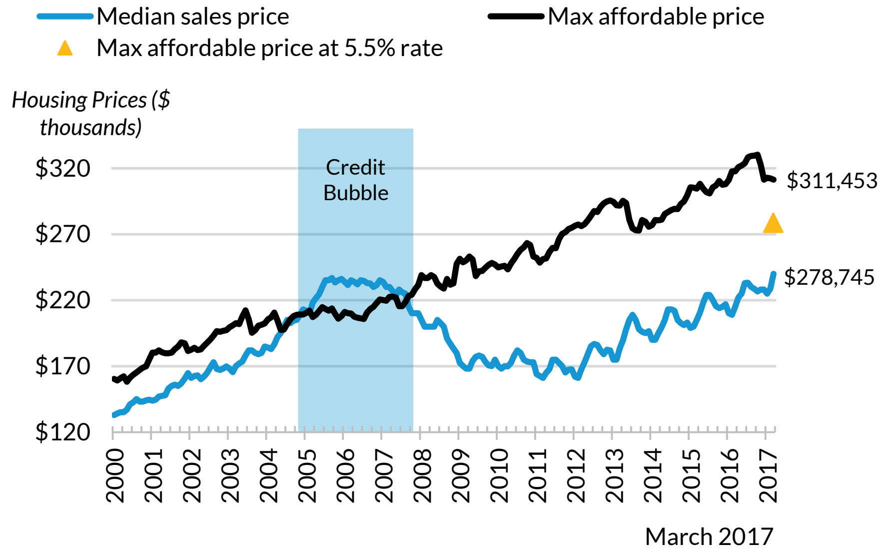
Sources: Corelogic, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes owner-occupied purchase loans only. Data as of March 2017.

STATE OF THE MARKET
HOUSING AFFORDABILITY

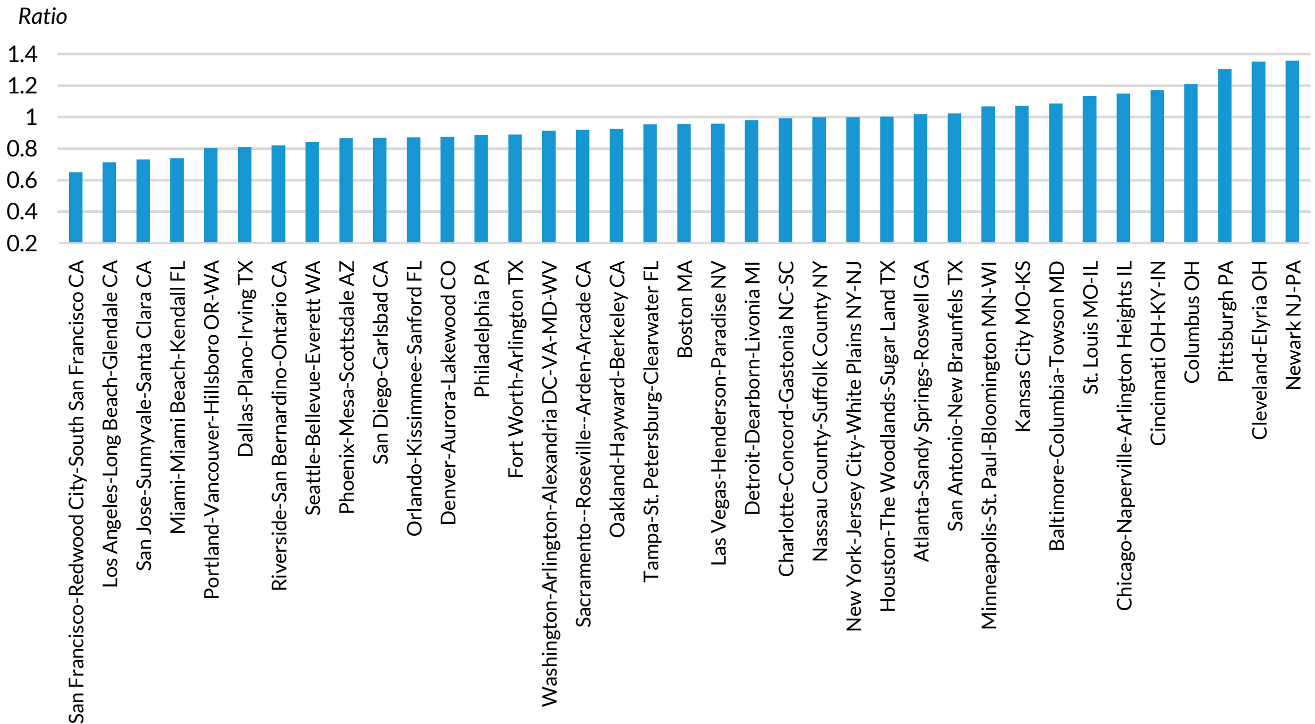
National Housing Affordability Over Time

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

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



Affordability Adjusted for MSA-Level DTI



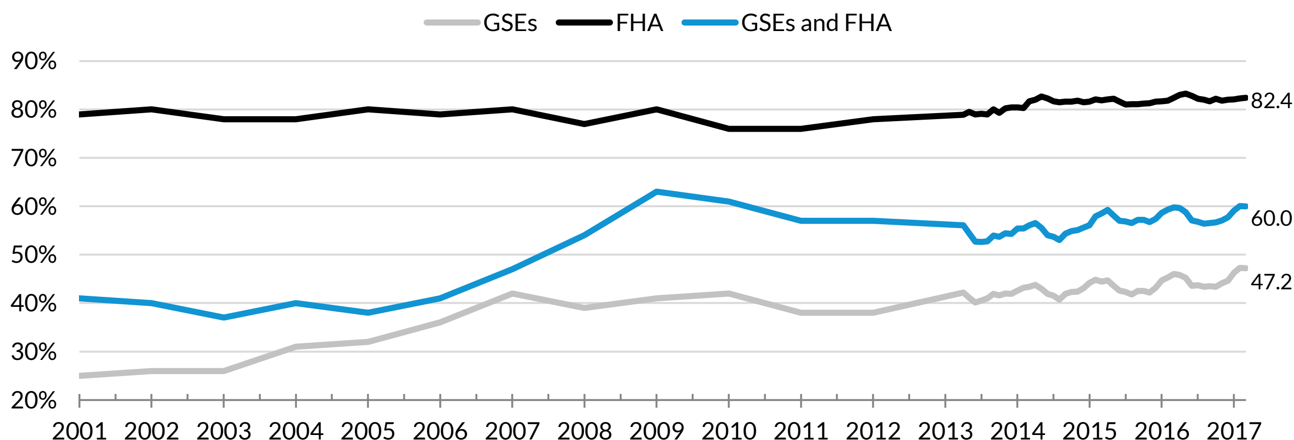
Sources: CoreLogic, US Census, Freddie Mac and Urban Institute calculations based on NAR methodology.
Note: Index is calculated relative to home prices in 2000-03. A ratio above 1 indicates higher affordability in March 2017 than in 2000-03.

STATE OF THE MARKET

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In March 2017, the first-time homebuyer share of GSE purchase loans remained stable at 47.2%, after reaching a historical high last month. The FHA has always been more focused on first-time homebuyers, with its first-time homebuyer share hovering around 80 percent and stood at 82.4 percent in March 2017, down from the peak of 83.3 percent in May 2016. The bottom table shows that based on mortgages originated in March 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 ($)	225,321	249,017	196,369	221,629	210,315	242,573
Credit Score	740.0	755.6	675.6	683.8	706.6	738.7
LTV (%)	86.8	79.3	97.3	95.9	92.2	83.2
DTI (%)	34.2	35.1	41.9	42.9	38.2	37.0
Loan Rate (%)	4.37	4.26	4.29	4.23	4.33	4.25

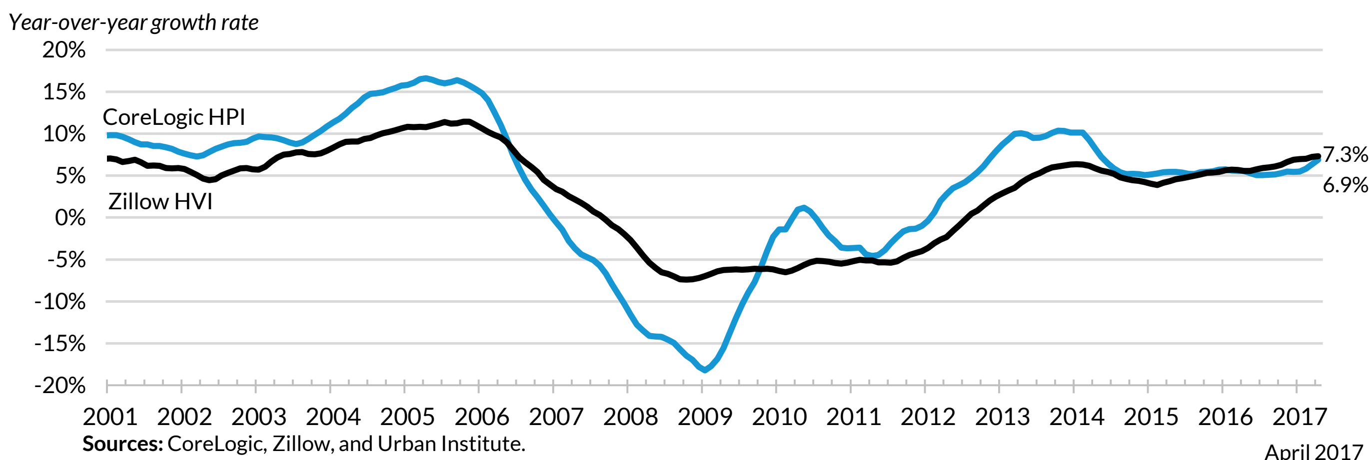
Sources: eMBS and Urban Institute.
Note: Based on owner-occupied purchase mortgages originated in March 2017.

STATE OF THE MARKET

HOME PRICE INDICES

National Year-Over-Year HPI Growth

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



Sources: CoreLogic, Zillow, and Urban Institute.

April 2017

Changes in CoreLogic HPI for Top MSAs

Despite rising 47 percent from the trough, national house prices still must grow 1.9 percent to reach pre-crisis peak levels. At the MSA level, seven of the top 15 MSAs have reached their peak HPI– New York, NY; Los Angeles, CA; 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 25 and 27 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	-33.4	47.3	1.9
New York-Jersey City-White Plains NY-NJ	112.2	-16.7	29.3	-7.2
Los Angeles-Long Beach-Glendale CA	177.3	-38.5	64.2	-1.0
Chicago-Naperville-Arlington Heights IL	66.1	-35.8	34.1	16.2
Atlanta-Sandy Springs-Roswell GA	37.9	-33.0	55.4	-4.0
Washington-Arlington-Alexandria DC-VA-MD-WV	155.4	-34.3	36.7	11.3
Houston-The Woodlands-Sugar Land TX	39.7	-14.0	43.6	-19.0
Phoenix-Mesa-Scottsdale AZ	123.8	-52.7	69.4	24.8
Riverside-San Bernardino-Ontario CA	186.3	-52.7	66.0	27.4
Dallas-Plano-Irving TX	34.2	-13.8	55.3	-25.3
Minneapolis-St. Paul-Bloomington MN-WI	73.1	-30.4	40.0	2.7
Seattle-Bellevue-Everett WA	91.0	-29.1	74.1	-19.0
Denver-Aurora-Lakewood CO	35.6	-13.3	70.4	-32.3
Baltimore-Columbia-Towson MD	122.8	-24.6	11.2	19.2
San Diego-Carlsbad CA	144.9	-37.6	57.3	1.8
Anaheim-Santa Ana-Irvine CA	160.7	-35.7	51.5	2.7

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

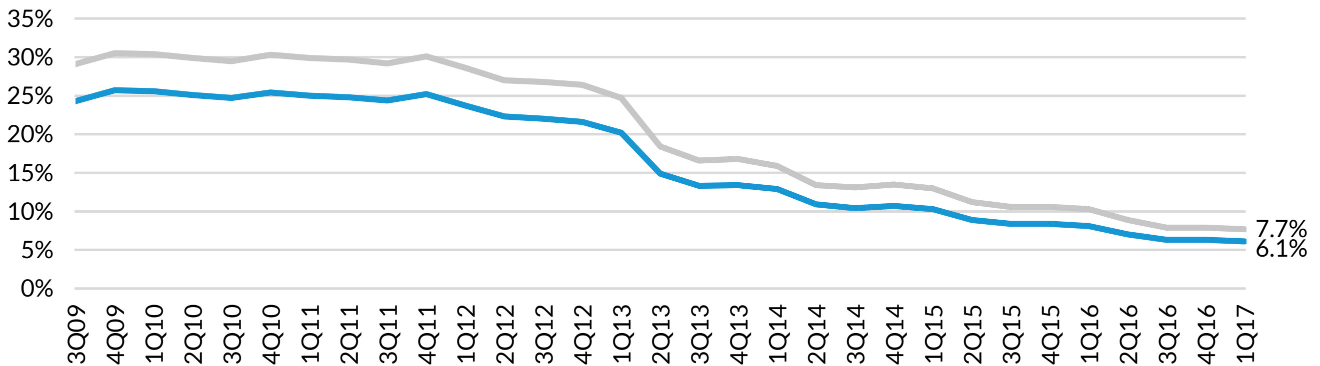
STATE OF THE MARKET

NEGATIVE EQUITY & SERIOUS DELINQUENCY

Negative Equity Share

Negative equity   Near or in negative equity

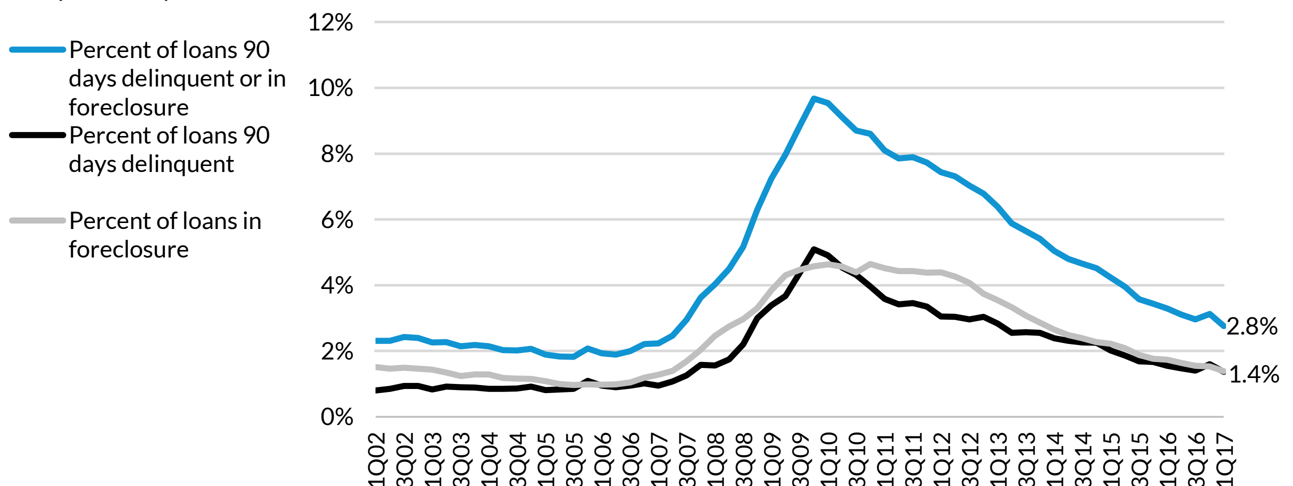
With housing prices continuing to appreciate, residential properties in negative equity (LTV greater than 100) as the share of all residential properties with a mortgage continued to decline and stood at 6.1percent as of Q1 2017. Residential properties in near negative equity (LTV between 95 and 100) comprise another 1.6 percent..



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

Loans in Serious Delinquency/Foreclosure

90 day delinquencies resumed their decline from 1.60 to 1.37 percent in Q1 2017, after last quarter's seasonal upswing. The percent of loans in foreclosure continued to edge down to 1.39 percent. The combined delinquencies totaled 2.76 percent in Q1 2017, down from 3.13 percent in Q4 2016 and 3.29 percent for the same quarter a year earlier.

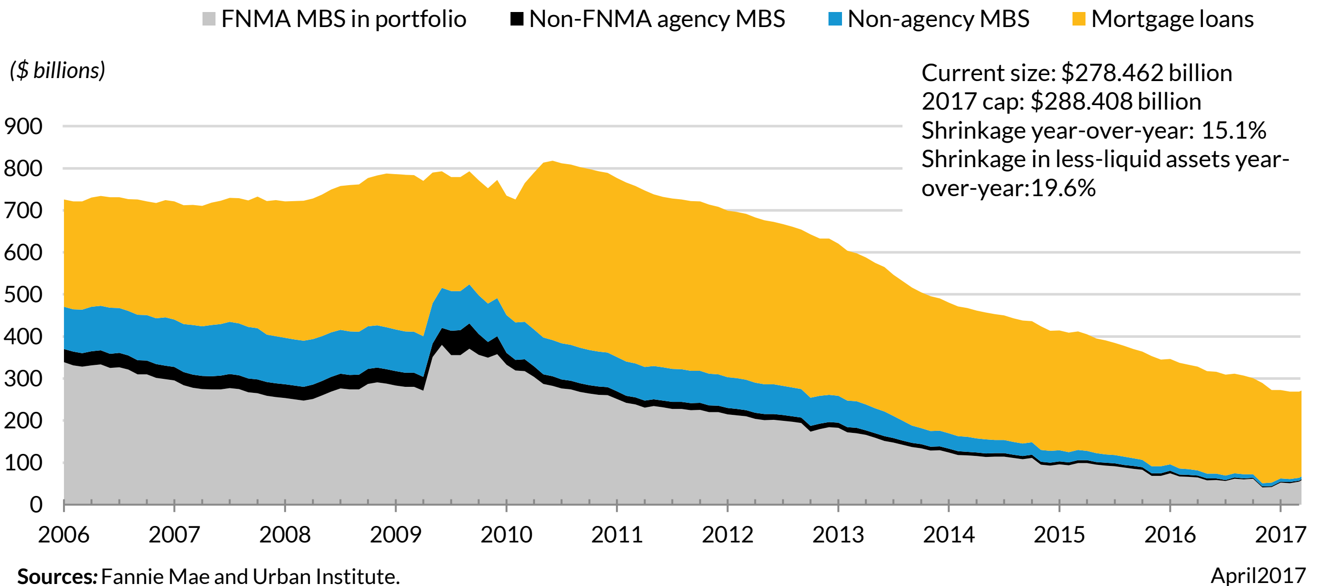


Sources: Mortgage Bankers Association and Urban Institute.

GSE PORTFOLIO WIND-DOWN

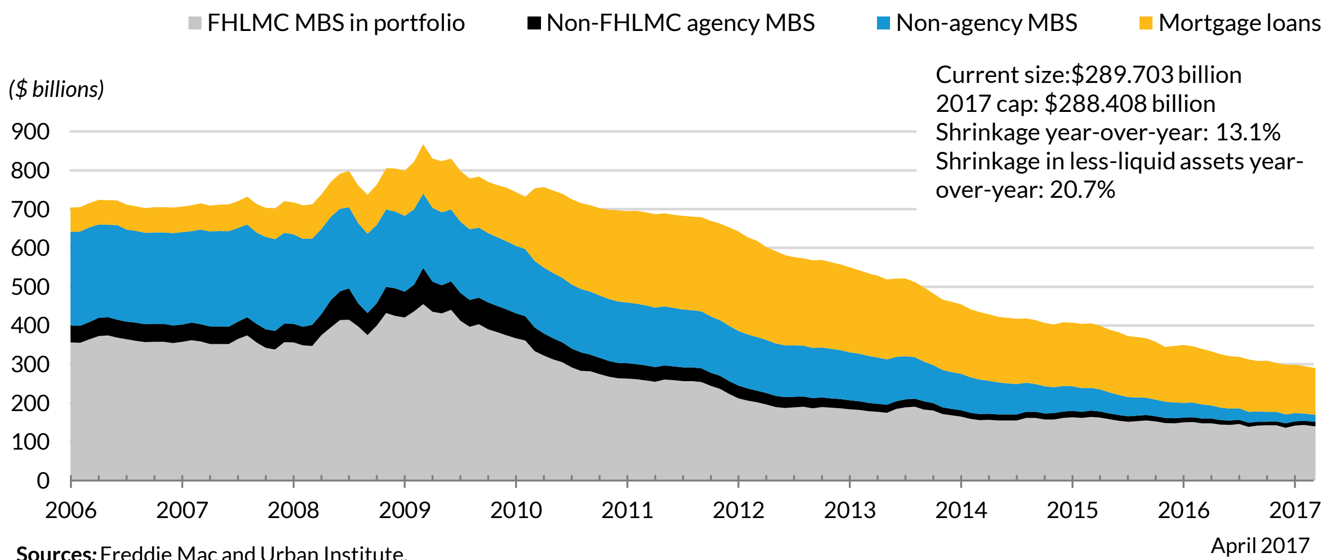
Both GSEs continue to contract their portfolios. Since April 2016, Fannie Mae has contracted by 15.1 percent and Freddie Mac by 13.1 percent. They are shrinking their less liquid assets (mortgage loans and non-agency MBS) at close to the same pace that they are shrinking their entire portfolio. As of April 2017, Fannie Mae had already reached its 2017 cap, and Freddie Mac was just above it.

Fannie Mae Mortgage-Related Investment Portfolio Composition



Sources: Fannie Mae and Urban Institute.

Freddie Mac Mortgage-Related Investment Portfolio Composition



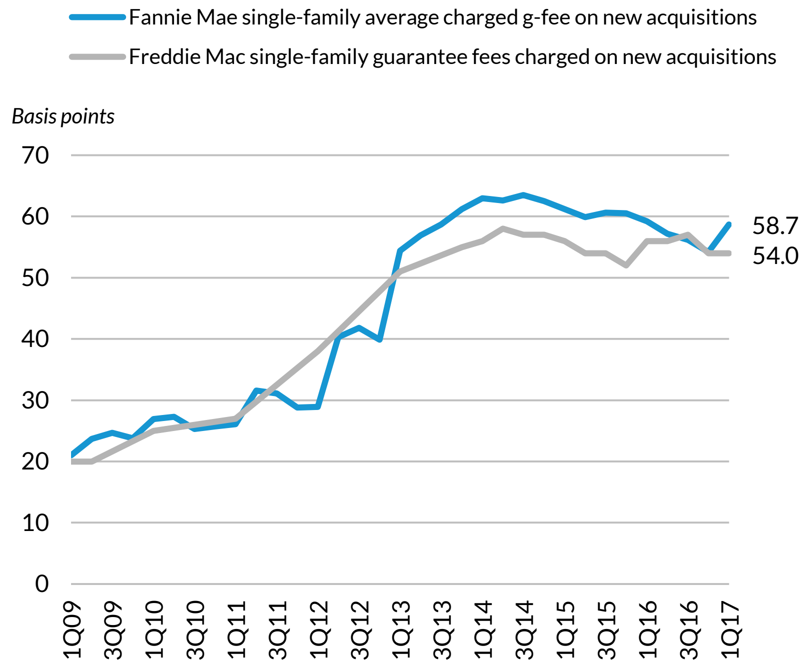
Sources: Freddie Mac and Urban Institute.

GSES UNDER CONSERVATORSHIP

EFFECTIVE GUARANTEE FEES

Guarantee Fees Charged on New Acquisitions

The latest 10-K indicates that Fannie's average g-fees on new acquisitions increased from 54.2 to 58.7 bps in Q1 2017 and Freddie's remained flat at 54 bps. This is a marked increase over 2012 and 2011, and has contributed to the GSEs' profits. The GSE's latest Loan-Level Pricing Adjustments (LLPAs) were effective in September 2015; the bottom table shows the Fannie Mae LLPAs, which are expressed as upfront charges. Note that the September 2015 changes were very modest, and did not have a material impact on GSE pricing. In particular, the Adverse Market Delivery Charge (ADMC) of 0.25 percent was eliminated, and LLPAs for some borrowers were slightly increased to compensate for the revenue loss.



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

Fannie Mae Upfront Loan-Level Price Adjustments (LLPAs)

Credit Score	LTV							
	≤60	60.01 – 70	70.01 – 75	75.01 – 80	80.01 – 85	85.01 – 90	90.01 – 95	95.01 – 97
> 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.

GSES UNDER CONSERVATORSHIP

GSE RISK-SHARING TRANSACTIONS

Fannie Mae and Freddie Mac have been laying off back-end credit risk through CAS and STACR as well as through reinsurance transactions. They have also done a few front-end transactions with originators and experimented with deep mortgage insurance coverage with private mortgage insurers. FHFA's 2017 scorecard requires the GSEs to lay off credit risk on 90 percent of newly acquired loans in categories targeted for transfer. Fannie Mae's CAS issuances to date cover 30 percent of its outstanding guarantees, while Freddie's STACR covers 42 percent. In May 2017, Fannie Mae completed two CAS deals, adding to two other deals earlier this year.

Fannie Mae – Connecticut Avenue Securities (CAS)

Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
2013	CAS 2013 deals	$26,756	$675	2.5%
2014	CAS 2014 deals	$227, 234	$5,849	2.6%
2015	CAS 2015 deals	$187,126	$5,463	2.9%
February 2016	CAS 2016 – C01	$28,882	$945	3.3%
March 2016	CAS 2016 – C02	$35,004	$1,032	2.9%
April 2016	CAS 2016 – C03	$36,087	$1,166	3.2%
July 2016	CAS 2016 – C04	$42,179	$1,322	3.1%
August 2016	CAS 2016 - C05	$38,668	$1,202	3.1%
November 2016	CAS 2016 - C06	$33,124	$1,024	3.1%
December 2016	CAS 2016 – C07	$22,515	$702	3.1%
January 2017	CAS 2017 – C01	$43,758	$1,351	3.1%
March 2017	CAS 2017 – C02	$39,988	$1,330	3.3%
May 2017	CAS 2017 – C03	$41,246	$1,371	3.3%
May 2017	CAS 2017 – C04	$30,154	$1,003	3.3%
Total		**$832,721**	**$24,434**	**2.9%**
Percent of Fannie Mae's Total Book of Business		**30.06%**		

Freddie Mac – Structured Agency Credit Risk (STACR)

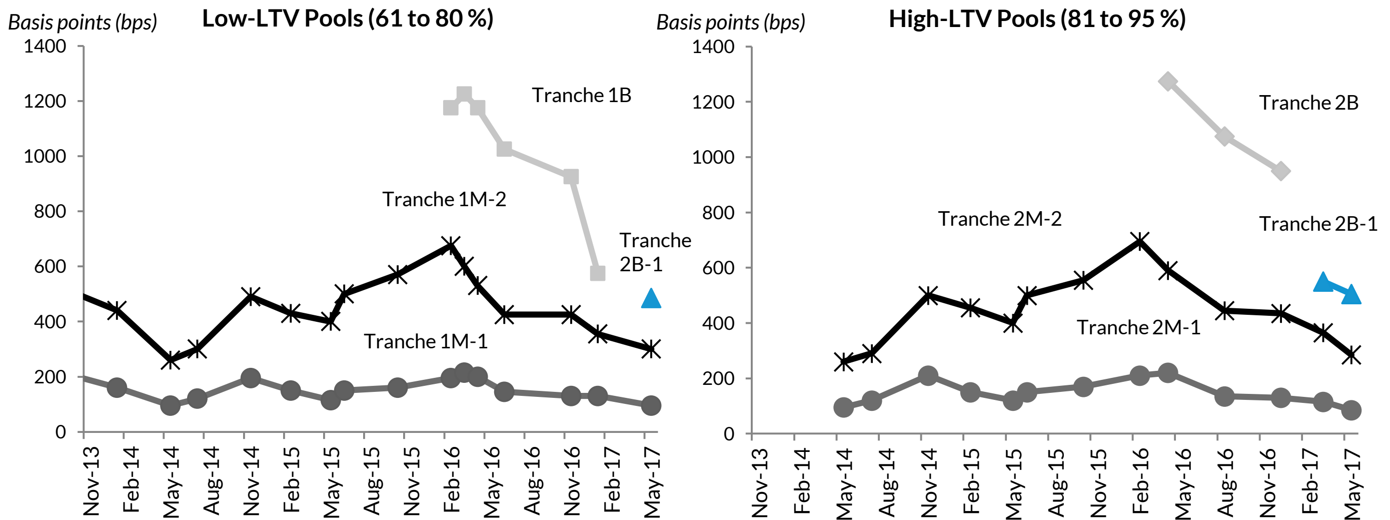
Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
2013	STACR 2013 deals	$57,912	$1,130	2.0%
2014	STACR 2014 deals	$147,120	$4,916	3.3%
2015	STACR 2015 deals	$209,521	$6,658	3.2%
January 2016	STACR Series 2016 – DNA1	$35,700	$996	2.8%
March 2016	STACR Series 2016 – HQA1	$17,931	$475	2.6%
May 2016	STACR Series 2016 – DNA2	$30,589	$916	3.0%
May 2016	STACR Series 2016 – HQA2	$18,400	$627	3.4%
June 2016	STACR Series 2016 – DNA3	$26,400	$795	3.0%
September 2016	STACR Series 2016 – HQA3	$15,709	$515	3.3%
September 2016	STACR Series 2016 – DNA4	$24,845	$739	3.0%
October 2016	STACR Series 2016 - HQA4	$13,847	$478	3.5%
January 2017	STACR Series 2017 – DNA1	$33, 965	$802	2.4%
February 2017	STACR Series 2017 – HQA1	$29,700	$753	2.5%
April 2017	STACR Series 2017 – DNA2	$60,716	$1,320	2.2%
Total		**$738,064**	**$21,120**	**2.9%**
Percent of Freddie Mac's Total Book of Business		**41.94%**		

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

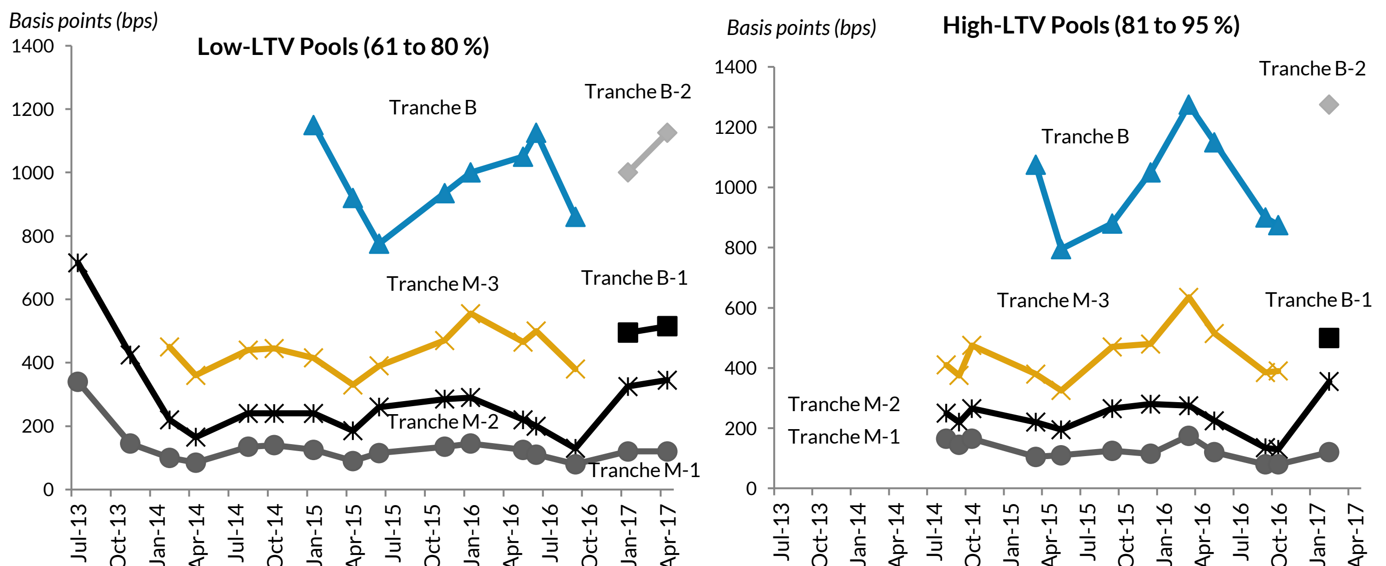
GSES UNDER CONSERVATORSHIP
GSE RISK-SHARING SPREADS

CAS and STACR spreads have moved around considerably since 2013, with the bottom mezzanine tranche and the first loss bonds experiencing considerably more volatility than the top mezzanine bonds. Tranche B in particular has been highly volatile because of its first loss position. Spreads widened especially during Q1 2016 due to falling oil prices, concerns about global economic growth and the slowdown in China. Since then spreads have resumed their downward trend but remain volatile.

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



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



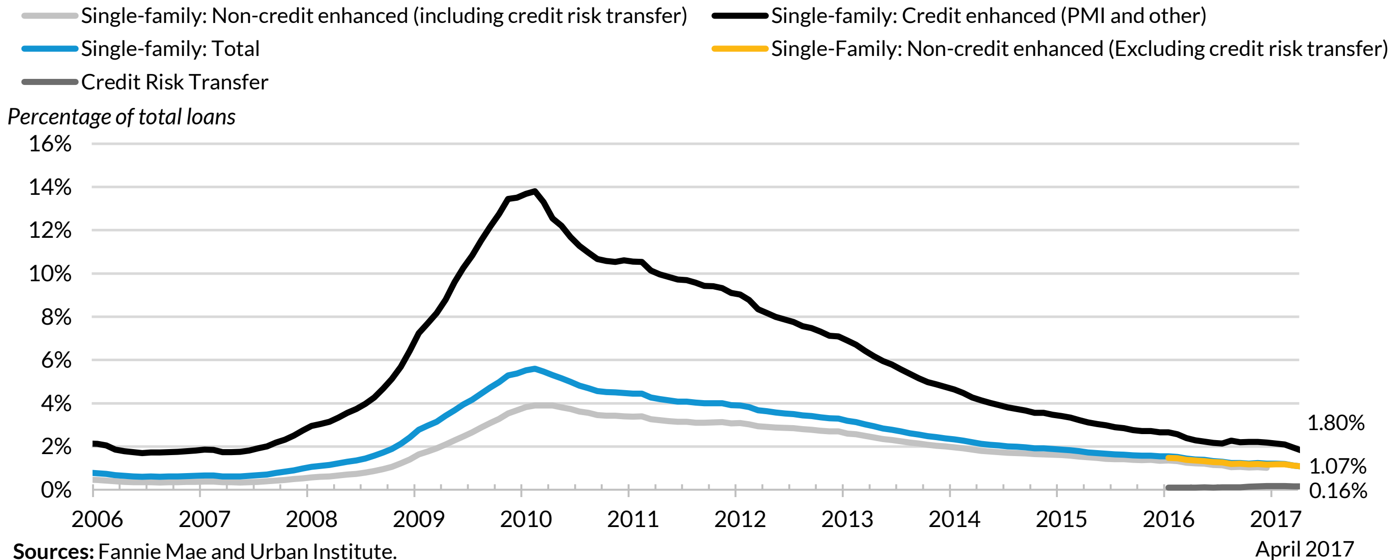
Sources: Fannie Mae, Freddie Mac Press Releases and Urban Institute.

GSES UNDER CONSERVATORSHIP

SERIOUS DELINQUENCY RATES

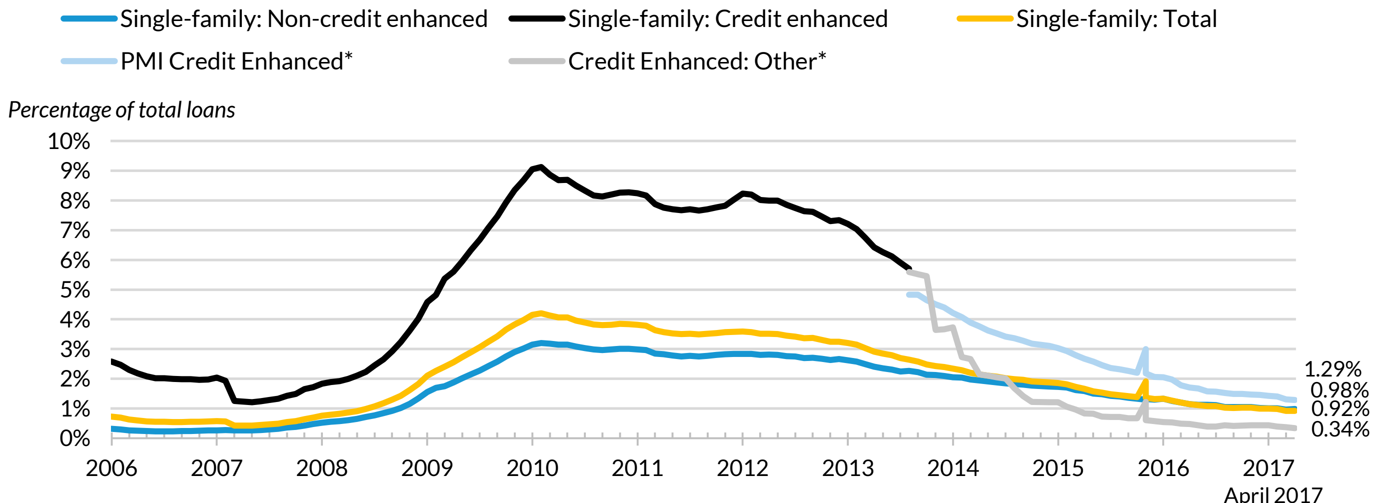
Serious delinquency rates of GSE loans continue to decline as the legacy portfolio is resolved and the pristine, post-2009 book of business exhibits very low default rates. As of April 2017, 1.07 percent of the Fannie portfolio and 0.98 percent of the Freddie portfolio were seriously delinquent, down from 1.40 percent for Fannie and 1.15 percent for Freddie in April 2016.

Serious Delinquency Rates–Fannie Mae



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

Serious Delinquency Rates–Freddie Mac



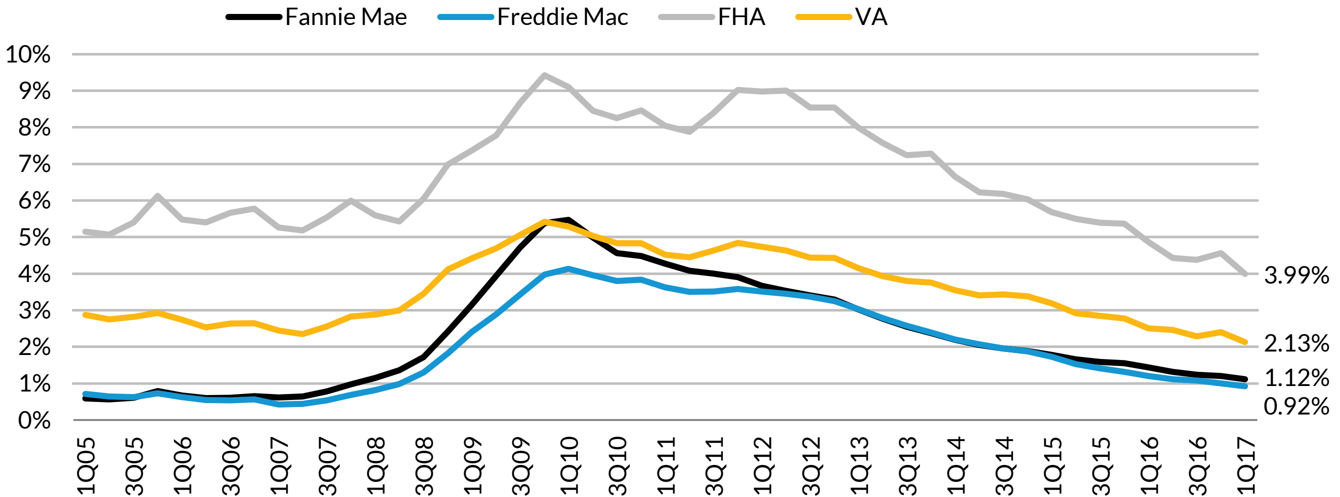
Sources: Freddie Mac and Urban Institute.
Note*: Following a change in Freddie reporting in September 2014, we switched from reporting credit enhanced delinquency rates to PMI and other credit enhanced delinquency rates. Freddie reported these two categories for credit-enhanced loans going back to August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

GSES UNDER CONSERVATORSHIP

SERIOUS DELINQUENCY RATES

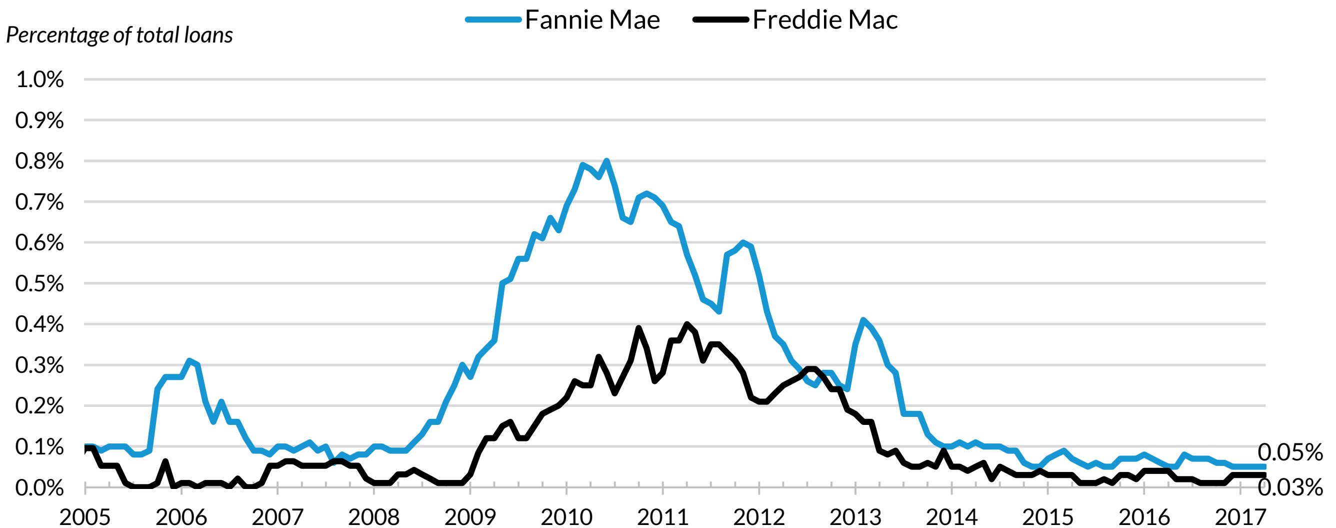
Serious delinquencies for GSE single-family loans continue to decline in Q1 2017. After last quarter's small seasonal upswing, both FHA and VA delinquencies resumed decline to 3.99 and 2.13 percent in Q1 2017, respectively, lower even than the level in Q3 2016 before the uptick (FHA: 4.38, VA:2.29 percent) . GSE delinquencies remain higher relative to 2005-2007, while FHA and VA delinquencies (which are higher than their GSE counterparts) are at levels lower than 2005-2007. GSE multifamily delinquencies have declined to pre-crisis levels, although they did not reach problematic levels even in the worst years of the crisis.

Serious Delinquency Rates–Single-Family Loans



Sources: Fannie Mae, Freddie Mac, MBA Delinquency Survey and Urban Institute.
Note: Serious delinquency is defined as 90 days or more past due or in the foreclosure process. Not seasonally adjusted.

Serious Delinquency Rates–Multifamily GSE Loans



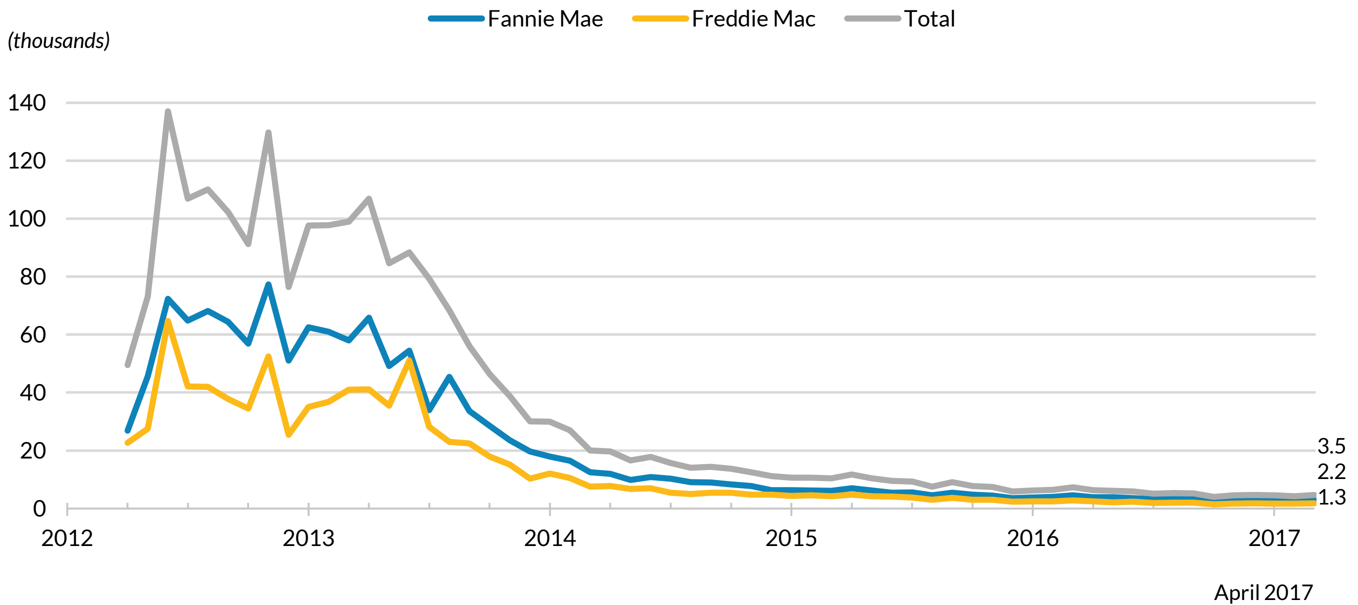
April 2017

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 high number of borrowers who have already refinanced. The trend is likely to continue especially with the recent rate increases. Since the program's Q2 2009 inception, HARP refinances total 3.46 million, accounting for 13.6 percent of all GSE refinances in this period. In April 2017, the latest month for which data is available, HARP refinances accounted for 3.0 percent of total refinances.

Total HARP Refinance Volume



Sources: FHFA Refinance Report and Urban Institute.

HARP Refinances

	April 2017	Year to Date 2017	Inception to date	2016	2015	2014
Total refinances	117,956	628,033	25,447,673	2,325,668	2,084,936	1,536,788
Total HARP refinances	3,493	16,918	3,464,589	67,114	110,111	212,488
Share 80–105 LTV	81.5%	80.9%	70.4%	79.4%	76.5%	72.5%
Share 105–125 LTV	12.2%	13.2%	17.1%	14.2%	15.6%	17.2%
Share >125 LTV	6.3%	5.9%	12.5%	6.5%	8.0%	10.3%
All other streamlined refinances	10,831	49,939	3,949,219	159,792	218,243	268,026

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 194,730 eligible loans, but 50 percent are out-of-the-money because the closing cost would exceed the long-term savings, leaving 96,187 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 4,479,183 loans in this category, 3,430,501 are in-the-money.

Over 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	27,513,785
Loans that do not meet pay history requirement	1,195,861
Loans that meet pay history requirement:	26,317,924
Pre-June 2009 origination	4,739,906
Post-June 2009 origination	21,578,017

Loans Meeting HARP Pay History Requirements

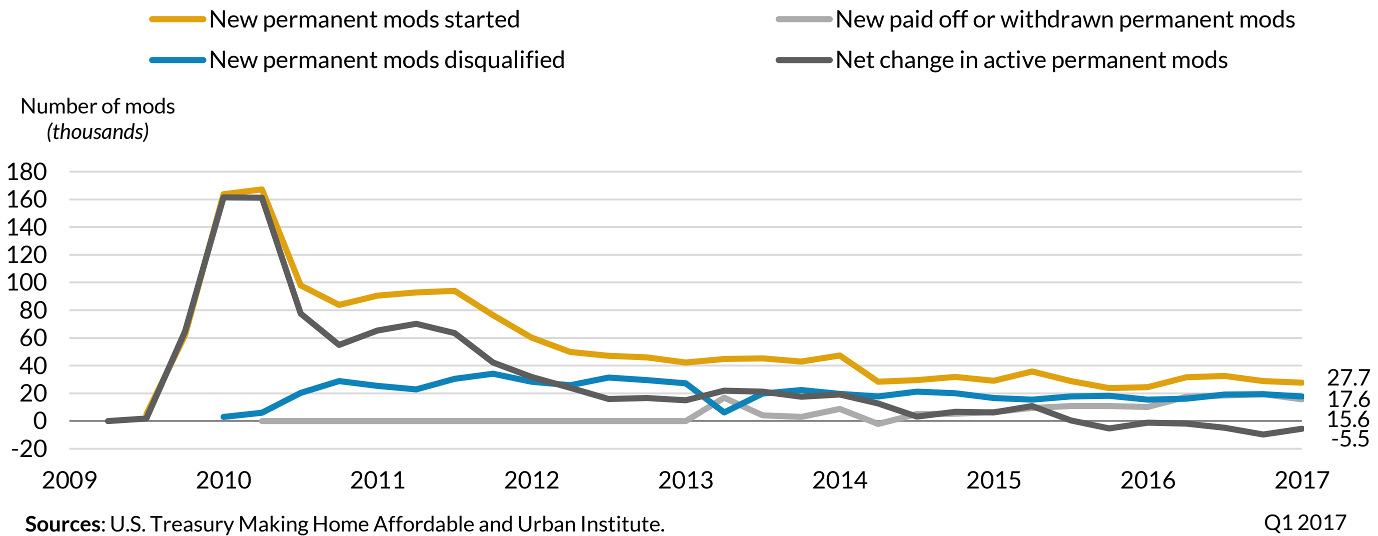
Pre-June 2009			
LTV category	*In-the-money*	*Out-of-the-money*	*Total*
≤80	3,430,501	1,048,682	4,479,183
>80	96,187	98,544	194,730
Total	3,526,688	1,147,226	4,673,913
Post-June 2009			
LTV category	*In-the-money*	*Out-of-the-money*	*Total*
≤80	1,945,738	17,264,227	19,209,965
>80	225,874	2,192,153	2,418,028
Total	2,171,612	19,456,380	21,627,993

Sources: CoreLogic Prime Servicing as of April 2017 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. The May PMMS rate of 4.01 percent was used to calculate this table.

HAMP ACTIVITY

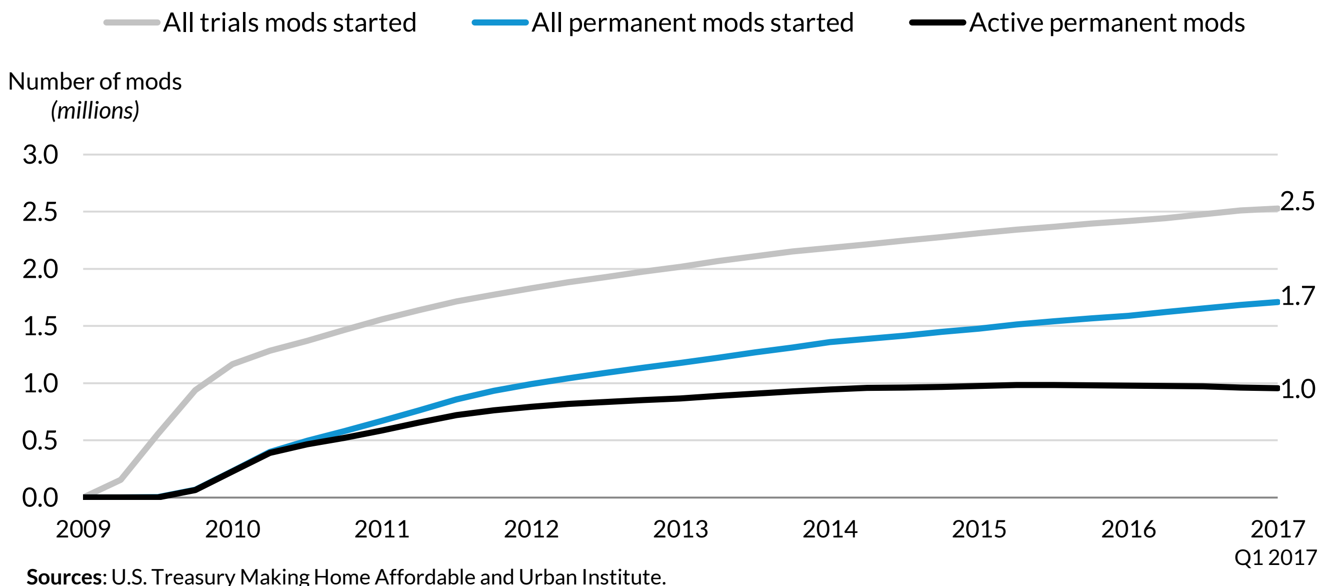
In Q1 2017, the number of active permanent modifications continued to fall by 5,516 mortgages, the fifth consecutive quarter with a decline since Q4 2015. There are three factors behind this change: Fewer new permanent modifications were made, some modifications failed because the borrowers did not make their payments, and a small number of borrowers either paid off their mortgage or withdrew their application. After the HAMP sunset at year-end 2016, no new modification applications were considered.

New HAMP Modications



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

Cumulative HAMP Modifications



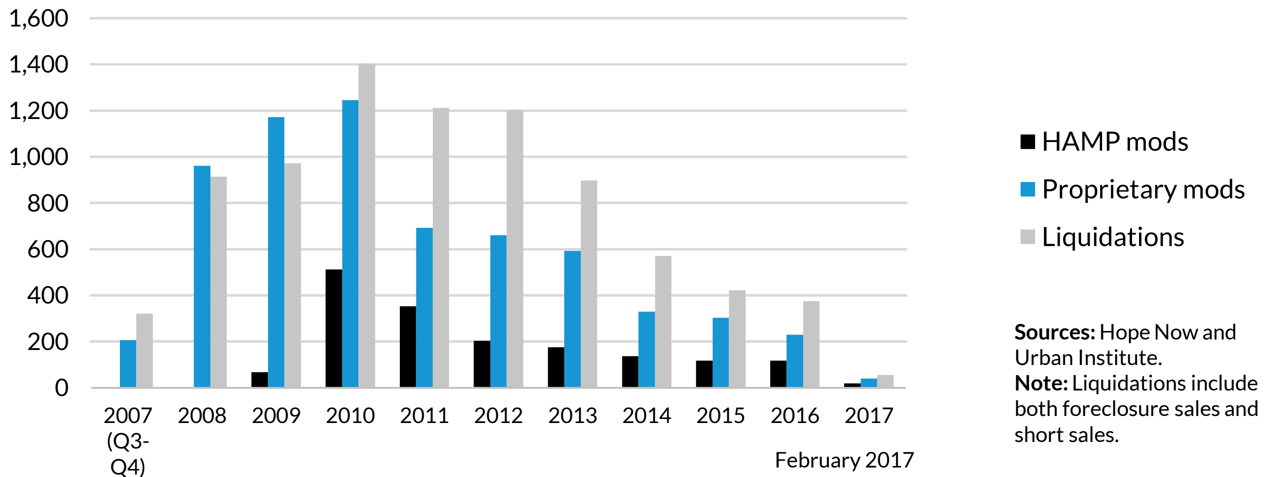
Sources: U.S. Treasury Making Home Affordable and Urban Institute.

MODIFICATION ACTIVITY

MODIFICATIONS AND LIQUIDATIONS

Total modifications (HAMP and proprietary) are now roughly equal to total liquidations. Hope Now reports show 8,125,950 borrowers have received a modification since Q3 2007, compared with 8,345,373 liquidations in the same period. Modifications and liquidations have slowed significantly over the past few years. In the first two month of 2017, there were just 59,100 modifications and 55,072 liquidations.

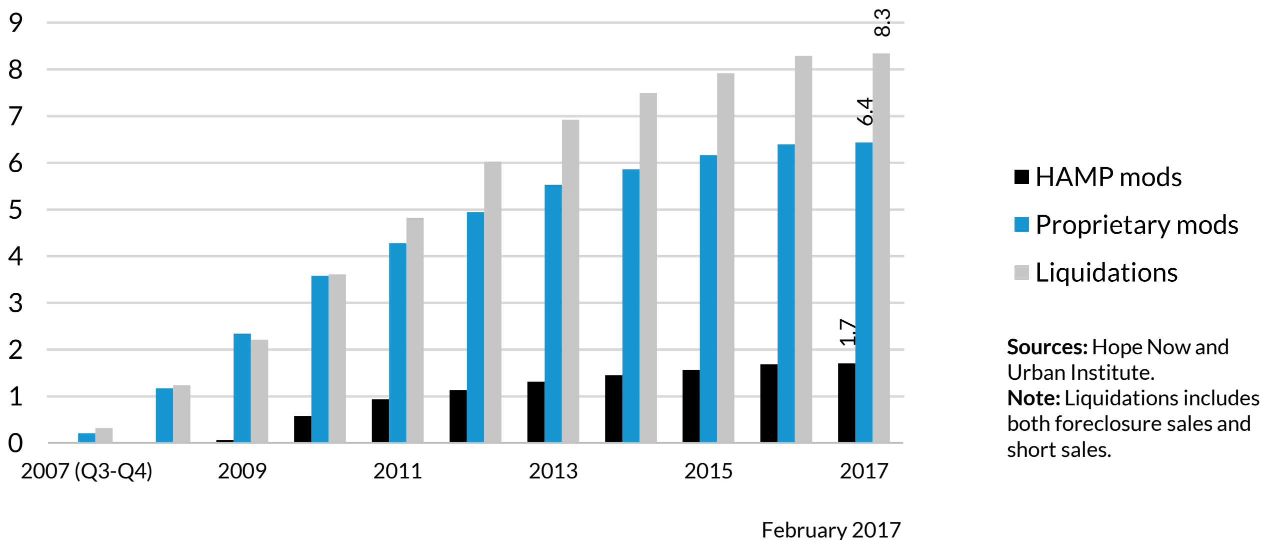
Loan Modifications and Liquidations



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

Cumulative Modifications and Liquidations

Number of loans (millions)



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

AGENCY GROSS AND NET ISSUANCE

The agency gross issuance totaled $526.1 billion in the first five months of 2017, a 5.1 percent increase year-over-year, mostly due to the anemic issuances in early 2016. However, when measured on monthly basis, the agency gross issuance were lower year over year for three consecutive months since March. If we annualize year to date gross issuance, volume is down sharply from 2016. Net issuance (which excludes repayments, prepayments, and refinances on outstanding mortgages) was up 55.1 percent versus the same period in 2016.

Agency Gross Issuance

Issuance Year	GSEs	Ginnie Mae	Total
2000	$360.6	$102.2	$462.8
2001	$885.1	$171.5	$1,056.6
2002	$1,238.9	$169.0	$1,407.9
2003	$1,874.9	$213.1	$2,088.0
2004	$872.6	$119.2	$991.9
2005	$894.0	$81.4	$975.3
2006	$853.0	$76.7	$929.7
2007	$1,066.2	$94.9	$1,161.1
2008	$911.4	$267.6	$1,179.0
2009	$1,280.0	$451.3	$1,731.3
2010	$1,003.5	$390.7	$1,394.3
2011	$879.3	$315.3	$1,194.7
2012	$1,288.8	$405.0	$1,693.8
2013	$1,176.6	$393.6	$1,570.1
2014	$650.9	$296.3	$947.2
2015	$845.7	$436.3	$1,282.0
2016	$991.6	$508.2	$1,499.8
2017 YTD	$346.35	$179.77	$526.12
2017% Change year-over-year	7.3%	1.3%	5.1%
2017 Ann.	$831.24	$431.45	$1,262.69

Agency Net Issuance

Issuance Year	GSEs	Ginnie Mae	Total
2000	$159.8	$29.3	$189.1
2001	$368.4	-$9.9	$358.5
2002	$357.2	-$51.2	$306.1
2003	$334.9	-$77.6	$257.3
2004	$82.5	-$40.1	$42.4
2005	$174.2	-$42.2	$132.0
2006	$313.6	$0.2	$313.8
2007	$514.9	$30.9	$545.7
2008	$314.8	$196.4	$511.3
2009	$250.6	$257.4	$508.0
2010	-$303.2	$198.3	-$105.0
2011	-$128.4	$149.6	$21.2
2012	-$42.4	$119.1	$76.8
2013	$69.1	$87.9	$157.0
2014	$30.5	$61.6	$92.1
2015	$75.1	$97.3	$172.5
2016	$135.5	$124.9	$260.4
2017 YTD	$62.7	$53.8	$116.5
2017% Change year-over-year	111.85%	18.16%	55.05%
2017 Ann.	$150.4	$129.1	$279.5

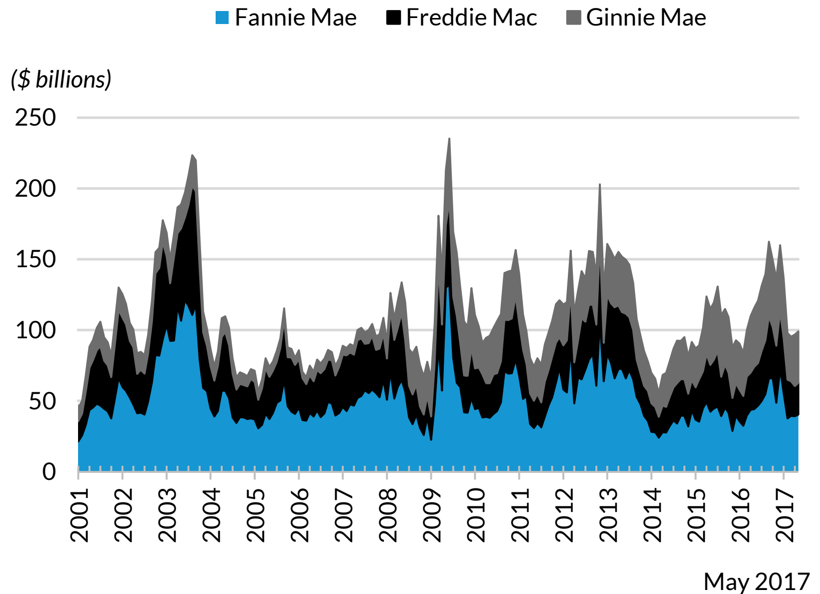
Sources: eMBS and Urban Institute.
Note: Dollar amounts are in billions. Annualized figure based on data from May 2017.

AGENCY ISSUANCE

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

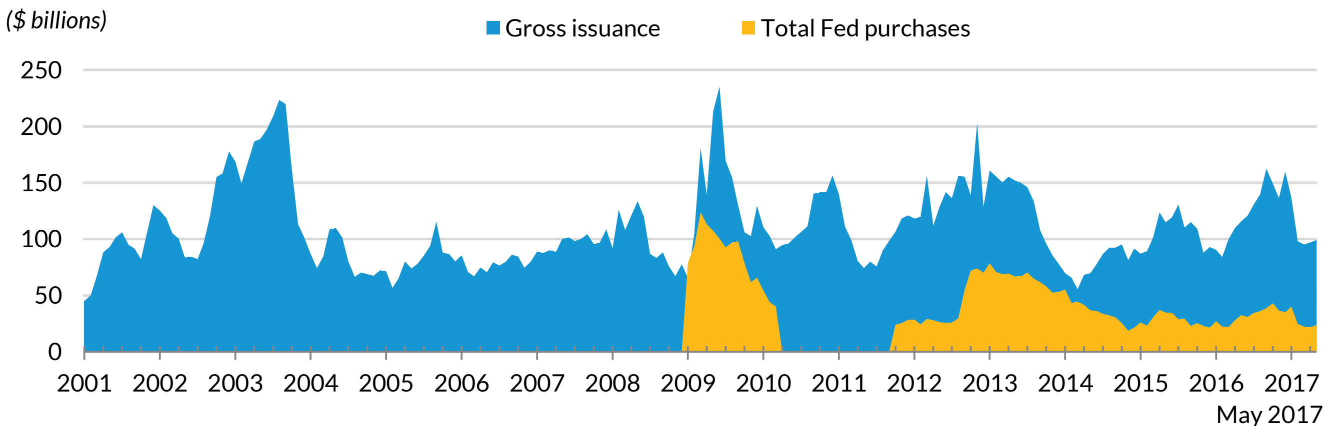
While government and GSE lending have dominated the mortgage market since the crisis, there has been a change in the mix. The Ginnie Mae share reached a peak of 28 percent of total agency issuance in 2010, declined to 25 percent in 2013, and has bounced back sharply since then. With the winter season and elevated mortgage rates since the election, monthly agency issuance has declined in the five months of 2017. Fannie Mae gross issuance was almost cut in half from 73 billion in December 2016 to 40 billion in May 2017 and Freddie Mac's number dropped from 41 to 23 billion. Less dependent on refinances, Ginnie Mae gross issuance fell less from 47 to 36 billion in the same period, driving its share up to 37 percent in May 2017.



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

Fed Absorption of Agency Gross Issuance

In October 2014, the Fed ended its purchase program, but continued buying at a much reduced level, reinvesting funds from pay downs on mortgages and agency debentures into the mortgage market. Since then, the Fed's absorption of gross issuance has been between 20 and 30 percent. In May 2017, agency gross issuance edged up to $99.3 billion while total Fed purchase rose more to $23.7 billion, yielding Fed absorption of gross issuance of 23.9 percent, up from 21.8 percent last month. In their June 2017 meeting, the Fed announced a new balance sheet reduction plan that is expected to be used to cut back on MBS monthly purchase volume later this year.



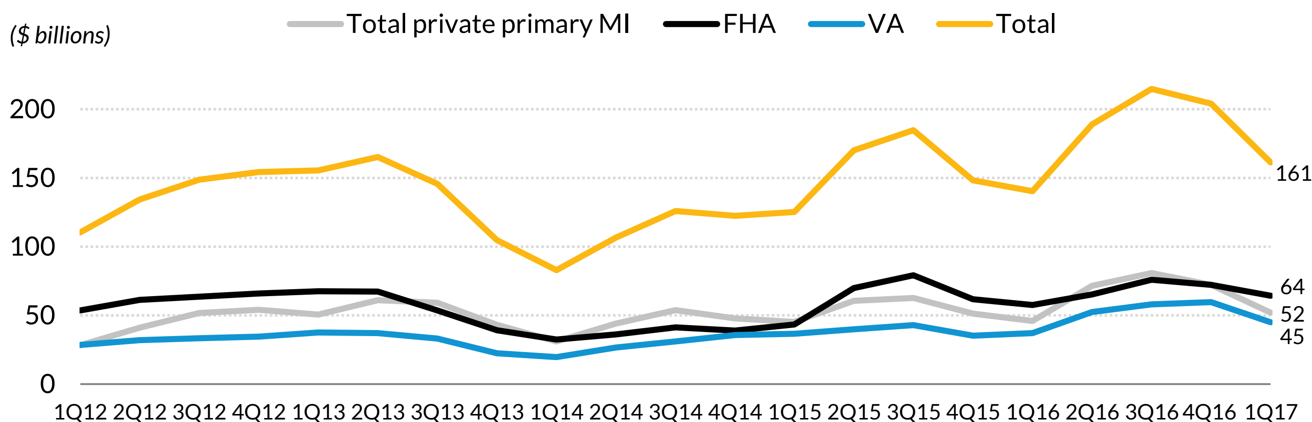
Sources: eMBS, Federal Reserve Bank of New York and Urban Institute.

AGENCY ISSUANCE

MORTGAGE INSURANCE ACTIVITY

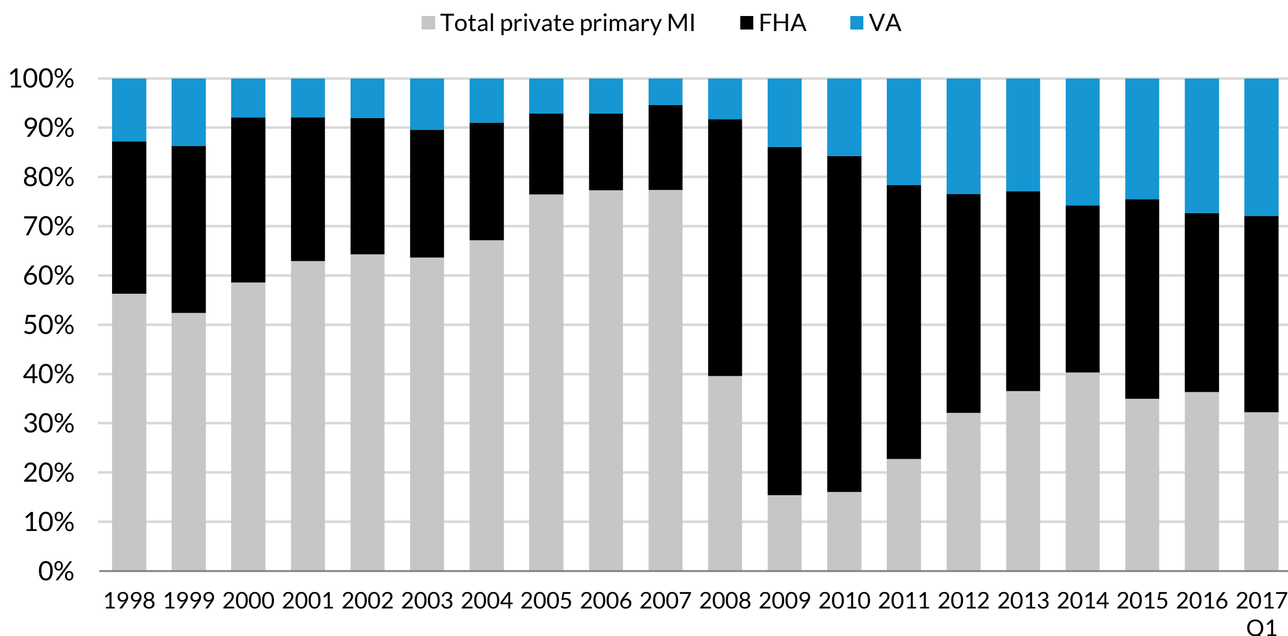
MI Activity

In Q1 2017, mortgage insurance activity via the FHA, VA and private insurers dropped from the previous quarter's $204 billion to $161 billion but was still up 15 percent year-over-year. While all three MI channels experienced a decline, the private mortgage insurers dropped the most. As a result, FHA's market share increased to 40 percent in Q1 2017, while PMI decreased to 32 percent. VA stood at 28 percent YTD.



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 percent from 2008 to 2013 as FHA worked to shore up its finances. In January 2015, President Obama announced a 50 bps cut in annual insurance premiums, making FHA mortgages more attractive than GSE mortgages for all borrowers. The April 2016 reduction in PMI rates for borrowers with higher FICO scores has partially offset that. As shown in the bottom table, a borrower putting 3.5 percent down will now find FHA more economical except for those with FICO scores of 740 or higher.

FHA MI Premiums for Typical Purchase Loan

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

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

Initial Monthly Payment Comparison: FHA vs. PMI

Assumptions	
Property Value	$250,000
Loan Amount	$241,250
LTV	96.5
Base Rate	
Conforming	4.13%
FHA	4.04%

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	$1,348	$1,348	$1,348	$1,348	$1,348	1,358	$1,348	$1,348
PMI	$1,722	$1,660	$1,616	$1,494	$1,444	$1,389	$1,342	$1,302
PMI Advantage	($374)	($312)	($267)	($145)	($95)	($41)	$7	$47

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, 66.9 percent of loans originated from 2011 to 2016 Q1 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%	18.7%	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%
2011-1Q16	≤700	3.0%	4.7%	1.1%	1.7%	10.5%
	700 to 750	5.4%	9.8%	2.9%	4.2%	22.4%
	>750	21.9%	29.9%	7.2%	8.0%	66.9%
	Total	30.4%	44.4%	11.3%	13.9%	100.0%
Total		34.7%	45.7%	10.1%	9.6%	100.0%

Sources: Fannie Mae and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q1 2016. 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	3.7%	4.6%	6.0%	7.0%	4.8%
	700 to 750	1.2%	1.9%	2.9%	3.0%	1.9%
	>750	0.4%	0.8%	1.5%	1.7%	0.8%
	Total	1.5%	2.4%	3.9%	4.5%	2.5%
2005	≤700	13.7%	17.3%	19.9%	21.6%	16.5%
	700 to 750	6.3%	9.7%	12.6%	13.1%	8.9%
	>750	2.2%	4.5%	7.1%	8.2%	3.8%
	Total	6.9%	10.1%	14.3%	15.5%	9.4%
2006	≤700	18.0%	22.2%	25.6%	27.2%	21.3%
	700 to 750	8.6%	13.1%	15.9%	16.6%	12.0%
	>750	2.9%	5.8%	9.0%	9.5%	5.0%
	Total	9.4%	13.1%	18.1%	19.3%	12.4%
2007	≤700	19.4%	23.3%	30.7%	30.9%	23.9%
	700 to 750	8.3%	13.3%	19.1%	18.5%	12.8%
	>750	2.7%	5.7%	10.9%	10.8%	5.3%
	Total	9.3%	13.3%	22.0%	21.8%	13.5%
2008	≤700	14.2%	16.9%	23.0%	23.0%	17.4%
	700 to 750	4.9%	7.9%	12.7%	12.5%	8.2%
	>750	1.2%	2.7%	6.2%	6.8%	2.8%
	Total	4.9%	6.4%	12.1%	12.8%	7.1%
2009-2010	≤700	3.6%	4.8%	4.7%	5.9%	4.2%
	700 to 750	1.0%	1.8%	2.3%	2.8%	1.6%
	>750	0.2%	0.5%	1.0%	1.3%	0.4%
	Total	0.6%	1.1%	1.5%	2.1%	0.9%
2011-1Q16	≤700	0.8%	1.0%	1.0%	1.2%	0.9%
	700 to 750	0.2%	0.3%	0.4%	0.5%	0.3%
	>750	0.0%	0.1%	0.1%	0.2%	0.1%
	Total	0.1%	0.2%	0.3%	0.4%	0.2%
Total		2.0%	3.0%	4.5%	3.8%	2.9%

Sources: Fannie Mae and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q1 2016, with performance information on these loans through Q4 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).

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

FREDDIE MAC COMPOSITION

Since 2008, the composition of loans purchased by Freddie Mac has shifted towards borrowers with higher FICO scores. For example, 61.9 percent of loans originated from 2011 to Q2 2016 were for borrowers with FICO scores above 750, compared to 39.0 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%	3.3%	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%	4.7%	34.0%
	700 to 750	7.5%	14.3%	2.6%	2.6%	27.0%
	>750	14.4%	19.5%	2.5%	2.5%	39.0%
	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%
2011-2Q16	≤700	3.7%	4.5%	1.3%	1.7%	11.1%
	700 to 750	6.9%	11.9%	3.3%	4.6%	26.7%
	>750	20.0%	28.2%	6.5%	7.2%	61.9%
	Total	30.6%	44.7%	11.0%	13.4%	100.0%
Total		33.4%	47.2%	9.8%	9.5%	100.0%

Sources: Freddie Mac and Urban Institute.
Note: Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q2 2016. 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.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

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%	4.2%	6.5%	6.9%	4.7%
	700 to 750	1.0%	1.7%	2.7%	2.9%	1.7%
	>750	0.4%	0.8%	1.5%	1.8%	0.7%
	Total	1.2%	2.3%	4.3%	4.8%	2.5%
2005	≤700	12.0%	16.4%	19.4%	20.9%	15.7%
	700 to 750	5.7%	9.4%	12.5%	12.8%	8.6%
	>750	2.0%	4.5%	7.1%	8.2%	3.7%
	Total	5.9%	9.9%	14.5%	15.7%	9.2%
2006	≤700	15.8%	20.9%	24.2%	26.7%	20.2%
	700 to 750	7.9%	12.6%	15.1%	15.3%	11.5%
	>750	2.7%	5.9%	8.9%	9.5%	5.0%
	Total	8.0%	12.7%	18.0%	20.1%	12.0%
2007	≤700	16.9%	22.4%	28.2%	30.8%	22.8%
	700 to 750	7.8%	13.4%	17.9%	18.3%	12.7%
	>750	2.6%	6.3%	10.2%	11.4%	5.5%
	Total	8.1%	13.4%	20.7%	22.5%	13.4%
2008	≤700	13.0%	16.9%	23.3%	22.4%	17.1%
	700 to 750	4.7%	8.3%	12.9%	11.6%	8.0%
	>750	1.4%	3.3%	6.7%	6.3%	2.9%
	Total	4.4%	7.6%	13.2%	12.9%	7.4%
2009-2010	≤700	3.1%	4.6%	4.9%	5.2%	3.9%
	700 to 750	0.8%	1.8%	2.0%	2.5%	1.4%
	>750	0.2%	0.6%	1.0%	1.2%	0.4%
	Total	0.6%	1.2%	1.6%	2.0%	0.9%
2011-2Q16	≤700	0.5%	0.5%	0.5%	0.7%	0.5%
	700 to 750	0.1%	0.2%	0.2%	0.3%	0.2%
	>750	0.0%	0.1%	0.1%	0.1%	0.1%
	Total	0.1%	0.1%	0.2%	0.3%	0.1%
Total		2.0%	3.6%	5.2%	5.1%	3.4%

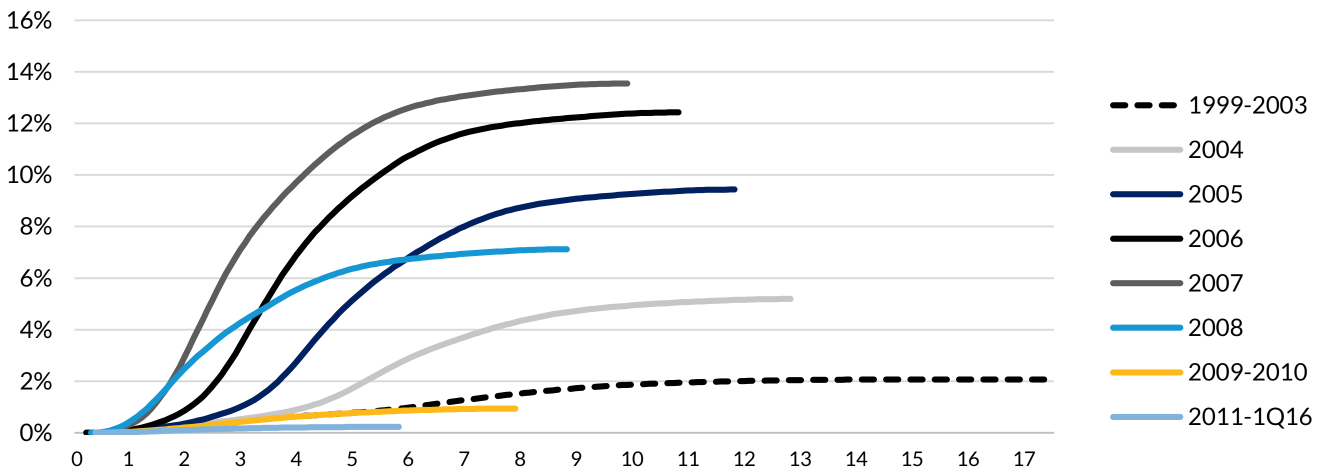
Sources: Freddie Mae and Urban Institute.
Note: Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q2 2016, with performance information on these bans through Q4 2016. Default is defined as six months delinquent or disposed of via short sales, third-party sales, deeds-in-lieu 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

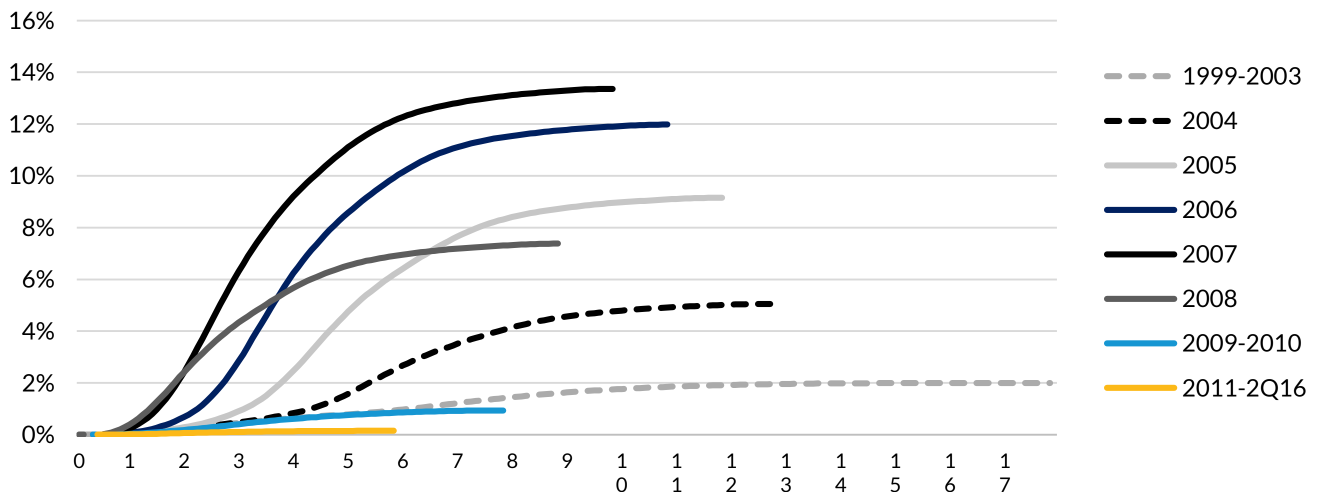
With cleaner books of business and the housing recovery underway, default rates for the GSEs are much lower than they were just a few years ago. For Fannie Mae and Freddie Mac's 1999-2003 vintages, cumulative defaults total around 2 percent, while cumulate defaults for the 2007 vintage are around 13-14 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 70 months after origination, the cumulative default rate from 2009-10 and 2011-2015 are about 0.85 and 0.23 percent, respectively, compared to the cumulative default rate from 1999-2003 of 0.93 percent. For Freddie loans 70 months after origination, the cumulative default rates total 0.85 percent from 2009-10 and 0.15 percent from 2011-Q1 2016, compared to the rate from 1999-2003 of 0.94 percent.

Fannie Mae Cumulative Default Rate by Vintage Year



Sources: Fannie Mae and Urban Institute.

Freddie Mac Cumulative Default Rate by Vintage Year



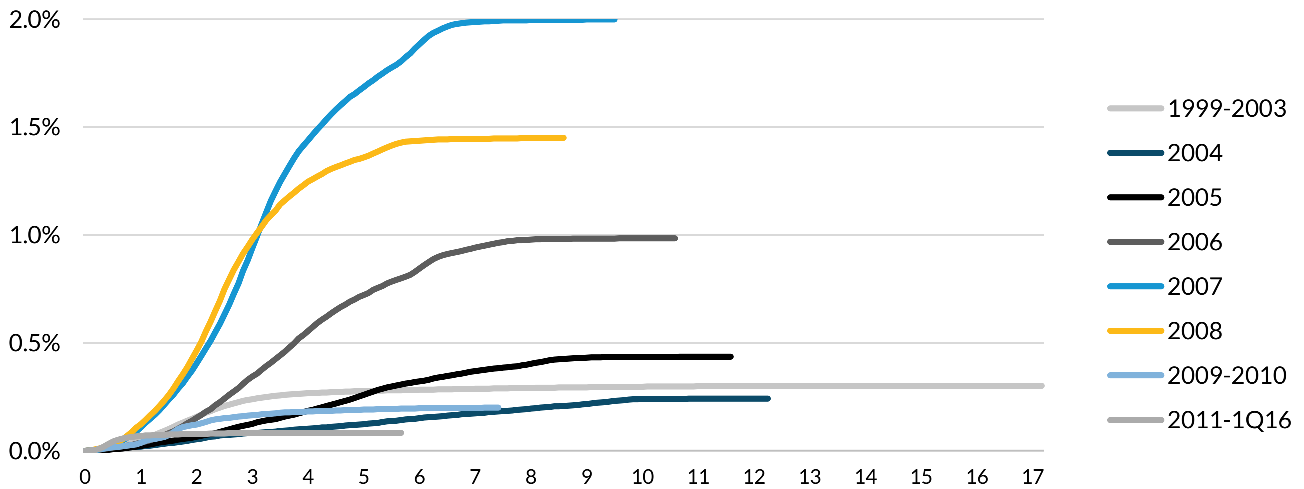
Sources: Freddie Mac and Urban Institute.
Note: The Freddie Mac analysis included mortgages with original terms of 241-420 months, to be consistent with Fannie Mae data, which contained only 30-year mortgages.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

REPURCHASE RATE BY VINTAGE

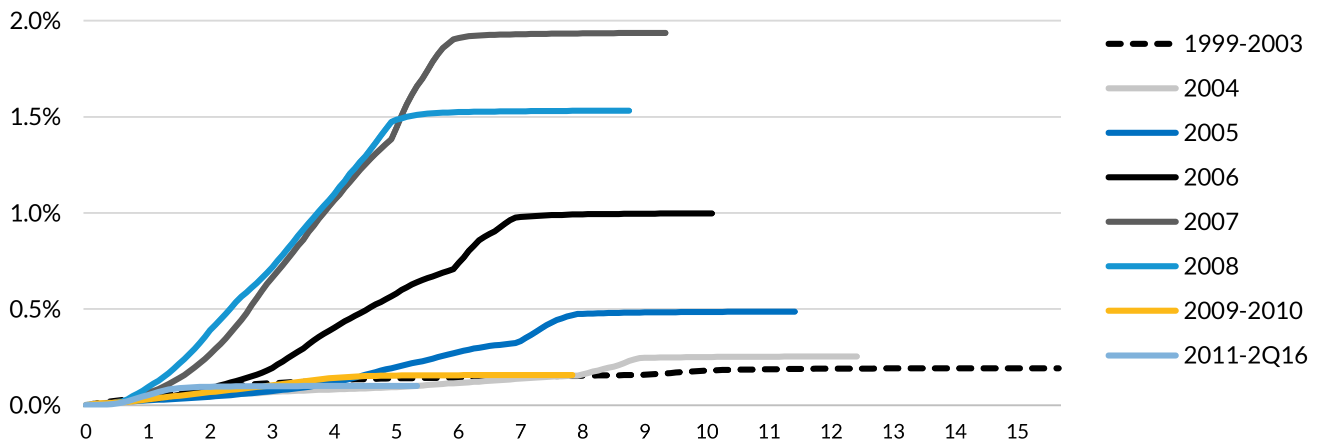
These figures show the cumulative percentage of fixed-rate, full documentation, amortizing 30-year loans of a given vintage that Fannie and Freddie have put back to lenders due to reps and warrants violations. Note that the put-backs are generally quite small, with the exception of the 2006-2008 vintages. 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 more 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.

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) 17.0 percent are current, 13.4 percent are prepaid, 11.9 percent are still in the pipeline and 57.6 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 both around 45 percent.

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	14.02%	19.42%	9.80%	56.76%	30.0%	43.2%	27.0%	35.9%
2005	17.34%	9.41%	10.52%	62.62%	38.3%	51.3%	38.1%	47.5%
2006	17.84%	7.97%	10.39%	63.61%	47.6%	57.3%	40.9%	53.2%
2007	20.09%	8.55%	11.52%	59.71%	46.9%	57.2%	39.2%	50.7%
2008	21.02%	10.89%	12.63%	55.31%	41.3%	53.0%	31.5%	43.6%
2009-2010	18.25%	15.63%	20.12%	46.00%	35.9%	42.1%	22.9%	37.3%
2011-1Q16	16.76%	13.23%	45.89%	24.11%	44.3%	50.8%	38.8%	44.7%
Total	17.03%	13.42%	11.90%	57.57%	40.7%	51.7%	33.3%	45.1%

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	12.39%	17.62%	8.83%	61.16%	27.9%	41.7%	28.8%	35.4%
2005	15.46%	8.69%	9.14%	66.71%	36.9%	49.8%	37.9%	46.4%
2006	15.37%	7.18%	8.87%	68.58%	44.5%	55.1%	40.4%	51.3%
2007	16.29%	7.07%	9.96%	66.68%	47.9%	55.7%	40.1%	50.1%
2008	18.14%	9.58%	11.60%	60.68%	41.5%	52.6%	36.2%	46.1%
2009-2010	15.65%	14.78%	19.74%	49.83%	28.8%	38.6%	19.1%	34.2%
2011-2Q16	15.84%	14.88%	44.42%	24.86%	22.8%	29.3%	9.7%	20.4%
Total	14.83%	11.54%	10.14%	63.49%	39.7%	50.7%	35.0%	45.2%

Sources: Fannie Mae, Freddie Mac, and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q1 2016, with performance information on these loans through Q4 2016. Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q2 2016, with performance information on these loans through Q4 2016. 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 by Channel

The table below shows the severity of Fannie and Freddie loans that have liquidated, broken down by liquidation channel and vintage year. Foreclosure alternatives, including short sales, note sales, and third party sales have higher defaulted UPB and much lower loss severities than REO sales. For example, for 2011-2016 Q1 originations, Fannie Mae foreclosure alternatives had a defaulted UPB of $176,624 and a loss severity of 24.2 percent, versus a defaulted UPB of $145,635 and a loss severity of 54.3 percent for REO sales.

Fannie Mae - Loss Severity for Already Liquidated Loans

Year	Number of Loans			Mean defaulted UPB ($)			Severity		
	All	REO	Foreclosure Alternatives	All	REO	Foreclosure Alternatives	All	REO	Foreclosure Alternatives
1999-2004	181,951	141,672	40,279	112,261.3	106,481.2	132,587.1	35.87%	40.82%	21.90%
2005	69,971	47,484	22,487	169,533.0	158,004.9	193,872.2	47.49%	52.16%	39.44%
2006	71,430	48,530	22,900	183,787.2	170,773.9	211,359.1	53.17%	58.08%	44.76%
2007	86,209	58,691	27,518	193,160.0	179,666.3	221,929.6	50.70%	55.82%	41.85%
2008	50,049	34,184	15,865	191,031.7	176,605.8	222,094.9	43.59%	49.53%	33.40%
2009-2010	16,176	10,954	5,222	178,305.4	165,279.2	205,615.3	37.25%	44.66%	24.76%
2011-1Q16	4,918	3,550	1,368	154,262.9	145,635.4	176,623.8	44.71%	54.34%	24.14%
Total	480,704	345,065	135,639	156,593.7	144,282.0	187,903.8	45.12%	49.92%	35.76%

Freddie Mac - Loss Severity for Already Liquidated Loans

Year	Number of Loans			Mean defaulted UPB ($)			Severity		
	All	REO	Foreclosure Alternatives	All	REO	Foreclosure Alternatives	All	REO	Foreclosure Alternatives
1999-2004	158,333	111,719	46,614	112,216.7	106,657.4	125,540.5	35.39%	39.70%	26.61%
2005	84,148	46,681	37,467	171,035.6	156,594.7	189,027.9	46.39%	51.47%	41.15%
2006	87,977	48,588	39,389	183,815.8	166,453.4	205,233.1	51.33%	56.78%	45.87%
2007	92,574	51,740	40,834	185,729.4	168,504.3	207,555.0	50.13%	56.06%	44.03%
2008	45,657	24,599	21,058	195,409.5	178,642.6	214,995.9	46.07%	52.86%	39.48%
2009-2010	13,035	6,728	6,307	182,032.3	170,220.3	194,632.7	34.18%	40.88%	27.94%
2011-2Q16	2,141	879	1,262	160,842.1	151,095.1	167,631.0	20.45%	25.70%	17.15%
Total	483,865	290,934	192,931	159,474.5	143,345.9	183,796.1	45.20%	49.87%	39.70%

Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q1 2016, with performance information on these loans through Q4 2016. Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q2 2016, with performance information on these loans through Q4 2016. 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. Expenses include Foreclosure cost, repair cost, asset recovery cost, miscellaneous expenses and tax costs.

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