HOUSING FINANCE POLICY CENTER

HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

May 2016

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ABOUT THE CHARTBOOK

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

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

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INTRODUCTION

Ginnie Mae's issuer stress testing is a step in the right direction

Ginnie Mae President Ted Tozer just announced that the agency will incorporate stress tests into its future regulatory toolkit. According to Tozer, this change will allow Ginnie Mae to get a dynamic view into how issuer balance sheets would perform, financially, during a stress environment. The goal is to identify the degree to which issuers can withstand adverse economic environments and to take precautionary steps to minimize or avoid servicer disruption. This very important step is in planning stages, and implementation is not imminent.

Today Ginnie Mae relies heavily on ongoing monitoring that is based on periodic review of firm financial statements to sniff out potential signs of trouble. While that is necessary, monitoring has limited effectiveness, especially given the unique risks faced by nonbanks and the relatively thin capital and liquidity requirements they operate under. In addition, monitoring is unlikely to offer much help during an interest rate shock event or a sudden and unexpected rise in mortgage defaults. These events can lead warehouse lenders – which are a major provider of liquidity to nonbanks – to pull back their lines precisely when they are most needed, raising concerns about solvency.

Stress testing represents a step forward because it will force management teams to take into account adverse economic conditions and plan for them in advance. The penalties associated with failing stress tests could also pressure managements to hold more capital voluntarily or seek other permanent sources of financing even if they cost more. This should leave issuers better prepared to navigate rough waters relative to monitoring alone.

But we caution that the mere existence of stress tests won't solve much. Stress test usefulness will depend critically on how credible the stress scenarios and assumptions are, what the recommended course of action is for firms that fail, and perhaps most importantly, whether test results are released publicly at the firm level.

Freddie Mac's latest foray into multifamily structured credit risk transfer

On May 16th Freddie Mac announced the settlement of its first ever multifamily structured credit risk (SCR) notes as another way to bring more private capital into the multifamily market and further reduce taxpayer risk. While Freddie has been using its K-deal program to transfer multifamily credit risk to capital markets for several years now, the SCR arrangement is different in two important ways. First, unlike K-deals, which are secured notes backed by multifamily loans, SCR notes are unsecured general obligations of Freddie Mac (similar to single-family STACR notes.) Second, and again like STACR, SCR notes are synthetic securities whose pricing depends on credit performance of a reference pool of mortgages. SCR notes are intended to transfer the risk that Freddie has retained over time on its K-deals.

The most important policy implication is that SCR issuance volume (unlike that of K-deals) is not limited to the volume of multifamily mortgages Freddie Mac purchases. In other words, Freddie now has the flexibility to issue SCR notes whose performance is linked to mortgages that might already be included in K-Deals. Taking this one step further, SCR would allow Freddie Mac to opportunistically transfer more credit risk when spreads are narrow, thereby reducing the urgency to do so when spreads are wide.

INSIDE THIS ISSUE

- The GSEs and MBA have all increased their mortgage origination volume projections for 2016 (page 12)
- **New Feature -** Housing Credit Availability Index (HCAI) edged up in 2015 Q4, reversing a 4-quarter declining trend (page 13)
- **New Feature -** First-time homebuyer share continued to go up in February 2016 (page 17)
- **New Feature -** STACR and CAS spreads resumed tightening after widening during Q1 but remain elevated (page 23)
- Special quarterly feature includes GSE default, composition, loss severity, and repurchase indicators (pages 34-41)

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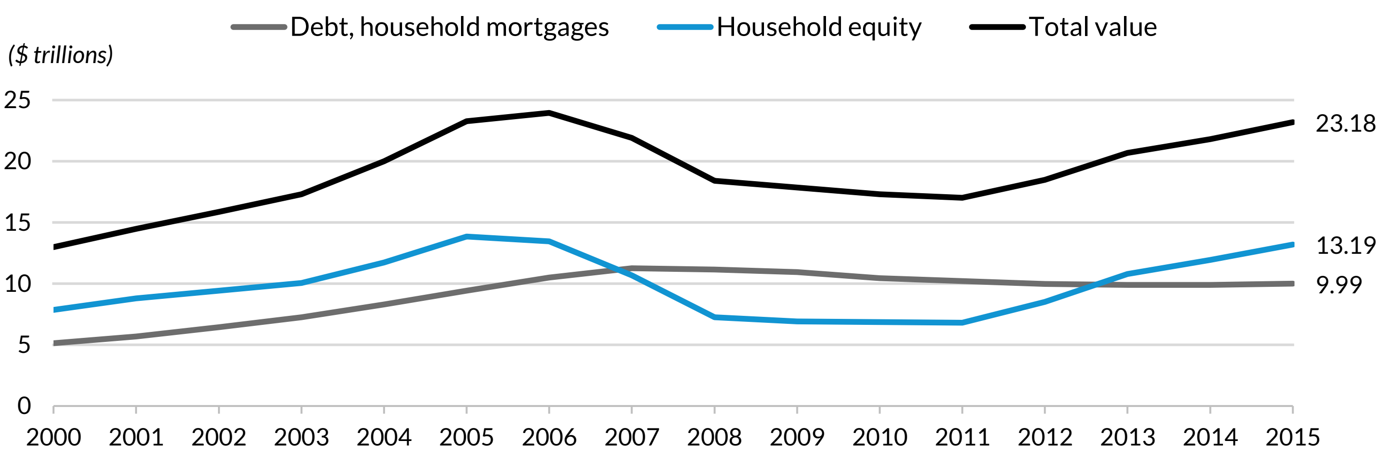
MARKET SIZE OVERVIEW

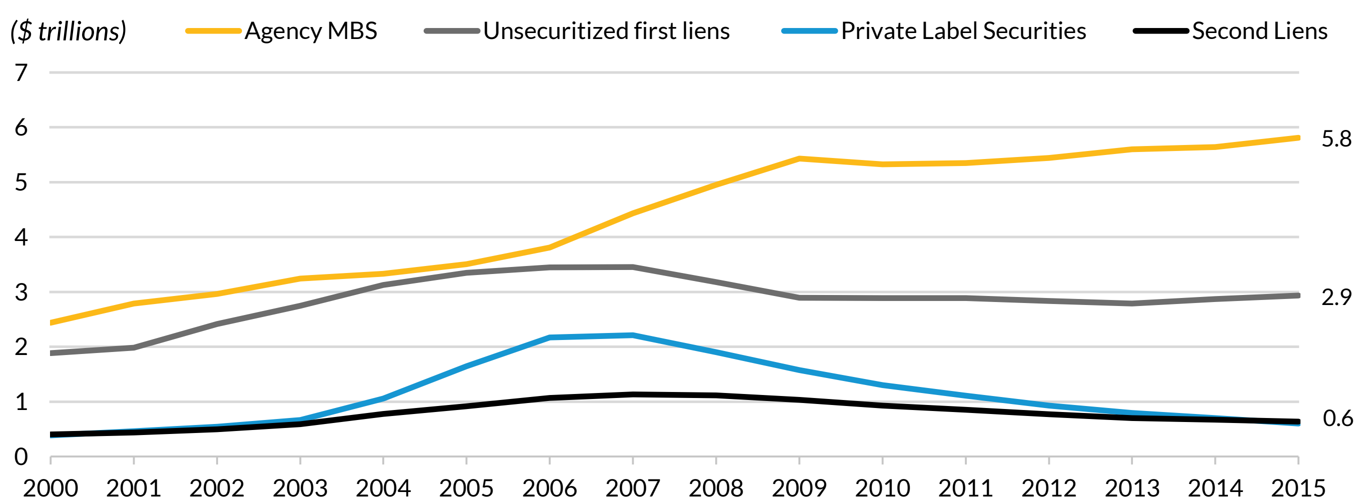
The Federal Reserve's Flow of Funds report has consistently indicated an increasing total value of the housing market driven by growing household equity in each quarter of the past 2 years, and the trend continued according to the latest data, covering Q4 2015. Total debt and mortgages increased slightly to $9.99 trillion, while household equity increased to $13.19 trillion, bringing the total value of the housing market to $23.18 trillion. Agency MBS make up 58.2 percent of the total mortgage market, private-label securities make up 6.1 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 6.4 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

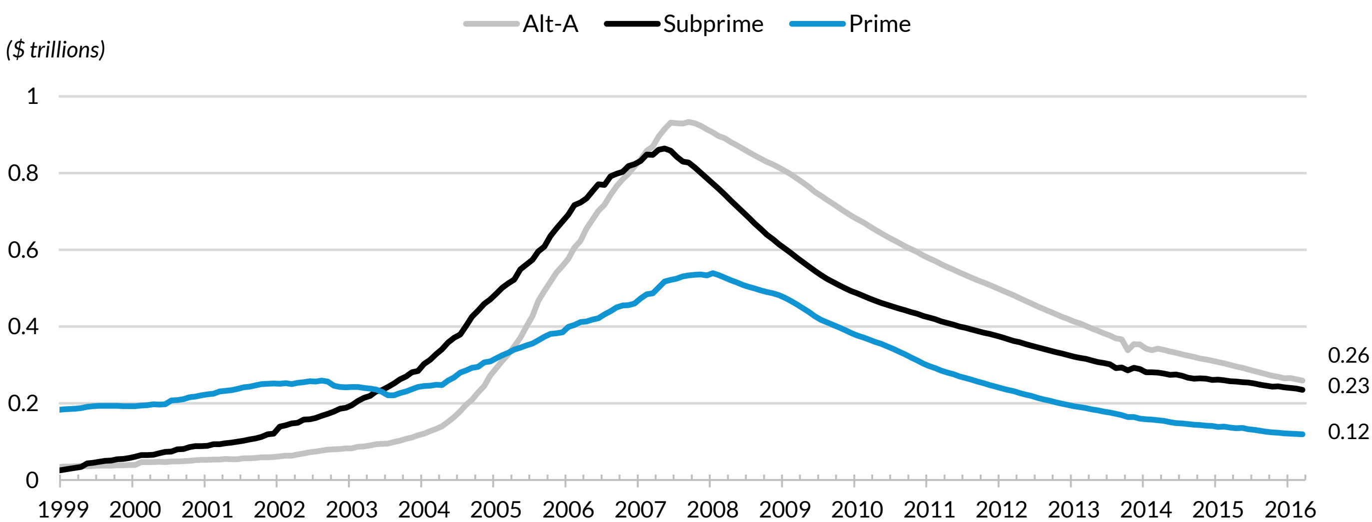


Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute.
Note: Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions.

MARKET SIZE OVERVIEW

As of March 2016, debt in the private-label securitization market totaled $613 billion and was split among prime (19.5 percent), Alt-A (42.2 percent), and subprime (38.3 percent) loans. In April 2016, outstanding securities in the agency market totaled $5.87 trillion and were 45 percent Fannie Mae, 27.6 percent Freddie Mac, and 27.5 percent Ginnie Mae.

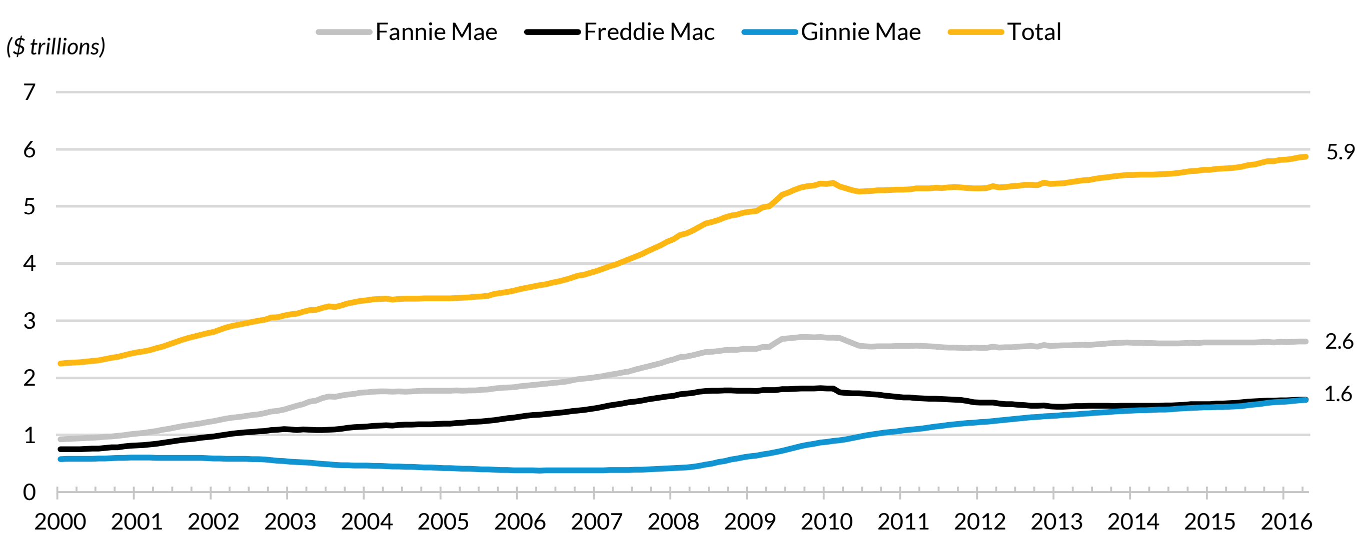
Private-Label Securities by Product Type



Sources: CoreLogic and Urban Institute.

March 2016

Agency Mortgage-Backed Securities



April 2016

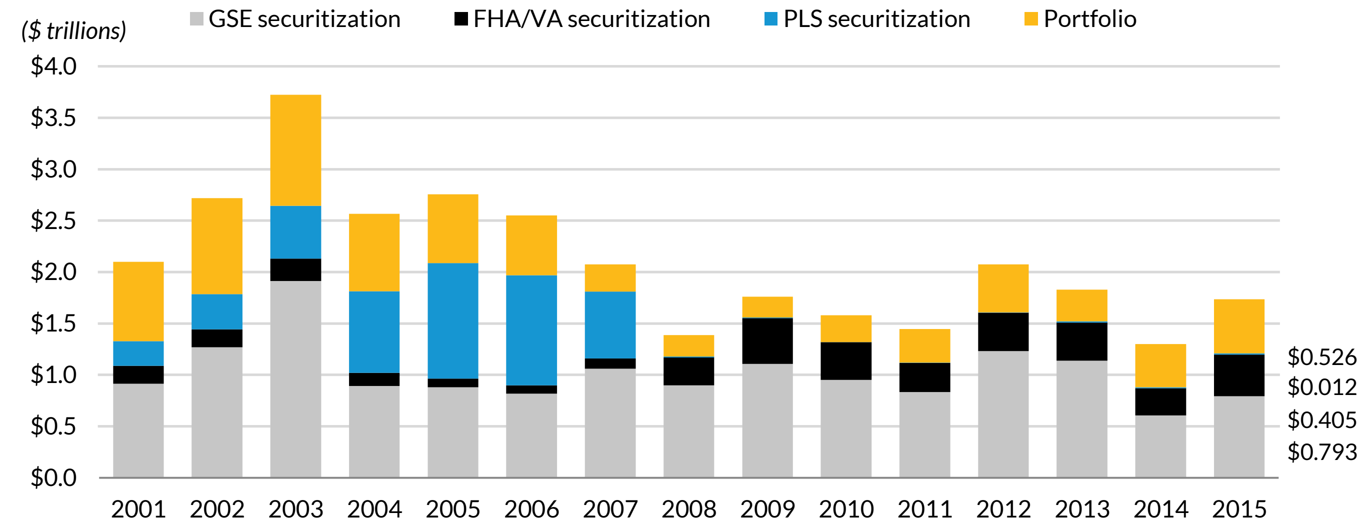
Sources: eMBS and Urban Institute.

OVERVIEW

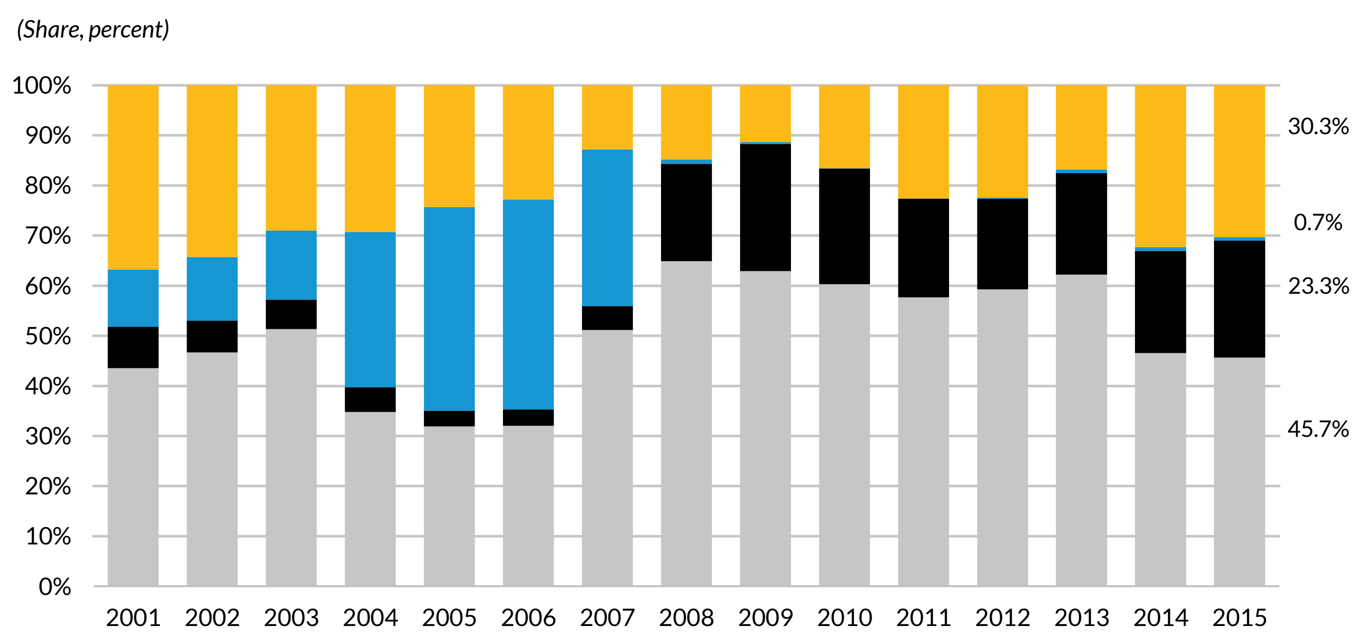
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

First lien originations in 2015 totaled approximately $1,735 billion. The share of portfolio originations was 30 percent, while the GSE share dropped to 46 percent from 47 in 2014, reflecting a small loss of market share to FHA due to the FHA premium cut. FHA/VA originations account for another 23 percent, and the private label originations account for 0.7 percent.



Sources: Inside Mortgage Finance and Urban Institute.



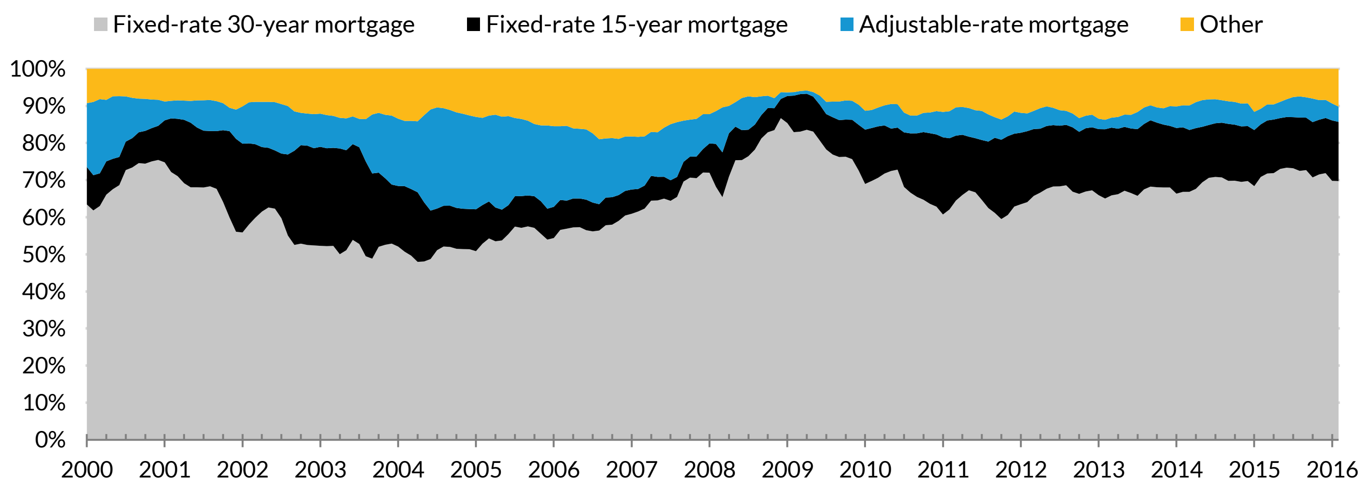
Sources: Inside Mortgage Finance and Urban Institute.

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 4.1 percent of total originations in February 2016. 15-year fixed-rate mortgages (FRMs), predominantly a refinance product, comprise 15.9 percent of new originations. If we exclude refinances (bottom chart), the share of 30-year FRMs in January 2016 stood at 89.1 percent, 15-year FRMs at 5.3 percent, and ARMs at 4.0 percent.

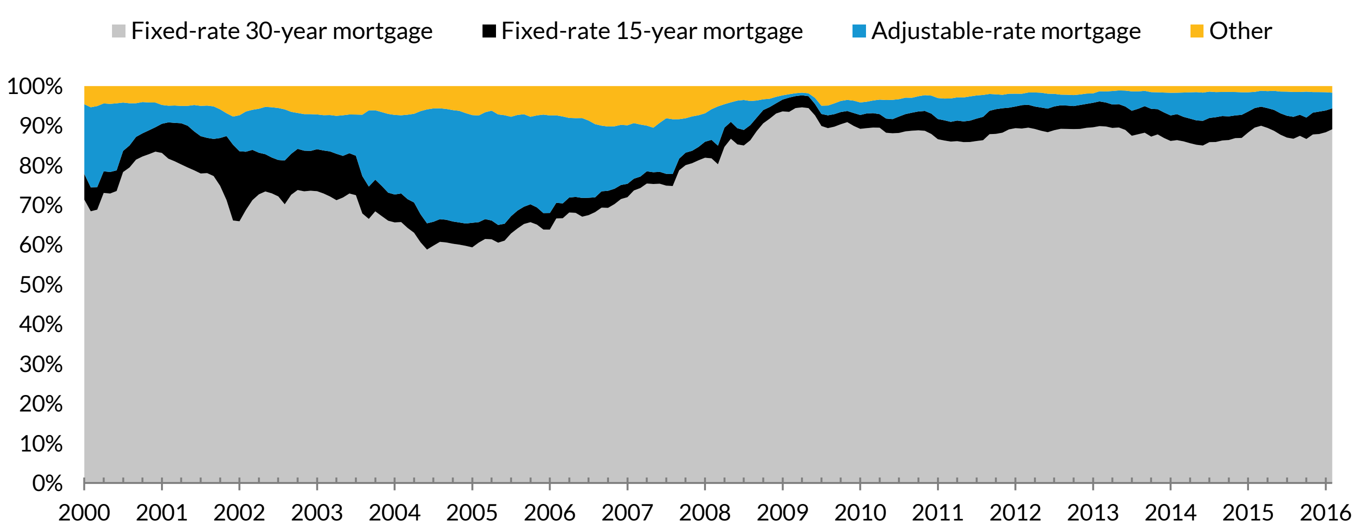
All Originations



Sources: CoreLogic Servicing and Urban Institute.

February 2016

Purchase Loans Only



Sources: CoreLogic Servicing and Urban Institute.

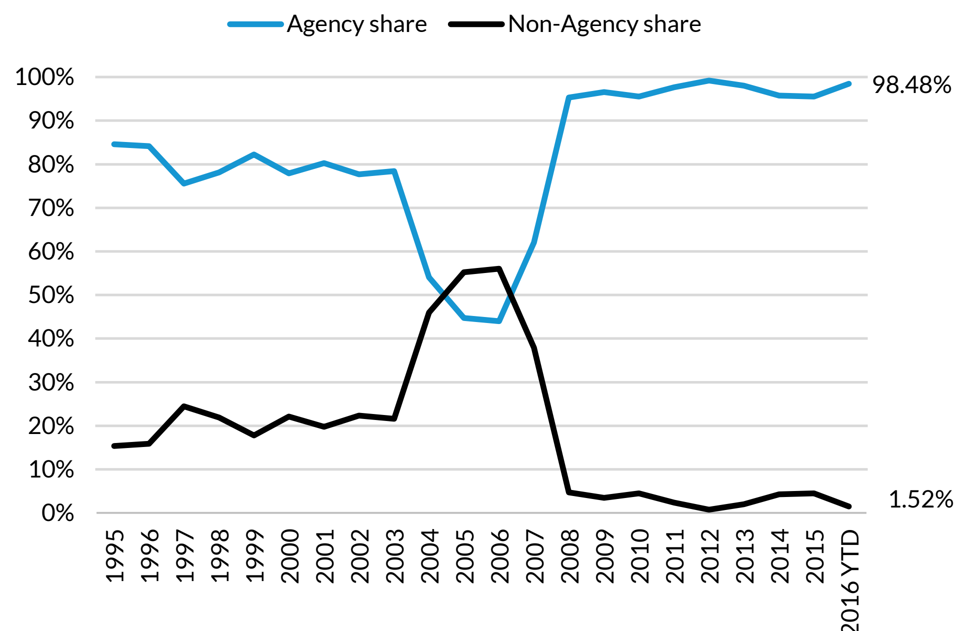
February 2016

OVERVIEW

SECURITIZATION VOLUME AND COMPOSITION

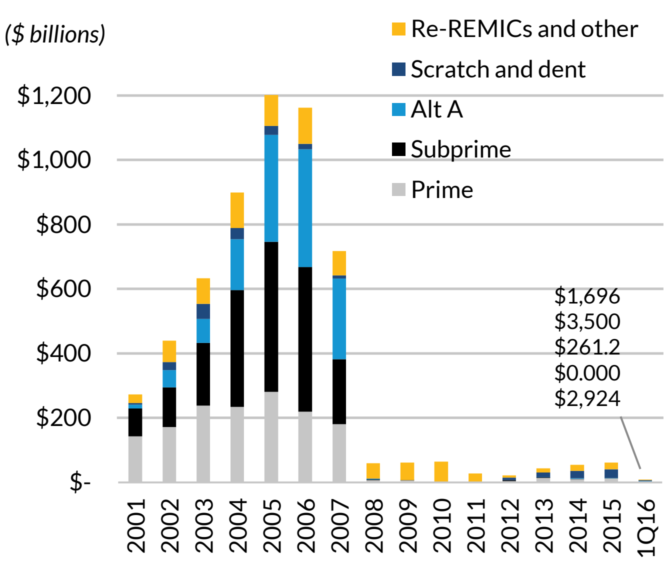
Agency/Non-Agency Share of Residential MBS Issuance

The non-agency share of mortgage securitizations in first four months of 2016 is 1.52%, compared to 4.5% in 2015 and 4.3% in 2014. The volume of prime securitizations in the first quarter of 2016 totaled $2.92 billion, representing a decline of $1.68 billion compared to the first quarter of 2015. However, both are tiny compared to pre-crises levels. To put this in perspective, in 2001, prime origination totaled $142 billion.



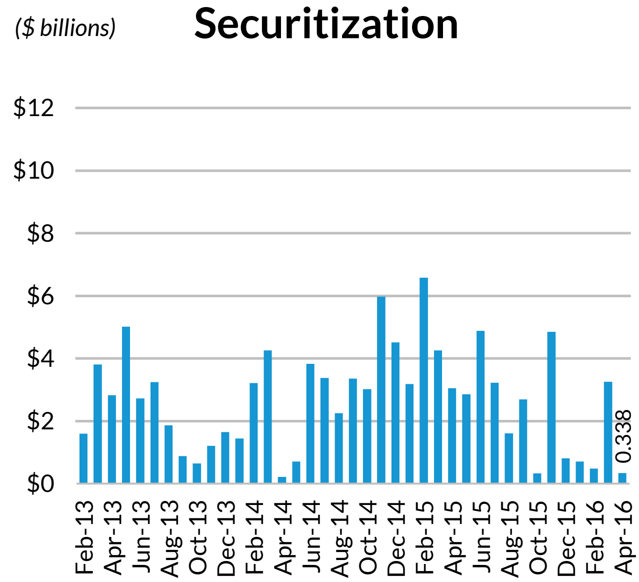
Sources: Inside Mortgage Finance and Urban Institute.
Note: Based on data from April 2016.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization



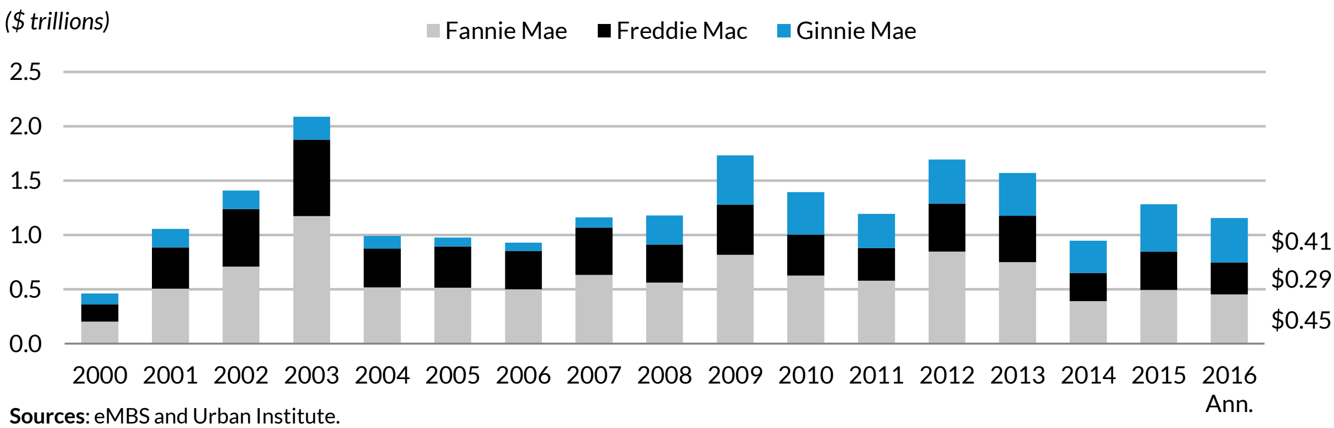
Sources: Inside Mortgage Finance and Urban Institute.
Note: Monthly figures equal total non-agency MBS issuance minus Re-REMIC issuance.

OVERVIEW

AGENCY ACTIVITY: VOLUMES AND PURCHASE/ REFI COMPOSITION

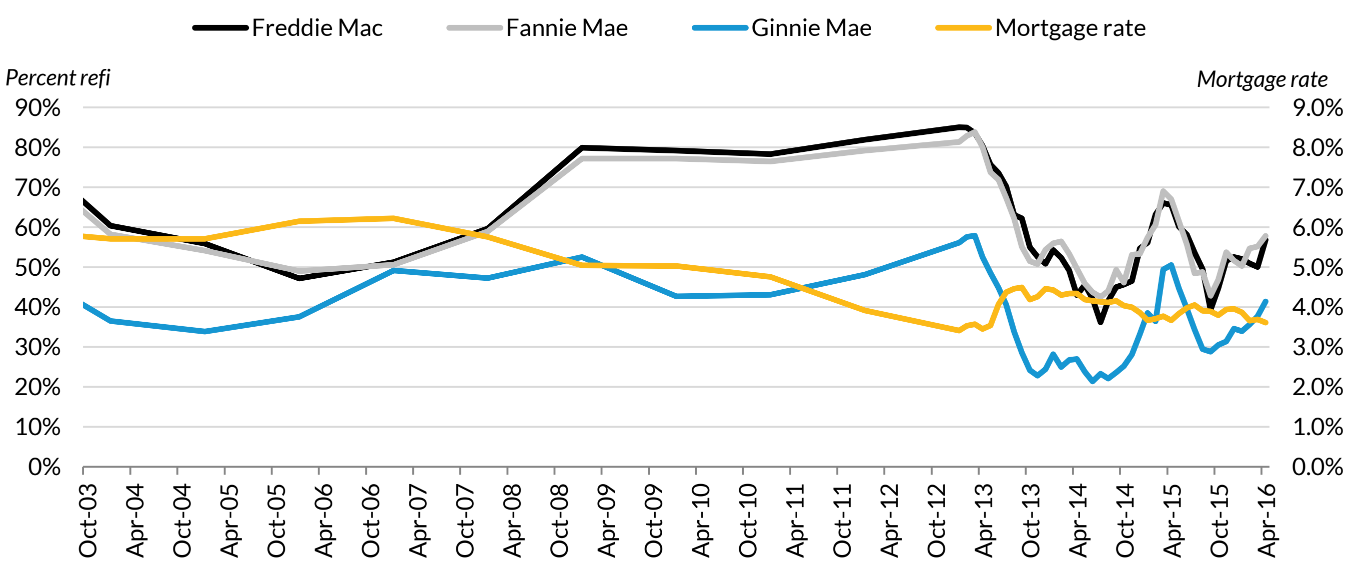
Agency issuance totaled $384.8 billion in first four months of 2016, slightly down from $401.6 billion for the same period a year ago. In April 2016, refinances continued to edge up to 57 and 58 percent of the Freddie Mac's and Fannie Mae's business, respectively, reflecting recent declines in mortgage 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 41 percent in April 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 April 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 anticipates a total of $1,648 billion and $1,700 billion of origination, respectively, while MBA predicts $1,608 billion. Similarly, they have also increased their estimates of refinance share, a reflection of lower interest rate projections for 2016. 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

	Originations ($ billions)			Refi Share (%)		
Period	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	FNMA estimate	FHLMC estimate	MBA estimate
2016 Q1	353	335	350	49	48	47
2016 Q2	474	505	510	40	42	46
2016 Q3	441	450	420	35	38	31
2016 Q4	381	410	328	34	35	32
2017 Q1	308	380	295	39	27	34
2017Q2	396	400	380	29	25	26
2017Q3	393	350	390	27	23	24
2017 Q4	354	330	318	28	22	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	1648	1700	1608	39	40	39
FY 2017	1451	1460	1383	30	24	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 3.7%, 4.0%, and 3.9%, respectively. For 2017, their respective projections are 3.8%, 4.7%, and 4.5%.

Housing Starts and Homes Sales

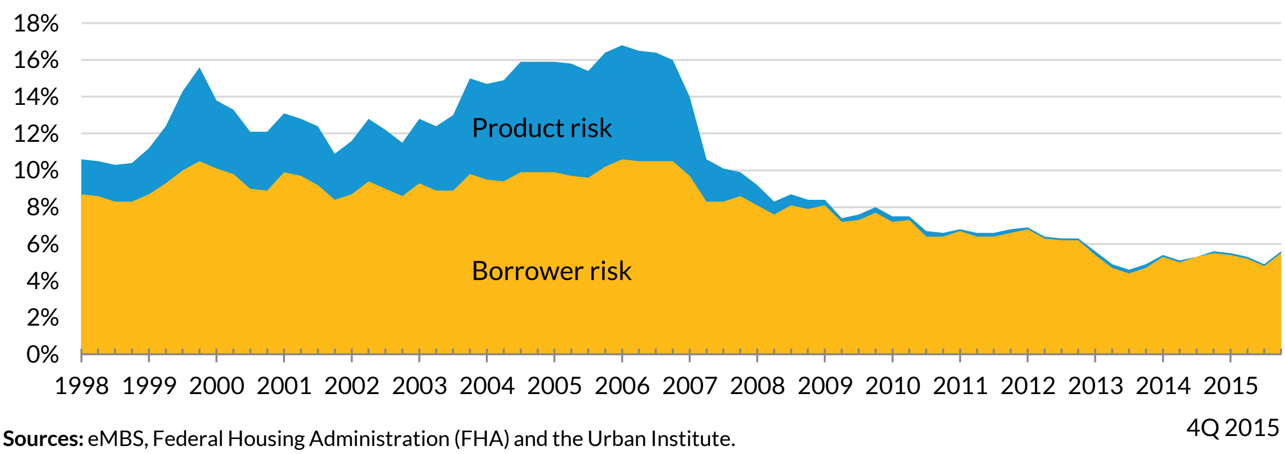
	Housing Starts, thousands			Home Sales. thousands				
Year	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Existing, MBA estimate	New, MBA Estimate
FY 2013	925	920	930	5519	5520	5505	5073	432
FY 2014	1003	1000	1001	5377	5380	5360	4920	440
FY 2015	1111	1110	1105	5751	5750	5811	5237	574
FY 2016	1230	1310	1224	5930	5920	6141	5472	669
FY 2017	1355	1510	1359	6144	6160	6470	5768	702

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

STATE OF THE MARKET
CREDIT AVAILABILITY AND ORIGINATOR PROFITABILITY

Housing Credit Availability Index (HCAI)

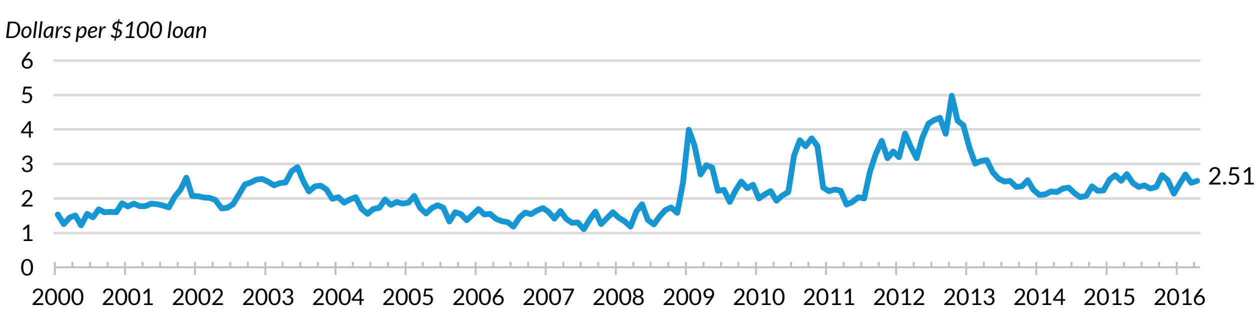
HFPC's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the percentage of owner-occupied purchase loans that are likely to default. The index shows that credit availability increased slightly to 5.6 percent in 2015 Q4, up from 4.9 percent in the previous quarter. It reverses the downward trend which has been running over the past four quarters. Despite the uptick, the measure is still well within the pre-crisis 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. This measure was in the narrow range of 2.04 to 2.70 since 2014, and stood at 2.51 in Apr 2016.

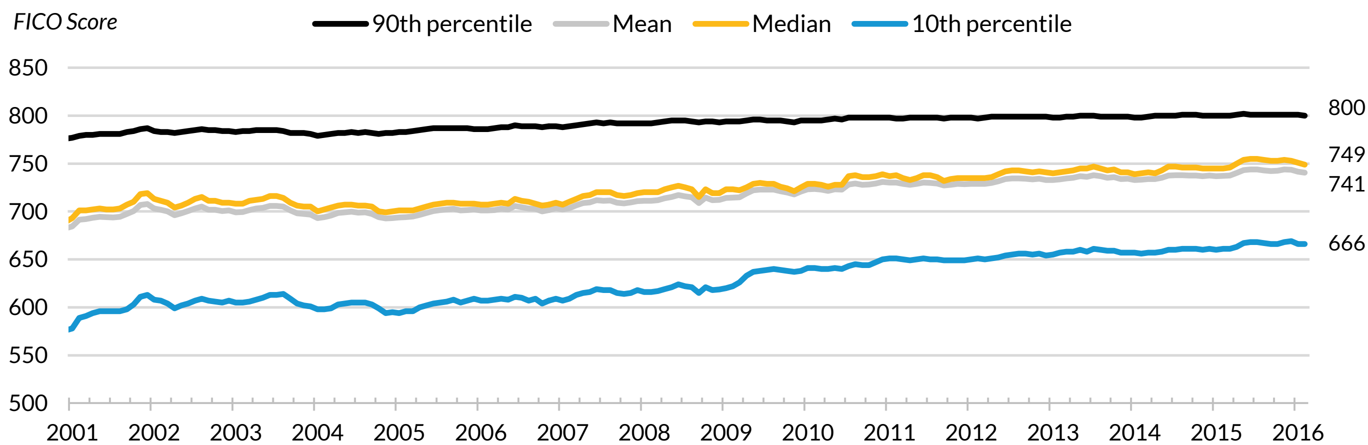


Sources: Federal Reserve Bank of New York, updated monthly and available at this link: http://www.ny.frb.org/research/epr/2013/1113fust.html and Urban Institute.
Note: OPUC stands for "originator profits and unmeasured costs" as discussed in Fuster et al. (2013). The OPUC series is a monthly (4-week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

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 42 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 666 as of February 2016. Prior to the housing crisis, this threshold held steady in the low 600s. LTV levels at origination remain relatively high, averaging 85, which reflects the large number of FHA purchase originations.

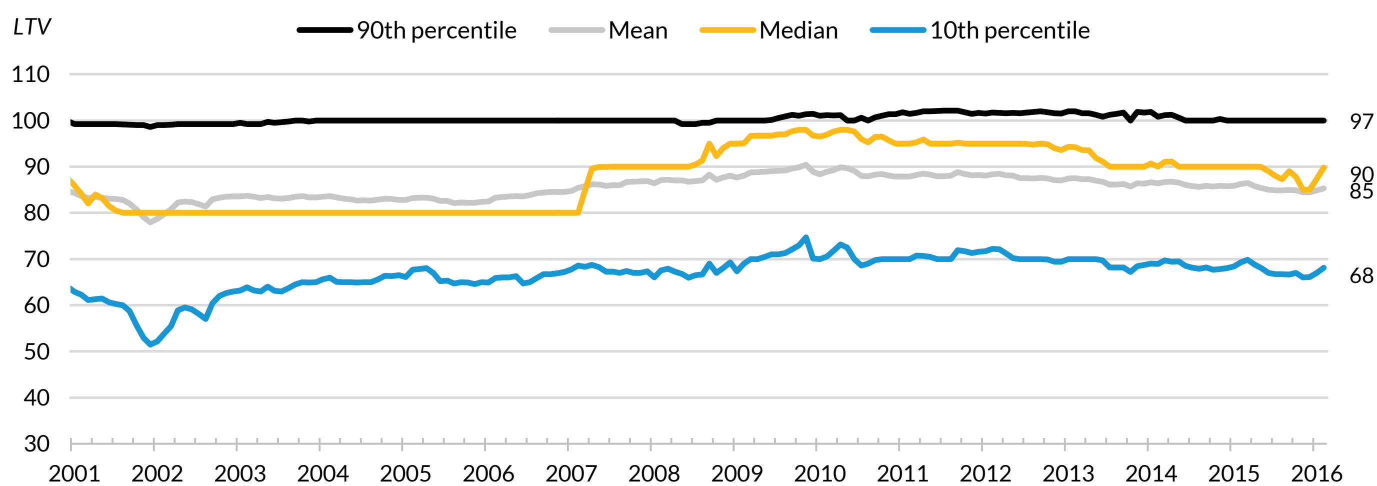
Borrower FICO Score at Origination



February 2016

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

Combined LTV at Origination



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

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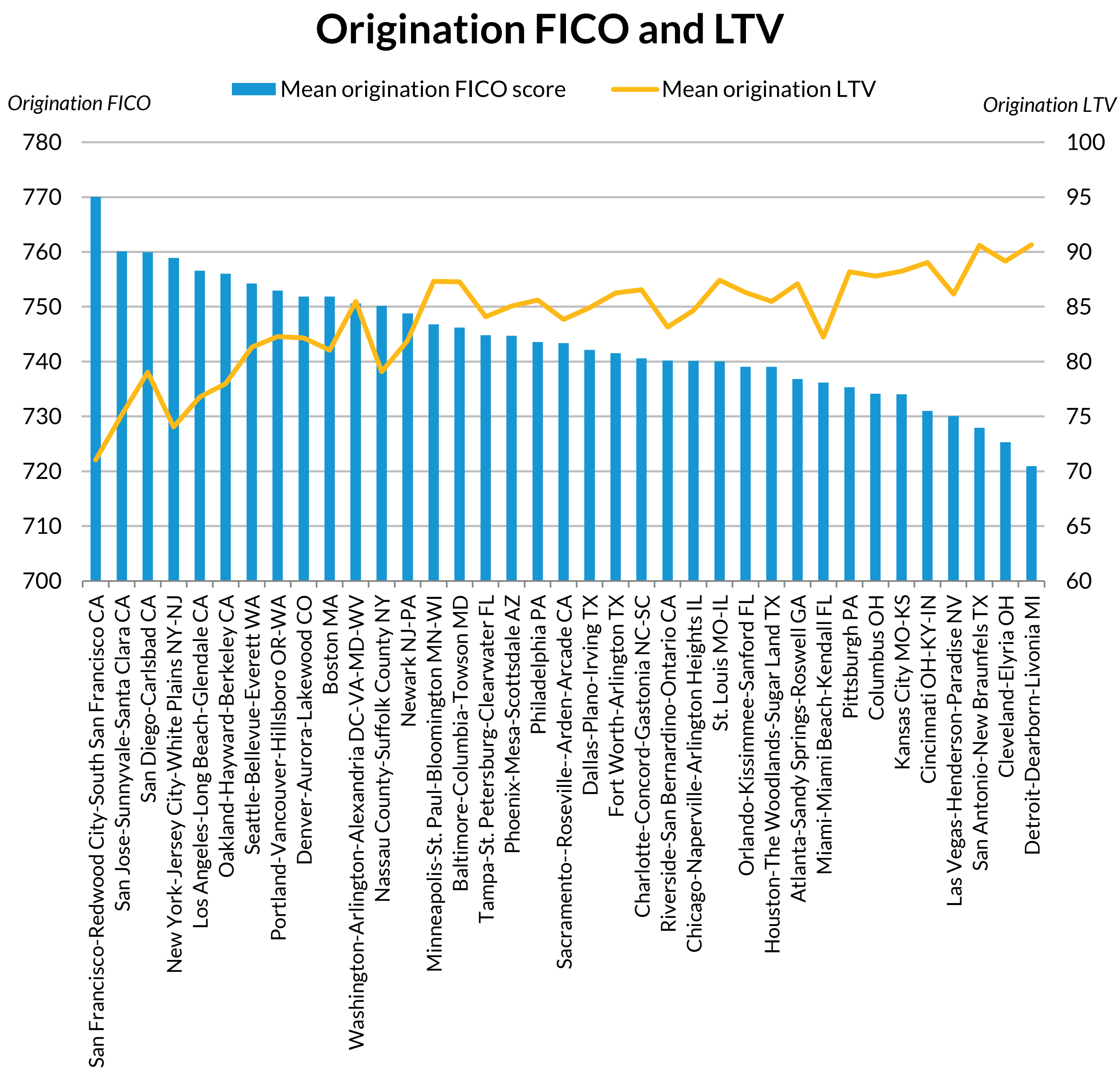
CREDIT AVAILABILITY FOR PURCHASE LOANS

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 721. Across all MSAs, lower average FICO scores tend to be correlated with high average LTVs, as these MSAs rely heavily on FHA/VA financing.



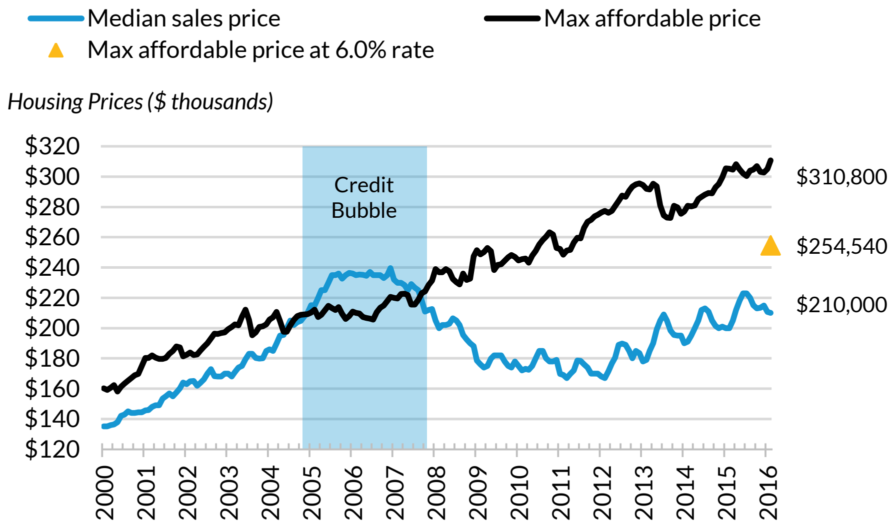
Sources: CoreLogic Servicing as of February 2016 and Urban Institute.
Note: Purchase-only loans.

HOUSING AFFORDABILITY

National Housing Affordability Over Time

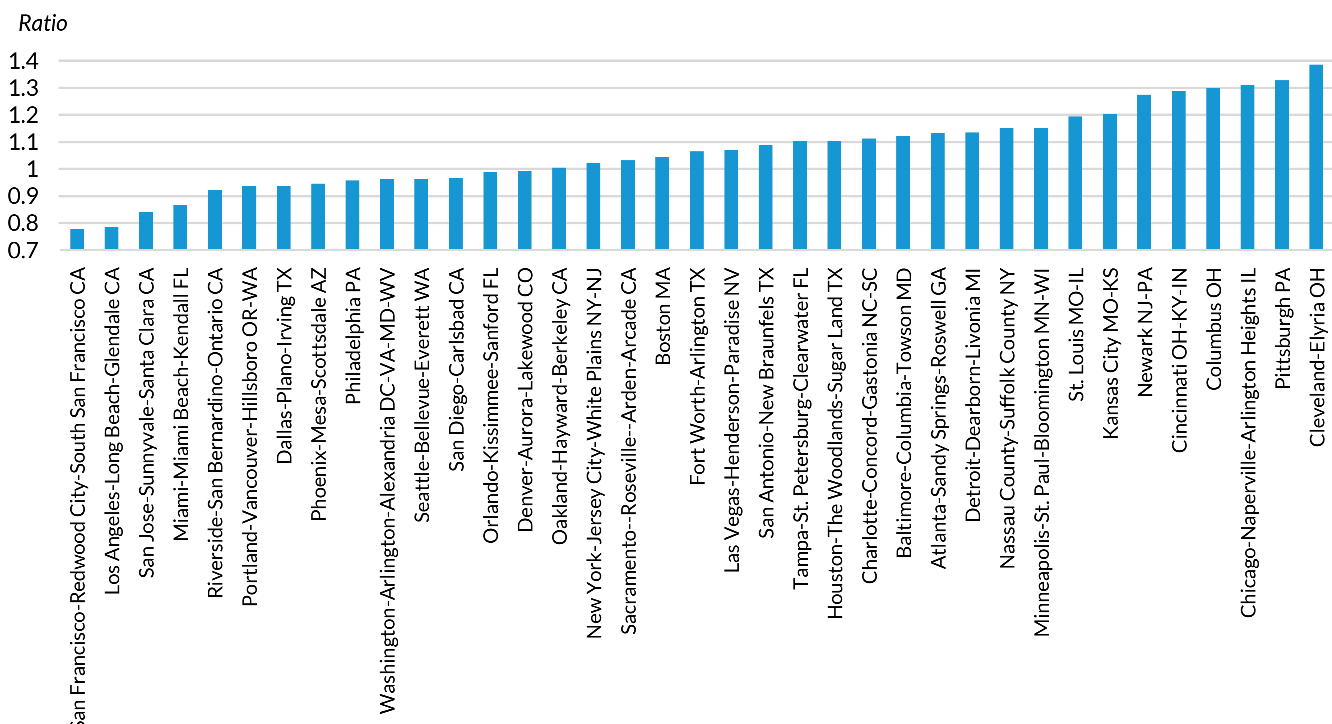
Home prices are still very affordable by historical standards, despite increases over the last three years. Even if interest rates rose to 6 percent, affordability would be at the long term historical average. The bottom chart shows that some areas are much more affordable than others.

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.



February 2016

Affordability Adjusted for MSA-Level DTI

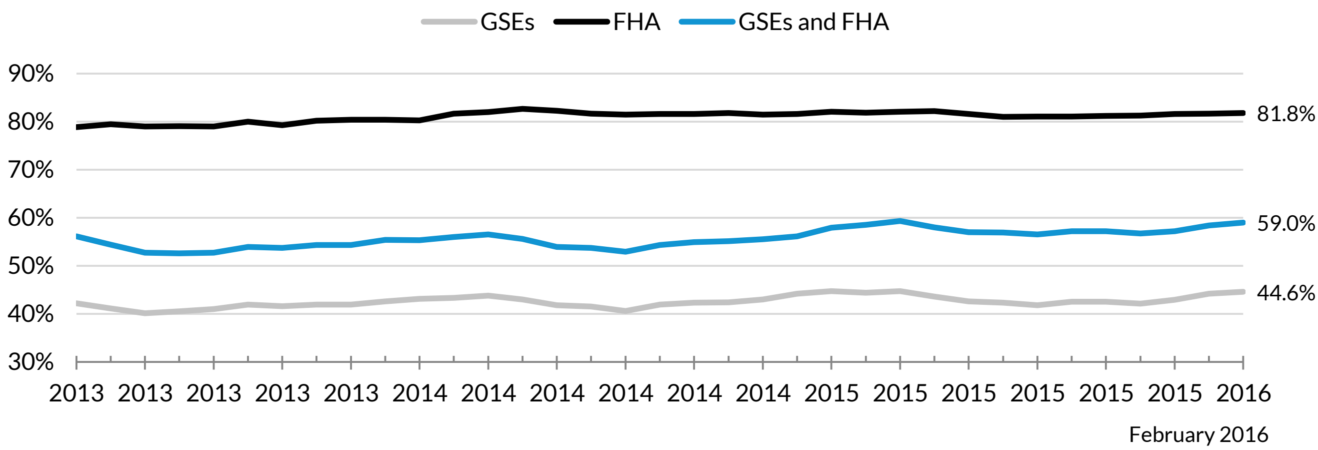


Sources: CoreLogic, US Census, Freddie Mac and Urban Institute calculations based on NAR methodology.
Note: Index is calculated relative to home prices in 2000-03. A ratio above 1 indicates higher affordability in February 2016 than in 2000-03.

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

The first-time homebuyer share of GSE purchase loans rose steadily since mid-2015, reaching a high of 44.6 percent by February 2016. The FHA has always been more focused on first-time homebuyers, with its first-time homebuyer share hovering around 80 percent and now stood at 81.8 percent. For purchase mortgages originated in February 2016, the average first-time homebuyer was more likely than an average repeat buyer to take out a smaller loan, higher LTV, higher DTI, and pay a marginally 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

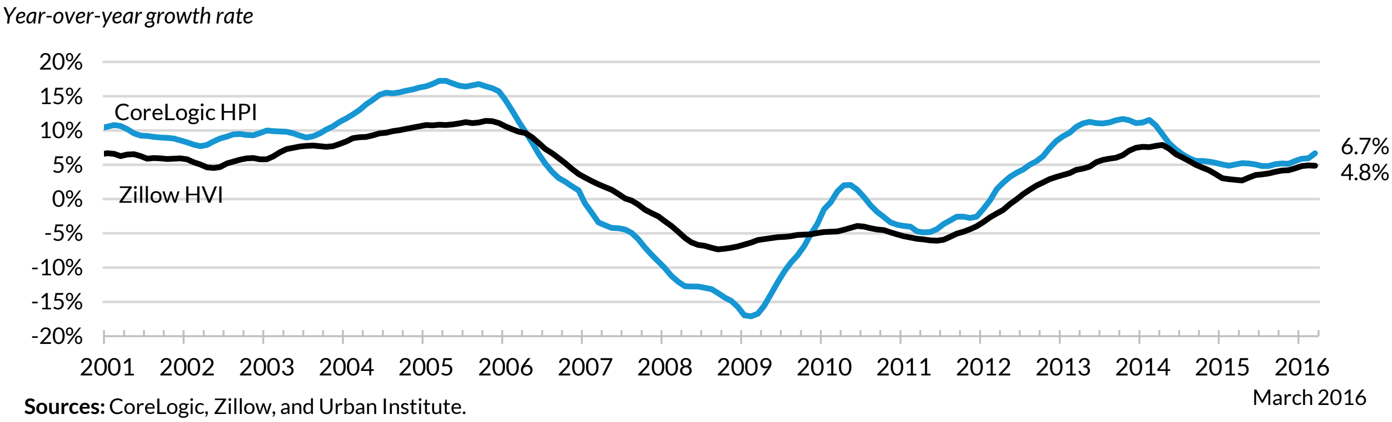
	GSEs		FHA		GSEs and FHA	
Characteristics	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount ($)	221,270	243,045	188,167	211,785	204,638	235,451
Credit Score	740.38	753.63	680.71	687.14	710.42	737.49
LTV (%)	85.99	79.75	95.53	94.59	90.61	83.07
DTI (%)	33.63	34.76	40.59	41.56	37.12	36.4
Loan Rate (%)	4.09	3.99	4	3.95	4.04	3.98

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

HOME PRICE INDICES

National Year-Over-Year HPI Growth

While the strong year-over-year house price growth during 2012 and 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 39 percent from the trough, national house prices still must grow 5.6 percent to reach pre-crisis peak levels. At the MSA level, four of the top 15 MSAs have reached their peak HPI– 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	98.4	-32.0	39.1	5.6
New York-Jersey City-White Plains NY-NJ	113.5	-19.8	26.6	-1.5
Los Angeles-Long Beach-Glendale CA	180.6	-38.7	57.1	3.9
Chicago-Naperville-Arlington Heights IL	64.7	-36.1	21.2	29.2
Atlanta-Sandy Springs-Roswell GA	40.5	-33.0	46.7	1.8
Washington-Arlington-Alexandria DC-VA-MD-WV	158.8	-33.0	27.6	17.0
Houston-The Woodlands-Sugar Land TX	44.6	-12.8	42.2	-19.4
Phoenix-Mesa-Scottsdale AZ	126.5	-52.5	61.2	30.5
Riverside-San Bernardino-Ontario CA	194.3	-53.1	59.4	33.8
Dallas-Plano-Irving TX	38.2	-13.3	42.9	-19.3
Minneapolis-St. Paul-Bloomington MN-WI	73.6	-30.2	28.9	11.2
Seattle-Bellevue-Everett WA	93.7	-31.3	58.2	-7.9
Denver-Aurora-Lakewood CO	36.7	-14.3	57.1	-25.7
Baltimore-Columbia-Towson MD	128.7	-25.8	7.6	25.2
San Diego-Carlsbad CA	147.9	-37.9	48.4	8.5
Anaheim-Santa Ana-Irvine CA	162.1	-36.8	47.8	7.1
Orlando-Kissimmee-Sanford FL	148.0	-54.8	54.6	43.1
Miami-Miami Beach-Kendall FL	203.5	-52.6	65.7	27.4

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

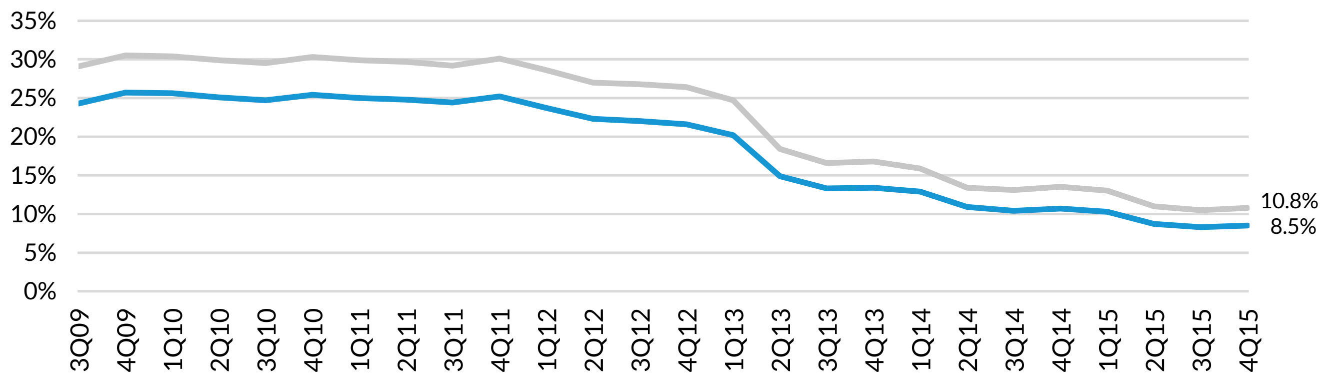
STATE OF THE MARKET

NEGATIVE EQUITY & SERIOUS DELINQUENCY

Negative Equity Share

Negative equity   Near or in negative equity

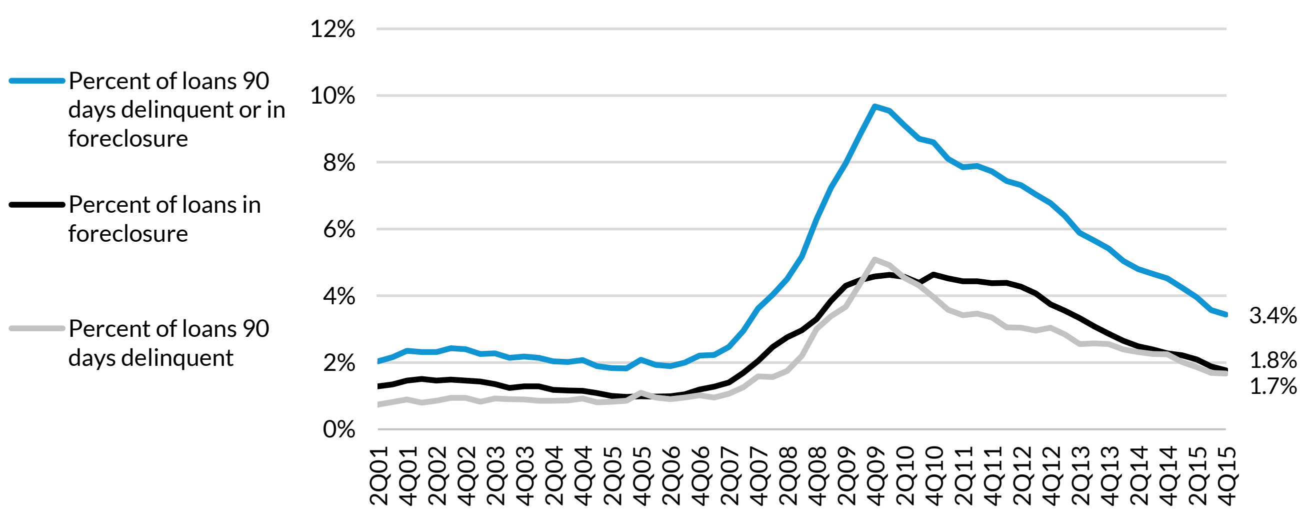
With housing prices continuing to appreciate, residential properties in negative equity (LTV greater than 100) as a share of all residential properties with a mortgage have dropped to 8.5 percent as of Q4 2015. Residential properties in near negative equity (LTV between 95 and 100) comprise another 2.3 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 3.4 % in Q4 2015, down from 4.5% for the same quarter a year earlier.

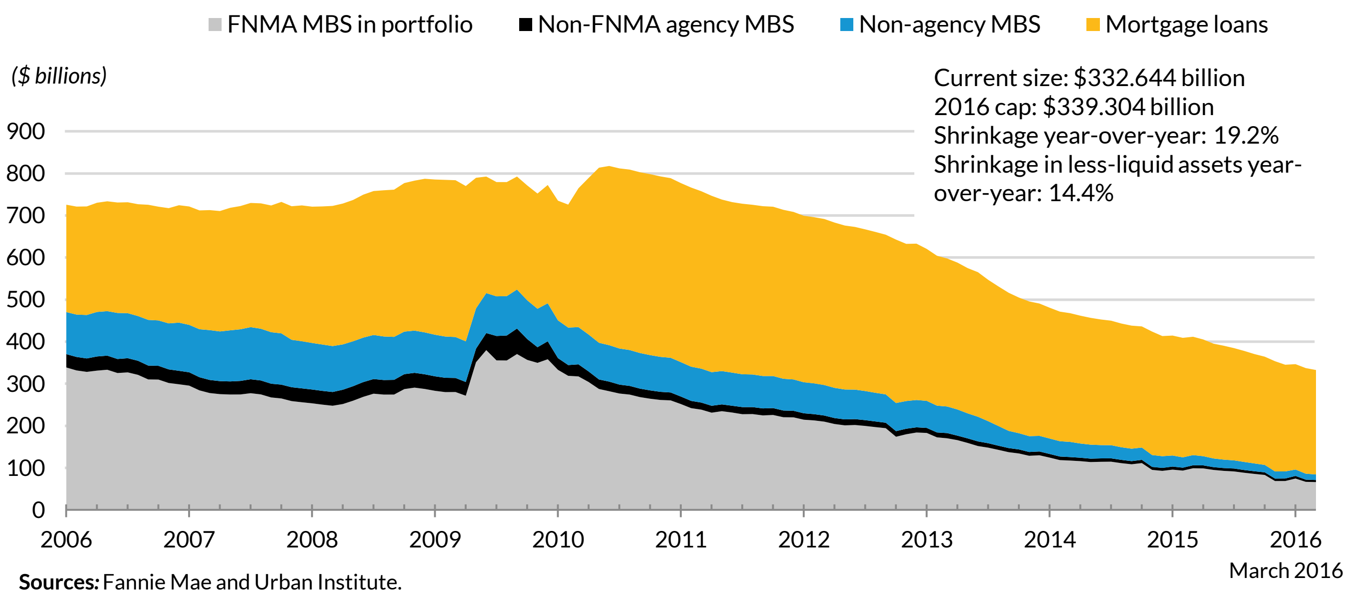


Sources: Mortgage Bankers Association and Urban Institute.

GSE PORTFOLIO WIND-DOWN

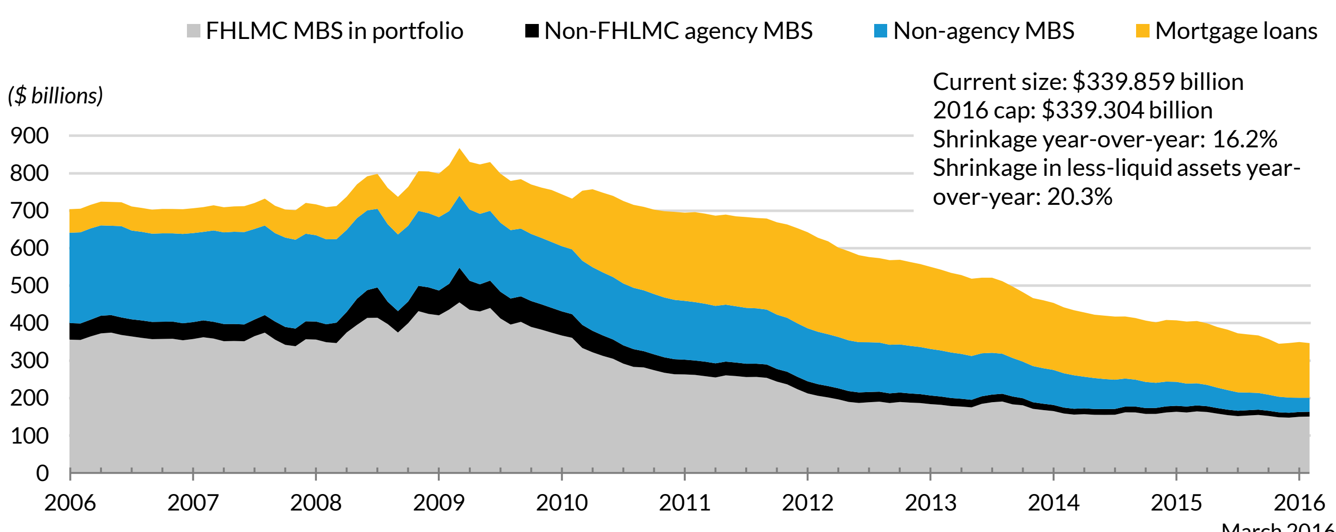
Both GSEs continue to contract their portfolios; since March 2015, Fannie Mae contracted by 19.2 percent and Freddie Mac by 16.2 percent. They are shrinking their less liquid assets (mortgage loans and non-agency MBS) at close to the same pace that they are shrinking their entire portfolio. The GSEs will have no trouble meeting their portfolio size limits for 2016: even though it is early in the year, Fannie Mae is already underneath their year-end 2016 portfolio cap, and Freddie Mac is very close to the cap.

Fannie Mae Mortgage-Related Investment Portfolio Composition



Sources: Fannie Mae and Urban Institute.

Freddie Mac Mortgage-Related Investment Portfolio Composition

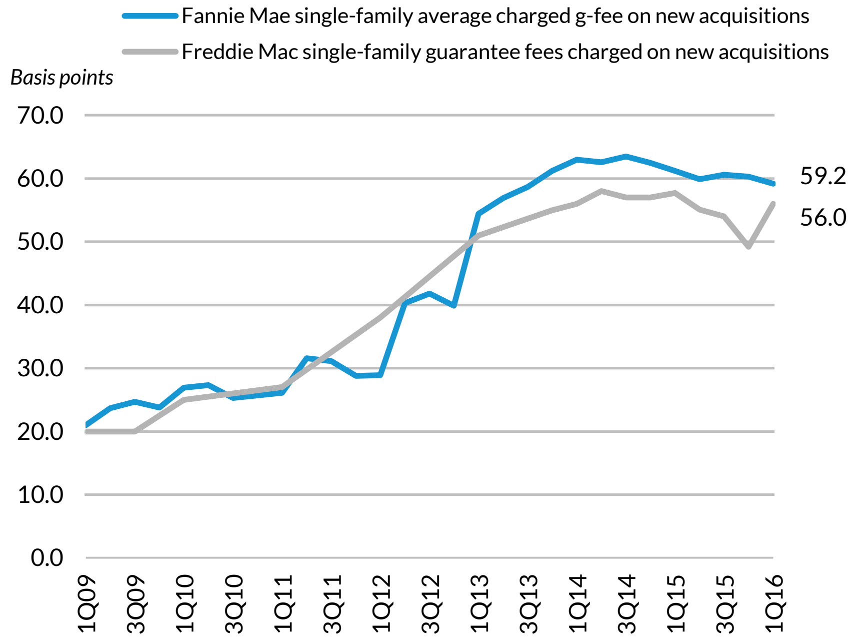


Sources: Freddie Mac and Urban Institute.

GSES UNDER CONSERVATORSHIP
EFFECTIVE GUARANTEE FEES

Guarantee Fees Charged on New Acquisitions

Fannie's average charged g-fee on new single-family originations fell slightly to 59.2 bps in Q1 2016, down from 61.2 bps in the same quarter last year. Freddie's fee stemmed 2015's decline and recovered to 56,0 in Q1 2016, the same level as Q1 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 as of 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)

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. 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 20.69% of its outstanding guarantees, while Freddie's STACR covers 29.38 %.

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%
Total		**$584,688**	**$15,129**	**2.6%**
Percent of Fannie Mae's Total Book of Business		**20.69%**		

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 2015 – 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%
Total		**$517,173**	**$15,718**	**3.0%**
Percent of Freddie Mac's Total Book of Business		**29.38%**		

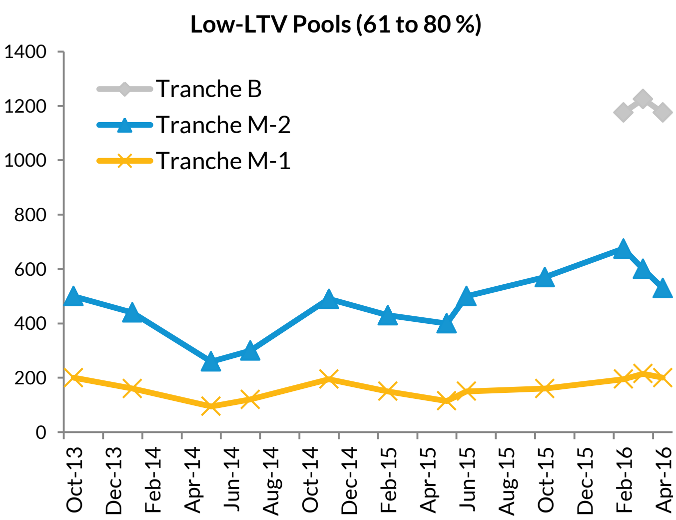
Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Classes A-H, M-1H, M-2H, and B-H are reference tranches only. These classes are not issued or sold. The risk is retained by Fannie Mae and Freddie Mac. "CE" = credit enhancement.

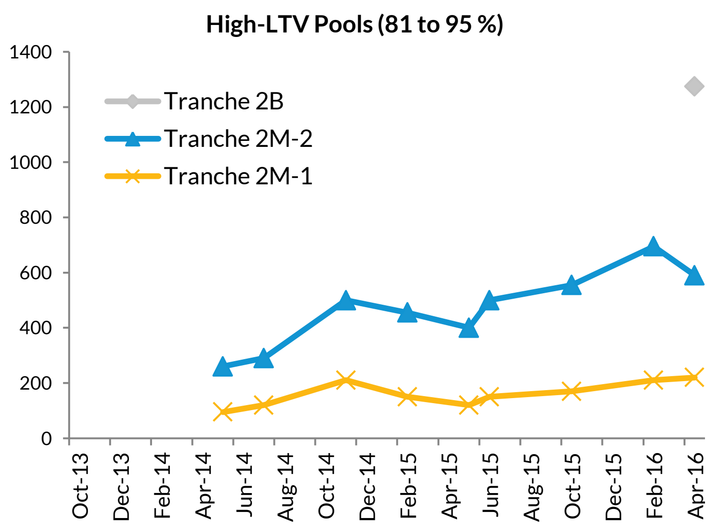
GSES UNDER CONSERVATORSHIP

GSE RISK-SHARING SPREADS

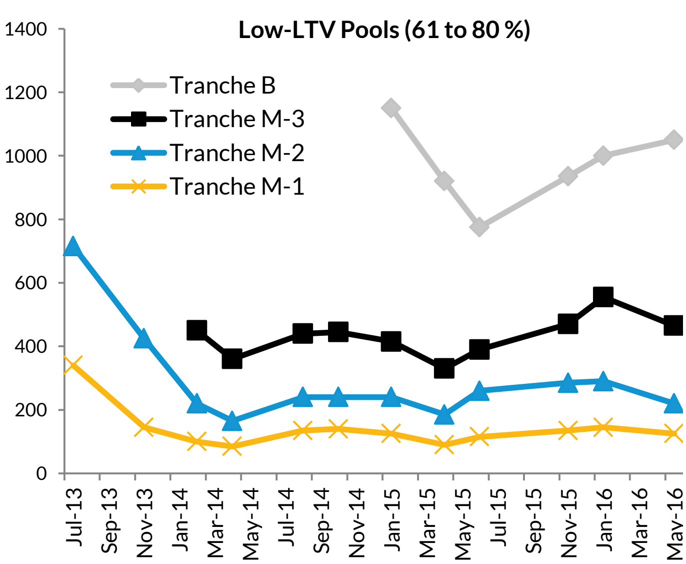
CAS and STACR spreads have been mixed since inception in 2013. While the senior M-1 and M-2 tranches have experienced lower volatility, junior tranches M-3 and B have experienced more volatility. Tranche B in particular has been highly volatile because of its first loss position. Spreads widened especially during Q1 2016 due to falling oil prices, concerns about global economic growth and Chinese slowdown. Since then spreads have resumed their downward trend but remain elevated.

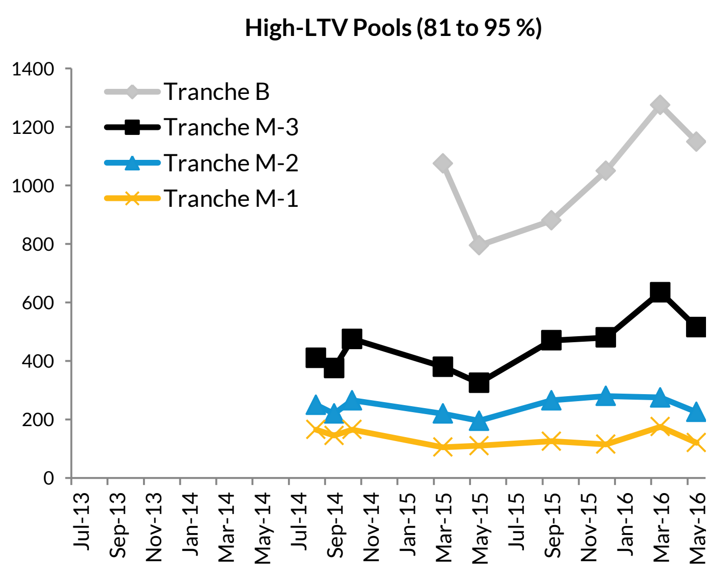
Fannie Mae CAS Spreads at-issuance (basis points over 1-month LIBOR)





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



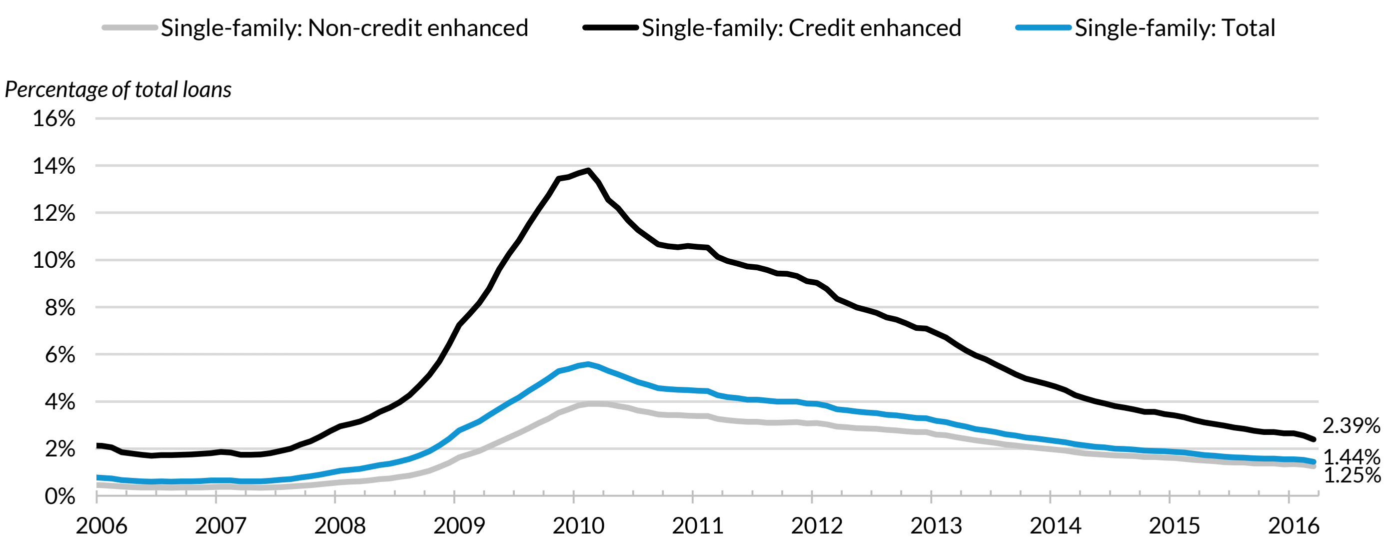


Sources: Fannie Mae, Freddie Mac Press Releases and Urban Institute.

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 March 2016, 1.44 percent of the Fannie portfolio and 1.20 percent of the Freddie portfolio were seriously delinquent, down from 1.78 percent for Fannie and 1.73 percent for Freddie in February 2015.

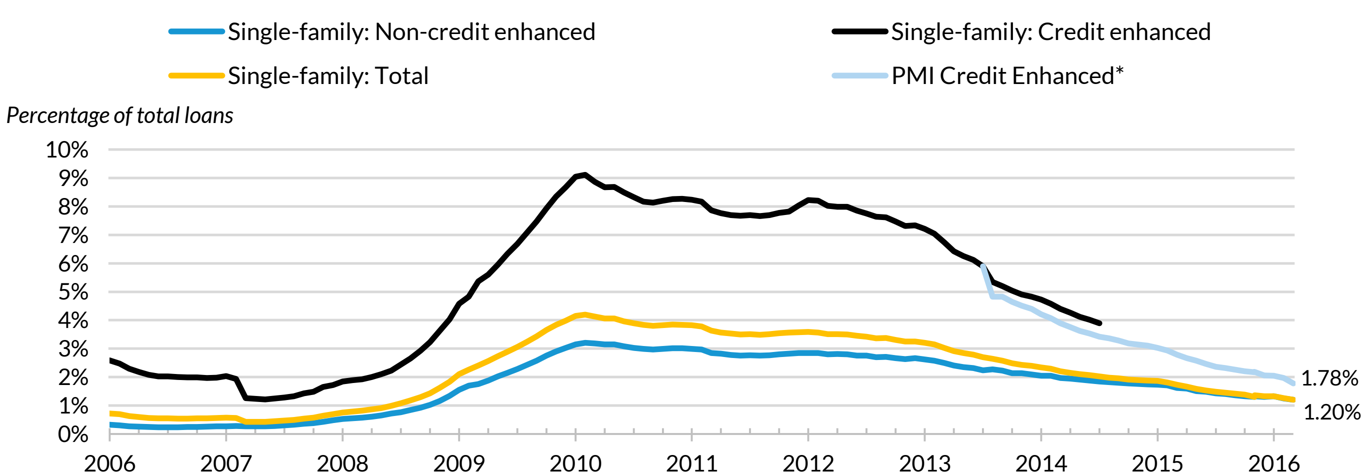
Serious Delinquency Rates–Fannie Mae



March 2016

Sources: Fannie Mae and Urban Institute.

Serious Delinquency Rates–Freddie Mac



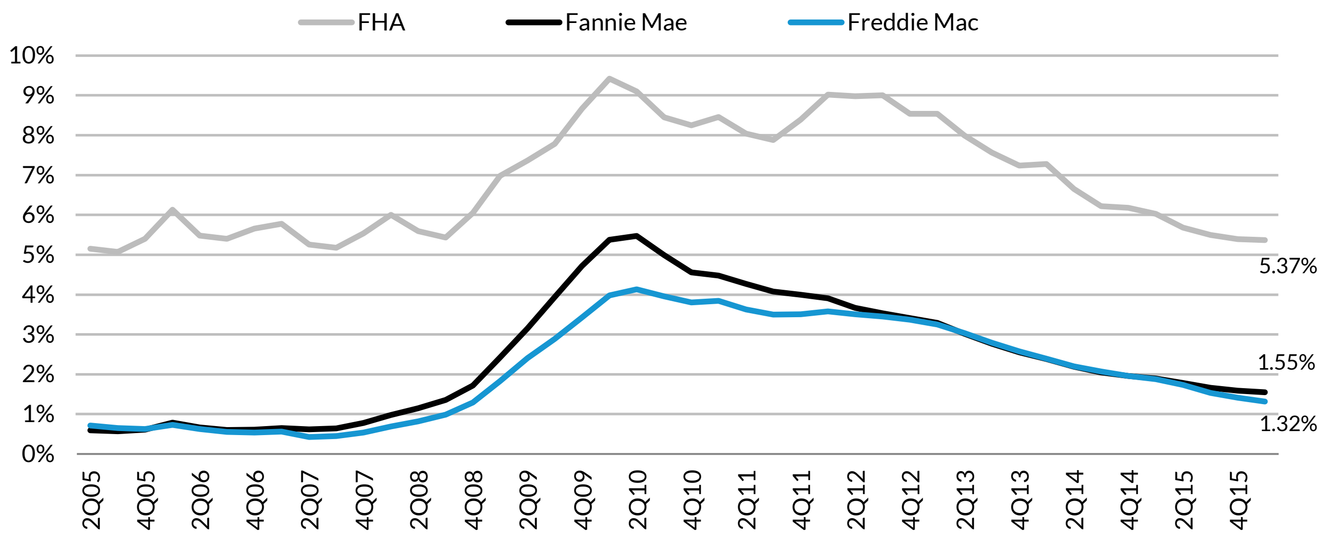
March 2016

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

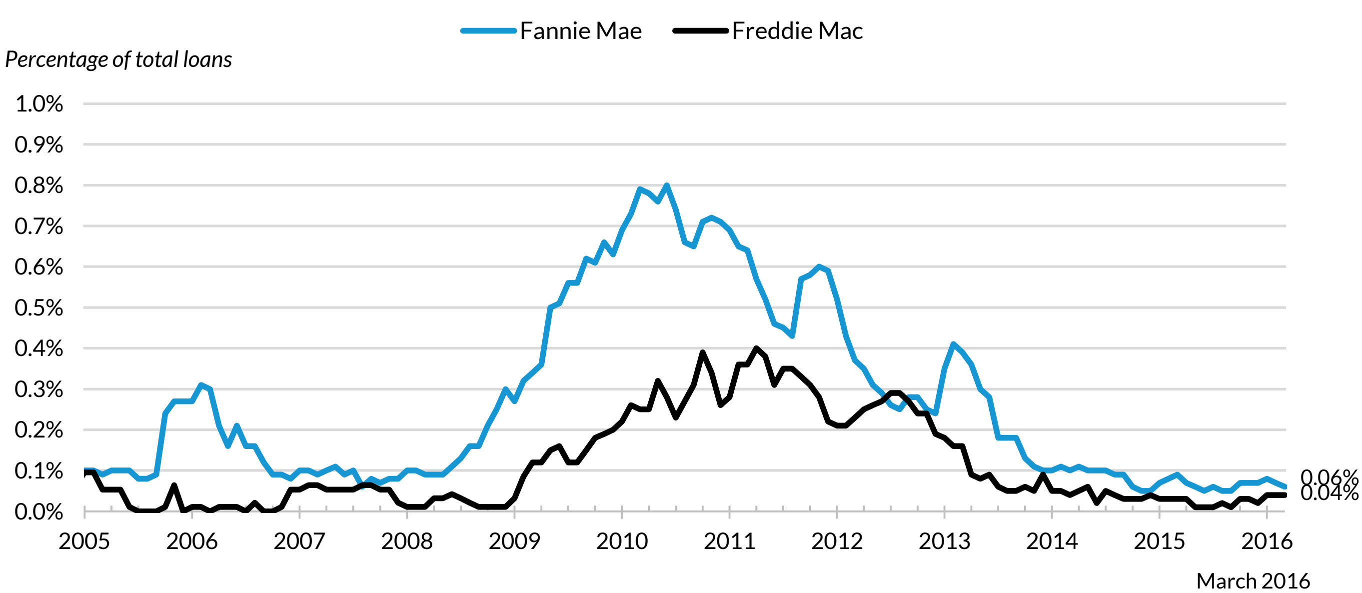
Serious delinquencies for FHA and GSE single-family loans continue to decline. GSE delinquencies remain higher relative to 2005-2007, while FHA delinquencies (which are much higher than their GSE counterparts) are now at levels similar to 2005-2007. GSE multifamily delinquencies have declined to pre-crisis levels, though they did not reach problematic levels even in the worst years.

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

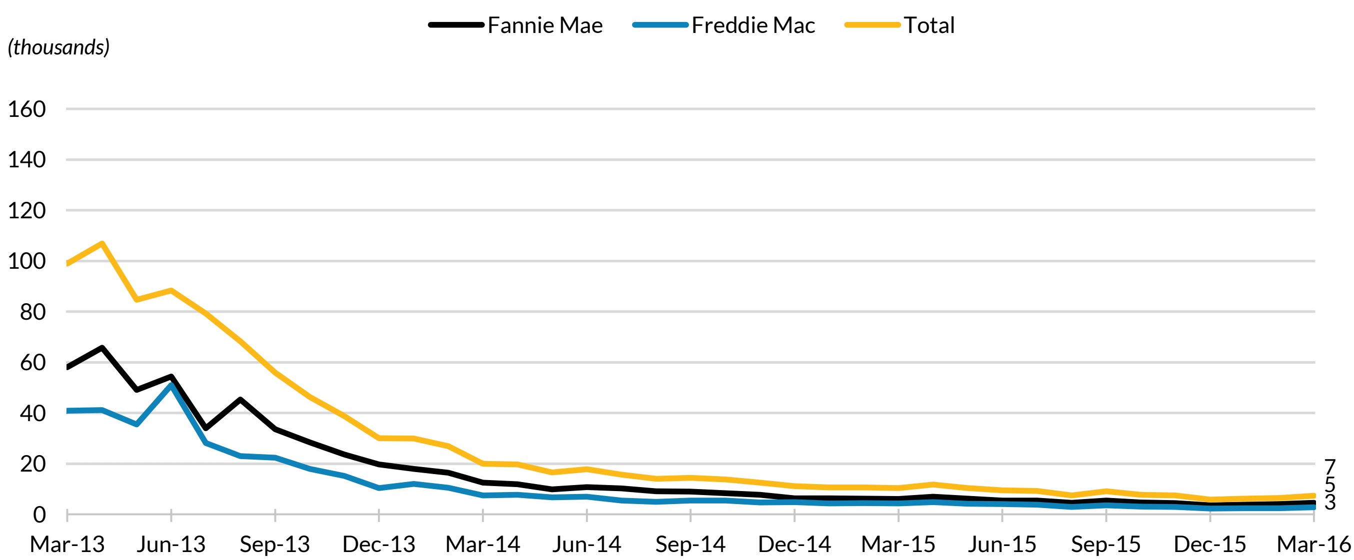


Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Multifamily serious delinquency rate is the unpaid balance of loans 60 days or more past due, divided by the total unpaid balance.

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

	March 2016	Year-to-date 2016	Inception to date	2015	2014	2013
Total refinances	167,140	429,485	22,923,458	2,084,936	1,536,788	4,081,911
Total HARP refinances	7,326	19,989	3,400,543	110,109	212,488	892,914
Share 80–105 LTV	79.6%	77.6%	70.2%	76.5%	72.5%	56.4%
Share 105–125 LTV	14.0%	15.0%	17.2%	15.6%	17.2%	22.4%
Share >125 LTV	6.5%	7.4%	12.6%	8.0%	10.3%	21.2%
All other streamlined refinances	15,537	40,856	3,780,343	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, and have no more than one delinquent payment in the past year and none in the past six months. There are 397,194 eligible loans, but 41 percent are out-of-the-money because the closing cost would exceed the long-term savings, leaving 234,191 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 5,326,484 loans in this category, 4,481,290 are in-the-money.

More than 75 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	27,082,789
Loans that do not meet pay history requirement	1,269,235
Loans that meet pay history requirement:	25,813,554
Pre-June 2009 origination	5,648,926
Post-June 2009 origination	20,164,628

Loans Meeting HARP Pay History Requirements

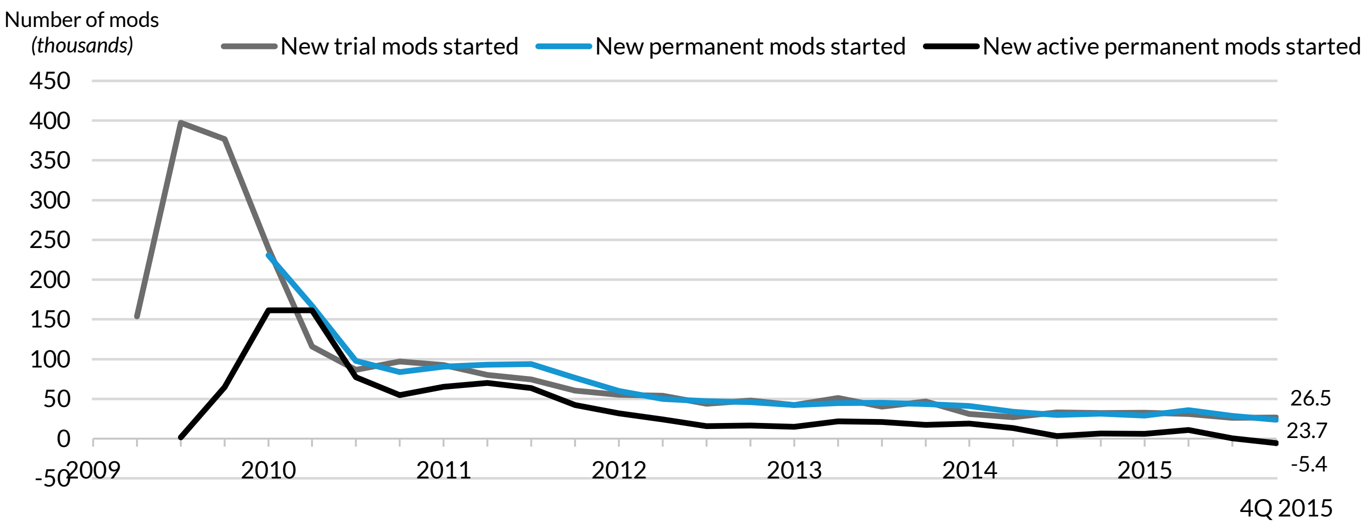
Pre-June 2009			
LTV category	*In-the-money*	*Out-of-the-money*	*Total*
≤80	4,493,568	778,068	5,271,636
>80	222,877	154,413	377,290
Total	4,716,445	932,481	5,648,926
Post-June 2009			
LTV category	*In-the-money*	*Out-of-the-money*	*Total*
≤80	5,922,425	11,546,000	17,468,424
>80	1,234,217	1,461,987	2,696,204
Total	7,156,642	13,007,987	20,164,628

Sources: CoreLogic Prime Servicing as of March 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

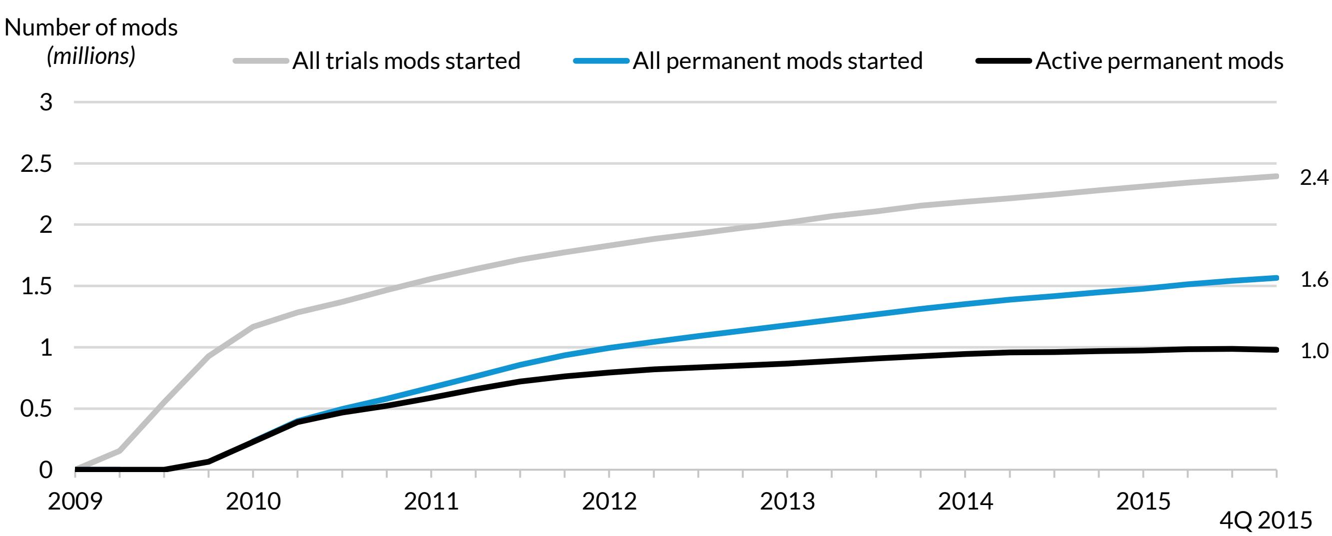
In the fourth quarter of 2015, new HAMP trial mods remained constant at 26,496 and new permanent mods fell to new low at 23,680. Cumulative permanent HAMP mods started now total 1.57 million. New active permanent mods experienced a decline for the first time: -5,408 in Q4 2015, compared to a net increase of 6,502 the same quarter a year ago. As a result, active permanent mods declined to 0.98 million.

New HAMP Modifications



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

Cumulative HAMP Modifications

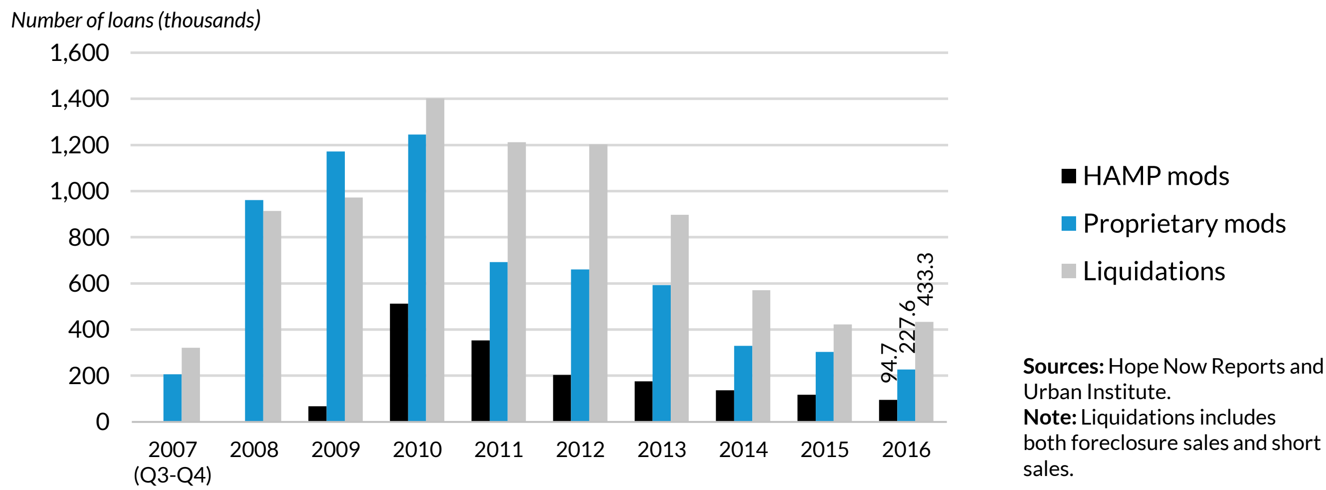


Sources: U.S. Treasury Making Home Affordable and Urban Institute.

MODIFICATIONS AND LIQUIDATIONS

Total modifications (HAMP and proprietary) are now roughly equal to total liquidations. Hope Now reports show 7,784,155 borrowers have received a modification since Q3 2007, compared with 7,987,978 liquidations in the same period. Modification activity slowed significantly in 2014 and has continued to decline, averaging 26,852 in the first two months of 2016. Liquidations have also continued to decline, averaging 36,108 per month in early 2016 compared to 39,829 per month in the same period a year ago.

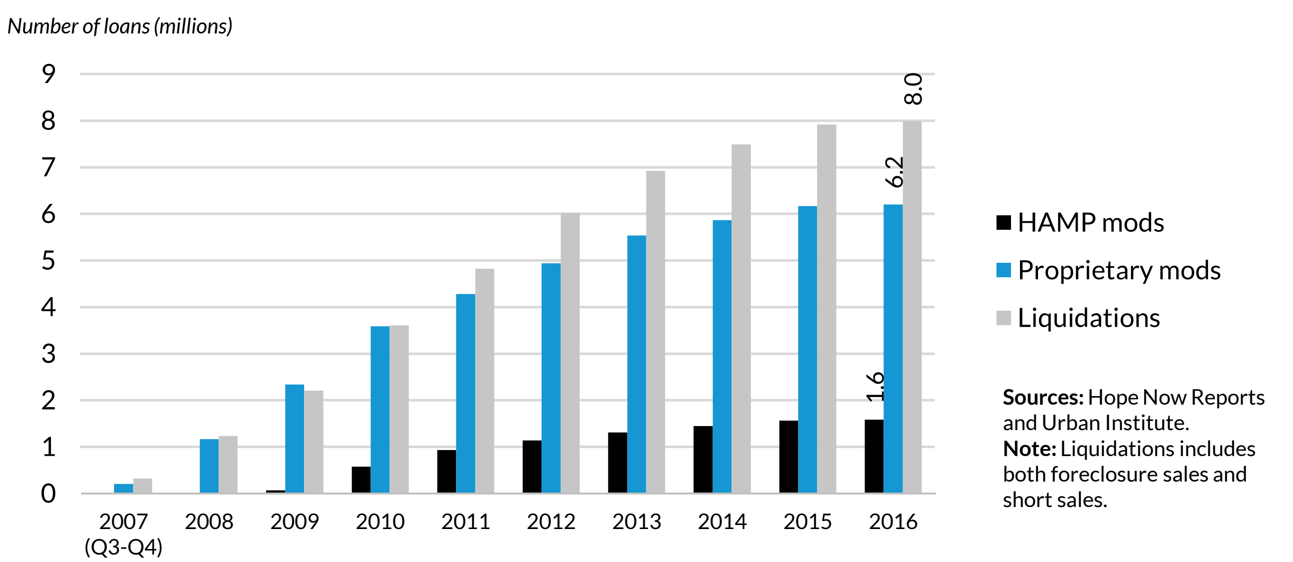
Loan Modifications and Liquidations



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

February 2016

Cumulative Modifications and Liquidations



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

February 2016

AGENCY ISSUANCE

AGENCY GROSS AND NET ISSUANCE

The agency gross issuance totaled $384.8 billion in the first four months of 2016, a slight 4.2 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	$248.81	$135.96	$384.77
%Change year-over-year	-10.8%	10.8%	-4.2%
2016 Ann.	$746.43	$407.88	$1,154.31

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	$22.9	$33.7	$56.5
%Change year-over-year	27.91%	254.28%	106.52%
2016 Ann.	$68.6	$101.1	$169.6

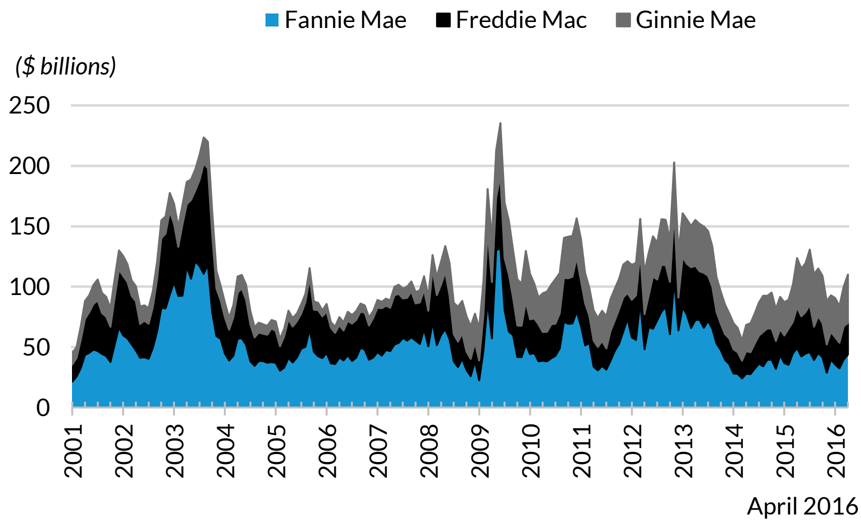
Sources: eMBS and Urban Institute.
Note: Dollar amounts are in billions. Annualized figure based on data from April 2016.

AGENCY ISSUANCE

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

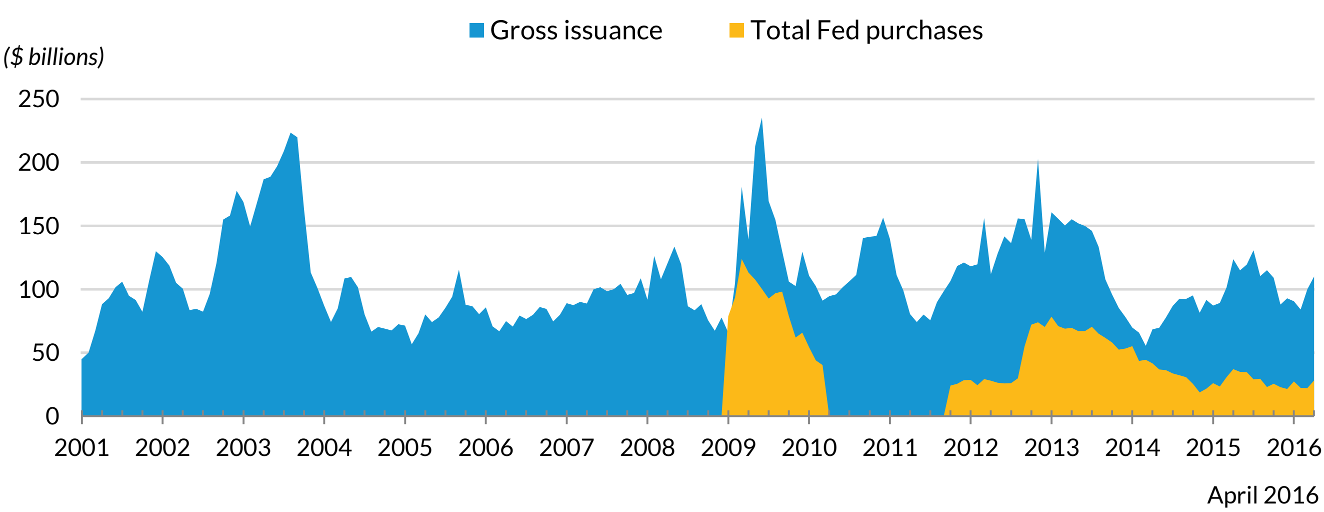
While government and GSE lending have dominated the mortgage market since the crisis, there has been a change in the mix. The Ginnie Mae share reached a peak of 28 percent of total agency issuance in 2010, declined to 25 percent in 2013, and has bounced back sharply since then. The Ginnie Mae issuance stood at 36 percent in April 2016, as the FHA refinance activity surged with the reduction in the FHA insurance premium.



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

Fed Absorption of Agency Gross Issuance

In October 2014, the Fed ended its purchase program, but continued buying at a much reduced level, reinvesting funds from pay downs on mortgages and agency debentures into the mortgage market. Since then, the Fed's absorption of gross issuance has been between 20 and 30 percent. In April 2016, total Fed purchase rose to $28 billion, yielding Fed absorption of gross issuance of 26 percent, up from 22 percent last month.

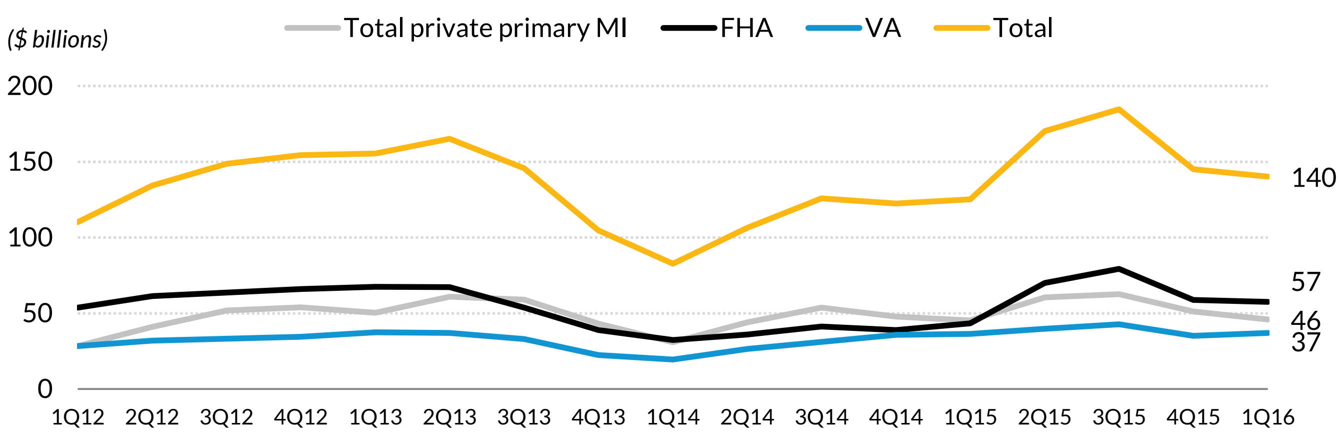


Sources: eMBS, Federal Reserve Bank of New York and Urban Institute.

MORTGAGE INSURANCE ACTIVITY

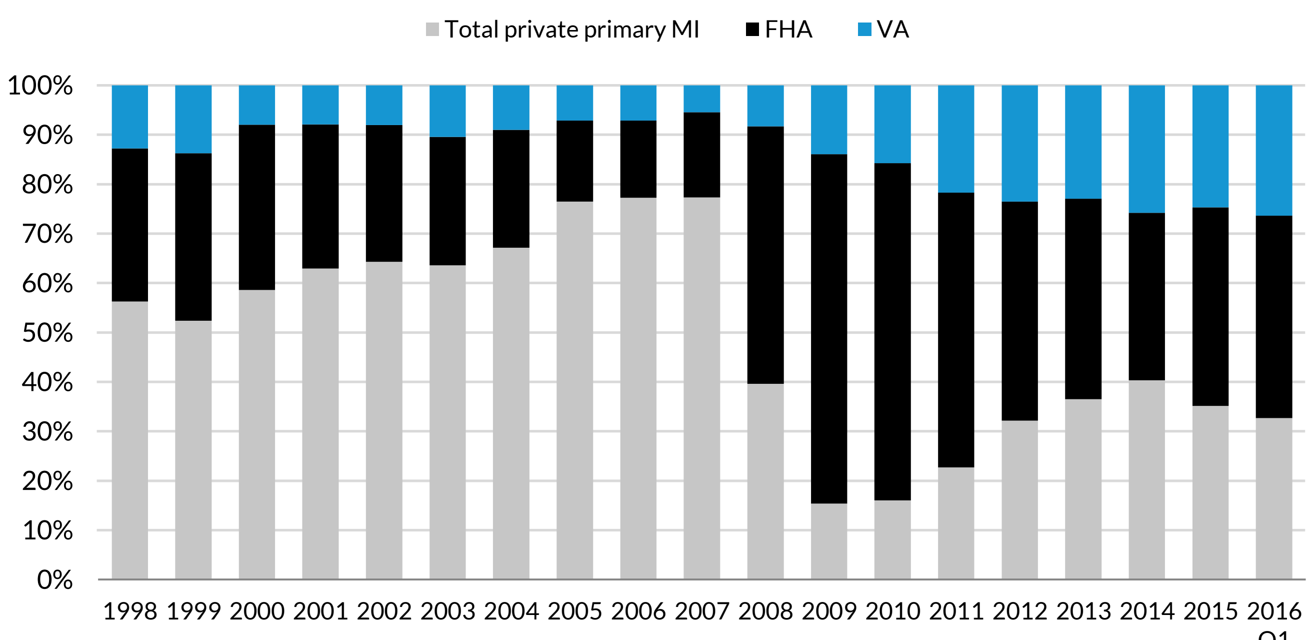
MI Activity

In 2016 Q1, mortgage insurance activity via the FHA, VA and private insurers fell slightly to $140.2 billion, down from last quarter's $145.2 billion but still up 12 percent year over year from the same quarter in 2015. This decline was driven by private insurers while FHA and VA activities stayed stable. FHA's market share rose to 41 percent in 2016 Q1, compared to the private insurance market's 33 percent.



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 FICOs 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	3.89%
FHA	3.50%

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	$1,273	$1,273	$1,273	$1,273	$1,273	$1,273	$1,273	$1,273
PMI	$1,688	$1,626	$1,582	$1,460	$1,410	$1,356	$1,309	$1,268
PMI Advantage	($415)	($353)	($309)	($187)	($137)	($83)	($36)	$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, 69.2 percent of loans originated from 2011 to Q1 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%
2011-1Q15	≤700	2.8%	4.2%	0.9%	1.4%	9.3%
	700 to 750	5.5%	9.6%	2.7%	3.8%	21.6%
	>750	23.6%	31.2%	7.0%	7.4%	69.2%
	Total	31.8%	45.1%	10.6%	12.5%	100.0%
Total		**35.3%**	**45.9%**	**9.8%**	**8.9%**	**100.0%**

Sources: Fannie Mae and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q12015. 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%	5.9%	6.9%	4.8%
	700 to 750	1.1%	1.9%	2.8%	2.9%	1.9%
	>750	0.4%	0.8%	1.5%	1.7%	0.7%
	Total	1.5%	2.3%	3.8%	4.5%	2.4%
2005	≤700	13.4%	17.1%	19.6%	21.3%	16.3%
	700 to 750	6.2%	9.6%	12.5%	13.0%	8.7%
	>750	2.2%	4.4%	7.0%	8.0%	3.7%
	Total	6.7%	10.0%	14.1%	15.3%	9.3%
2006	≤700	17.8%	22.0%	25.3%	27.0%	21.1%
	700 to 750	8.4%	13.0%	15.7%	16.5%	11.8%
	>750	2.9%	5.7%	8.9%	9.3%	4.9%
	Total	9.3%	13.0%	17.9%	19.1%	12.3%
2007	≤700	19.2%	23.1%	30.4%	30.8%	23.7%
	700 to 750	8.2%	13.2%	18.9%	18.2%	12.7%
	>750	2.7%	5.6%	10.7%	10.6%	5.2%
	Total	9.2%	13.1%	21.8%	21.6%	13.4%
2008	≤700	14.0%	16.6%	22.8%	22.8%	17.2%
	700 to 750	4.8%	7.8%	12.5%	12.3%	8.1%
	>750	1.2%	2.7%	6.1%	6.7%	2.8%
	Total	4.9%	6.3%	11.9%	12.6%	7.0%
2009-2010	≤700	3.4%	4.4%	4.4%	5.5%	4.0%
	700 to 750	0.9%	1.7%	2.2%	2.7%	1.5%
	>750	0.2%	0.5%	0.9%	1.2%	0.4%
	Total	0.6%	1.0%	1.5%	2.0%	0.9%
2011-1Q15	≤700	0.7%	0.8%	0.7%	0.8%	0.7%
	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%**	**3.1%**	**4.9%**	**4.3%**	**3.0%**

Sources: Fannie Mae and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q1 2015, with performance information on these loans through Q4 2015. 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, 64.8 percent of loans originated from 2011 to Q1 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%	3.3%	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%	54.0%	7.1%	6.1%	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%	2.6%	38.9%
	Total	31.1%	49.3%	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%	7.2%	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%
2011-1Q15	≤700	3.4%	4.0%	1.0%	1.3%	9.7%
	700 to 750	7.0%	11.7%	2.9%	4.0%	25.6%
	>750	22.0%	30.1%	6.1%	6.6%	64.8%
	Total	32.4%	45.7%	9.9%	12.0%	100.0%
Total		**34.1%**	**47.6%**	**9.4%**	**8.8%**	**100.0%**

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

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	2.9%	4.1%	6.4%	6.8%	4.6%
	700 to 750	1.0%	1.6%	2.6%	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	11.7%	16.1%	19.0%	20.5%	15.4%
	700 to 750	5.6%	9.2%	12.3%	12.7%	8.4%
	>750	2.0%	4.4%	7.0%	8.1%	3.6%
	Total	5.8%	9.7%	14.2%	15.5%	9.0%
2006	≤700	15.5%	20.5%	23.8%	26.1%	19.9%
	700 to 750	7.8%	12.4%	15.0%	15.0%	11.4%
	>750	2.6%	5.9%	8.7%	9.3%	4.9%
	Total	7.9%	12.5%	17.7%	19.6%	11.8%
2007	≤700	16.5%	22.0%	27.7%	30.3%	22.4%
	700 to 750	7.7%	13.2%	17.6%	18.0%	12.6%
	>750	2.6%	6.2%	10.1%	11.2%	5.4%
	Total	7.9%	13.2%	20.4%	22.1%	13.2%
2008	≤700	12.7%	16.6%	22.8%	21.9%	16.7%
	700 to 750	4.6%	8.2%	12.6%	11.4%	7.9%
	>750	1.3%	3.2%	6.6%	6.2%	2.9%
	Total	4.3%	7.4%	12.9%	12.6%	7.2%
2009-2010	≤700	2.8%	4.1%	4.4%	4.8%	3.5%
	700 to 750	0.7%	1.6%	1.9%	2.2%	1.3%
	>750	0.2%	0.5%	1.0%	1.1%	0.4%
	Total	0.5%	1.1%	1.4%	1.8%	0.8%
2011-1Q15	≤700	0.4%	0.4%	0.3%	0.4%	0.4%
	700 to 750	0.1%	0.1%	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%**	**3.8%**	**5.7%**	**5.9%**	**3.6%**

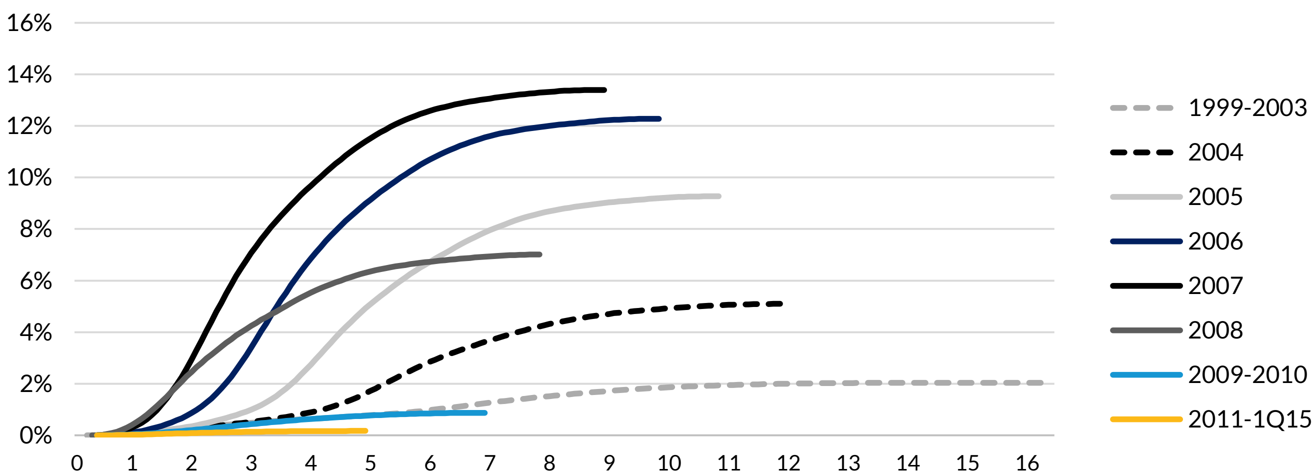
Sources: Freddie Mae and Urban Institute.
Note: Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q1 2015, with performance information on these loans through Q3 2015. Default is defined as six months delinquent or disposed of via short sales, third-party sales, deeds-in-lieu 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. 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

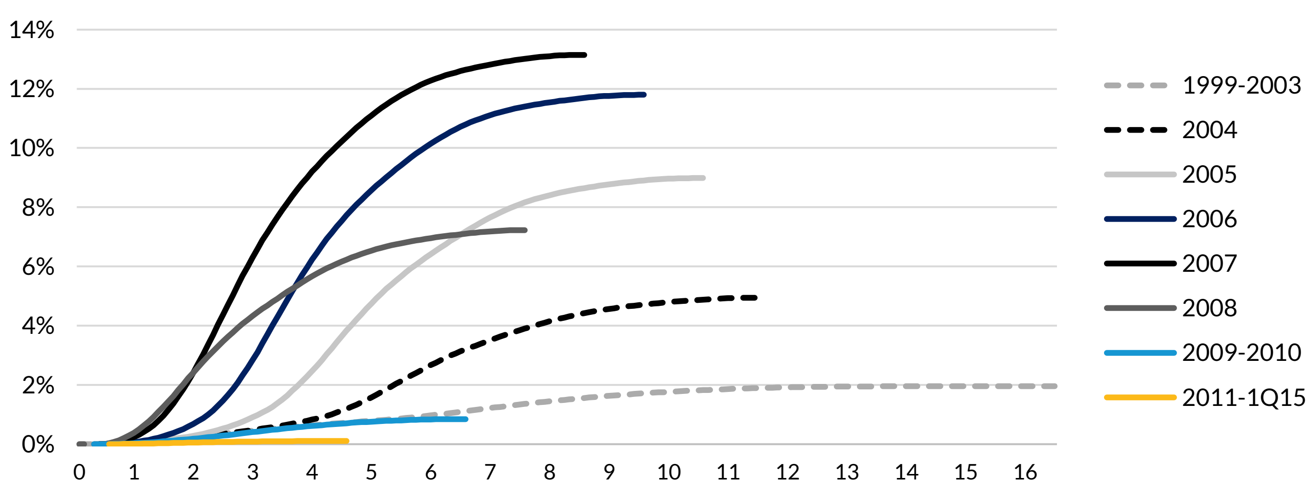
With cleaner books of business and the housing recovery underway, default rates for the GSEs are much lower than they were just a few years ago. For Fannie Mae and Freddie Mac's 1999-2003 vintages, cumulative defaults total around 2 percent, while cumulate defaults for the 2007 vintage are around 13 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 59 months after origination, the cumulative default rate from 2009-10 and 2011-Q1 2015 are about 0.76 and 0.17 percent, respectively, compared to the cumulative default rate from 1999-2003 of 0.77 percent. For Freddie loans 55 months after origination, the cumulative default rates total 0.71 percent from 2009-10 and 0.10 percent from 2011-Q1 2015, compared to the rate from 1999-2003 of 0.73 percent.

Fannie Mae Cumulative Default Rate by Vintage Year



Sources: Fannie Mae and Urban Institute.

Freddie Mac Cumulative Default Rate by Vintage Year



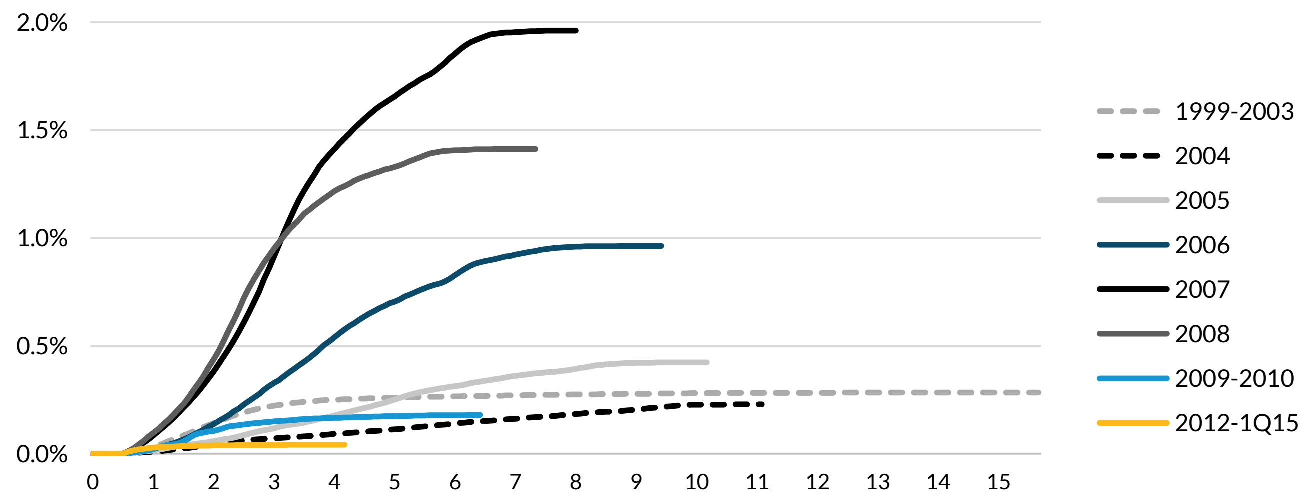
Sources: Freddie Mac and Urban Institute.
Note: The Freddie Mac analysis included mortgages with original terms of 241-420 months, to be consistent with Fannie Mae data, which contained only 30-year mortgages.

SPECIAL FEATURE: LOAN LEVEL GSE CREDIT DATA

REPURCHASE RATE BY VINTAGE

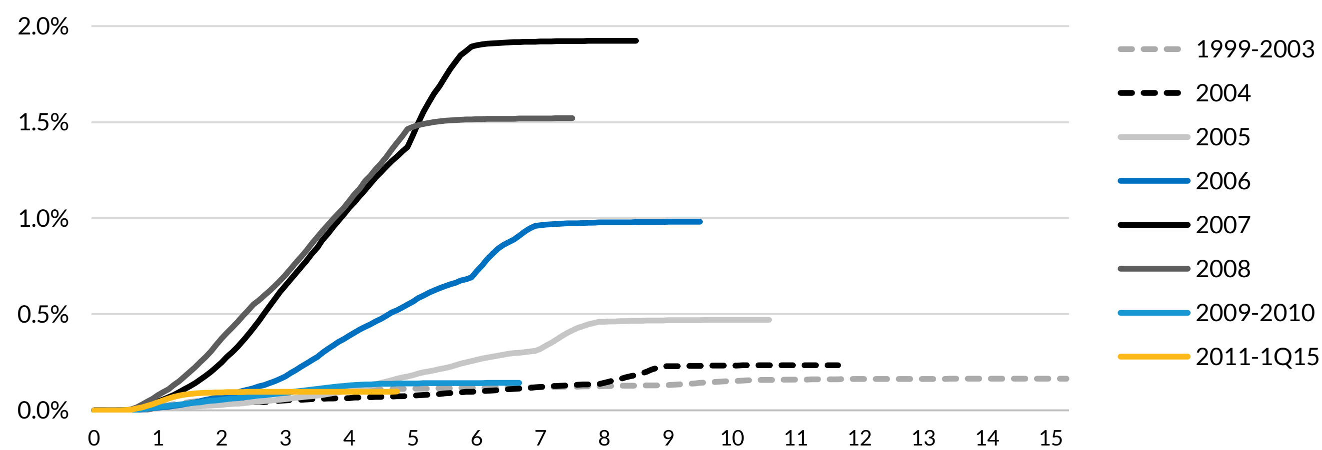
These figures show the cumulative percentage of fixed-rate, full documentation, amortizing 30-year loans of a given vintage that Fannie and Freddie have put back to lenders due to reps and warrants violations. Note that the put-backs are generally quite small, with the exception of the 2006-2008 vintages. 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 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) 18.5 percent are current, 11.3 percent are prepaid, 14.5 percent are still in the pipeline and 55.6 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 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	14.98%	17.69%	12.24%	55.09%	30.1%	41.8%	24.6%	34.0%
2005	18.97%	7.30%	13.61%	60.12%	37.9%	50.1%	36.3%	46.2%
2006	19.85%	5.93%	13.35%	60.88%	46.8%	55.6%	38.8%	51.4%
2007	22.34%	6.21%	14.64%	56.81%	46.8%	55.5%	37.9%	49.2%
2008	23.36%	8.07%	16.26%	52.31%	42.3%	51.9%	30.4%	42.4%
2009-2010	18.46%	12.94%	25.43%	43.17%	40.7%	43.9%	24.4%	39.0%
2011-1Q15	15.44%	11.50%	50.48%	22.58%	52.7%	56.8%	40.7%	49.1%
Total	18.54%	11.33%	14.53%	55.60%	40.8%	50.4%	31.6%	43.7%

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	13.28%	15.90%	11.51%	59.31%	25.1%	40.4%	27.6%	34.0%
2005	16.89%	6.64%	13.40%	63.07%	35.3%	49.4%	36.7%	45.7%
2006	16.96%	5.34%	12.92%	64.78%	42.8%	54.6%	39.1%	50.6%
2007	17.83%	5.14%	14.30%	62.73%	45.8%	54.8%	38.9%	49.0%
2008	19.89%	7.16%	16.72%	56.23%	39.4%	51.2%	34.7%	44.5%
2009-2010	15.87%	11.84%	27.22%	45.07%	26.4%	36.8%	17.4%	32.2%
2011-1Q15	15.45%	12.47%	50.59%	21.49%	13.2%	27.4%	9.2%	19.2%
Total	16.09%	9.57%	13.82%	60.52%	37.7%	49.9%	33.8%	44.1%

Sources: Fannie Mae, Freddie Mac, and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q1 2015, with performance information on these loans through Q4 2015. Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q1 2015, with performance information on these loans through Q3 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.

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 47.3 percent. Approximately 8 percent of the loans that liquidated did not experience a loss. Thus the overall severity was 43.7 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	109438.64	-67.9%	-8.5%	-1.6%	28.2%	8.5%	42.5%
2005	171267.32	-62.8%	-4.9%	-0.9%	17.4%	8.2%	48.0%
2006	185805.92	-58.6%	-4.8%	-0.9%	14.9%	9.0%	52.4%
2007	195001.43	-58.2%	-7.6%	-1.1%	15.5%	9.1%	49.9%
2008	191797.78	-62.0%	-8.9%	-1.0%	17.3%	8.5%	44.2%
2009-2010	181508.72	-66.4%	-4.2%	-0.6%	16.5%	6.3%	42.0%
2011-1Q15	150200.93	-46.5%	-5.0%	-0.5%	8.6%	4.6%	57.6%
Total	159136.63	-62.1%	-6.9%	-1.1%	18.6%	8.6%	47.3%

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	110298.86	-69.6%	-10.4%	-2.4%	13.3%	10.7%	41.7%
2005	172523.9	-63.4%	-5.5%	-1.5%	9.1%	9.8%	48.5%
2006	185703.67	-59.6%	-5.3%	-1.4%	8.3%	10.8%	52.8%
2007	187750.89	-58.7%	-8.0%	-1.5%	8.5%	10.9%	51.2%
2008	196683.12	-62.7%	-7.8%	-1.5%	8.5%	10.8%	47.3%
2009-2010	187675.86	-74.2%	-4.0%	-1.4%	8.7%	7.6%	36.6%
2011-1Q15	158336.01	-78.1%	-7.8%	-1.4%	8.9%	5.5%	26.9%
Total	161562.94	-63.0%	-7.3%	-1.6%	9.6%	10.5%	48.2%

Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Fannie Mae loan level credit data includes loans originated from Q1 1999 to Q1 2015, with performance information on these loans through Q4 2015. Freddie Mac loan level credit data includes loans originated from Q1 1999 to Q1 2015, with performance information on these loans through Q3 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.

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