# Global Markets Analysis Report

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

JULY
**2017**

Ginnie Mae
Our Guaranty Matters

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

# CONTENTS

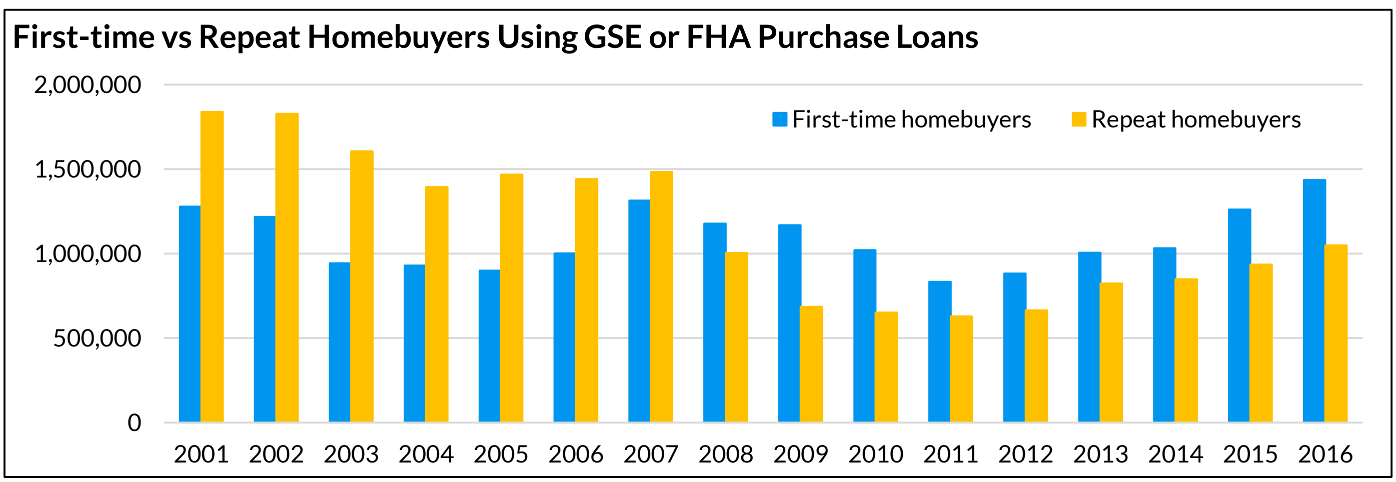
# HIGHLIGHTS

**The Disappearance of the Repeat Homebuyer**

Page 20 shows that first-time homebuyer (FTHB) share for mortgages backed by Fannie Mae, Freddie Mac and Ginnie Mae. Because of FHA's focus on serving low- and moderate-income borrowers and the FTHB population, Ginnie's FTHB share has always been higher (70 percent) than Fannie's and Freddie's (around 40 percent). Also noteworthy, the FTHB share has been trending up during the last few years for all three agencies.But the rising share of FTHBs has less to do with increasing numbers of FTHBs, and more to do with dwindling numbers of repeat buyers.

In 2001, there were a total of 1.8 million repeat and 1.3 million FTHBs for the total of 3.1 million homebuyers in the GSE and FHA markets. The overall FTHB share was 41%. By 2016 though, the number of repeat buyers was down significantly, to 1 million, while the number of FTHBs was up slightly, to 1.4 million. The 2016 FTHB share was 58 percent. The basic strategy for upgrading to a bigger home has been to accumulate equity and convert that equity into down payment for a more expensive home. Carrying out this strategy has become difficult in the last decade. While house prices have increased, many homeowners have simply regained their lost equity and thus don't have enough equity to upgrade yet. Additionally, real incomes have remained flat since the mid-1990s and credit standards are tight, further limiting trade-up activity.

Longer term, even if these barriers were to ease somewhat, rising mortgages rates will create a "lock-in" effect as homeowners with ultra-low rate mortgages may be unwilling to see their mortgage costs go up as they trade up. This also has negative implications for geographical mobility, which has been in a secular decline for several decades.




**Source:** FHA, FHFA, eMBS and Urban Institute.

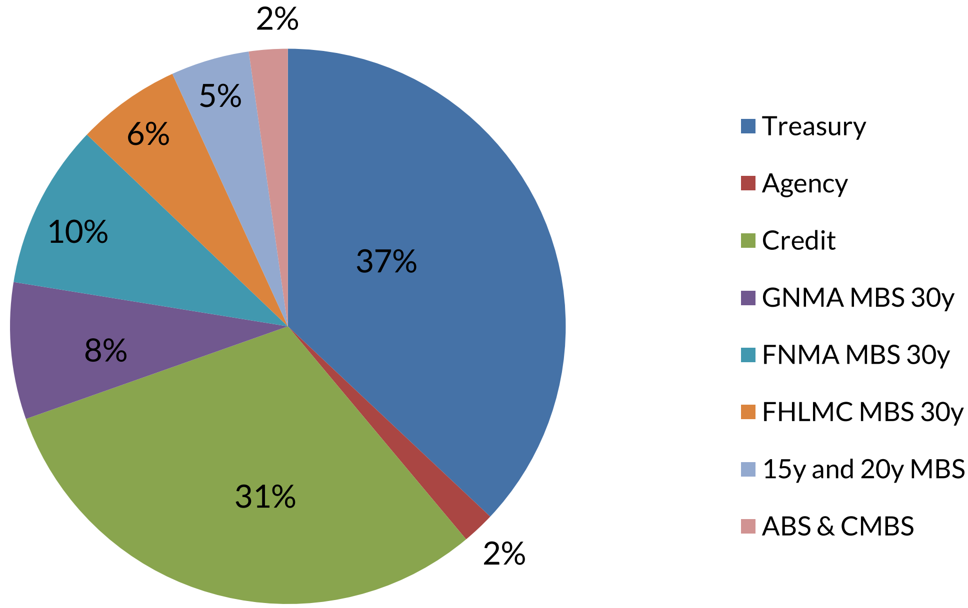
***Highlights this month*:**

- The total value of the US Housing Market continued to rise in Q1 2017, driven by a $546 billion increase in household equity (Page 14)
- Portfolio accounted for a smaller share of first lien originations in Q1 2017 (Page 16)
- The Ginnie Mae gross issuance in the first five month of 2017 is only up 1.2 percent YOY, with FHA up by 2.5 percent while VA down by 2.3 percent, courtesy of the higher rates (Page 17)
- Prepayment speeds continued to increase for all agencies in June 2017, mostly due to the recent decline in rates and a normal seasonal uptick (Pages 35-37).
- FICO scores have dropped sharply while DTIs have been creeping up in recent monthly for refinance loans (Pages 27 and 29)

# Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

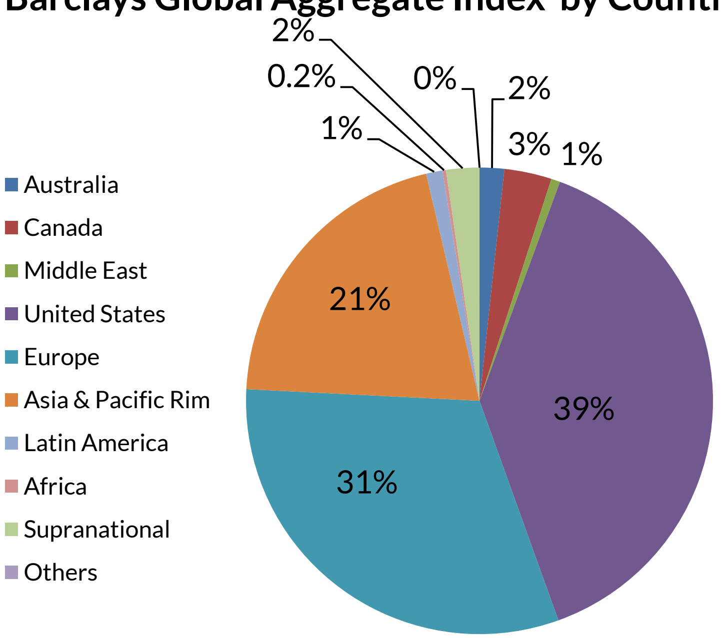
US MBS comprise 28 percent of the Barclays US Aggregate Index-- marginally less than either the US Treasury share (37%) or the US Credit share (31%). Fannie Mae 30-year MBS comprises the largest percent of US MBS (10%), while Ginnie Mae 30-year MBS and Freddie Mac 30-year MBS comprise 8 percent and 6 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



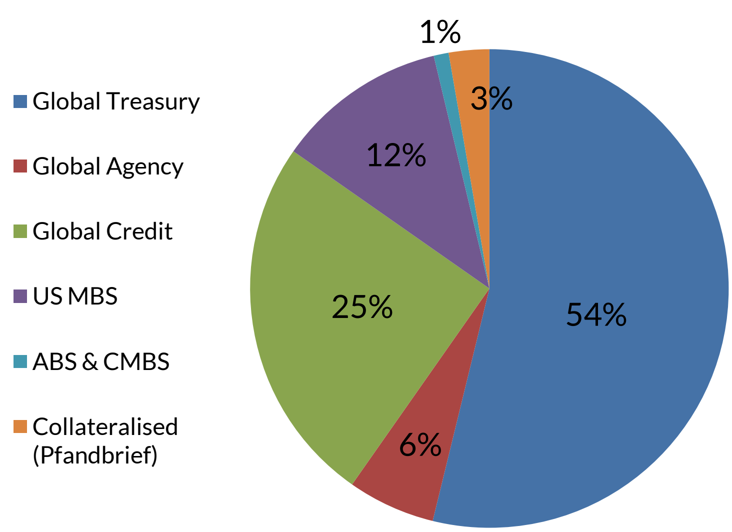

***Sources:*** *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of June 2017*

## Barclays Global Aggregate Index by Country




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

## Barclays Global Aggregate Index by Sector

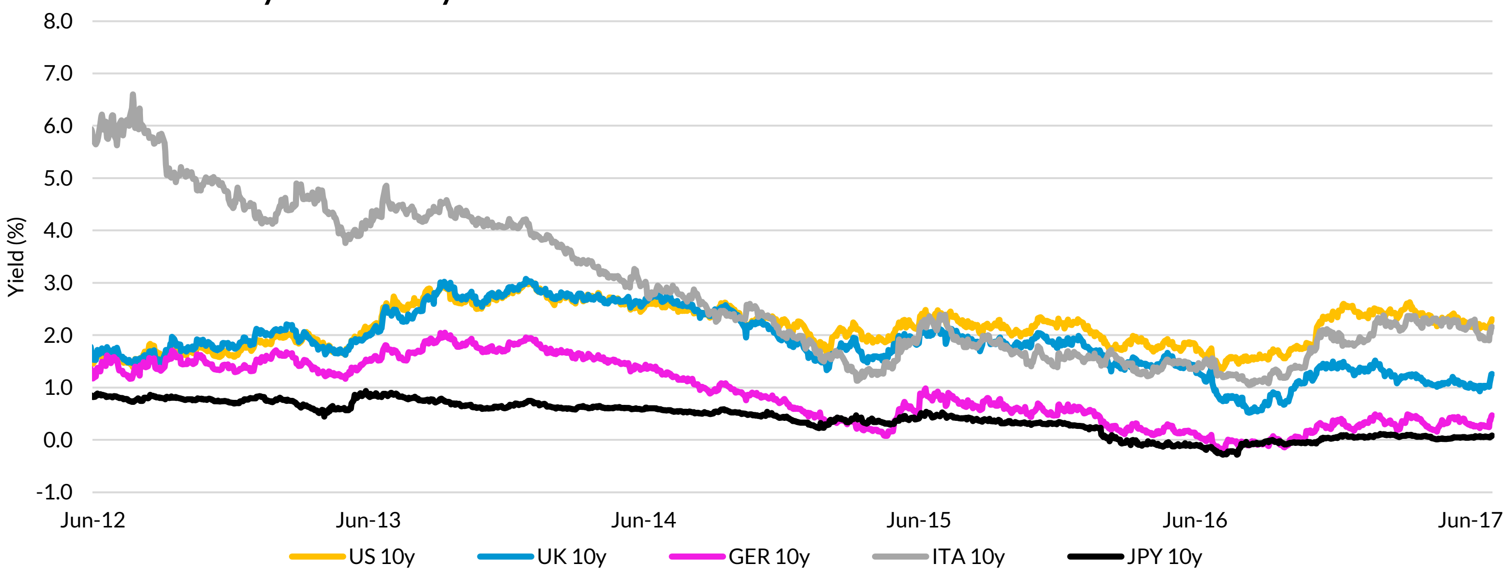



***Sources:*** *Bloomberg and State Street Global Advisors*
***Note:*** *Data as of June 2017*

# Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

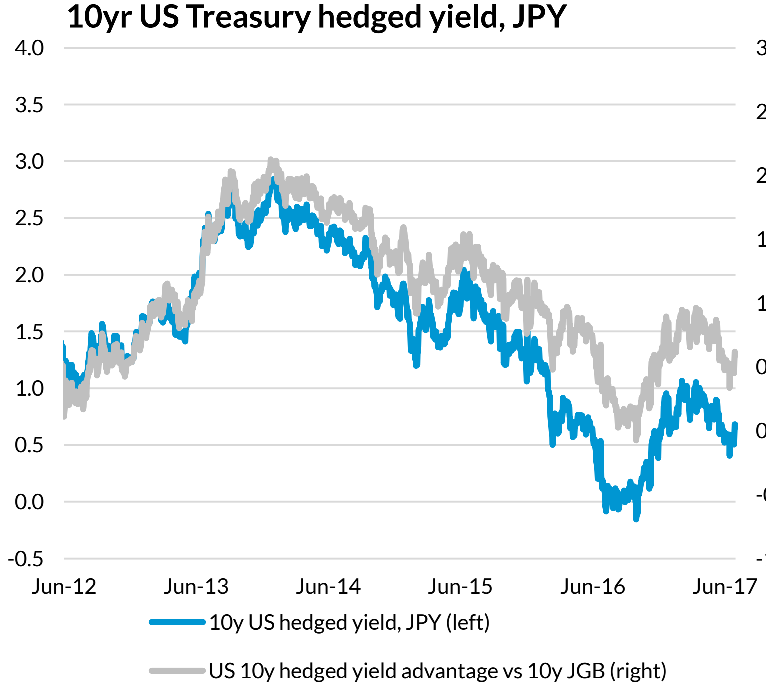
Over the past few years, US Treasury interest rates, as measured by the 10-year note have consistently been the highest in the developed world. After a dip to the level of Italy's 10-year bond yield in April and May, the US 10-year Treasury note edged up to 2.3 percent in June, higher than 2.2 percent for Italy, 1.26 percent for the UK, 0.47 percent for Germany and 0.09 percent for Japan. If the Treasury notes are hedged into foreign currencies, the US yield advantage stood at 59 basis points (bps) versus the JGB, and -11 bps versus the 10-year Bund in June 2017 . This month showed a increase of 12 bps versus the JGB and a decrease of 2 bps versus the Bund.

**Global 10-year Treasury Yields**



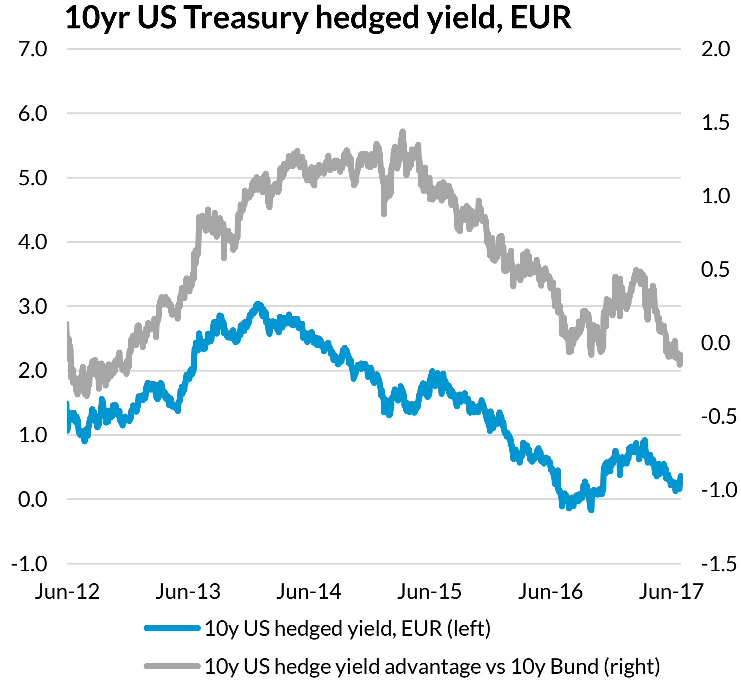

***Sources:*** *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of June 2017*

**10yr US Treasury hedged yield, JPY**




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

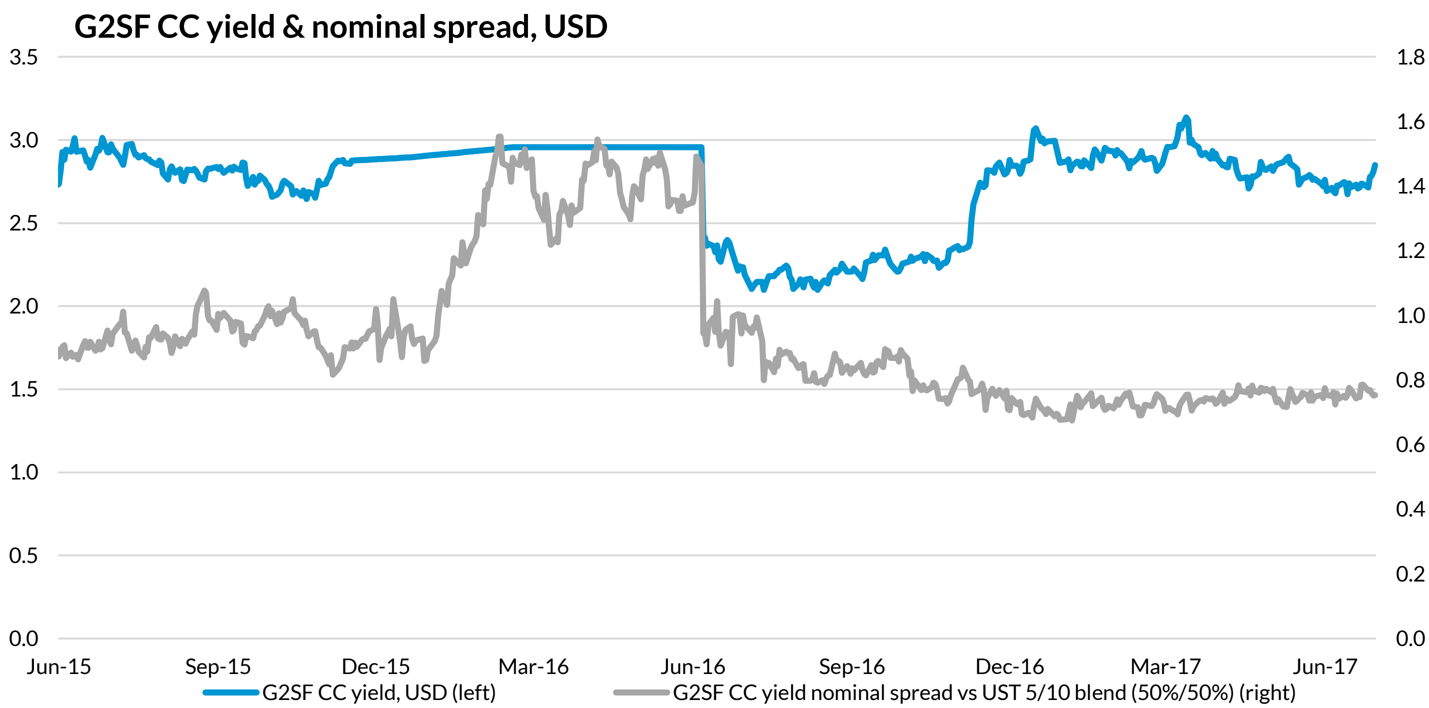
**10yr US Treasury hedged yield, EUR**



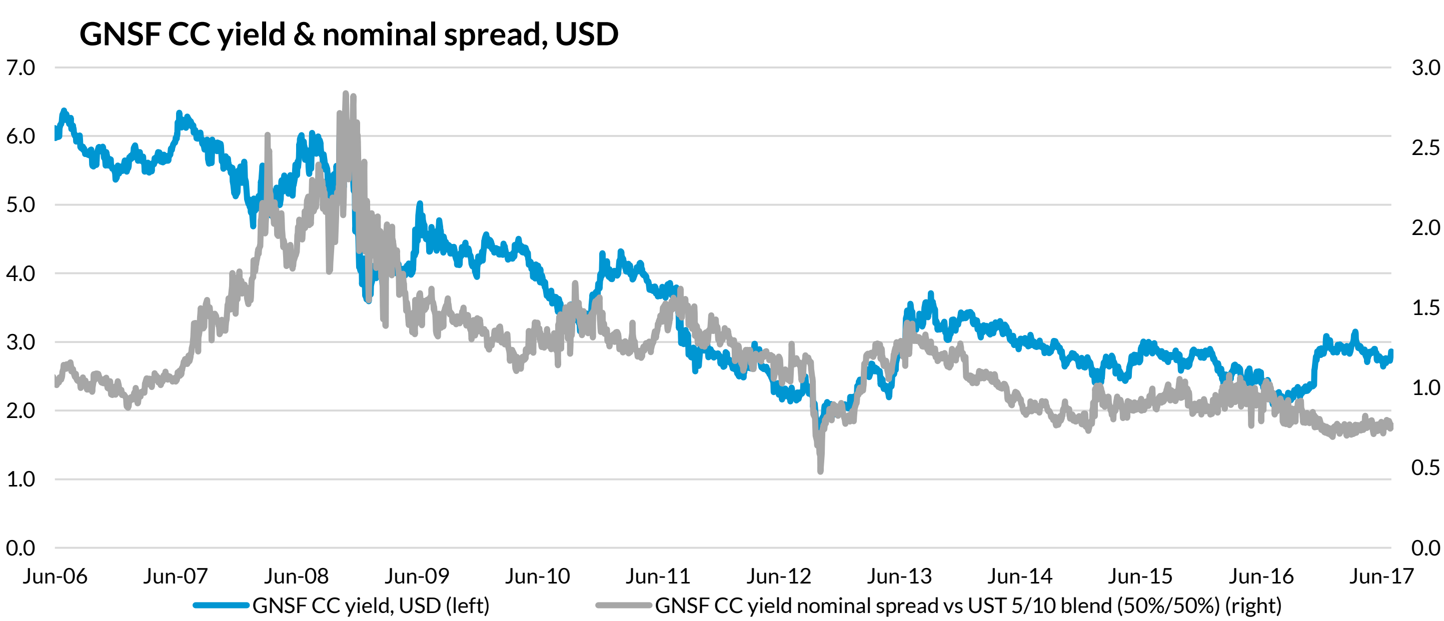

***Sources:*** *Bloomberg and State Street Global Advisors*
***Note:*** *Data as of June 2017*

# 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) – 75 and 77 basis points on G2SF and GNSF, respectively.




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

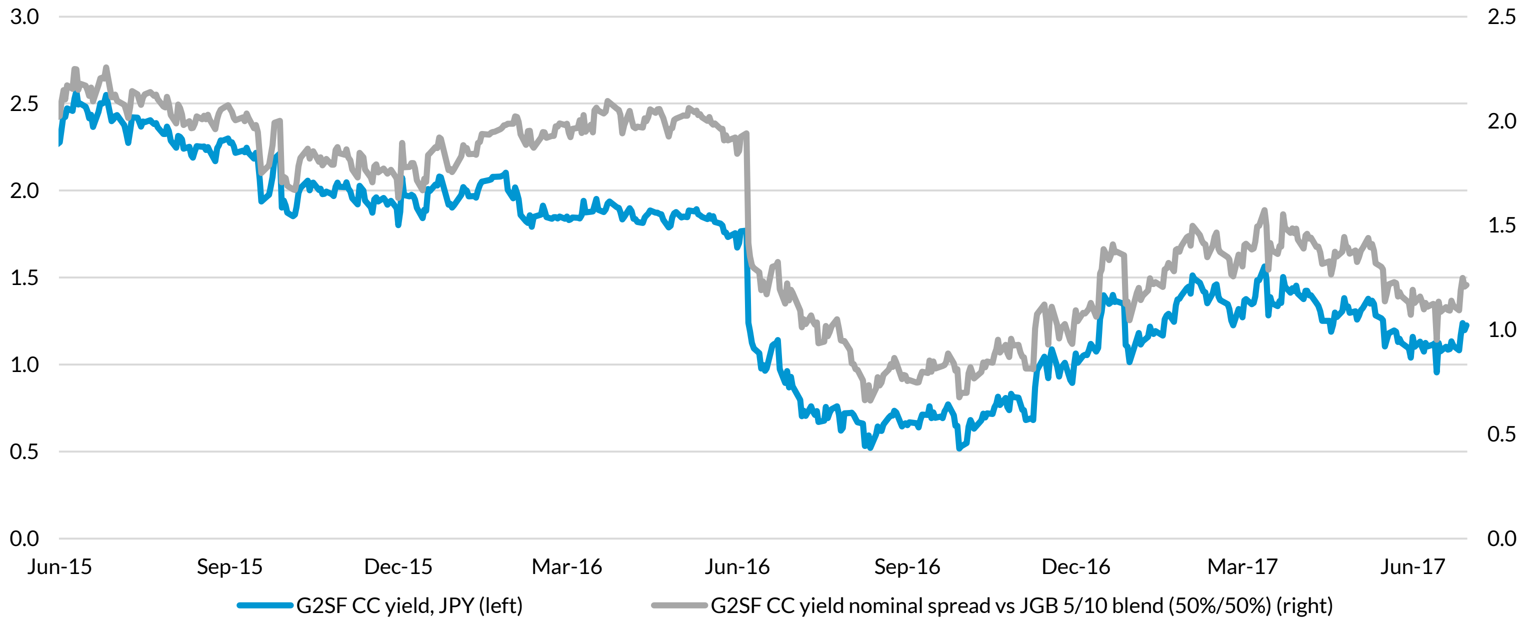



***Sources:*** *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of June 2017*

# Relative Attractiveness of US Fixed Income and Ginnie Mae MBS

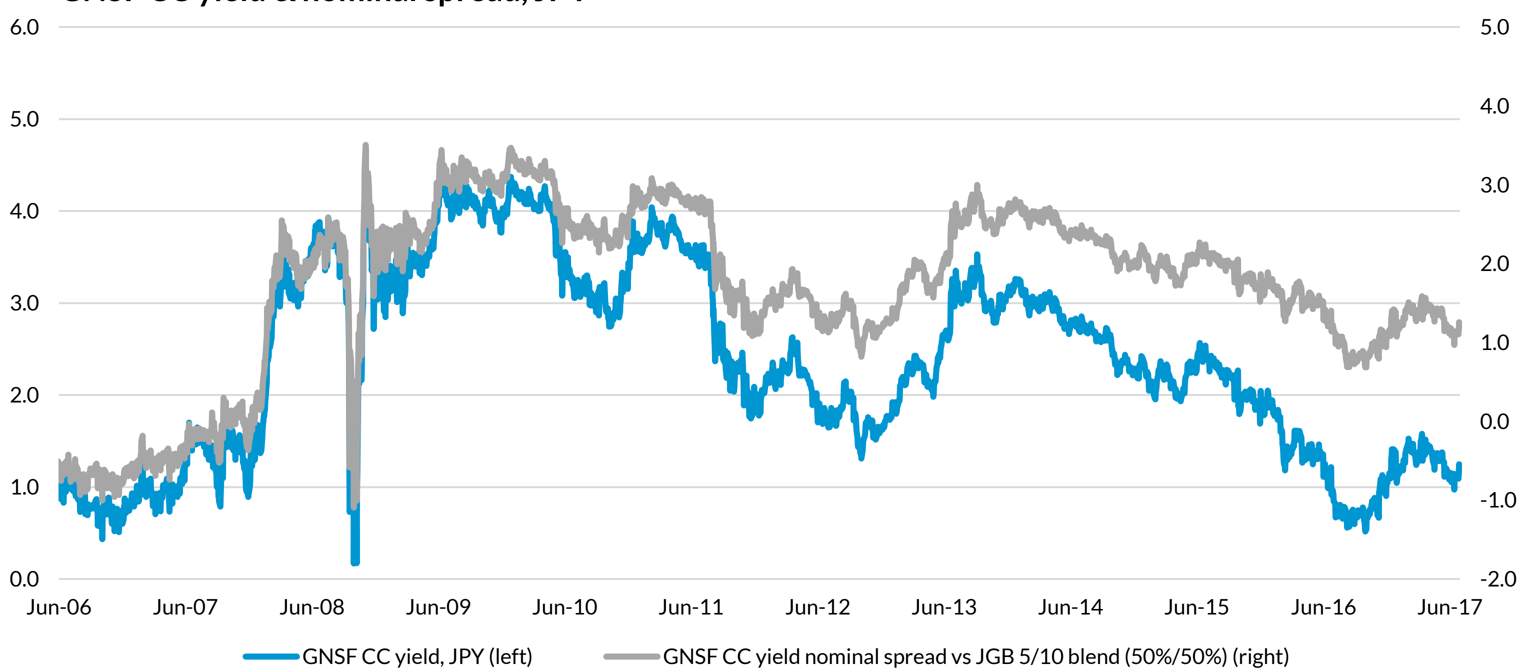
If Ginnie Mae securities are hedged into foreign currencies, they look attractive on a yield basis; handily outyielding the sovereign debt of other countries. This figure shows that G2SF and GNSF hedged into Japanese yen yield more than the JGB 5/10 blend by 121 and 123 basis points, respectively.

### G2SF CC yield & nominal spread, JPY




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

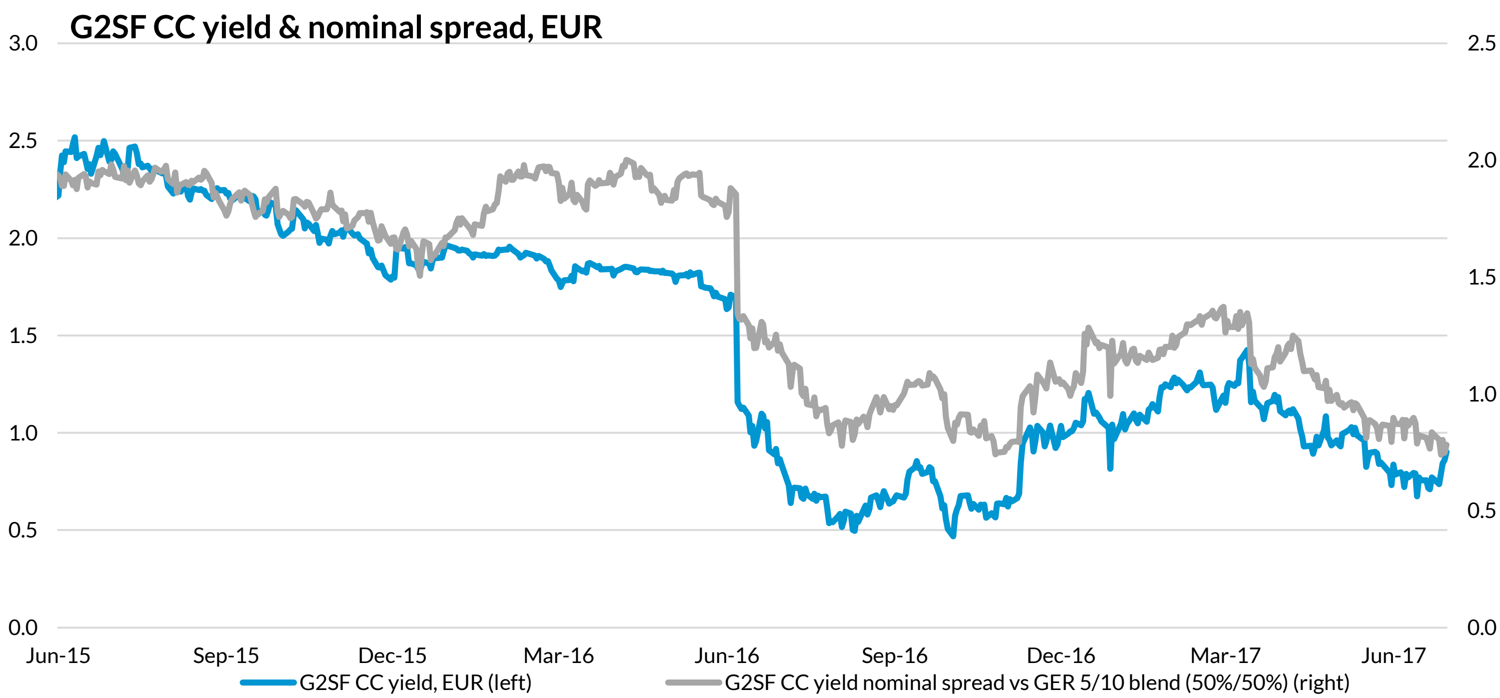
### GNSF CC yield & nominal spread, JPY



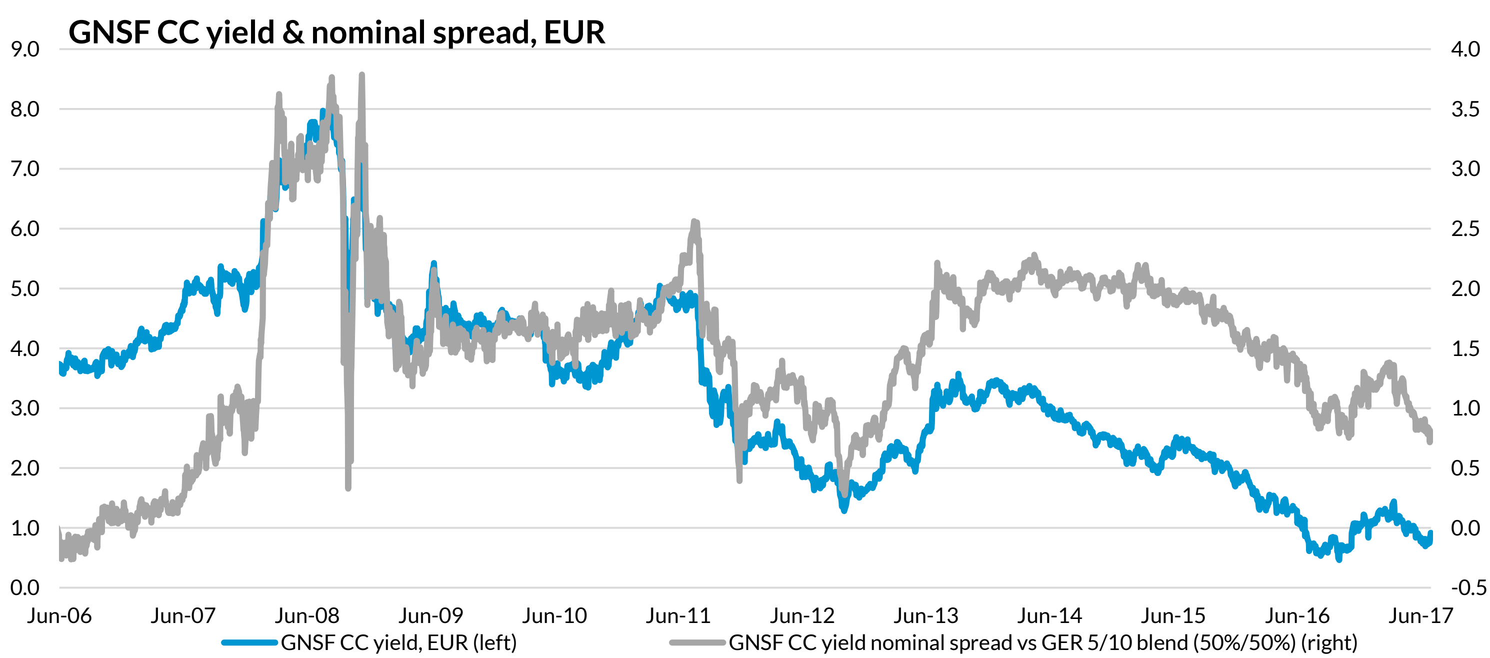

***Sources:*** *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of June 2017*

# 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 78 and 80 basis points, respectively.



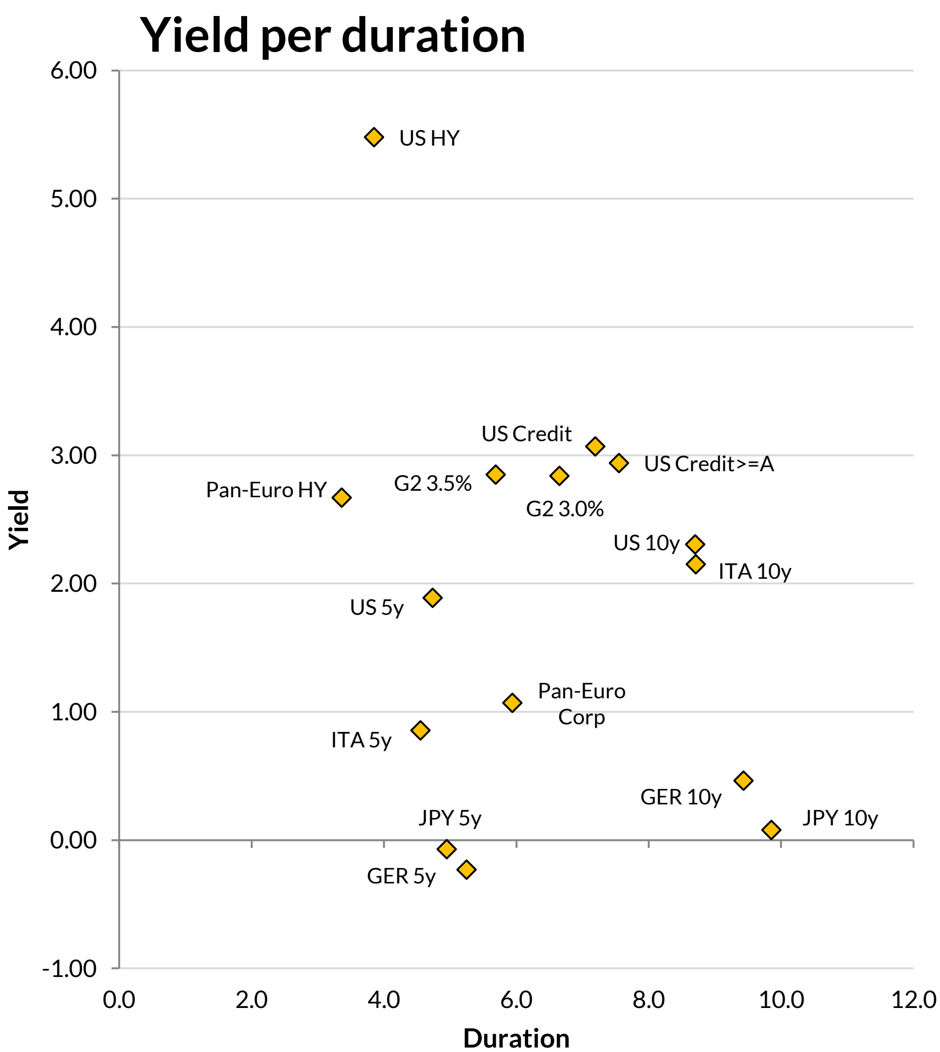

***Sources:*** *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of June 2017*




***Sources:*** *Bloomberg and State Street Global Advisors.* ***Note:*** *Data as of June 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 | 4.8 | 1.75 |
| US 10y | 8.8 | 2.20 |
| GNMA II 3% | 6.5 | 2.72 |
| GNMA II 3.5% | 5.5 | 2.73 |
| JPY 5y | 4.8 | -0.12 |
| JPY 10y | 9.7 | 0.04 |
| GER 5y | 4.9 | -0.43 |
| GER 10y | 9.6 | 0.30 |
| ITA 5y | 4.6 | 0.91 |
| ITA 10y | 8.8 | 2.19 |
| US credit | 7.2 | 3.07 |
| US credit >= A | 7.6 | 2.94 |
| US HY | 3.9 | 5.48 |
| Pan-Euro corp | 5.9 | 1.07 |
| Pan-Euro HY | 3.4 | 2.7 |

***Sources:** Bloomberg and State Street Global Advisors. **Note**: Yields are in base currency of security and unhedged. Data as of June 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 | -0.01 | -0.19 | 0.20 | 0.10 | 1.01 | 0.76 |
| 3 year | 0.16 | 0.17 | 0.30 | 0.27 | 0.38 | 0.39 |
| 5 year | 0.14 | 0.11 | 0.33 | 0.40 | 0.57 | 0.73 |
| 10 year | 0.36 | 0.34 | 0.49 | 0.37 | 0.67 | 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 | -0.06 | -0.24 | 0.15 | 0.17 | 0.96 | 0.83 |
| 3 year | 0.14 | 0.15 | 0.28 | 0.31 | 0.36 | 0.44 |
| 5 year | 0.13 | 0.10 | 0.32 | 0.43 | 0.56 | 0.76 |
| 10 year | 0.32 | 0.30 | 0.45 | 0.33 | 0.64 | 0.69 |

| | 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 | 0.57 | 0.93 | 1.13 | 1.13 | 0.97 | 0.88 |
| 3 year | 0.50 | 1.00 | 1.18 | 1.17 | 1.75 | 1.45 |
| 5 year | 0.66 | 0.90 | 1.20 | 1.19 | 1.52 | 1.37 |
| 10 year | 0.76 | 1.22 | 1.74 | 1.46 | 3.07 | 3.64 |

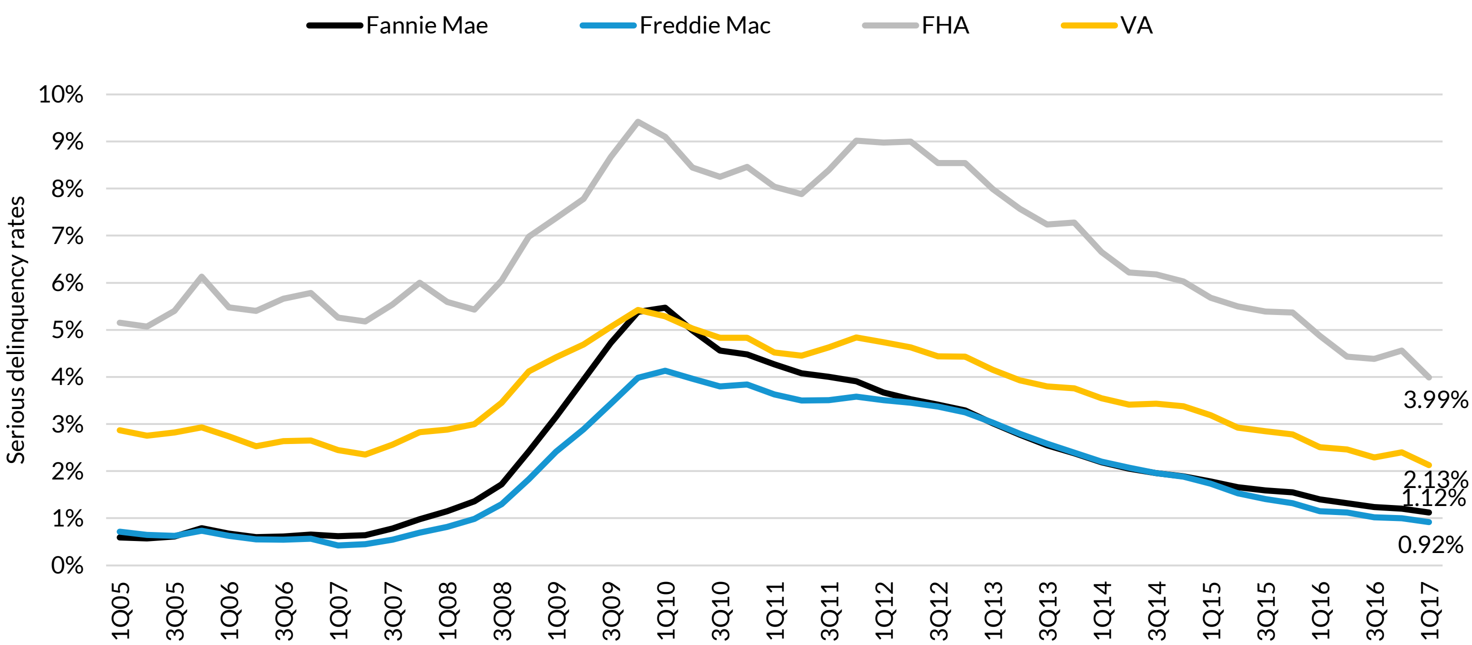
| | Sharpe Ratio | | | | | |
|---|---|---|---|---|---|---|
| Time Period | US MBS Ginnie Mae | US Treasury | US Credit Corp | Pan Euro Credit Corp | US High Yield | Pan Euro High Yield* |
| 1 year | -0.10 | -0.25 | 0.13 | 0.15 | 0.99 | 0.94 |
| 3 year | 0.27 | 0.15 | 0.24 | 0.27 | 0.21 | 0.30 |
| 5 year | 0.19 | 0.11 | 0.26 | 0.36 | 0.37 | 0.55 |
| 10 year | 0.42 | 0.25 | 0.26 | 0.22 | 0.21 | 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 June 2017*

# State of the US Housing Market

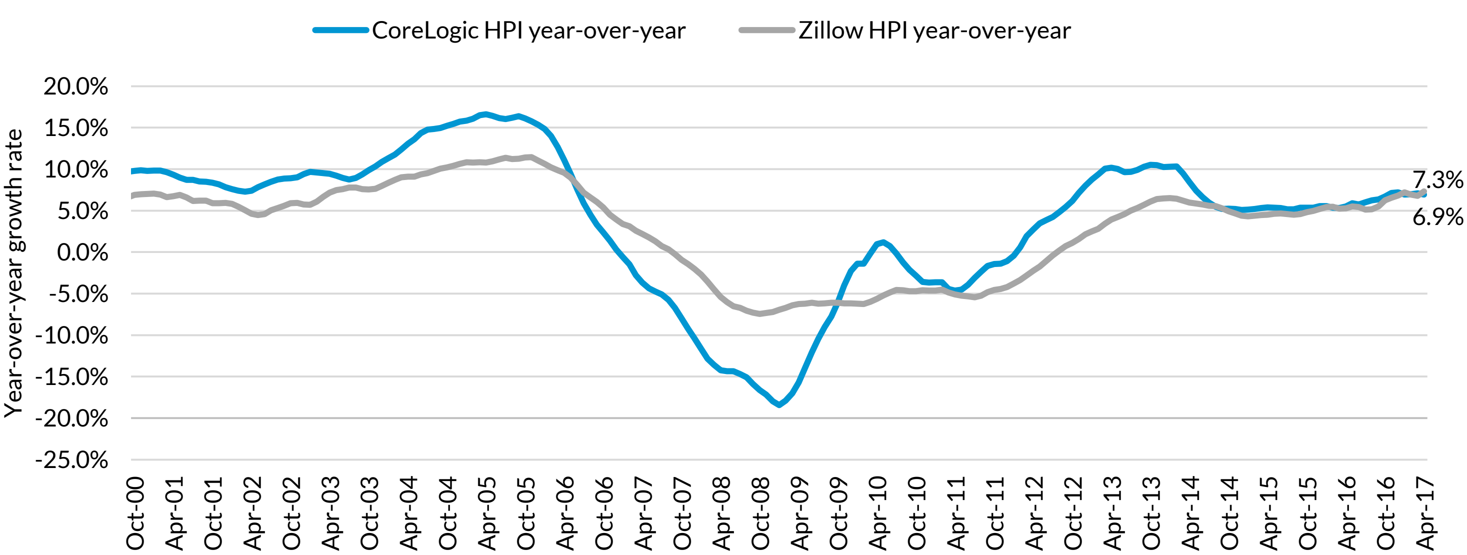
Serious delinquencies for GSE single-family loans continue to decline in Q1 2017. After last quarter's small seasonal upswing, both FHA and VA delinquencies resumed a decline to 3.99 and 2.13 percent in Q1 2017, respectively, falling even lower than levels before last quarter's uptick. GSE delinquencies remain higher relative to 2005-2007, while FHA and VA delinquencies (which are higher than their GSE counterparts) are at levels lower than 2005-2007. 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 Q1 2017.*

## National Year-Over-Year HPI Growth




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

# State of the US Housing Market

Nationally, the housing market has improved by 47.3 percent since the trough, and needs to increase by another 1.9 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 40.7 percent below peak levels and Connecticut and Florida remain 26 and 24 percent below peak levels, respectively.

| | HPI Changes | | | | |
|---|---|---|---|---|---|
| **State** | **2000 to Peak** | **Peak to Trough** | **Trough to Current** | **YOY** | **Current HPI % Below Peak** |
| **National** | 93.7% | -33.4% | 47.3% | 6.9% | 1.9% |
| Alabama | 46.1% | -21.0% | 22.4% | 6.6% | 3.3% |
| Alaska | 68.9% | -9.2% | 15.4% | -0.2% | -4.5% |
| Arizona | 121.6% | -50.6% | 62.6% | 6.0% | 24.5% |
| Arkansas | 39.3% | -7.8% | 14.7% | 6.0% | -5.5% |
| California | 149.0% | -42.6% | 68.9% | 5.9% | 3.1% |
| Colorado | 40.3% | -13.9% | 60.1% | 8.8% | -27.5% |
| Connecticut | 79.5% | -25.0% | 5.7% | 0.4% | 26.1% |
| Delaware | 90.4% | -24.1% | 14.9% | -0.2% | 14.7% |
| District of Columbia | 150.5% | -10.4% | 36.6% | 5.0% | -18.3% |
| Florida | 149.2% | -49.7% | 59.9% | 6.4% | 24.4% |
| Georgia | 40.2% | -31.0% | 47.8% | 5.6% | -2.0% |
| Hawaii | 152.4% | -20.7% | 43.5% | 6.1% | -12.1% |
| Idaho | 86.0% | -41.1% | 62.8% | 6.8% | 4.2% |
| Illinois | 60.0% | -32.8% | 28.4% | 5.0% | 15.8% |
| Indiana | 24.3% | -16.4% | 25.3% | 5.8% | -4.5% |
| Iowa | 25.6% | -4.8% | 16.6% | 2.3% | -9.9% |
| Kansas | 33.2% | -13.9% | 22.4% | 3.1% | -5.1% |
| Kentucky | 27.0% | -8.9% | 16.9% | 3.4% | -6.1% |
| Louisiana | 58.4% | -7.7% | 22.4% | 4.7% | -11.5% |
| Maine | 92.5% | -15.5% | 31.8% | 0.2% | -10.2% |
| Maryland | 137.8% | -31.3% | 17.5% | 3.3% | 23.8% |
| Massachusetts | 81.8% | -21.4% | 35.8% | 6.1% | -6.3% |
| Michigan | 26.0% | -43.4% | 67.1% | 8.7% | 5.8% |
| Minnesota | 69.9% | -28.3% | 37.9% | 6.0% | 1.1% |
| Mississippi | 35.6% | -19.1% | 15.2% | 0.4% | 7.3% |
| Missouri | 46.2% | -22.3% | 26.9% | 4.9% | 1.4% |
| Montana | 80.2% | -16.6% | 32.0% | 4.4% | -9.2% |
| Nebraska | 25.3% | -5.2% | 23.2% | 5.3% | -14.3% |
| Nevada | 128.9% | -60.1% | 77.9% | 6.7% | 40.7% |
| New Hampshire | 83.0% | -24.0% | 27.2% | 6.7% | 3.5% |
| New Jersey | 109.7% | -26.5% | 12.8% | 2.9% | 20.6% |
| New Mexico | 64.3% | -26.8% | 16.8% | 2.0% | 16.9% |
| New York | 102.4% | -13.8% | 31.0% | 7.2% | -11.4% |
| North Carolina | 39.5% | -14.7% | 25.0% | 5.7% | -6.3% |
| North Dakota | 49.5% | -2.0% | 46.0% | 2.8% | -30.1% |
| Ohio | 22.1% | -20.7% | 24.2% | 3.4% | 1.5% |
| Oklahoma | 35.6% | -3.3% | 12.9% | 1.2% | -8.4% |
| Oregon | 87.6% | -29.4% | 62.2% | 9.1% | -12.7% |
| Pennsylvania | 71.6% | -12.8% | 12.7% | 3.2% | 1.8% |
| Rhode Island | 130.9% | -34.6% | 25.4% | 4.9% | 22.0% |
| South Carolina | 61.4% | -22.3% | 30.3% | 5.8% | -1.3% |
| South Dakota | 37.3% | -3.6% | 25.0% | 2.5% | -17.0% |
| Tennessee | 41.0% | -13.5% | 29.8% | 5.1% | -11.0% |
| Texas | 39.3% | -13.2% | 43.6% | 4.8% | -19.8% |
| Utah | 64.8% | -31.9% | 58.2% | 10.1% | -7.2% |
| Vermont | 81.3% | -8.9% | 8.1% | 2.1% | 1.6% |
| Virginia | 135.3% | -30.7% | 28.1% | 2.3% | 12.7% |
| Washington | 90.2% | -28.2% | 60.8% | 12.0% | -13.4% |
| West Virginia | 78.7% | -30.3% | 16.1% | 0.3% | 23.5% |
| Wisconsin | 48.6% | -17.4% | 23.5% | 7.0% | -1.9% |
| Wyoming | 75.9% | -15.2% | 19.9% | -3.9% | -1.7% |

***Sources:*** *CoreLogic and Urban Institute.* ***Note:*** *HPI data as of April 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 04/2017, the latest HPI data period.*

# State of the US Housing Market

Ginnie Mae loans constitute 32.9 percent of outstanding agency issuance by loan balance, 33.3 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 18.3 percent in the District of Columbia and as high as 53.3 percent in Mississippi. In general, the Ginnie Mae share is higher in states with lower home prices.

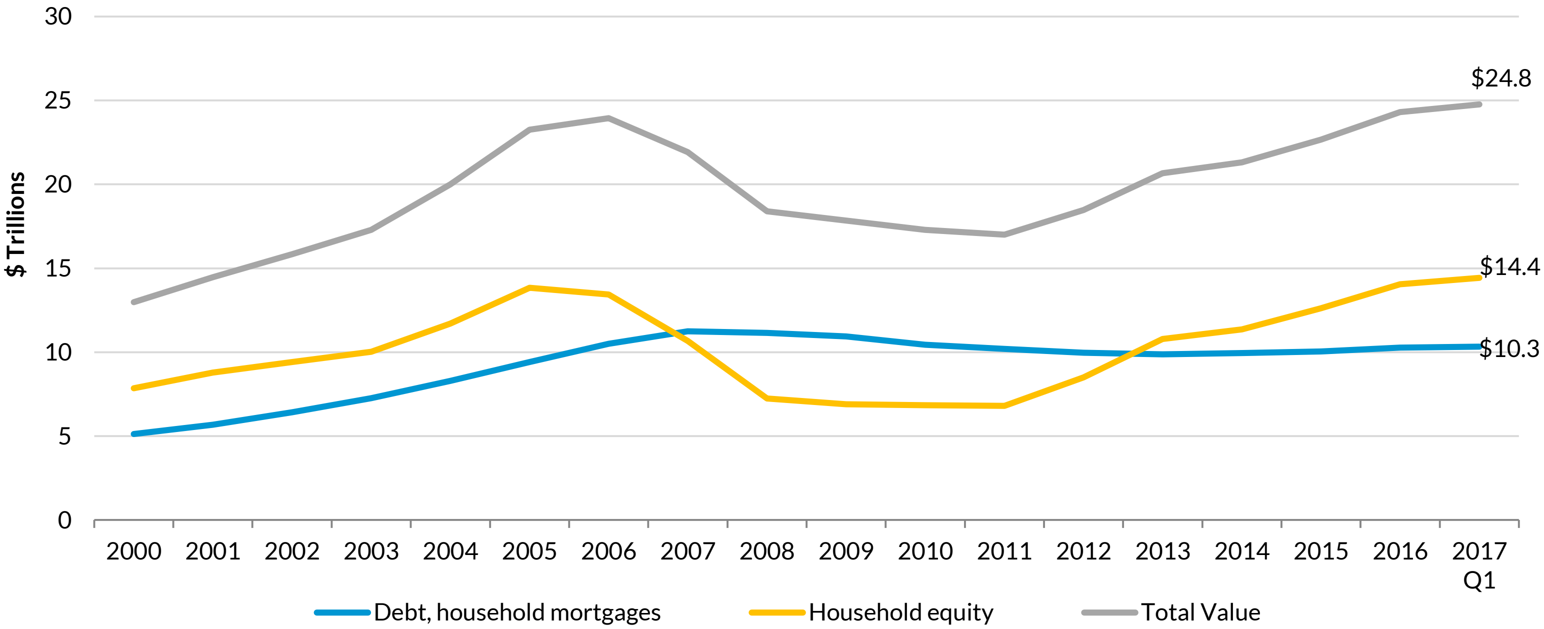
| State | Agency Issuance (past 1 year) | | | Agency Outstanding | | |
|---|---|---|---|---|---|---|
| | Ginnie Mae Share | Ginnie Mae Average Loan Size (Thousands) | GSE Average Loan Size (Thousands) | Ginnie Mae Share | Ginnie Mae Average Loan Size (Thousands) | GSE Average Loan Size (Thousands) |
| **National** | 33.3% | 210.9 | 229.7 | 32.9% | 173.8 | 205.0 |
| Alabama | 46.1% | 158.9 | 180.2 | 48.0% | 139.7 | 166.4 |
| Alaska | 53.3% | 279.6 | 244.0 | 52.4% | 252.0 | 225.2 |
| Arizona | 37.7% | 201.2 | 206.3 | 35.6% | 170.8 | 186.8 |
| Arkansas | 43.2% | 140.0 | 166.0 | 47.8% | 120.5 | 150.7 |
| California | 26.9% | 335.2 | 321.7 | 22.5% | 275.7 | 287.8 |
| Colorado | 32.1% | 262.1 | 255.8 | 31.6% | 217.7 | 230.0 |
| Connecticut | 31.0% | 214.6 | 228.3 | 30.0% | 202.5 | 217.1 |
| Delaware | 40.0% | 213.5 | 220.0 | 37.8% | 196.5 | 205.6 |
| District of Columbia | 17.7% | 404.6 | 360.8 | 18.3% | 317.4 | 329.4 |
| Florida | 39.9% | 199.7 | 198.7 | 37.2% | 166.7 | 181.0 |
| Georgia | 41.4% | 177.3 | 204.7 | 41.5% | 150.6 | 182.9 |
| Hawaii | 40.1% | 483.7 | 372.5 | 31.7% | 406.5 | 340.7 |
| Idaho | 35.9% | 184.1 | 188.7 | 36.1% | 157.2 | 170.8 |
| Illinois | 24.5% | 175.5 | 201.5 | 25.5% | 152.8 | 181.6 |
| Indiana | 39.4% | 137.4 | 156.4 | 40.5% | 119.6 | 139.4 |
| Iowa | 24.4% | 142.0 | 164.5 | 27.8% | 122.9 | 146.3 |
| Kansas | 34.6% | 150.1 | 174.2 | 37.9% | 130.4 | 154.4 |
| Kentucky | 40.4% | 146.1 | 166.0 | 40.8% | 131.1 | 147.8 |
| Louisiana | 42.3% | 168.4 | 189.6 | 44.5% | 148.4 | 175.0 |
| Maine | 35.8% | 180.3 | 196.0 | 33.2% | 164.3 | 178.3 |
| Maryland | 44.5% | 282.0 | 267.0 | 40.2% | 248.2 | 244.7 |
| Massachusetts | 21.4% | 277.2 | 277.0 | 19.8% | 247.6 | 251.7 |
| Michigan | 26.4% | 141.7 | 168.4 | 27.6% | 120.8 | 148.9 |
| Minnesota | 25.2% | 190.2 | 205.1 | 26.5% | 166.1 | 187.0 |
| Mississippi | 49.2% | 147.9 | 169.2 | 53.3% | 129.6 | 155.8 |
| Missouri | 34.8% | 148.3 | 173.5 | 37.3% | 130.4 | 153.8 |
| Montana | 31.5% | 206.6 | 207.8 | 32.6% | 178.2 | 187.7 |
| Nebraska | 32.1% | 157.0 | 168.2 | 37.0% | 132.1 | 150.6 |
| Nevada | 43.9% | 221.9 | 213.8 | 42.0% | 189.1 | 192.2 |
| New Hampshire | 32.5% | 223.8 | 219.0 | 30.7% | 205.1 | 198.7 |
| New Jersey | 29.2% | 248.5 | 267.6 | 28.6% | 231.0 | 246.7 |
| New Mexico | 44.8% | 174.9 | 184.9 | 44.7% | 154.2 | 171.0 |
| New York | 26.7% | 238.4 | 263.4 | 27.2% | 201.3 | 239.4 |
| North Carolina | 35.1% | 175.3 | 200.4 | 36.9% | 151.9 | 181.9 |
| North Dakota | 27.2% | 206.8 | 203.4 | 27.5% | 175.8 | 182.1 |
| Ohio | 36.8% | 138.2 | 156.8 | 38.7% | 123.5 | 142.3 |
| Oklahoma | 46.5% | 149.9 | 169.0 | 51.2% | 129.0 | 154.8 |
| Oregon | 27.5% | 236.3 | 244.7 | 26.4% | 202.7 | 215.3 |
| Pennsylvania | 34.6% | 166.7 | 193.5 | 34.6% | 150.4 | 178.7 |
| Rhode Island | 36.7% | 213.7 | 215.5 | 34.2% | 196.5 | 200.6 |
| South Carolina | 40.3% | 177.8 | 190.9 | 39.7% | 154.7 | 174.8 |
| South Dakota | 35.4% | 171.3 | 181.4 | 37.8% | 151.5 | 161.4 |
| Tennessee | 42.0% | 172.1 | 193.5 | 44.2% | 146.1 | 174.3 |
| Texas | 35.9% | 186.6 | 208.6 | 39.8% | 147.6 | 187.0 |
| Utah | 32.1% | 221.3 | 235.3 | 33.7% | 194.8 | 212.5 |
| Vermont | 23.4% | 195.0 | 195.2 | 19.9% | 179.8 | 180.8 |
| Virginia | 45.6% | 277.1 | 265.3 | 42.2% | 239.4 | 242.0 |
| Washington | 32.0% | 264.5 | 266.9 | 31.4% | 224.9 | 236.7 |
| West Virginia | 47.7% | 154.1 | 154.6 | 46.1% | 136.9 | 145.6 |
| Wisconsin | 21.3% | 160.9 | 175.2 | 22.1% | 144.4 | 158.8 |
| Wyoming | 41.1% | 207.6 | 207.7 | 42.3% | 190.6 | 193.0 |

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

# State of the US Housing Market

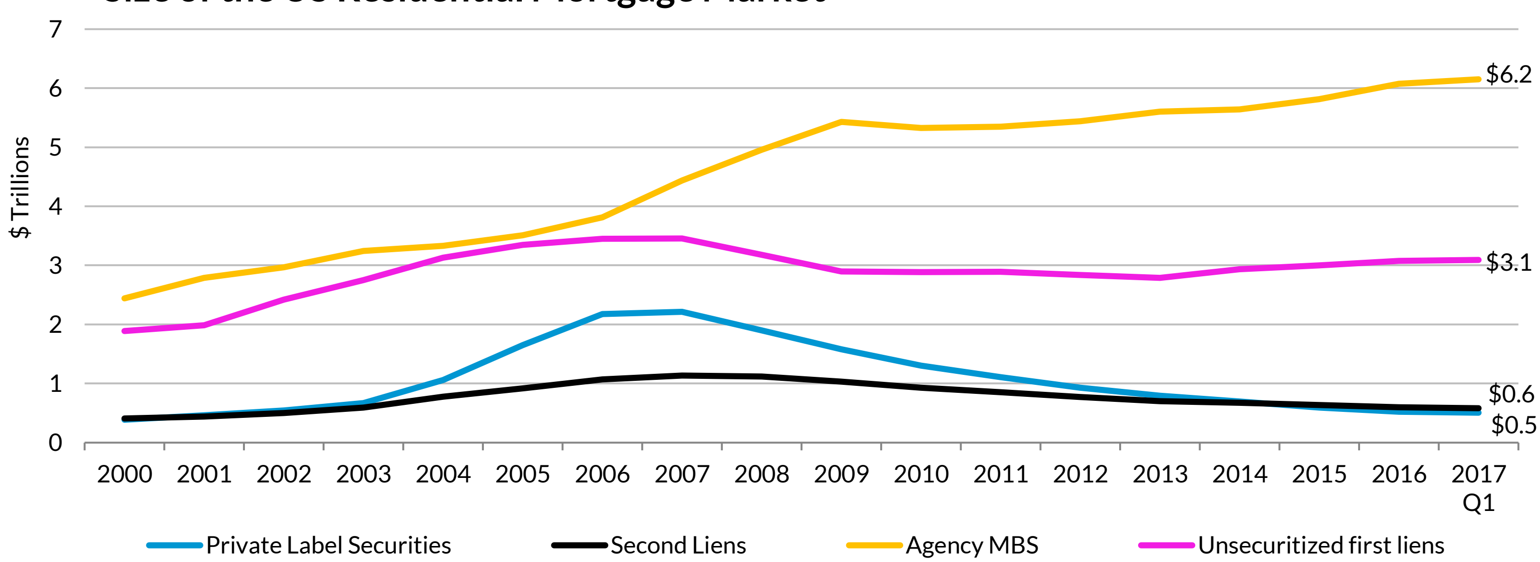
The Federal Reserve's Flow of Funds report has consistently indicated an increasing total value of the housing market driven by growing household equity since 2012, and 2017 Q1 was no different. While total debt and mortgages was stable at $10.3 trillion, household equity reached a new high of $14.4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

## Value of the US Housing Market




**Sources**: *Federal Reserve Flow of Funds and Urban Institute. Data as of Q1 2017.*

## Size of the US Residential Mortgage Market

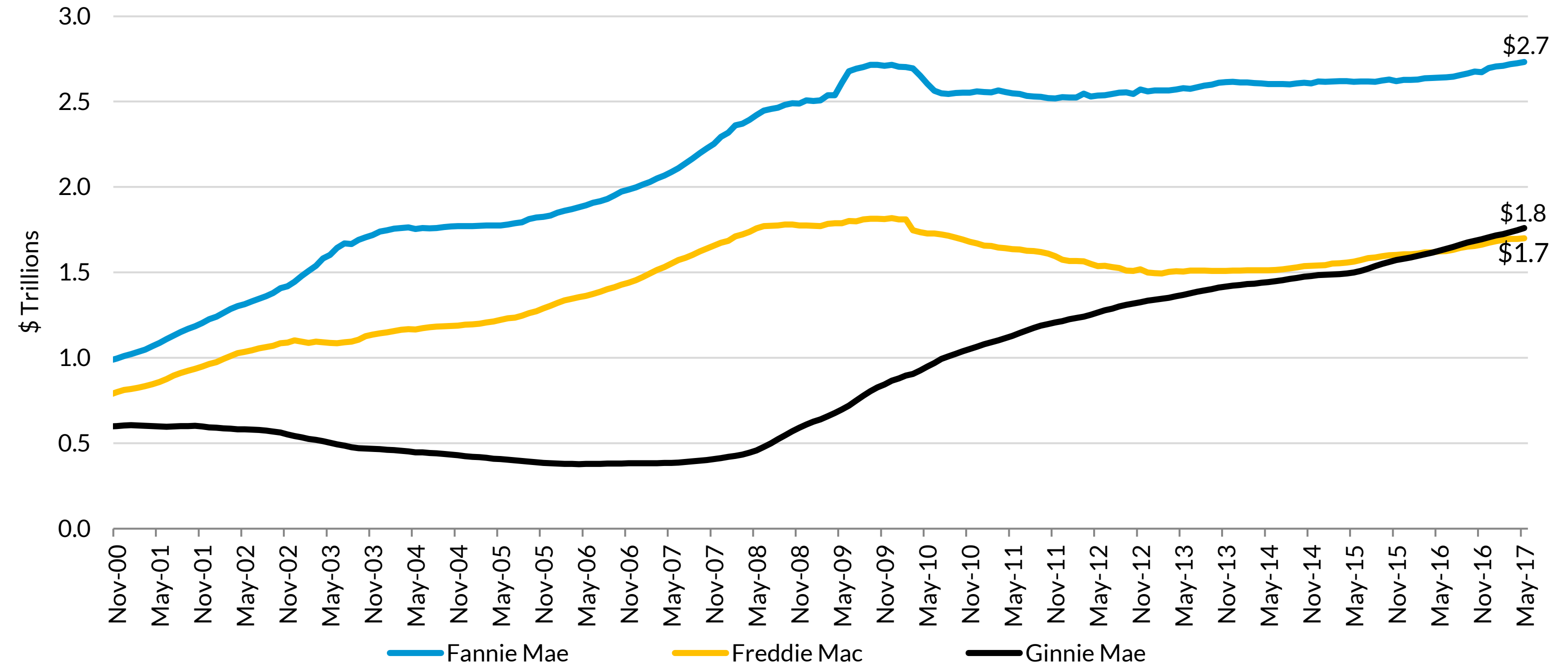



**Sources:** *Federal Reserve Flow of Funds, Inside Mortgage Finance, Fannie Mae, Freddie Mac, eMBS and Urban Institute.*
**Note:** *Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, and credit unions. Data as of Q1 2017.*

# State of the US Housing Market

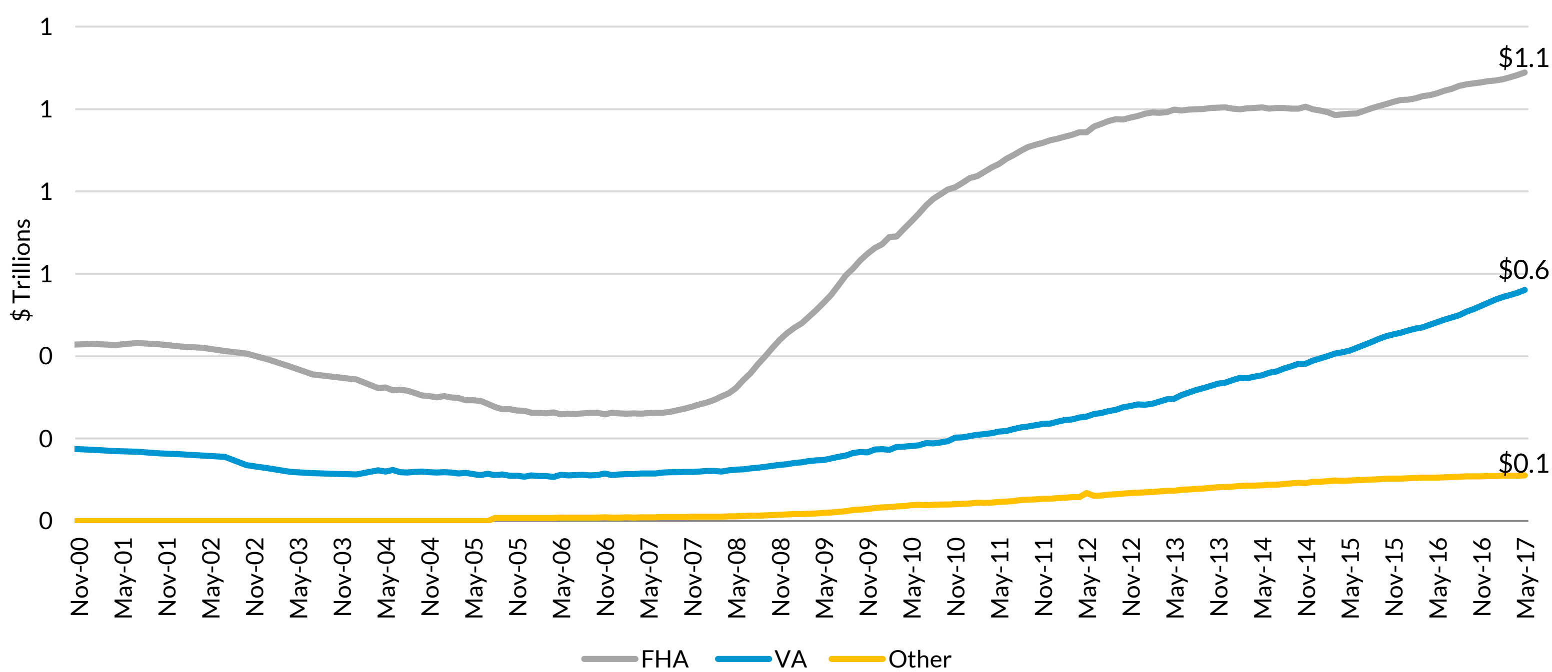
As of May 2017, outstanding securities in the agency market totaled $6.19 trillion and were 44.1 percent Fannie Mae, 27.4 percent Freddie Mac, and 28.4 percent Ginnie Mae. Ginnie Mae now has more outstandings than Freddie Mac. Within the Ginnie Mae market, VA has been growing very rapidly--comprising 31.9 percent of total Ginnie Mae outstandings.

## Outstanding Agency Mortgage-Backed Securities




**Sources:** *eMBS and Urban Institute* **Note:** *Data as of May 2017*

## Outstanding Ginnie Mae Mortgage-Backed Securities

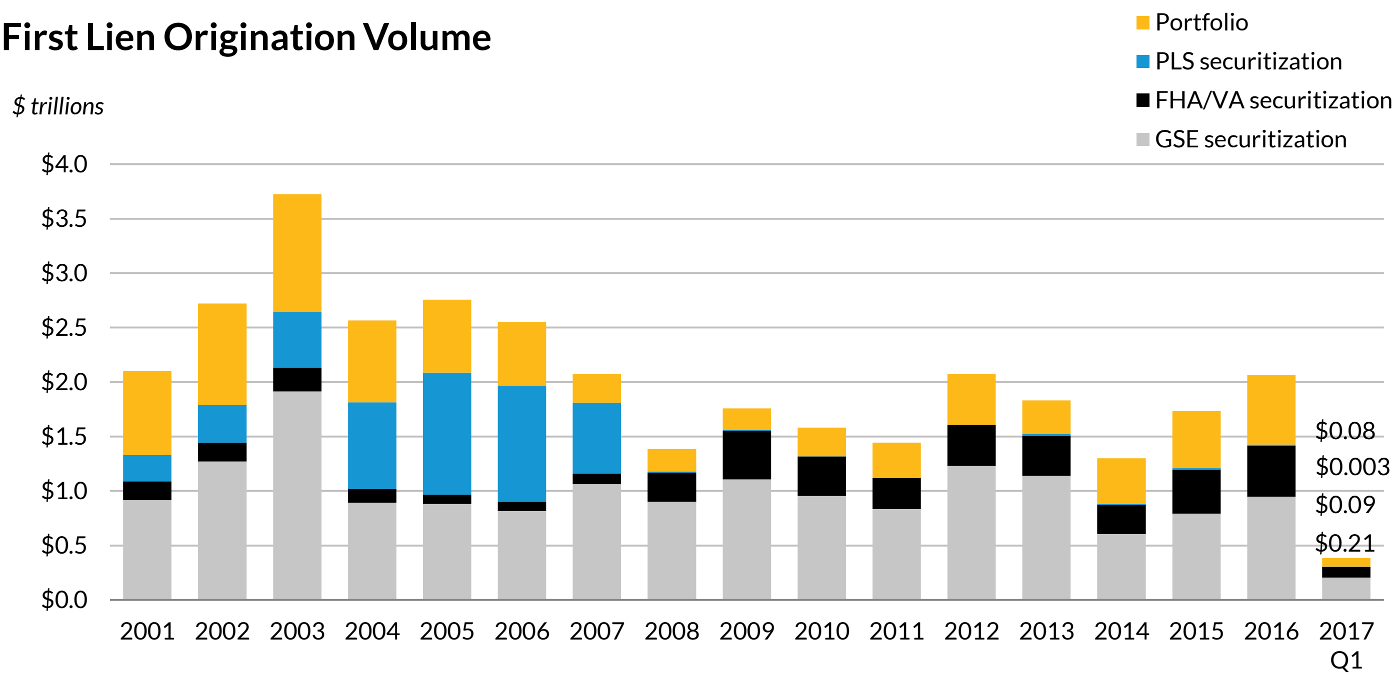



**Sources**: *eMBS and Urban Institute.* **Note:** *Data as of May 2017*

# State of the US Housing Market

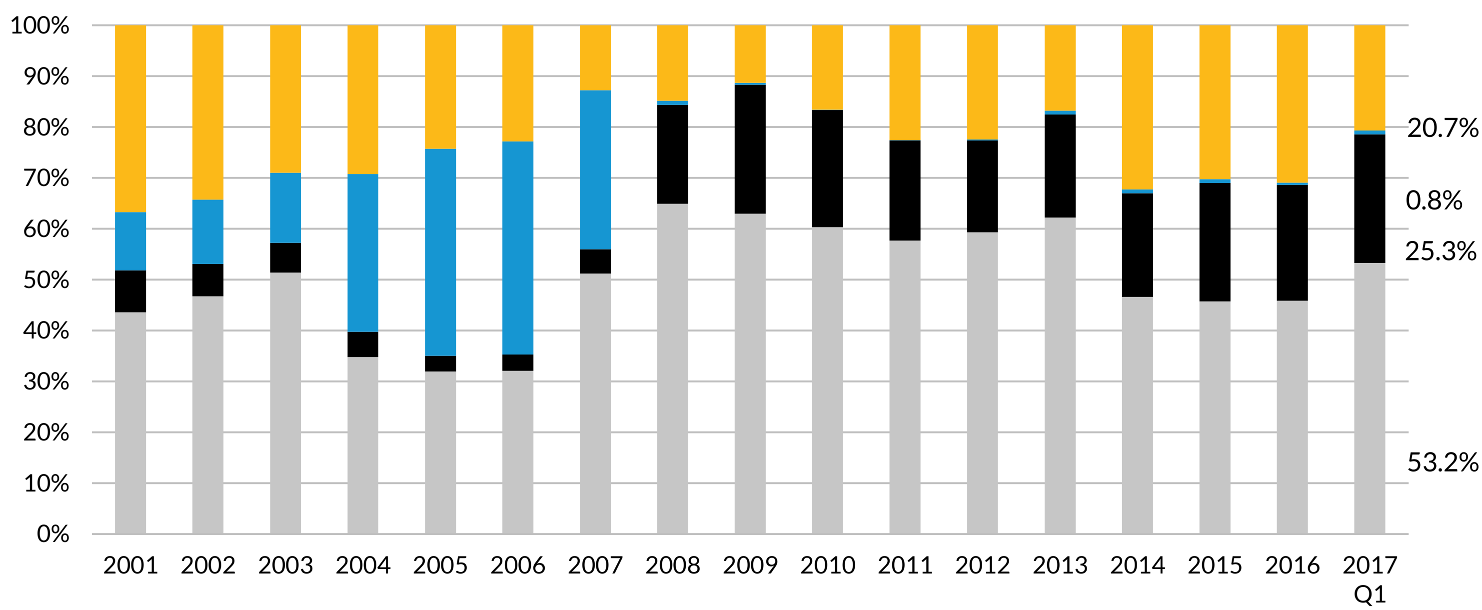
After a record high origination year in 2016 ($2.1 trillion), the first lien originations totaled $385 billion in the first quarter of 2017, mostly due to the increase in interest rates and traditionally low winter activity. The share of portfolio originations was 21 percent, down sharply from 31 percent in 2016. The GSE share went up to 53 percent, from 46 percent for 2016. The FHA/VA share was slightly up: 25 percent in Q1 2017 versus 23 percent in 2016. Origination of private-label securities was well under 1 percent in both periods.

## First Lien Origination Volume




**Sources**: *Inside Mortgage Finance and Urban Institute.* **Note:** *Data as of Q1 2017.*

## First Lien Origination Share




**Sources**: *Inside Mortgage Finance and Urban Institute.* **Note:** *Data as of Q1 2017.*

# US Agency Market, Originations

Agency gross issuance totaled $526.1 billion in the first five months of 2017, a 5.1 percent increase from the same, very sluggish period last year. Ginnie Mae gross issuance is up by 1.3 percent, while GSE gross issuance is up by 7.3 percent. Within the Ginnie Mae market, FHA is up by 2.5 percent while VA origination is down by 2.3 percent. As a result of higher rates, origination in 2017 is expected to be down substantially compared to 2016.

| 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 | $212.3 | $134.0 | $346.4 | $179.8 | $526.1 |
| 2017 %Change YOY | 8.5% | 5.4% | 7.3% | 1.3% | 5.1% |
| 2017 Ann. | $509.5 | $321.7 | $831.2 | $431.4 | $1,262.7 |

| 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 | $155.6 | $19.2 | $436.3 |
| 2016 | $281.8 | $206.5 | $19.9 | $508.2 |
| 2017 YTD | $104.4 | $67.2 | $8.2 | $179.8 |
| 2017 %Change YOY | 2.5% | -2.3% | 18.0% | 1.3% |
| 2017 Ann. | $250.6 | $161.3 | $19.7 | $431.45 |

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

# US Agency Market, Originations

Agency net issuance totaled $116.5 billion for the first five months of 2017, up 55.1 percent over the same period last year. Ginnie Mae net issuance was $53.8 billion, comprising 46.2 percent of total agency net issuance. Note that Ginnie Mae net issuance is up 18.2 percent versus the same time last year. Ginnie Mae net issuance is comprised of 58.3 percent VA issuance, 39.0 percent FHA issuance and 2.8 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 | $216.6 | $151.8 | $368.4 | -$9.9 | $358.5 |
| 2002 | $218.9 | $138.3 | $357.2 | -$51.2 | $306.1 |
| 2003 | $293.7 | $41.1 | $334.9 | -$77.6 | $257.3 |
| 2004 | $32.3 | $50.2 | $82.5 | -$40.1 | $42.4 |
| 2005 | $62.5 | $111.7 | $174.2 | -$42.2 | $132.0 |
| 2006 | $164.3 | $149.3 | $313.6 | $0.2 | $313.8 |
| 2007 | $296.1 | $218.8 | $514.9 | $30.9 | $545.7 |
| 2008 | $213.0 | $101.8 | $314.8 | $196.4 | $511.3 |
| 2009 | $208.1 | $42.5 | $250.6 | $257.4 | $508.0 |
| 2010 | -$156.4 | -$146.8 | -$303.2 | $198.3 | -$105.0 |
| 2011 | -$32.6 | -$95.8 | -$128.4 | $149.6 | $21.2 |
| 2012 | $32.9 | -$75.3 | -$42.4 | $119.1 | $76.8 |
| 2013 | $57.5 | $11.6 | $69.1 | $87.9 | $157.0 |
| 2014 | $0.5 | $30.0 | $30.5 | $61.6 | $92.1 |
| 2015 | $10.2 | $65.0 | $75.1 | $97.3 | $172.5 |
| 2016 | $68.6 | $66.8 | $135.5 | $124.9 | $260.4 |
| 2017 YTD | $36.2 | $26.5 | $62.7 | $53.8 | $116.5 |
| 2017 %Change YOY | 178.7% | 59.6% | 111.9% | 18.2% | 55.1% |
| 2017 Ann. | $86.8 | $63.6 | $150.4 | $129.1 | $279.5 |

| 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 | -$37.3 | -$12.1 | $7.2 | -$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 | $22.5 | $66.9 | $7.9 | $97.3 |
| 2016 | $45.6 | $73.2 | $6.0 | $124.9 |
| 2017 YTD | $21.0 | $31.4 | $1.5 | $53.8 |
| 2017 %Change YOY | 25.8% | 20.3% | -46.9% | 18.2% |
| 2017 Ann. | $50.32 | $75.24 | $3.58 | $129.14 |

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

**Note :** *Dollar amounts are in billions. Annualized figure based on data from May 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 May 2017.*

# US Agency Market, Originations

With the winter season and elevated mortgage rates since the election, monthly agency issuance has been declining in the first five months of 2017. Freddie Mac gross issuance was almost cut in half from 41 billion in December 2016 to 23 billion in May 2017, and Fannie Mae's gross issuance dropped from 73 to 40 billion. Less dependent on refinances, Ginnie Mae gross issuance fell less from 47 to 36 billion in the same period, driving its share up to 37 percent in May 2017. Despite the variability in gross issuance, Ginnie net issuance is relatively constant; 10.8 billion per month for the first five months of 2017, versus 10.5 billion per month in 2016.

## Monthly Agency Issuance

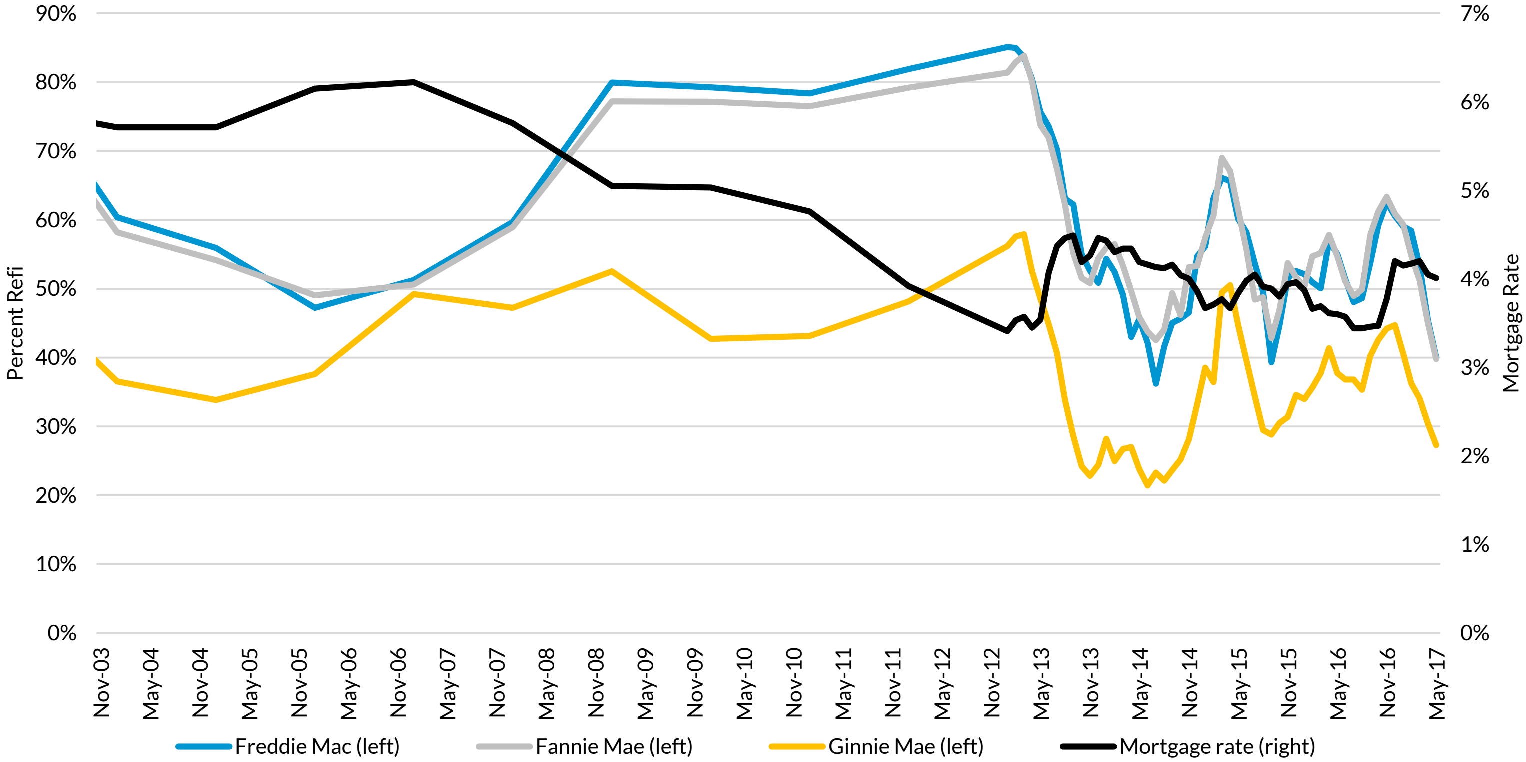
| | Gross Issuance | | | Net Issuance | | |
|---|---|---|---|---|---|---|
| Date | Fannie Mae | Freddie Mac | Ginnie Mae | Fannie Mae | Freddie Mac | Ginnie Mae |
| Jan-14 | $28.2 | $20.0 | $21.6 | -$4.9 | $0.5 | $4.9 |
| Feb-14 | $27.9 | $17.9 | $20.1 | -$0.2 | $1.2 | $5.2 |
| Mar-14 | $24.1 | $14.7 | $16.7 | -$2.3 | -$0.9 | $1.9 |
| Apr-14 | $28.0 | $18.7 | $21.7 | -$1.9 | $1.2 | $5.2 |
| May-14 | $27.7 | $18.1 | $23.9 | -$3.7 | $0.0 | $4.9 |
| Jun-14 | $32.1 | $20.7 | $24.9 | -$0.4 | $1.8 | $4.5 |
| Jul-14 | $36.3 | $23.2 | $27.4 | $0.6 | $2.6 | $5.4 |
| Aug-14 | $34.2 | $28.4 | $30.0 | -$2.7 | $7.4 | $7.9 |
| Sep-14 | $39.6 | $25.9 | $27.0 | $4.8 | $5.6 | $5.2 |
| Oct-14 | $39.5 | $25.8 | $29.9 | $4.3 | $6.2 | $8.4 |
| Nov-14 | $32.0 | $23.1 | $26.4 | -$3.0 | $2.7 | $4.2 |
| Dec-14 | $43.3 | $21.6 | $26.7 | $9.9 | $1.8 | $4.1 |
| Jan-15 | $36.8 | $22.9 | $27.5 | -$1.2 | $0.8 | $2.5 |
| Feb-15 | $35.4 | $29.9 | $23.9 | $1.5 | $10.1 | $2.9 |
| Mar-15 | $44.8 | $26.0 | $30.7 | $3.1 | $1.1 | $0.6 |
| Apr-15 | $49.3 | $33.8 | $40.6 | -$1.2 | $3.8 | $4.3 |
| May-15 | $42.4 | $33.2 | $39.4 | -$2.9 | $6.6 | $5.8 |
| Jun-15 | $44.6 | $34.4 | $40.5 | $0.8 | $8.3 | $9.1 |
| Jul-15 | $46.0 | $39.2 | $45.6 | $1.0 | $12.3 | $13.3 |
| Aug-15 | $39.4 | $27.6 | $43.4 | -$2.2 | $3.1 | $14.9 |
| Sep-15 | $45.3 | $30.4 | $39.4 | $7.6 | $7.9 | $12.7 |
| Oct-15 | $41.5 | $28.4 | $39.2 | $4.8 | $6.4 | $12.4 |
| Nov-15 | $28.8 | $23.3 | $35.8 | -$8.1 | $1.3 | $10.6 |
| Dec-15 | $39.7 | $22.8 | $30.3 | $7.1 | $3.2 | $8.2 |
| Jan-16 | $35.6 | $22.5 | $32.5 | -$0.6 | $1.0 | $7.3 |
| Feb-16 | $32.4 | $21.2 | $30.5 | $2.4 | $3.1 | $8.4 |
| Mar-16 | $39.7 | $27.5 | $32.9 | $7.9 | $8.2 | $9.6 |
| Apr-16 | $43.8 | $26.2 | $40.1 | $0.8 | -$0.2 | $8.8 |
| May-16 | $44.2 | $29.9 | $41.6 | $2.4 | $4.4 | $11.4 |
| Jun-16 | $46.7 | $30.1 | $43.9 | $2.7 | $3.0 | $11.9 |
| Jul-16 | $49.8 | $35.3 | $46.1 | $2.3 | $6.3 | $10.8 |
| Aug-16 | $54.9 | $37.9 | $46.7 | $10.4 | $11.0 | $13.8 |
| Sep-16 | $65.8 | $44.0 | $52.5 | $8.7 | $9.0 | $12.5 |
| Oct-16 | $66.0 | $35.9 | $47.4 | $11.8 | $2.7 | $9.3 |
| Nov-16 | $48.8 | $40.2 | $47.2 | -$3.5 | $7.9 | $10.3 |
| Dec-16 | $72.7 | $40.5 | $46.8 | $23.3 | $10.4 | $10.8 |
| Jan-17 | $55.6 | $38.5 | $42.6 | $10.3 | $10.7 | $10.3 |
| Feb-17 | $37.6 | $27.4 | $33.1 | $3.1 | $6.5 | $9.2 |
| Mar-17 | $39.5 | $24.4 | $31.3 | $10.3 | $6.2 | $9.6 |
| Apr-17 | $39.3 | $21.2 | $36.4 | $4.8 | $0.4 | $11.7 |
| May-17 | $40.3 | $22.6 | $36.4 | $7.6 | $2.7 | $13.1 |

**Sources**: *eMBS and Urban Institute*
***Note :*** *Dollar amounts are in billions. "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 May 2017.*

# US Agency Market, Originations

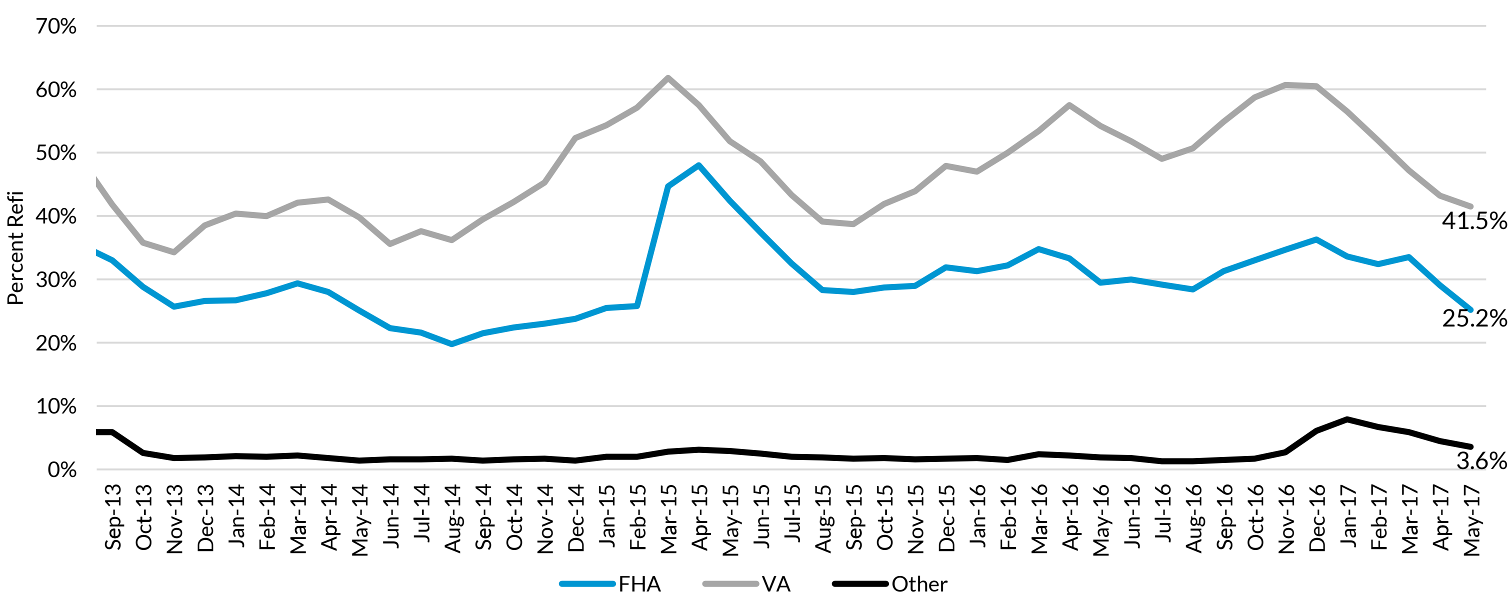
The Ginnie Mae refi share stood at 27 percent in May 2017, below the 40 percent shares for Fannie Mae and Freddie Mac. Within Ginnie Mae, VA had the highest refi share of 42 percent in May 2017, followed by FHA's 25 percent refi share.

## Percent Refi at Issuance




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

## Percent Refi at Issuance: Ginnie Mae Breakdown

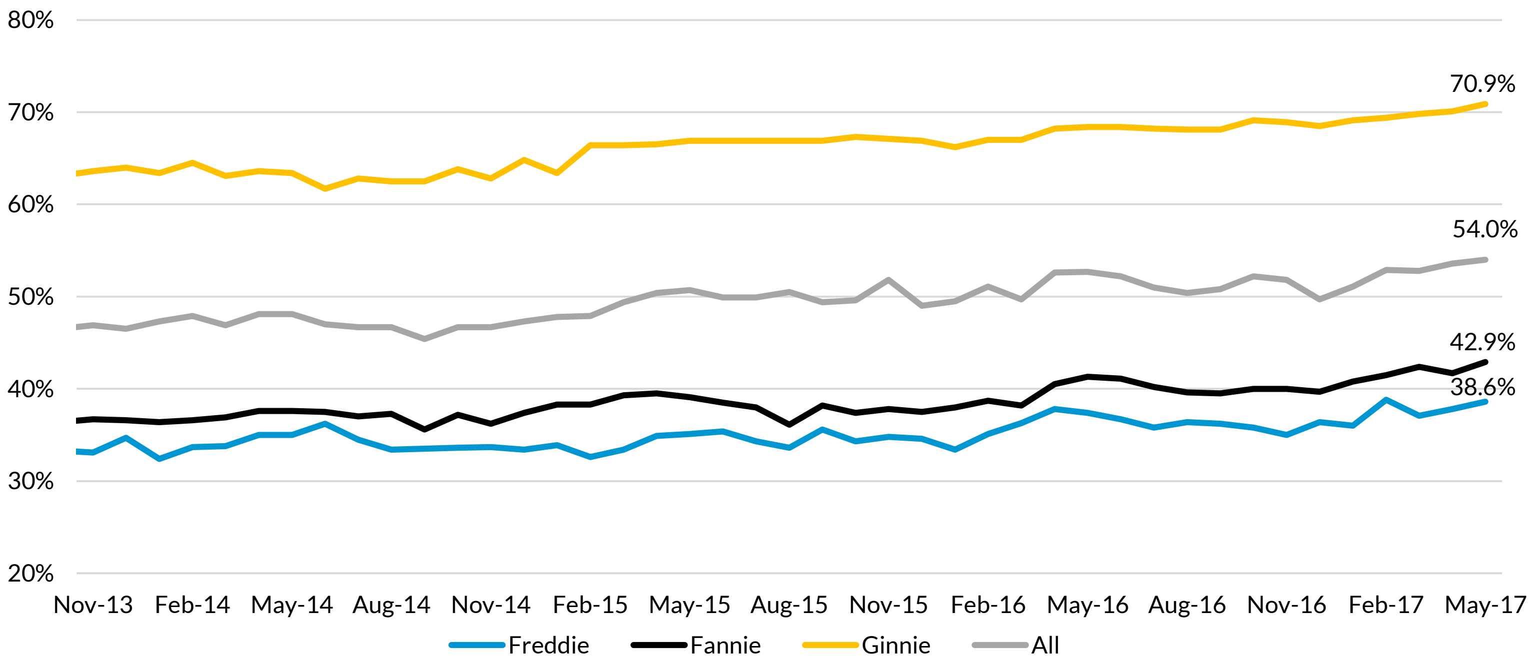



**Sources**: *eMBS and Urban Institute.*
**Note**: *Based on at-issuance balance. "Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of May 2017.*

# Credit Box

First time homebuyers are important to the Ginnie Mae market, comprising 71 percent of purchase originations, compared to Fannie and Freddie's 43 percent and 39 percent share of the first-time homebuyer market. The bottom table shows that based on mortgages originated in May 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 higher DTI, thus requiring a higher interest rate.

## First Time Homebuyer Share: Purchase Only Loans




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

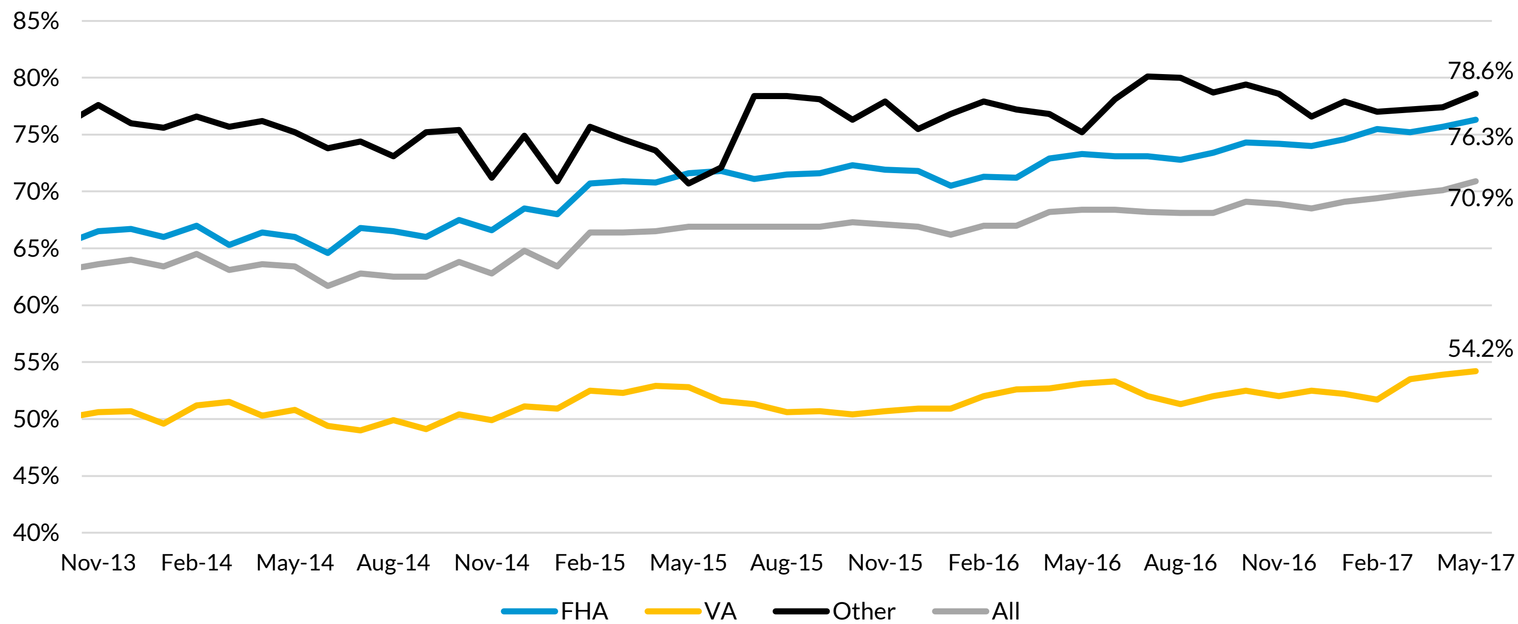
| | Fannie Mae | | Freddie Mac | | Ginnie Mae | | All | |
|---|---|---|---|---|---|---|---|---|
| | First-Time | Repeat | First-Time | Repeat | First-Time | Repeat | First-Time | Repeat |
| Loan Amount ($Thousands ) | 231.0 | 252.7 | 228.2 | 256.6 | 196.0 | 238.8 | 210.5 | 249.8 |
| Credit Score | 739.9 | 753.9 | 740.1 | 756.5 | 682.0 | 700.0 | 707.4 | 737.3 |
| LTV (%) | 86.5 | 80.1 | 86.9 | 79.1 | 98.0 | 96.5 | 93.1 | 85.1 |
| DTI (%) | 34.9 | 35.7 | 34.2 | 35.1 | 40.7 | 41.6 | 37.9 | 37.4 |
| Loan Rate (%) | 4.38 | 4.28 | 4.38 | 4.25 | 4.27 | 4.17 | 4.31 | 4.23 |

**Sources**: *eMBS and Urban Institute.*
**Note**: *In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA and VA loans. This new issuer-reported LTV includes the upfront mortgage insurance premium, and thus is higher than the previously reported LTV. Data as of May 2017.*

# Credit Box

Within the Ginnie Mae purchase market, 76 percent of FHA loans, 54 percent of VA loans and 78 percent of other loans represent financing for first time home buyers. The bottom table shows that based on mortgages originated in May 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 May 2017.*

| | FHA | | VA | | Other | | Ginnie Mae Total | |
|---|---|---|---|---|---|---|---|---|
| | First-Time | Repeat | First-Time | Repeat | First-Time | Repeat | First-Time | Repeat |
| Loan Amount ($ Thousands) | 193.3 | 214.8 | 235.6 | 286.7 | 140.0 | 147.7 | 196.0 | 238.8 |
| Credit Score | 676.1 | 682.2 | 697.7 | 725.4 | 693.1 | 690.1 | 682.0 | 700.0 |
| LTV (%) | 97.2 | 96.0 | 99.8 | 96.5 | 99.4 | 100.0 | 98.0 | 96.5 |
| DTI (%) | 41.8 | 42.6 | 39.6 | 41.1 | 34.9 | 35.4 | 40.7 | 41.6 |
| Loan Rate (%) | 4.31 | 4.27 | 4.12 | 4.02 | 4.20 | 4.29 | 4.27 | 4.17 |

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

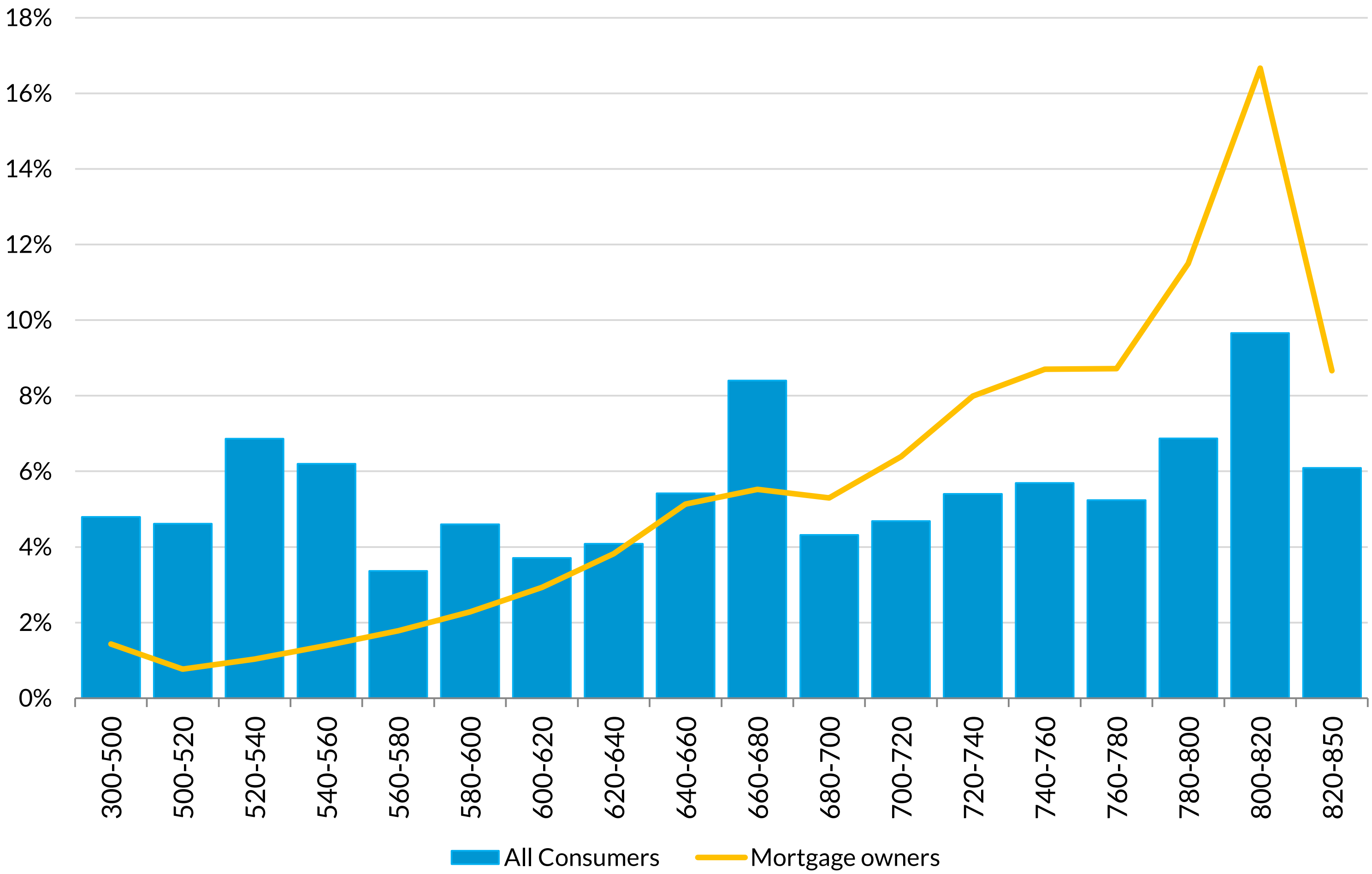
# Credit Box

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.*

# May 2017 Credit Box at a Glance

In May 2017, the median Ginnie Mae FICO score was 680 versus 751 for Fannie and Freddie. Note that the FICO score for the $10^{th}$ percentile was 624 for Ginnie Mae, versus 674 for Fannie and 677 for Freddie. Within the Ginnie Mae market, FHA loans have a median FICO score of 671, VA loans have a median FICO score of 701 and other loans have a median FICO score of 688.

| Purchase FICO | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Number of Loans** | **P10** | **P25** | **Median** | **P75** | **P90** | **Mean** |
| **All** | 314,094 | 644 | 678 | 727 | 774 | 797 | 723 |
| **Fannie** | 115,164 | 686 | 720 | 758 | 787 | 802 | 750 |
| **Freddie** | 67,061 | 687 | 719 | 758 | 786 | 801 | 750 |
| **Ginnie** | 131,869 | 626 | 648 | 680 | 722 | 767 | 687 |
| **Refi FICO** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 164,683 | 643 | 680 | 724 | 770 | 796 | 721 |
| **Fannie** | 75,355 | 661 | 697 | 739 | 779 | 800 | 734 |
| **Freddie** | 43,208 | 666 | 699 | 740 | 778 | 799 | 735 |
| **Ginnie** | 46,120 | 616 | 646 | 681 | 724 | 770 | 685 |
| **All FICO** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 478,777 | 643 | 679 | 726 | 772 | 797 | 722 |
| **Fannie** | 190,519 | 674 | 709 | 751 | 784 | 801 | 744 |
| **Freddie** | 110,269 | 677 | 709 | 751 | 783 | 801 | 744 |
| **Ginnie** | 177,989 | 624 | 647 | 680 | 723 | 767 | 687 |

| Purchase FICO: Ginnie Mae Breakdown By Source | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Number of Loans** | **P10** | **P25** | **Median** | **P75** | **P90** | **Mean** |
| **All** | 131,869 | 626 | 648 | 680 | 722 | 767 | 687 |
| **FHA** | 84,156 | 623 | 644 | 672 | 707 | 746 | 678 |
| **VA** | 35,319 | 633 | 662 | 707 | 761 | 633 | 662 |
| **Other** | 12,394 | 639 | 657 | 688 | 728 | 763 | 692 |
| **Refi FICO: Ginnie Mae Breakdown By Source** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 46,120 | 616 | 646 | 681 | 724 | 770 | 685 |
| **FHA** | 25,068 | 606 | 636 | 668 | 704 | 745 | 671 |
| **VA** | 20,713 | 629 | 661 | 700 | 748 | 786 | 703 |
| **Other** | 339 | 621 | 655 | 697 | 743 | 779 | 697 |
| **All FICO: Ginnie Mae Breakdown By Source** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 177,989 | 624 | 647 | 680 | 723 | 767 | 687 |
| **FHA** | 109,224 | 620 | 643 | 671 | 707 | 746 | 676 |
| **VA** | 56,032 | 632 | 661 | 704 | 756 | 790 | 707 |
| **Other** | 12,733 | 639 | 657 | 688 | 729 | 764 | 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 May 2017.*

# May 2017 Credit Box at a Glance

In May 2017, the median loan-to-value ratio (LTV) was 98.2 percent for Ginnie Mae, and 80.0 percent for Fannie Mae and Freddie Mac. The 10th percentile was 82.1 percent for Ginnie Mae and 50.0 percent for the GSEs. Within the Ginnie Mae market, the median LTV was 98.2 for FHA, 100.0 for VA and 101.0 for other lending programs.

| Purchase LTV | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Number of Loans** | **P10** | **P25** | **Median** | **P75** | **P90** | **Mean** |
| **All** | 314,094 | 74.0 | 80.0 | 95.0 | 98.2 | 100.0 | 88.6 |
| **Fannie** | 115,164 | 63.0 | 79.0 | 80.0 | 95.0 | 95.0 | 81.9 |
| **Freddie** | 67,061 | 65.0 | 79.0 | 80.0 | 95.0 | 95.0 | 81.8 |
| **Ginnie** | 131,869 | 94.4 | 98.2 | 98.2 | 100.0 | 102.0 | 97.5 |
| **Refi LTV** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 164,683 | 45.0 | 60.0 | 75.0 | 84.0 | 94.0 | 71.3 |
| **Fannie** | 75,355 | 41.0 | 55.0 | 69.0 | 79.0 | 80.0 | 65.6 |
| **Freddie** | 43,208 | 41.0 | 56.0 | 70.0 | 79.0 | 81.0 | 66.2 |
| **Ginnie** | 46,120 | 67.1 | 80.4 | 86.5 | 95.8 | 100.0 | 85.2 |
| **All LTV** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 478,777 | 57.0 | 75.0 | 85.0 | 97.0 | 99.0 | 82.3 |
| **Fannie** | 190,519 | 50.0 | 66.0 | 80.0 | 90.0 | 95.0 | 75.1 |
| **Freddie** | 110,269 | 50.0 | 67.0 | 80.0 | 89.0 | 95.0 | 75.2 |
| **Ginnie** | 177,989 | 82.1 | 92.7 | 98.2 | 99.0 | 101.0 | 94.1 |

| Purchase LTV: Ginnie Mae Breakdown By Source | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Number of Loans** | **P10** | **P25** | **Median** | **P75** | **P90** | **Mean** |
| **All** | 131,869 | 94.4 | 98.2 | 98.2 | 100.0 | 102.0 | 97.5 |
| **FHA** | 84,156 | 95.0 | 98.2 | 98.2 | 98.2 | 98.2 | 96.9 |
| **VA** | 35,319 | 91.1 | 100.0 | 100.0 | 102.2 | 103.3 | 98.3 |
| **Other** | 12,394 | 95.6 | 99.2 | 101.0 | 101.0 | 102.0 | 99.5 |
| **Refi LTV: Ginnie Mae Breakdown By Source** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 46,120 | 67.1 | 80.4 | 86.5 | 95.8 | 100.0 | 85.2 |
| **FHA** | 25,068 | 67.0 | 79.6 | 86.5 | 89.5 | 96.9 | 83.1 |
| **VA** | 20,713 | 67.1 | 81.5 | 90.6 | 99.4 | 100.6 | 87.6 |
| **Other** | 339 | 81.6 | 90.4 | 97.8 | 101.0 | 101.9 | 94.0 |
| **All LTV: Ginnie Mae Breakdown By Source** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 177,989 | 82.1 | 92.7 | 98.2 | 99.0 | 101.0 | 94.1 |
| **FHA** | 109,224 | 83.4 | 92.8 | 98.2 | 98.2 | 98.2 | 93.7 |
| **VA** | 56,032 | 78.0 | 90.0 | 100.0 | 101.0 | 103.0 | 93.9 |
| **Other** | 12,733 | 95.0 | 99.2 | 101.0 | 101.0 | 102.0 | 99.4 |

**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.* ***.*** *In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA and VA loans. This new issuer-reported LTV includes the upfront mortgage insurance premium, and thus is higher than the previously reported LTV. Data as of May 2017.*

# May 2017 Credit Box at a Glance

In May 2017, the median Ginnie Mae debt-to-income ratio (DTI) was 41.4 percent, considerably higher than the 36 and 37 percent median DTIs for Fannie Mae and Freddie Mac, respectively. The 90th percentile for Ginnie Mae was 53.0 percent, also much higher than the 45-46 percent DTIs for the GSEs. Fannie Mae has recently announced they will raise their DTI limit from 45 to 50. Within the Ginnie Mae market, the median FHA DTI ratio was 42.7 percent, versus 40.5 percent for VA and 35.8 percent for other lending programs.

| Purchase DTI | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Number of Loans** | **P10** | **P25** | **Median** | **P75** | **P90** | **Mean** |
| **All** | 314,094 | 24.0 | 31.0 | 38.4 | 44.0 | 49.0 | 37.4 |
| **Fannie** | 115,164 | 22.0 | 28.0 | 36.0 | 42.0 | 45.0 | 34.5 |
| **Freddie** | 67,061 | 22.0 | 29.0 | 37.0 | 43.0 | 45.0 | 35.2 |
| **Ginnie** | 131,869 | 28.1 | 34.7 | 41.6 | 47.9 | 53.0 | 40.9 |
| **Refi DTI** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 164,683 | 22.0 | 29.0 | 37.0 | 43.0 | 48.0 | 36.0 |
| **Fannie** | 75,355 | 21.0 | 28.0 | 36.0 | 42.0 | 45.0 | 34.6 |
| **Freddie** | 43,208 | 22.0 | 29.0 | 37.0 | 43.0 | 46.0 | 35.5 |
| **Ginnie** | 46,120 | 25.3 | 32.8 | 40.8 | 47.6 | 52.7 | 39.8 |
| **All DTI** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 478,777 | 23.0 | 30.0 | 38.0 | 44.0 | 48.8 | 36.9 |
| **Fannie** | 190,519 | 22.0 | 28.0 | 36.0 | 42.0 | 45.0 | 34.6 |
| **Freddie** | 110,269 | 22.0 | 29.0 | 37.0 | 43.0 | 46.0 | 35.3 |
| **Ginnie** | 177,989 | 27.6 | 34.3 | 41.4 | 47.8 | 53.0 | 40.7 |

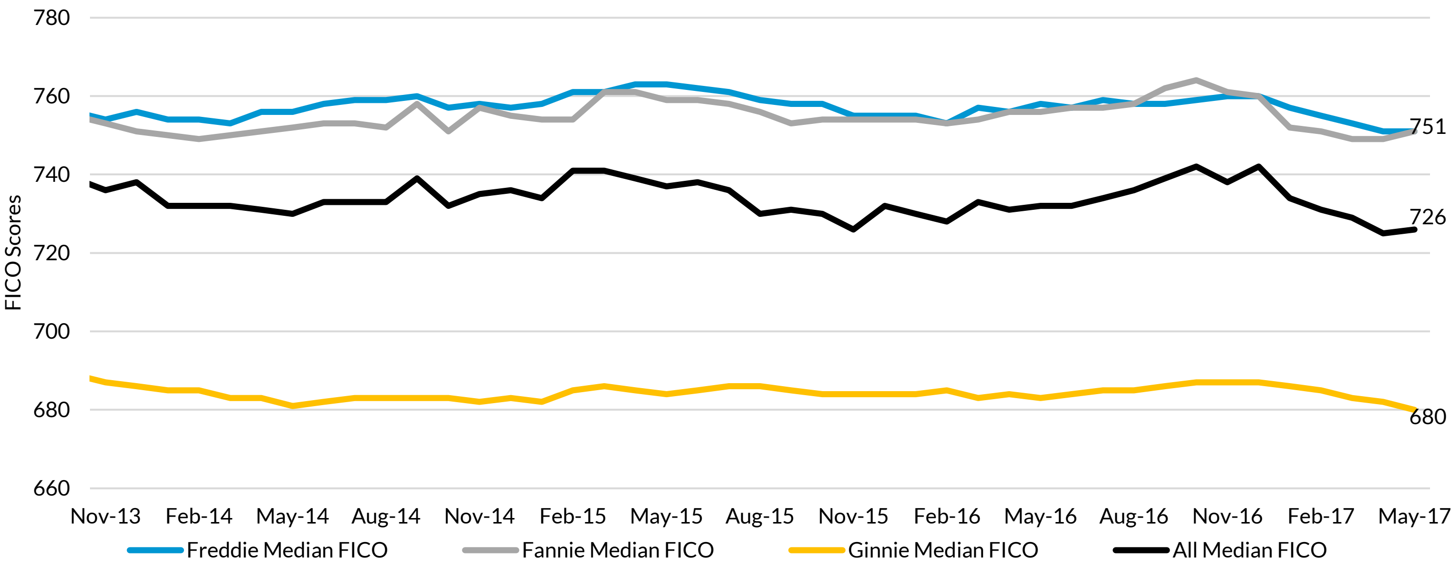
| Purchase DTI: Ginnie Mae Breakdown By Source | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Number of Loans** | **P10** | **P25** | **Median** | **P75** | **P90** | **Mean** |
| **All** | 131,869 | 28.1 | 34.7 | 41.6 | 47.9 | 53.0 | 40.9 |
| **FHA** | 84,156 | 29.3 | 35.9 | 43.0 | 48.9 | 53.6 | 42.0 |
| **VA** | 35,319 | 26.7 | 33.7 | 40.9 | 47.4 | 52.7 | 40.3 |
| **Other** | 12,394 | 25.6 | 30.5 | 35.9 | 40.2 | 43.1 | 35.0 |
| **Refi DTI: Ginnie Mae Breakdown By Source** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 46,120 | 25.3 | 32.8 | 40.8 | 47.6 | 52.7 | 39.8 |
| **FHA** | 25,068 | 26.8 | 34.1 | 42.0 | 48.3 | 53.0 | 40.7 |
| **VA** | 20,713 | 24.0 | 31.5 | 39.6 | 46.6 | 52.3 | 38.8 |
| **Other** | 339 | 16.8 | 23.7 | 30.8 | 39.0 | 48.0 | 32.2 |
| **All DTI: Ginnie Mae Breakdown By Source** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 177,989 | 27.6 | 34.3 | 41.4 | 47.8 | 53.0 | 40.7 |
| **FHA** | 109,224 | 28.8 | 35.6 | 42.8 | 48.8 | 53.5 | 41.7 |
| **VA** | 56,032 | 25.9 | 33.0 | 40.5 | 47.2 | 52.6 | 39.8 |
| **Other** | 12,733 | 25.3 | 30.4 | 35.8 | 40.1 | 43.1 | 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 May 2017.*

# Credit Box: Historical

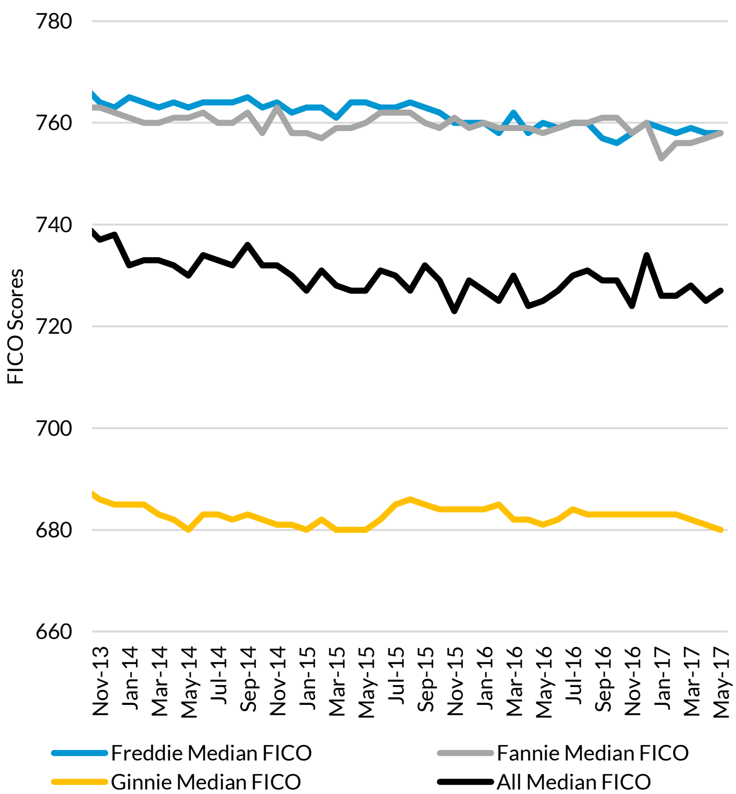
This figure, showing median FICO scores since October 2013, demonstrates that the median FICO score for Ginnie Mae has always been considerably lower than for the GSEs. The difference between Ginnie Mae and GSE FICO scores is wider in purchase loans than in refi loans. The recent drop in FICO scores reflects two factors: (1) the composition of the market has shifted more heavily toward purchase borrowers who have lower FICO scores and (2) FICO scores have dropped sharply for refinance borrowers, indicating that lenders are willing to spend the time to refinance more marginal borrowers, as overall volumes slip.

**FICO Scores for All Loans**



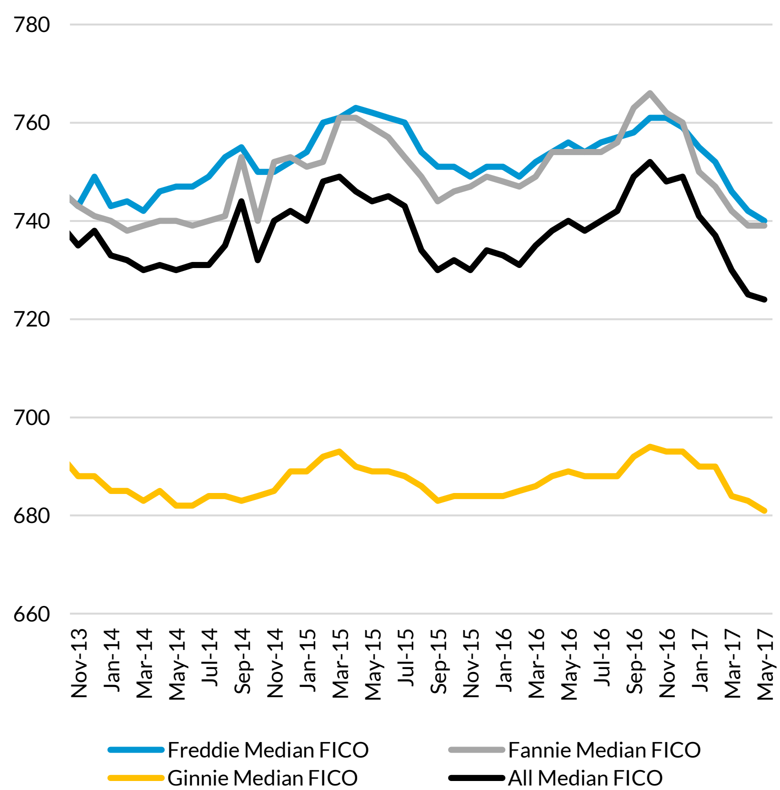

**Sources**: *eMBS and Urban Institute.* **Note**: *Data as of May 2017*

**FICO Scores for Purchase Loans**




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

**FICO Scores for Refinance Loans**

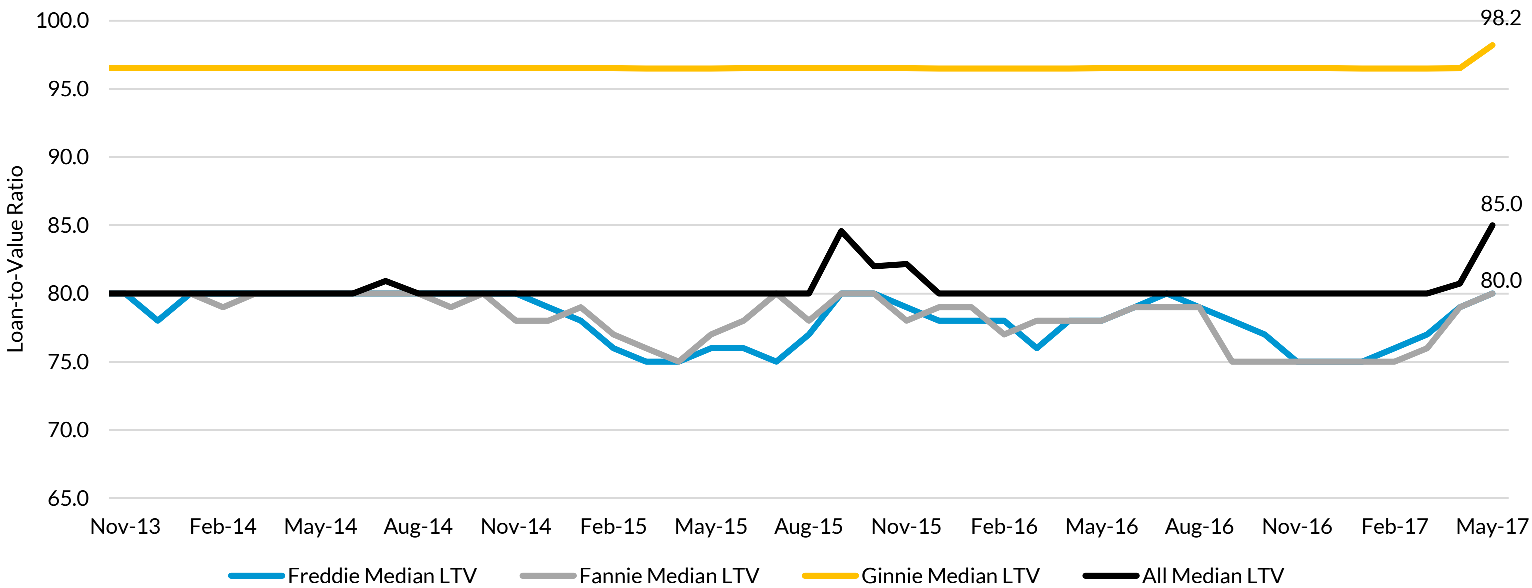



**Sources**: *eMBS and Urban Institute.* **Note:** *Data as of May 2017*

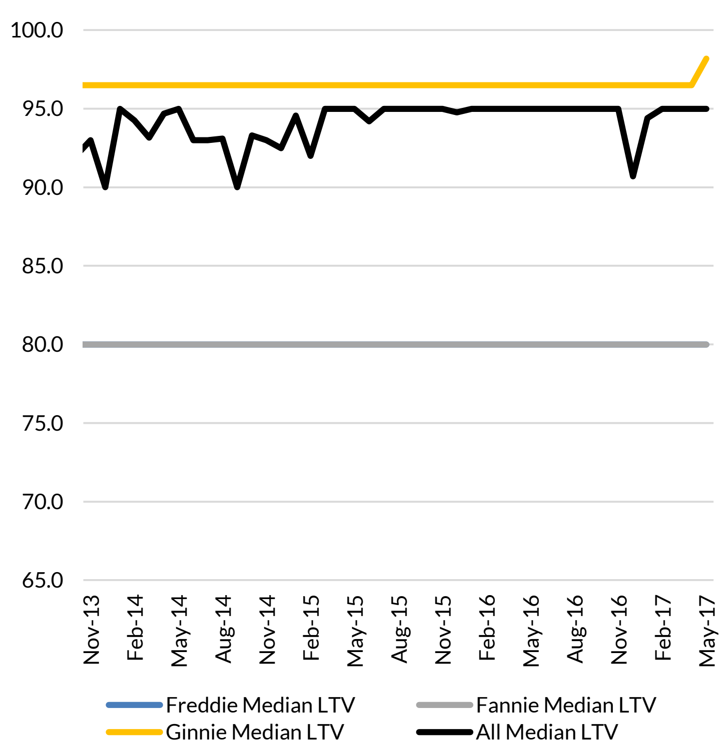
# Credit Box: Historical

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. The uptick in Ginnie Mae LTVs in May 2017 reflects the change in Ginnie Mae data disclosure source to issuer-reported LTV that now includes the upfront mortgage insurance premium for FHA and VA loans.

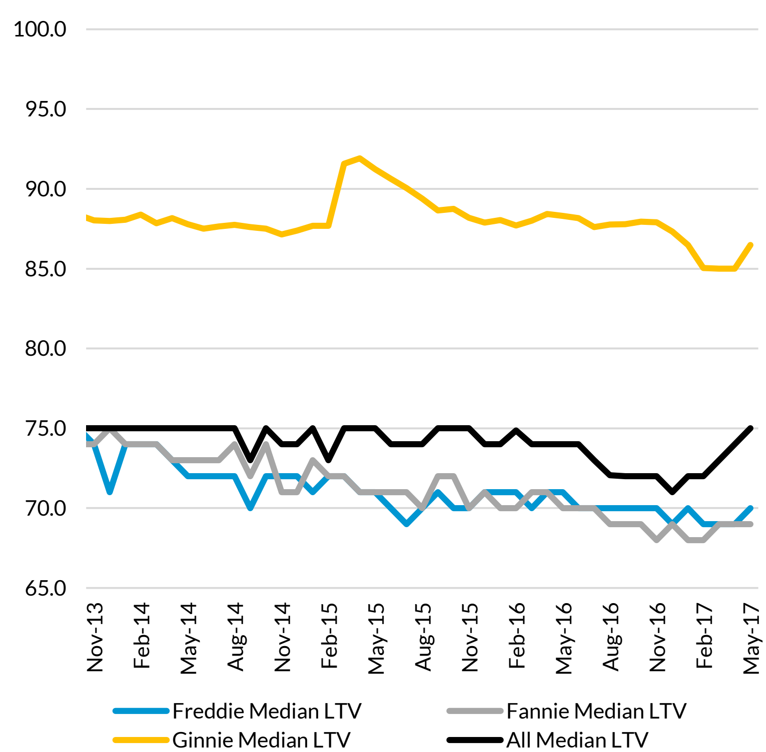
## LTV Ratio for All Loans




## LTV Ratio for Purchase Loans




## LTV Ratio for Refinance Loans

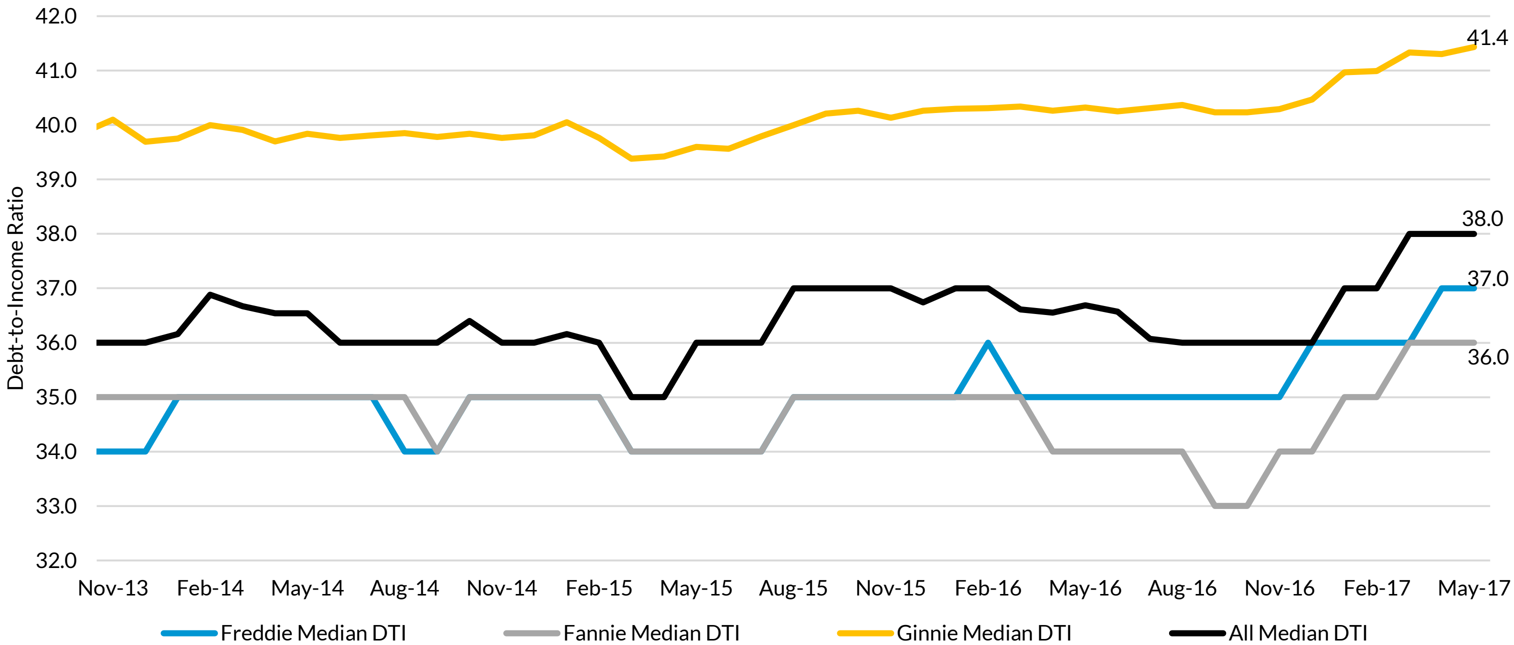



**Sources**: *eMBS and Urban Institute.* **Note:** *In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA and VA loans. This new issuer-reported LTV includes the upfront mortgage insurance premium, and thus is higher than the previously reported LTV. Sources and note apply to all three graphs. Data as of May 2017.*

# Credit Box: Historical

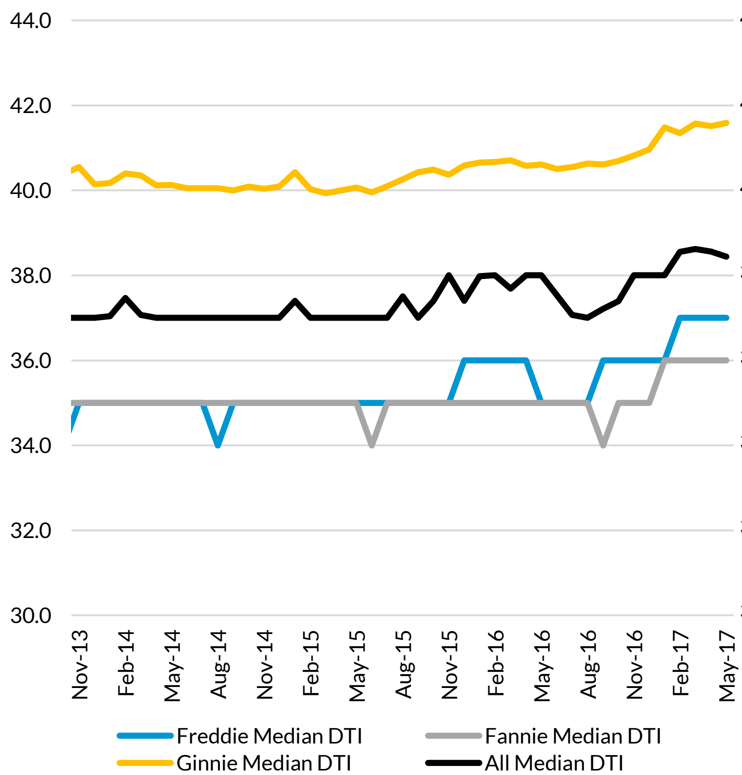
Median debt-to-income ratios on Ginnie Mae loans have historically been in the low 40s, considerably higher than the 36-37 percent DTIs for the GSEs. The DTIs for refinance loans have historically been much lower than for purchase loans, but the DTIs for refinance loans have been creeping up sharply in recent months.

## DTI Ratio for All Loans



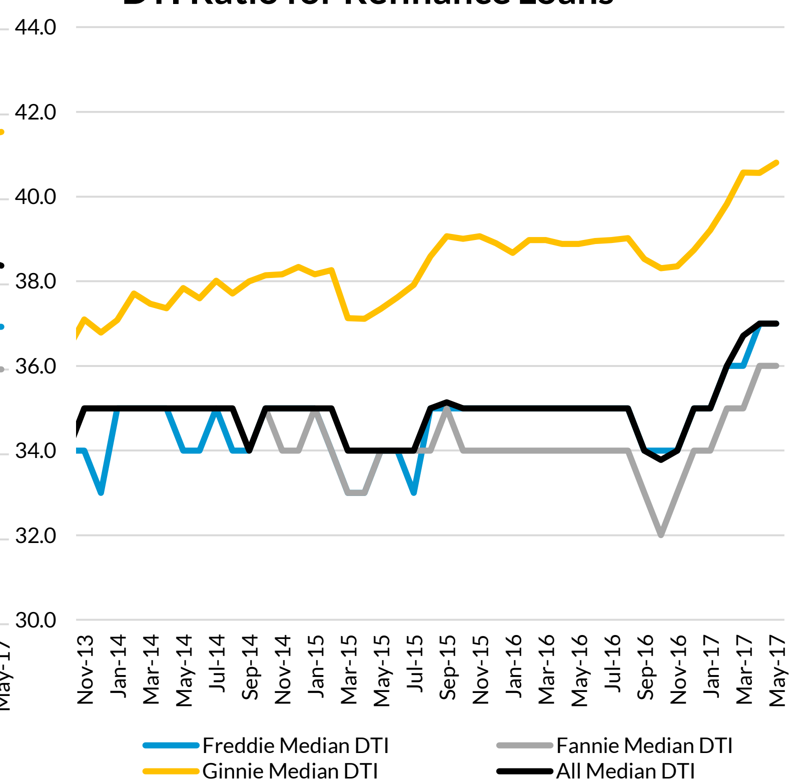

**Sources**: *eMBS and Urban Institute.* **Note:** *Data as of May 2017*

## DTI Ratio for Purchase Loans




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

## DTI Ratio for Refinance Loans

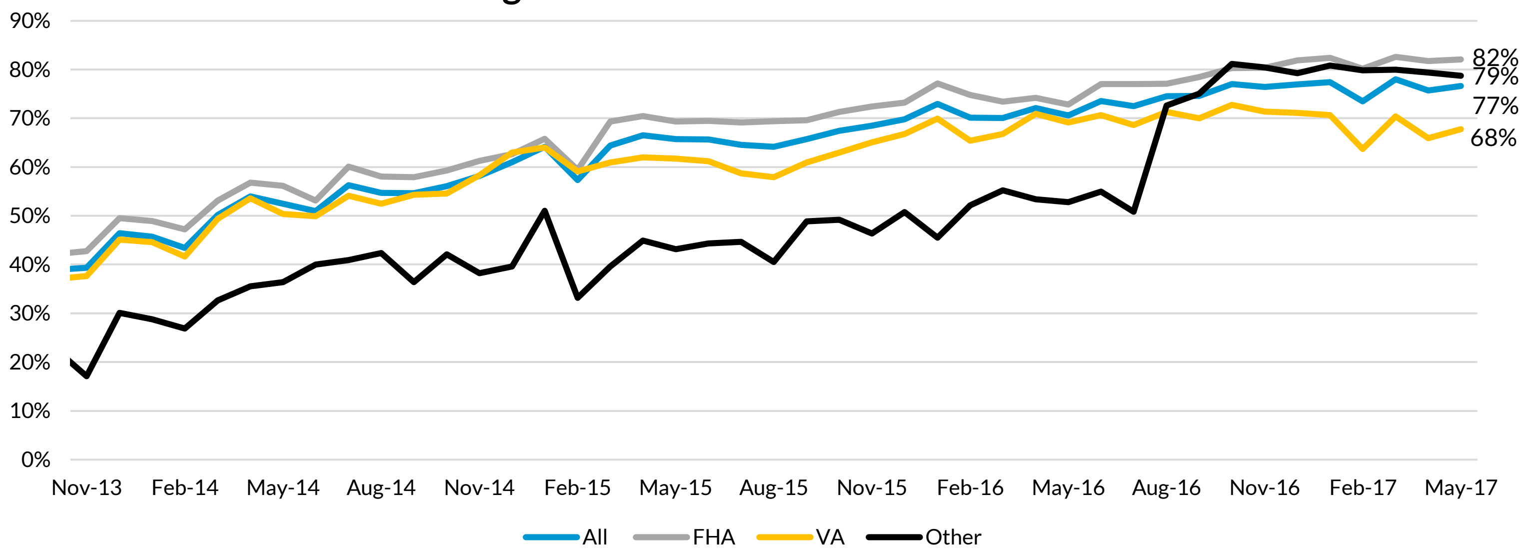



**Sources**: *eMBS and Urban Institute.*
**Note:** *Data as of May 2017*

# Ginnie Mae Non-bank Originators

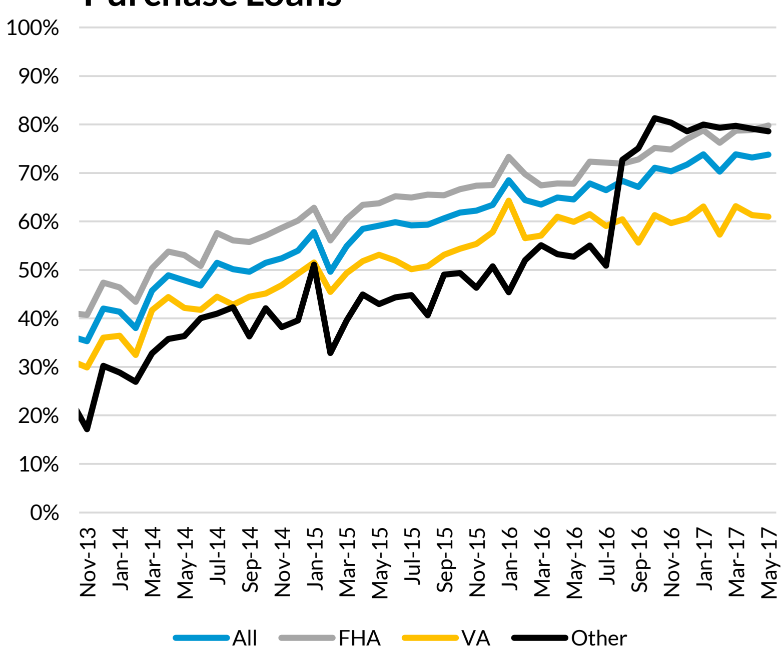
The non-bank originator share of the Ginnie Mae market edged up to 77 percent in May 2017, after an dip in April. The non-bank share of VA issuance stood at 68% in May, while the non-bank share of FHA issuance stood at 82 percent, and the non-bank share of Other issuance stood at 79 percent.

## Ginnie Mae Non-bank Originator Share: All Loans



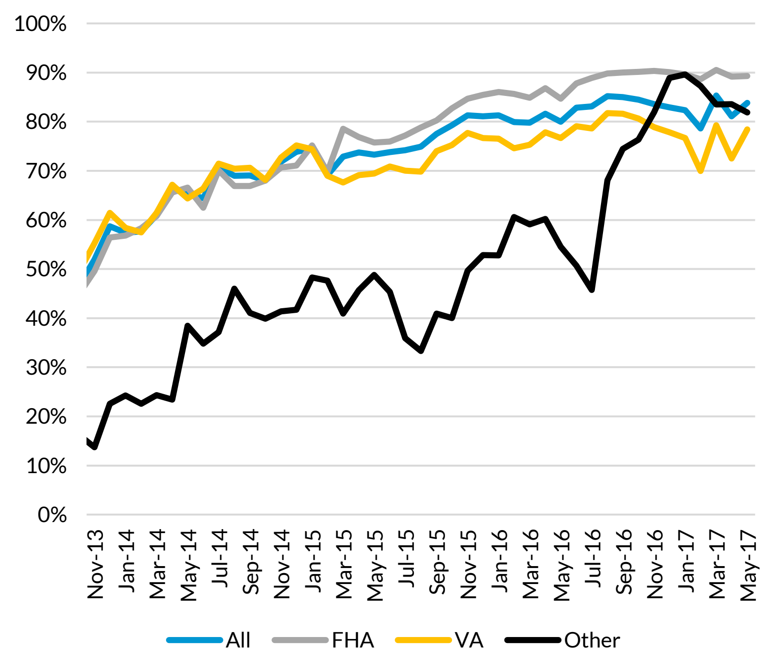

**Sources**: *eMBS and Urban Institute.* **Note:** *Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of May 2017.*

## Ginnie Mae Non-bank Share: Purchase Loans




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

## Ginnie Mae Non-bank Share: Refi Loans




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

# Ginnie Mae Non-bank Originators: May 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 680-- it is 697 for bank borrowers versus 676 for non-bank borrowers. For FHA borrowers, the median FICO score for bank originators is 683 versus 668 for non-banks. For VA borrowers, the median FICO score for bank originators is 720 versus 697 for non-banks. For "Other" loans, the median FICO score for bank originators is 692 versus 688 for non-banks.

| All Ginnie Mae FICO | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Number of Loans** | **P10** | **P25** | **Median** | **P75** | **P90** | **Mean** |
| **All** | 162,641 | 624 | 647 | 680 | 723 | 767 | 687 |
| **Bank** | 37,219 | 639 | 661 | 697 | 745 | 784 | 702 |
| **Non-Bank** | 125,422 | 622 | 644 | 676 | 716 | 760 | 682 |
| **FHA Ginnie Mae FICO** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 101,398 | 620 | 643 | 671 | 707 | 746 | 676 |
| **Bank** | 18,882 | 635 | 655 | 683 | 719 | 758 | 689 |
| **Non-Bank** | 82,516 | 618 | 640 | 668 | 703 | 742 | 673 |
| **VA Ginnie Mae FICO** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 50,161 | 632 | 661 | 704 | 756 | 790 | 707 |
| **Bank** | 15,836 | 644 | 675 | 720 | 770 | 796 | 720 |
| **Non-Bank** | 34,325 | 627 | 656 | 697 | 748 | 786 | 701 |
| **Other Ginnie Mae FICO** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 11,082 | 639 | 657 | 688 | 729 | 764 | 693 |
| **Bank** | 2,501 | 618 | 653 | 692 | 742 | 776 | 689 |
| **Non-Bank** | 8,581 | 641 | 658 | 688 | 726 | 760 | 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 May 2017.*

# Ginnie Mae Non-bank Originators: May 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** | 162,641 | 82.0 | 92.6 | 98.2 | 99.0 | 101.0 | 94.1 |
| **Bank** | 37,219 | 83.3 | 95.6 | 98.2 | 100.0 | 102.2 | 95.0 |
| **Non-Bank** | 125,422 | 81.8 | 91.6 | 98.2 | 98.2 | 101.0 | 93.9 |
| **FHA Ginnie Mae LTV** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 101,398 | 83.3 | 92.7 | 98.2 | 98.2 | 98.2 | 93.6 |
| **Bank** | 18,882 | 86.5 | 96.5 | 98.2 | 98.2 | 99.0 | 95.1 |
| **Non-Bank** | 82,516 | 82.4 | 91.6 | 98.2 | 98.2 | 98.2 | 93.3 |
| **VA Ginnie Mae LTV** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 50,161 | 78.0 | 90.0 | 100.0 | 101.0 | 103.0 | 93.9 |
| **Bank** | 15,836 | 76.8 | 90.8 | 100.0 | 100.5 | 103.0 | 93.9 |
| **Non-Bank** | 34,325 | 78.4 | 90.0 | 100.0 | 101.0 | 102.4 | 93.9 |
| **Other Ginnie Mae LTV** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 11,082 | 95.0 | 99.2 | 101.0 | 101.0 | 102.0 | 99.4 |
| **Bank** | 2,501 | 97.8 | 101.0 | 101.0 | 102.0 | 104.0 | 100.7 |
| **Non-Bank** | 8,581 | 94.5 | 98.8 | 100.9 | 101.0 | 101.0 | 99.0 |

**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. In May 2017 Ginnie Mae began disclosing issuer-reported LTV for FHA and VA loans. This new issuer-reported LTV includes the upfront mortgage insurance premium, and thus is higher than the previously reported LTV. Data as of May 2017.*

# Ginnie Mae Non-bank Originators: May 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 40.3, versus 41.8 for non-banks. The only exception is for "Other" loans, for which the median DTI ratio for banks is marginally higher than for non-banks.

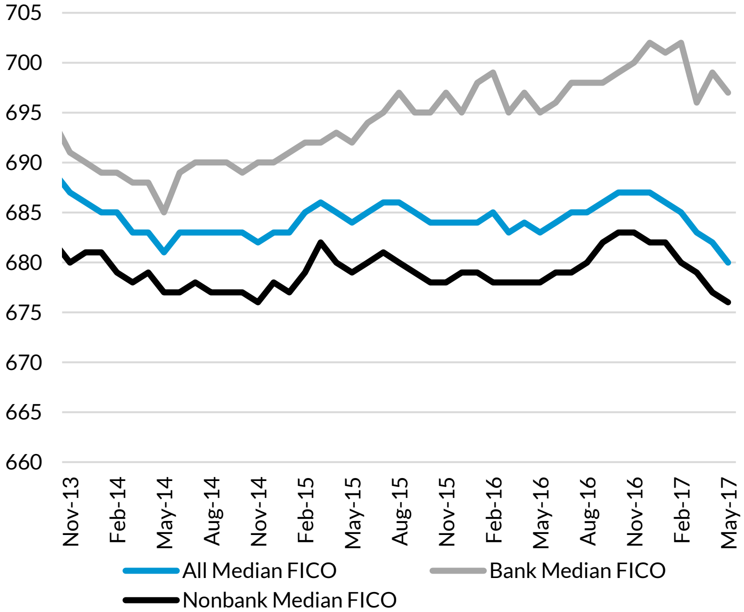
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **All Ginnie Mae DTI** | | | | | | | |
| | **Number of Loans** | **P10** | **P25** | **Median** | **P75** | **P90** | **Mean** |
| **All** | 162,641 | 27.6 | 34.3 | 41.4 | 47.8 | 53.0 | 40.7 |
| **Bank** | 37,219 | 26.1 | 33.0 | 40.3 | 46.2 | 51.7 | 39.4 |
| **Non-Bank** | 125,422 | 28.0 | 34.7 | 41.8 | 48.2 | 53.3 | 41.1 |
| **FHA Ginnie Mae DTI** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 101,398 | 28.8 | 35.6 | 42.8 | 48.8 | 53.5 | 41.7 |
| **Bank** | 18,882 | 28.0 | 34.7 | 41.7 | 47.0 | 52.2 | 40.6 |
| **Non-Bank** | 82,516 | 29.1 | 35.9 | 43.1 | 49.1 | 53.8 | 42.0 |
| **VA Ginnie Mae DTI** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 50,161 | 25.9 | 33.0 | 40.5 | 47.2 | 52.6 | 39.8 |
| **Bank** | 15,836 | 24.6 | 31.7 | 39.3 | 46.2 | 51.8 | 38.7 |
| **Non-Bank** | 34,325 | 26.8 | 33.7 | 41.1 | 47.7 | 52.9 | 40.4 |
| **Other Ginnie Mae DTI** | | | | | | | |
| | Number of Loans | P10 | P25 | Median | P75 | P90 | Mean |
| **All** | 11,082 | 25.3 | 30.4 | 35.8 | 40.1 | 43.1 | 34.9 |
| **Bank** | 2,501 | 23.8 | 29.6 | 35.9 | 40.6 | 43.8 | 34.8 |
| **Non-Bank** | 8,581 | 25.6 | 30.5 | 35.8 | 40.1 | 42.9 | 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 May 2017.*

# Ginnie Mae Nonbank Originators: Historical Credit Box

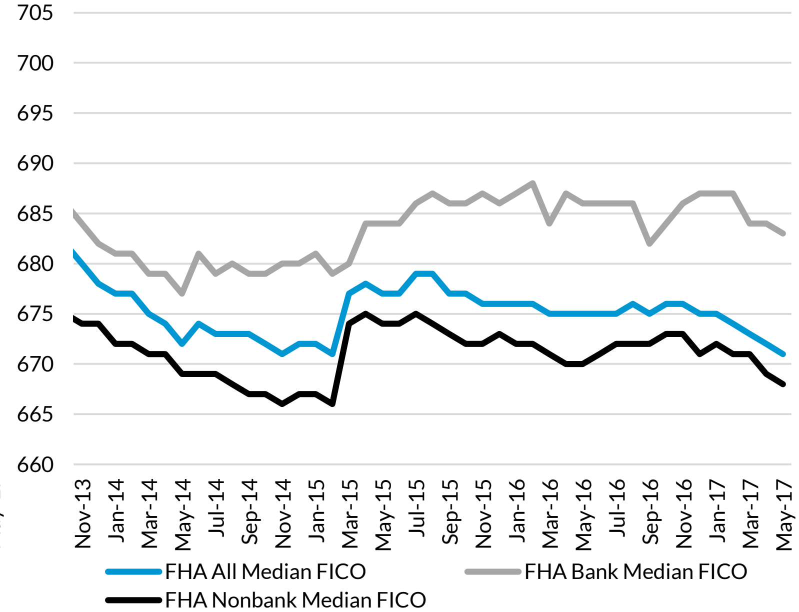
The difference in FICO scores between loans originated by banks and non-banks has widened for Ginnie Mae loans in May 2017, as the median FICO scores for bank originators stabilized while the median FICO scores for non-bank originators continued to decline for the FHA and VA channels.

## Ginnie Mae FICO Scores Bank vs. Nonbank



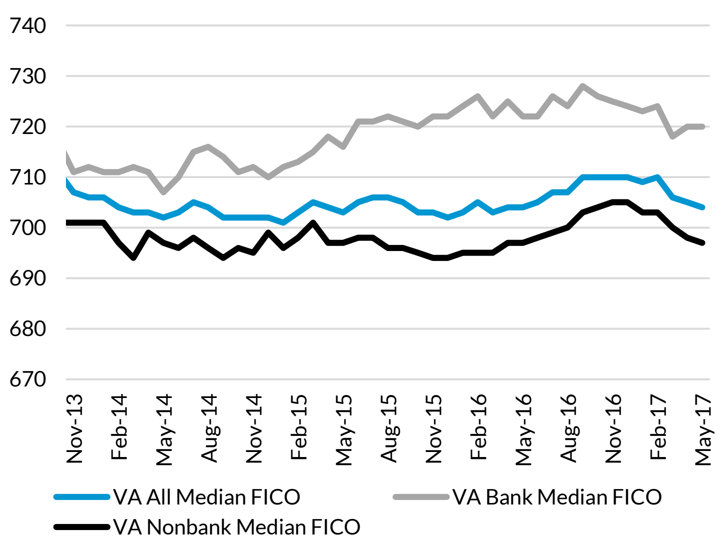

**Sources**: *eMBS and Urban Institute* **Note:** *Data as of May 2017*

## Ginnie Mae FHA FICO Scores Bank vs. Nonbank



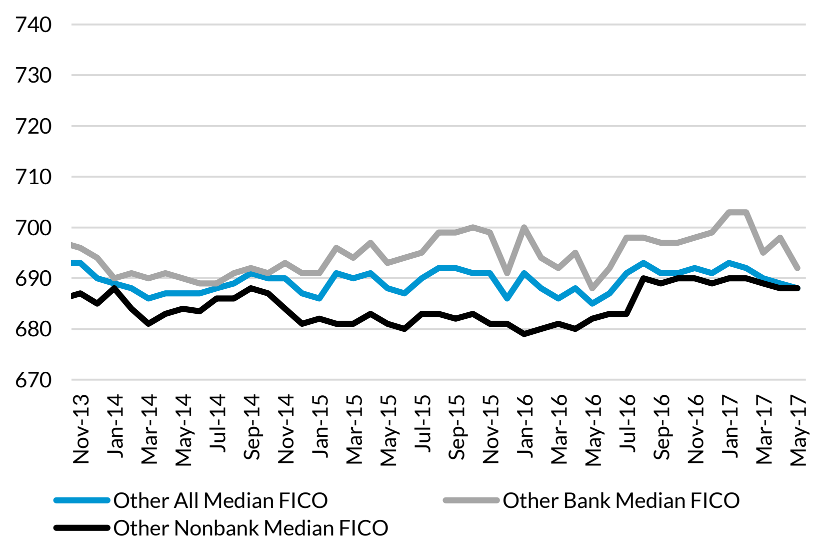

**Sources**: *eMBS and Urban Institute* **Note:** *Data as of May 2017*

## Ginnie Mae VA FICO Scores Bank vs. Nonbank




**Sources**: *eMBS and Urban Institute*
**Note:** *Data as of May 2017*

## Ginnie Mae Other FICO Scores Bank vs. Nonbank

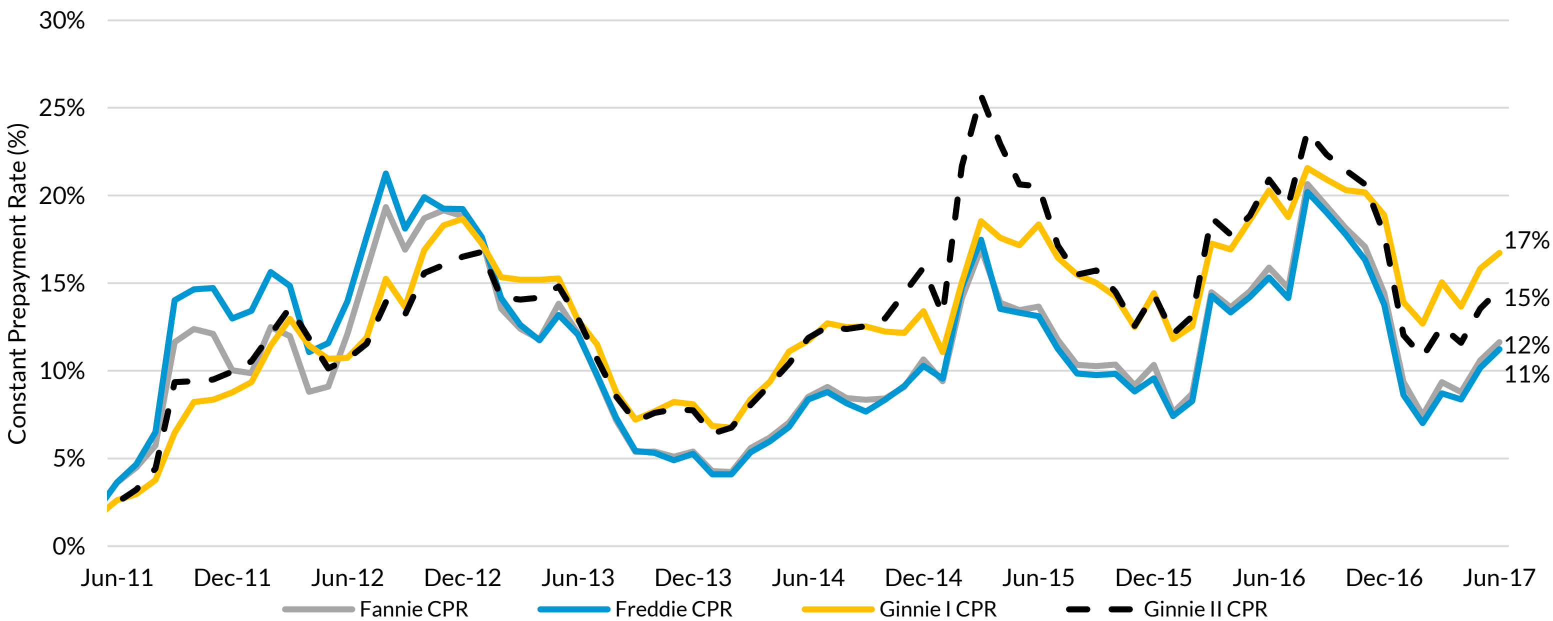



**Sources**: *eMBS and Urban Institute*
**Note:** *"Other" refers to loans insured by HUD's Office of Public and Indian Housing and the Department of Agriculture's Rural Development. Data as of May 2017.*

# Prepayments

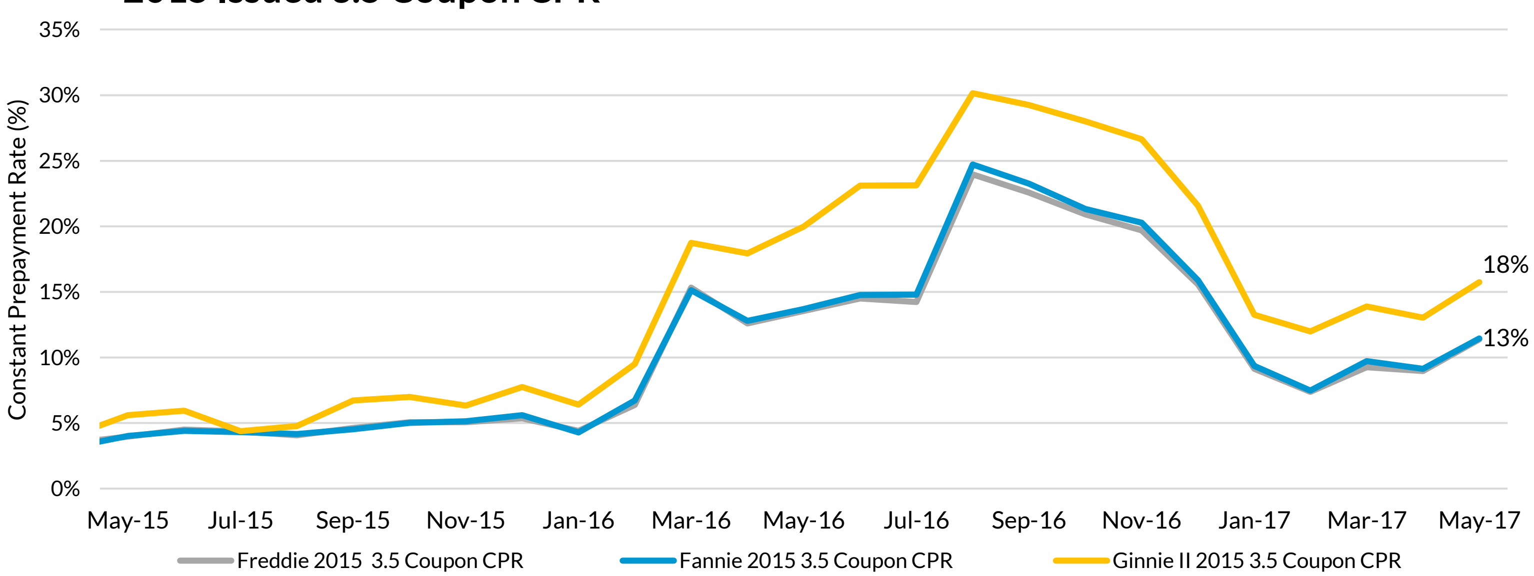
Prepayments on Ginnie Mae securities were lower than on GSE securities from 2011 through mid-2013, but have been higher since. These differences hold across all coupon buckets. The differences are especially pronounced on more recent production. These increased Ginnie speeds reflect the growing share of VA loans, which prepay at faster speeds than FHA loans. This also reflects the fact that FHA streamlined refinances apply 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. With the increase in interest rates since November 2016, the prepayment speeds for all agencies have slowed down considerably. The rates have stabilized and declined slightly since March, and the speeds continued to increase in June, reflecting both this decline in rates and a normal seasonal uptick.

## Aggregate Prepayments




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

## 2015 Issued 3.5 Coupon CPR

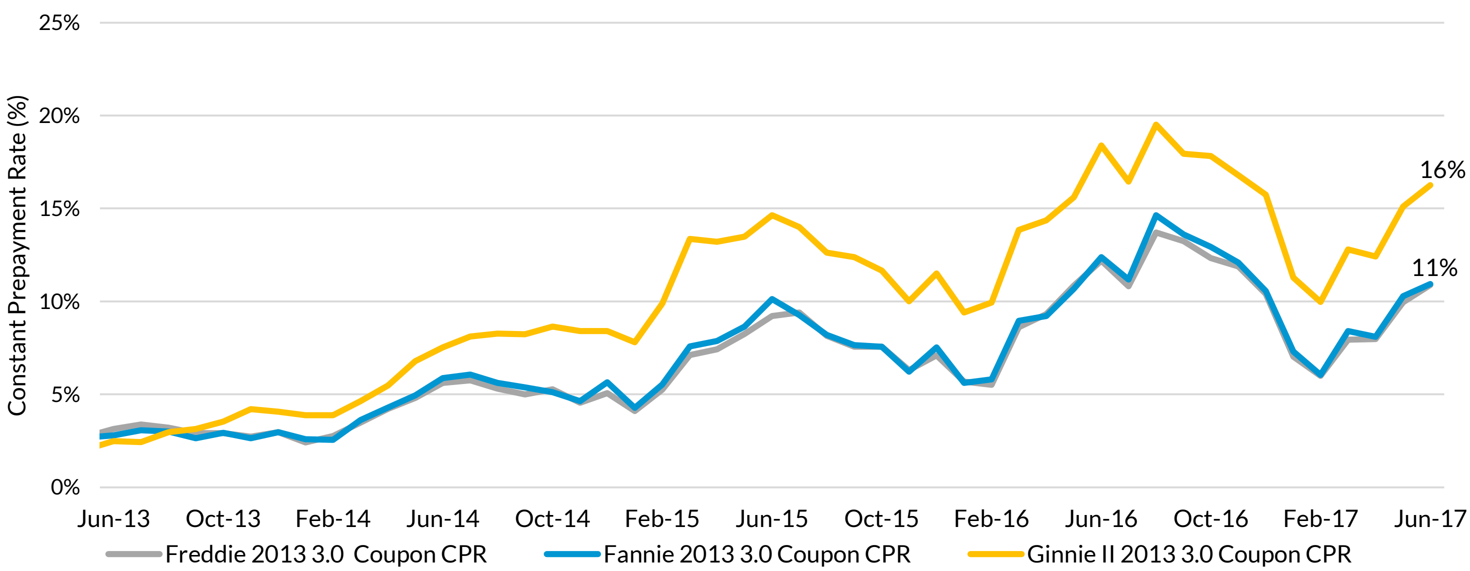



**Sources**: *Credit Suisse and Urban Institute.* **Note:** *Data as of June 2017*

# Prepayments

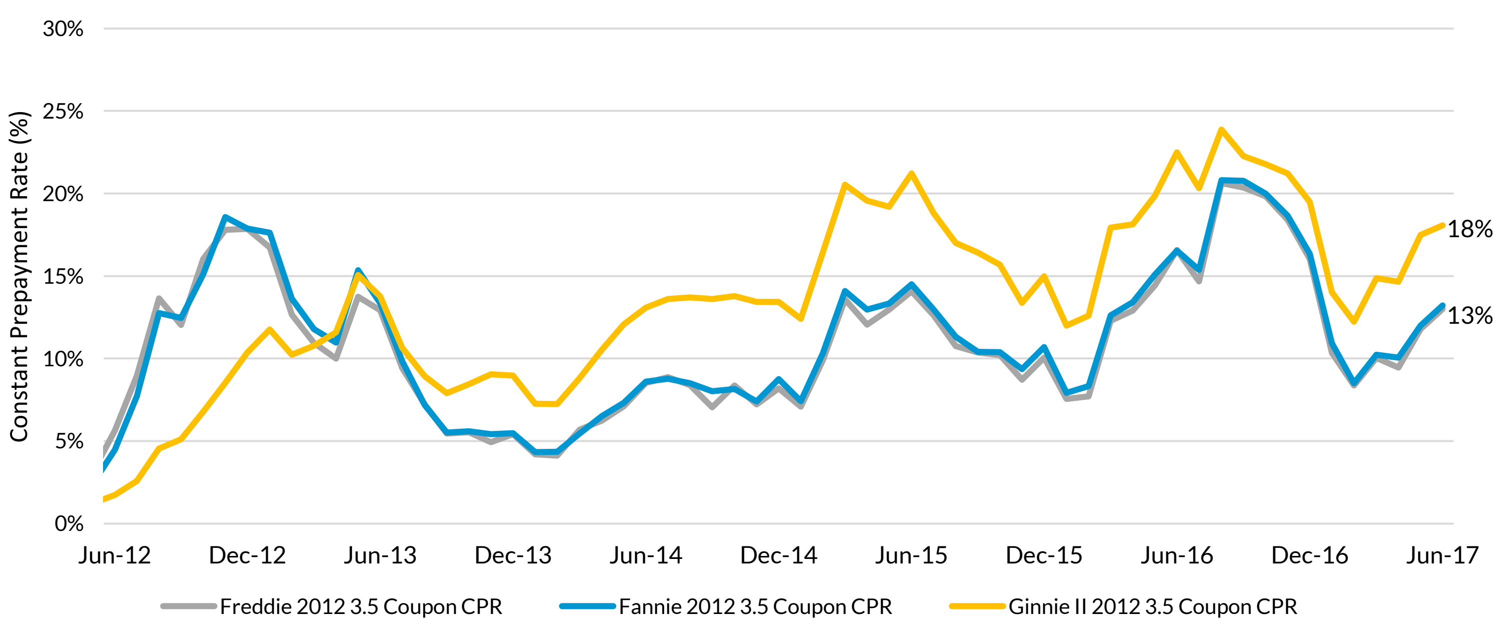
The 2013 Ginnie II 3.0s are prepaying faster than their conventional counterparts. 2012 Ginnie II 3.5s have been faster since mid-2013. The differences accelerated in 2015—potentially due to the FHA mortgage insurance premium (MIP) cut. In January 2015 FHA lowered its MIPs from 135 basis points per annum 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 loans, which are more prepayment responsive than either FHA or Conventional loans. After a sharp mortgage rate rise in November, the prepayment speeds of Ginnie and Conventional loans both fell sharply. The speeds ticked up for second consecutive month in June 2017, mostly due to the recent decline in rates and a normal seasonal uptick.

## 2013 Issued 3.0 Coupon CPR




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

## 2012 Issued 3.5 Coupon CPR

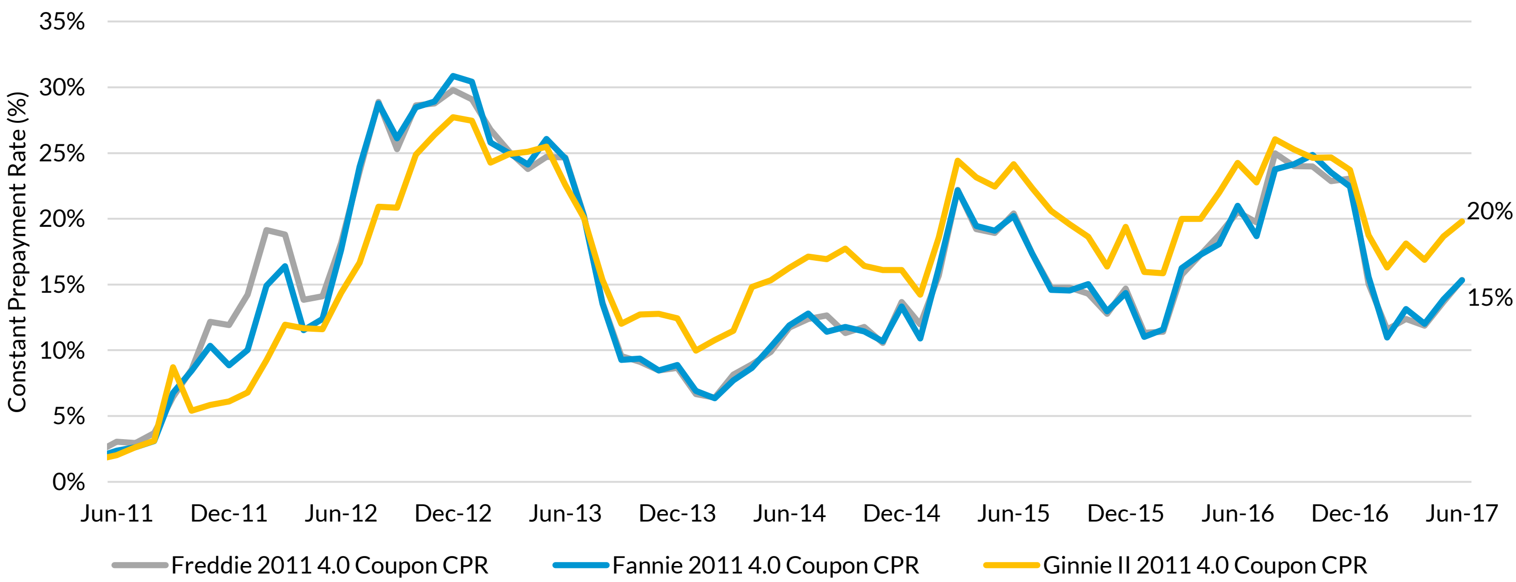



**Sources**: *Credit Suisse and Urban Institute.* **Note:** *Data as of June 2017*

# Prepayments

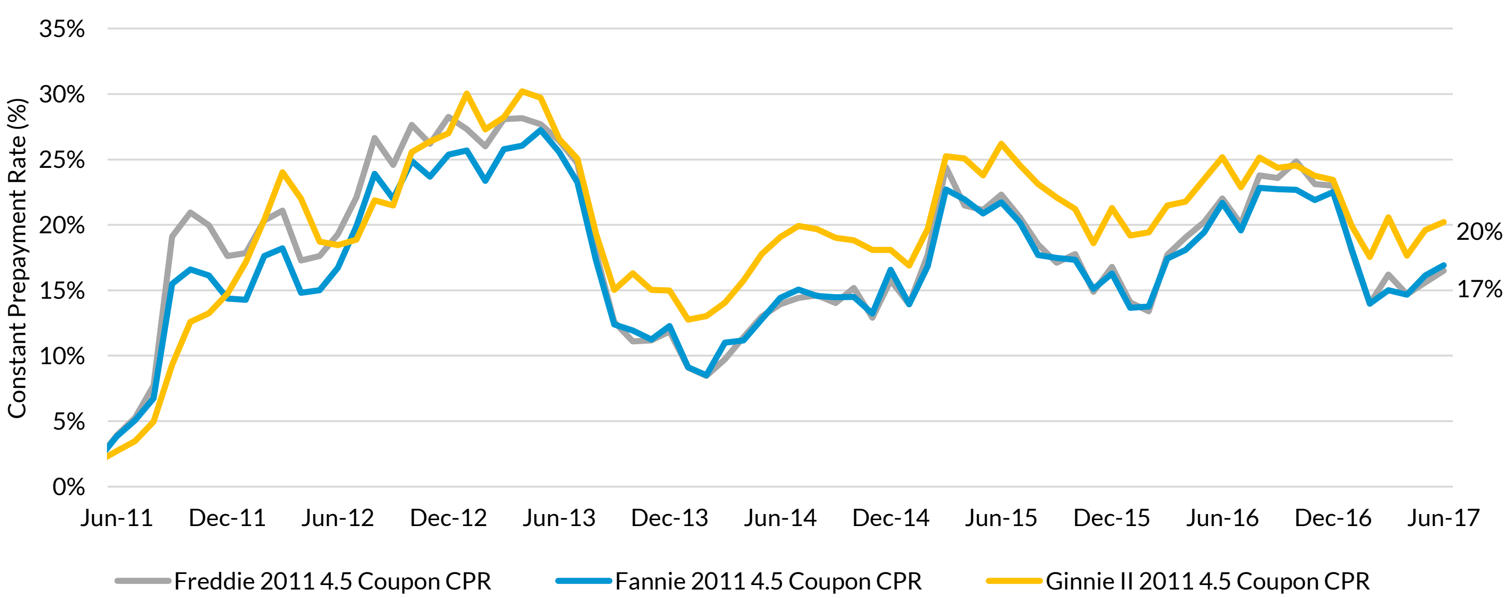
The 2011 Ginnie II 4.0s and 4.5s have been prepaying faster than their conventional counterparts since late 2013. Faster VA mortgage prepays plus simplifications to the FHA streamlined programs in 2013 are likely contributors to the faster speeds. However, as mortgage rates rose sharply since November 2016, the speeds for all agencies have slowed down considerably. The speeds trended up for all agencies for second consecutive month in June 2017, mostly due to the recent decline in rates and a normal seasonal uptick.

## 2011 Issued 4.0 Coupon CPR




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

## 2011 Issued 4.5 Coupon CPR

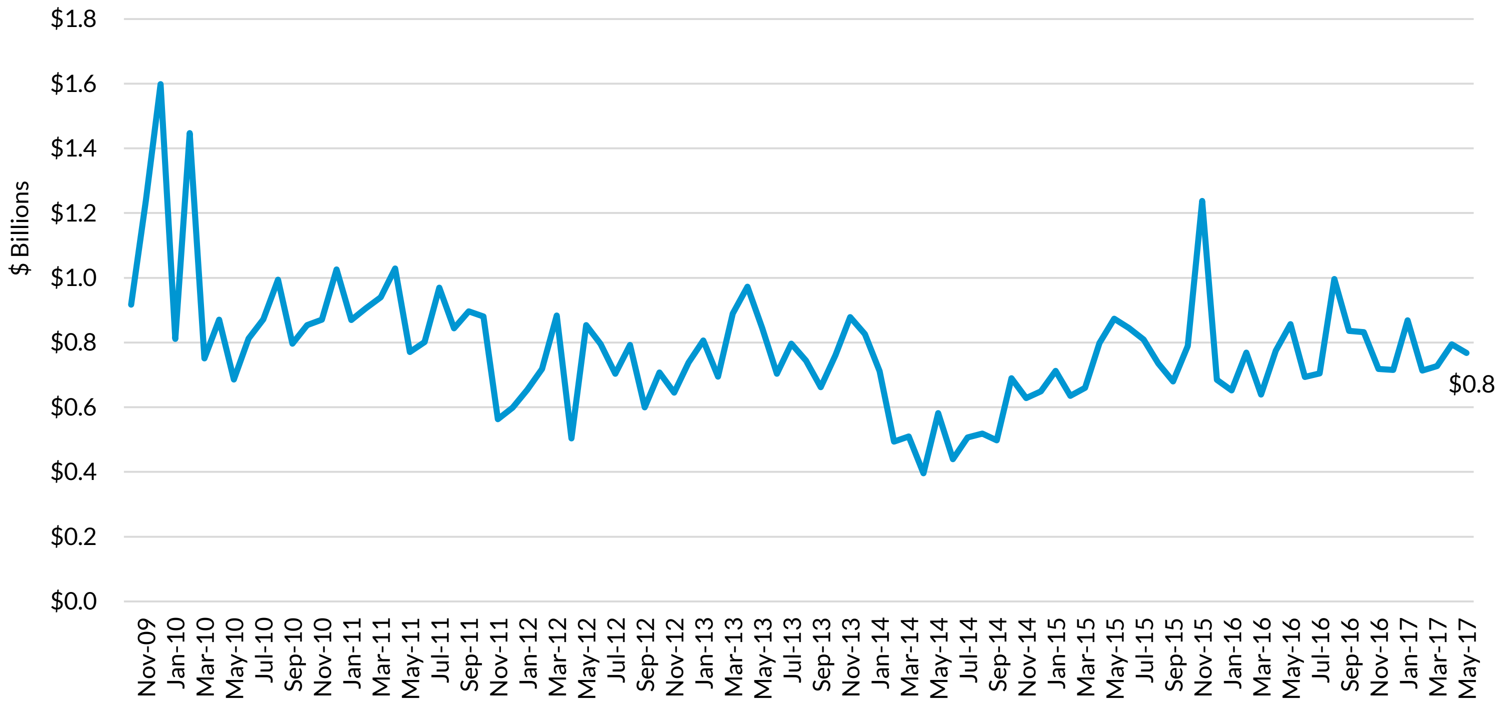



**Sources**: *Credit Suisse and Urban Institute*. **Note:** *Data as of June 2017*

# Other Ginnie Mae Programs Reverse Mortgage Volumes

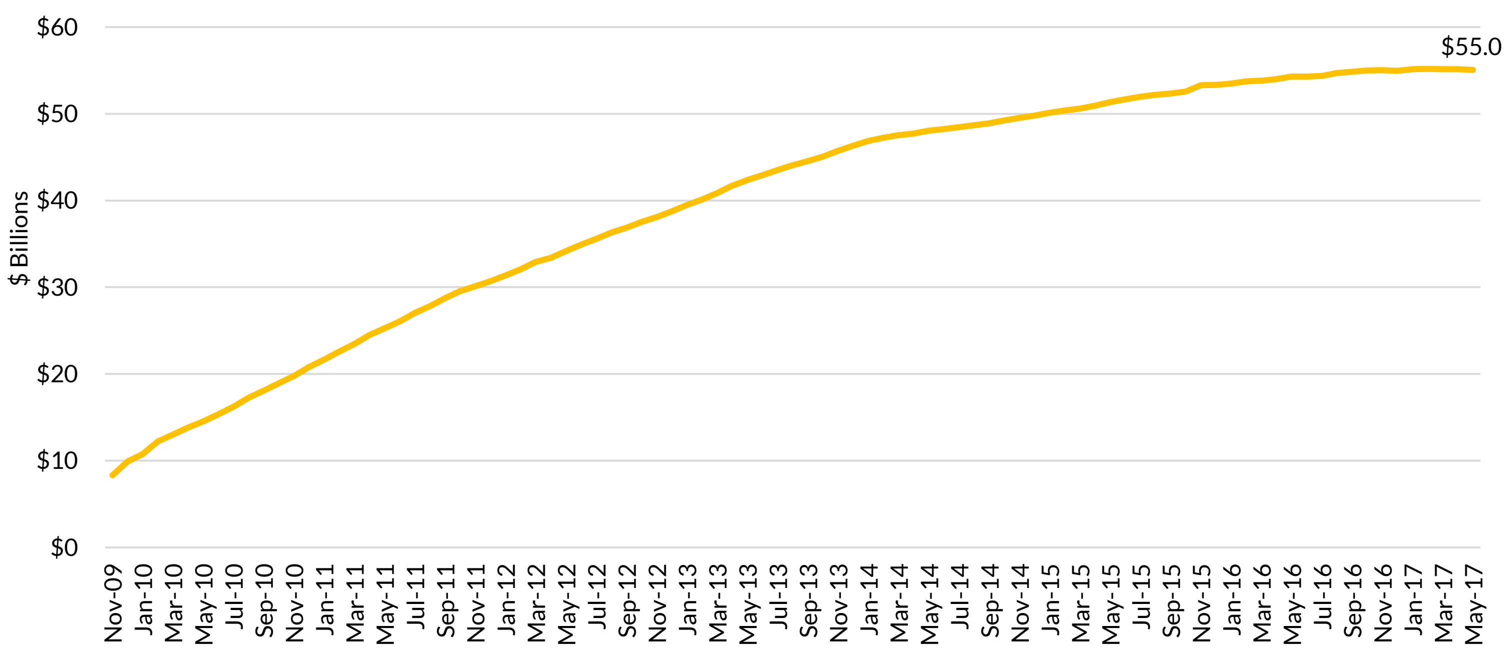
Ginnie Mae reverse mortgage volumes remain steady, with issuance of $0.8 billion in April. Outstanding securities totaled $55.0 billion in April.

## HMBS Issuance Volume




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

## HMBS Outstanding

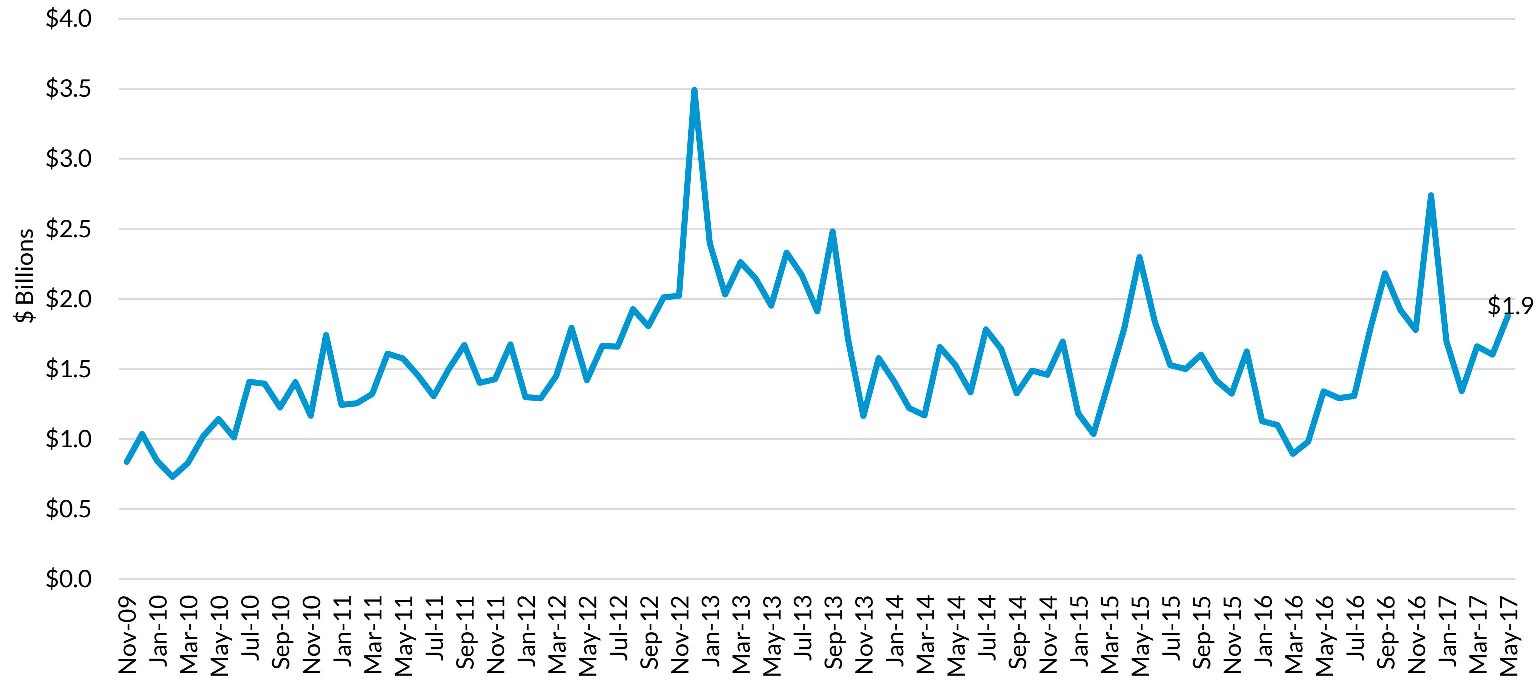



**Sources**: *Ginnie Mae and Urban Institute.* **Note**: *Data as of May 2017*

# Other Ginnie Mae Programs Multifamily Market

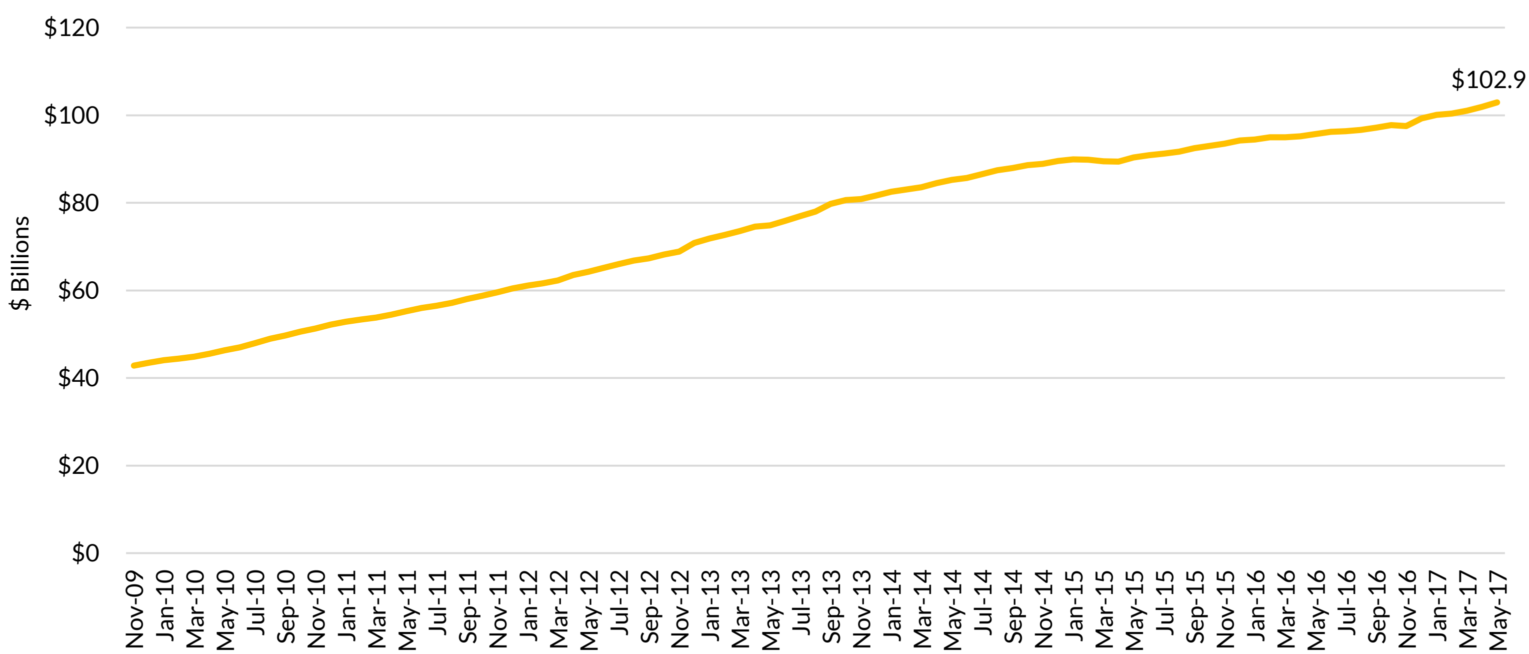
Ginnie Mae multifamily issuance volumes in May totaled $1.9 billion. Outstanding multifamily securities totaled $102.9 billion in May.

## Ginnie Mae Multifamily MBS Issuance




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

## Ginnie Mae Multifamily MBS Outstanding

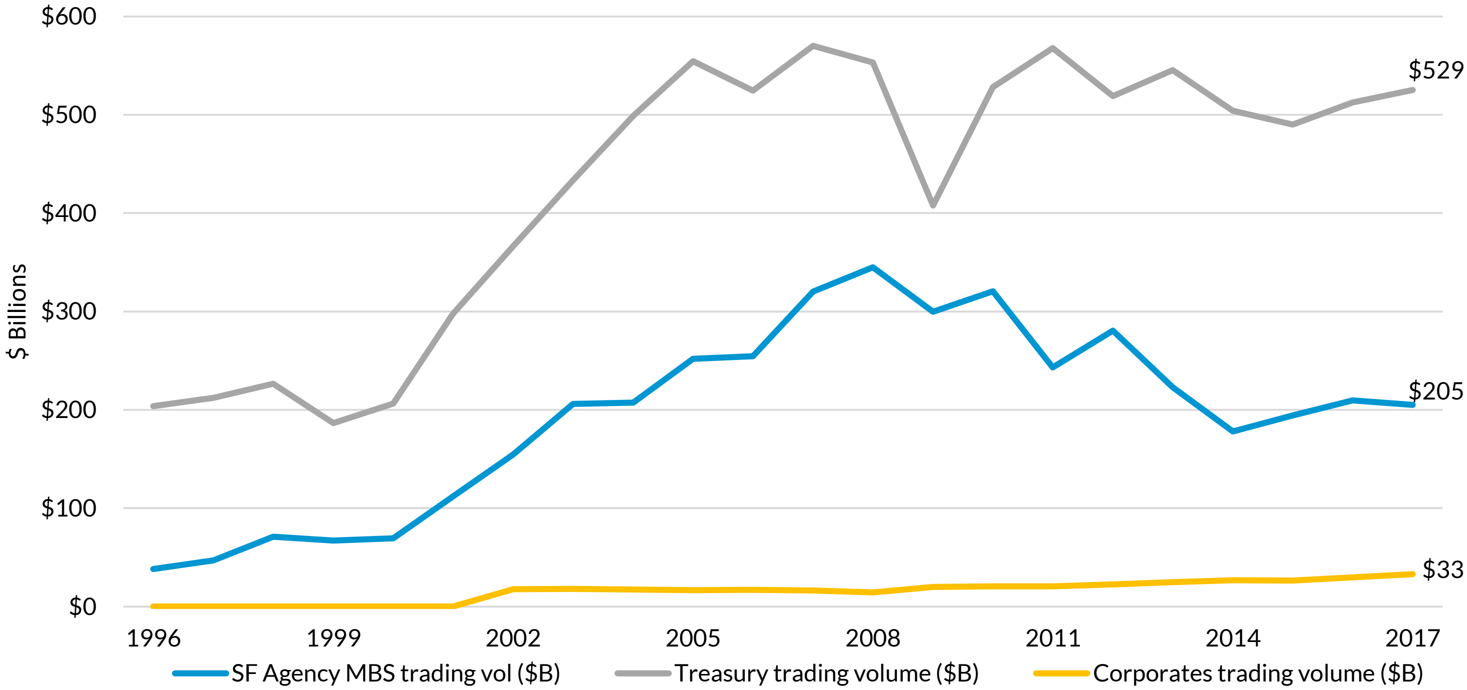



**Sources**: *Ginnie Mae and Urban Institute.* ***Note***: *Data as of May 2017*

# Market Conditions

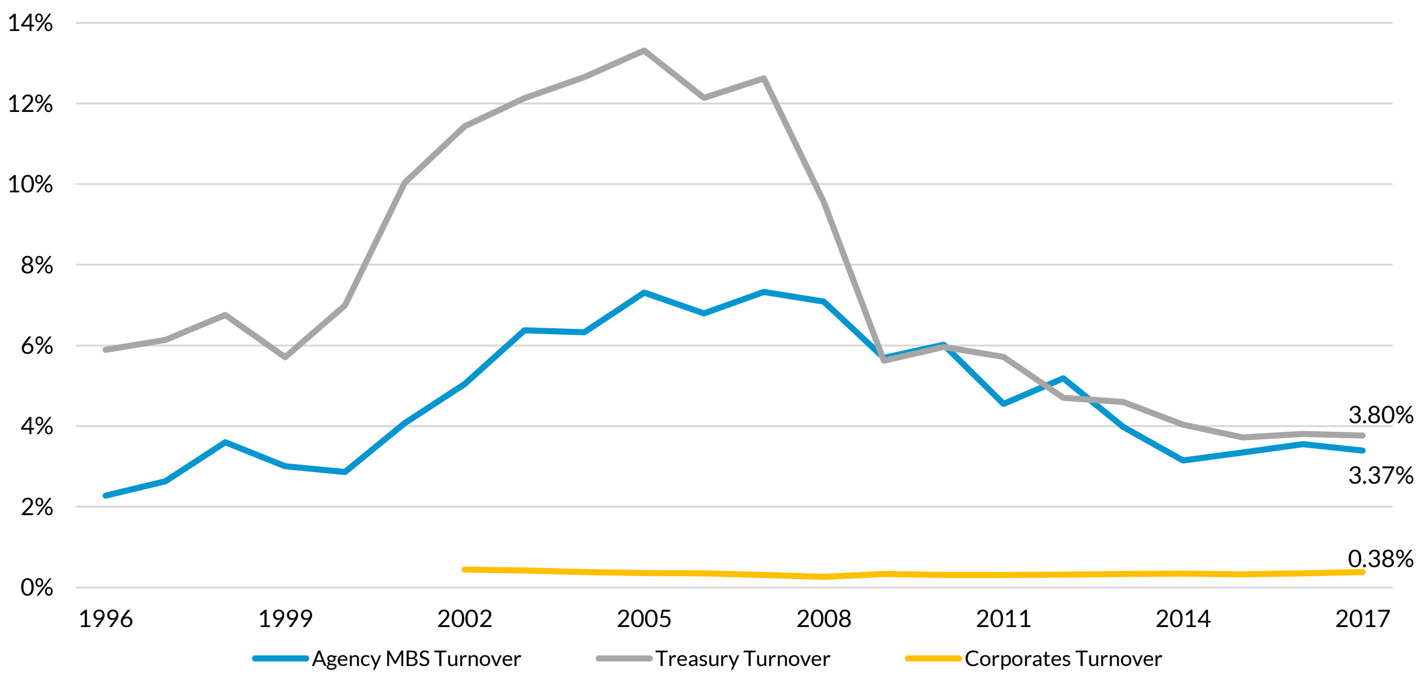
Agency MBS trading volume and turnover in 2017 has been slightly more robust than in the 2014-2015 period, and slightly less robust than 2016. In the first six months of 2017, daily MBS turnover was 3.39 percent versus 3.55 percent in 2016 and 3.34 percent in 2015. Note that average daily Treasury turnover 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 June 2017*

## Average Daily Turnover by Sector




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

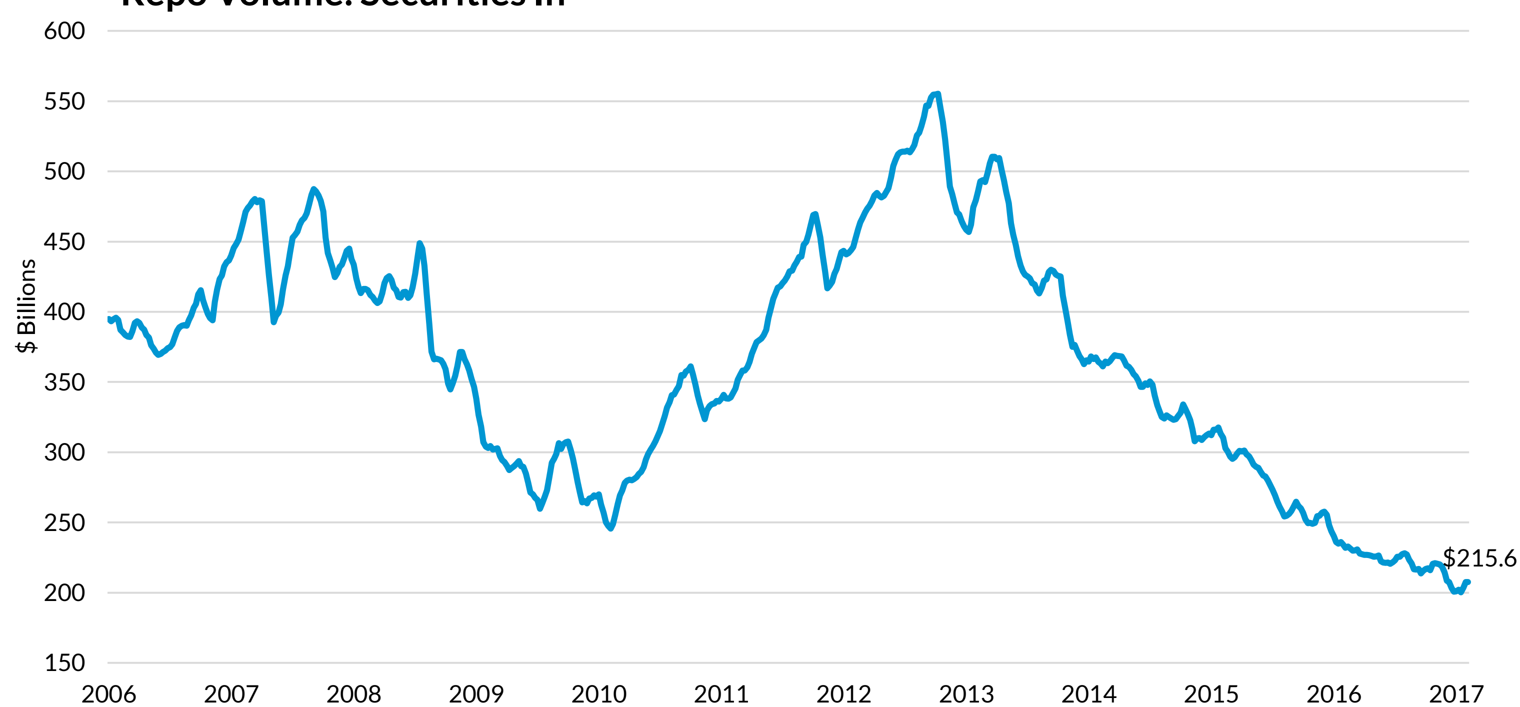
# Market Conditions

Dealer net positions in Agency MBS are currently within 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 June 2017*

## Repo Volume: Securities In

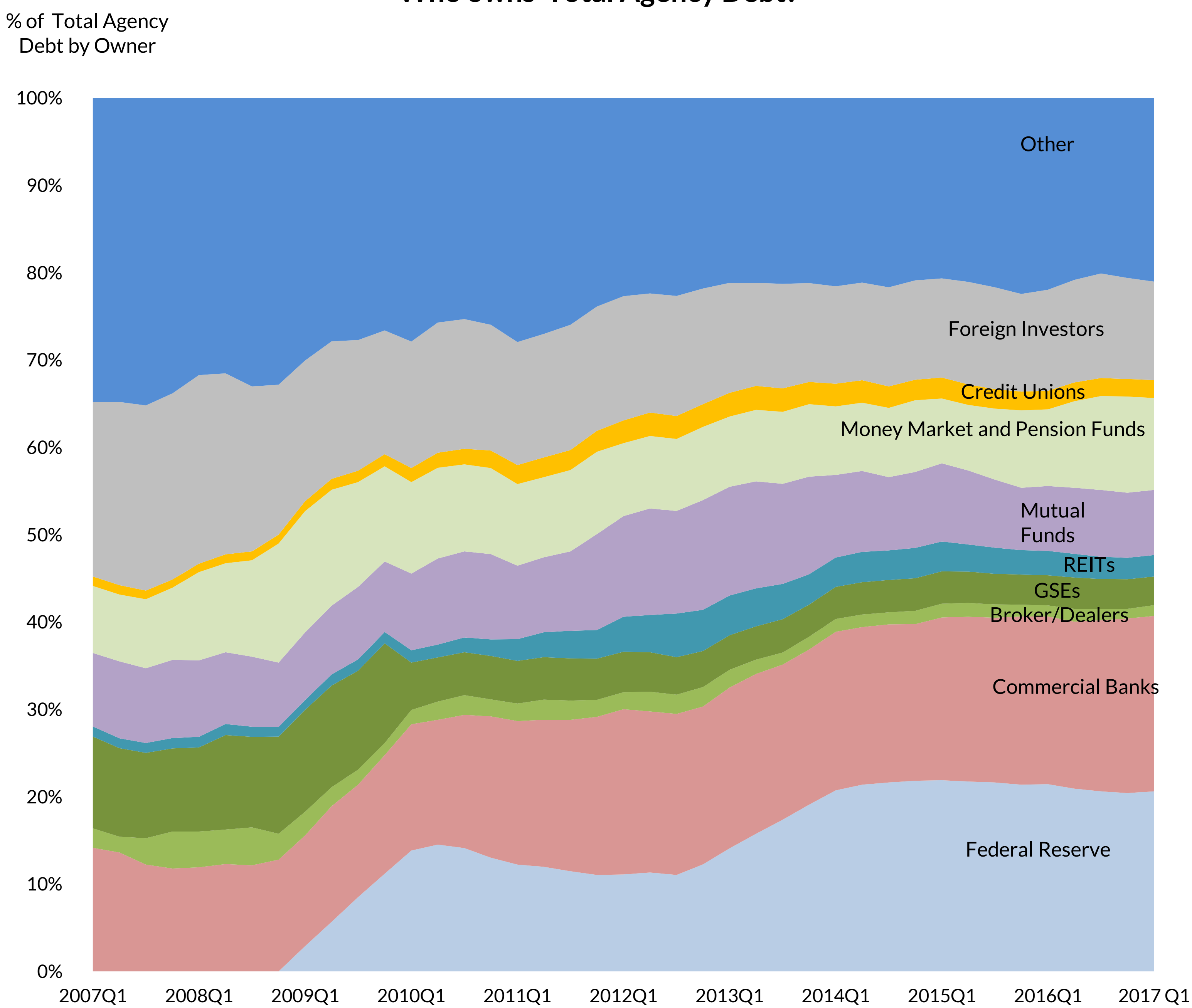



**Sources:** *Federal Reserve Bank of New York Primary Dealer Statistics and Urban Institute.* **Note:** *Data as of June 2017*

# MBS Ownership

The largest holders of agency debt (Agency MBS + agency debt) include the Federal Reserve (21 percent), commercial banks (20 percent) and foreign investors (11 percent). The broker/dealer and GSE shares are a fraction of what they once were.

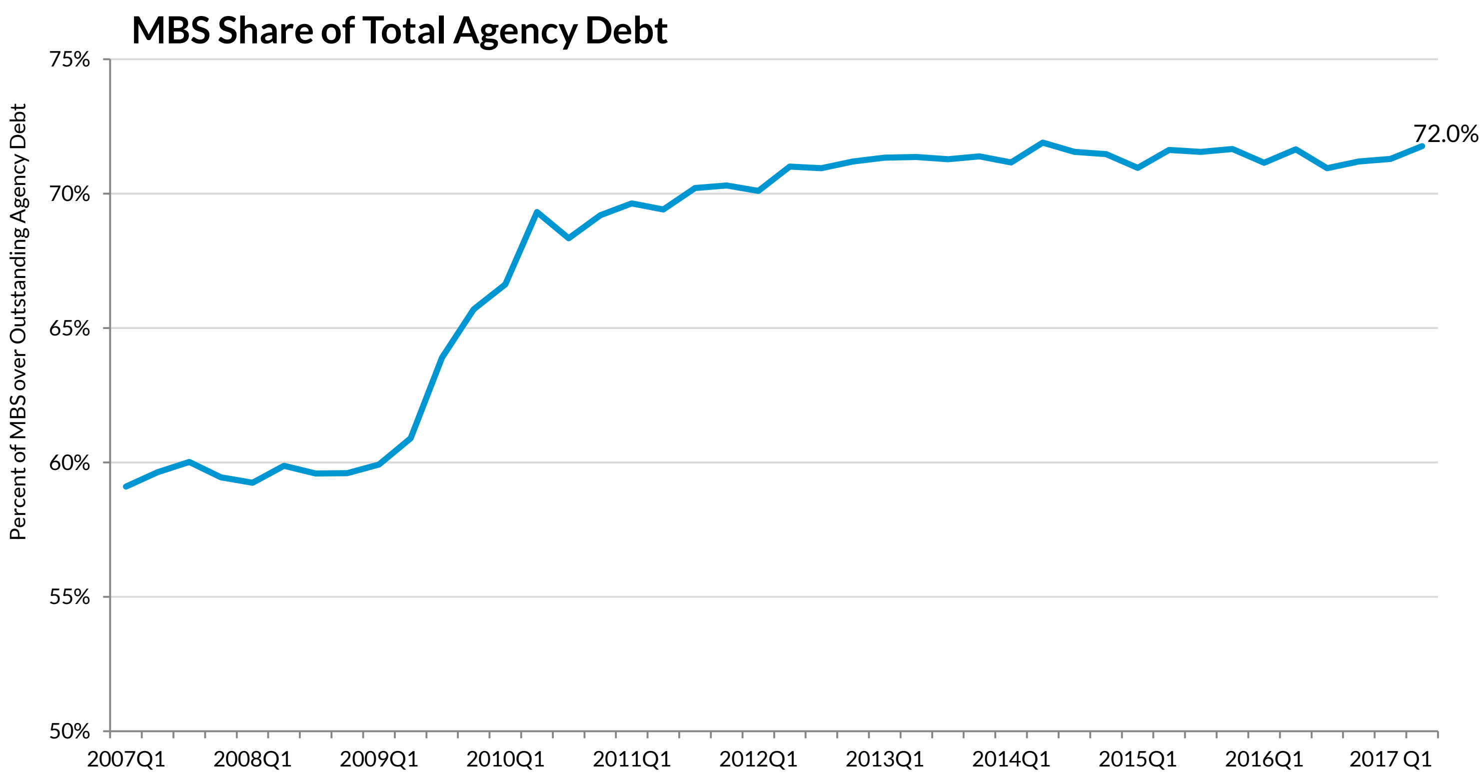
**Who owns Total Agency Debt?**




**Sources:** *Federal Reserve Flow of Funds and Urban Institute.* **Note**: *Data as of Q1 2017.*

# 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 Q1 2017, the MBS share of total agency debt stood at 72.0 percent. Commercial banks are the second largest holders of Agency MBS behind the Federal Reserve. Out of their $1.8 trillion in holdings as of the end of May, $1.3 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 Q1 2017.*

| | Commercial Bank Holdings ($Billions) | | | | | | | | Week Ending | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jun-16 | Dec-16 | Jan-17 | Feb-17 | Mar-17 | Apr-17 | May-17 | Jun-17 | Jun 7 | Jun 14 | Jun 21 | Jun 28 |
| Largest Domestic Banks | 1160.9 | 1216.9 | 1223.6 | 1229.2 | 1231.4 | 1239.7 | 1258.2 | 1273.9 | 1263.6 | 1276.6 | 1274.2 | 1279.8 |
| Small Domestic Banks | 436.3 | 452.3 | 457.4 | 458.7 | 461.4 | 463.7 | 467.2 | 468.2 | 466.5 | 468.2 | 467.2 | 470.3 |
| Foreign Related Banks | 14 | 12.5 | 12.7 | 13 | 13 | 12.6 | 11.8 | 12.9 | 12.5 | 13 | 13.1 | 13 |
| Total, Seasonally Adjusted | 1611.2 | 1681.7 | 1693.7 | 1700.9 | 1705.8 | 1716 | 1737.2 | 1755 | 1742.6 | 1757.8 | 1754.5 | 1763.1 |

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

# MBS Ownership

Out of the $1.8 trillion in MBS holdings at banks and thrifts, $1.3 trillion is in agency pass-through form: $950.7 billion in GSE pass-throughs and $329.9 billion in Ginnie Mae pass-throughs. There are another $419.3 billion in Agency CMOs. Non-agency holdings total $62.4 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 43 percent of the total.

## Bank and Thrift Residential MBS Holdings

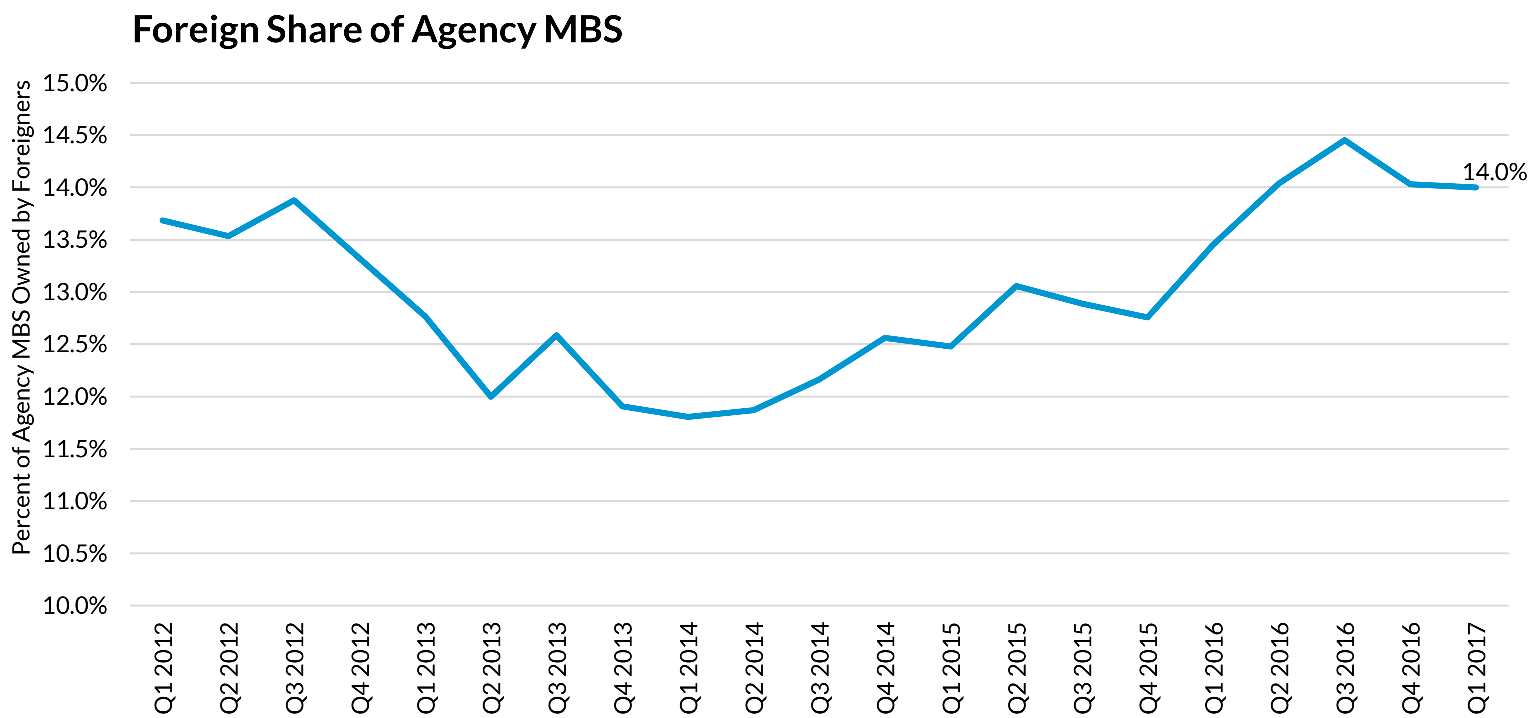
| | All Banks & Thrifts ($Billions) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Total | Agency MBS | GSE PT | GNMA PT | Agency CMO | Private MBS | Private CMO |
| 2000 | $683.90 | $392.85 | $234.01 | $84.26 | $198.04 | $21.57 | $71.43 |
| 2001 | $810.50 | $459.78 | $270.59 | $109.53 | $236.91 | $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 |
| 2Q 16 | $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 |
| 1Q17 | $1,762.38 | $1,280.63 | $950.72 | $329.91 | $419.34 | $7.03 | $55.39 |

| | Top Bank & Thrift Residential MBS Investors | Total ($MM) | GSE PT ($MM) | GNMA PT ($MM) | Agency REMIC ($MM) | Non-Agency ($MM) | Market Share |
|---|---|---|---|---|---|---|---|
| 1 | Bank of America Corporation | $310,551 | $177,393 | $118,070 | $14,440 | $648 | 17.6% |
| 2 | Wells Fargo & Company | $207,152 | $163,855 | $30,559 | $5,378 | $7,360 | 11.8% |
| 3 | JP Morgan Chase & Co. | $104,125 | $69,311 | $21,024 | $628 | $13,162 | 5.9% |
| 4 | U S. Bancorp. | $79,237 | $29,118 | $10,521 | $39,597 | $2 | 4.5% |
| 5 | Charles Schwab Bank | $63,351 | $38,097 | $9,533 | $15,721 | $0 | 3.6% |
| 6 | Citi Group Inc. | $60,717 | $45,874 | $331 | $9,241 | $5,271 | 3.4% |
| 7 | Capital One Financial Corporation | $51,675 | $17,844 | $9,995 | $22,124 | $1,751 | 2.9% |
| 8 | Bank of New York Mellon Corp. | $50,209 | $30,533 | $2,066 | $15,060 | $2,550 | 2.8% |
| 9 | PNC Bank, National Association | $41,956 | $29,782 | $5,180 | $3,601 | $3,393 | 2.4% |
| 10 | Branch Banking and Trust Company | $34,897 | $9,732 | $3,563 | $20,959 | $643 | 2.0% |
| 11 | State Street Bank and Trust Company | $29,920 | $3,852 | $6,777 | $10,253 | $9,038 | 1.7% |
| | Morgan Stanley | $25,059 | $10,084 | $6,669 | $8,306 | $0 | 1.4% |
| 12 | KeyBank National Association | $24,692 | $1,003 | $1,339 | $22,350 | $0 | 1.4% |
| | SunTrust Bank | $22,399 | $12,125 | $10,201 | $0.4 | $71 | 1.3% |
| 13 | HSBC Bank USA, National Association | $20,843 | $7,468 | $5,338 | $8,022 | $6 | 1.2% |
| 16 | E*TRADE Bank | $20,581 | $11,650 | $3,966 | $4,966 | $0 | 1.2% |
| 17 | Regions Bank | $18,641 | $11,112 | $5,495 | $2,030 | $4 | 1.1% |
| 18 | Fifth Third Bank | $16,244 | $3,735 | $3,951 | $8,558 | $0 | 0.9% |
| 19 | MUFG Union Bank, National Association | $16,044 | $5,340 | $4,963 | $5,314 | $427 | 0.9% |
| 20 | Santander Bank, N.A. | $15,671 | $3,718 | $3,413 | $8,541 | $0 | 0.9% |
| | **Total Top 20** | **$1,213,964** | **$681,626** | **$262,954** | **$225,089** | **$44,326** | **68.90%** |

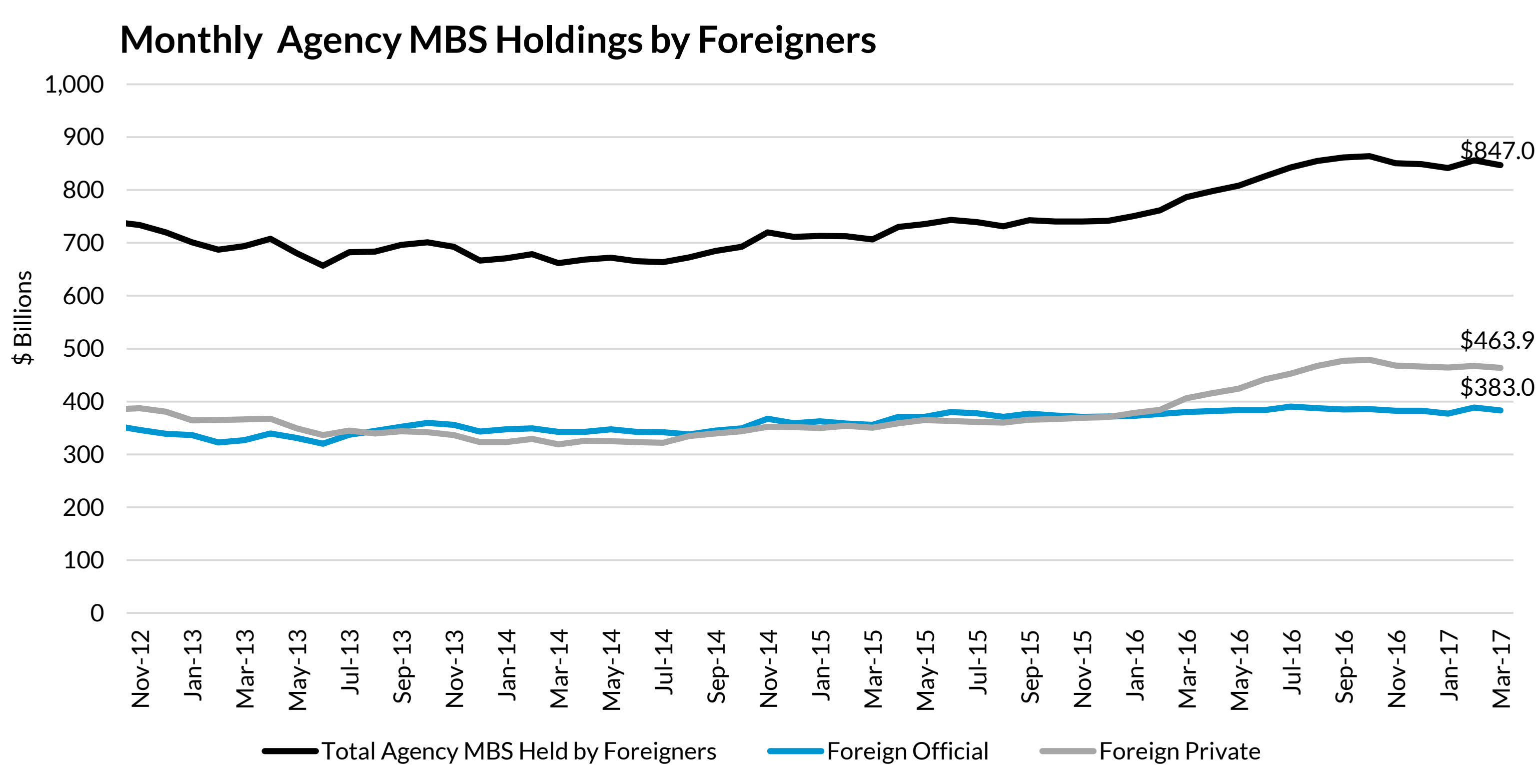
***Sources:*** *Inside Mortgage Finance and Urban Institute.* ***Note:*** *Data as of Q1 2017*

# MBS Ownership

Foreign investors hold 14.0 percent of agency MBS, up considerably from the lows in 2013. For the month of February, this represents $847.0 billion in agency MBS, $383.0 billion held by official institutions and $463.9 billion held by private investors.




***Sources***: *SIFMA and Treasury International Capital (TIC).* ***Note***: *Data as of Q1 2017.*




***Sources***: *Treasury International Capital (TIC) and Urban Institute.* ***Note***: *Data as of March 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 that Japan has been the single largest buyer of MBS between June 2016 and March 2017, adding $23 billion over the 9-month period.

### Agency MBS+ Agency Debt

| | Level of Holdings ($ Millions) | | | | Change in Holdings ($ Millions) | | |
|---|---|---|---|---|---|---|---|
| Country | Jun-16 | Sep-16 | Dec-16 | Mar-17 | Q3 2016 | Q4 2016 | Q1 2017 |
| Taiwan | 207,000 | 208,352 | 204,005 | 212,482 | 1,352 | -4,347 | 8,477 |
| China | 196,000 | 191,743 | 184,151 | 187,664 | -4,257 | -7,592 | 3,513 |
| Japan | 197,000 | 222,116 | 220,644 | 215,327 | 25,116 | -1,472 | -5,317 |
| Ireland | 48,000 | 48,307 | 47,065 | 46,194 | 307 | -1,242 | -871 |
| Luxembourg | 32,000 | 32,549 | 35,352 | 29,119 | 549 | 2,803 | -6,233 |
| Cayman Islands | 31,000 | 30,686 | 30,186 | 29,012 | -314 | -500 | -1,174 |
| Switzerland | 17,000 | 20,638 | 15,626 | 15,917 | 3,638 | -5,012 | 291 |
| United Kingdom | 10,000 | 10,520 | 9,578 | 9,335 | 520 | -942 | -243 |
| Canada | 6,000 | 6,578 | 5,047 | 5,250 | 578 | -1,531 | 203 |
| Belgium | 5,000 | 4,336 | 4,597 | 4,712 | -664 | 261 | 115 |
| Rest of World | 206,000 | 208,604 | 208,353 | 189,413 | 2,604 | -251 | -18,940 |
| **Total** | 955,000 | 984,429 | 964,604 | 944,425 | 29,429 | -19,825 | -20,179 |

### Agency MBS Only (Estimates)

| | Level of Holdings ($Millions)* | | | | Change in Holdings ($Millions)* | | |
|---|---|---|---|---|---|---|---|
| Country | Jun-16 | Sep-16 | Dec-16 | Mar-17 | Q3 2016 | Q4 2016 | Q1 2017 |
| Taiwan | 207,000 | 208,352 | 204,005 | 212,482 | 1,352 | -4,347 | 8,477 |
| China | 187,000 | 184,579 | 179,137 | 185,778 | -2,421 | -5,442 | 6,641 |
| Japan | 185,000 | 207,491 | 207,653 | 207,776 | 22,491 | 162 | 124 |
| Ireland | 38,000 | 38,551 | 37,765 | 37,912 | 551 | -787 | 148 |
| Luxembourg | 27,000 | 27,660 | 30,260 | 25,434 | 660 | 2,600 | -4,825 |
| Cayman Islands | 23,000 | 22,922 | 22,667 | 22,205 | -78 | -254 | -463 |
| Switzerland | 12,000 | 15,188 | 11,020 | 11,570 | 3,188 | -4,167 | 550 |
| United Kingdom | 8,000 | 8,502 | 7,756 | 7,722 | 502 | -746 | -33 |
| Canada | 4,000 | 4,526 | 3,252 | 3,518 | 526 | -1,274 | 266 |
| Belgium | 2,000 | 1,467 | 1,713 | 1,901 | -533 | 246 | 188 |
| Rest of World | 139,000 | 142,457 | 143,461 | 130,681 | 3,457 | 1,004 | -12,779 |
| **Total** | 832,000 | 861,694 | 848,688 | 846,981 | 29,694 | -13,006 | -1,707 |

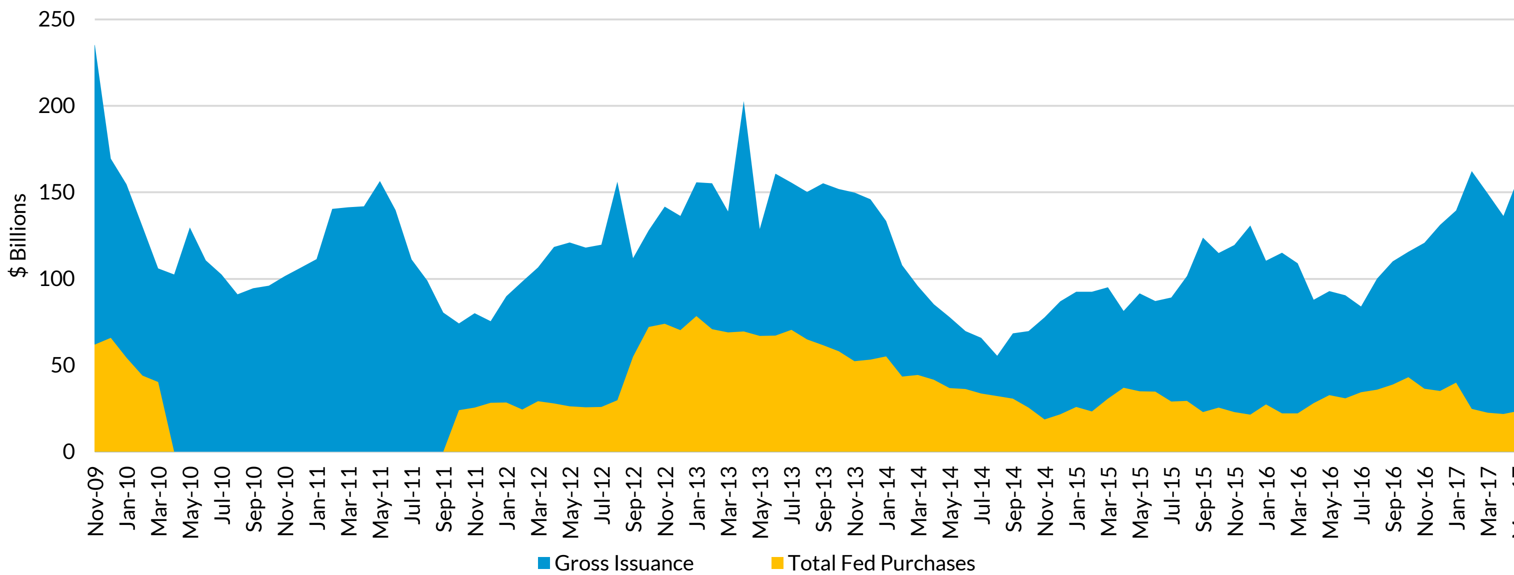
***Sources** :Treasury International Capital (TIC) and Urban Institute.*
***Note:** Data as of March 2017.*

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

# MBS Ownership

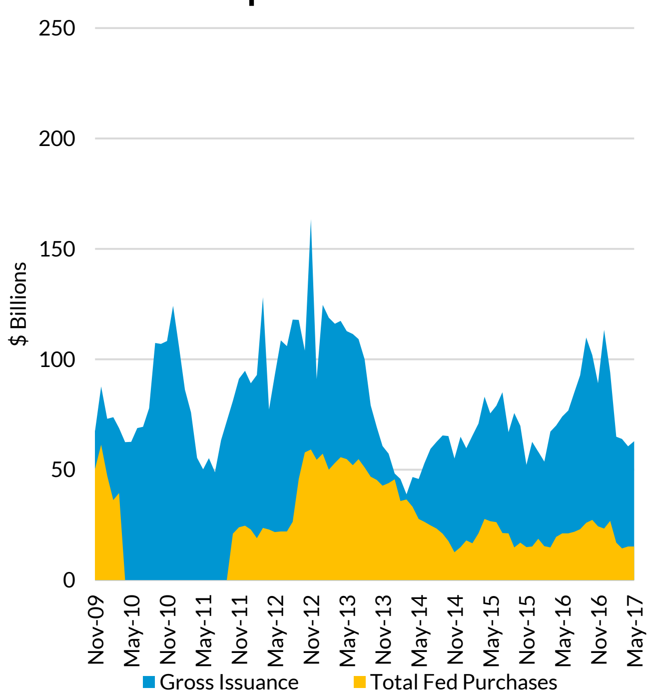
In October 2014, the Fed ended its purchase program, but continued buying at a significantly reduced level, reinvesting funds from pay downs on mortgages and agency debt into the mortgage market. Since then, the Fed's absorption of gross issuance has been between 20 and 30 percent; it was 23.9 percent for May 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 25.2 percent of GSE issuance and 25.8 percent of Ginnie Mae issuance. In their June 2017 meeting, the Fed announced a portfolio wind down strategy for both MBS and Treasury's that is expected to be implemented later this year.

## Total Fed Absorption



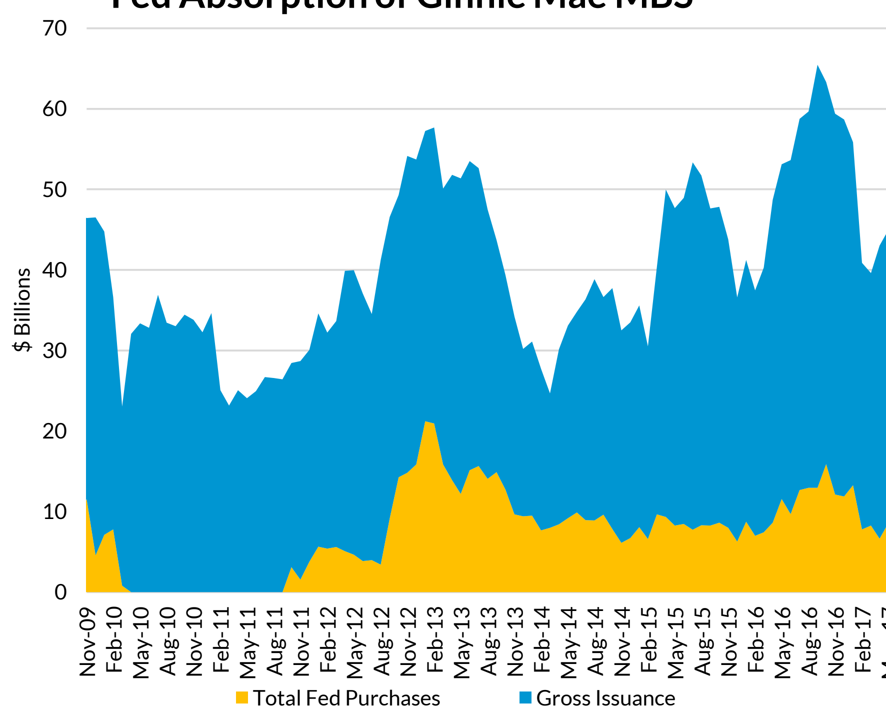

***Sources**: eMBS, Federal Reserve Bank of New York and Urban Institute. **Note:** Data as of May 2017.*

## Fed Absorption of GSE MBS




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

## Fed Absorption of Ginnie Mae MBS




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