HOUSING FINANCE POLICY CENTER

HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

January 2017

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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

Now Playing in DC: The Great FHA Premium Cut Drama

On January 9, 2017 outgoing HUD Secretary Julián Castro announced a 25 basis point reduction in FHA's annual mortgage insurance premium. But three days later, during his confirmation hearing, HUD Secretary-designate Dr. Ben Carson was noncommittal when asked if he would roll back the cut. Carson said that if confirmed, he will "work with the FHA administrator and other experts to examine" the cut, thus leaving its future unclear.

This uncertainty however, turned out to be short-lived. In another twist, shortly after President Trump's inauguration on January 20th, HUD announced that the premium cut was being "suspended indefinitely" pending further analysis by the new administration. Although this leaves in place the theoretical possibility of the cut becoming effective at some point in the future, near term uncertainty seems to be over.

The cut originally announced by Castro would have reduced annual premiums for most FHA mortgages – those with loan amounts <= $625,500 and LTVs > 95% –from 0.85 percent to 0.6 percent. It is important to note that the effect of this 25 basis point cut on credit access and affordability, should the Trump administration decide to pursue it down the road, will be very modest.

When it comes to refinances, it is worth remembering that todays' mortgage rate is about 50 basis points higher than the rate prevalent just before the election. Thus, borrowers who obtained ultra-low rate mortgages *prior* to the election wouldn't benefit from a 25 basis point premium cut because they would also be paying a significantly higher rate than before. That would leave us with borrowers who obtained mortgages at higher rates *after* the election – November 2016 onwards. Although these borrowers could benefit from a potential price cut, a 25 basis point reduction is too small to result in substantial monthly savings, especially once refinance closing costs are factored in.

Of course, this prediction comes with significant interest rate uncertainty. After increasing by more than 70 basis points by the end of December 2016, mortgage rates fell by 20 basis points during the first three weeks of 2017. Thus, predicting how many borrowers would find refinancing economical would depend on the level of interest rates after the cut becomes effective, assuming it does. Continued declines in the mortgage rate would expand the pool of in-the-money borrowers, while rising rates would shrink it.

A 25 basis points reduction in future premiums would marginally improve the economics of FHA's purchase originations. However, for the most part, this will simply redistribute market share between the FHA and GSE channels as opposed to meaningfully expanding credit availability. This is because FHA lending is currently stymied by three major structural impediments – DOJ's heavy enforcement under False Claims Act, incomplete defect taxonomy and the skyrocketing cost of servicing delinquent FHA mortgages. Worried about these risks, many large lenders have left the FHA program in recent years, further exacerbating tight credit for low- and moderate-income borrowers. This trend is unlikely to reverse – and credit availability through the FHA unlikely to ease much – as long as these barriers remain unaddressed.

INSIDE THIS ISSUE

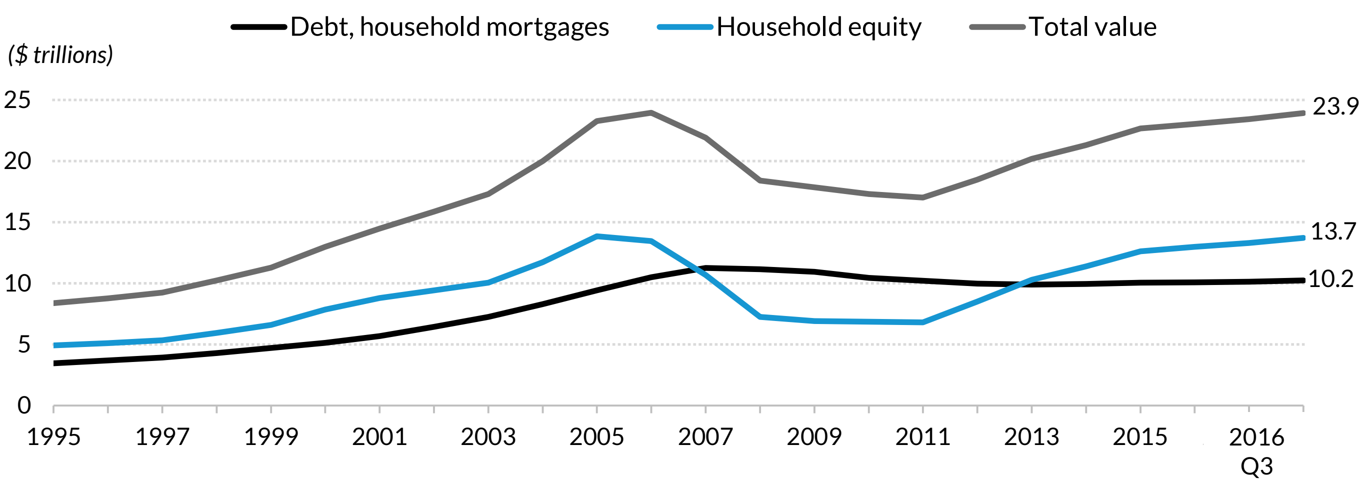
- Bank portfolios accounted for a larger share of first lien originations in 2016 compared to 2015. (Page 8)
- Despite rate rises, Fannie Mae and MBA project higher home sales volume in 2017. (Page 12)
- The non-agency share of residential MBS issuance fell from 4.5 percent in 2015 to 1.8 percent in 2016. (Page 10)
- The latest HCAI update shows that mortgage credit availability increased from 5.0 to 5.1 in Q3 2016. (Page 13)
- Agency gross and net issuances increased 17 and 54 percent YOY in 2016, and are expected to slide in 2017. (Pages 30, 31)

OVERVIEW

MARKET SIZE OVERVIEW

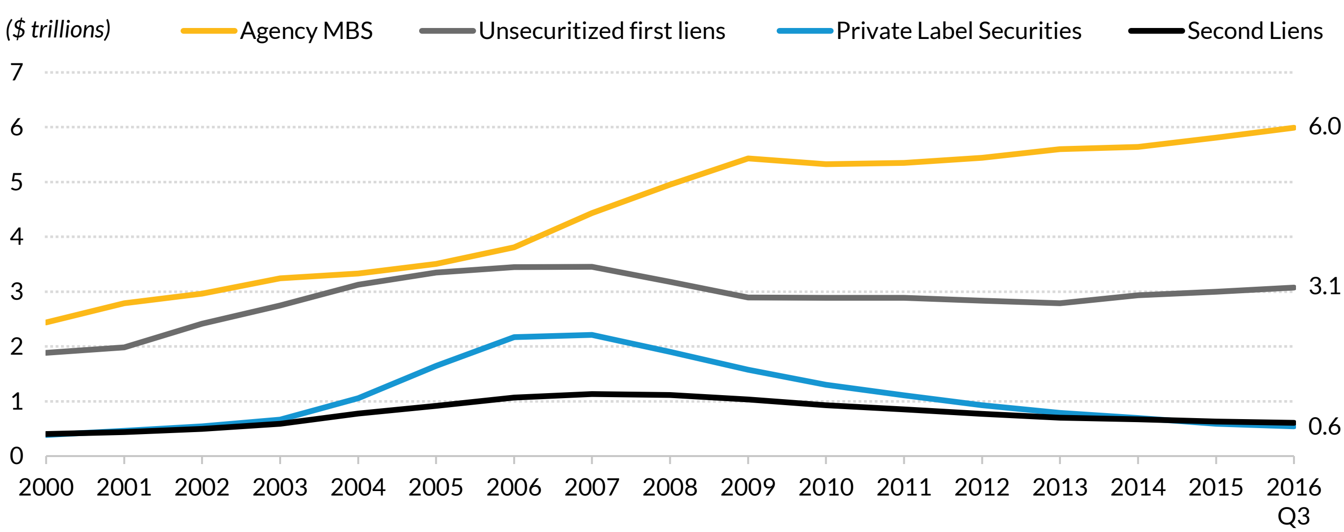
The Federal Reserve's Flow of Funds report has consistently indicated an increasing total value of the housing market driven by growing household equity since 2012, and the trend continued according to the latest data, covering Q3 2016. Total debt and mortgages increased to $10.2 trillion, and household equity increased to $13.7 trillion, bringing the total value of the housing market up slightly to $23.9 trillion. Agency MBS make up 58.2 percent of the total mortgage market, private-label securities make up 5.8 percent, and unsecuritized first liens at the GSEs, commercial banks, savings institutions, and credit unions make up 29.8 percent. Second liens comprise the remaining 6.2 percent of the total.

Value of the US Housing Market



Sources: Federal Reserve Flow of Funds and Urban Institute.

Size of the US Residential Mortgage Market



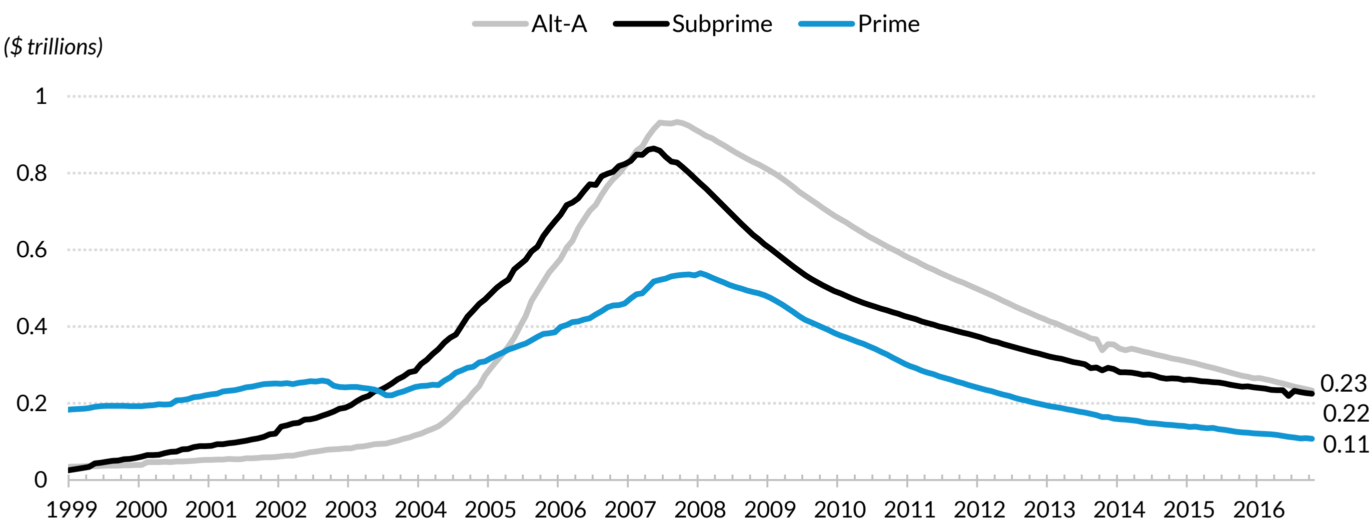
Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute.
Note: Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions.

OVERVIEW

MARKET SIZE OVERVIEW

As of November 2016, debt in the private-label securitization market totaled $556 billion and was split among prime (18.9 percent), Alt-A (41.2 percent), and subprime (40.0 percent) loans. In December 2016, outstanding securities in the agency market totaled $6.07 trillion and were 44.4 percent Fannie Mae, 27.5 percent Freddie Mac, and 28.1 percent Ginnie Mae. Ginnie Mae has had more outstanding securities than Freddie since May 2016.

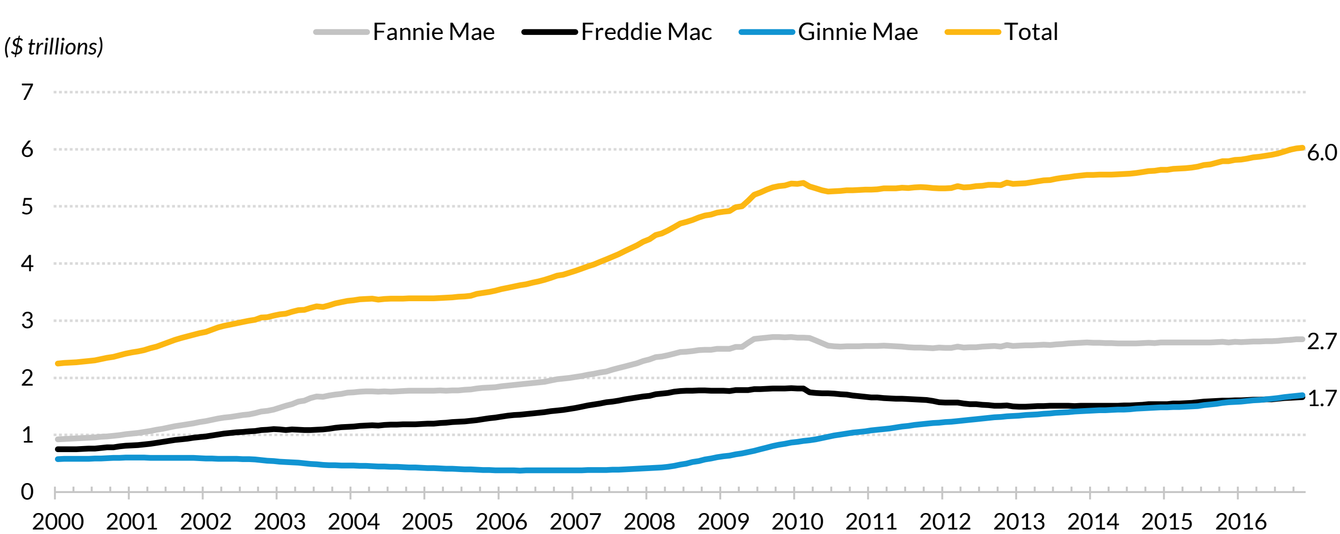
Private-Label Securities by Product Type



Sources: CoreLogic and Urban Institute.

November 2016

Agency Mortgage-Backed Securities



December 2016

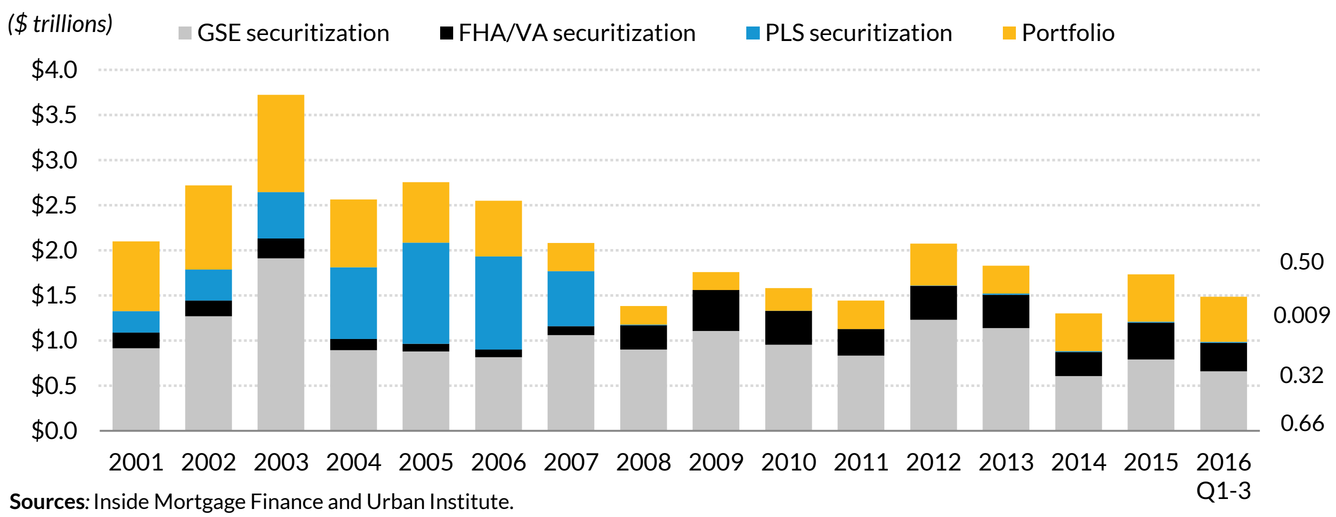
Sources: eMBS and Urban Institute.

OVERVIEW

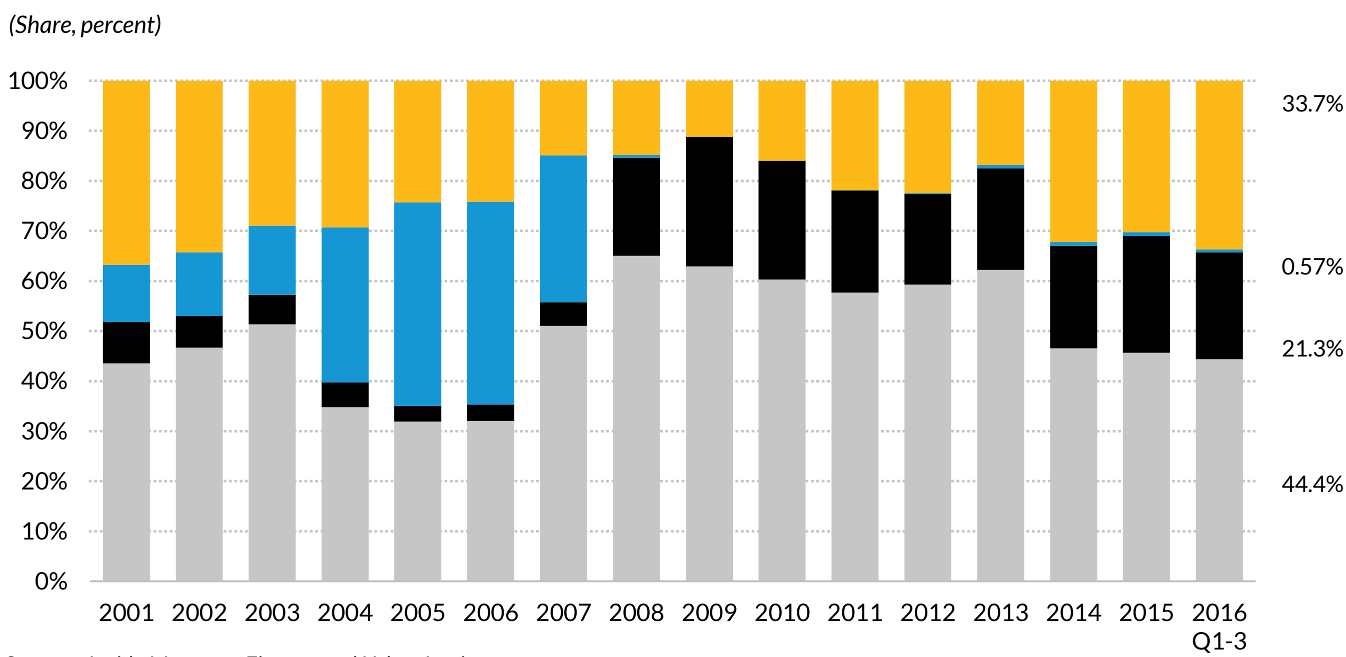
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

First lien originations in the first three quarters of 2016 totaled approximately $1.49 trillion. The share of portfolio originations was 33.7 percent, up from 30.8 percent for the first three quarters of 2015. The GSE share dropped to 44.4 percent, from 45.7 percent for the same period in 2015. The FHA/VA share was roughly flat: 21.3 percent in 2016 versus 22.7 percent in 2015. Origination of private label securities is well under 1% in both years.



Sources: Inside Mortgage Finance and Urban Institute.



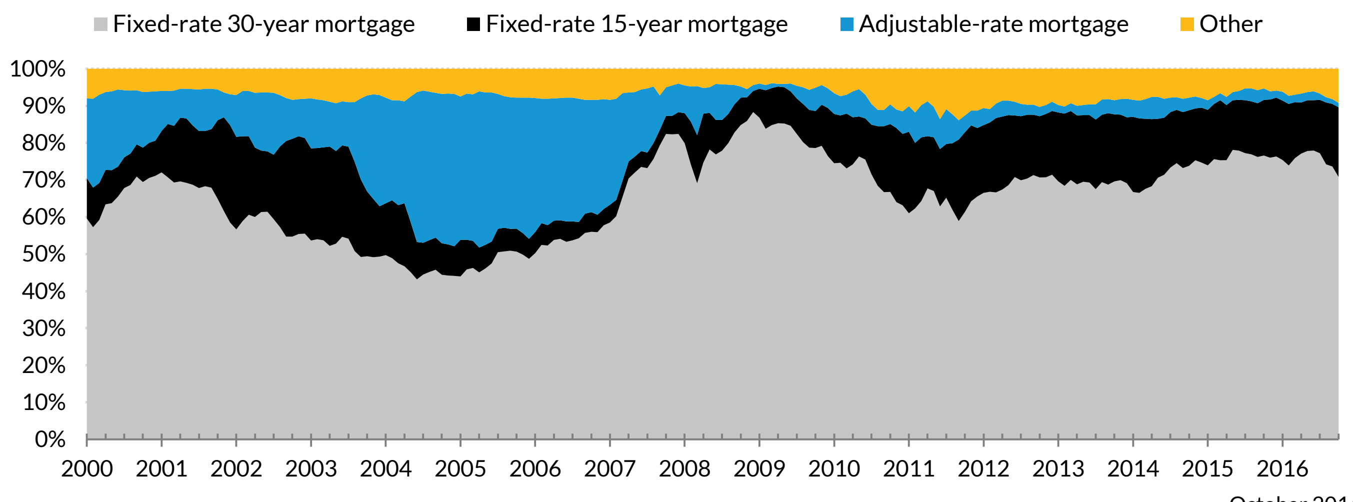
Sources: Inside Mortgage Finance and Urban Institute.

OVERVIEW

MORTGAGE ORIGINATION PRODUCT TYPE

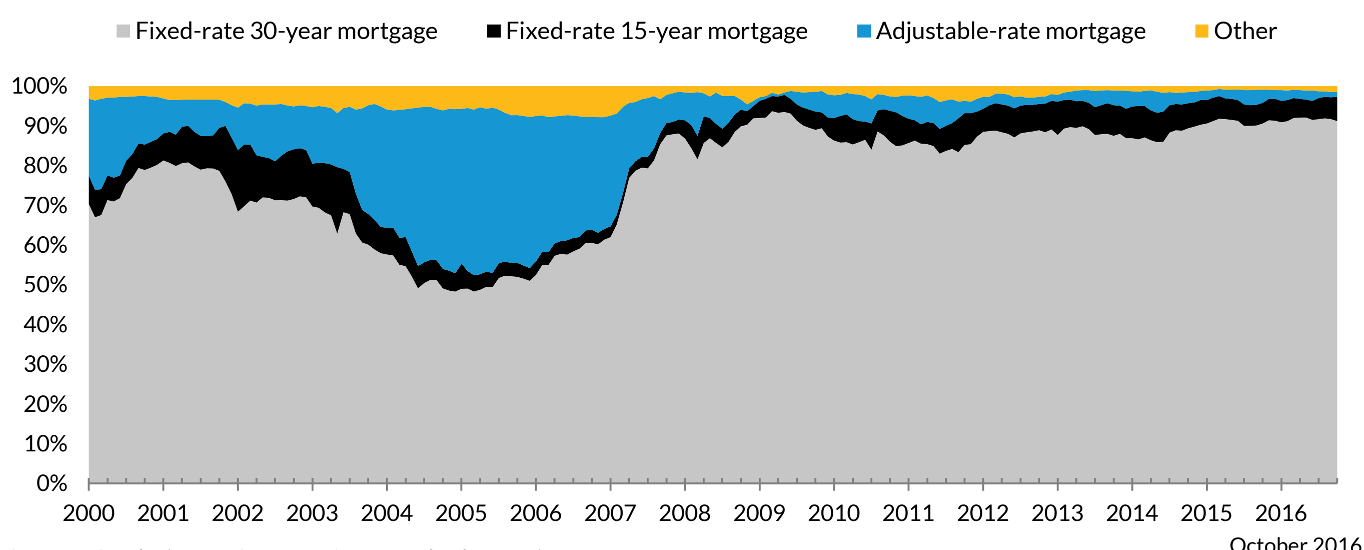
Adjustable-rate mortgages (ARMs) accounted for as much as 42 percent of all new originations during the peak of the recent housing bubble in 2005 (top chart). They fell to a historic low of 1 percent in 2009, and then slowly grew to a high of 6 percent in April 2014. Since then they began to decline again to 1.2 percent of total originations in October 2016. 15-year fixed-rate mortgages (FRMs), predominantly a refinance product, comprise 19 percent of new originations. If we exclude refinances (bottom chart), the share of 30-year FRMs in August 2016 stood at 91.1 percent, 15-year FRMs at 6.1 percent, and ARMs at 1.2 percent.

All Originations



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

Purchase Loans Only

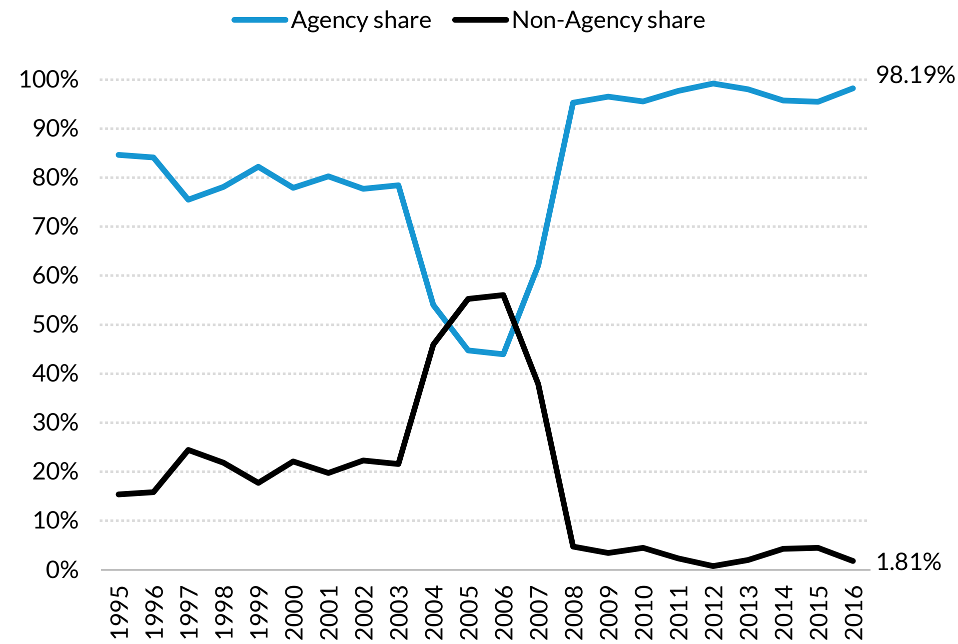


Sources: Corelogic, eMBS, HMDA, SIFMA and Urban Institute.

SECURITIZATION VOLUME AND COMPOSITION

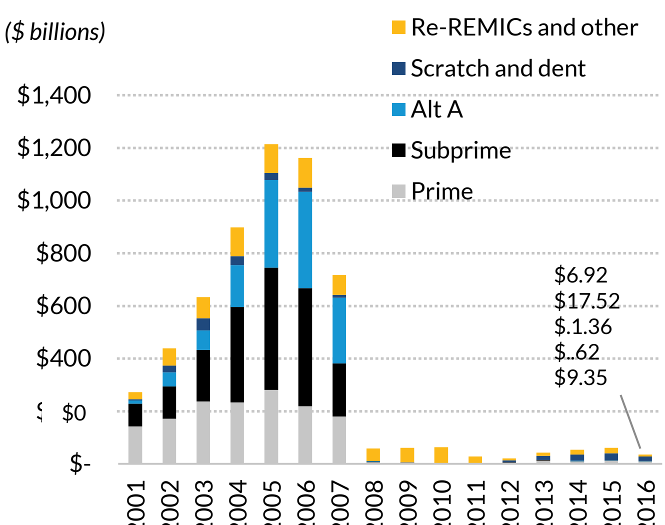
Agency/Non-Agency Share of Residential MBS Issuance

The non-agency share of mortgage securitizations in 2016 was 1.81%, compared to 4.5% in 2015 and 4.3% in 2014. Moreover, of the limited securitization that is getting done, much of the volume is in non-performing and re-performing (scratch and dent) deals . The volume of prime securitizations in 2016 totaled $9.35 billion, versus $12.08 billion in 2015. And fourth quarter 2016 prime securitizations were particularly light, totaling $1.6 billion, lower than either the preceding quarter or the fourth quarter of 2015. Non-agency securitizations continue to be tiny compared to pre-crises levels.



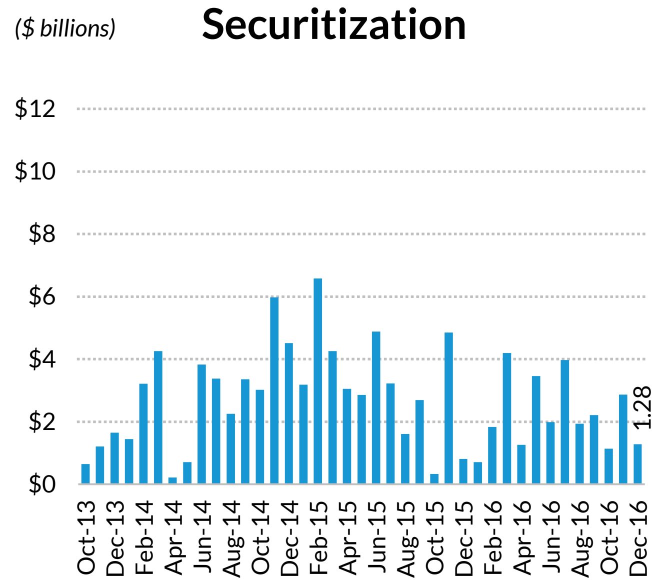
Sources: Inside Mortgage Finance and Urban Institute.
Note: Based on data from December 2016.

Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization



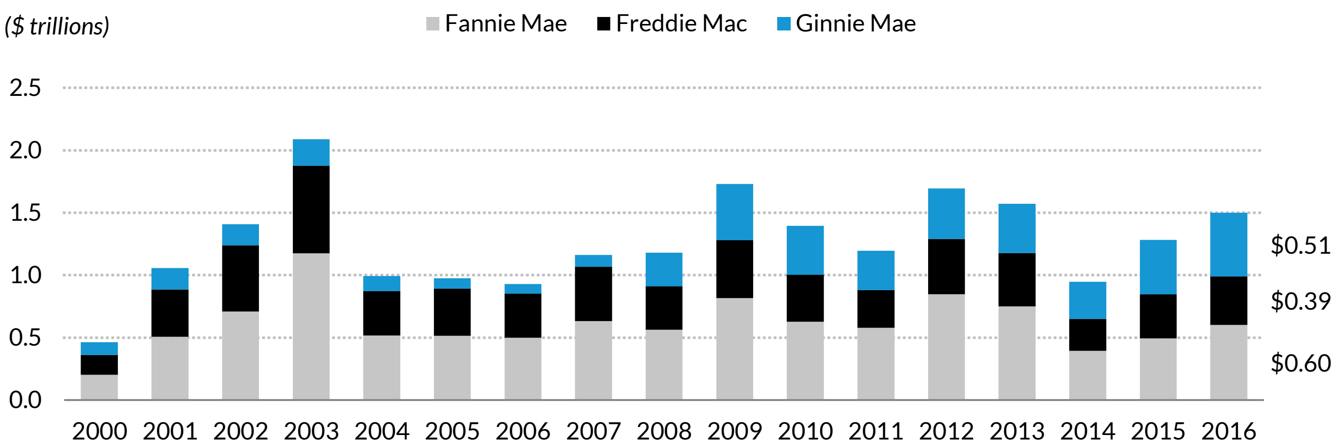
Sources: Inside Mortgage Finance and Urban Institute.
Note: Monthly figures equal total non-agency MBS issuance minus Re-REMIC issuance.

OVERVIEW

AGENCY ACTIVITY: VOLUMES AND PURCHASE/ REFI COMPOSITION

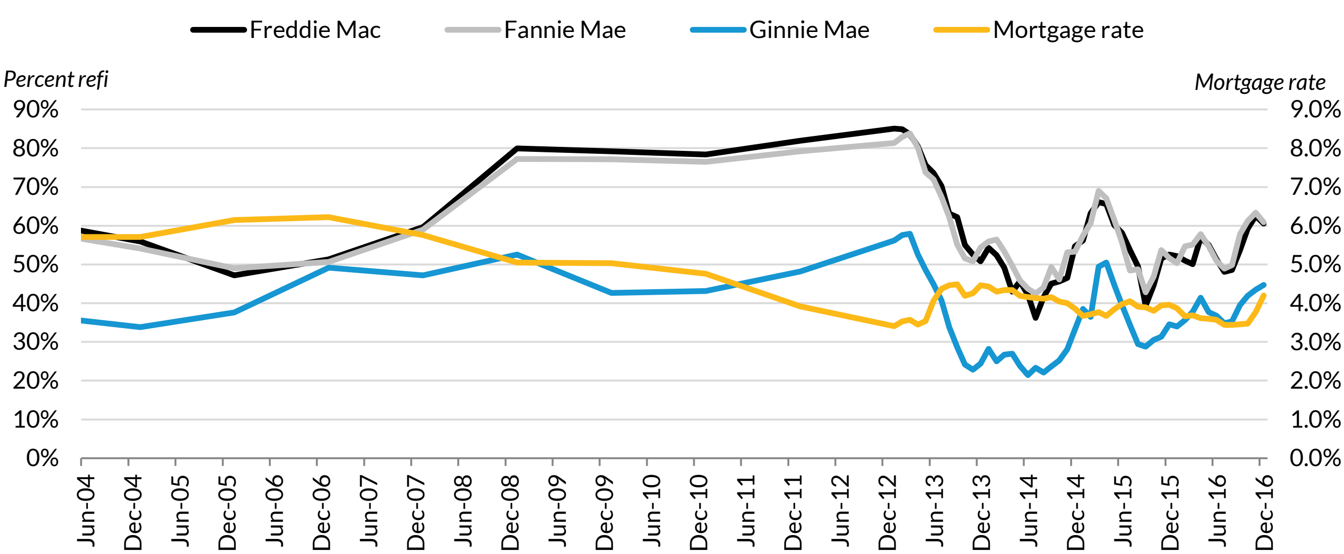
Agency issuance totaled $1,499.8 billion in 2016, slightly up from $1,282.0 billion a year ago. In December 2016, refinances stayed high at 61 and 45 percent of the GSEs' and Ginnie Mae's business, respectively, reflecting low mortgage rates in previous months. The interest rates have gone up sharply since the Election Day, which will cut refinance activity. The delayed impact on agency issuance will show up in next few months.

Agency Gross Issuance



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

Percent Refi at Issuance



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

STATE OF THE MARKET

MORTGAGE ORIGINATION PROJECTIONS

Origination volume for 2016 was close to $2.0 trillion to close out the year. 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, refinance activity is expected to be in the 28-33 percent range, representing a drop from the 47-48 percent range in 2016. Fannie, Freddie, and MBA all forecast 2017 housing starts to total 1.26 to 1.31million units. Home sales forecasts for 2017 range from 5.75-6.37 million, with Freddie predicting a small drop from 2016 levels, while Fannie and MBA are expecting home sales to rise from 2016 levels.

Total Originations and Refinance Shares

Period	Originations ($ billions)			Refi Share (%)		
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	FNMA estimate	FHLMC estimate	MBA estimate
2016 Q1	359	385	350	47	51	47
2016 Q2	489	535	510	41	42	46
2016 Q3	572	590	561	50	47	47
2016 Q4	484	490	470	49	48	51
2017 Q1	355	300	352	46	35	40
2017Q2	431	450	430	31	31	28
2017Q3	422	430	437	28	27	26
2017 Q4	365	325	352	29	20	30
FY 2014	1301	1350	1261	40	39	40
FY 2015	1730	1750	1679	47	45	46
FY 2016	1904	2000	1891	47	47	48
FY 2017	1573	1505	1571	33	28	30
FY 2018	1530	1500	1588	25	20	26

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%, 3.9% and 3.9%, respectively. For 2016, Fannie Mae, Freddie Mac, and MBA project rates of 3.6, 3.7%, and 3.7%, respectively. For 2017, their respective projections are 3.6%, 4.1%, and 4.5%.

Housing Starts and Homes Sales

Year	Housing Starts, thousands			Home Sales. thousands				
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Existing, MBA estimate	New, MBA Estimate
FY 2014	1003	1000	1001	5377	5380	5360	4920	440
FY 2015	1112	1110	1108	5751	5750	5740	5237	503
FY 2016	1174	1160	1172	5973	5970	6017	5448	569
FY 2017	1308	1260	1265	6144	5750	6366	5722	644
FY 2018	1461	1360	1358	6304	6020	6650	5954	696

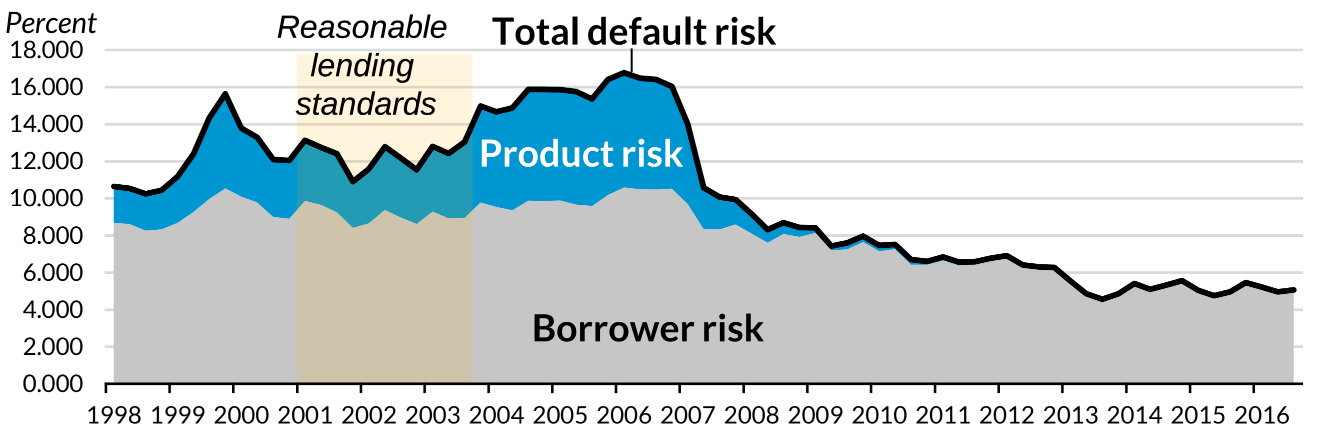
Sources: Mortgage Bankers Association, Fannie Mae, Freddie Mac and Urban Institute.
Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market; column labels indicate source of estimate.

STATE OF THE MARKET

CREDIT AVAILABILITY AND ORIGINATOR PROFITABILITY

Housing Credit Availability Index (HCAI)

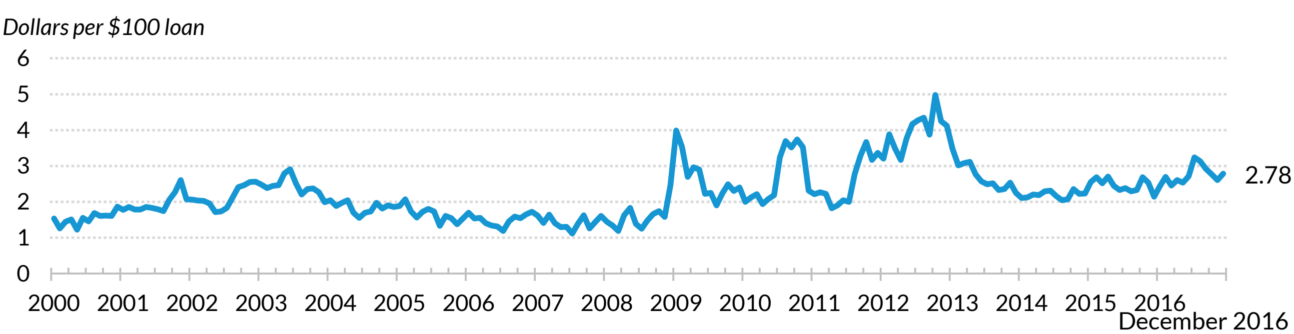
HFPC's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the percentage of owner-occupied purchase loans that are likely to default. The index shows that credit availability edged up from 5.0 to 5.1 in the third quarter of 2016 (Q3 2016), reversing the declining trend in the first half of 2016. The measure is less than half of the 2001-2003 standard of 12.5 percent. HCAI is likely to go up with the post-election spike in interest rate, as lender may expand the credit box when origination volumes drop. More information about the HCAI, including the breakdown by market segment, is available here.



Sources: eMBS, Corelogic, HMDA, IMF, and Urban Institute.
Note: All series measure the first-time homebuyer share of purchase loans for principal residences.

Originator Profitability and Unmeasured Costs

When originator profitability is high, mortgage rates tend to be less responsive to the general level of interest rates, as originators are capacity-constrained. The measure used here, Originator Profitability and Unmeasured Costs (OPUC), is formulated and calculated by the Federal Reserve Bank of New York. It looks at the price at which the originator actually sells the mortgage into the secondary market and adds the value of retained servicing (both base and excess servicing, net of g-fees) as well as points paid by the borrower. Driven by the post-Brexit decline in interest rates, this measure rose sharply to $3.21 in July 2016, but is down to $2.8 in December 2016. It could fall further in the months ahead, as refi activity is choked off and volumes decline.



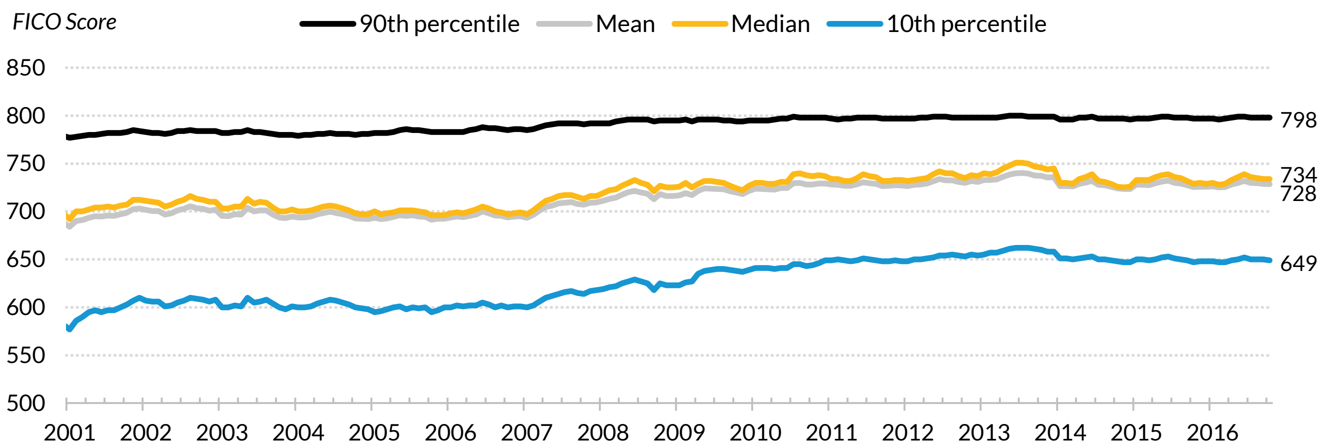
Sources: Federal Reserve Bank of New York, updated monthly and available at this link: http://www.ny.frb.org/research/epr/2013/1113fust.html and Urban Institute.
Note: OPUC stands for "originator profits and unmeasured costs" as discussed in Fuster et al. (2013).
The OPUC series is a monthly (4-week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

STATE OF THE MARKET

CREDIT AVAILABILITY FOR PURCHASE LOANS

Access to credit has become extremely tight, especially for borrowers with low FICO scores. The mean and median FICO scores on new originations have both drifted up about 35 and 37 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 649 as of October 2016. Prior to the housing crisis, this threshold held steady in the low 600s. LTV levels at origination remain relatively high, averaging 87, which reflects the large number of FHA purchase originations.

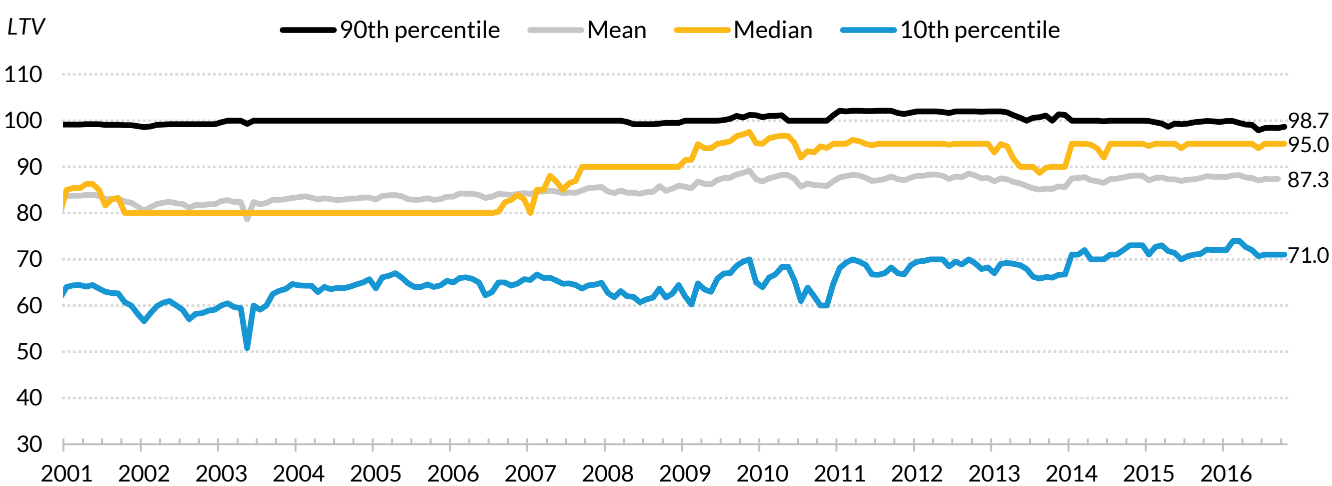
Borrower FICO Score at Origination



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

October 2016

Combined LTV at Origination

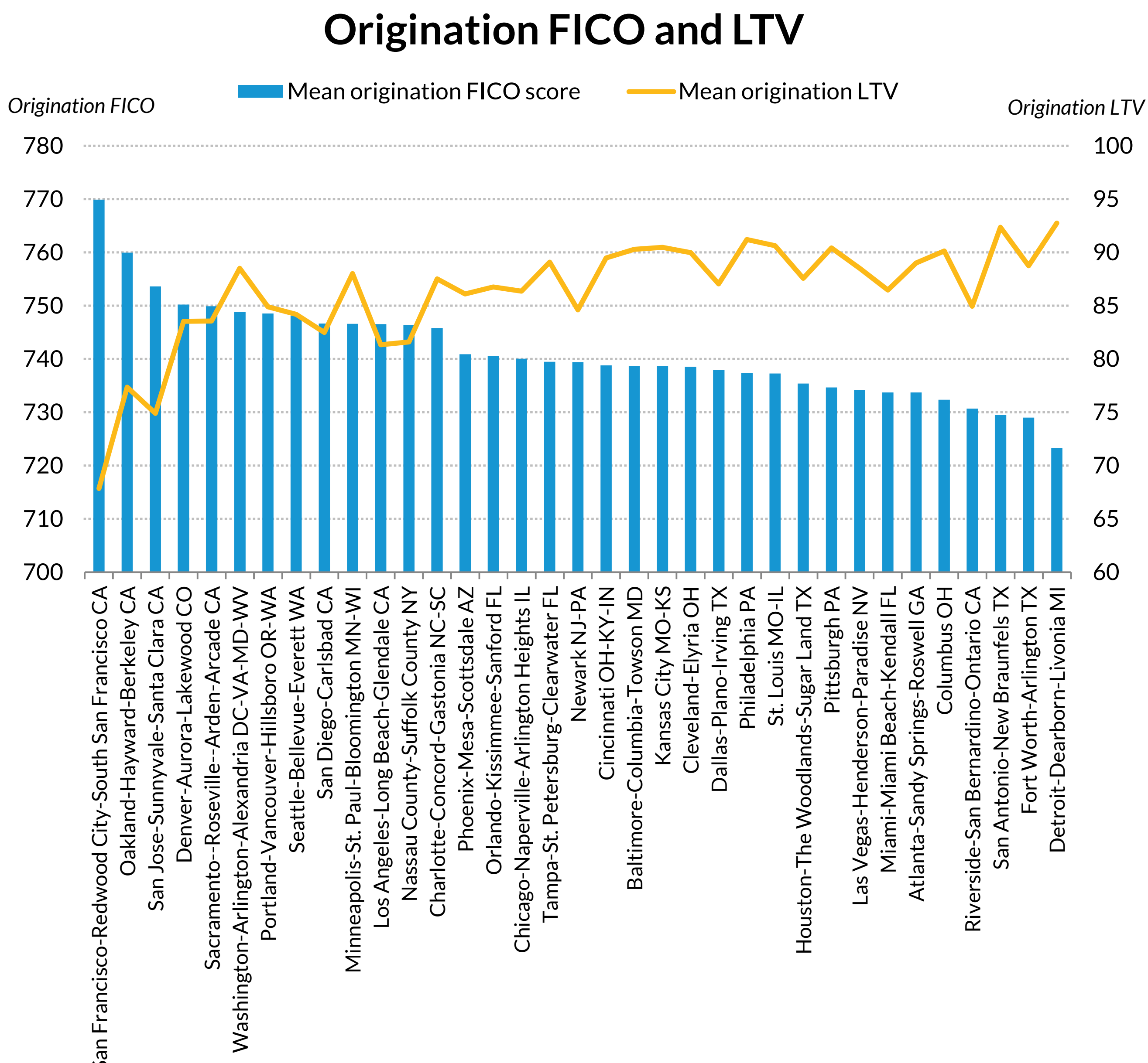


October 2016

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

CREDIT AVAILABILITY FOR PURCHASE LOANS

Credit has been tight for all borrowers with less-than-stellar credit scores--especially in MSAs with high housing prices. For example, the mean origination FICO for borrowers in San Francisco- Redwood City- South San Francisco, CA is 770, while in Detroit-Dearborn-Livonia, MI it is 723. Across all MSAs, lower average FICO scores tend to be correlated with high average LTVs, as these MSAs rely heavily on FHA/VA financing.



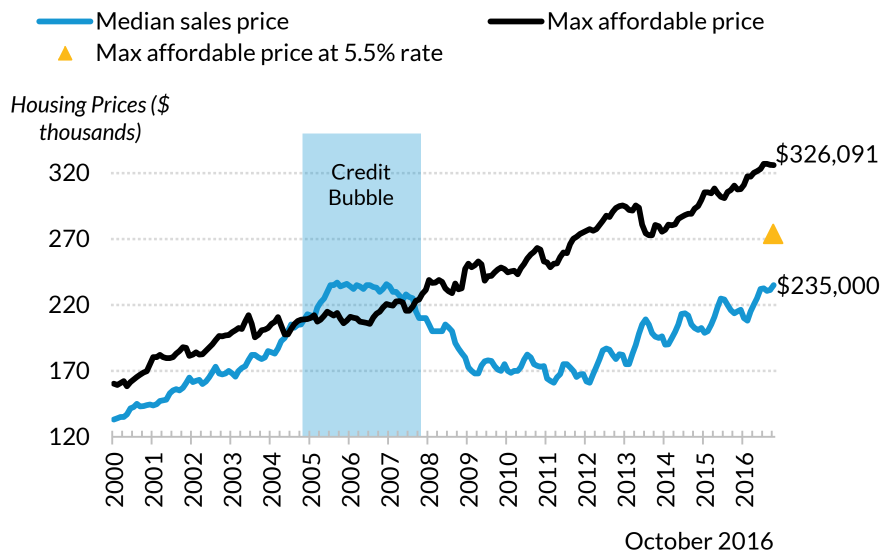
Sources: Corelogic, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes owner-occupied purchase loans only. Data as of October 2016.

STATE OF THE MARKET
HOUSING AFFORDABILITY

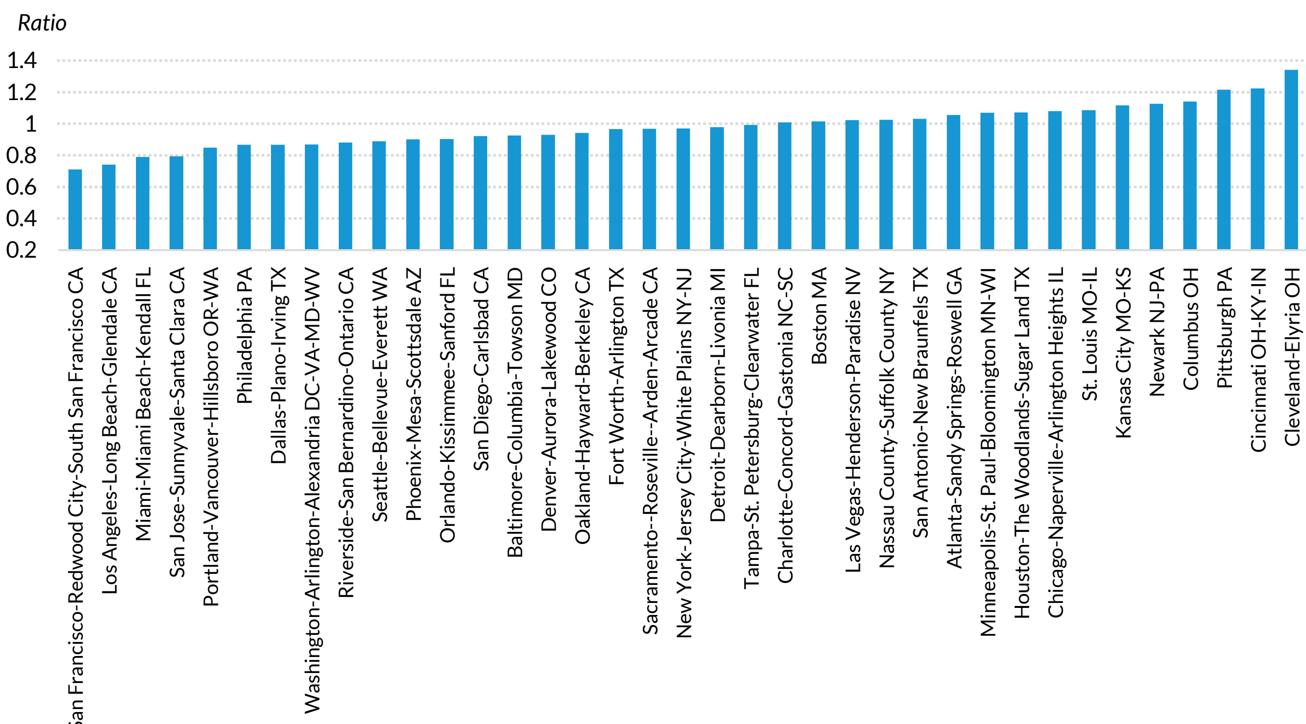
National Housing Affordability Over Time

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

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



Affordability Adjusted for MSA-Level DTI

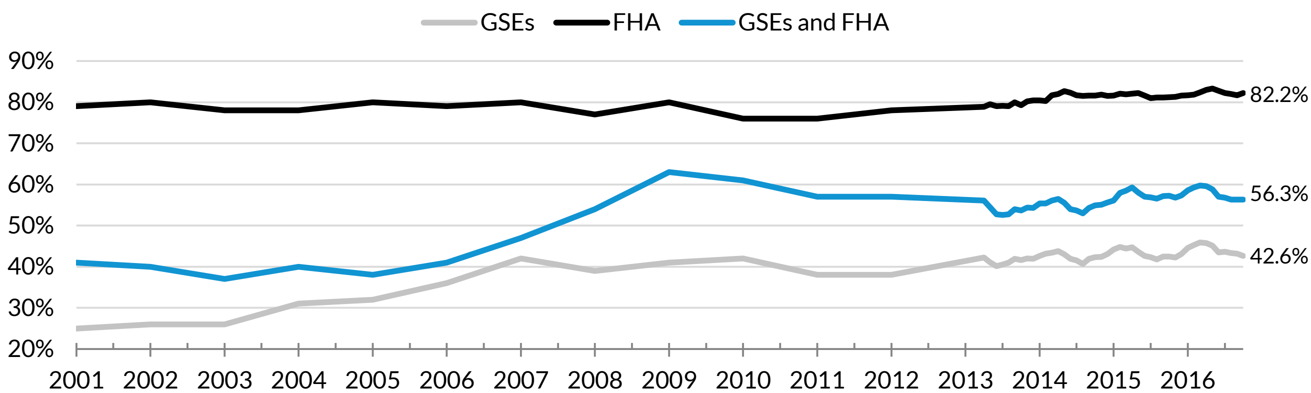


Sources: CoreLogic, US Census, Freddie Mac and Urban Institute calculations based on NAR methodology.
Note: Index is calculated relative to home prices in 2000-03. A ratio above 1 indicates higher affordability in October 2016 than in 2000-03.

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In October 2016, the first-time homebuyer share of GSE purchase loans continued to edge down slowly to 42.6 percent. The FHA has always been more focused on first-time homebuyers, with its first-time homebuyer share hovering around 80 percent and now stood at 82.2 percent in October 2016, down from the peak of 83.3 percent in May 2016. The bottom table shows that based on mortgages originated in October 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.



October 2016

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 ($)	234,647	253,160	199,764	216,612	216,631	244,869
Credit Score	741.9	756.4	677.7	685.0	708.8	740.2
LTV (%)	86.5	79.1	95.5	94.2	90.6	82.0
DTI (%)	33.7	34.4	41.5	42.2	37.7	36.2
Loan Rate (%)	3.70	3.60	3.69	3.62	3.69	3.60

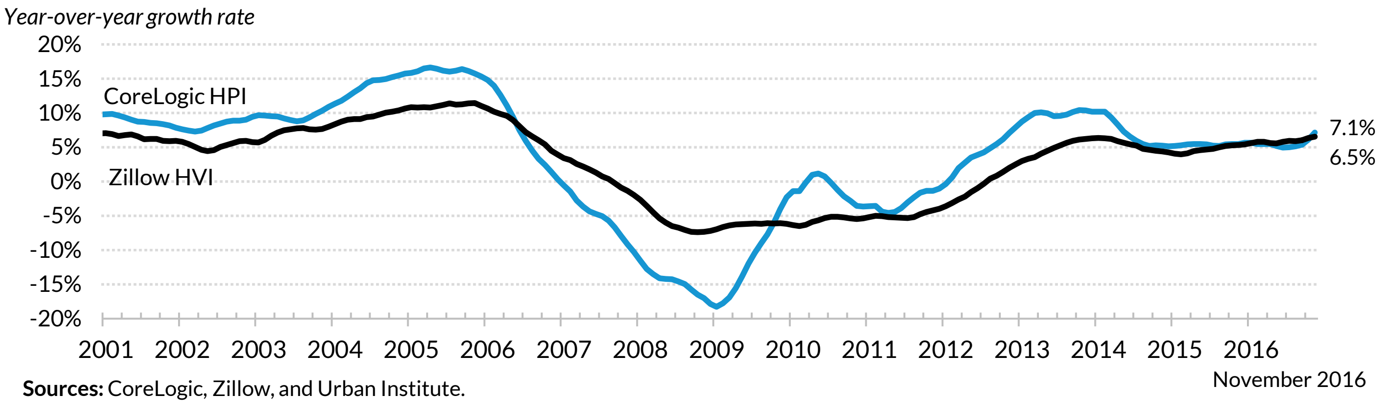
Sources: eMBS and Urban Institute.
Note: Based on owner-occupied purchase mortgages originated in October 2016.

STATE OF THE MARKET

HOME PRICE INDICES

National Year-Over-Year HPI Growth

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



Sources: CoreLogic, Zillow, and Urban Institute.

Changes in CoreLogic HPI for Top MSAs

Despite rising 44 percent from the trough, national house prices still must grow 4.3 percent to reach pre-crisis peak levels. At the MSA level, six of the top 15 MSAs have reached their peak HPI– New York, NY; Atlanta, GA; Houston, TX; Dallas, TX; Seattle, WA and Denver, CO. Two MSAs particularly hard hit by the boom and bust– Phoenix, AZ and Riverside, CA– would need to rise 28 and 30 percent to return to peak levels, respectively.

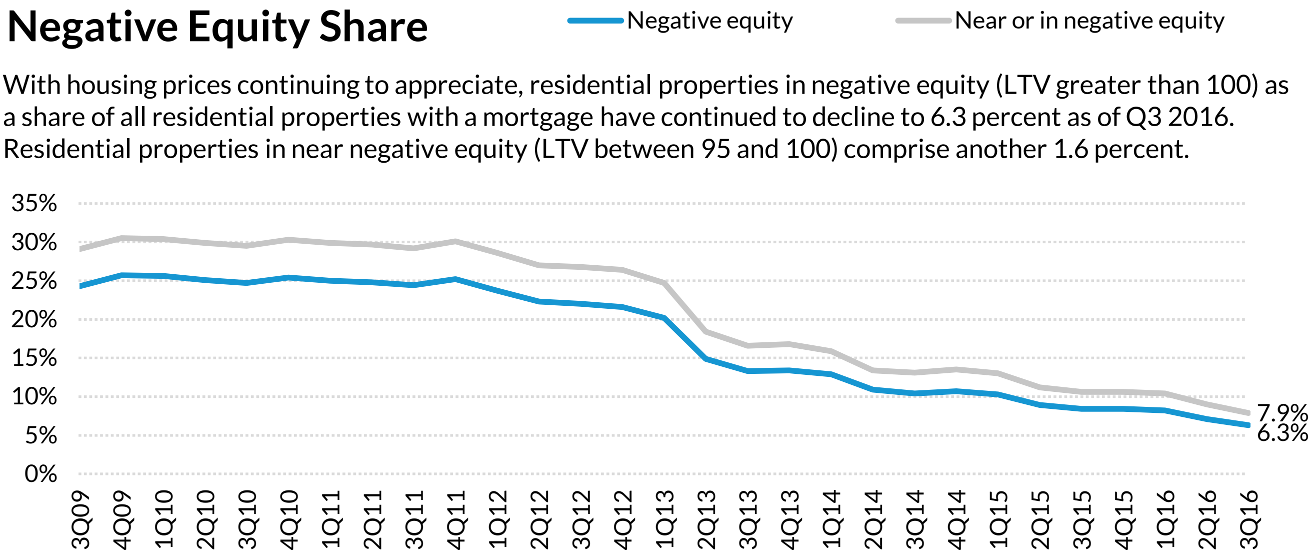
MSA	HPI changes (%)			% Rise needed to achieve peak
	2000 to peak	Peak to trough	Trough to current	
United States	93.7	-33.4	44.0	4.3
New York-Jersey City-White Plains NY-NJ	112.6	-16.6	29.2	-7.2
Los Angeles-Long Beach-Glendale CA	177.4	-38.5	60.1	1.6
Chicago-Naperville-Arlington Heights IL	66.1	-36.0	31.2	19.1
Atlanta-Sandy Springs-Roswell GA	37.9	-33.1	52.3	-1.8
Washington-Arlington-Alexandria DC-VA-MD-WV	155.5	-34.3	33.7	13.9
Houston-The Woodlands-Sugar Land TX	39.7	-14.1	43.2	-18.7
Phoenix-Mesa-Scottsdale AZ	123.8	-52.8	65.6	27.9
Riverside-San Bernardino-Ontario CA	186.3	-52.8	62.9	29.9
Dallas-Plano-Irving TX	34.1	-13.8	50.2	-22.8
Minneapolis-St. Paul-Bloomington MN-WI	73.1	-30.5	37.5	4.6
Seattle-Bellevue-Everett WA	91.0	-29.2	59.6	-11.5
Denver-Aurora-Lakewood CO	35.6	-13.4	63.2	-29.3
Baltimore-Columbia-Towson MD	122.8	-24.6	14.5	15.8
San Diego-Carlsbad CA	145.0	-37.6	51.7	5.7
Anaheim-Santa Ana-Irvine CA	160.9	-35.8	47.7	5.5

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

STATE OF THE MARKET

NEGATIVE EQUITY & SERIOUS DELINQUENCY

Negative Equity Share

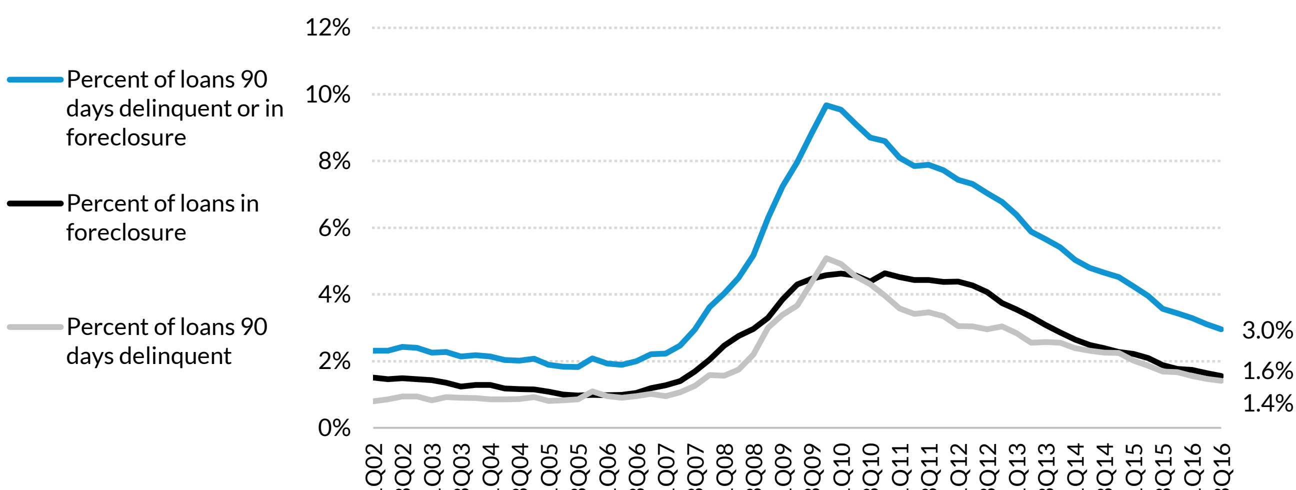


With housing prices continuing to appreciate, residential properties in negative equity (LTV greater than 100) as a share of all residential properties with a mortgage have continued to decline to 6.3 percent as of Q3 2016. Residential properties in near negative equity (LTV between 95 and 100) comprise 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.

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 3.0 percent in the third quarter of 2016, down from 3.6 percent for the same quarter a year earlier.



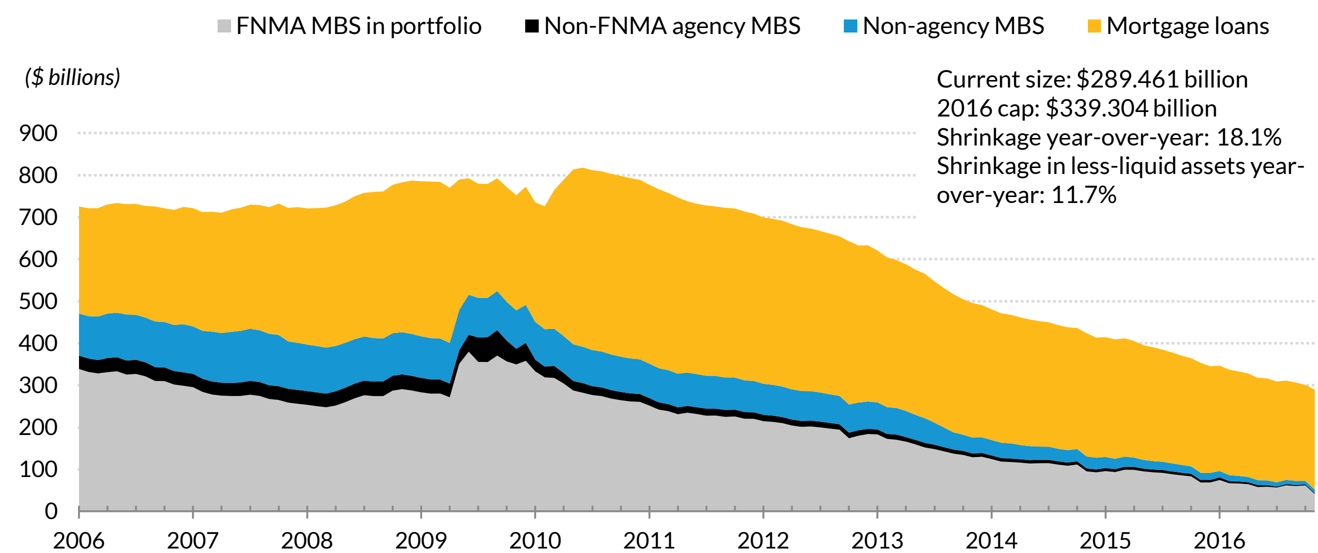
Sources: Mortgage Bankers Association and Urban Institute.

GSES UNDER CONSERVATORSHIP

GSE PORTFOLIO WIND-DOWN

Both GSEs continue to contract their portfolios; since November 2015, Fannie Mae contracted by 18.1 percent and Freddie Mac by 11.9 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. Both GSEs have been under their 2016 caps since first quarter of 2016.

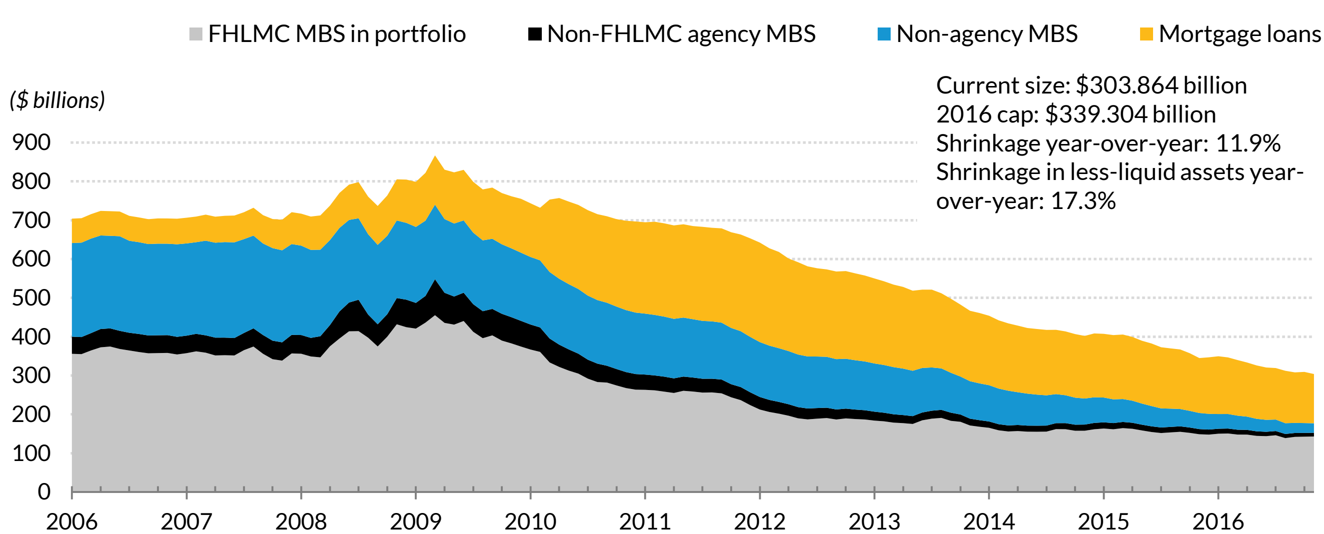
Fannie Mae Mortgage-Related Investment Portfolio Composition



Sources: Fannie Mae and Urban Institute.

November 2016

Freddie Mac Mortgage-Related Investment Portfolio Composition



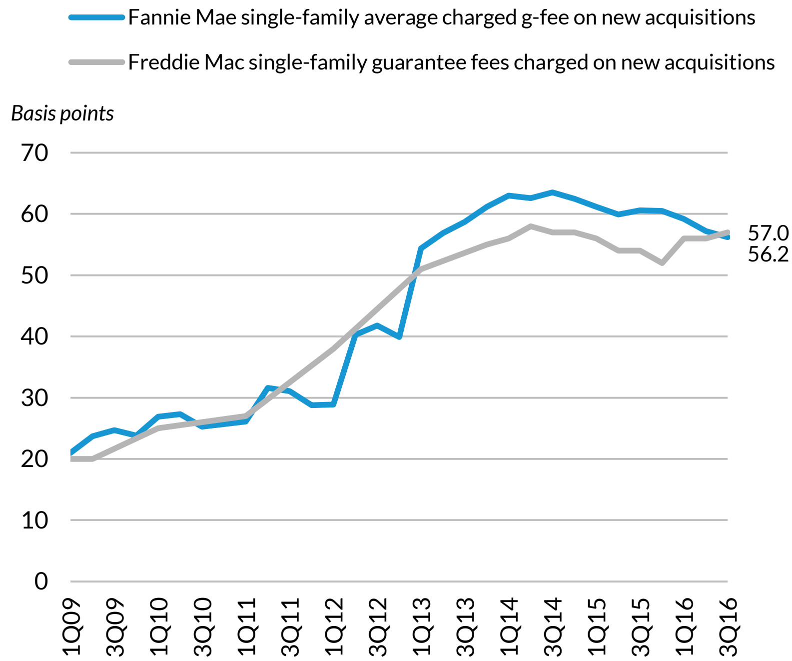
Sources: Freddie Mac and Urban Institute.

November 2016

EFFECTIVE GUARANTEE FEES

Guarantee Fees Charged on New Acquisitions

Fannie's average charged g-fee on new single-family originations edged down to 56.2 bps in Q3 2016, down from 60.6 bps in the same quarter last year. Freddie's fee rose slightly to 57.0 bps in Q3 2016, up slightly from 54.0 bps in Q3 2015. This is still a marked increase over 2012 and 2011, and has contributed to the GSEs' profits. Fannie's new Loan-Level Price Adjustments (LLPAs), effective September 2015, are shown in the second table. The Adverse Market Delivery Charge (AMDC) of 0.25 percent is eliminated, and LLPAs for some borrowers are slightly increased to compensate for the revenue lost from the AMDC. As a result, the new LLPAs have had a modest impact on GSE pricing.



Sources: Fannie Mae, Freddie Mae and Urban Institute.

Fannie Mae Upfront Loan-Level Price Adjustments (LLPAs)

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

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

GSE RISK-SHARING TRANSACTIONS

Fannie Mae and Freddie Mac have been laying off back-end credit risk through CAS and STACR as well as through reinsurance transactions. They have also done a few front-end transactions with originators and experimented with deep MI coverage with private mortgage insurers. 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 24.5% of its outstanding guarantees, while Freddie's STACR covers 34.9%.

Fannie Mae – Connecticut Avenue Securities (CAS)

Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
October 2013	CAS 2013 – C01	$26,756	$675	2.5%
January 2014	CAS 2014 – C01	$29,309	$750	2.6%
May 2014	CAS 2014 – C02	$60,818	$1,600	2.6%
July 2014	CAS 2014 – C03	$78,234	$2,050	2.6%
November 2014	CAS 2014 – C04	$58,873	$1,449	2.5%
February 2015	CAS 2015 – C01	$50,192	$1,469	2.9%
May 2015	CAS 2015 – C02	$45,009	$1,449	3.2%
June 2015	CAS 2015 – C03	$48,326	$1,100	2.3%
October 2015	CAS 2015 – C04	$43,599	$1,446	3.3%
February 2016	CAS 2016 – C01	$28,882	$945	3.3%
March 2016	CAS 2016 – C02	$35,004	$1,032	2.9%
April 2016	CAS 2016 – C03	$36,087	$1,166	3.2%
July 2016	CAS 2016 – C04	$42,179	$1,322	3.1%
August 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%
Total		**$677,575**	**$19,379**	**2.9%**
Percent of Fannie Mae's Total Book of Business		**24.46%**		

Freddie Mac – Structured Agency Credit Risk (STACR)

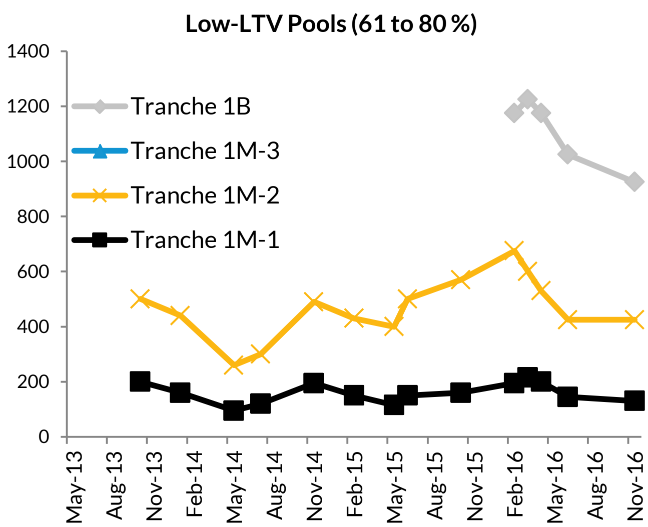
Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
July 2013	STACR Series 2013 – DN1	$22,584	$500	2.2%
November 2013	STACR Series 2013 – DN2	$35,327	$630	1.8%
February 2014	STACR Series 2014 – DN1	$32,077	$1,008	3.1%
April 2014	STACR Series 2014 – DN2	$28,147	$966	3.4%
August 2014	STACR Series 2014 – DN3	$19,746	$672	3.4%
August 2014	STACR Series 2014 – HQ1	$9,975	$460	4.6%
September 2014	STACR Series 2014 – HQ2	$33,434	$770	2.3%
October 2014	STACR Series 2014 – DN4	$15,741	$611	3.9%
October 2014	STACR Series 2014 – HQ3	$8,001	$429	5.4%
February 2015	STACR Series 2015 – DN1	$27,600	$880	3.2%
March 2015	STACR Series 2015 – HQ1	$16,552	$860	5.2%
April 2015	STACR Series 2015 – DNA1	$31,876	$1,010	3.2%
May 2015	STACR Series 2015 – HQ2	$30,325	$426	1.4%
June 2015	STACR Series 2015 – DNA2	$31,986	$950	3.0%
September 2015	STACR Series 2015 – HQA1	$19,377	$872	4.5%
November 2015	STACR Series 2015 – DNA3	$34,706	$1,070	3.1%
December 2015	STACR Series 2015 – HQA2	$17,100	$590	3.5%
January 2016	STACR Series 2016 – DNA1	$35,700	$996	2.8%
March 2016	STACR Series 2016 – HQA1	$17,931	$475	2.6%
May 2016	STACR Series 2016 – DNA2	$30,589	$916	3.0%
May 2016	STACR Series 2016 – HQA2	$18,400	$627	3.4%
June 2016	STACR Series 2016 – DNA3	$26,400	$795	3.0%
September 2016	STACR Series 2016 – HQA3	$15,709	$515	3.3%
September 2016	STACR Series 2016 – DNA4	$24,845	$739	3.0%
October 2016	STACR Series 2016 - HQA4	$13,847	$478	3.5%
Total		**$613,683**	**$18,245**	**3.0%**
Percent of Freddie Mac's Total Book of Business		**34.87%**		

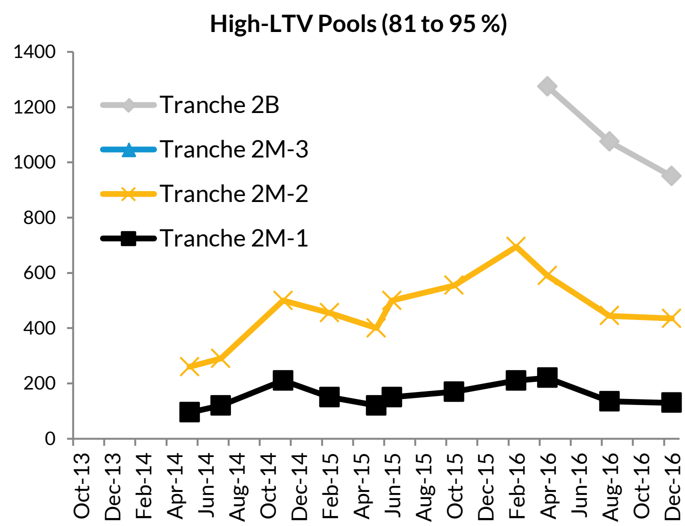
Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Classes A-H, M-1H, M-2H, and B-H are reference tranches only. These classes are not issued or sold. The risk is retained by Fannie Mae and Freddie Mac. "CE" = credit enhancement.

GSE RISK-SHARING SPREADS

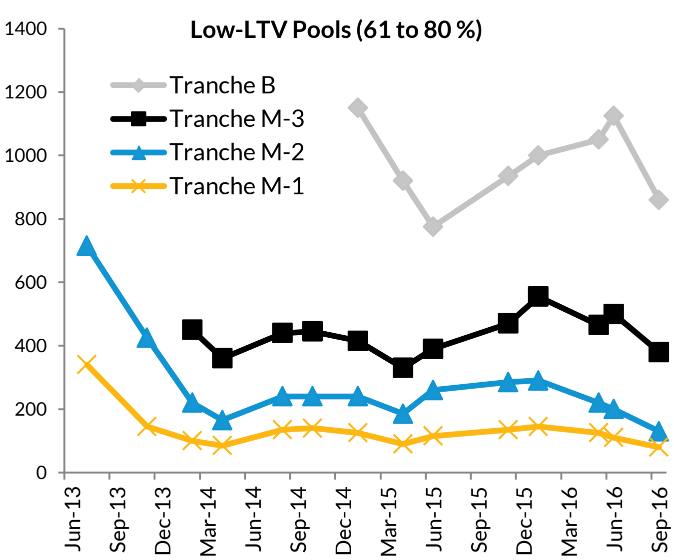
CAS and STACR spreads have moved around considerably since 2013, with the bottom mezzanine tranche and the first loss bonds experiencing considerably more volatility than the top mezzanine bonds (the M-1 in two tranche deals, the M-1 and M-2 in three tranche deals). Tranche B in particular has been highly volatile because of its first loss position. Spreads widened especially during Q1 2016 due to falling oil prices, concerns about global economic growth and the slowdown in China. Since then spreads have resumed their downward trend but remain volatile.

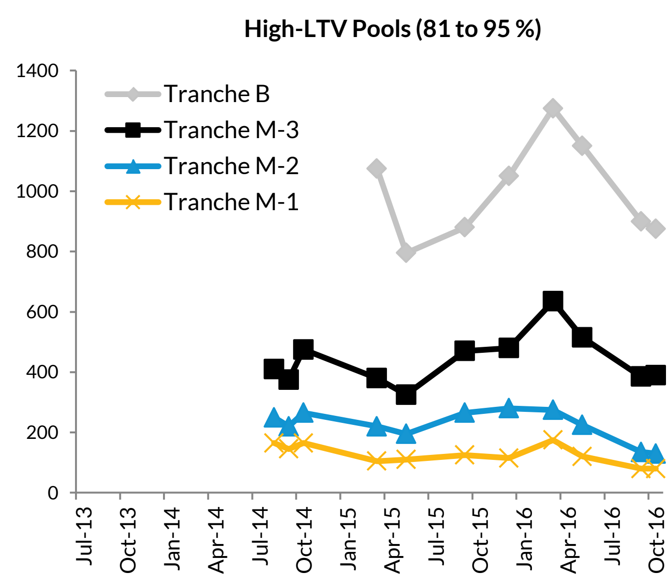
Fannie Mae CAS Spreads at-issuance (basis points over 1-month LIBOR)





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



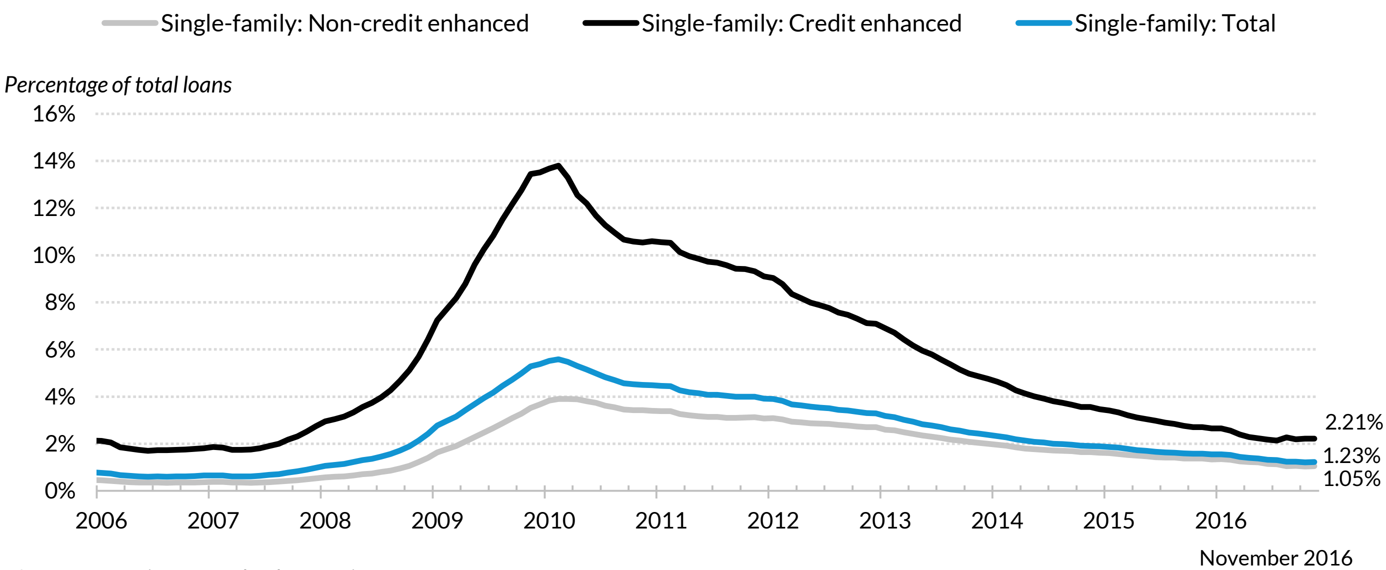


Sources: Fannie Mae, Freddie Mac Press Releases and Urban Institute.

GSES UNDER CONSERVATORSHIP
SERIOUS DELINQUENCY RATES

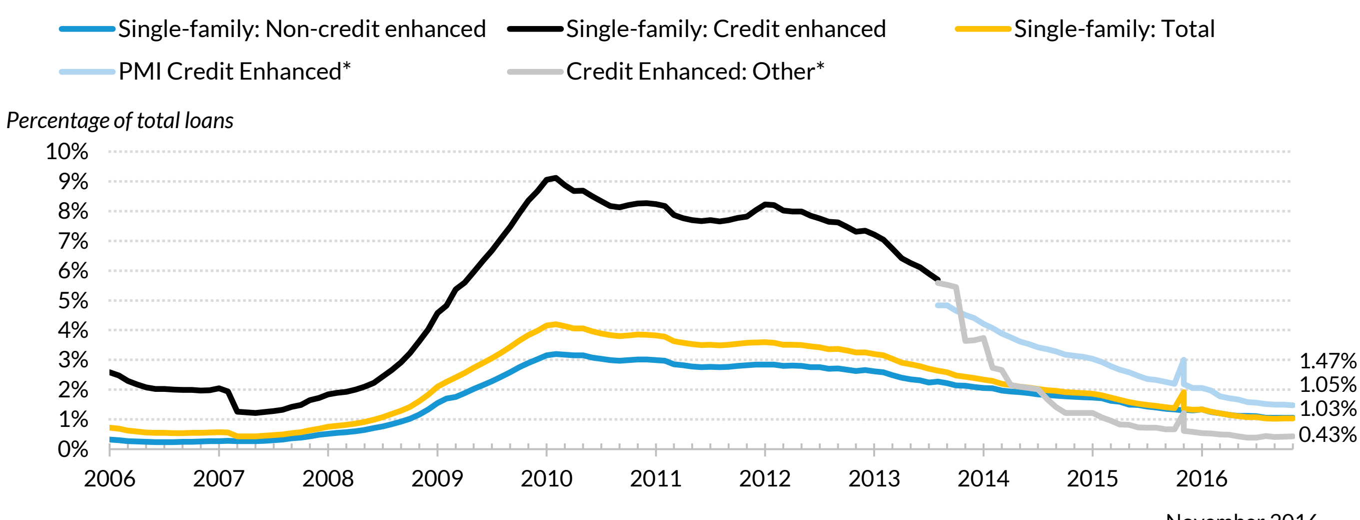
Serious delinquency rates of GSE loans continue to decline as the legacy portfolio is resolved and the pristine, post-2009 book of business exhibits very low default rates. As of November 2016, 1.23 percent of the Fannie portfolio and 1.03 percent of the Freddie portfolio were seriously delinquent, down from 1.58 percent for Fannie and 1.36 percent for Freddie in November 2015.

Serious Delinquency Rates–Fannie Mae



Sources: Fannie Mae and Urban Institute.

Serious Delinquency Rates–Freddie Mac

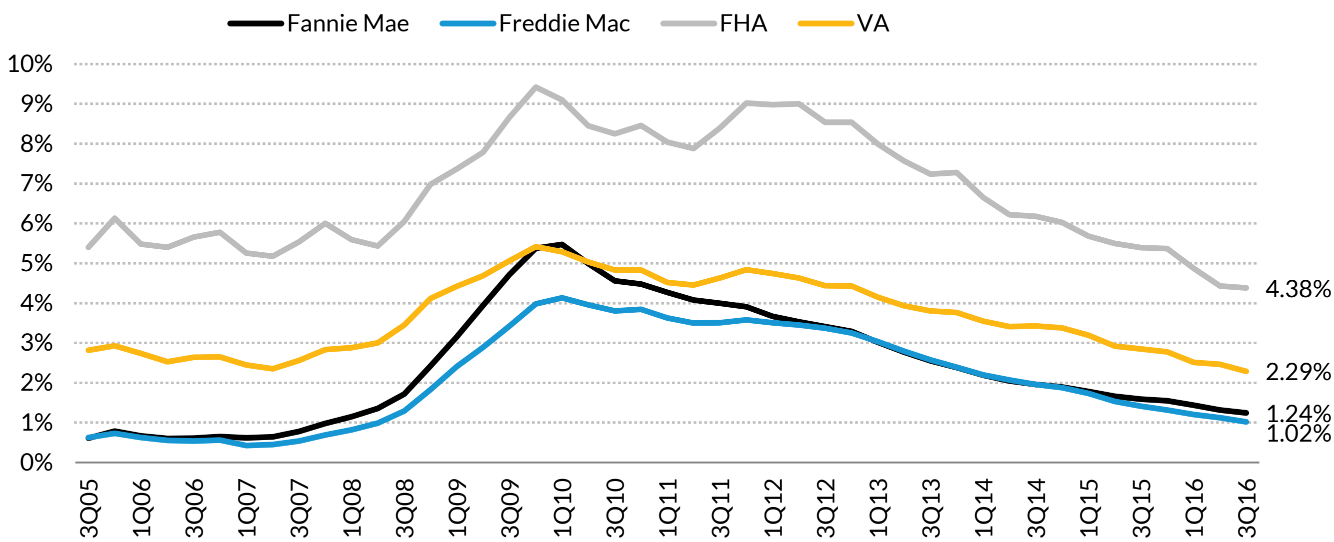


Sources: Freddie Mac and Urban Institute.
Note*: Following a change in Freddie reporting in September 2014, we switched from reporting credit enhanced delinquency rates to PMI and other credit enhanced delinquency rates. Freddie reported these two categories for credit-enhanced loans going back to August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

SERIOUS DELINQUENCY RATES

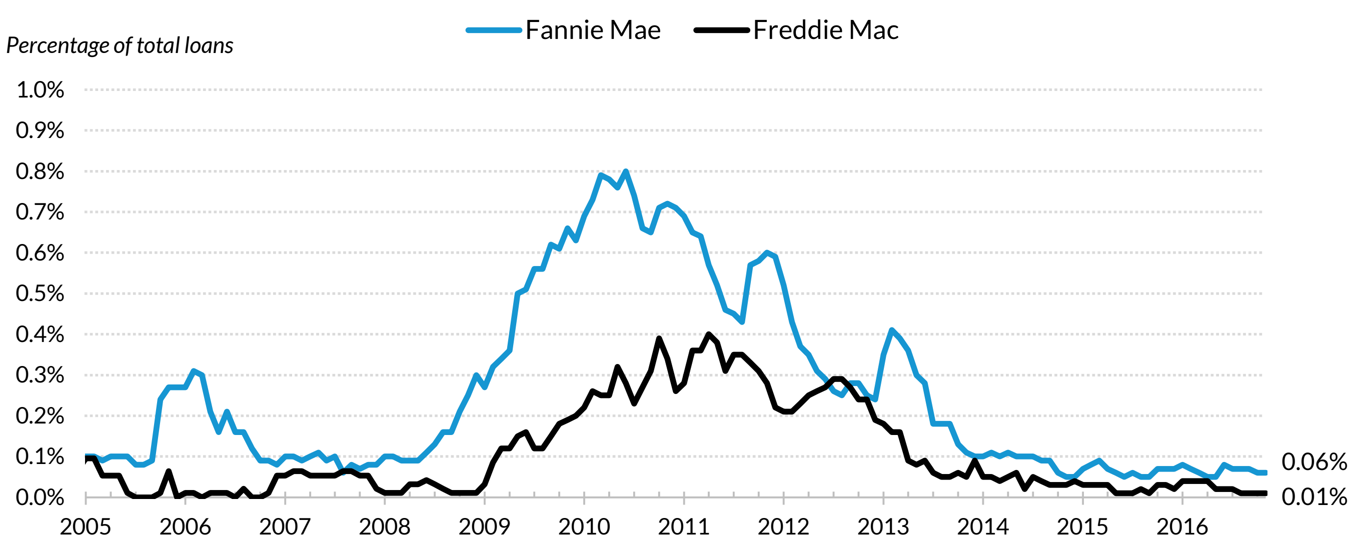
Serious delinquencies for FHA, VA and GSE single-family loans continue to decline. GSE delinquencies remain higher relative to 2005-2007, while FHA and VA delinquencies (which are higher than their GSE counterparts) are now at levels lower than 2005-2007. GSE multifamily delinquencies have declined to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

Serious Delinquency Rates–Multifamily GSE Loans



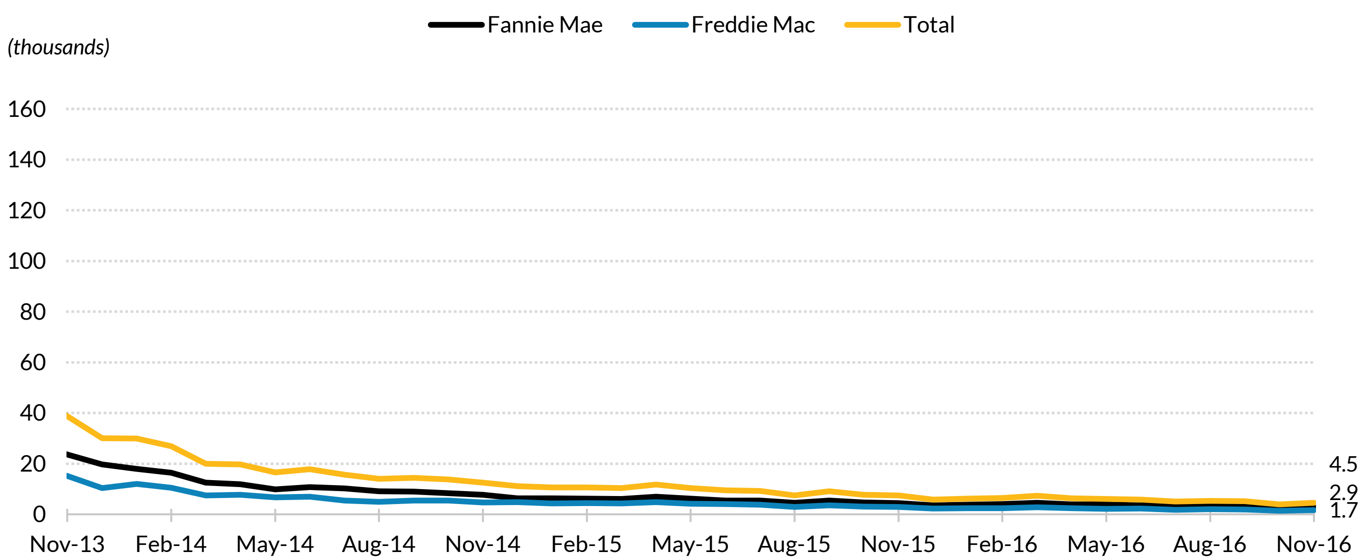
November 2016

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, reflecting the considerable number of borrowers who have already refinanced. Since the program's Q2 2009 inception, HARP refinances total 3.4 million, accounting for 14 percent of all GSE refinances in this period. In November 2016, the latest month for which data is available, HARP refinances accounted for 2.1 percent of total refinances.

Total HARP Refinance Volume



Sources: FHFA Refinance Report and Urban Institute.

HARP Refinances

	November 2016	Year-to-date 2016	Inception to date	2015	2014	2013
Total refinances	250,534	2,073,768	24,567,741	2,084,936	1,536,788	4,081,911
Total HARP refinances	5,204	62,410	3,442,967	110,109	212,488	892,914
Share 80–105 LTV	78.4%	79.5%	70.3%	76.5%	72.5%	56.4%
Share 105–125 LTV	15.2%	14.1%	17.1%	15.6%	17.2%	22.4%
Share >125 LTV	6.4%	6.4%	12.6%	8.0%	10.3%	21.2%
All other streamlined refinances	13,881	147,633	3,887,121	218,244	268,026	735,210

Sources: FHFA Refinance Report and Urban Institute.

GSES UNDER CONSERVATORSHIP

GSE LOANS: POTENTIAL REFINANCES

To qualify for HARP, a loan must be originated before the June 2009 cutoff date, have a marked-to-market loan-to-value (MTM LTV) ratio above 80, and have no more than one delinquent payment in the past year and none in the past six months. There are 244,989 eligible loans, but 52 percent are out-of-the-money because the closing cost would exceed the long-term savings, leaving 116,637 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 4,786,796 loans in this category, 3,422,766 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	27,209,111
Loans that do not meet pay history requirement	1,208,505
Loans that meet pay history requirement:	26,000,606
Pre-June 2009 origination	5,031,785
Post-June 2009 origination	20,968,821

Loans Meeting HARP Pay History Requirements

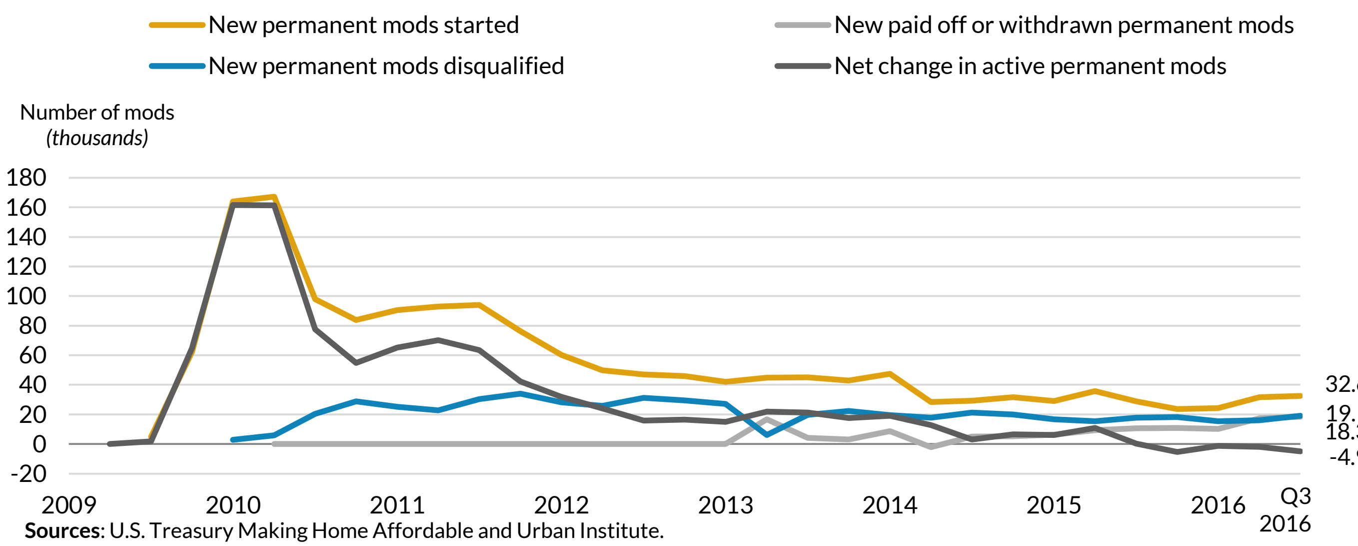
Pre-June 2009			
LTV category	*In-the-money*	*Out-of-the-money*	*Total*
≤80	3,422,766	1,364,031	4,786,796
>80	116,637	128,352	244,989
Total	3,539,403	1,492,382	5,031,785
Post-June 2009			
LTV category	*In-the-money*	*Out-of-the-money*	*Total*
≤80	1,254,607	17,227,802	18,482,409
>80	162,229	2,324,182	2,486,411
Total	1,416,836	19,551,984	20,968,821

Sources: CoreLogic Prime Servicing as of November 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. The December PMMS rate of 4.20 percent was used to calculate this table.

MODIFICATION ACTIVITY
HAMP ACTIVITY

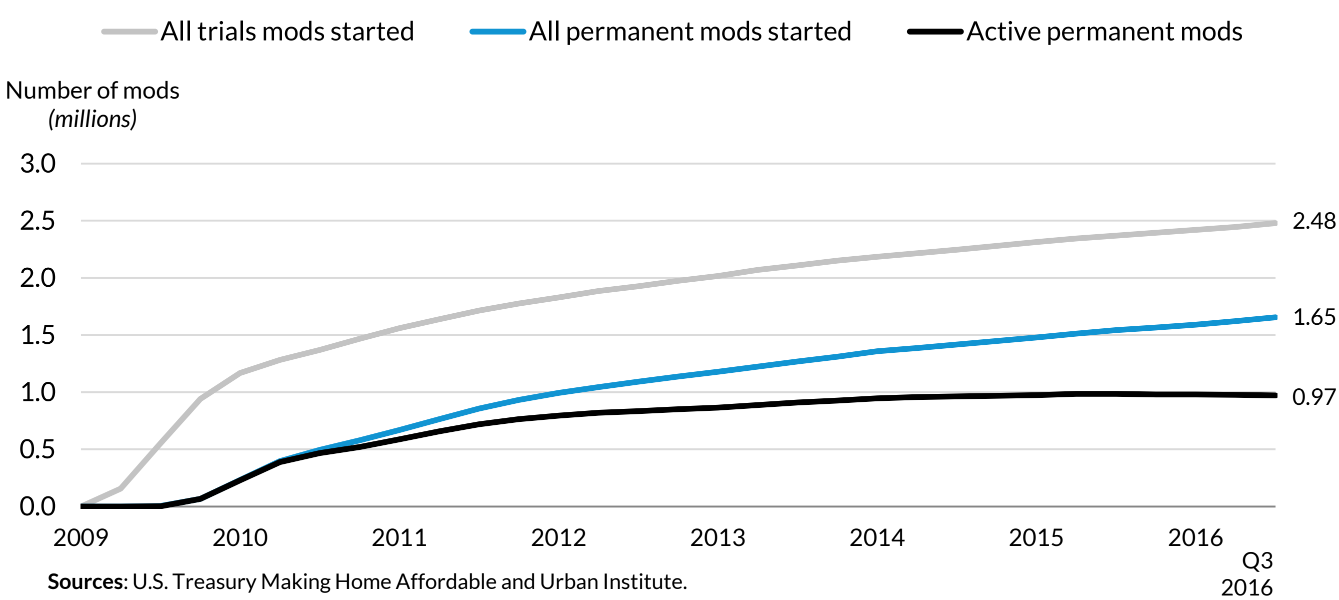
In Q3 2016, the number of active permanent modifications continued to fall by 4,870 mortgages, the third consecutive quarter with a decline since Q4 2015. There are three factors behind this change: Fewer new permanent modifications were made, some modifications failed because the borrowers did not make their payments, and a small number of borrowers either paid off their mortgage or withdrew their application. As a result, active permanent mods declined to 0.97 million. HAMP sunset at year-end 2016; no new loans will be considered. Borrowers who submitted an initial package or are in a trial modification at the time of the sunset may still receive a HAMP mod.

New HAMP Modications



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

Cumulative HAMP Modifications



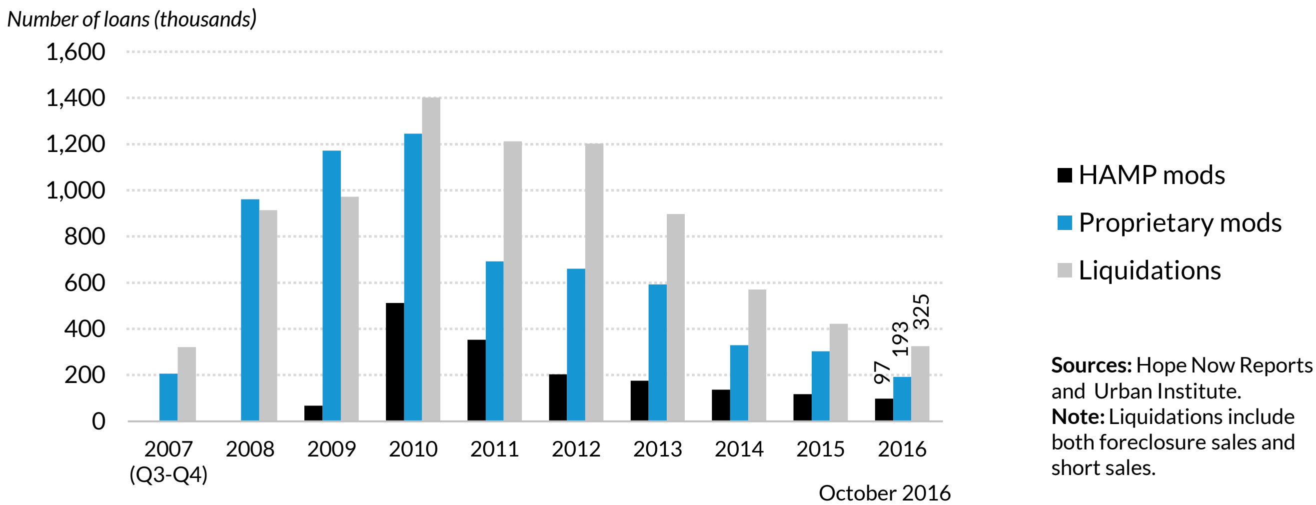
Sources: U.S. Treasury Making Home Affordable and Urban Institute.

MODIFICATION ACTIVITY

MODIFICATIONS AND LIQUIDATIONS

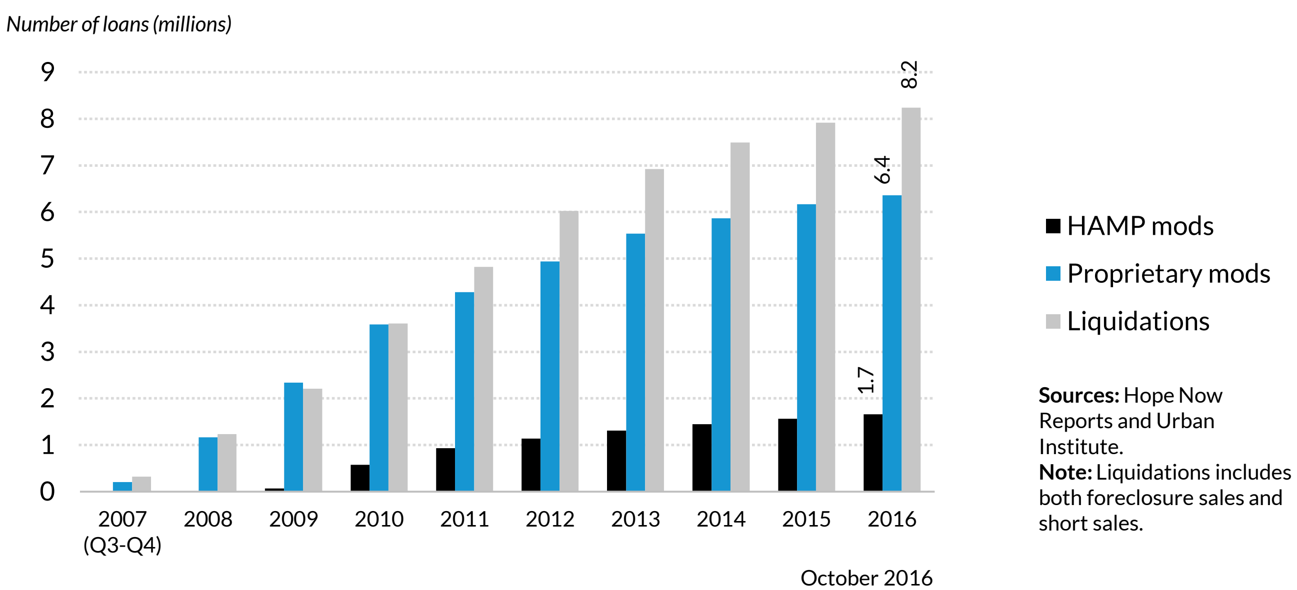
Total modifications (HAMP and proprietary) are now roughly equal to total liquidations. Hope Now reports show 8,020,615 borrowers have received a modification since Q3 2007, compared with 8,240,984 liquidations in the same period. Averaging 31,860 modifications per month in the first ten months of 2016, modification activity slowed significantly over the past few years. Liquidations have also continued to decline, averaging 32,522 per month in the first ten months of 2016 compared to 36,129 per month in the same period a year ago.

Loan Modifications and Liquidations



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

Cumulative Modifications and Liquidations



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

AGENCY GROSS AND NET ISSUANCE

The agency gross issuance totaled $1,499.8 billion in 2016, a 17 percent increase year-over-year. Net issuance (which excludes repayments, prepayments, and refinances on outstanding mortgages) remained low, but was up 54 percent compared to a year ago. Agency issuance is expected to decline in the next few months, as the sharp increase in interest rates since the Election Day will significantly slash the refinance originations, which accounted for 55 percent of GSE gross issuance volume and 39 percent of Ginnie Mae's volume 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	$991.59	$508.18	$1,499.77
%Change year-over-year	17.2%	16.5%	17.0%

Agency Net Issuance

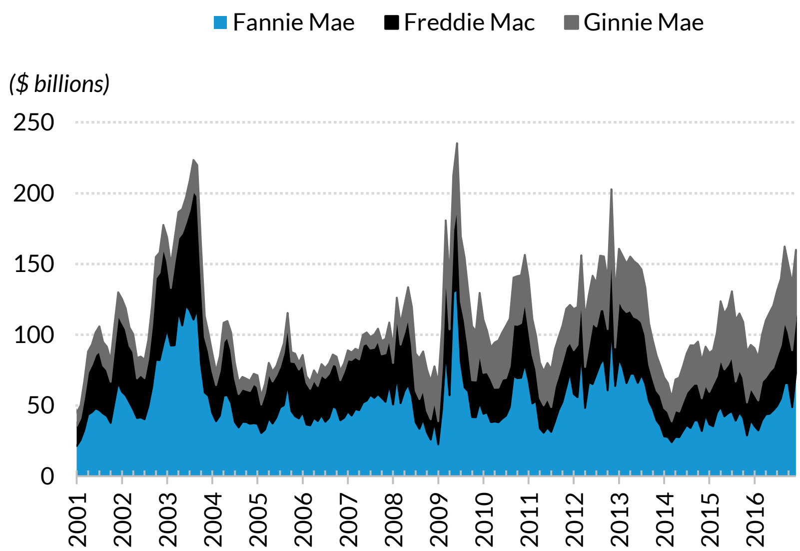
Issuance Year	GSEs	Ginnie Mae	Total
2000	$159.8	$29.3	$189.1
2001	$367.8	-$9.9	$357.9
2002	$357.6	-$51.2	$306.4
2003	$335.0	-$77.6	$257.4
2004	$83.3	-$40.1	$43.2
2005	$174.4	-$42.2	$132.1
2006	$313.6	$0.3	$313.8
2007	$514.7	$30.9	$545.5
2008	$314.3	$196.4	$510.7
2009	$249.5	$257.4	$506.8
2010	-$305.5	$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	$135.4	$125.4	$260.9
%Change year-over-year	80.62%	32.23%	53.59%

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

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

While government and GSE lending have dominated the mortgage market since the crisis, there has been a change in the mix. The Ginnie Mae share reached a peak of 28 percent of total agency issuance in 2010, declined to 25 percent in 2013, and has bounced back sharply since then. The Ginnie Mae issuance stood at 29 percent in December 2016, driven by the surge in FHA refinance activity with the 2015 reduction in the FHA insurance premium, and increased VA volumes. The sharp interest rate increase since the Election Day is expected to drive the Ginnie Mae share even higher, since 39 percent of Ginnie Mae's volumes were refinance in 2016, compared to GSEs' 55 percent.

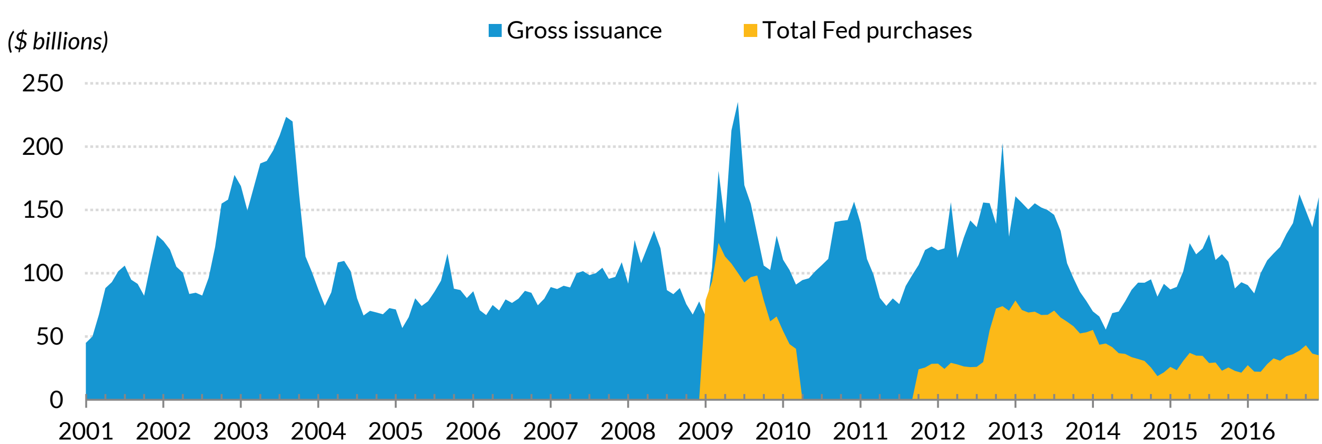


Sources: eMBS, Federal Reserve Bank of New York, and Urban Institute.

December 2016

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 December 2016, total Fed purchase contracted slightly to $35.2 billion while agency gross issuance expand to $160.0 billion, yielding Fed absorption of gross issuance of 22.0 percent, down from 26.8 percent last month.



December 2016

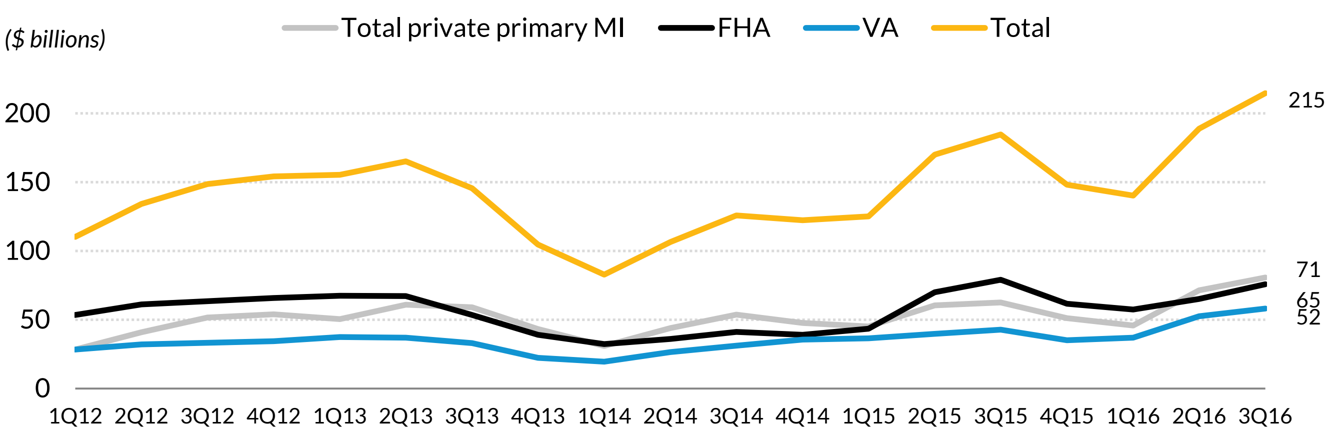
Sources: eMBS, Federal Reserve Bank of New York and Urban Institute.

AGENCY ISSUANCE

MORTGAGE INSURANCE ACTIVITY

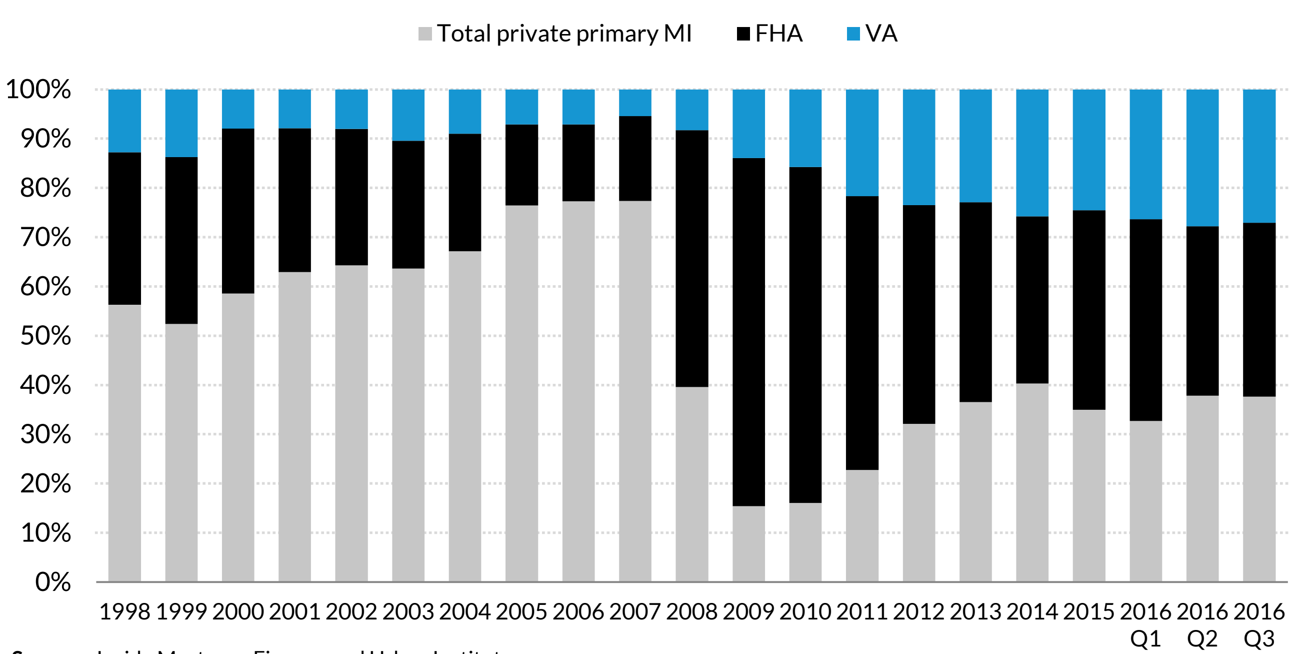
MI Activity

In Q3 2016, mortgage insurance activity via the FHA, VA and private insurers rose significantly to $215 billion, up from last quarter's $189 billion and up 11 percent year-over-year from the same quarter in 2015. FHA's Q3 2016 market share (35 percent) remained largely unchanged from last quarter, and the private insurance market's share remained steady as well (38 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 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. Since the FHA's insurance premium cut in early 2017 was stayed by the incoming administration, we are using old pricing for this section.

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	4.39%
FHA	4.22%

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	$1,374	$1,374	$1,374	$1,374	$1,374	$1,374	$1,374	$1,374
PMI	$1,761	$1,698	$1,654	$1,531	$1,481	$1,426	$1,379	$1,339
PMI Advantage	($387)	($324)	($280)	($157)	($107)	($52)	($5)	$35

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.

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