

Global Markets Analysis Report

A MONTHLY PUBLICATION OF GINNIE MAE'S
OFFICE OF CAPITAL MARKETS



PREPARED FOR GINNIE MAE
BY STATE STREET GLOBAL ADVISORS
URBAN INSTITUTE, HOUSING FINANCE POLICY CENTER

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HIGHLIGHTS

Low Delinquency Rates in a Rising Rate Environment

After climbing steeply during the housing crisis, the serious delinquency rate (defined as the share of mortgages more than 90 days delinquent or in foreclosure) has come down steadily (page 11). The decline is occurring across the board – mortgages backed by the government (through FHA and VA) as well as those backed by Fannie Mae and Freddie Mac have seen their delinquency rates drop after peaking in 2009-10.

However, there is one important distinction. The current serious delinquency rates for mortgages backed by Fannie Mae and Freddie Mac (1.2 and 1 percent respectively) remain well above pre-crisis levels (0.98 percent for Fannie and 0.67 percent for Freddie in 2007). In comparison, the default rates for government-backed mortgages are either at or below 2007 levels. For FHA mortgages, the current default rate of 4.56 percent is not only well below the 5 to 6 percent range observed in 2007 but also the lowest since 2001-02. VA's current serious delinquency rate of 2.4 percent is at 2007 levels.

Lower default rates and a creditworthy borrowers profile overall are undoubtedly positive for MBS investors as it reduces default related prepayments. At the same time, investors have been exposed to elevated risk of refinance related prepayments over the last several years because of historically low mortgage rates. The recent creep up of rates has reduced that risk. As investors look to the future, the combination of continued lower delinquencies and expected increases in mortgage rates should further mitigate prepayment risk.

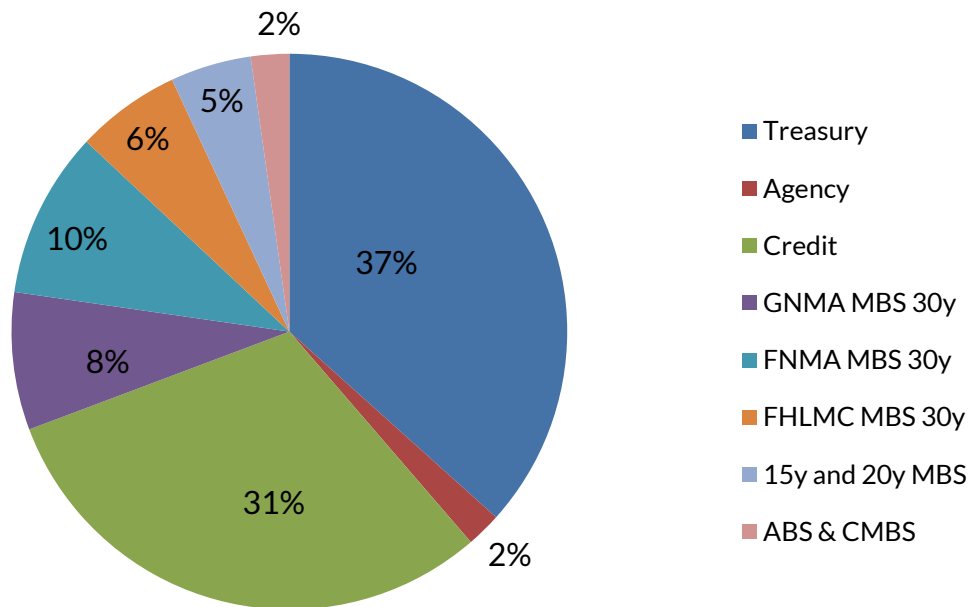
Highlights this month:

- With the decline in US rates in April, US MBS looks less attractive versus both the JGB and Bund (Pages 7-8).
- For refinance loans, median FICO scores have declined and median DTIs have crept up in recent months (Pages 26 and 28).
- The non-bank originator share of the Ginnie Mae market went up to 78 percent in March 2017, after a February dip (Page 29).
- Since June 2016, Taiwan and Japan have expanded their holdings of agency MBS while China has contracted (Page 45).

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

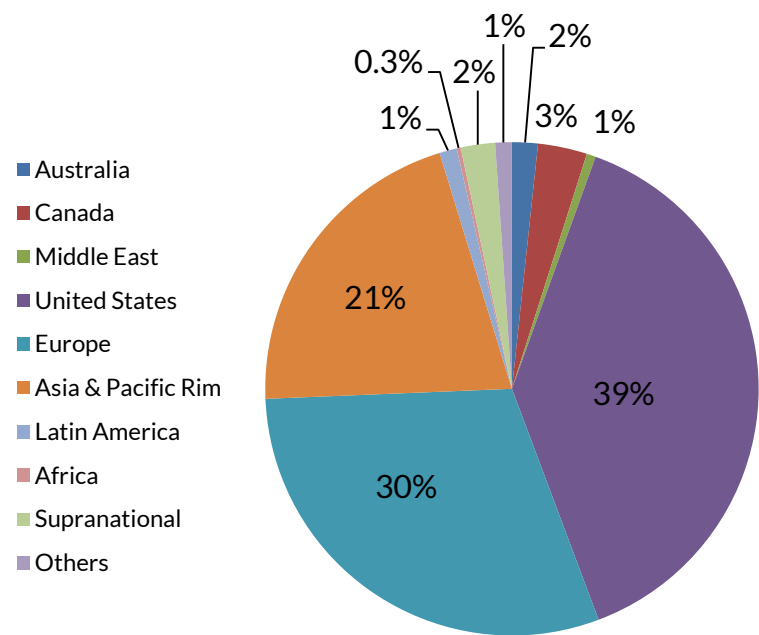
US MBS comprise 29 percent of the Barclays US Aggregate Index-- marginally less than either the US Treasury share (37%) or the US Credit share (31%). Fannie Mae 30-year MBS comprises the largest percent of US MBS (10%), while Ginnie Mae 30-year MBS and Freddie Mac 30-year MBS comprise 8 percent and 6 percent of the market, respectively. Mortgages with terms of 15- and 20- year comprise the balance (5%) of the US MBS share. US securities are the largest single contributor to the Barclays Global Aggregate, accounting for 39 percent of the global total. US MBS comprises 12 percent of the global aggregate.

Barclays US Aggregate Index



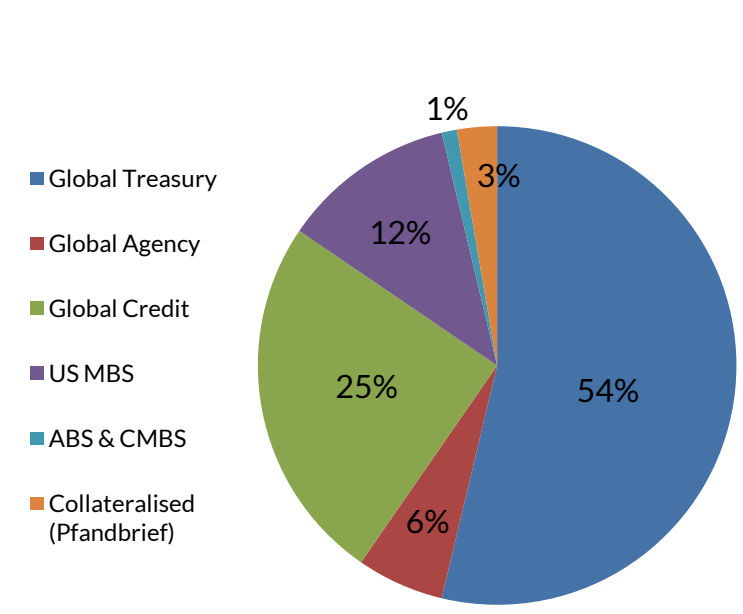
Sources: Bloomberg and State Street Global Advisors. Note: Data as of March 2017

Barclays Global Aggregate Index by Country



Sources: Bloomberg and State Street Global Advisors. Note: Data as of March 2017

Barclays Global Aggregate Index by Sector

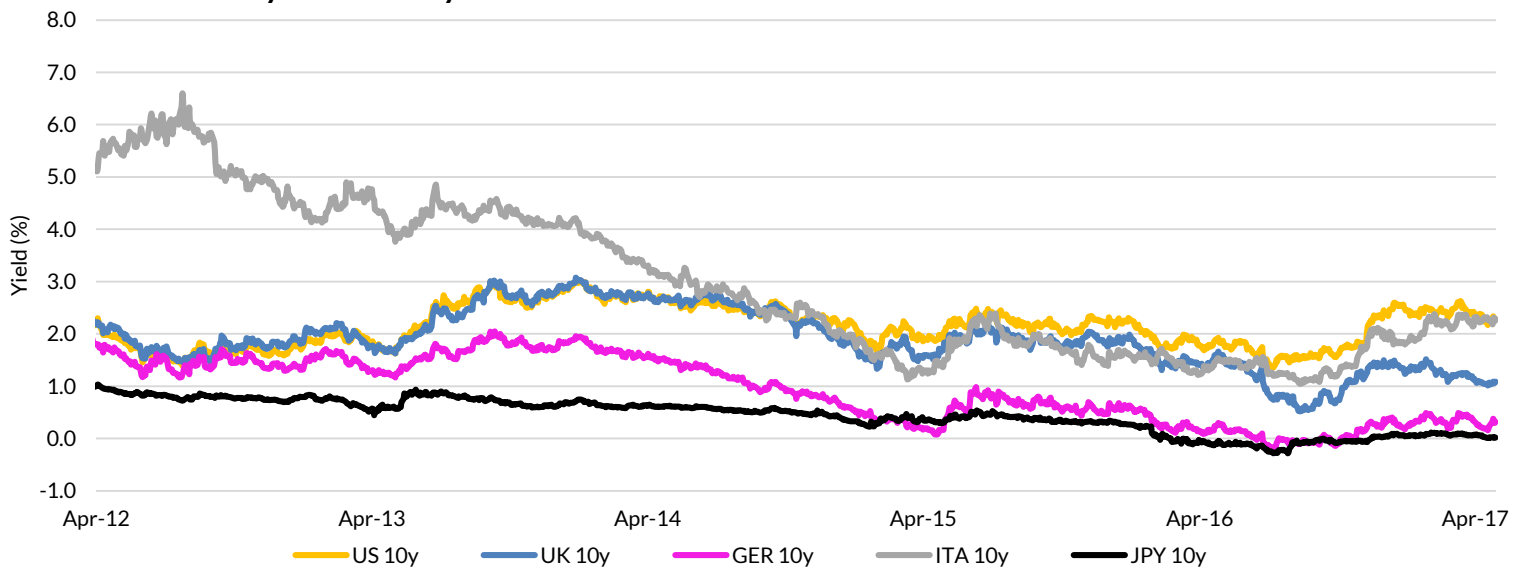


Sources: Bloomberg and State Street Global Advisors. Note: Data as of March 2017

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

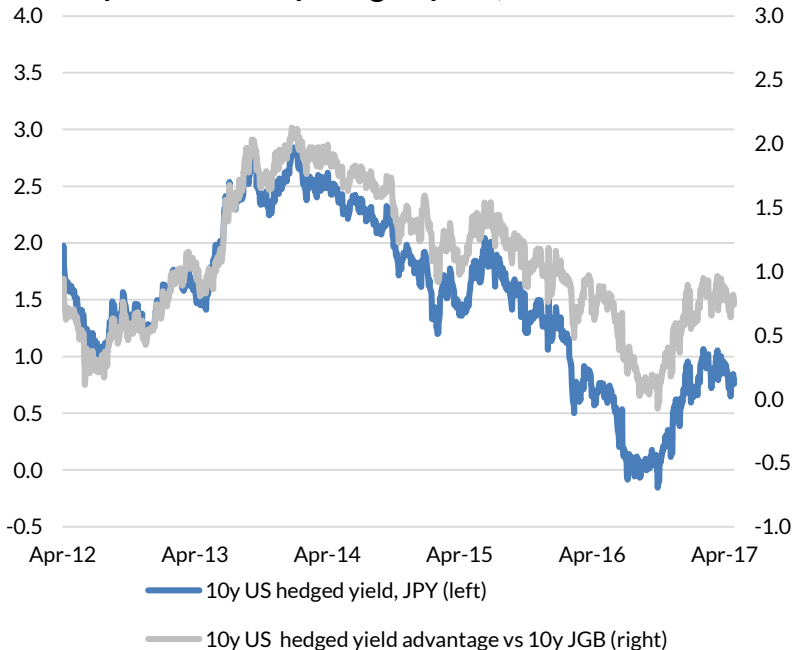
Over the past few years, US Treasury interest rates, as measured by the 10-year note have consistently been the highest in the developed world. But it declined to the level of Italy's 10-year bond yield in April. As of the end of April, both the US 10-year Treasury note and Italy's 10-year bond had the same yield, while the yields stood at 1.09 percent for the UK, 0.32 percent for Germany and 0.02 percent for Japan. If the Treasury notes are hedged into foreign currencies, the US yield advantage narrows -- it stands at 74 basis points (bps) this month versus the JGB, and 8 bps versus the 10-year Bund. This month shows a decrease of 10 bps versus the JGB and a decrease of 21 bps versus the Bund.

Global 10-year Treasury Yields



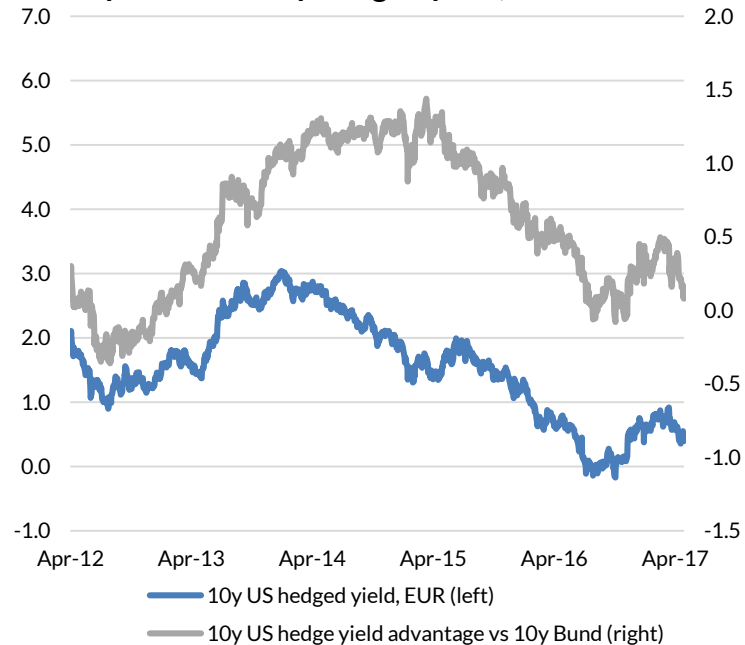
Sources: Bloomberg and State Street Global Advisors. Note: Data as of April 2017

10yr US Treasury hedged yield, JPY



Sources: Bloomberg and State Street Global Advisors.
Note: Data as of April 2017

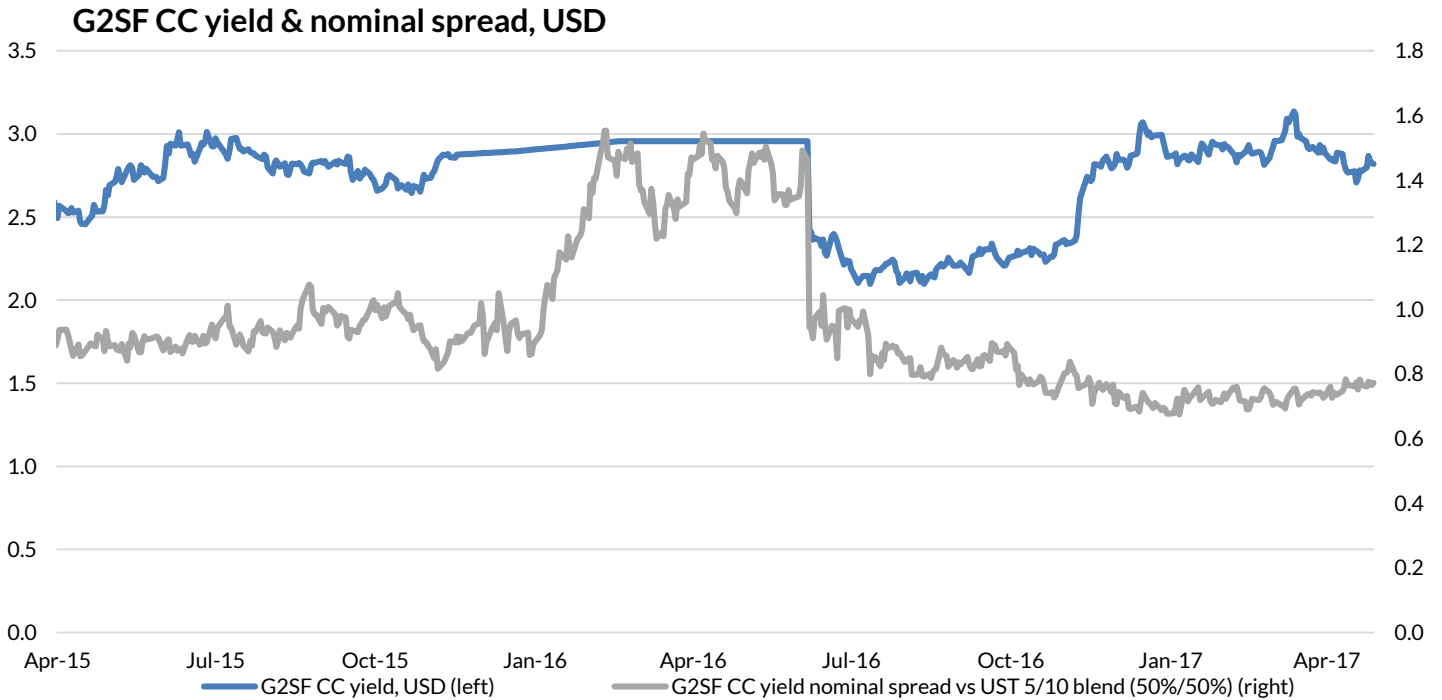
10yr US Treasury hedged yield, EUR



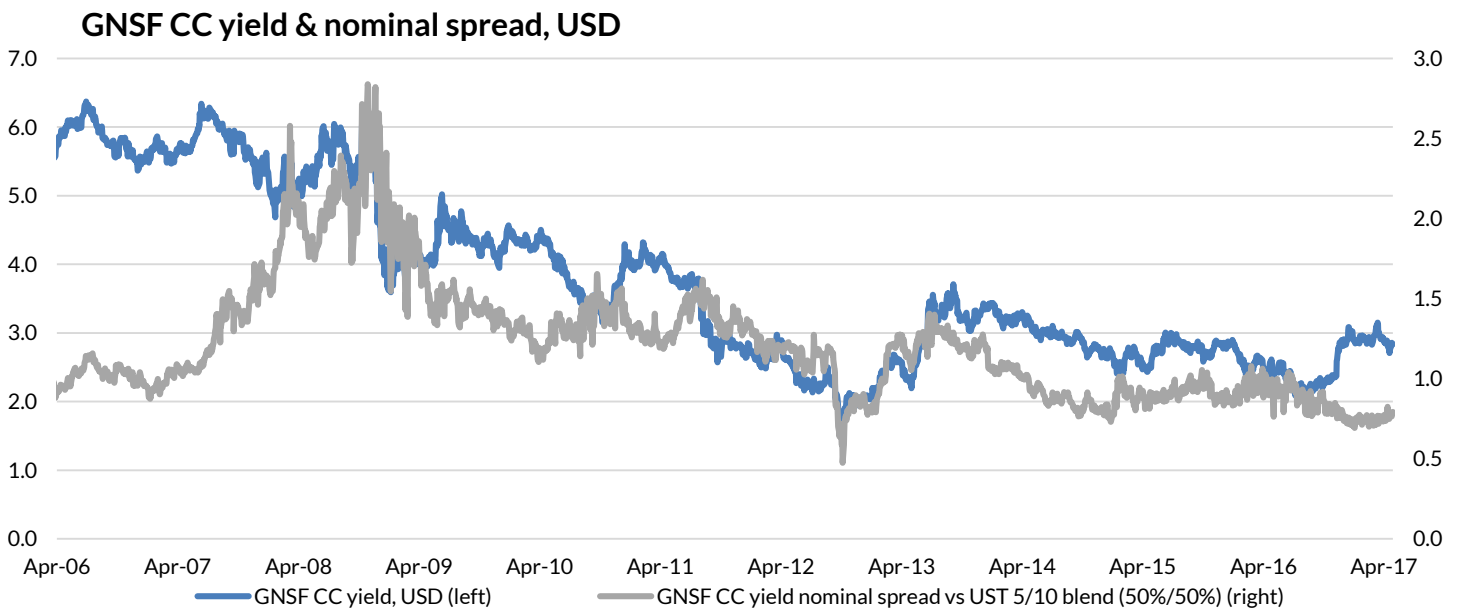
Sources: Bloomberg and State Street Global Advisors
Note: Data as of April 2017

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

Ginnie securities outyield their Treasury counterparts (as measured by the average of the 5- and 10-year Treasury yields) -- 77 basis points on G2SF and 79 basis points on GNSF.



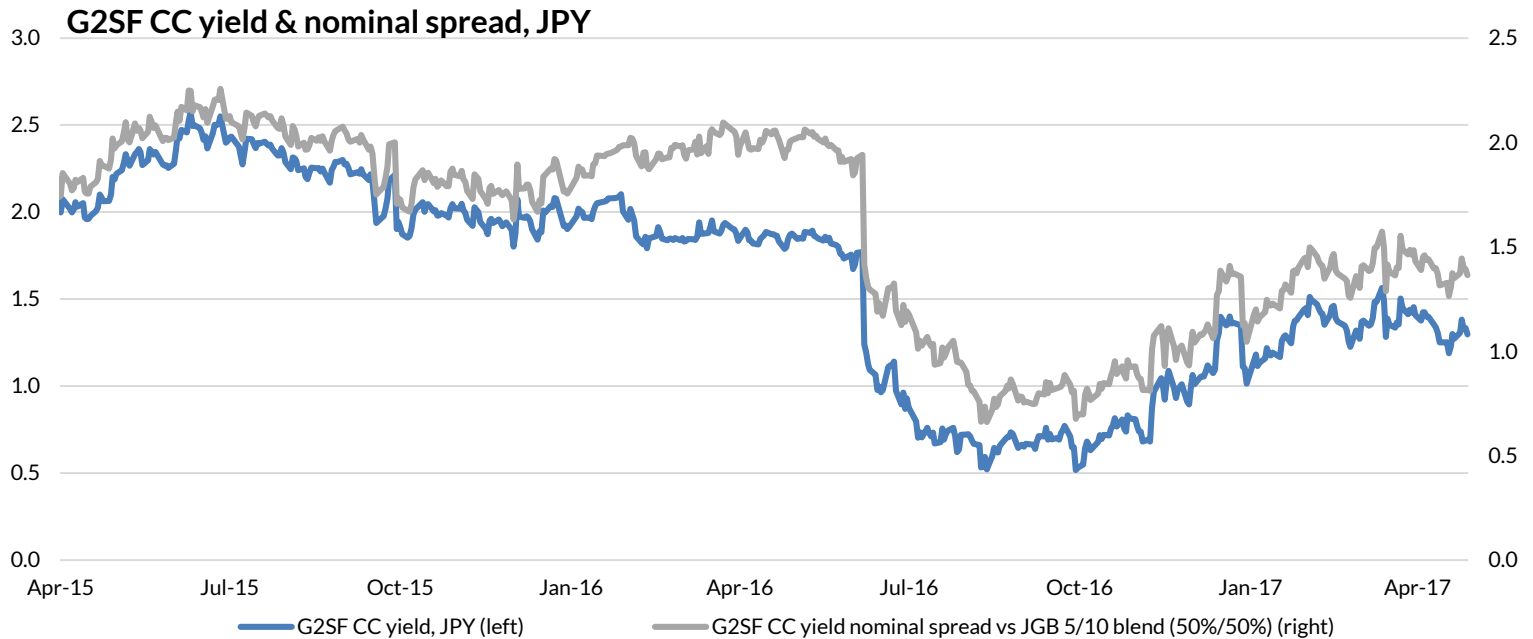
Sources: Bloomberg and State Street Global Advisors. Note: Data as of April 2017



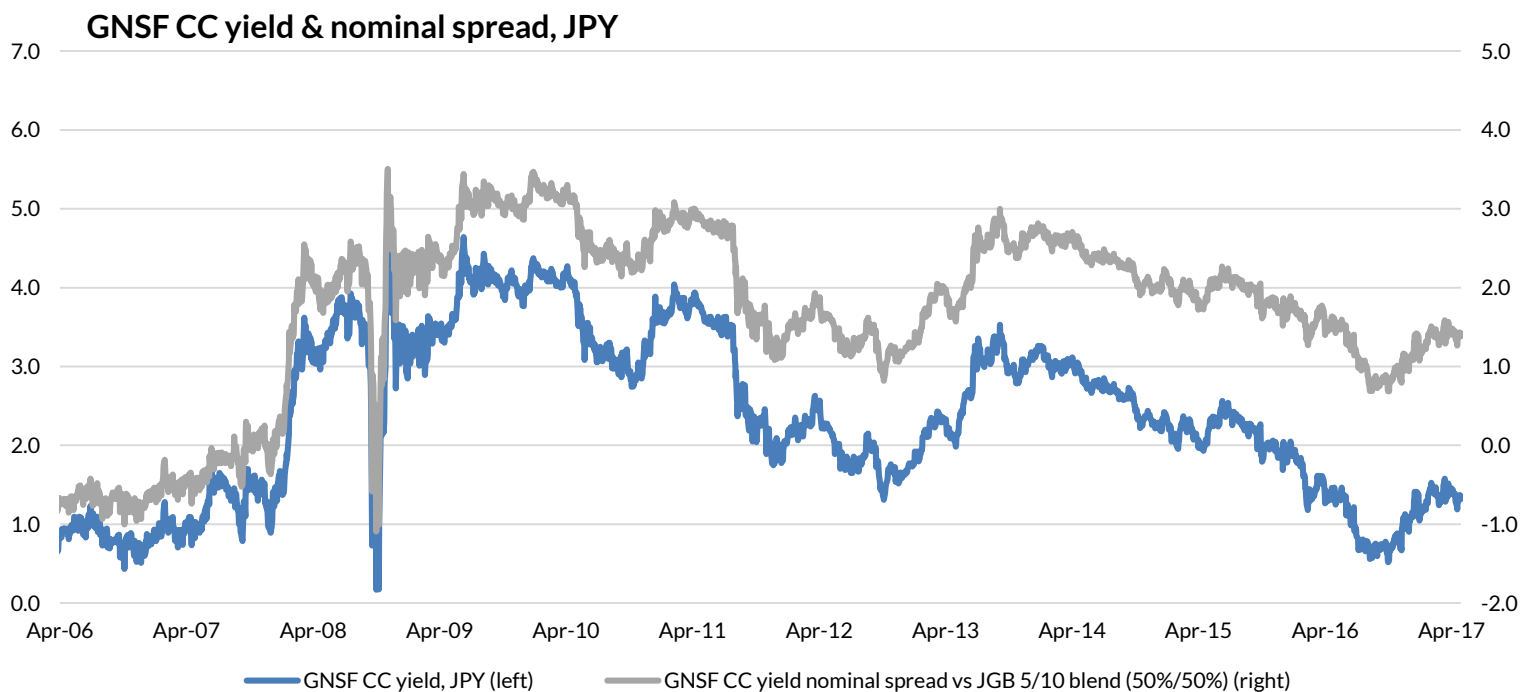
Sources: Bloomberg and State Street Global Advisors. Note: Data as of April 2017

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

If Ginnie Mae securities are hedged into foreign currencies, they look attractive on a yield basis; handily outyielding the sovereign debt of other countries. This figure shows that G2SF and GNSF hedged into Japanese yen yield more than the JGB 5/10 blend by 136 and 138 basis points, respectively.



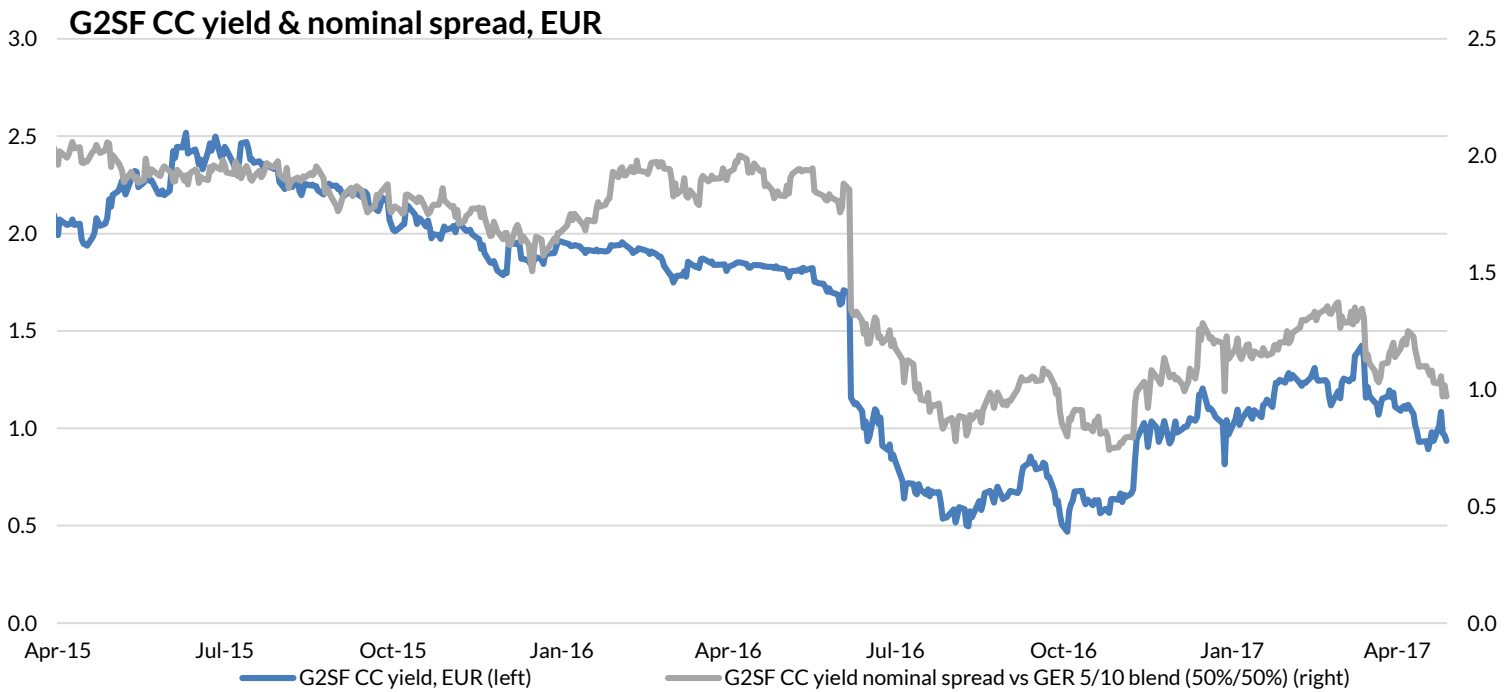
Sources: Bloomberg and State Street Global Advisors. Note: Data as of April 2017



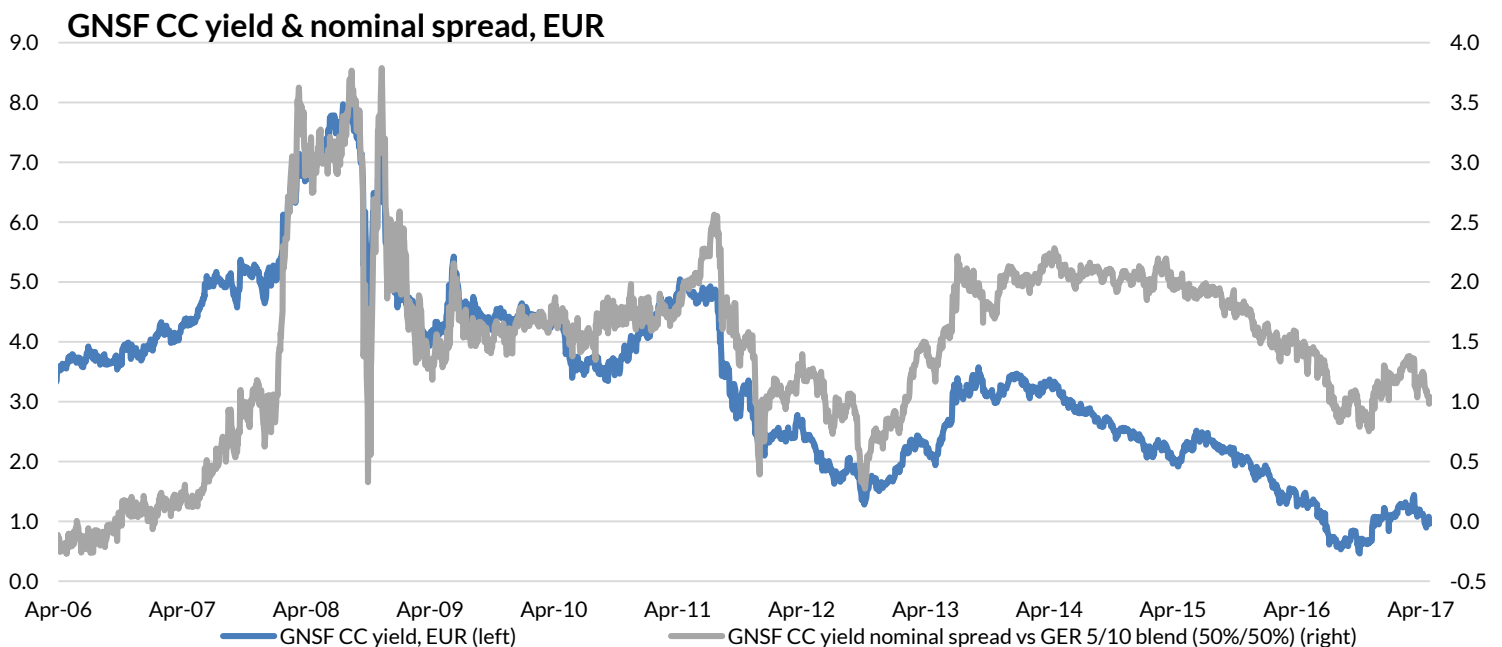
Sources: Bloomberg and State Street Global Advisors. Note: Data as of April 2017

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

If Ginnie Mae securities are hedged into foreign currencies, they look attractive on a yield basis versus sovereign alternatives. This figure shows that G2SF and GNSF hedged with euros yield more than the average of the German 5/10 Bund blend by 97 and 99 basis points, respectively.



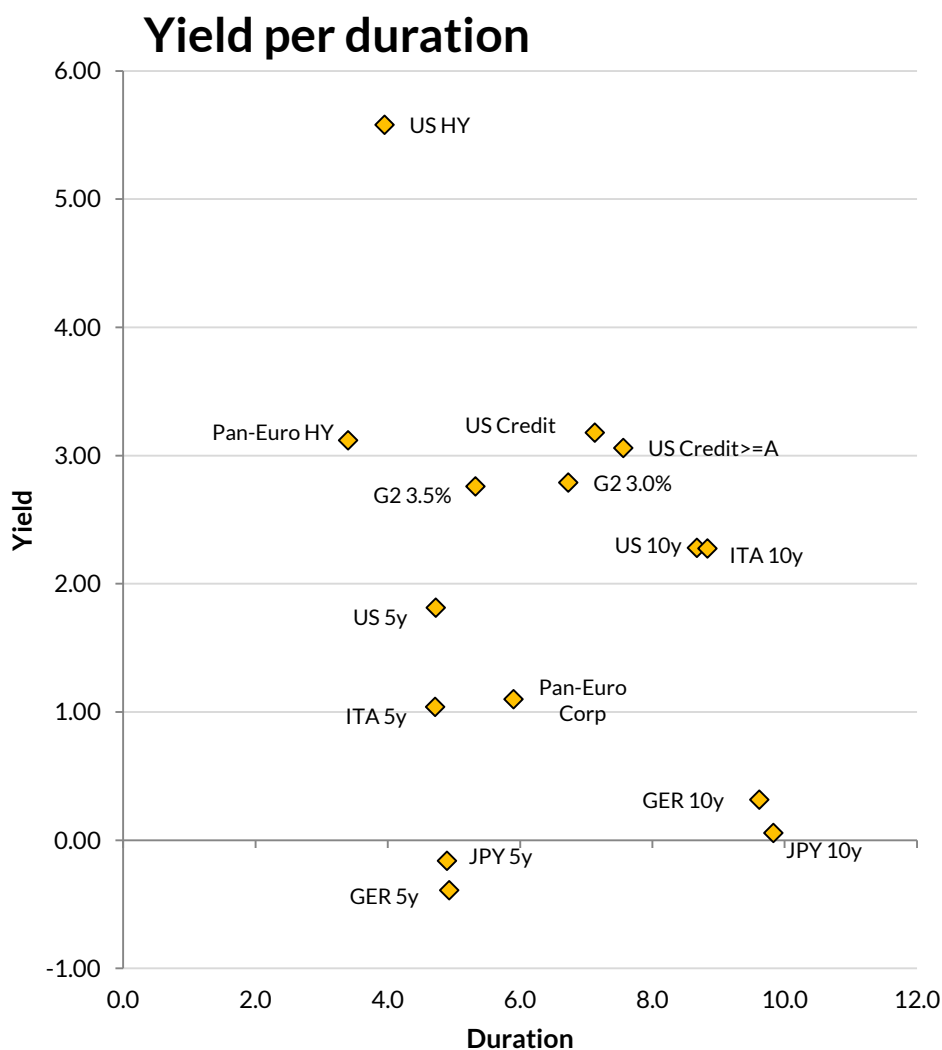
Sources: Bloomberg and State Street Global Advisors. Note: Data as of April 2017



Sources: Bloomberg and State Street Global Advisors. Note: Data as of April 2017

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

As interest rates have risen, Ginnie Mae durations have extended by more than a year. Even so, US MBS yields are about the same or higher than most securities with the same or shorter durations. The only exception is the high yield index, where interest rate risk does not fully capture the volatility of the high yield asset class. Investors are unable to match the yield on Ginnie Mae securities, while preserving the full government guarantee, even if they extend their duration significantly.



Security	Duration	Yield
US 5y	4.7	1.82
US 10y	8.7	2.28
GNMA II 3%	6.7	2.79
GNMA II 3.5%	5.3	2.76
JPY 5y	4.9	-0.16
JPY 10y	9.8	0.06
GER 5y	4.9	-0.39
GER 10y	9.6	0.32
ITA 5y	4.7	1.04
ITA 10y	8.8	2.27
US credit	7.1	3.18
US credit >= A	7.6	3.06
US HY	4.0	5.58
Pan-Euro corp	5.9	1.10
Pan-Euro HY	3.4	3.1

Sources: Bloomberg and State Street Global Advisors. Note: Yields are in base currency of security and unhedged. Data as of April 2017.

Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

The average return on the Ginnie Mae index over the past decade has been in line with the US Treasury Index, but lower than many alternatives, including the US Investment-Grade Corporate and US and European High Yield Indices. However, the standard deviation of the Ginnie Mae index is the lowest of any sector, as it has the least duration (interest rate risk). The result: the excess return per unit of risk for the mortgage market is the highest of any market over the past decade.

Average Return (Per Month)

Time Period	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield*	Pan Euro High Yield*
1 year	0.04	-0.05	0.26	0.23	1.05	0.60
3 year	0.19	0.18	0.30	0.35	0.40	0.42
5 year	0.15	0.12	0.33	0.43	0.57	0.71
10 year	0.35	0.33	0.46	0.37	0.65	0.73

Average Excess Return (Per Month)

Time Period	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield*	Pan Euro High Yield*
1 year	0.01	-0.08	0.22	0.30	1.02	0.67
3 year	0.17	0.16	0.29	0.39	0.39	0.46
5 year	0.14	0.11	0.31	0.45	0.55	0.74
10 year	0.31	0.29	0.42	0.32	0.61	0.68

Standard Deviation

Time Period	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield*	Pan Euro High Yield*
1 year	0.56	1.15	1.26	1.12	0.93	1.19
3 year	0.51	1.00	1.19	1.16	1.75	1.45
5 year	0.65	0.92	1.20	1.18	1.55	1.43
10 year	0.77	1.23	1.76	1.47	3.08	3.65

Sharpe Ratio

Time Period	US MBS Ginnie Mae	US Treasury	US Credit Corp	Pan Euro Credit Corp	US High Yield	Pan Euro High Yield*
1 year	0.01	-0.07	0.17	0.27	1.09	0.56
3 year	0.34	0.16	0.24	0.34	0.22	0.32
5 year	0.21	0.12	0.26	0.39	0.36	0.52
10 year	0.40	0.23	0.24	0.22	0.20	0.19

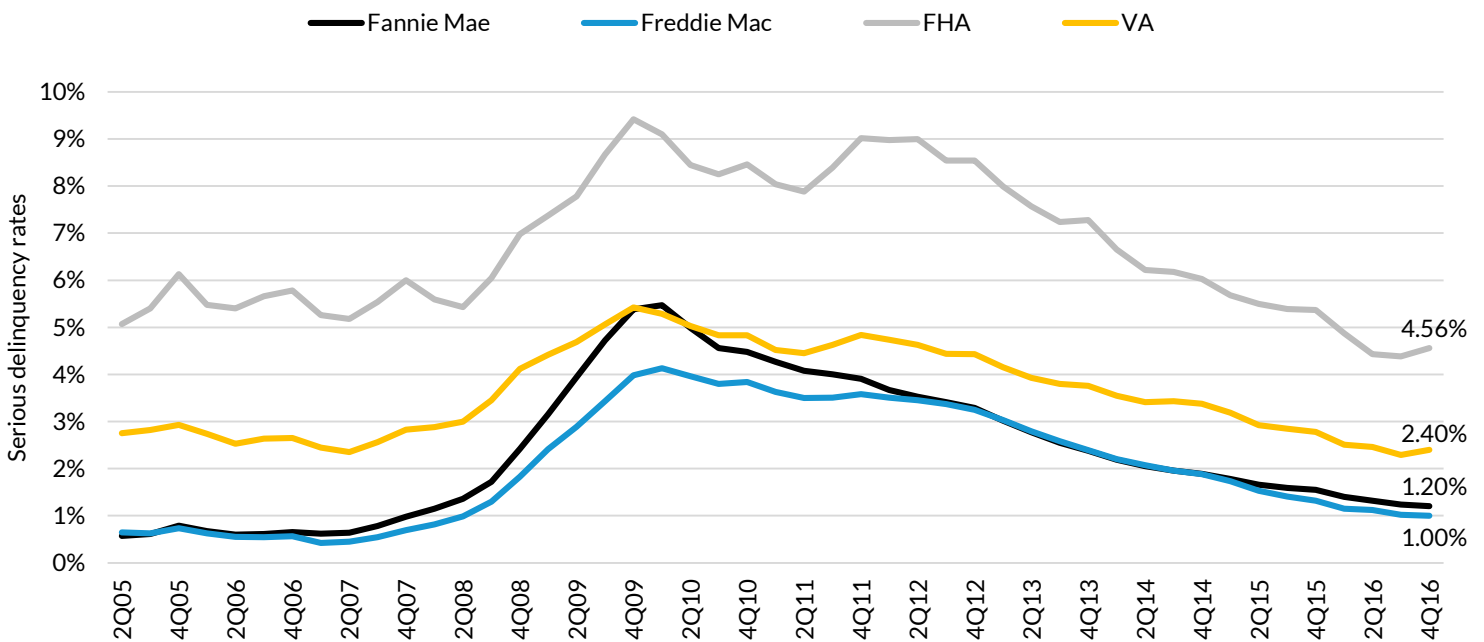
*Assumes 2% capitalization max per issuer on high yield indices

Sources: Barclays Indices, Bloomberg and State Street Global Advisors Note: Data as of April 2017

State of the US Housing Market

Serious delinquencies for GSE single-family loans continue to decline, while FHA and VA loans recorded their first uptick since Q2 2012 and Q4 2011, respectively. GSE delinquencies remain higher relative to 2005-2007. Despite the small increases, FHA and VA delinquencies (which are higher than their GSE counterparts) are still at levels lower than those of 2005-2007. Whether this is a new trend or a strong seasonal change will be closely monitored. Home price changes turned positive in 2012, and continue to increase at around 7 percent per year, as measured by both CoreLogic and Zillow.

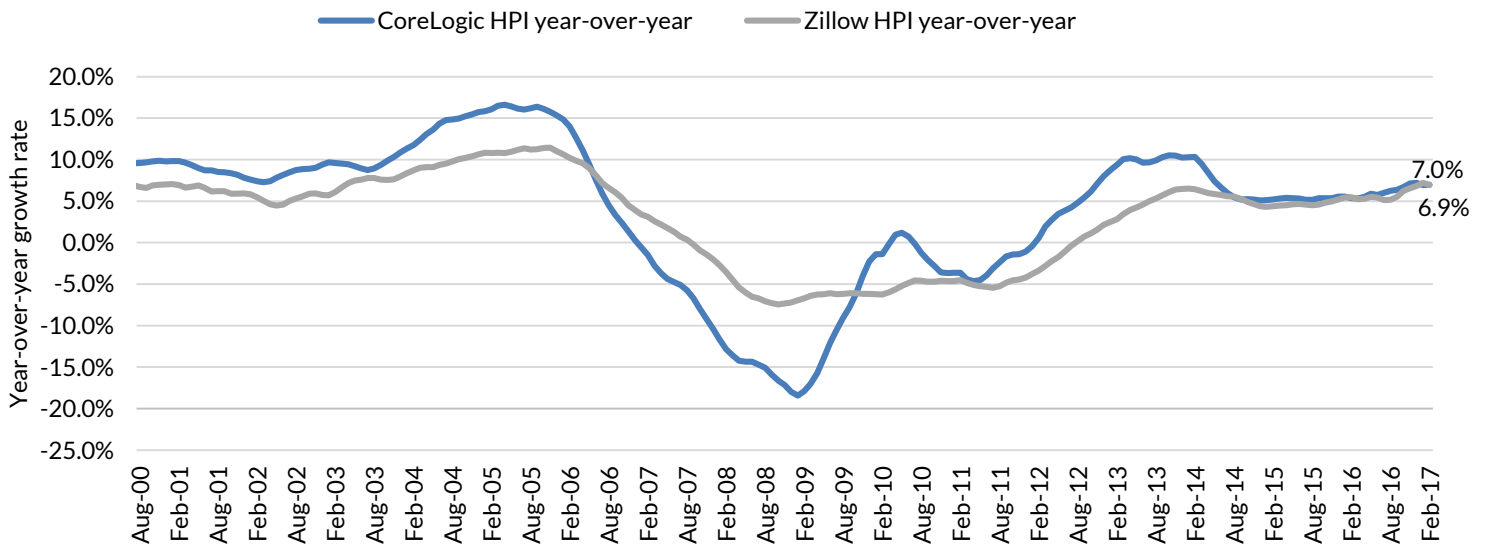
Serious Delinquency Rates: Single-Family Loans



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. Data as of Q4 2016

National Year-Over-Year HPI Growth



Sources: CoreLogic, Zillow, and Urban Institute. Note: Data as of February 2017

State of the US Housing Market

Nationally, the housing market has improved by 44.5 percent since the trough, and needs to increase by another 3.9 percent to achieve peak valuation. However, the picture is very different for different states, with many states well in excess of the prior peak, while Nevada is 44 percent below peak levels and four other states: Arizona, Connecticut, Florida, and West Virginia remain 25 percent or more below peak levels.

State	HPI Changes			YOY	Current HPI % Below Peak
	2000 to Peak	Peak to Trough	Trough to Current		
National	93.7%	-33.4%	44.5%	7.0%	3.9%
Alabama	46.0%	-21.0%	18.3%	4.2%	7.0%
Alaska	68.9%	-9.2%	14.7%	0.1%	-3.9%
Arizona	121.6%	-50.6%	62.1%	7.1%	25.0%
Arkansas	39.3%	-7.8%	11.9%	4.7%	-3.0%
California	149.1%	-42.6%	65.3%	6.1%	5.4%
Colorado	40.3%	-13.9%	56.2%	9.1%	-25.7%
Connecticut	79.5%	-25.1%	5.6%	-0.1%	26.3%
Delaware	90.4%	-24.0%	14.3%	0.4%	15.1%
District of Columbia	150.2%	-10.3%	36.2%	5.8%	-18.2%
Florida	149.2%	-49.8%	58.4%	7.2%	25.7%
Georgia	40.2%	-31.0%	46.5%	6.7%	-1.1%
Hawaii	152.5%	-20.8%	42.2%	6.2%	-11.2%
Idaho	86.1%	-41.1%	60.5%	8.8%	5.7%
Illinois	60.1%	-32.8%	25.9%	5.8%	18.2%
Indiana	24.2%	-16.4%	22.4%	5.4%	-2.2%
Iowa	25.5%	-4.8%	15.9%	3.6%	-9.4%
Kansas	33.1%	-13.9%	21.9%	5.7%	-4.7%
Kentucky	27.0%	-8.9%	16.6%	5.0%	-5.9%
Louisiana	58.2%	-7.8%	19.5%	3.9%	-9.2%
Maine	93.0%	-15.3%	31.8%	2.6%	-10.4%
Maryland	137.8%	-31.3%	17.3%	3.9%	24.1%
Massachusetts	81.8%	-21.4%	32.7%	6.2%	-4.1%
Michigan	26.0%	-43.5%	61.6%	6.5%	9.5%
Minnesota	69.9%	-28.3%	34.5%	5.8%	3.7%
Mississippi	36.6%	-19.0%	14.9%	0.6%	7.4%
Missouri	46.2%	-22.3%	24.9%	5.3%	3.0%
Montana	80.4%	-16.7%	29.0%	2.3%	-7.0%
Nebraska	25.3%	-5.2%	20.3%	4.1%	-12.3%
Nevada	129.0%	-60.1%	73.8%	5.9%	44.2%
New Hampshire	82.9%	-23.9%	25.8%	7.3%	4.5%
New Jersey	109.6%	-26.5%	14.2%	3.9%	19.1%
New Mexico	64.3%	-26.9%	16.8%	4.2%	17.1%
New York	102.4%	-13.7%	29.2%	5.8%	-10.3%
North Carolina	39.4%	-14.8%	22.4%	5.3%	-4.1%
North Dakota	48.8%	-2.0%	43.9%	1.2%	-29.1%
Ohio	22.1%	-20.7%	23.7%	4.9%	2.0%
Oklahoma	35.6%	-3.3%	12.3%	1.6%	-7.9%
Oregon	87.6%	-29.4%	57.8%	10.0%	-10.2%
Pennsylvania	71.6%	-12.8%	11.0%	2.9%	3.3%
Rhode Island	131.0%	-34.7%	24.7%	6.5%	22.8%
South Carolina	61.4%	-22.3%	28.2%	6.0%	0.3%
South Dakota	37.2%	-3.6%	26.8%	5.3%	-18.2%
Tennessee	41.0%	-13.5%	29.3%	6.4%	-10.6%
Texas	39.2%	-13.2%	43.7%	7.0%	-19.8%
Utah	64.8%	-31.9%	52.3%	8.7%	-3.6%
Vermont	80.8%	-9.0%	11.5%	7.5%	-1.5%
Virginia	135.4%	-30.7%	26.4%	3.0%	14.2%
Washington	90.2%	-28.3%	53.7%	11.1%	-9.3%
West Virginia	78.4%	-30.6%	15.0%	-1.3%	25.3%
Wisconsin	48.7%	-17.5%	18.6%	5.0%	2.1%
Wyoming	75.8%	-15.4%	24.4%	2.4%	-5.1%

Sources: CoreLogic and Urban Institute. Note: HPI data as of February 2017. Negative sign indicates that state is above earlier peak. Peak refers to the month when HPI reached the highest level for each state/US during the housing boom period, ranging from 09/2005 to 09/2008. Trough represents the month when HPI fell to the lowest level for each state/US after the housing bust, ranging from 01/2009 to 03/2012. Current is 02/2017, the latest HPI data period.

State of the US Housing Market

Ginnie Mae loans constitute 33.0 percent of outstanding agency issuance by loan balance, 33.2 percent of the issuance over the past year. However, the Ginnie Mae share varies widely across states, with the share of outstandings (as measured by loan balance) as low as 18.4 percent in the District of Columbia to a high of 53.5 percent in Mississippi. In general, the Ginnie Mae share is higher in states with lower home prices.

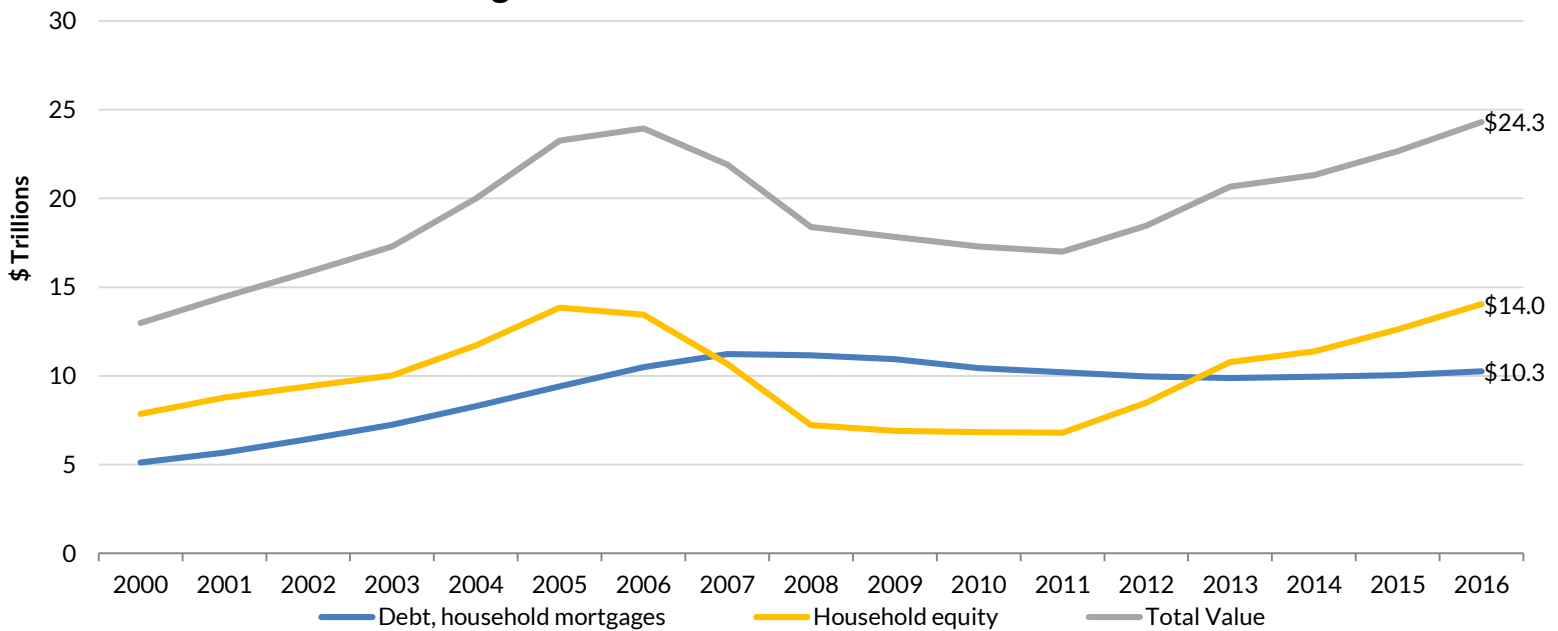
State	Agency Issuance (past 1 year)			Agency Outstanding		
	Ginnie Mae Share	Ginnie Mae Average Loan Size (Thousands)	GSE Average Loan Size (Thousands)	Ginnie Mae Share	Ginnie Mae Average Loan Size (Thousands)	GSE Average Loan Size (Thousands)
National	33.2%	210.7	230.3	33.0%	172.9	204.5
Alabama	46.1%	159.2	180.9	48.1%	139.3	166.1
Alaska	53.1%	279.9	244.1	52.5%	251.2	224.9
Arizona	38.4%	200.5	206.5	35.8%	169.7	186.1
Arkansas	43.2%	139.5	166.5	48.0%	120.1	150.1
California	26.8%	335.2	321.9	22.5%	273.6	287.0
Colorado	32.0%	260.1	255.3	31.8%	215.7	229.0
Connecticut	31.0%	214.2	228.9	30.1%	202.3	217.0
Delaware	40.2%	213.8	221.5	37.9%	196.2	205.4
District of Columbia	18.0%	409.4	360.8	18.4%	315.8	328.7
Florida	39.9%	198.6	198.6	37.2%	165.4	180.3
Georgia	41.5%	176.5	205.2	41.6%	149.8	182.3
Hawaii	41.3%	486.4	374.8	31.8%	404.0	340.0
Idaho	35.8%	183.2	188.6	36.1%	156.4	170.1
Illinois	24.2%	175.2	202.6	25.5%	152.4	181.4
Indiana	39.3%	137.2	157.0	40.5%	119.3	139.1
Iowa	24.1%	141.9	165.1	27.9%	122.5	145.9
Kansas	34.2%	149.8	174.0	38.0%	130.0	154.0
Kentucky	40.1%	145.9	166.0	40.8%	130.9	147.4
Louisiana	41.9%	168.3	190.6	44.7%	147.9	174.6
Maine	35.7%	179.3	195.8	33.2%	163.9	177.9
Maryland	44.7%	282.6	268.2	40.2%	247.5	244.5
Massachusetts	21.0%	275.6	277.6	19.8%	246.8	251.3
Michigan	26.4%	141.4	169.1	27.7%	120.4	148.6
Minnesota	25.3%	189.5	205.4	26.6%	165.5	186.6
Mississippi	49.1%	147.4	169.4	53.5%	129.1	155.5
Missouri	34.4%	148.4	174.5	37.3%	130.0	153.4
Montana	31.4%	206.2	207.0	32.8%	177.4	187.0
Nebraska	31.9%	156.8	168.0	37.3%	131.6	150.1
Nevada	44.5%	220.5	213.0	42.1%	187.6	191.2
New Hampshire	32.5%	223.0	219.4	30.7%	204.8	198.4
New Jersey	29.2%	248.7	268.9	28.7%	230.8	246.6
New Mexico	44.9%	175.0	184.7	44.8%	153.8	170.7
New York	26.9%	236.9	262.3	27.3%	200.4	238.7
North Carolina	35.1%	175.1	200.5	37.0%	151.4	181.5
North Dakota	27.3%	205.9	203.5	27.6%	175.2	181.5
Ohio	36.8%	137.7	157.2	38.8%	123.3	142.1
Oklahoma	46.1%	149.3	169.2	51.4%	128.5	154.4
Oregon	27.7%	234.5	243.9	26.6%	201.4	214.2
Pennsylvania	34.5%	167.0	194.2	34.7%	150.3	178.5
Rhode Island	36.7%	213.2	215.9	34.2%	196.0	200.4
South Carolina	40.2%	177.6	191.0	39.7%	154.0	174.3
South Dakota	35.1%	170.8	181.5	37.9%	151.0	160.8
Tennessee	42.0%	171.3	193.6	44.3%	145.4	173.7
Texas	35.8%	185.4	208.4	40.1%	146.5	186.2
Utah	31.9%	220.1	234.7	33.9%	193.6	211.5
Vermont	23.6%	194.7	195.9	20.0%	179.7	180.7
Virginia	45.8%	278.3	266.3	42.2%	238.8	241.6
Washington	32.0%	263.0	266.5	31.6%	223.7	235.7
West Virginia	47.6%	153.7	156.1	46.1%	136.6	145.5
Wisconsin	21.1%	160.9	176.1	22.1%	144.0	158.5
Wyoming	40.6%	206.6	207.6	42.4%	190.2	192.5

Sources: eMBS and Urban Institute. Note: Ginnie Mae share are based on loan balance as of February 2017.

State of the US Housing Market

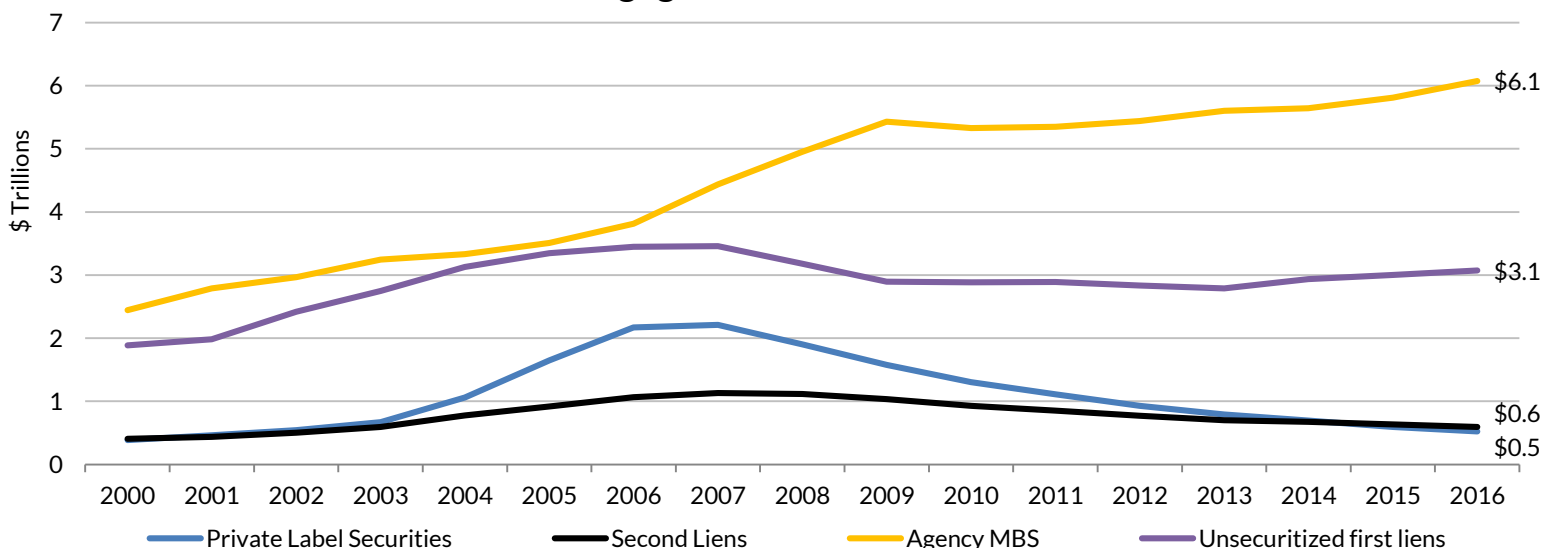
The Federal Reserve's Flow of Funds report has consistently indicated an increasing total value of the housing market driven by growing household equity since 2012, and 2016 was no different. While total debt and mortgages was stable at \$10.3 trillion, household equity reached a new high of \$14.0 trillion, bringing the total value of the housing market to \$24.3 trillion, surpassing the pre-crisis peak of \$23.9 trillion in 2006. Agency MBS make up 59.2 percent of the total mortgage market, private-label securities make up 5.1 percent, and unsecuritized first liens at the GSEs, commercial banks, savings institutions, and credit unions make up 29.9 percent of the market. Second liens comprise the remaining 5.8 percent of the total.

Value of the US Housing Market



Sources: Federal Reserve Flow of Funds and Urban Institute. Data as of Q4 2016.

Size of the US Residential Mortgage Market



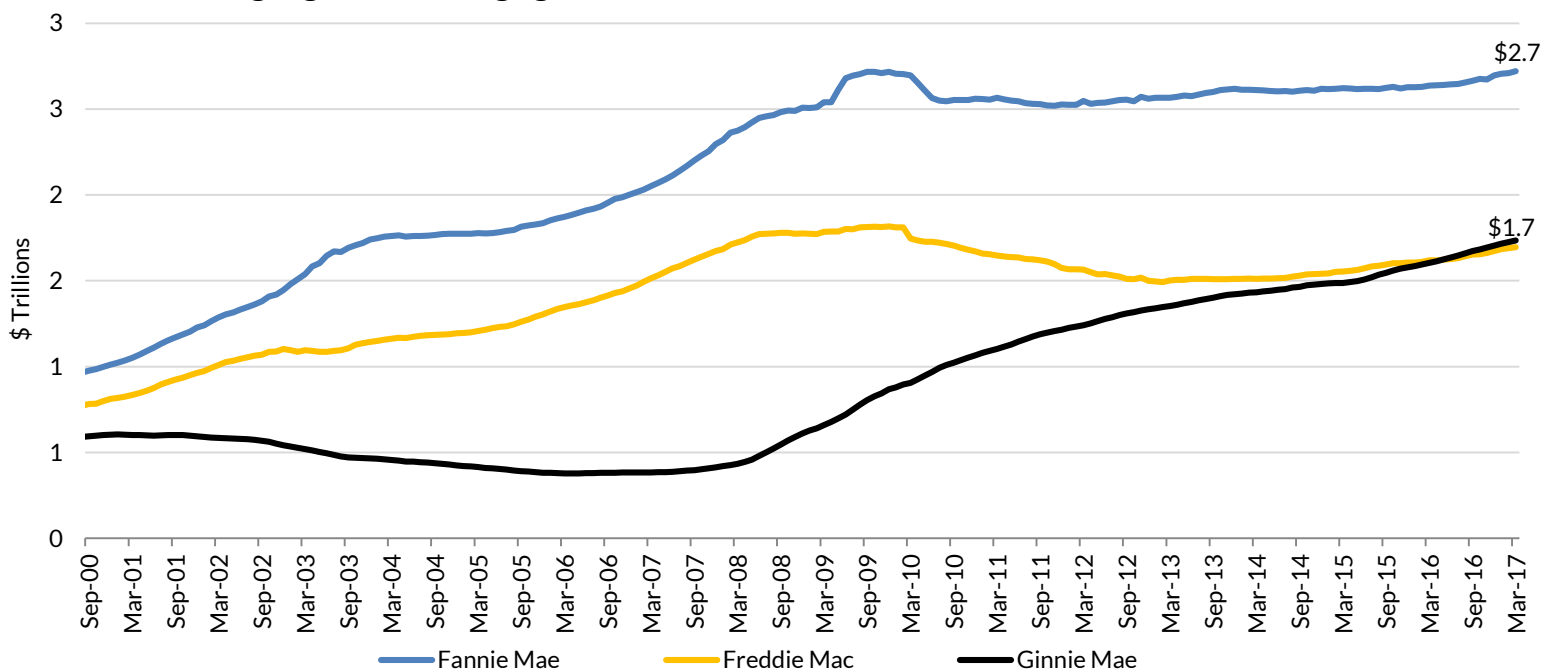
Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute.

Note: Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions. Data as of Q4 2016.

State of the US Housing Market

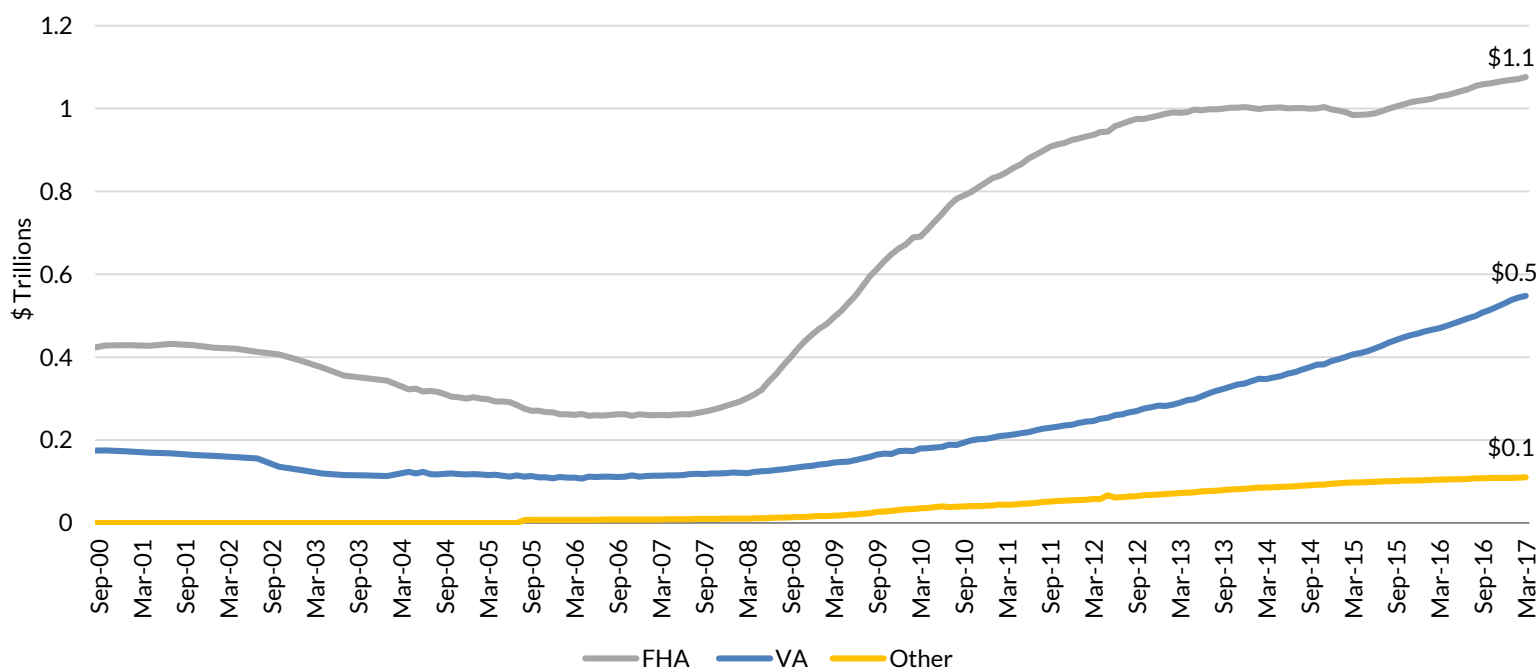
As of March 2017, outstanding securities in the agency mortgage market (forward mortgages only) totaled \$6.2 trillion: 44.2 percent Fannie Mae, 27.6 percent Freddie Mac, and 28.2 percent Ginnie Mae. Ginnie Mae now has more outstandings than Freddie Mac. Within the Ginnie Mae market, VA has been growing very rapidly-- comprising 31.6 percent of total Ginnie Mae outstandings.

Outstanding Agency Mortgage-Backed Securities



Sources: eMBS and Urban Institute Note: Data as of March 2017

Outstanding Ginnie Mae Mortgage-Backed Securities

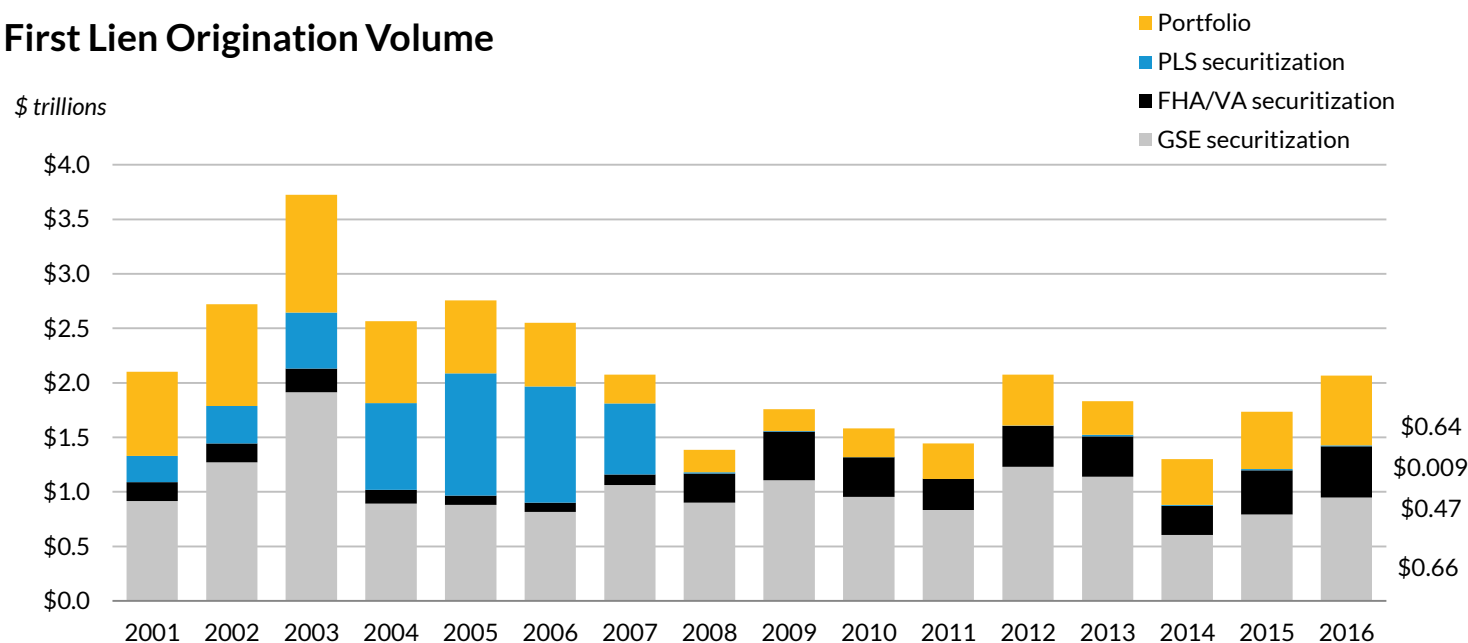


Sources: eMBS and Urban Institute. Note: Data as of March 2017

State of the US Housing Market

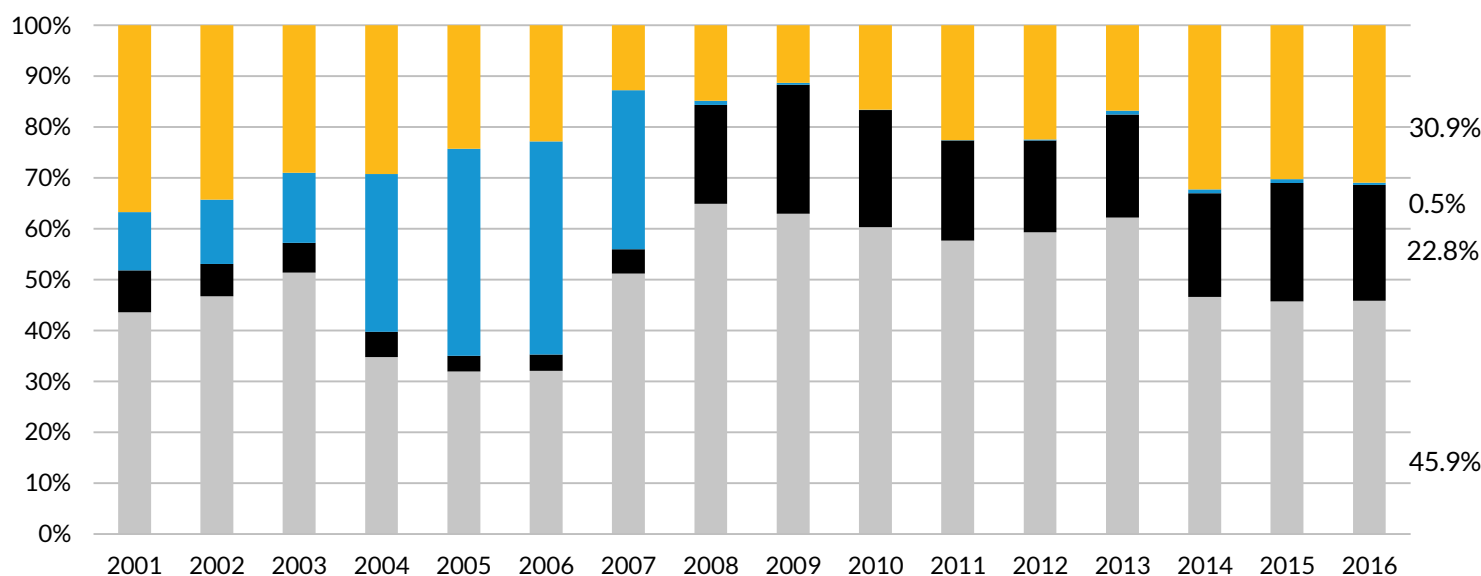
First lien originations in 2016 totaled approximately \$2.1 trillion, the most robust origination year since 2012. The share of portfolio originations was 30.9 percent, up from 30.2 percent in 2015. The GSE share went up to 45.9 percent, from 45.7 percent in 2015. The FHA/VA share was slightly down: 22.8 percent in 2016 versus 23.3 percent in 2015. Origination of private-label securities was well under 1 percent in both years.

First Lien Origination Volume



Sources: Inside Mortgage Finance and Urban Institute. Note: Data as of Q4 2016.

First Lien Origination Share



Sources: Inside Mortgage Finance and Urban Institute. Note: Data as of Q4 2016.

US Agency Market, Originations

Agency gross issuance totaled \$329.9 billion in the first quarter of 2017, a 20.1 percent increase from the same period last year. Ginnie Mae gross issuance has grown by 11.6 percent, while GSE gross issuance has grown by 24.6 percent. Within the Ginnie Mae market, FHA is up by 8.3 percent while VA origination is up by 16.1 percent. Despite strong Q1 numbers, origination is expected to be down compared to 2016, courtesy of higher rates.

Agency Gross Issuance					
Issuance Year	Fannie Mae	Freddie Mac	GSE Total	Ginnie Mae	Total Agency
2000	\$202.8	\$157.9	\$360.6	\$102.2	\$462.8
2001	\$506.9	\$378.2	\$885.1	\$171.5	\$1,056.6
2002	\$710.0	\$529.0	\$1,238.9	\$169.0	\$1,407.9
2003	\$1,174.4	\$700.5	\$1,874.9	\$213.1	\$2,088.0
2004	\$517.5	\$355.2	\$872.6	\$119.2	\$991.9
2005	\$514.1	\$379.9	\$894.0	\$81.4	\$975.3
2006	\$500.2	\$352.9	\$853.0	\$76.7	\$929.7
2007	\$633.0	\$433.3	\$1,066.2	\$94.9	\$1,161.1
2008	\$562.7	\$348.7	\$911.4	\$267.6	\$1,179.0
2009	\$817.1	\$462.9	\$1,280.0	\$451.3	\$1,731.3
2010	\$626.6	\$377.0	\$1,003.5	\$390.7	\$1,394.3
2011	\$578.2	\$301.2	\$879.3	\$315.3	\$1,194.7
2012	\$847.6	\$441.3	\$1,288.8	\$405.0	\$1,693.8
2013	\$749.9	\$426.7	\$1,176.6	\$393.6	\$1,570.2
2014	\$392.9	\$258.0	\$650.9	\$296.3	\$947.2
2015	\$493.9	\$351.9	\$845.7	\$436.3	\$1,282.0
2016	\$600.5	\$391.1	\$991.6	\$508.2	\$1,499.8
2017 YTD	\$132.7	\$90.2	\$222.9	\$107.0	\$329.9
2017 %Change YOY	23.2%	26.9%	24.6%	11.6%	20.1%
2017 Ann.	\$530.7	\$361.0	\$891.7	\$427.9	\$1,319.6

Ginnie Mae Breakdown: Agency Gross Issuance				
Issuance Year	FHA	VA	Other	Total Agency
2000	\$80.2	\$18.8	\$3.2	\$102.2
2001	\$133.8	\$34.7	\$3.1	\$171.5
2002	\$128.6	\$37.9	\$2.5	\$169.0
2003	\$147.9	\$62.7	\$2.5	\$213.1
2004	\$85.0	\$31.8	\$2.5	\$119.2
2005	\$55.7	\$23.5	\$2.1	\$81.4
2006	\$51.2	\$23.2	\$2.3	\$76.7
2007	\$67.7	\$24.2	\$3.0	\$94.9
2008	\$221.7	\$39.0	\$6.9	\$267.6
2009	\$359.9	\$74.6	\$16.8	\$451.3
2010	\$304.9	\$70.6	\$15.3	\$390.7
2011	\$216.1	\$82.3	\$16.9	\$315.3
2012	\$253.4	\$131.3	\$20.3	\$405.0
2013	\$239.2	\$132.2	\$22.2	\$393.6
2014	\$163.9	\$111.4	\$21.0	\$296.3
2015	\$261.5	\$155.7	\$19.2	\$436.3
2016	\$281.8	\$206.5	\$19.9	\$508.2
2017 YTD	\$60.7	\$41.4	\$4.8	\$107.0
2017 %Change YOY	8.3%	16.1%	17.8%	11.6%
2017 Ann.	\$242.8	\$165.6	\$19.2	\$427.9

Sources: eMBS and Urban Institute (top and bottom).

Note: Dollar amounts are in billions. Annualized figure based on data from March 2017. "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. All data is as of March 2017.

US Agency Market, Originations

Agency net issuance totaled \$76.2 billion for the first three months of 2017, up 55.5 percent over the same period last year. Ginnie Mae net issuance was \$29.2 billion, comprising 38.4 percent of total agency net issuance. Note that Ginnie Mae net issuance was up 8.8 percent versus the same time last year. Ginnie Mae net issuance is comprised of 63.2 percent VA issuance, 33.1 percent FHA issuance and 3.7 percent other issuance.

Agency Net Issuance					
Issuance Year	Fannie Mae	Freddie Mac	GSE Total	Ginnie Mae	Total Agency
2000	\$92.0	\$67.8	\$159.8	\$29.3	\$189.1
2001	\$216.0	\$151.8	\$367.8	-\$9.9	\$357.9
2002	\$219.2	\$138.3	\$357.6	-\$51.2	\$306.4
2003	\$293.9	\$41.1	\$335.0	-\$77.6	\$257.4
2004	\$33.2	\$50.2	\$83.3	-\$40.1	\$43.2
2005	\$62.6	\$111.7	\$174.4	-\$42.2	\$132.1
2006	\$164.3	\$149.3	\$313.6	\$0.3	\$313.8
2007	\$295.9	\$218.8	\$514.7	\$30.9	\$545.5
2008	\$212.5	\$101.8	\$314.3	\$196.4	\$510.8
2009	\$207.0	\$42.5	\$249.5	\$257.4	\$506.8
2010	-\$158.7	-\$146.8	-\$305.5	\$198.2	-\$107.3
2011	-\$37.6	-\$95.8	-\$133.4	\$149.4	\$16.0
2012	\$28.8	-\$75.3	-\$46.5	\$118.4	\$71.9
2013	\$54.9	\$11.6	\$66.5	\$85.8	\$152.3
2014	\$0.4	\$29.9	\$30.3	\$59.8	\$90.1
2015	\$10.1	\$64.9	\$75.0	\$94.5	\$169.5
2016	\$68.6	\$67.0	\$135.6	\$125.1	\$260.7
2017 YTD	\$23.5	\$23.4	\$46.9	\$29.2	\$76.2
2017 %Change YOY	141.9%	89.1%	112.4%	8.8%	55.5%
2017 Ann.	\$94.2	\$93.6	\$187.8	\$116.9	\$304.7

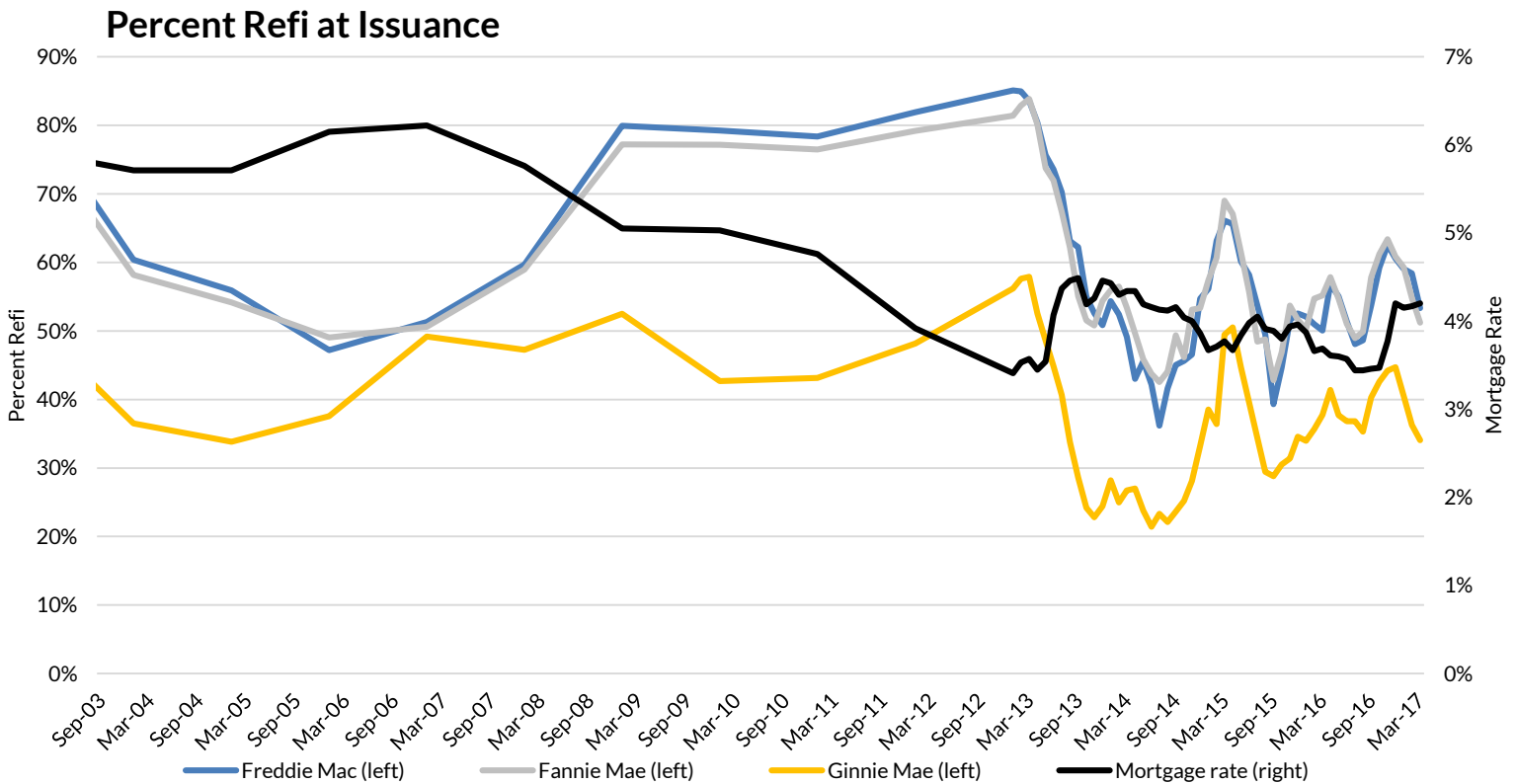
Ginnie Mae Breakdown: Net Issuance				
Issuance Year	FHA	VA	Other	Total
2000	\$29.0	\$0.3	\$0.0	\$29.3
2001	\$0.7	-\$10.6	\$0.0	-\$9.9
2002	-\$22.5	-\$28.7	\$0.0	-\$51.2
2003	-\$56.5	-\$21.1	\$0.0	-\$77.6
2004	-\$45.2	\$5.1	\$0.0	-\$40.1
2005	-\$37.7	-\$11.8	\$0.0	-\$42.2
2006	-\$4.7	\$3.8	\$1.2	\$0.2
2007	\$20.2	\$8.7	\$2.0	\$30.9
2008	\$173.3	\$17.7	\$5.4	\$196.4
2009	\$206.4	\$35.1	\$15.8	\$257.4
2010	\$158.6	\$29.6	\$10.0	\$198.3
2011	\$102.8	\$34.0	\$12.8	\$149.6
2012	\$58.9	\$45.9	\$14.3	\$119.1
2013	\$20.7	\$53.3	\$13.9	\$87.9
2014	-\$4.8	\$53.9	\$12.5	\$61.6
2015	\$20.0	\$66.8	\$7.9	\$94.7
2016	\$46.4	\$72.7	\$6.1	\$125.1
2017 YTD	\$9.7	\$18.5	\$1.1	\$29.2
2017 %Change YOY	-10.8%	32.7%	-49.0%	8.8%
2017 Ann.	\$38.7	\$73.8	\$4.3	\$116.9

Sources: eMBS and Urban Institute (top and bottom)

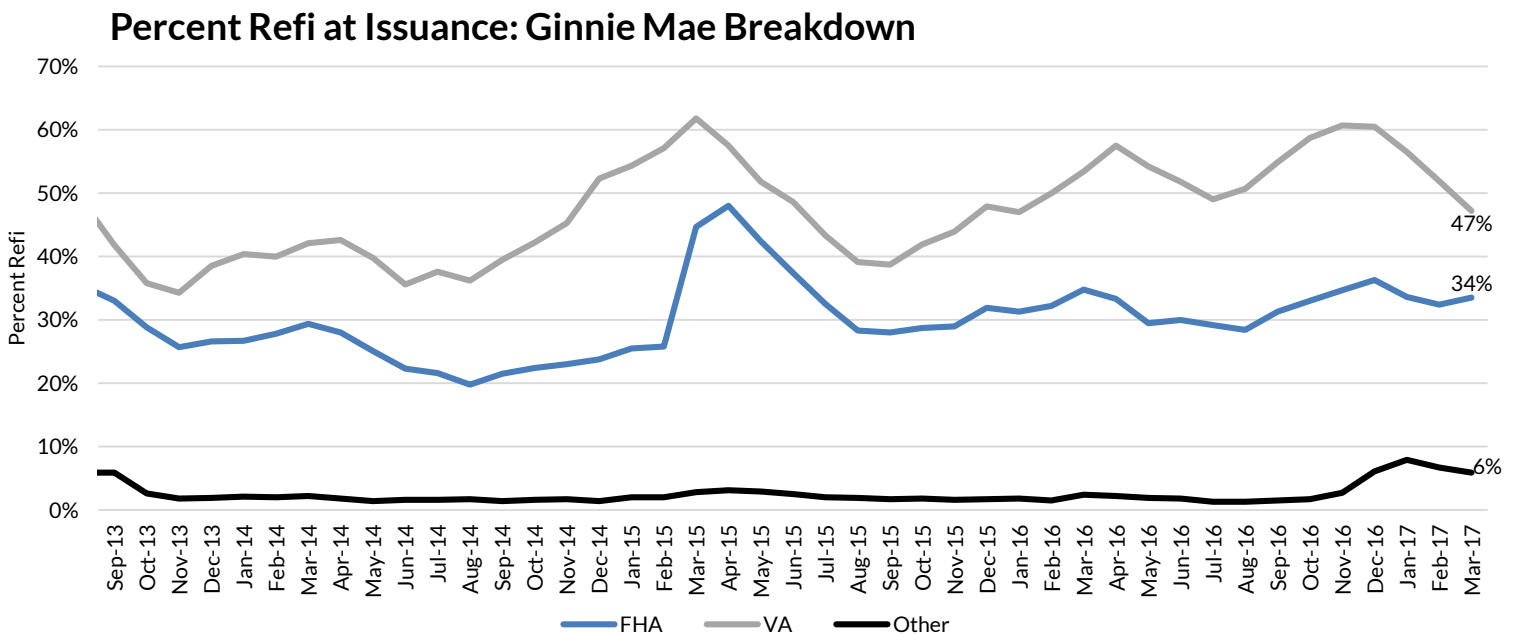
Note: Dollar amounts are in billions. Annualized figure based on data from March 2017. "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. All data is as of March 2017.

US Agency Market, Originations

The Ginnie Mae refi share stood at 34 percent in March 2017, below the 51 and 53 percent shares for Fannie Mae and Freddie Mac, respectively. Within Ginnie Mae, VA had the highest refi share of 47 percent in March 2017, followed by FHA's 34 percent refi share.



Sources: eMBS and Urban Institute. Note: Based on at-issuance balance. Data as of March 2017.



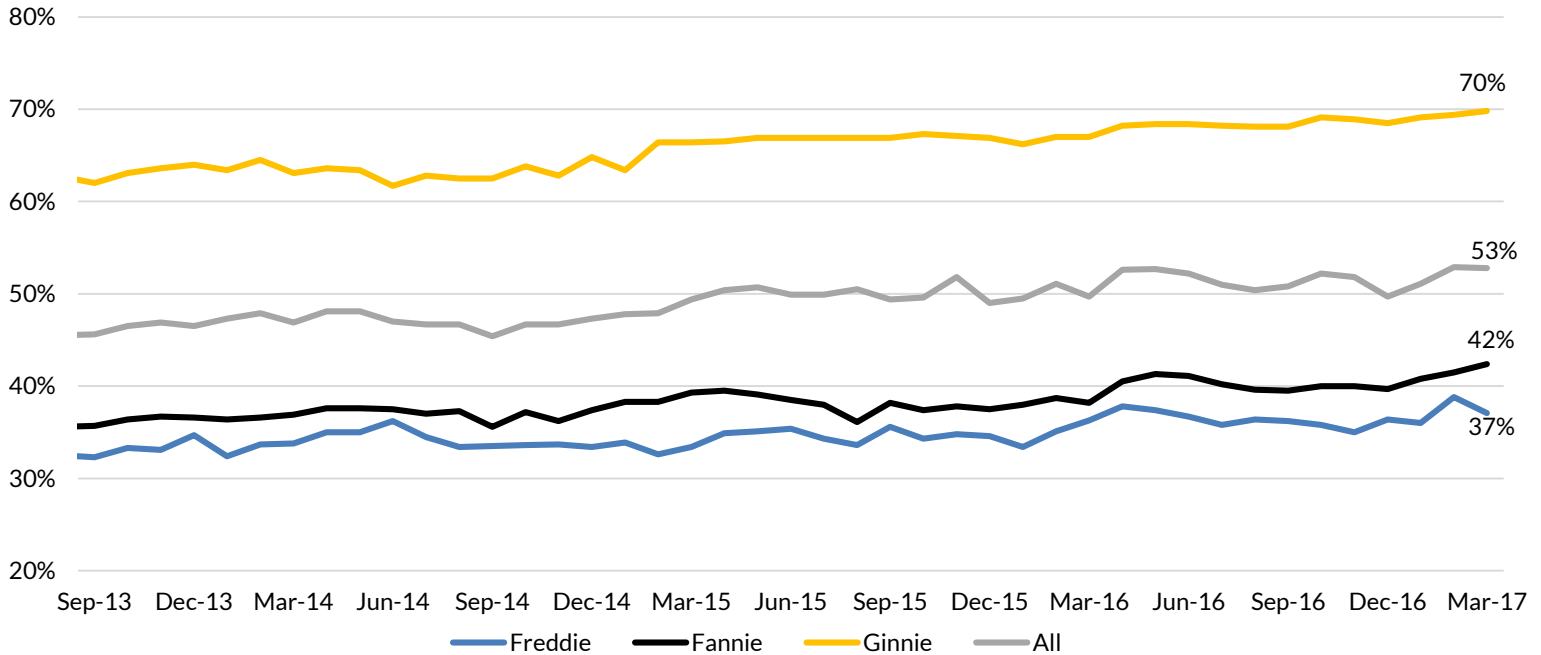
Sources: eMBS and Urban Institute.

Note: Based on at-issuance balance. "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of March 2017.

Credit Box

First time homebuyers are more important to the Ginnie Mae market, comprising 70 percent of purchase originations, compared to Fannie and Freddie's 42 percent and 37 percent share of the first-time homebuyer market. The bottom table shows that based on mortgages originated in March 2017, 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, a much higher LTV and a slightly lower DTI, thus requiring a higher interest rate.

First Time Homebuyer Share: Purchase Only Loans



Sources: eMBS and Urban Institute. Note: Data as of March 2017.

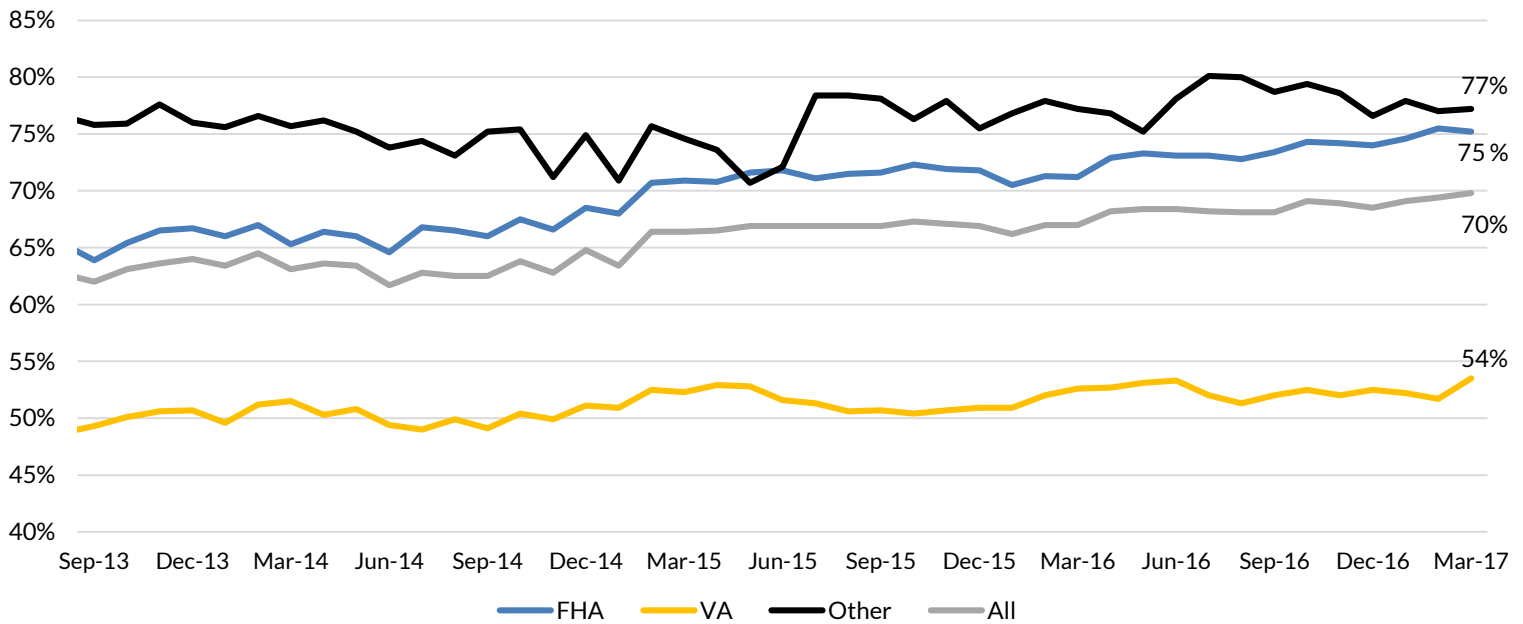
	Fannie Mae		Freddie Mac		Ginnie Mae		All	
	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat
Loan Amount (\$Thousands)	217.7	245.2	246.0	259.8	195.7	235.7	209.9	246.3
Credit Score	737.3	752.6	743.0	755.6	683.5	700.7	708.1	736.3
LTV (%)	86.6	79.0	86.4	80.5	96.5	95.1	91.9	84.5
DTI (%)	34.4	35.2	34.8	35.7	40.6	41.6	38.0	37.5
Loan Rate (%)	4.32	4.21	4.26	4.18	4.19	4.10	4.24	4.17

Sources: eMBS and Urban Institute. Note: Data as of March 2017.

Credit Box

Within the Ginnie Mae purchase market, 75 percent of FHA loans, 54 percent of VA loans and 77 percent of other loans represent financing for first time home buyers. The bottom table shows that based on mortgages originated in March 2017, 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, a higher LTV and slightly lower DTI, thus requiring a higher interest rate.

First Time Homebuyer Share: Ginnie Mae Purchase Only Loans Breakdown by Source



Sources: eMBS and Urban Institute. Note: Data as of March 2017.

	FHA		VA		Other		Ginnie Mae Total	
	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat	First-Time	Repeat
Loan Amount (\$ Thousands)	194.6	213.4	231.0	281.9	138.0	148.3	195.7	235.7
Credit Score	678.3	683.3	696.4	725.7	693.6	691.5	683.5	700.7
LTV (%)	95.4	94.2	98.6	95.4	99.3	99.3	96.5	95.1
DTI (%)	41.7	42.8	39.9	41.1	34.9	36.0	40.6	41.6
Loan Rate (%)	4.24	4.20	4.04	3.95	4.12	4.21	4.19	4.10

Sources: eMBS and Urban Institute. Note: Data as of March 2017. "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development.

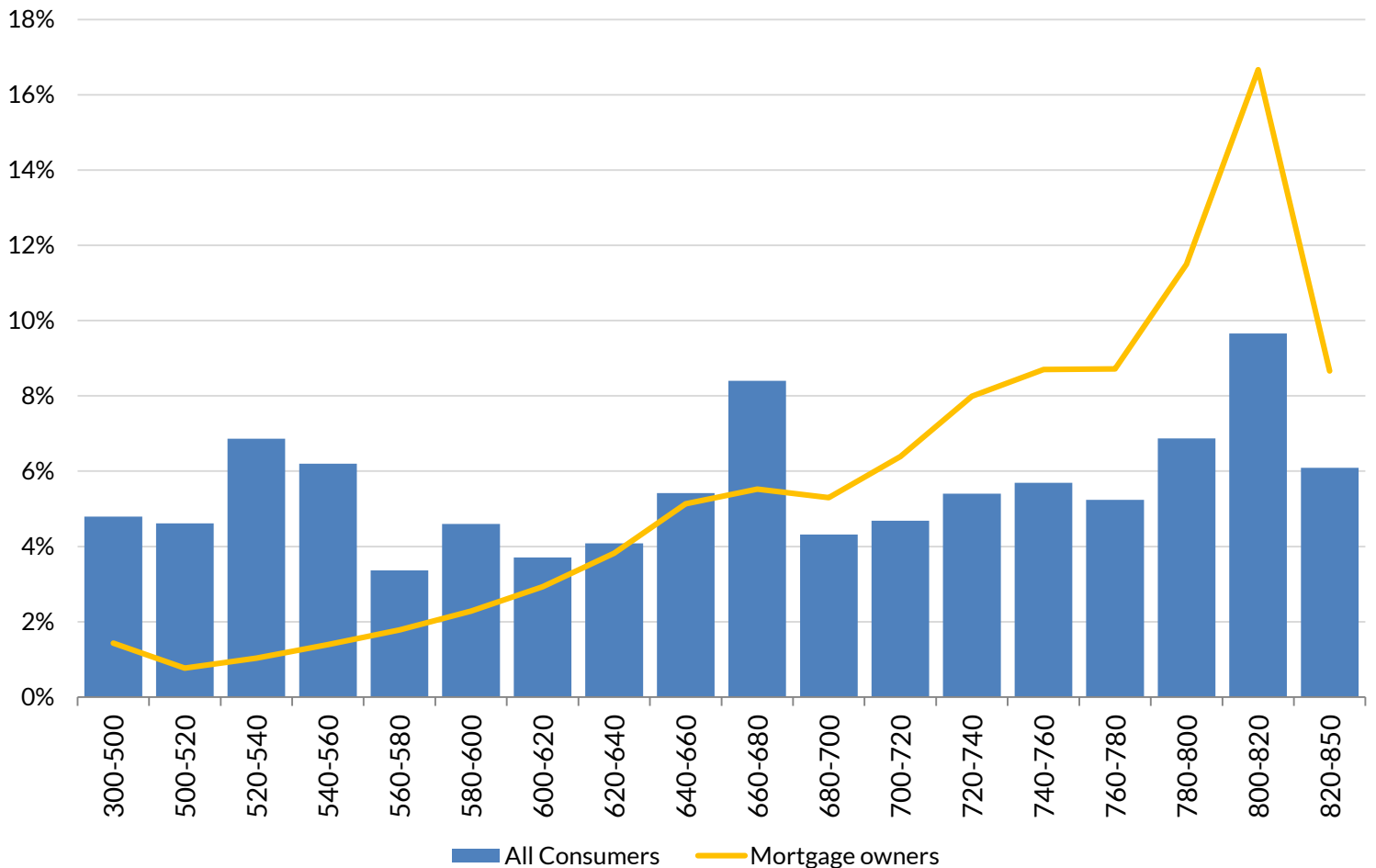
Credit Box

Consumers who have a mortgage are concentrated at the high end of the general credit score spectrum. The top table shows that the median FICO score for all consumers (675) is lower than the 25th percentile of those with a mortgage (676).

FICO Score Distribution: Mortgage Owners vs All Consumers

All Consumers- Percentiles								
Minimum	P5	P10	P25	P50	P75	P90	P95	Maximum
300	501	523	575	675	770	812	821	839

Mortgage Owners- Percentiles								
Minimum	P5	P10	P25	P50	P75	P90	P95	Maximum
306	564	609	676	749	800	818	824	839



Sources: Credit Bureau Data and Urban Institute.

Note: Data as of August 2015.

March 2017 Credit Box at a Glance

In March 2017, the median Ginnie Mae FICO score was 683 versus 749 for Fannie and 753 for Freddie. Note that the FICO score for the 10th percentile was 625 for Ginnie Mae, versus 669 for Fannie and 680 for Freddie. Within the Ginnie Mae market, FHA loans have a median FICO score of 673, VA loans have a median FICO score of 706 and other loans have a median FICO score of 690.

Purchase FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	210,598	645	679	728	773	796	724
Fannie	73,198	681	715	756	786	801	747
Freddie	48,274	691	723	759	787	801	752
Ginnie	89,126	627	650	682	724	768	689

Refi FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	186,966	647	684	730	775	798	726
Fannie	87,490	661	696	742	780	800	735
Freddie	56,913	670	704	746	782	801	740
Ginnie	42,563	620	648	684	727	772	688

All FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	397,564	646	682	729	774	797	725
Fannie	160,688	669	704	749	783	801	741
Freddie	105,187	680	712	753	785	801	745
Ginnie	131,689	625	649	683	725	770	688

Purchase FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	89,126	627	650	682	724	768	689
FHA	57,574	624	646	674	711	749	680
VA	22,892	634	662	707	761	792	710
Other	8,660	640	658	690	728	762	693

Refi FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	42,563	620	648	684	727	772	688
FHA	24,340	609	640	672	707	749	674
VA	17,732	632	664	704	753	787	706
Other	491	631	660	695	744	780	699

All FICO: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	131,689	625	649	683	725	770	688
FHA	81,914	621	644	673	710	749	678
VA	40,624	633	663	706	757	790	708
Other	9,151	639	658	690	729	763	693

Sources: eMBS and Urban Institute. Note: "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of March 2017.

March 2017 Credit Box at a Glance

In March 2017, the median loan-to-value ratio (LTV) was 96.5 percent for Ginnie Mae, 76.0 percent for Fannie Mae, and 77.0 percent for Freddie Mac. The 10th percentile was 80.0 percent for Ginnie Mae and 46-48 percent for the GSEs. Within the Ginnie Mae market, the median LTV was 96.5 for FHA, 99.0 for VA and 101.0 for the other lending programs.

Purchase LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	205,499	73.0	80.0	95.0	96.5	99.3	87.6
Fannie	73,269	63.0	78.0	80.0	95.0	95.0	81.7
Freddie	48,278	65.0	78.0	80.0	95.0	95.0	81.9
Ginnie	83,952	91.6	96.5	96.5	98.8	101.2	96.0

Refi LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	182,470	43.0	58.0	73.0	80.0	90.6	69.3
Fannie	87,512	40.0	54.0	69.0	78.0	81.0	65.1
Freddie	56,906	41.0	55.0	69.0	79.0	82.0	65.9
Ginnie	38,052	67.2	79.5	85.0	94.1	98.3	84.3

All LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	387,969	52.0	70.0	80.0	95.0	97.0	79.0
Fannie	160,781	46.0	62.0	76.0	84.0	95.0	72.6
Freddie	105,184	48.0	63.0	77.0	84.0	95.0	73.2
Ginnie	122,004	80.0	89.8	96.5	96.7	101.0	92.4

Purchase LTV: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	83,952	91.6	96.5	96.5	98.8	101.2	96.0
FHA	53,300	92.5	96.5	96.5	96.5	96.5	95.1
VA	21,949	88.9	96.5	100.0	101.9	102.3	97.1
Other	8,703	94.9	99.0	101.0	101.0	102.0	99.3

Refi LTV: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	38,052	67.2	79.5	85.0	94.1	98.3	84.3
FHA	25,667	68.2	79.4	85.0	90.9	95.8	82.9
VA	11,860	64.4	79.7	90.8	100.0	102.2	86.8
Other	525	77.0	87.9	95.1	100.3	101.6	92.4

All LTV: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	122,004	80.0	89.8	96.5	96.7	101.0	92.4
FHA	78,967	80.0	87.2	96.5	96.5	96.5	91.1
VA	33,809	77.1	90.5	99.0	101.3	102.2	93.5
Other	9,228	93.5	98.7	101.0	101.0	102.0	98.9

Sources: eMBS and Urban Institute. Note: "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of March 2017.

March 2017 Credit Box at a Glance

In March 2017, the median Ginnie Mae debt-to-income ratio (DTI) was 41.3 percent, considerably higher than the 36 percent median DTIs for Fannie and Freddie. The 10th percentile for Ginnie Mae was 27.3 percent, also much higher than the 21-22 percent DTIs for the GSEs. Within the Ginnie Mae market, the median FHA DTI ratio was 42.7 percent, versus 40.6 percent for VA and 35.9 percent for other lending programs.

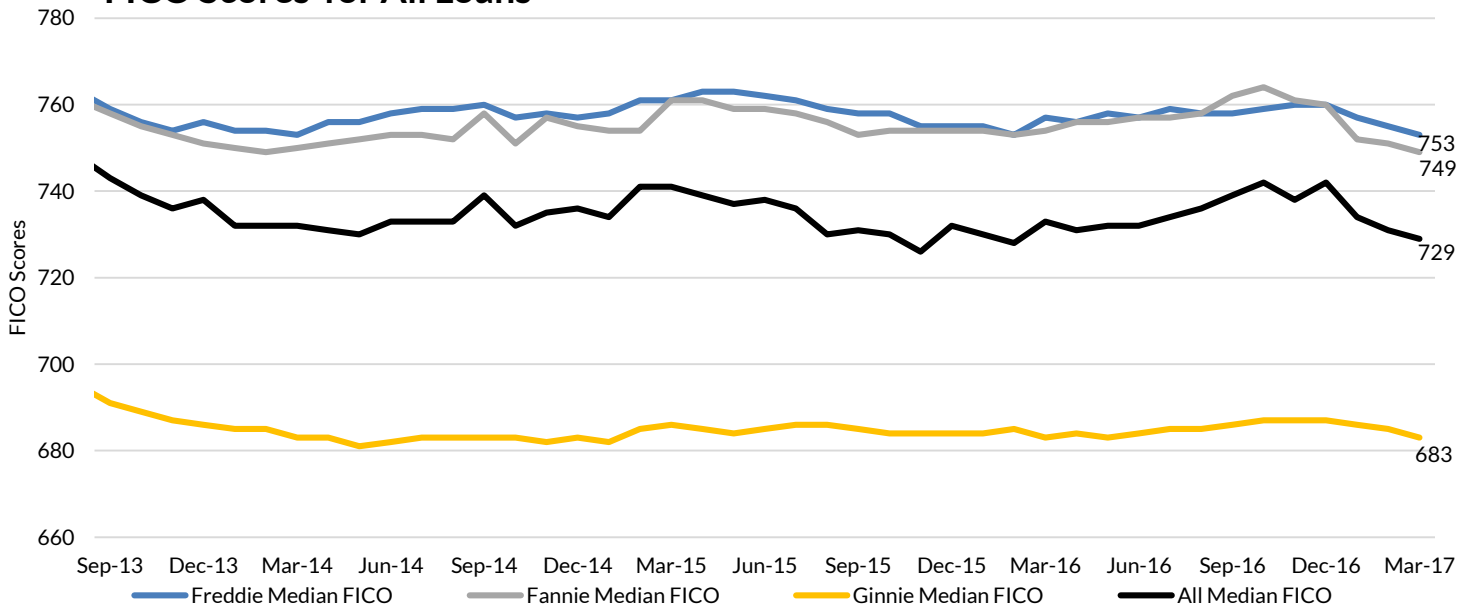
Purchase DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	210,501	24.0	31.0	38.6	44.0	49.0	37.4
Fannie	73,257	22.0	29.0	36.0	42.0	45.0	34.7
Freddie	48,253	22.0	29.0	37.0	43.0	46.0	35.2
Ginnie	88,991	28.2	34.8	41.6	47.8	53.0	40.9
Refi DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	171,379	21.0	28.0	36.7	43.0	47.0	35.5
Fannie	85,248	21.0	27.0	35.0	42.0	45.0	34.3
Freddie	55,129	21.0	28.0	36.0	43.0	46.0	35.0
Ginnie	31,002	24.8	32.3	40.6	47.5	52.4	39.5
All DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	381,880	23.0	30.0	38.0	44.0	48.3	36.5
Fannie	158,505	21.0	28.0	36.0	42.0	45.0	34.5
Freddie	103,382	22.0	28.0	36.0	43.0	46.0	35.1
Ginnie	119,993	27.3	34.2	41.3	47.7	52.9	40.6
Purchase DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	88,991	28.2	34.8	41.6	47.8	53.0	40.9
FHA	57,639	29.3	36.0	43.0	48.9	53.7	42.0
VA	22,777	27.0	34.0	41.0	47.6	52.7	40.4
Other	8,575	25.7	30.6	36.1	40.2	43.1	35.1
Refi DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	31,002	24.8	32.3	40.6	47.5	52.4	39.5
FHA	17,124	26.1	33.4	41.5	48.1	52.8	40.3
VA	13,514	23.5	31.2	39.7	46.7	52.0	38.7
Other	364	16.5	22.1	31.4	39.5	45.7	31.2
All DTI: Ginnie Mae Breakdown By Source							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	119,993	27.3	34.2	41.3	47.7	52.9	40.6
FHA	74,763	28.6	35.4	42.7	48.7	53.5	41.6
VA	36,291	25.7	33.0	40.6	47.2	52.4	39.8
Other	8,939	25.2	30.3	35.9	40.1	43.2	34.9

Sources: eMBS and Urban Institute. Note: "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of March 2017.

Credit Box: Historical

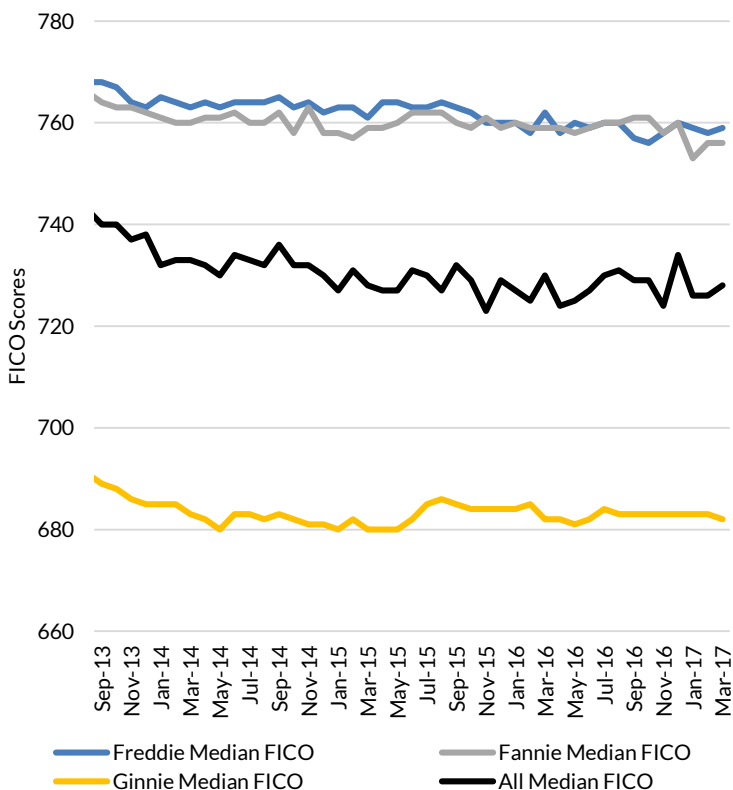
This figure, showing median FICO scores since October 2013, demonstrates that the median FICO score for Ginnie Mae have always been considerably lower than for the GSEs. The difference between Ginnie Mae and GSE FICO scores is wider in purchase loans than in refi loans. The recent drop in FICO scores for refinance loans reflects the fact that lenders are willing to consider refinancing more marginal borrowers, and they have the time to do it as overall volumes are dropping.

FICO Scores for All Loans



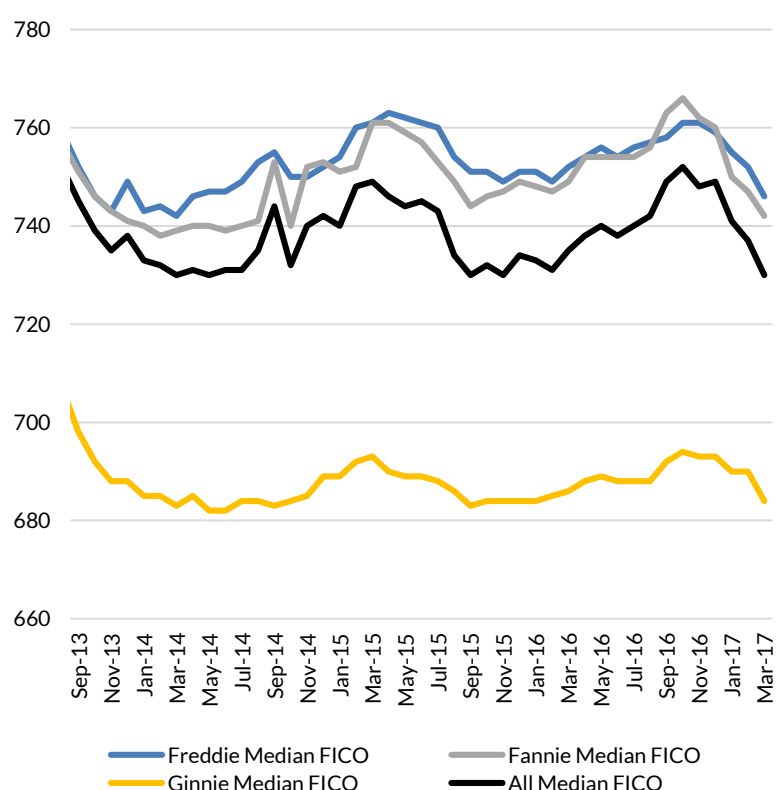
Sources: eMBS and Urban Institute. Note: Data as of March 2017

FICO Scores for Purchase Loans



Sources: eMBS and Urban Institute. Note: Data as of March 2017

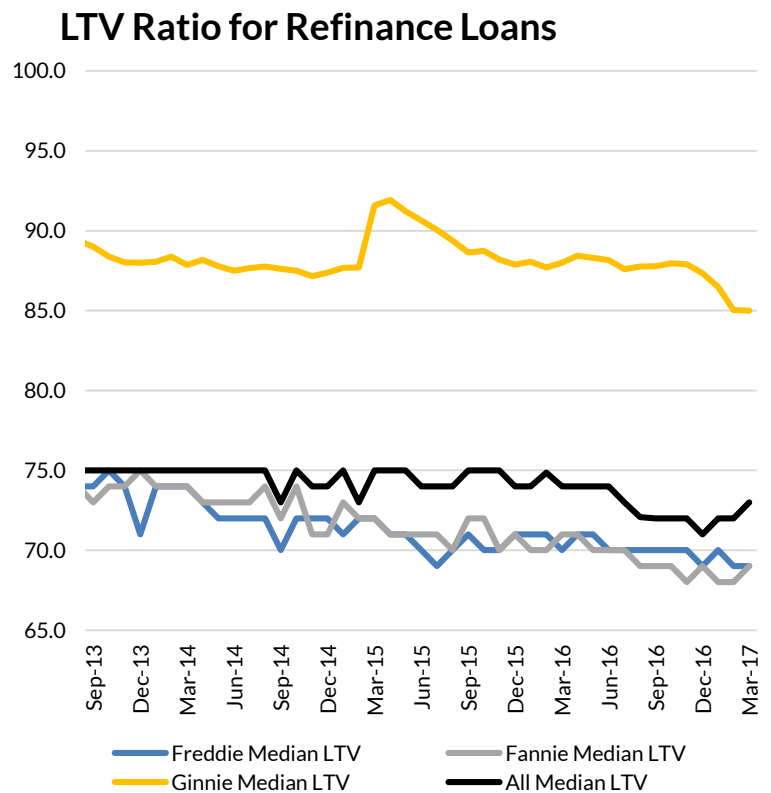
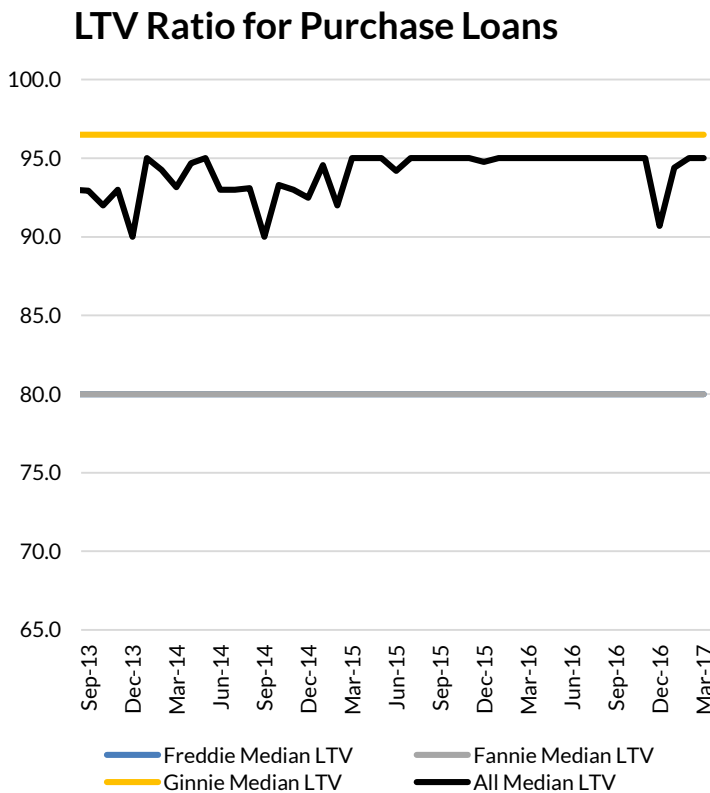
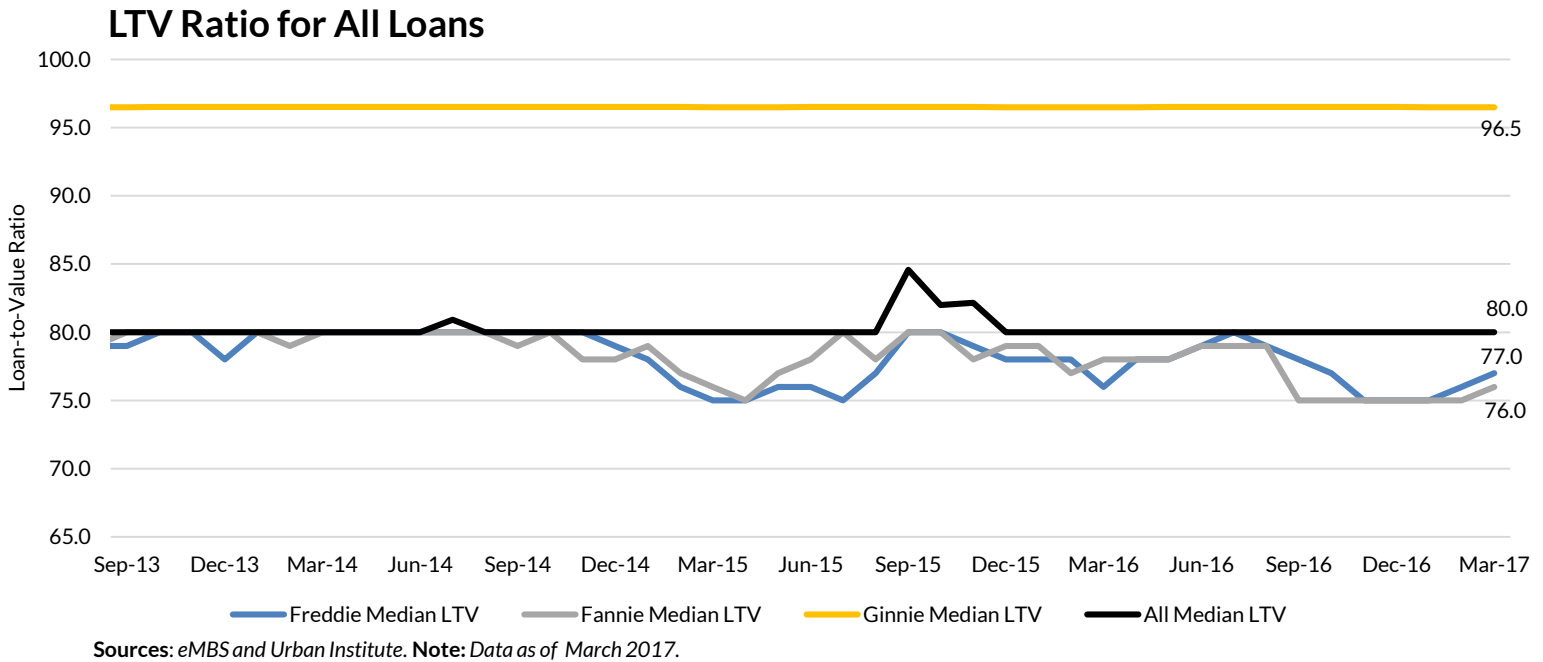
FICO Scores for Refinance Loans



Sources: eMBS and Urban Institute. Note: Data as of March 2017

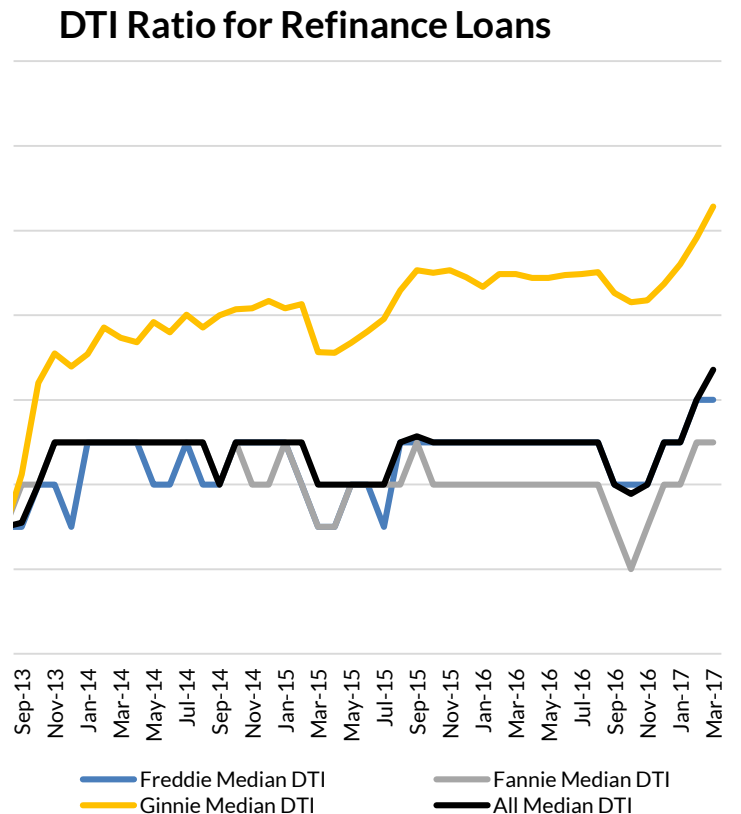
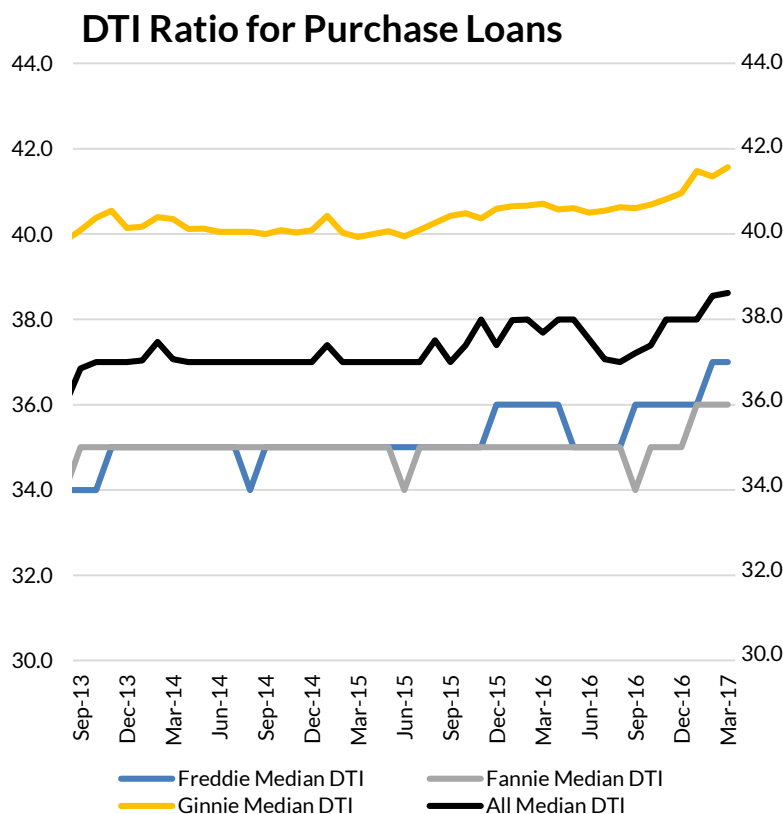
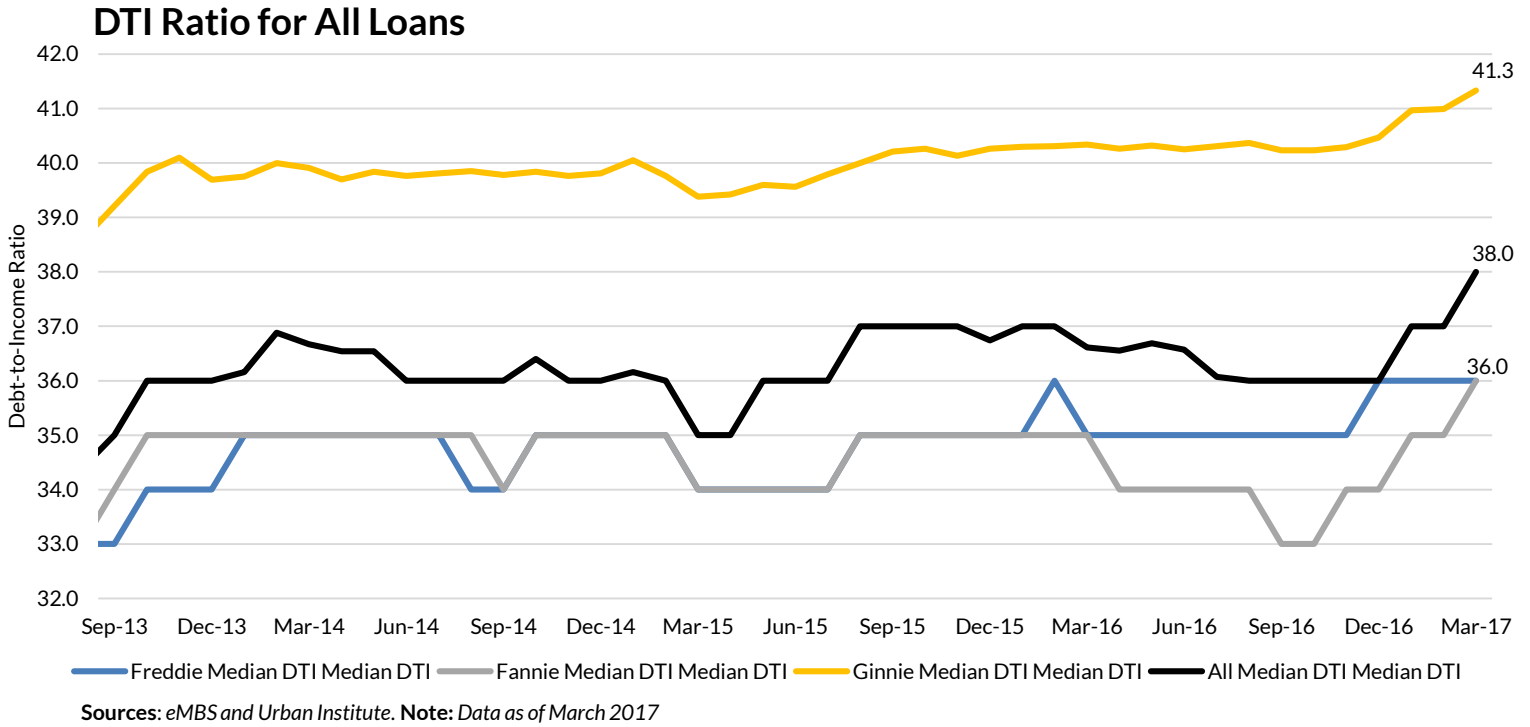
Credit Box: Historical

Median LTVs for Ginnie Mae loans have historically been at 96.5, much higher than the 75-80 average for the GSEs. Through time, refinances have LTVs about 10 points lower than their purchase counterparts.



Credit Box: Historical

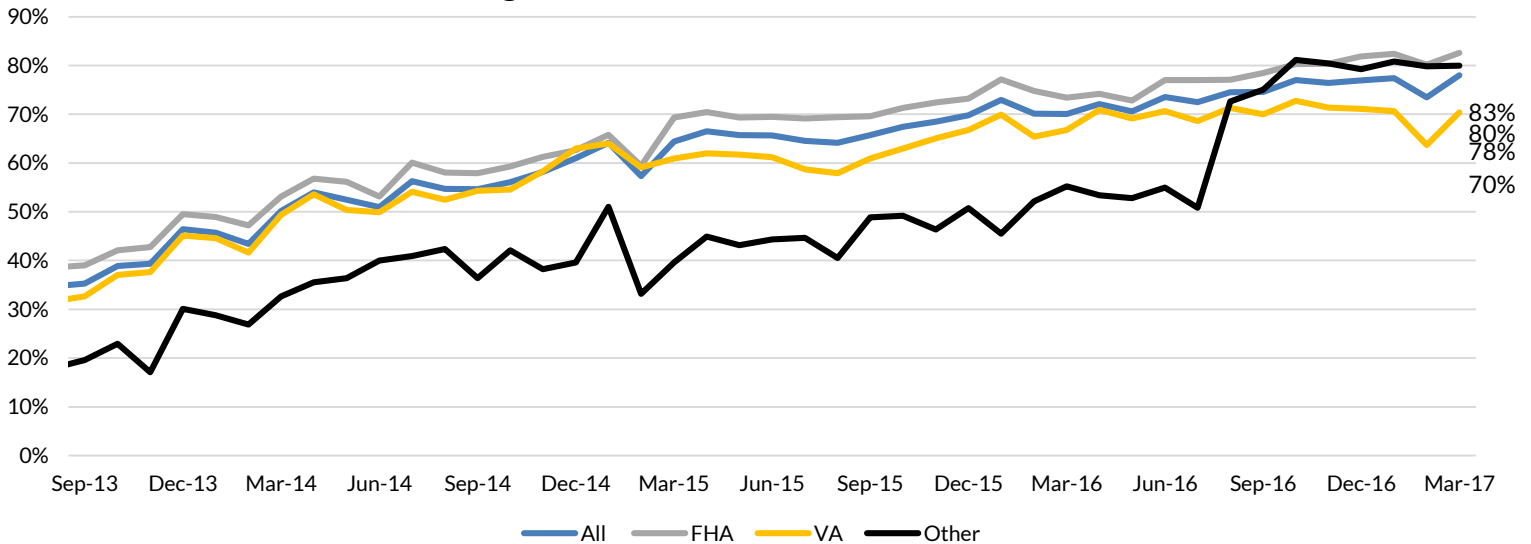
Median debt-to-income ratios on Ginnie Mae loans have historically been in the low 40s, considerably higher than the 36 percent DTIs for the GSEs. The DTIs for refinance loans have historically been much lower than for purchase loans, but the refi DTIs have been creeping up sharply in recent months.



Ginnie Mae Non-bank Originators

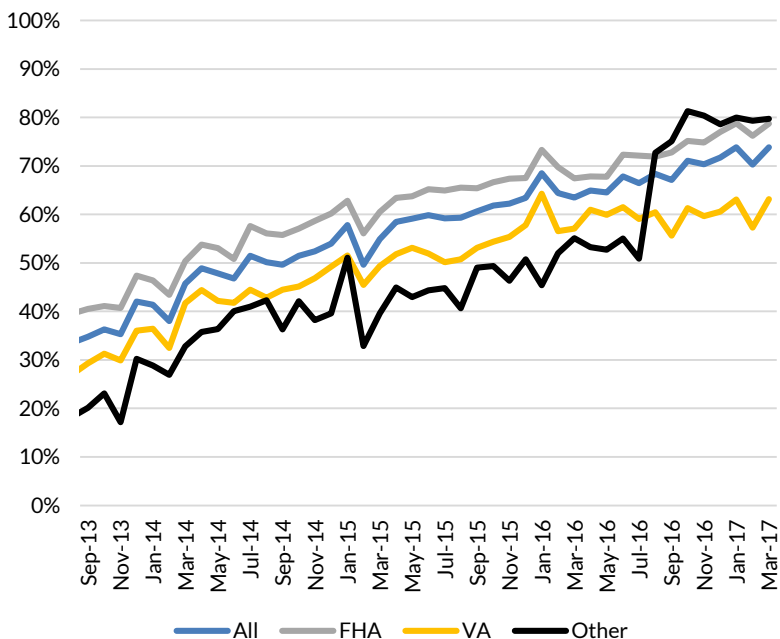
The non-bank originator share of the Ginnie Mae market went up in March 2017, after falling in February. VA issuance stood at 70% in March, while FHA issuance stood at 83 percent, and Other issuance was at 80 percent.

Ginnie Mae Non-bank Originator Share: All Loans



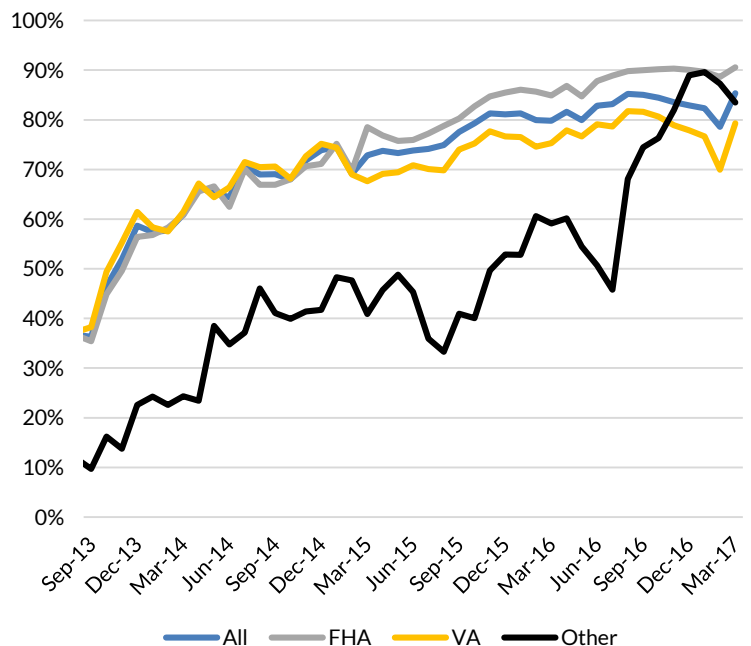
Sources: eMBS and Urban Institute. Note: "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of March 2017.

Ginnie Mae Non-bank Share: Purchase Loans



Sources: eMBS and Urban Institute
Note: Data as of March 2017.

Ginnie Mae Non-bank Share: Refi Loans



Sources: eMBS and Urban Institute
Note: Data as of March 2017.

Ginnie Mae Non-bank Originators: March 2017 Credit Box

An analysis of recent origination suggests that non-bank originators have considerably lower median borrower FICO scores than do bank originators. Overall, the median Ginnie Mae FICO score is 683-- it is 696 for bank borrowers and 679 for non-bank borrowers. For FHA borrowers, the median FICO score for bank originators is 684 and 671 for non-banks. For VA borrowers, the median FICO score for bank originators is 718 and 700 for non-banks. For “Other” loans, the median FICO score for bank originators is 695 and 689 for non-banks.

All Ginnie Mae FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	131,230	625	649	683	725	770	688
Bank	29,687	641	662	696	744	783	702
Non-Bank	101,543	622	646	679	720	764	684
FHA Ginnie Mae FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	81,559	621	644	673	710	749	678
Bank	15,386	640	658	684	718	759	690
Non-Bank	66,173	619	641	671	707	746	675
VA Ginnie Mae FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	40,570	633	663	706	757	790	708
Bank	12,446	643	673	718	768	795	719
Non-Bank	28,124	629	659	700	752	787	704
Other Ginnie Mae FICO							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	9,101	639	658	690	728	763	693
Bank	1,855	621	656	695	743	778	693
Non-Bank	7,246	641	659	689	725	759	694

Sources: eMBS and Urban Institute. Note: “Other” refers to loans insured by HUD’s Office of Public and Indian Housing and the Department of Agriculture’s Rural Development. Data as of March 2017.

Ginnie Mae Non-bank Originators: March 2017 Credit Box

An analysis of the loans backing Ginnie Mae origination indicates that there are virtually no differences in median LTV ratios between bank originated loans and non-bank originated loans. Mean LTVs for banks are actually marginally higher than their non-bank counterparts.

All Ginnie Mae LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	121,556	80.0	89.8	96.5	96.7	101.0	92.4
Bank	27,449	82.6	93.4	96.5	99.1	101.8	93.7
Non-Bank	94,107	79.4	88.2	96.5	96.5	101.0	92.0
FHA Ginnie Mae LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	78,616	80.0	87.1	96.5	96.5	96.5	91.1
Bank	14,882	84.7	94.7	96.5	96.5	96.5	93.1
Non-Bank	63,734	79.0	85.3	96.5	96.5	96.5	90.7
VA Ginnie Mae LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	33,761	77.1	90.4	99.0	101.3	102.2	93.5
Bank	10,668	78.1	90.7	99.0	101.3	102.2	93.6
Non-Bank	23,093	76.8	90.4	99.0	101.3	102.3	93.4
Other Ginnie Mae LTV							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	9,179	93.6	98.7	101.0	101.0	102.0	98.9
Bank	1,899	95.2	100.0	101.0	102.0	103.5	99.6
Non-Bank	7,280	93.3	98.4	100.8	101.0	101.0	98.7

Sources: eMBS and Urban Institute. Note: "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of March 2017.

Ginnie Mae Non-bank Originators: March 2017 Credit Box

An analysis of the borrowers' DTI ratios for bank versus non-bank originators indicates the former are very slightly more conservative. That is, the median DTI ratio for bank originators is 40.2, versus 41.7 for non-banks.

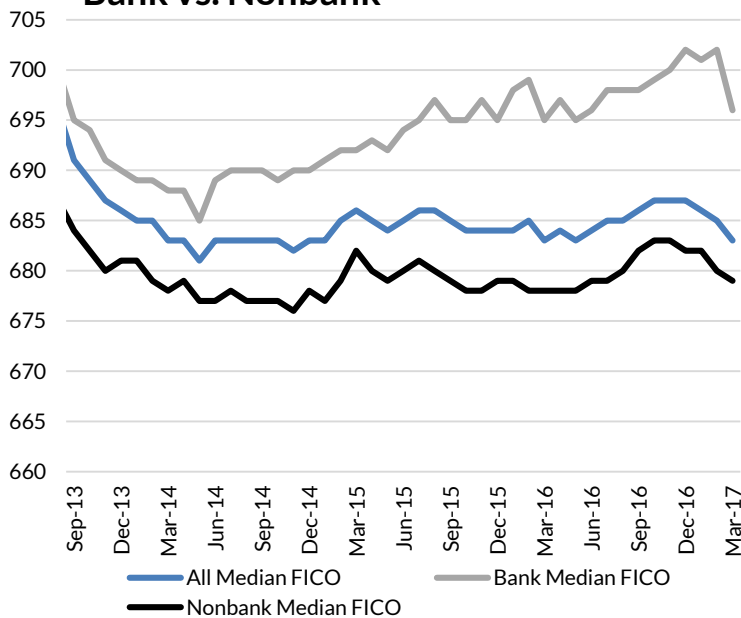
All Ginnie Mae DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	119,535	27.3	34.2	41.3	47.7	52.9	40.6
Bank	28,232	25.9	32.9	40.2	45.9	51.0	39.2
Non-Bank	91,303	27.7	34.6	41.7	48.3	53.3	41.0
FHA Ginnie Mae DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	74,409	28.5	35.4	42.7	48.7	53.5	41.6
Bank	14,916	27.8	34.6	41.5	46.6	51.6	40.3
Non-Bank	59,493	28.7	35.6	43.0	49.1	53.9	41.9
VA Ginnie Mae DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	36,237	25.7	33.0	40.6	47.2	52.5	39.8
Bank	11,563	24.1	31.7	39.4	46.0	51.0	38.5
Non-Bank	24,674	26.5	33.7	41.1	47.8	53.0	40.4
Other Ginnie Mae DTI							
	Number of Loans	P10	P25	Median	P75	P90	Mean
All	8,889	25.3	30.3	36.0	40.2	43.2	35.0
Bank	1,753	24.6	29.3	35.6	40.4	43.5	34.6
Non-Bank	7,136	25.4	30.5	36.1	40.1	43.1	35.0

Sources: eMBS and Urban Institute. Note: "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of March 2017.

Ginnie Mae Nonbank Originators: Historical Credit Box

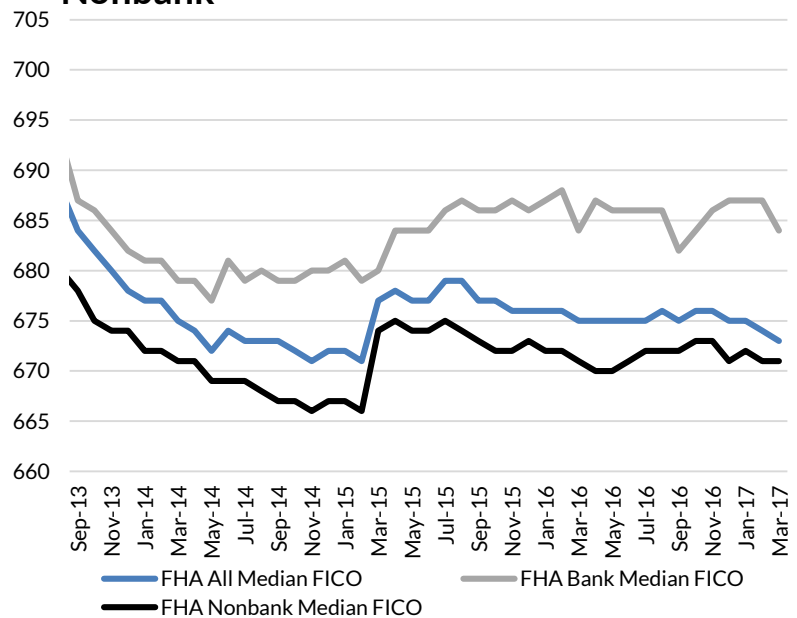
The difference in FICO scores between loans originated by banks and non-banks has narrowed for Ginnie Mae loans in March 2017, as the median FICO scores for bank originators dropped sharply this month for all three channels.

Ginnie Mae FICO Scores Bank vs. Nonbank



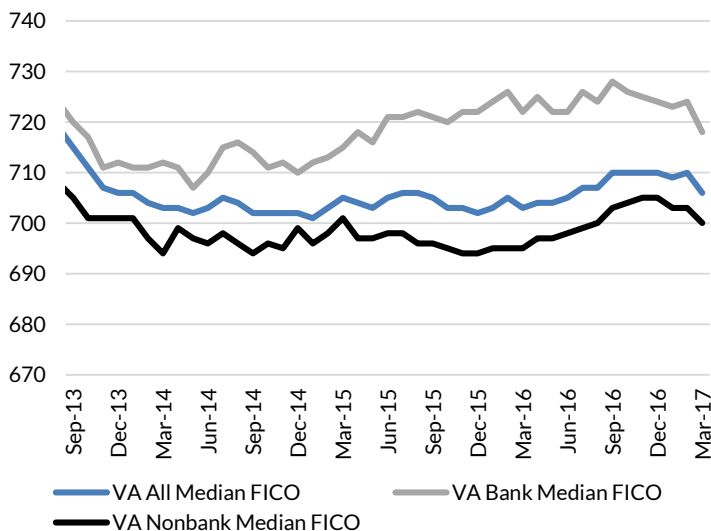
Sources: eMBS and Urban Institute Note: Data as of March 2017

Ginnie Mae FHA FICO Scores Bank vs. Nonbank



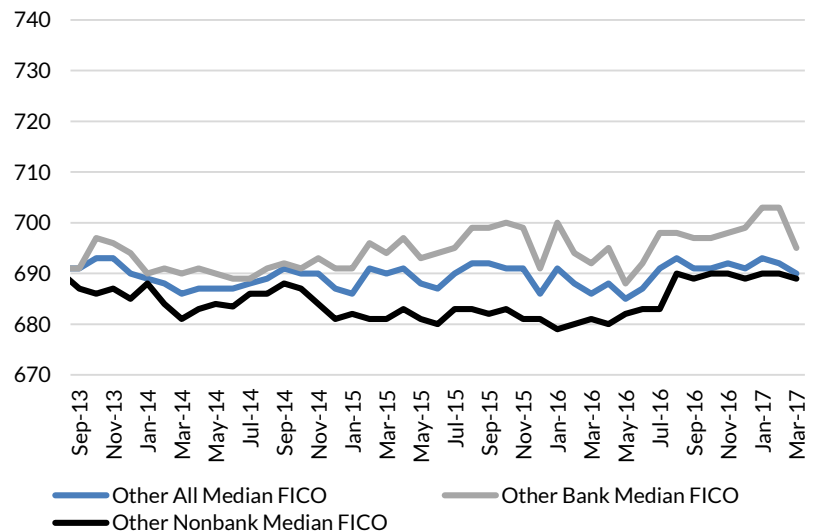
Sources: eMBS and Urban Institute Note: Data as of March 2017

Ginnie Mae VA FICO Scores Bank vs. Nonbank



Sources: eMBS and Urban Institute Note: Data as of March 2017

Ginnie Mae Other FICO Scores Bank vs. Nonbank

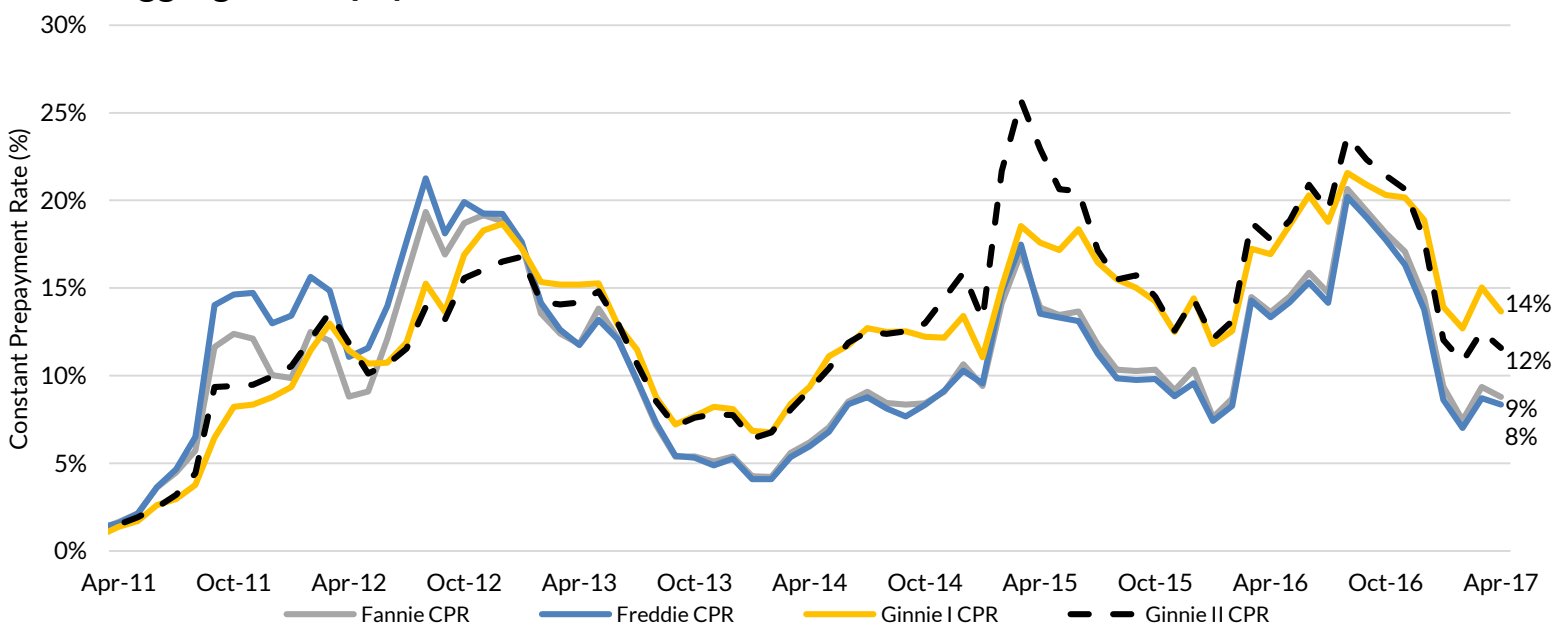


Sources: eMBS and Urban Institute Note: "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of March 2017.

Prepayments

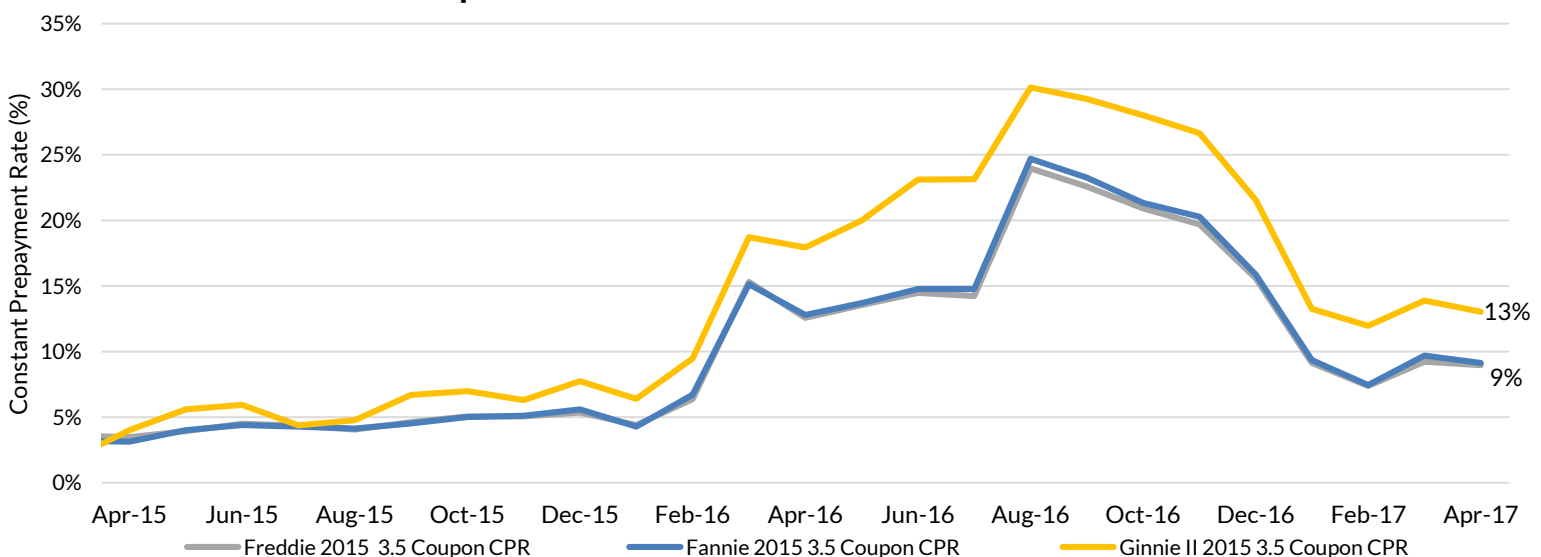
Prepayments on Ginnie Mae securities were lower than on GSE securities from 2011 through mid-2013, but have been higher since. These differences hold across all coupon buckets. The differences are especially pronounced on more recent production. These increased Ginnie speeds reflect the growing share of VA loans, which prepay at faster speeds than FHA loans. This also reflects the fact that the FHA streamlined refinance program applies to a wide range of borrowers and unlike GSE streamlined refinances, requires no credit report and no appraisal. Some of the upfront mortgage insurance premium can also be applied to the refinanced loan. Moreover, FHA permits refinancing of existing mortgages after 6 months, while the GSEs do not allow refinancing for a year. As rates have risen, the prepayment speeds for all agencies have slowed down considerably. After the small uptick in March, the speeds edged down again in April, mostly due to a decreased numbers of days in the month compared to March (20 vs 23).

Aggregate Prepayments



Sources: Credit Suisse and Urban Institute. Note: Data as of April 2017

2015 Issued 3.5 Coupon CPR

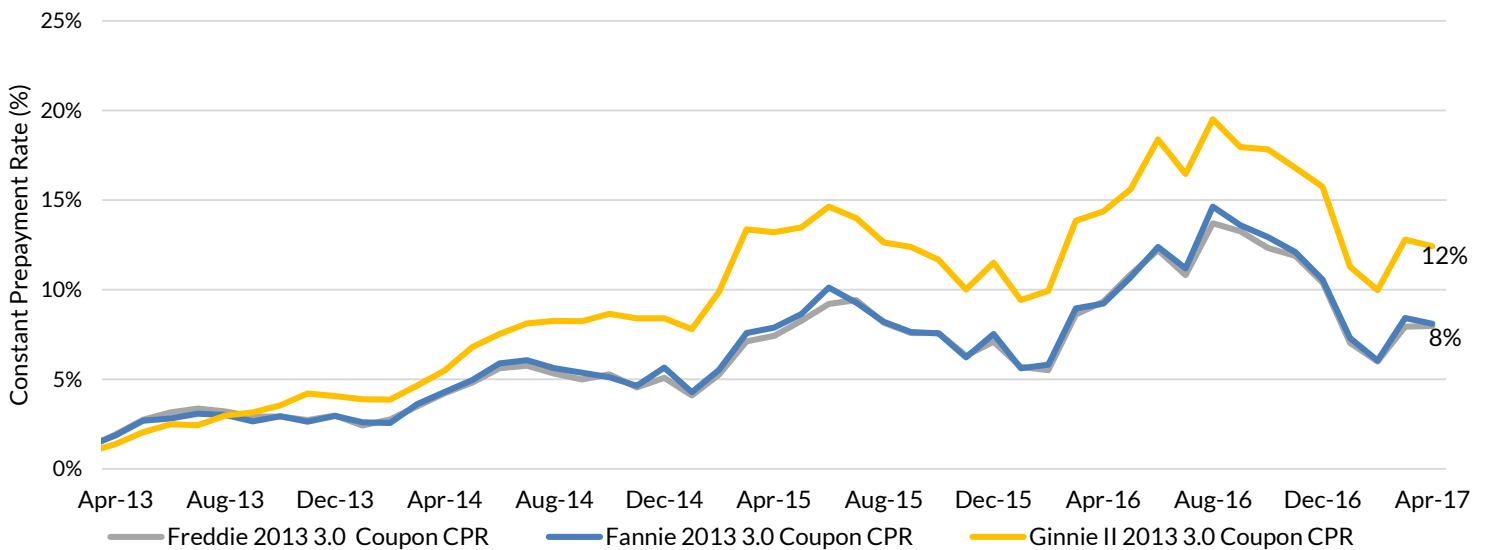


Sources: Credit Suisse and Urban Institute. Note: Data as of April 2017

Prepayments

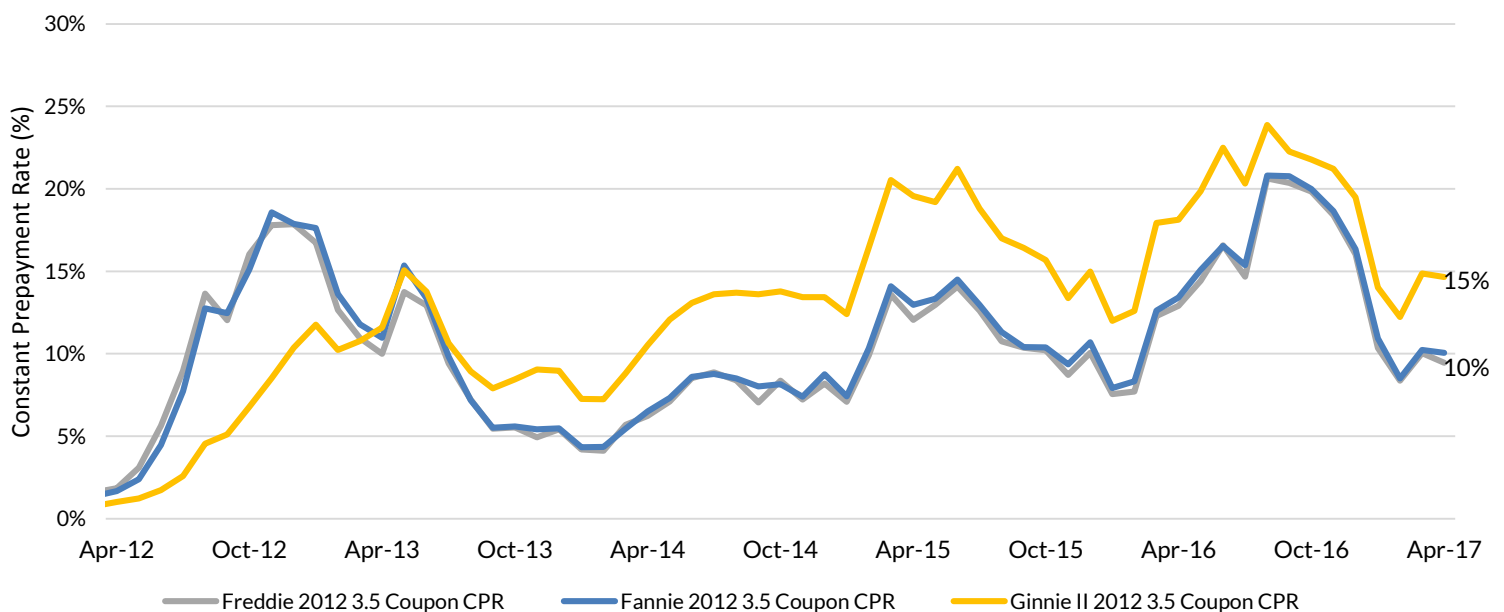
The 2013 Ginnie II 3.0s are prepaying faster than their conventional counterparts. 2012 Ginnie II 3.5s have been faster since mid-2013. The differences accelerated in 2015—potentially due to the FHA mortgage insurance premium (MIP) cut. In January, 2015 FHA lowered its MIPs from 135 basis points per annum to 85 basis points per annum; this gives 2012 and 2013 FHA mortgages taken out with MIPs of 125-135 bps, a 40-50 basis point rate incentive that conventional mortgages do not have. GSE guarantee fees have gone up over that same period, creating a disincentive for conventional loans. Moreover, recent originations are more heavily VA loan types, which are more prepayment responsive than either FHA or conventional. As mortgage rates have risen, the prepayment speeds of Ginnie and Conventional loans both fell sharply. The speeds ticked up for all agencies in March, mostly due to an increased numbers of days in the month of March (23) compared to February (19). The speeds are now declining again in April which has fewer days (20).

2013 Issued 3.0 Coupon CPR



Sources: Credit Suisse and Urban Institute. Note: Data as of April 2017

2012 Issued 3.5 Coupon CPR

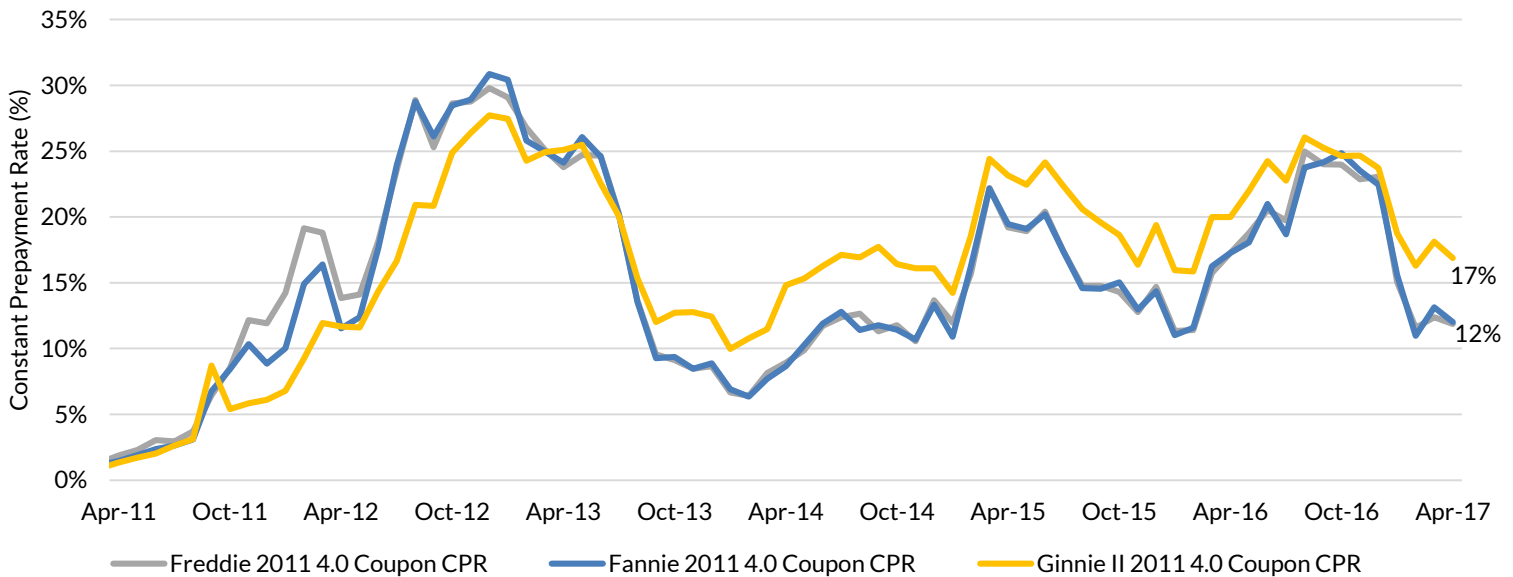


Sources: Credit Suisse and Urban Institute. Note: Data as of April 2017

Prepayments

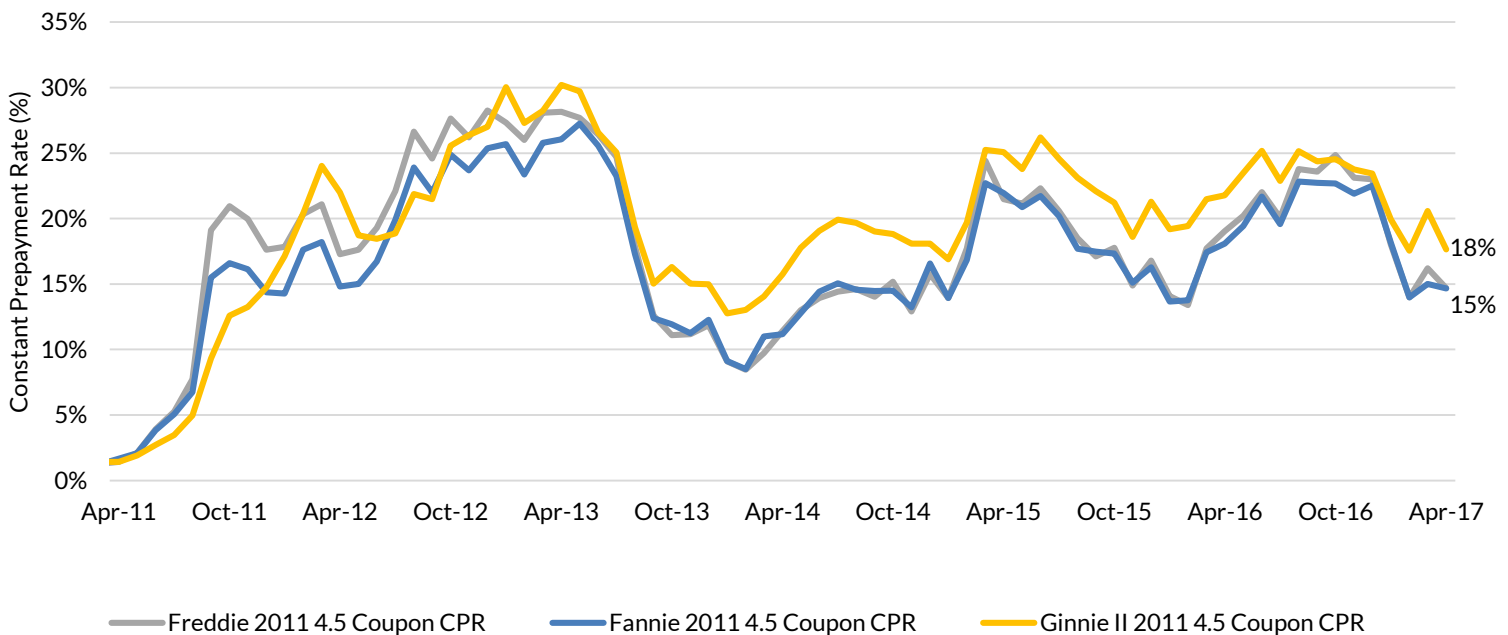
The 2011 Ginnie II 4.0s and 4.5s have been paying faster than their conventional counterparts since late 2013. Faster VA mortgage prepaus plus simplifications to the FHA streamlined programs in 2013 are likely contributors to the faster speeds. However, as mortgage rates started to rise sharply since November 2016, the speeds for all agencies have slowed down considerably. After the small uptick in March, the speeds trended down again in April partly due to a decreased number of days compared to March (20 vs 23).

2011 Issued 4.0 Coupon CPR



Sources: Credit Suisse and Urban Institute. Note: Data as of April 2017

2011 Issued 4.5 Coupon CPR

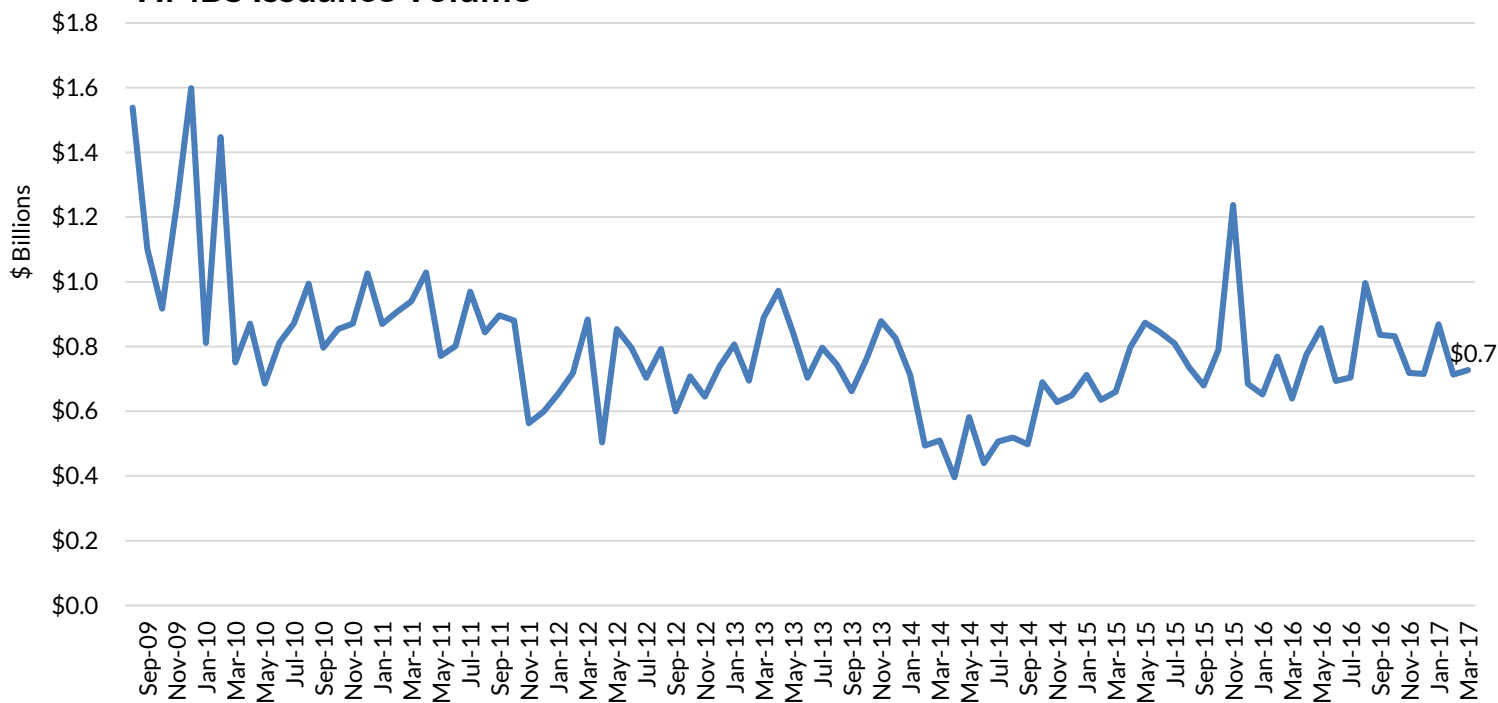


Sources: Credit Suisse and Urban Institute. Note: Data as of April 2017

Other Ginnie Mae Programs Reverse Mortgage Volumes

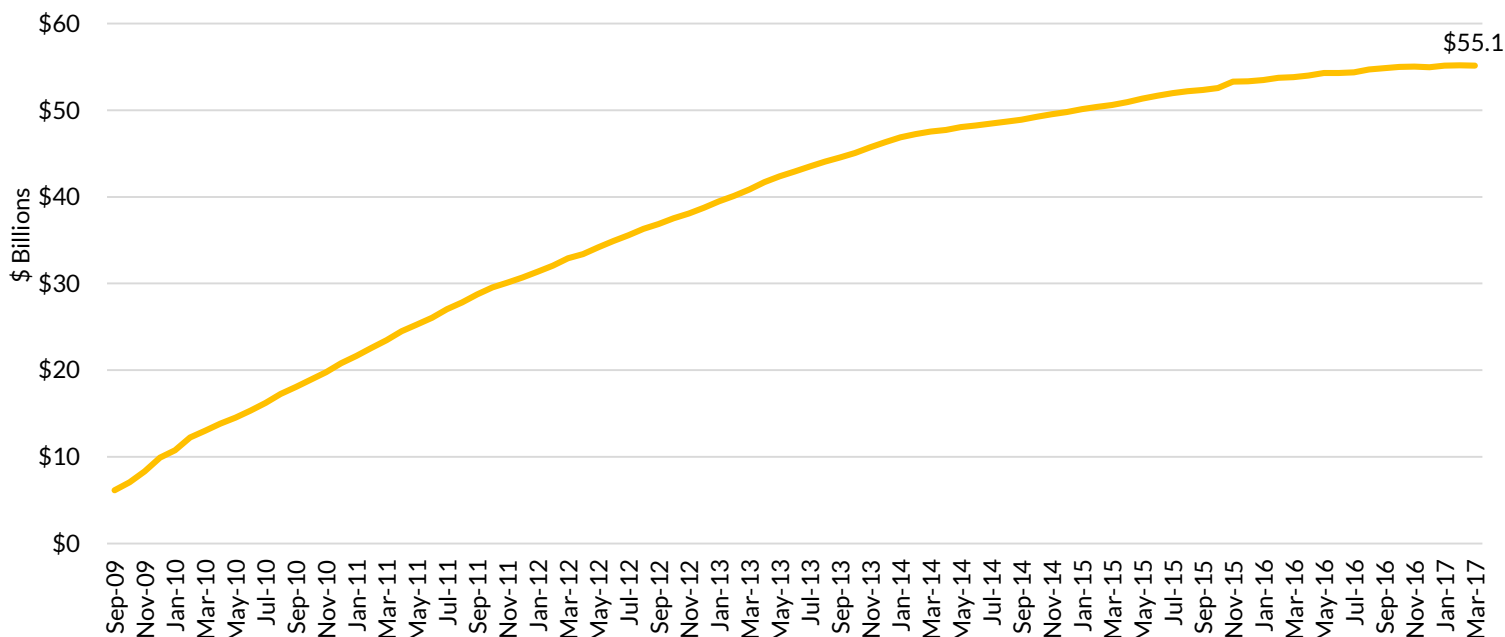
Ginnie Mae reverse mortgage volumes remain steady, with issuance of \$0.7 billion in March. Outstanding securities totaled \$55.1 billion in March.

HMBS Issuance Volume



Sources: Ginnie Mae and Urban Institute. Note: Data as of March 2017

HMBS Outstanding



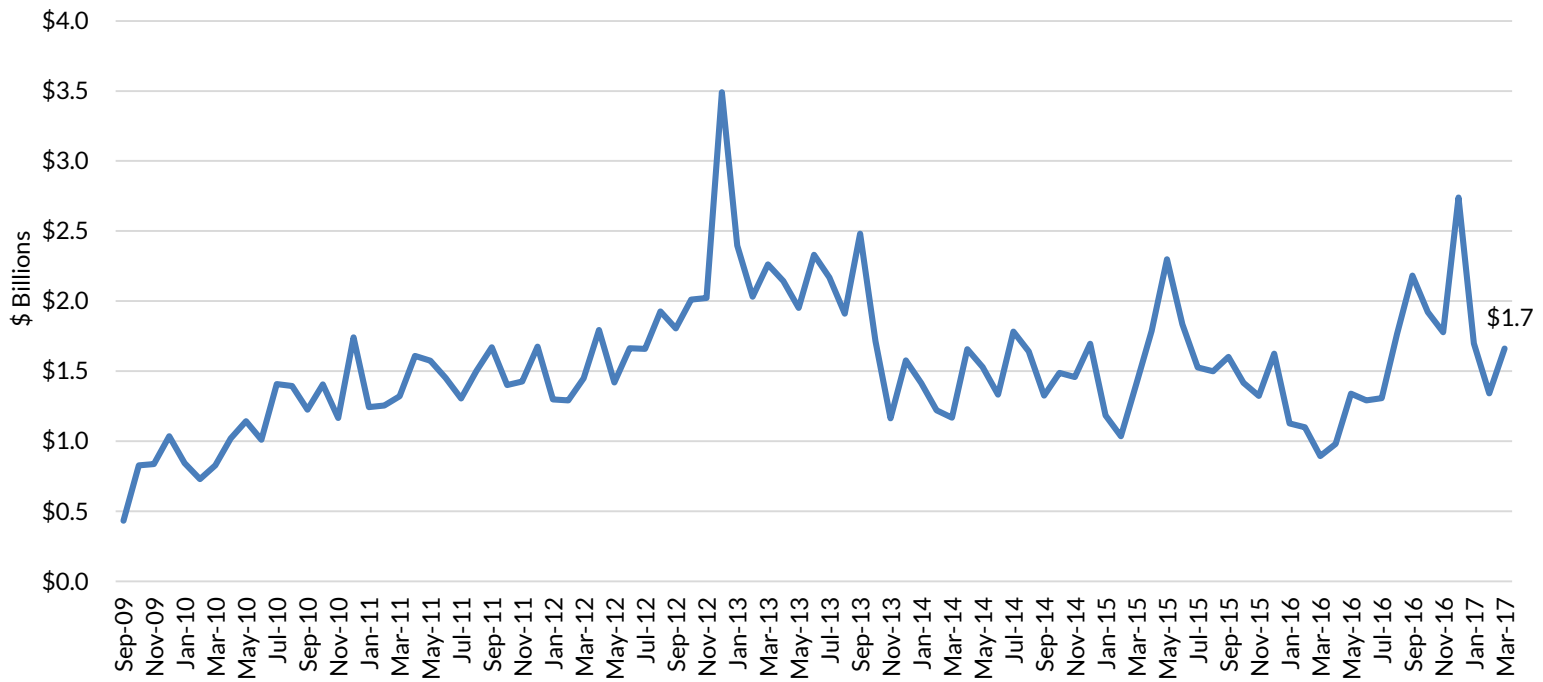
Sources: Ginnie Mae and Urban Institute. Note: Data as of March 2017

Other Ginnie Mae Programs

Multifamily Market

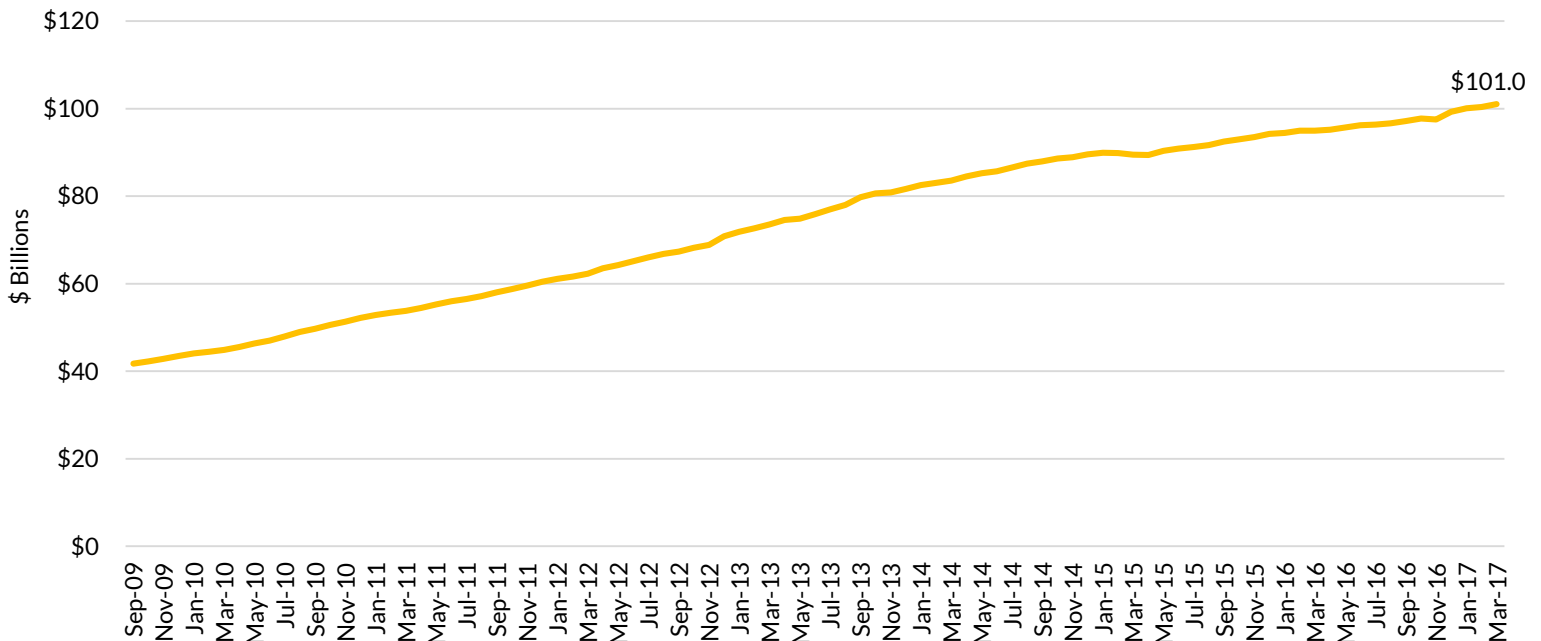
Ginnie Mae multifamily issuance volumes in March totaled \$1.7 billion. Outstanding multifamily securities totaled \$101.0 billion in March.

Ginnie Mae Multifamily MBS Issuance



Sources: Ginnie Mae and Urban Institute. Note: Data as of March 2017.

Ginnie Mae Multifamily MBS Outstanding

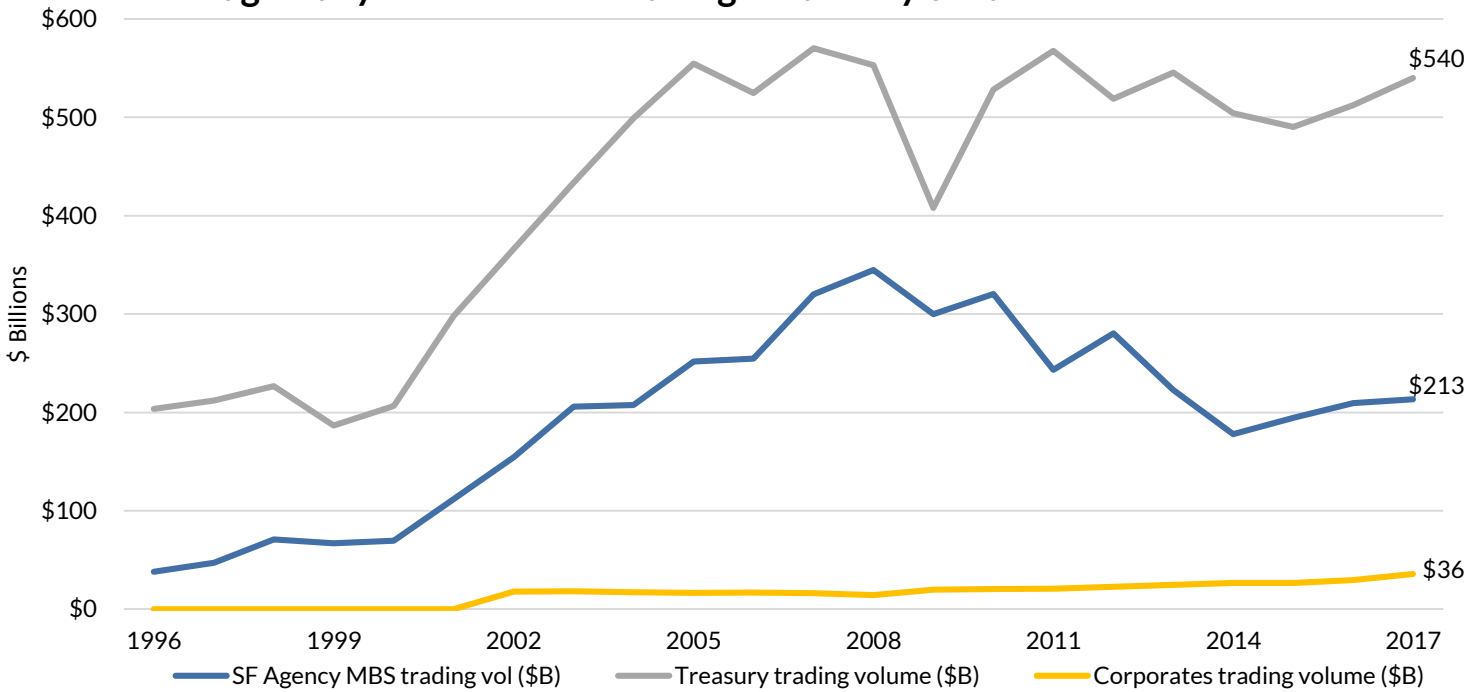


Sources: Ginnie Mae and Urban Institute. Note: Data as of March 2017

Market Conditions

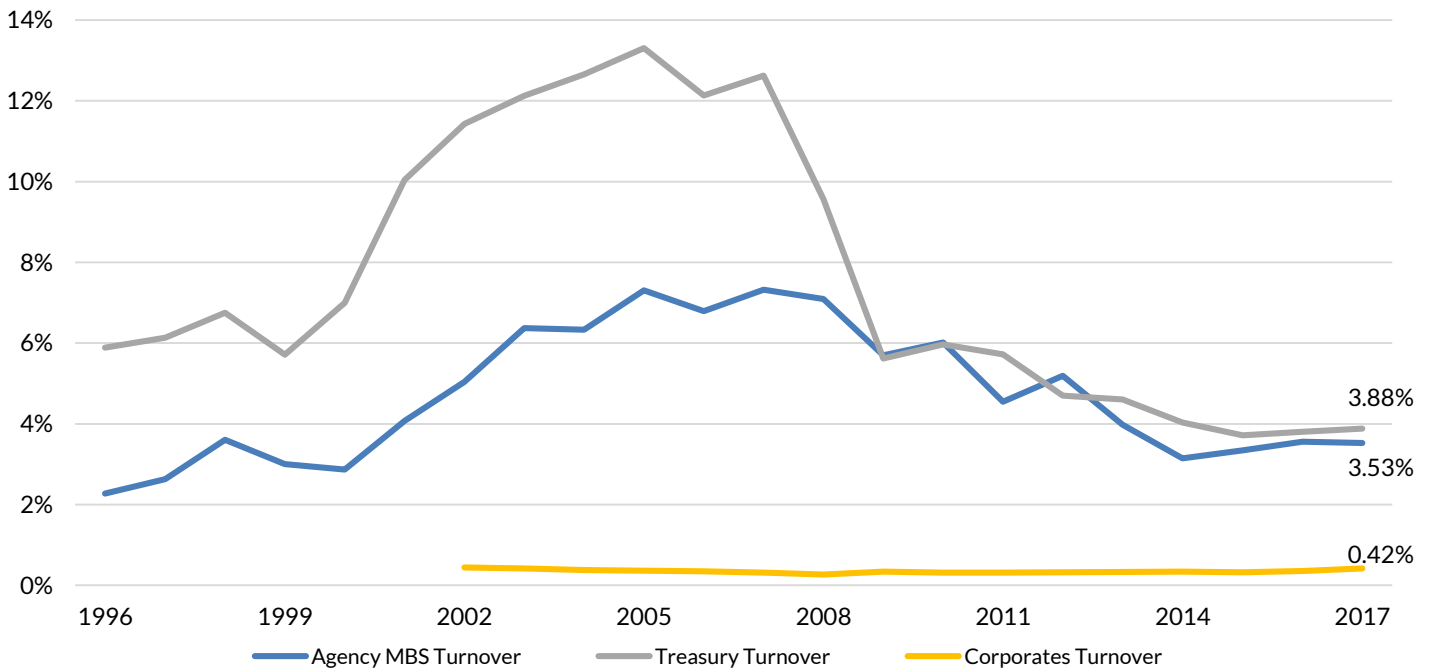
Agency MBS trading volume and turnover in 2017, while well lower than in 2005-2013, has been more robust than in the 2014-2015 period, and largely unchanged from 2016. In the first three months of 2017, daily turnover was 3.53 percent versus 3.55 percent in 2016 and 3.34 percent in 2015. Note that average daily Treasury turnover is also down dramatically from its 2005 peak. Corporate turnover is miniscule relative to either Agency MBS or Treasury turnover.

Average Daily Fixed Income Trading Volume by Sector



Sources: SIFMA and Urban Institute. Note: Data as of March 2017

Average Daily Turnover by Sector

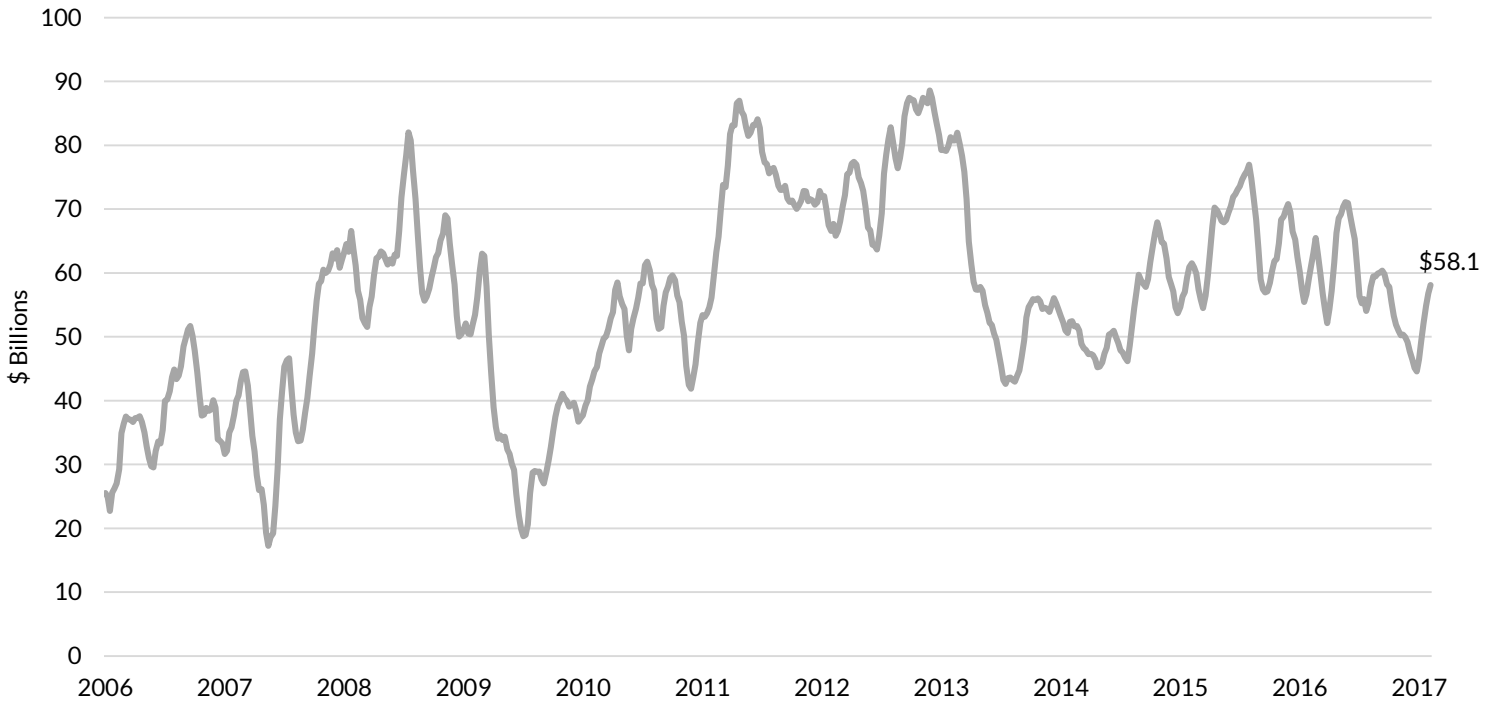


Sources: SIFMA and Urban Institute. Note: Data as of March 2017

Market Conditions

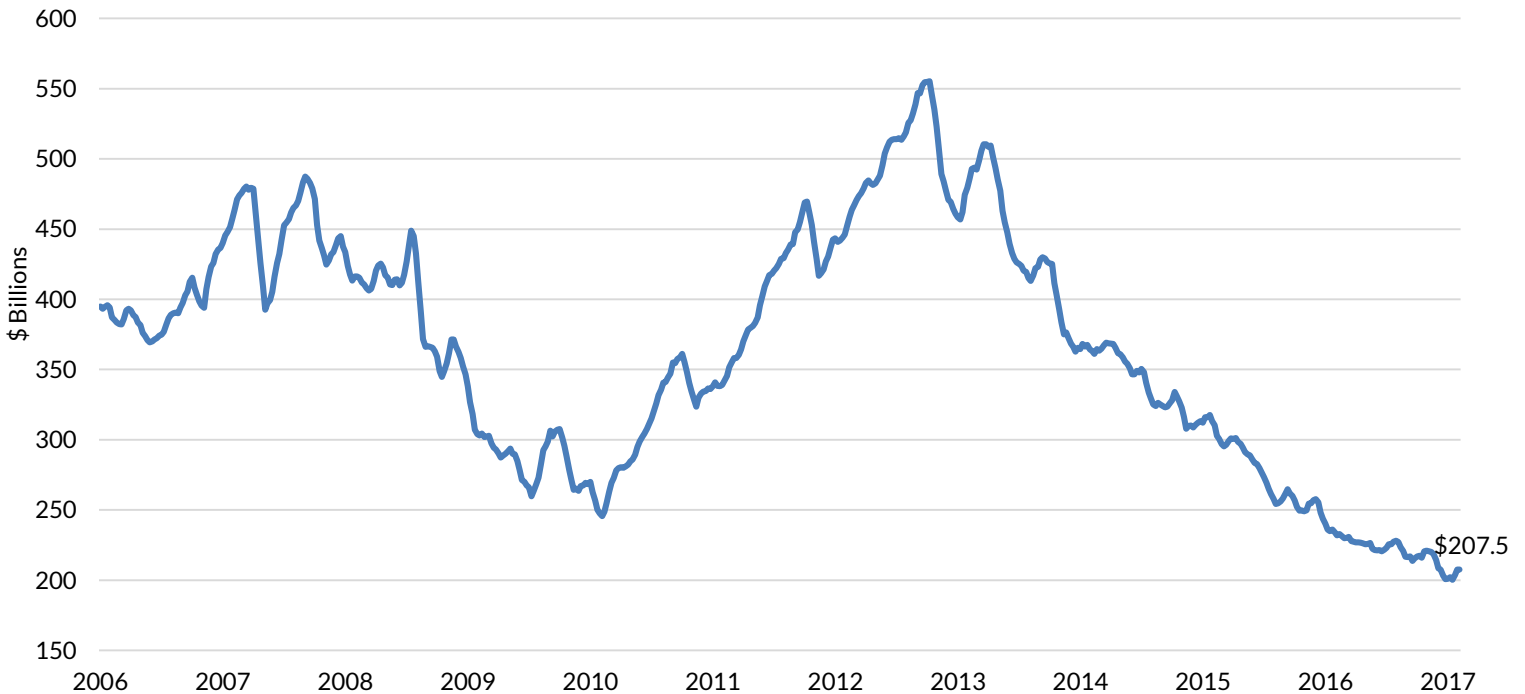
Dealer net positions in Agency MBS are currently at the lower end of the recent range, although gross positions may well be down more. The volume of repurchase activity is down sharply. This reflects banks cutting back on lower margin businesses.

Dealer Net Positions: Federal Agency and GSE MBS



Sources: Federal Reserve Bank of New York Primary Dealer Statistics and Urban Institute. Note: Data as of March 2017

Repo Volume: Securities In



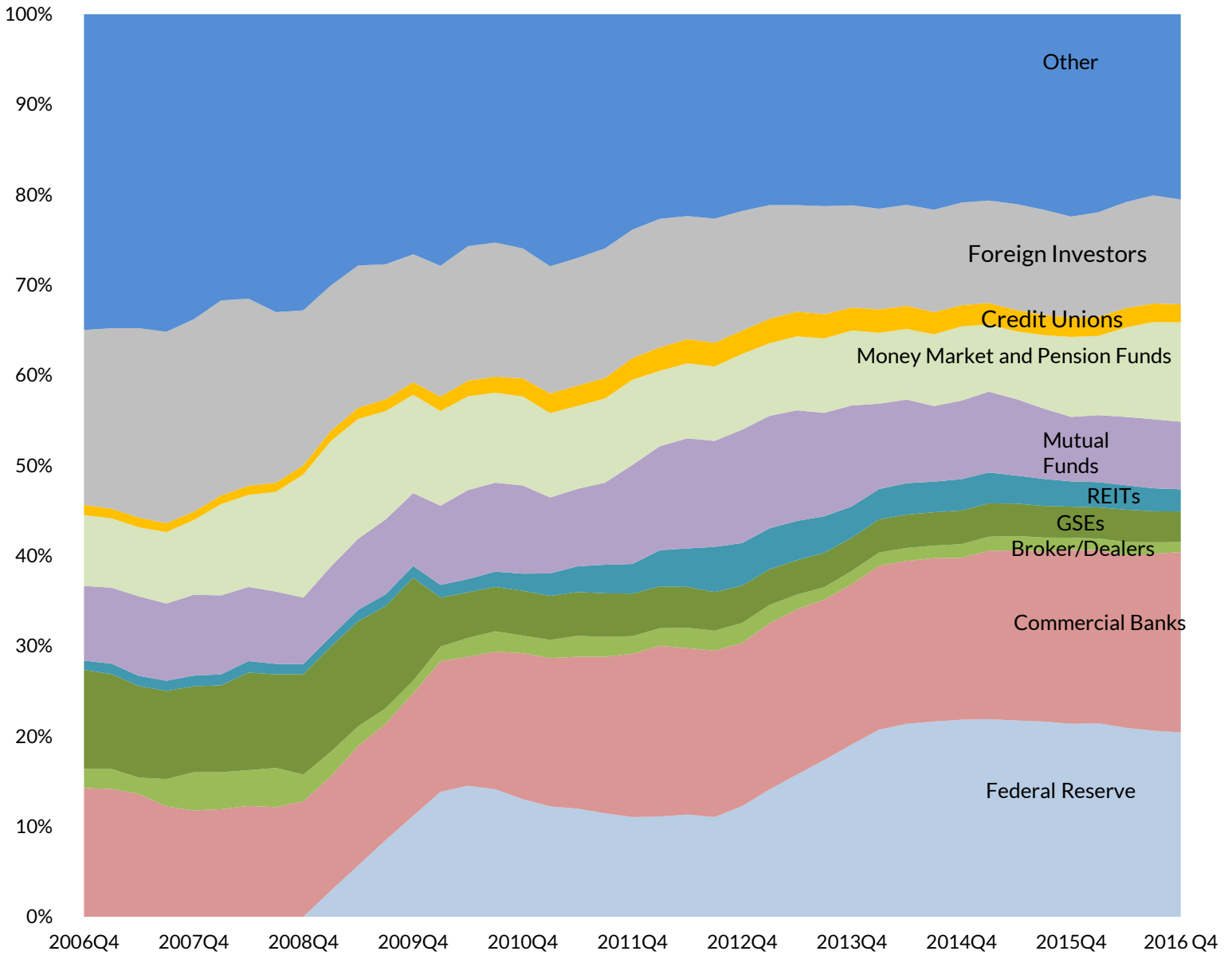
Sources: Federal Reserve Bank of New York Primary Dealer Statistics and Urban Institute. Note: Data as of March 2017

MBS Ownership

The largest holders of agency debt (Agency MBS + agency debt) include the Federal Reserve (20 percent), commercial banks (20 percent) and foreign investors (12 percent). The broker/dealer and GSE shares are a fraction of what they once were.

Who owns Total Agency Debt?

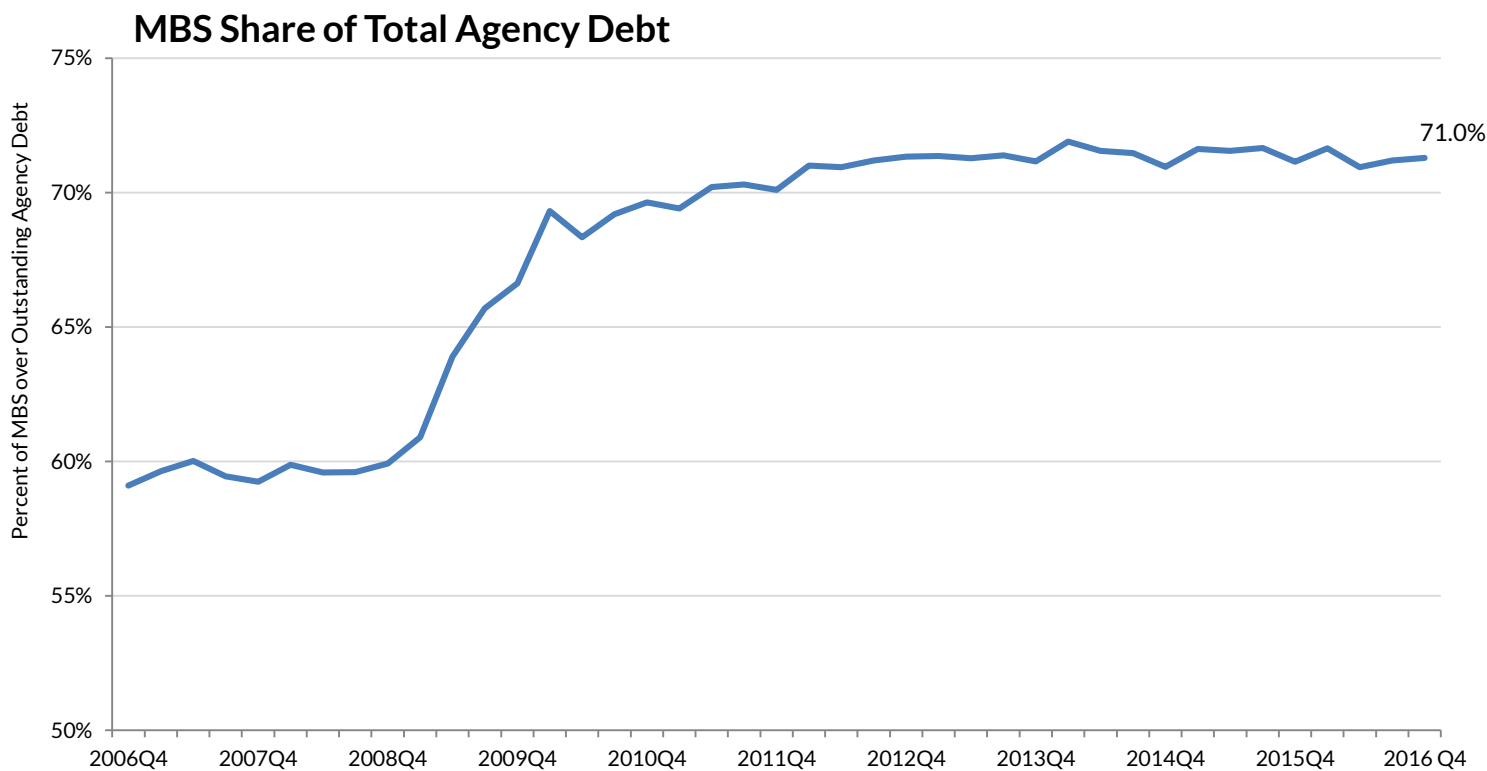
% of Total Agency Debt by Owner



Sources: Federal Reserve Flow of Funds and Urban Institute. Note: Data as of Q4 2016.

MBS Ownership

As Fannie and Freddie reduce the size of their retained portfolio, less agency debt is required to fund that activity, hence the MBS share of total agency debt increases. For Q4 2016, the MBS share of total agency debt stood at 71.0 percent. Commercial banks are the second largest holders of Agency MBS behind the Federal Reserve. Out of their \$1.7 trillion in holdings as of the end of April, \$1.2 trillion of it was held by the top 25 domestic banks.



Sources: eMBS, Federal Reserve Flow of Funds, and Urban Institute. Note: Data as of Q4 2016.

	Commercial Bank Holdings (\$Billions)								Week Ending			
	Mar-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Mar 29	Apr 5	Apr 12	Apr 19
Largest Domestic Banks	1129.6	1205.9	1217.7	1217.2	1218	1224.8	1230	1230.1	1231.5	1234.4	1236.5	1240.9
Small Domestic Banks	427.9	440.8	444.8	449.8	451.9	456.4	456	458.1	458.3	458.7	460.3	459.8
Foreign Related Banks	14.4	13.8	14.3	14.1	12.6	12.7	12.9	12.9	13.1	12.7	12.8	13
Total, Seasonally Adjusted	1571.9	1660.5	1676.8	1681.1	1682.5	1693.9	1698.9	1701.1	1702.9	1705.8	1709.6	1713.7

Sources: Federal Reserve Bank and Urban Institute. Note: Data as of April 2017

MBS Ownership

Out of the \$1.74 trillion in MBS holdings at banks and thrifts, \$1.25 trillion is in agency pass-through form: \$931 billion in GSE pass-throughs and \$323 billion in Ginnie Mae pass-throughs. There are another \$419.8 billion in Agency CMOs. Non-agency holdings total \$63.0 billion. Ginnie Mae pass-throughs have been the fastest growing sector in the past 2 years. Bank and thrift holdings of MBS are very concentrated, with the top 20 holders accounting for 69 percent of the total, and the top 5 holders accounting for 44 percent of the total.

Bank and Thrift Residential MBS Holdings

	Total	All Banks & Thrifts (\$Billions)					
		Agency MBS	GSE PT	GNMA PT	Agency CMO	Private MBS	Private CMO
2000	\$683.90	\$392.85	\$234.01	\$84.26	\$198.04	\$21.57	\$71.43
2001	\$810.50	\$459.78	\$270.59	\$109.53	\$236.91	\$37.62	\$76.18
2002	\$912.36	\$557.43	\$376.11	\$101.46	\$244.98	\$20.08	\$89.88
2003	\$982.08	\$619.02	\$461.72	\$75.11	\$236.81	\$19.40	\$106.86
2004	\$1,113.89	\$724.61	\$572.40	\$49.33	\$208.18	\$20.55	\$160.55
2005	\$1,139.68	\$708.64	\$566.81	\$35.92	\$190.70	\$29.09	\$211.25
2006	\$1,207.09	\$742.28	\$628.52	\$31.13	\$179.21	\$42.32	\$243.28
2007	\$1,236.00	\$678.24	\$559.75	\$31.58	\$174.27	\$26.26	\$357.24
2008	\$1,299.76	\$820.12	\$638.78	\$100.36	\$207.66	\$12.93	\$259.04
2009	\$1,345.74	\$854.40	\$629.19	\$155.00	\$271.17	\$7.53	\$212.64
2010	\$1,433.38	\$847.13	\$600.80	\$163.13	\$397.30	\$7.34	\$181.61
2011	\$1,566.88	\$917.10	\$627.37	\$214.81	\$478.82	\$3.28	\$167.70
2012	\$1,578.86	\$953.76	\$707.87	\$242.54	\$469.27	\$17.16	\$138.67
2013	\$1,506.60	\$933.73	\$705.97	\$231.93	\$432.60	\$26.11	\$114.15
1Q14	\$1,574.44	\$1,029.68	\$713.50	\$232.44	\$500.09	\$27.08	\$104.97
2Q14	\$1,526.12	\$951.82	\$717.27	\$232.75	\$445.17	\$24.72	\$104.41
3Q14	\$1,534.59	\$951.99	\$725.96	\$226.03	\$447.46	\$21.89	\$113.24
4Q14	\$1,539.32	\$964.16	\$733.71	\$230.45	\$449.90	\$20.33	\$104.94
1Q15	\$1,579.21	\$1,012.26	\$767.71	\$244.55	\$455.47	\$17.70	\$93.78
2Q15	\$1,583.22	\$1,032.26	\$784.22	\$248.05	\$445.91	\$16.47	\$88.57
3Q15	\$1,608.44	\$1,064.67	\$805.05	\$259.62	\$447.01	\$13.60	\$83.16
4Q15	\$1,643.56	\$1,115.40	\$823.10	\$292.30	\$445.39	\$11.14	\$71.63
1Q16	\$1,660.58	\$1,133.29	\$833.25	\$300.04	\$448.63	\$10.27	\$68.39
2Q16	\$1,684.33	\$1,169.67	\$867.64	\$302.03	\$440.25	\$9.11	\$65.29
3Q16	\$1,732.36	\$1,227.52	\$924.81	\$302.71	\$435.77	\$7.90	\$61.17
4Q16	\$1,736.93	\$1,254.13	\$930.67	\$323.46	\$419.80	\$7.40	\$55.60

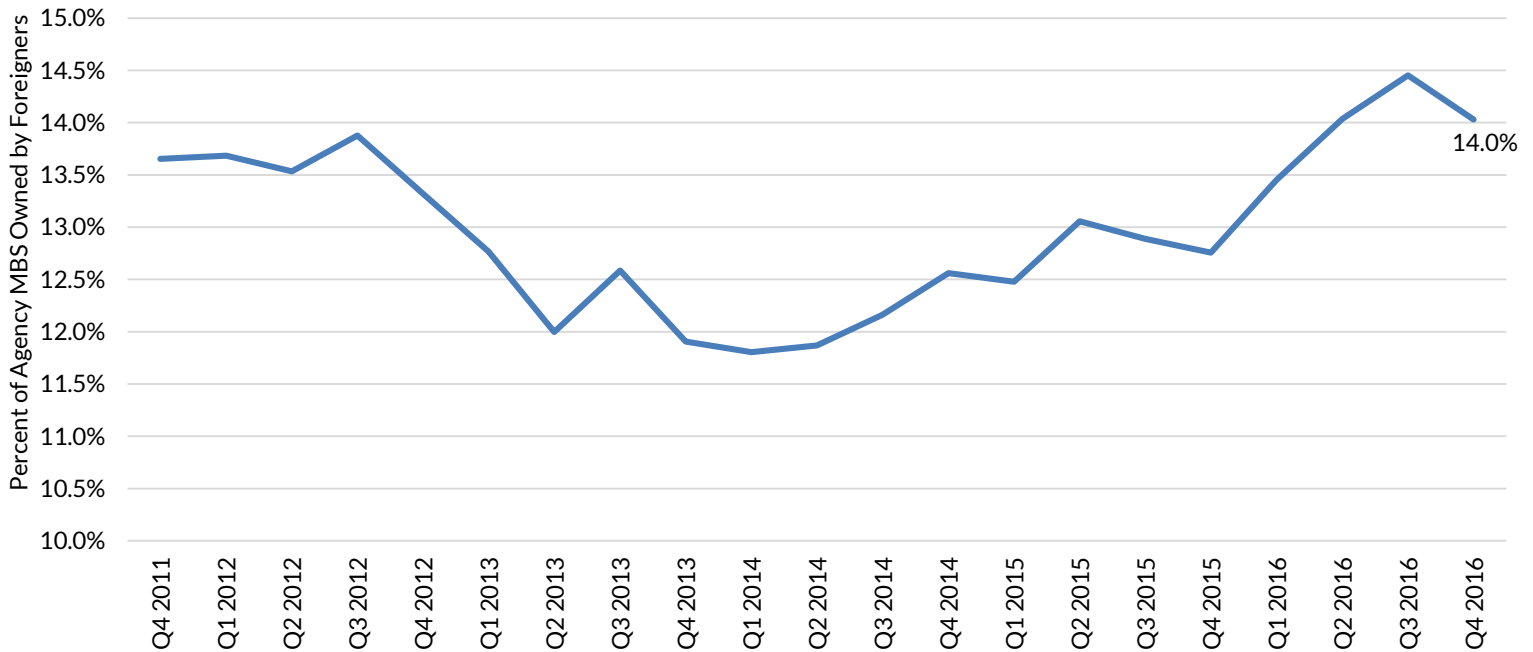
Top Bank & Thrift Residential MBS Investors	All Banks & Thrifts (\$MM)							Market Share
	Total (\$MM)	GSE PT (\$MM)	GNMA PT (\$MM)	Agency REMIC (\$MM)	Non-Agency (\$MM)			
1 Bank of America Corporation	\$312,751	\$118,664	\$178,264	\$15,115	\$708		18.00%	
2 Wells Fargo & Company	\$202,916	\$26,039	\$163,534	\$5,762	\$7,581		11.70%	
3 JP Morgan Chase & Co.	\$101,974	\$22,315	\$67,791	\$698	\$11,170		5.90%	
4 U.S. Bancorp.	\$80,665	\$9,971	\$27,886	\$42,369	\$439		4.60%	
5 Citi Group Inc.	\$61,759	\$350	\$46,099	\$9,577	\$5,733		3.60%	
6 Charles Schwab Bank	\$59,486	\$7,511	\$37,815	\$14,160	\$0		3.40%	
7 Capital One Financial Corporation	\$50,921	\$9,697	\$17,832	\$21,571	\$1,821		2.90%	
8 Bank of New York Mellon Corp.	\$50,417	\$2,205	\$30,525	\$14,963	\$2,723		2.90%	
9 PNC Bank, National Association	\$40,824	\$5,603	\$27,840	\$3,819	\$3,562		2.40%	
10 Branch Banking and Trust Company	\$34,485	\$3,608	\$8,988	\$21,210	\$679		2.00%	
11 State Street Bank and Trust Company	\$31,425	\$7,564	\$3,469	\$11,282	\$9,110		1.80%	
KeyBank National Association	\$27,110	\$1,412	\$1,058	\$24,640	\$0		1.60%	
12 Morgan Stanley	\$24,373	\$6,592	\$9,492	\$8,289	\$0		1.40%	
SunTrust Bank	\$22,397	\$10,071	\$12,251	\$1	\$74		1.30%	
13 HSBC Bank USA, National Association	\$20,649	\$5,605	\$6,885	\$8,153	\$6		1.20%	
16 Regions Bank	\$18,583	\$5,500	\$11,085	\$1,994	\$4		1.10%	
17 E*TRADE Bank	\$15,872	\$2,944	\$9,703	\$3,226	\$0		0.90%	
18 Fifth Third Bank	\$15,607	\$2,995	\$4,260	\$8,352	\$0		0.90%	
19 MUFG Union Bank, National Association	\$15,223	\$4,803	\$4,963	\$5,129	\$328		0.90%	
20 The Northern Trust Company	\$14,703	\$1	\$9,053	\$5,630	\$19		0.80%	
Total Top 20	\$1,202,137	\$253,450	\$678,792	\$225,938	\$43,957		69.30%	

Sources: Inside Mortgage Finance and Urban Institute. Note: Data as of Q4 2016

MBS Ownership

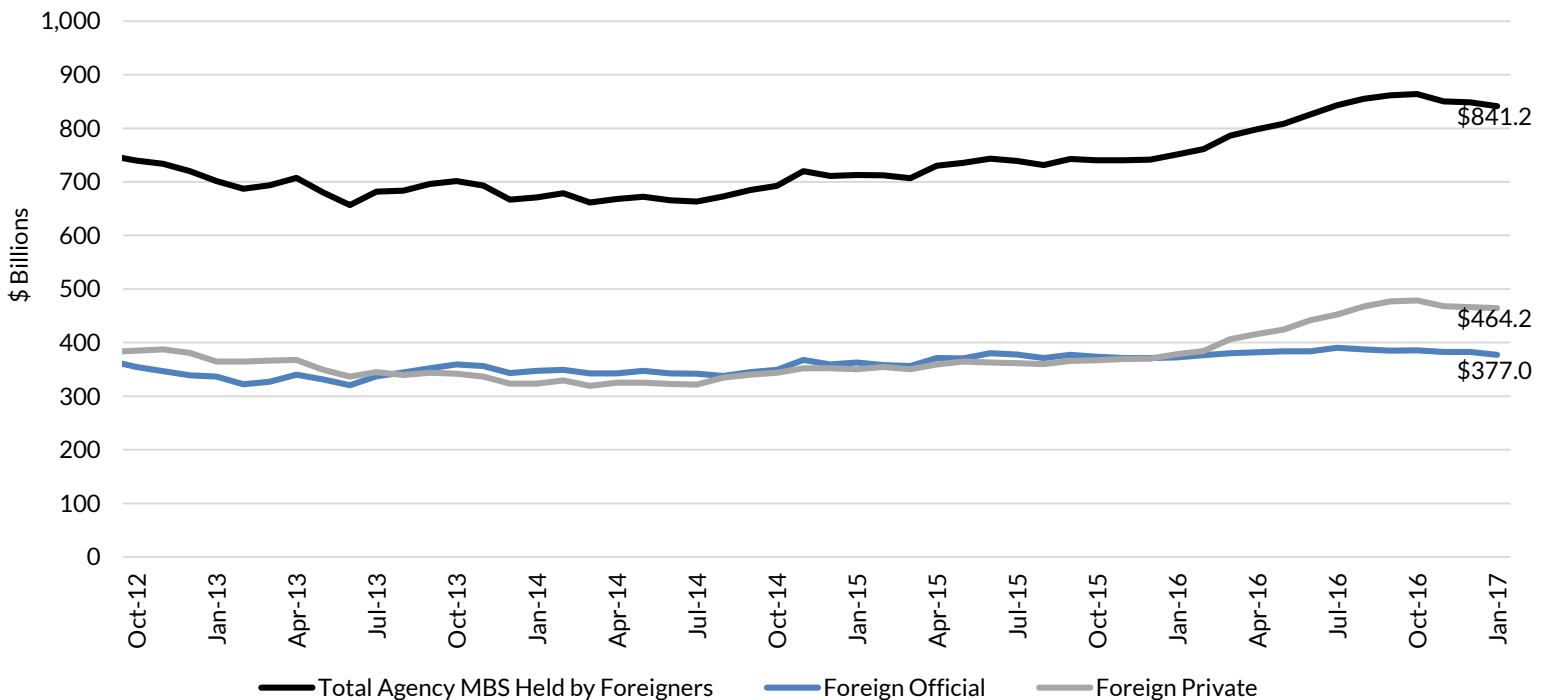
Foreign investors hold 14.0 percent of agency MBS, up considerably from the lows in 2013. For the month of January, this represents \$841.2 billion in agency MBS, \$377.0 billion held by official institutions and \$464.2 billion held by private investors.

Foreign Share of Agency MBS



Sources: SIFMA and Treasury International Capital (TIC). Note: Data as of Q4 2016.

Monthly Agency MBS Holdings by Foreigners



Sources: Treasury International Capital (TIC) and Urban Institute. Note: Data as of January 2017.

MBS Ownership

The single largest foreign holders of agency MBS are Taiwan, China and Japan; these three countries comprise around 70 percent of all foreign holdings. Since June of 2016, we estimate Taiwan and Japan have expanded their holdings while China has contracted. Our estimates indicate Japan has been the single largest buyer of MBS between June 2016 and January 2017, adding \$31 billion over the 7-month period.

Agency MBS+ Agency Debt

Country	Level of Holdings (\$ Millions)				Change in Holdings (\$ Millions)		
	Jun-16	Sep-16	Dec-16	Jan-17	Q3 2016	Q4 2016	Jan-17
Taiwan	207,000	208,352	204,005	207,344	1,352	-4,347	3,339
China	196,000	191,743	184,151	181,798	-4,257	-7,592	-2,353
Japan	197,000	222,116	220,644	218,038	25,116	-1,472	-2,606
Ireland	48,000	48,307	47,065	47,175	307	-1,242	110
Luxembourg	32,000	32,549	35,352	33,665	549	2,803	-1,687
Cayman Islands	31,000	30,686	30,186	29,844	-314	-500	-342
Switzerland	17,000	20,638	15,626	15,262	3,638	-5,012	-364
United Kingdom	10,000	10,520	9,578	9,306	520	-942	-272
Canada	6,000	6,578	5,047	5,116	578	-1,531	69
Belgium	5,000	4,336	4,597	4,484	-664	261	-113
Rest of World	206,000	208,604	208,353	198,799	2,604	-251	-9,554
Total	955,000	984,429	964,604	950,831	29,429	-19,825	-13,773

Agency MBS Only (Estimates)

Country	Level of Holdings (\$Millions)*				Change in Holdings (\$Millions)*		
	Jun-16	Sep-16	Dec-16	Jan-17	Q3 2016	Q4 2016	Jan-17
Taiwan	207,000	208,337	204,005	207,344	1,337	-4,332	3,339
China	187,000	183,274	176,575	174,436	-3,726	-6,699	-2,139
Japan	185,000	209,835	212,729	215,512	24,835	2,894	2,783
Ireland	38,000	38,304	37,177	37,270	304	-1,126	93
Luxembourg	27,000	27,543	30,931	29,415	543	3,388	-1,516
Cayman Islands	23,000	22,725	22,284	21,977	-275	-441	-307
Switzerland	12,000	15,597	10,791	10,462	3,597	-4,806	-329
United Kingdom	8,000	8,514	7,629	7,386	514	-885	-243
Canada	4,000	4,572	3,162	3,218	572	-1,410	56
Belgium	2,000	1,419	1,645	1,543	-581	227	-102
Rest of World	139,000	141,575	141,760	132,629	2,575	185	-9,130
Total	832,000	861,694	848,688	841,193	29,694	-13,006	-7,495

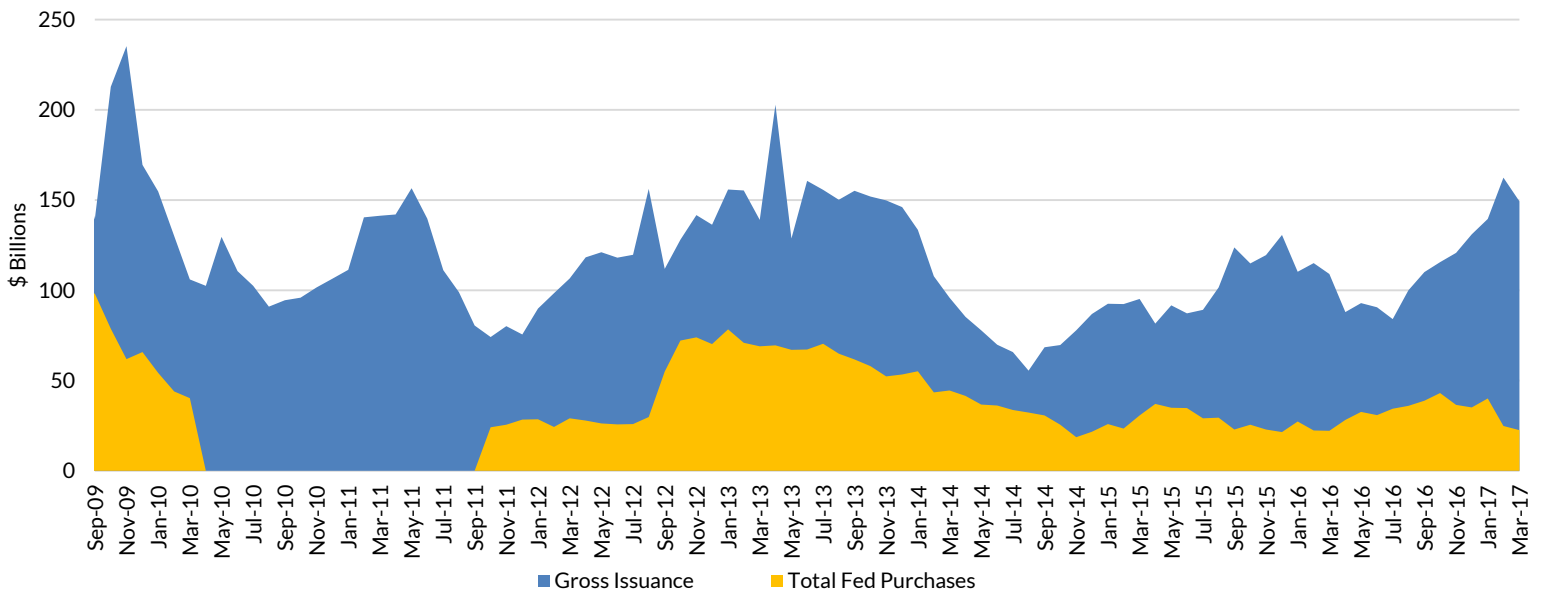
Sources : Treasury International Capital (TIC) and Urban Institute.
Note: Data as of January 2017.

*calculated based on June 2016 report with amount asset backed per country

MBS Ownership

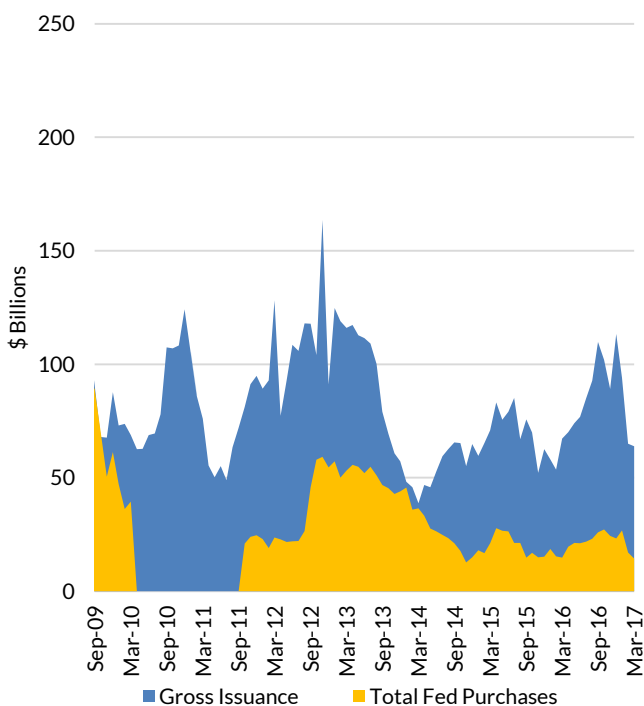
In October 2014, the Fed ended its purchase program, but continued buying at a significantly reduced level, reinvesting funds from pay downs on mortgages and agency debt into the mortgage market. Since then, the Fed's absorption of gross issuance has been between 20 and 30 percent, and it was 23.7 percent for March 2017. During this month, the Fed has been buying Ginnie Mae securities and GSE securities at similar rates. Over the past year, the Fed has absorbed an average of 25.6 percent of GSE issuance and 25.8 percent of Ginnie Mae issuance.

Total Fed Absorption



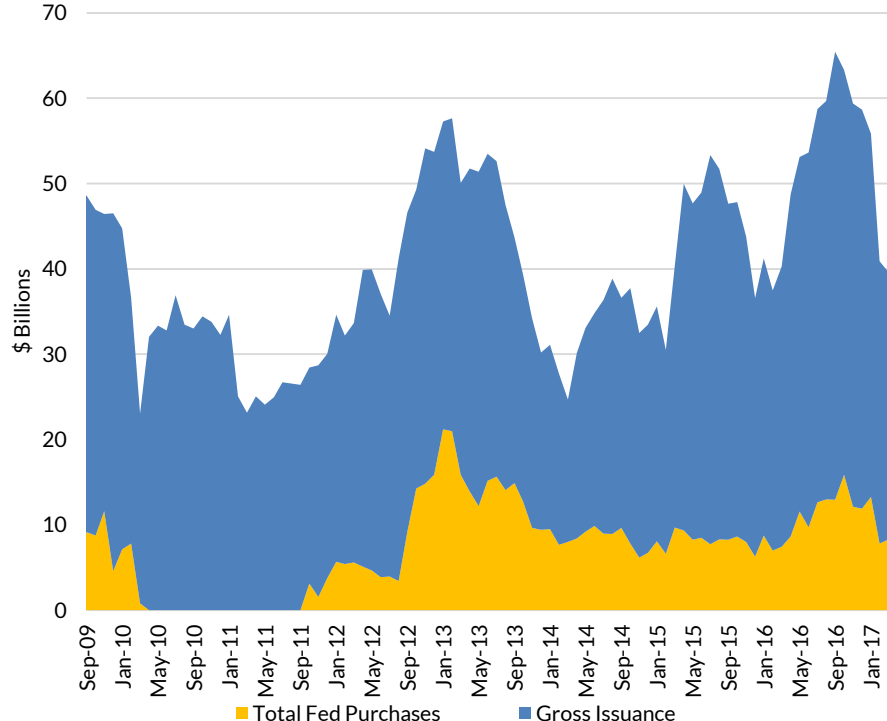
Sources: eMBS, Federal Reserve Bank of New York and Urban Institute. Note: Data as of March 2017.

Fed Absorption of GSE MBS



Sources: eMBS, Federal Reserve Bank of New York and Urban Institute. Note: Data as of March 2017.

Fed Absorption of Ginnie Mae MBS



Sources: eMBS, Federal Reserve Bank of New York and Urban Institute. Note: Data as of March 2017.

All the information contained in this document is as of date Indicated unless otherwise noted. The information provided does not constitute investment advice and it should not be relied on as such. All information has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. The views expressed in this material are the views of Urban Institute and State Street Global Advisors as of May 15, 2017 and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.

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