



CRA Insights: Financial Economics

CRA Charles River
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Highlights: 2015 Home Mortgage Disclosure Data

Introduction

Mortgage lending in the US has undergone tremendous changes in volume and composition over the last 10 years. The release of the mortgage loan-level data collected annually as prescribed by the Home Mortgage Disclosure Act of 1975 (HMDA) provides an opportunity to observe trends in mortgage lending over this time period. In connection with the annual release of the data, the Federal Reserve Board (FRB) prepares a Federal Reserve Bulletin article describing the HMDA data in considerable detail.¹ Here we present statistics from the 2015 data, as well as provide an examination of several important trends evident in the HMDA data during the period 2006–2015. Finally, we examine the trends in lending by race and ethnicity nationally, and within selected geographies.

We observe increases in purchase and refinance originations since 2014, but total originations still remain low relative to levels seen over the past decade. Between Federal Housing Administration/Veterans Affairs (FHA/VA) originations and agency securitization, government-insured mortgage lending activity accounted for more than 75% of all originations in 2015, a large increase from the 22% share in 2006. Denial rates and growth in origination volume both continue to vary significantly across regions. We also observe differences in denial rates across race/ethnicity groups, suggesting continued regulatory focus on fair lending issues.

Overall market

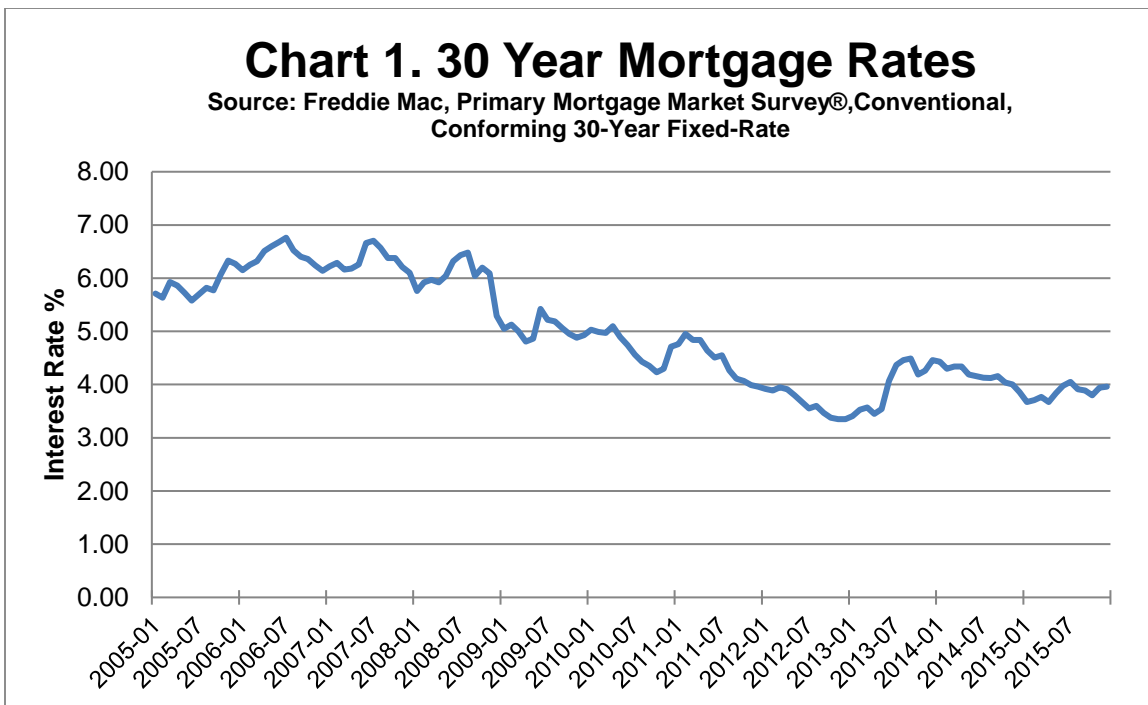
At the national level, overall lending in the residential mortgage market is recovering from recent volatility that was driven by changes in refinance activity. Total originations increased approximately 25% from 5.4 million in 2014 to 6.8 million in 2015 (see Table 1). Despite this increase, lending levels are about 47% lower than at the high of 12.8 million originations in 2006. Purchase activity increased by 14% from its level in 2014, while refinance activity increased by 40% year-over-year.

¹ See Neil Bhutta and Daniel R. Ringo, "Residential Mortgage Lending from 2004 to 2015: Evidence from the Home Mortgage Disclosure Act Data," *Federal Reserve Bulletin*, vol. 102, no. 6, November 2016, available at: https://www.federalreserve.gov/pubs/bulletin/2016/pdf/2015_HMDA.pdf.

| Table 1: Total Originations by Purpose, 2006-2015 | | | |
|---|----------------|-----------------|--------------------|
| Year | Total Purchase | Total Refinance | Total Originations |
| 2006 | 6,726,281 | 6,082,128 | 12,808,409 |
| 2007 | 4,641,158 | 4,809,508 | 9,450,666 |
| 2008 | 3,073,530 | 3,474,817 | 6,548,347 |
| 2009 | 2,673,938 | 5,765,787 | 8,439,725 |
| 2010 | 2,462,720 | 4,969,622 | 7,432,342 |
| 2011 | 2,315,183 | 4,323,759 | 6,638,942 |
| 2012 | 2,617,811 | 6,649,927 | 9,267,738 |
| 2013 | 2,996,566 | 5,142,639 | 8,139,205 |
| 2014 | 3,116,333 | 2,315,194 | 5,431,527 |
| 2015 | 3,564,213 | 3,243,910 | 6,808,123 |

Source: 2006-2015 HMDA Data

Interest rates, as reflected in Freddie Mac’s Primary Mortgage Market Survey for 30-year, fixed rate mortgages, were generally lower in 2015 than in 2014 (see Chart 1).² The average interest rate in 2015 was 3.85% compared with 4.17% in 2014. The lower interest rates in 2015 contributed to the higher volume of refinance mortgages, which rose from 43% of total originations in 2014 to 48% in 2015.



² Freddie Mac, "Mortgage Rates Continue Climbing," December 1, 2016, <http://www.freddiemac.com/pmms/pmms30.htm>.

First lien mortgages have continued to dominate HMDA-reportable originations during 2015 with a volume of 6.7 million loans, accounting for 98.2% of total originations. With the decline in house prices and the contraction of non-agency lending after 2008, the volume of HMDA-reported second lien mortgages continued to be very low, registering only 119,222 funded loans in 2015, a 1.8% share of mortgage activity. In 2006, by comparison, second lien mortgages comprised 19.4% of the market (see Table 2).

| Table 2: Originations Lien Status, 2006-2015 | | | |
|---|-------------------------|--------------------------|---------------------------|
| Year | Total First Lien | Total Second Lien | Total Originations |
| 2006 | 10,321,751 | 2,486,658 | 12,808,409 |
| 2007 | 8,183,679 | 1,266,987 | 9,450,666 |
| 2008 | 6,220,812 | 327,535 | 6,548,347 |
| 2009 | 8,272,072 | 167,653 | 8,439,725 |
| 2010 | 7,294,531 | 137,811 | 7,432,342 |
| 2011 | 6,516,295 | 122,647 | 6,638,942 |
| 2012 | 9,145,078 | 122,660 | 9,267,738 |
| 2013 | 8,017,087 | 122,118 | 8,139,205 |
| 2014 | 5,317,303 | 114,224 | 5,431,527 |
| 2015 | 6,688,901 | 119,222 | 6,808,123 |
| Source: 2006-2015 HMDA Data | | | |

The government and government-sponsored enterprises, Fannie Mae and Freddie Mac (the GSEs), continue to be instrumental in providing liquidity to residential mortgage markets, with both agency volumes and agency share increasing in 2015 relative to 2014. As shown in Table 3, the GSEs, Ginnie Mae (which securitizes FHA originations), and Farmer Mac (which purchases rural home loan originations) combined accounted for 49% of the securitization market in 2015, up slightly from 47% in 2014. Agency volumes increased by 31.7% year over year. In 2006, when the subprime market's share of originations was at its height and non-agency securitization was strong, the agency share of the market was just 18%.

| Table 3: Agency Securitization, 2006-2015 | | | | | | | |
|---|--------------------|------------------|------------|-------------|------------|--------------|------------------------------------|
| Year | Total Originations | Agency Purchases | | | | | Agency Share of Total Originations |
| | | Fannie Mae | Ginnie Mae | Freddie Mac | Farmer Mac | Total Agency | |
| 2006 | 12,808,409 | 1,305,502 | 166,235 | 807,401 | 215 | 2,279,353 | 17.8% |
| 2007 | 9,450,666 | 1,361,667 | 199,682 | 883,548 | 275 | 2,445,172 | 25.9% |
| 2008 | 6,548,347 | 1,202,226 | 525,534 | 747,292 | 167 | 2,475,219 | 37.8% |
| 2009 | 8,439,725 | 1,703,705 | 669,411 | 1,396,690 | 342 | 3,770,148 | 44.7% |
| 2010 | 7,432,342 | 1,428,830 | 582,363 | 1,045,240 | 124 | 3,056,557 | 41.1% |
| 2011 | 6,638,942 | 1,404,722 | 576,004 | 819,561 | 77 | 2,800,364 | 42.2% |
| 2012 | 9,267,738 | 2,534,171 | 883,319 | 1,280,202 | 175 | 4,697,867 | 50.7% |
| 2013 | 8,139,205 | 2,162,534 | 874,605 | 1,174,172 | 120 | 4,211,431 | 51.7% |
| 2014 | 5,431,527 | 1,151,517 | 653,543 | 732,599 | 430 | 2,538,089 | 46.7% |
| 2015 | 6,808,123 | 1,429,492 | 953,791 | 960,210 | 92 | 3,343,585 | 49.1% |

Source: 2006-2015 HMDA Data

FHA and VA programs continued to experience gains in lending activity in 2015, growing from 23.3% in 2014 to 26.8% in 2015, with volume increases about the same for purchases and refinances. For purchase money originations, FHA/VA lending accounted for approximately 32% of the market, an increase from 28% in 2014, and slightly higher than the average share between 2006 and 2015 of 30%. FHA/VA refinance activity accounted for about 21% of total refinance originations, which is the highest level in the past decade. Government-insured activity remains far above the levels observed in 2006, when FHA/VA shares of purchase and refinance mortgages were 6% and 2%, respectively. It is interesting to note that government-insured mortgage lending activity accounted for more than 75% of all originations in 2015, a large increase from the 22% share in 2006.

| Table 4: FHA/VA Originations by Purpose, 2006-2015 | | | | | |
|--|--------------------|-----------|-----------|-----------|-----------------------------|
| Year | Total Originations | FHA/VA | | | Share of Total Originations |
| | | Purchase | Refinance | Total | |
| 2006 | 12,808,409 | 395,460 | 122,567 | 518,027 | 4.0% |
| 2007 | 9,450,666 | 394,902 | 196,847 | 591,749 | 6.3% |
| 2008 | 6,548,347 | 919,578 | 525,254 | 1,444,832 | 22.1% |
| 2009 | 8,439,725 | 1,207,033 | 1,002,513 | 2,209,546 | 26.2% |
| 2010 | 7,432,342 | 1,082,884 | 659,420 | 1,742,304 | 23.4% |
| 2011 | 6,638,942 | 917,616 | 521,965 | 1,439,581 | 21.7% |
| 2012 | 9,267,738 | 921,355 | 952,953 | 1,874,308 | 20.2% |
| 2013 | 8,139,205 | 879,125 | 755,148 | 1,634,273 | 20.1% |
| 2014 | 5,431,527 | 884,917 | 382,887 | 1,267,804 | 23.3% |
| 2015 | 6,808,123 | 1,136,290 | 686,008 | 1,822,298 | 26.8% |

Source: 2006-2015 HMDA Data

Rate spreads have changed over time depending on loan type and purpose, as shown in Table 5. Since 2006, the share of conventional loan originations with reported rate spreads has decreased from 30.7% to 3.5%. The share of FHA loans with reported rate spreads has increased over the same time period, from 3.3% in 2006 to 17.9% in 2015. VA loans have much smaller and more constant shares with reported rate spreads; the 2015 VA share is only 0.37%.

| Table 5: Share of Loans Reporting Rate Spread by Loan Type and Purpose, 2006-2015 | | | | | | | | | |
|--|--------------|-----------|--------|----------|-----------|--------|----------|-----------|-------|
| Year | Conventional | | | FHA | | | VA | | |
| | Purchase | Refinance | Total | Purchase | Refinance | Total | Purchase | Refinance | Total |
| 2006 | 30.91% | 30.47% | 30.69% | 3.14% | 3.74% | 3.31% | 0.13% | 0.30% | 0.15% |
| 2007 | 16.95% | 21.17% | 19.15% | 5.06% | 7.40% | 5.97% | 0.21% | 0.37% | 0.23% |
| 2008 | 10.97% | 11.60% | 11.33% | 11.96% | 14.30% | 12.86% | 1.39% | 0.72% | 1.25% |
| 2009 | 7.78% | 3.98% | 4.88% | 5.86% | 7.88% | 6.78% | 1.08% | 0.61% | 0.86% |
| 2010 | 6.41% | 1.86% | 2.96% | 1.98% | 6.09% | 3.48% | 0.08% | 1.04% | 0.50% |
| 2011 | 6.53% | 2.21% | 3.37% | 4.11% | 8.94% | 5.60% | 0.38% | 0.97% | 0.68% |
| 2012 | 5.83% | 1.94% | 2.83% | 4.62% | 4.46% | 4.55% | 0.12% | 0.52% | 0.38% |
| 2013 | 4.71% | 2.53% | 3.24% | 22.03% | 6.18% | 15.35% | 0.10% | 0.37% | 0.25% |
| 2014 | 4.85% | 2.90% | 3.94% | 44.71% | 15.35% | 37.83% | 0.19% | 0.88% | 0.47% |
| 2015 | 4.96% | 2.03% | 3.46% | 22.39% | 8.97% | 17.90% | 0.38% | 0.36% | 0.37% |

Source: 2006-2015 HMDA Data

Table 6 shows the mean rate spread among loans that are subject to reported rate spreads. Since 2006, the mean rate spread has decreased for conventional, FHA, and VA loans. For every year in the past decade, the mean rate spread for conventional loans has been higher than mean rate spreads for FHA and VA loans. The mean rate spread for refinance originations has been consistently lower than the mean rate spread for purchase originations.

| Table 6: Mean Rate Spread by Loan Type and Purpose, 2006-2015 | | | | | | | | | |
|--|--------------|-----------|-------|----------|-----------|-------|----------|-----------|-------|
| Year | Conventional | | | FHA | | | VA | | |
| | Purchase | Refinance | Total | Purchase | Refinance | Total | Purchase | Refinance | Total |
| 2006 | 5.79 | 5.41 | 5.61 | 3.65 | 3.63 | 3.64 | 4.58 | 4.34 | 4.53 |
| 2007 | 4.95 | 5.03 | 5.00 | 3.57 | 3.41 | 3.49 | 3.96 | 3.69 | 3.91 |
| 2008 | 4.46 | 4.96 | 4.75 | 3.44 | 3.42 | 3.43 | 3.62 | 3.51 | 3.61 |
| 2009 | 4.92 | 4.76 | 4.82 | 3.47 | 3.32 | 3.39 | 3.48 | 3.25 | 3.40 |
| 2010 | 3.75 | 3.09 | 3.44 | 2.06 | 2.23 | 2.17 | 2.08 | 2.01 | 2.01 |
| 2011 | 3.79 | 2.93 | 3.38 | 2.09 | 2.61 | 2.35 | 2.46 | 1.86 | 2.02 |
| 2012 | 3.99 | 2.60 | 3.26 | 1.95 | 3.02 | 2.42 | 2.23 | 1.79 | 1.84 |
| 2013 | 3.69 | 2.44 | 3.03 | 1.86 | 2.58 | 1.98 | 2.14 | 1.77 | 1.84 |
| 2014 | 3.46 | 2.69 | 3.20 | 1.84 | 2.24 | 1.88 | 2.12 | 1.86 | 1.92 |
| 2015 | 3.46 | 2.68 | 3.22 | 1.86 | 2.05 | 1.89 | 2.27 | 1.72 | 2.02 |

Source: 2006-2015 HMDA Data

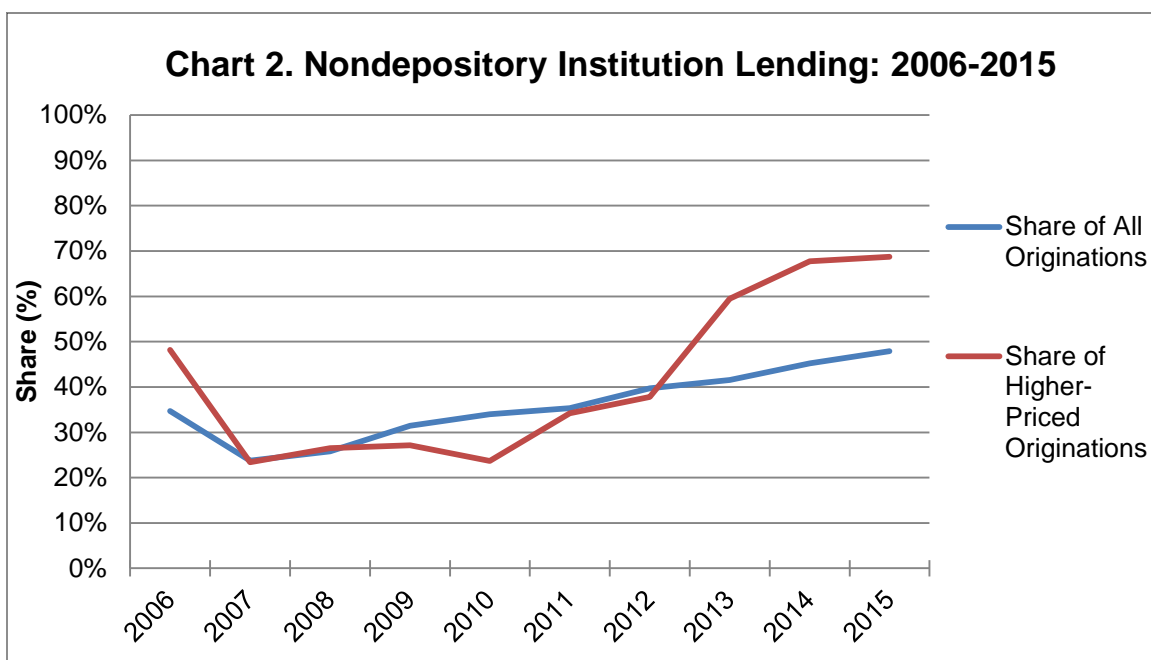
Market concentration

Market concentration by the largest lenders has decreased sharply since 2010. The top 10 mortgage originators accounted for 24% of all originations during 2015, down markedly from 38% in 2010.³ The top 10 originators from 2014 remained within the top 20 originators in 2015, and there were two new lenders in the 2015 top 10 list: Freedom Mortgage Corporation and Caliber Home Loans.

| Table 7: Top 10 Mortgage Lenders, 2015 | | | | | |
|--|-----------------------|-----------------------|---------------------------------|---|--|
| First Liens Only | | | | | |
| Lender | Count of Originations | Share of Originations | Count with Reported Rate Spread | Share of Originations with Reported Rate Spread | Average Level of Reported Rate Spreads |
| WELLS FARGO & COMPANY | 404,751 | 6% | 9,633 | 2% | 1.77 |
| QUICKEN LOANS | 366,357 | 5% | 6,225 | 2% | 1.64 |
| JPMORGAN CHASE BANK, NA | 165,660 | 2% | 3,061 | 2% | 1.83 |
| BANK OF AMERICA, N.A. | 163,818 | 2% | 1,396 | 1% | 1.76 |
| US BANK, N.A. | 100,374 | 2% | 2,693 | 3% | 1.81 |
| FREEDOM MORTGAGE CORPORATION | 99,635 | 1% | 633 | 1% | 1.69 |
| LOANDEPOT.COM, LLC | 97,376 | 1% | 4,024 | 4% | 1.76 |
| CALIBER HOME LOANS | 67,680 | 1% | 3,490 | 5% | 2.05 |
| CITIGROUP INC. | 65,485 | 1% | 112 | 0% | 1.76 |
| NATIONSTAR MORTGAGE LLC | 64,462 | 1% | 1,601 | 2% | 1.80 |
| Total Top 10 | 1,595,598 | 24% | 32,868 | 2% | 1.78 |
| All Other Lenders | 5,093,303 | 76% | 353,022 | 7% | 2.50 |
| Total | 6,688,901 | 100% | 385,890 | 6% | 2.44 |
| Source: 2015 HMDA Data | | | | | |

The top 10 mortgage originators had smaller shares of originations with reported rate spread than the rest of HMDA-reporting lenders, at 2% and 7% of originations, respectively. Among originations with reported rate spreads, the top 10 originators also had lower average levels of rate spreads than the rest of HMDA-reporting lenders, at 1.78 and 2.50, respectively. This indicates that the top 10 originators offer loans with lower APRs, on average, relative to the appropriate prime offer rates. Since 2010, the average level of reported rate spreads has decreased for the total top 10 mortgage lenders (2.71 to 1.78), all other lenders (3.23 to 2.50), and all lenders (3.14 to 2.44). The share of originations with reported rate spreads has increased over the same period from 3% to 6%.

³ CRA's Highlights: 2010 Home Mortgage Disclosure Data, available at: <http://www.crai.com/sites/default/files/publications/2010-HMDA-Review.pdf>.



The lending share of non-depository mortgage lenders has also increased dramatically over the last several years. In 2015, these institutions constituted 48% of all first-lien home purchase originations and 69% of higher-priced first-lien home purchase originations (see Chart 2).

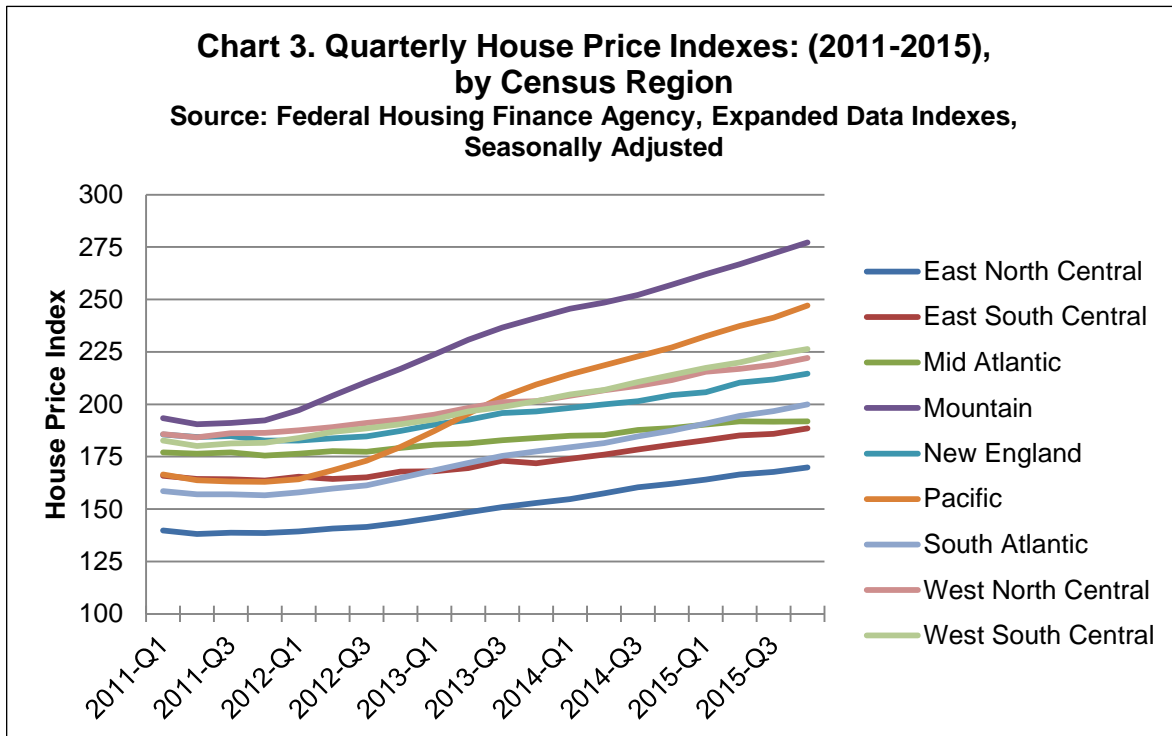
Regional markets

At the regional level, overall origination volume has increased in all nine regions reported by HMDA after two years of declining originations (see Table 8). The Pacific and Mountain regions experienced the largest growth (34% and 33%, respectively) from 2014 to 2015. Over the longer period from 2011 to 2014, the New England region experienced the largest declines (17%) while the Mountain region had the largest increase (28%). Nationwide growth in originations from 2011 to 2015 was 3%.

| Region | Year | | | | | 2011-2015 Change |
|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | 2011 | 2012 | 2013 | 2014 | 2015 | |
| New England | 372,268 | 515,634 | 413,406 | 242,485 | 307,511 | -17% |
| Mid Atlantic | 682,478 | 852,610 | 752,611 | 485,513 | 584,434 | -14% |
| East North Central | 1,043,532 | 1,460,762 | 1,221,314 | 793,717 | 973,308 | -7% |
| West North Central | 510,695 | 697,799 | 587,685 | 391,699 | 490,295 | -4% |
| South Atlantic | 1,219,238 | 1,722,773 | 1,607,619 | 1,074,721 | 1,359,384 | 11% |
| East South Central | 344,144 | 446,995 | 414,774 | 291,495 | 345,076 | 0% |
| West South Central | 641,433 | 816,670 | 807,602 | 619,806 | 718,134 | 12% |
| Mountain | 547,067 | 854,557 | 759,395 | 527,437 | 701,236 | 28% |
| Pacific | 1,224,857 | 1,838,397 | 1,528,665 | 972,311 | 1,298,899 | 6% |
| Total | 6,585,712 | 9,206,197 | 8,093,071 | 5,399,184 | 6,778,277 | 3% |

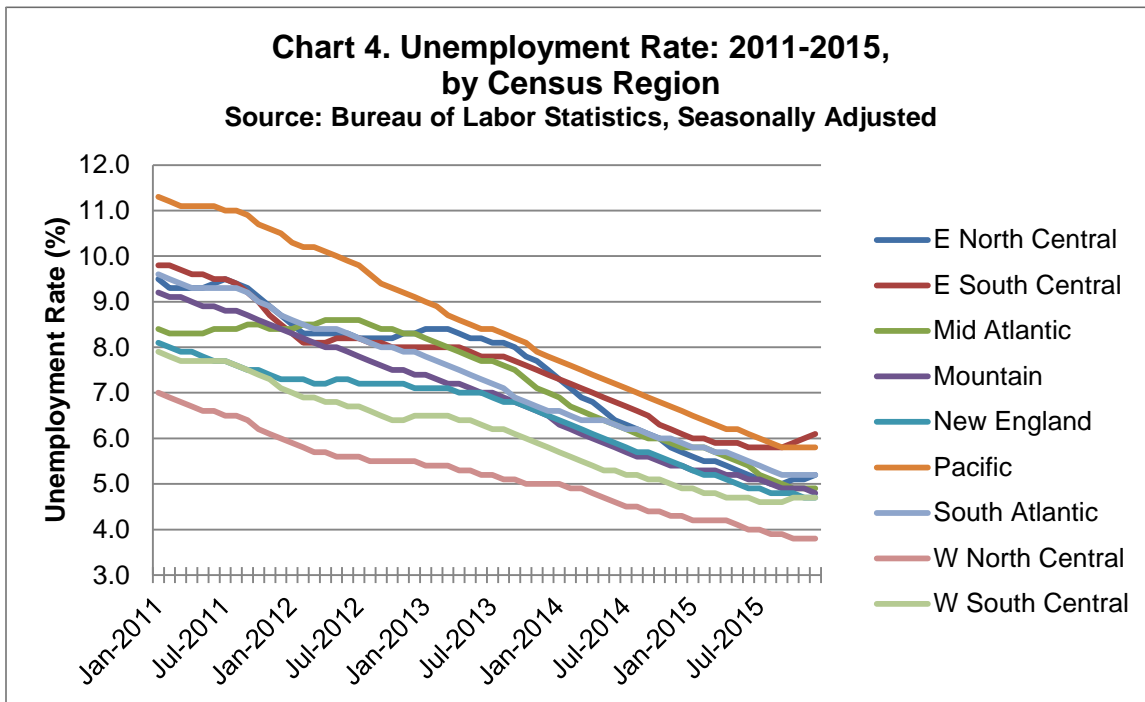
Source: 2011-2015 HMDA Data

The differences in changes in origination volume by region during the period may be explained, in part, by changes in house prices and unemployment. The following two charts (Charts 3 and 4) present the Federal Housing Finance Agency's house price index⁴ and the Bureau of Labor Statistics' unemployment rate⁵ over the period 2011–2015 for the same nine regions. The two regions with the largest gains in origination volume, Pacific and Mountain, also experienced the largest gains in house prices.



⁴ Federal Housing Finance Agency, House Price Index Datasets, <http://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index-Datasets.aspx#qpo>, last accessed 10/17/2016.

⁵ Bureau of Labor Statistics, <http://data.bls.gov/pdq/querytool.jsp?survey=la>, last accessed 10/12/2016



Denial rates

After increasing denial rates between 2012 and 2014, denial rates decreased for all regions between 2014 and 2015 (see Table 9).⁶

| Region | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|--------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| New England | 26% | 29% | 27% | 20% | 19% | 19% | 17% | 18% | 21% | 19% |
| Mid Atlantic | 29% | 32% | 31% | 25% | 24% | 24% | 22% | 22% | 24% | 22% |
| East North Central | 30% | 32% | 30% | 20% | 22% | 23% | 20% | 21% | 22% | 20% |
| West North Central | 27% | 28% | 25% | 18% | 18% | 18% | 16% | 17% | 18% | 16% |
| South Atlantic | 27% | 32% | 32% | 24% | 24% | 23% | 21% | 22% | 24% | 23% |
| East South Central | 29% | 31% | 30% | 23% | 26% | 26% | 24% | 25% | 26% | 25% |
| West South Central | 28% | 30% | 29% | 23% | 23% | 23% | 21% | 22% | 24% | 23% |
| Mountain | 25% | 30% | 30% | 21% | 20% | 20% | 17% | 18% | 20% | 18% |
| Pacific | 26% | 31% | 31% | 21% | 20% | 20% | 17% | 19% | 21% | 19% |
| All Regions | 27% | 31% | 30% | 22% | 22% | 22% | 19% | 20% | 22% | 21% |

Source: 2006-2015 HMDA Data

⁶ This omits applications that are withdrawn or incomplete.

The same pattern in denial rates since 2012 was also observed in the denial rates by race and ethnicity (see Table 10).⁷ Denial rates increased for every group between 2012 and 2014 and then decreased in 2015.⁸ Additionally, denial rates in 2015 continued to have significant variability across race/ethnicity groups, ranging from 34% for African American applicants to 18% for Asian and Non-Hispanic White applicants.

| Table 10: Denial Rates by Race/Ethnicity and Year | | | | | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Race/Ethnicity | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| African American | 37% | 45% | 47% | 36% | 35% | 35% | 32% | 32% | 35% | 34% |
| Hispanic | 30% | 38% | 41% | 30% | 28% | 27% | 25% | 25% | 27% | 25% |
| Asian | 22% | 26% | 26% | 20% | 19% | 19% | 17% | 18% | 19% | 18% |
| Non-Hispanic White | 23% | 26% | 26% | 19% | 19% | 20% | 17% | 18% | 20% | 18% |

Source: 2006-2015 HMDA Data

Denial rates on conventional home purchase applications have fallen relatively steadily over the past 10 years. Denial rates for refinance applications have consistently been much higher than denial rates for purchases. The denial rate for refinance loans was 27% in 2015, which is higher than the refinance denial rates between 2009 and 2013 but lower than the rates from 2006 to 2008. Altogether, overall denial rates across all conventional loans have been relatively flat around 20% since 2009.

| Table 11: Denial Rates by Loan Purpose by Year (Conventional) | | | |
|--|------------|-----------------|------------------|
| Year | All | Purchase | Refinance |
| 2006 | 28% | 20% | 34% |
| 2007 | 32% | 21% | 39% |
| 2008 | 31% | 21% | 37% |
| 2009 | 22% | 20% | 23% |
| 2010 | 22% | 19% | 22% |
| 2011 | 22% | 19% | 23% |
| 2012 | 20% | 18% | 20% |
| 2013 | 20% | 16% | 22% |
| 2014 | 22% | 15% | 29% |
| 2015 | 21% | 14% | 27% |

Source: 2006-2015 HMDA Data

⁷ HMDA reporting allows applicants and co-applicants to each report up to five race categories and one ethnicity category ("Hispanic" or "Not Hispanic"). We categorize applications as belonging to each non-White race/ethnicity group that is reported by either applicant or co-applicant. As a result, race/ethnicity is not mutually exclusive except for the non-Hispanic white category. An applicant is defined as being non-Hispanic white only if the applicant or co-applicant reports himself/herself as white and no other race/ethnicity is reported. Applications without a reported race/ethnicity for applicant nor co-applicant are considered as race unknown or not provided.

⁸ The denial rates by race/ethnicity and by region are presented in the Appendix.

Denial rates on FHA loan applications in 2015 have returned to similar levels to 2009 after several years of tighter lending standards, particularly for refinance originations (see Table 12). Denial rates on FHA purchase money mortgage applications during the past decade are both lower and less variable than denial rates on FHA refinance applications.

| Table 12: Denial Rates by Loan Purpose by Year (FHA) | | | |
|---|------------|-----------------|------------------|
| Year | All | Purchase | Refinance |
| 2006 | 17% | 15% | 22% |
| 2007 | 25% | 19% | 32% |
| 2008 | 30% | 18% | 42% |
| 2009 | 25% | 16% | 33% |
| 2010 | 25% | 17% | 36% |
| 2011 | 24% | 17% | 36% |
| 2012 | 20% | 17% | 24% |
| 2013 | 23% | 18% | 28% |
| 2014 | 25% | 18% | 42% |
| 2015 | 22% | 15% | 33% |

Source: 2006-2015 HMDA Data

Denial rates in 2015 demonstrated a relatively high level of intra-race/ethnicity group variability (within column variability) across the Census regions (see Table 13). For example, African American loan applicants experienced widely divergent denial rates across the regions; from a high of 40% in the East South Central region to a low of 24% in the Mountain region. Hispanic, Asian, and Non-Hispanic white applicants experienced much less intra-group variability across regions.

| Table 13: Denial Rates by Race/Ethnicity and Region, 2015 | | | | | | | |
|--|-------------------------|-----------------|------------------------|-------------------------|--------------|-------------------------------------|---------------------------|
| Region | African American | Hispanic | American Indian | Pacific Islander | Asian | Race Unknown or Not Provided | Non-Hispanic White |
| New England | 31% | 24% | 33% | 28% | 15% | 22% | 18% |
| Mid Atlantic | 35% | 28% | 40% | 29% | 20% | 28% | 20% |
| East North Central | 34% | 26% | 32% | 24% | 18% | 27% | 18% |
| West North Central | 29% | 23% | 29% | 22% | 16% | 21% | 15% |
| South Atlantic | 34% | 26% | 37% | 27% | 19% | 27% | 20% |
| East South Central | 40% | 29% | 38% | 28% | 20% | 31% | 21% |
| West South Central | 36% | 29% | 32% | 25% | 18% | 25% | 19% |
| Mountain | 24% | 23% | 34% | 23% | 19% | 25% | 16% |
| Pacific | 27% | 22% | 27% | 24% | 18% | 22% | 17% |
| All Regions | 34% | 25% | 33% | 25% | 18% | 25% | 18% |

Source: 2015 HMDA Data

The 2015 denial rates across regions and race/ethnicity, as shown in Tables 9 and 10, are similar to levels seen between 2011 and 2014. This finding was consistent across nearly all regions for each race/ethnicity group (see Appendix 1). Also consistent with the overall results, denial rates remain much lower than at the peaks observed in 2007 and 2008 for each region and race/ethnicity group.

While many of these patterns were consistent within and across race/ethnicity groups, an area of divergence can be seen in the comparison of Conventional and FHA denial rates by race/ethnicity group (see Table 14). African American, Hispanic, American Indian, and Pacific Islander applicants each experienced lower denial rates on FHA applications than on Conventional Conforming applications, while the opposite was true for Asian, Non-Hispanic white, and applicants with race unknown.

| Table 14: Denial Rates by Loan Type and Race/Ethnicity, 2015 | | | |
|---|------------|--------------------------------|------------|
| Race/Ethnicity | FHA | Conventional Conforming | All |
| African American | 28% | 41% | 34% |
| Hispanic | 20% | 29% | 25% |
| American Indian | 26% | 36% | 33% |
| Pacific Islander | 23% | 27% | 25% |
| Asian | 21% | 18% | 18% |
| Race Unknown or Not Provided | 35% | 25% | 25% |
| Non-Hispanic White | 19% | 19% | 18% |
| All | 22% | 21% | 21% |
| Source: 2015 HMDA Data | | | |

Conclusions

The 2015 HMDA data reflect a number of changes important to residential mortgage markets. These include the following:

- Continued importance of agency originations (including conventional, conforming products securitized through Freddie Mac and Fannie Mae) and FHA products securitized through Ginnie Mae,
- Continued scarcity in the availability of second lien loans,
- Re-emergence of non-depository institutions as a growing share of purchase and higher-priced loans,
- Persistence of variation across regions in origination growth rates and denial rates, and
- Persistence of intra-group and inter-group differences in raw denial rates by race/ethnicity groups, suggesting continued regulatory focus on fair lending issues.

In conclusion, there are many lessons to be learned from observing market trends in residential mortgage lending. Despite lower interest rates, continued housing price increases, and continued declines in the unemployment rate in 2015, the 2015 HMDA data are quite similar to 2014 and may reflect a new “normal” in housing markets after the turbulence of the housing bubble and crash. The enormous loss of wealth experienced by borrowers during the decade continues to resonate through real estate markets and the broader economy. Many borrowers, and potential borrowers, remain uncertain about homeownership and their ability to improve their economic situation. Regulatory compliance and litigation costs remain significant. Continuing to analyze these markets to learn from the past and to make decisions that improve the future are important goals for all of us.

For assistance with analysis of HMDA data, mortgage origination, pricing, or servicing data, compliance or credit risk issues in either regulatory or litigation disputes, please contact the Financial Economics Practice of Charles River Associates:

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Appendix 1: Denial Rates by Race/Ethnicity, Region and Year (HMDA 2015)

| African American | | | | | | | | | | |
|-------------------------|--------------------|---------------------|---------------------------|---------------------------|-----------------------|---------------------------|---------------------------|-----------------|----------------|--------------------|
| Year | New England | Mid Atlantic | East North Central | West North Central | South Atlantic | East South Central | West South Central | Mountain | Pacific | All Regions |
| 2006 | 37% | 37% | 42% | 41% | 35% | 41% | 39% | 33% | 35% | 37% |
| 2007 | 45% | 45% | 49% | 46% | 43% | 45% | 45% | 42% | 43% | 45% |
| 2008 | 46% | 48% | 51% | 48% | 45% | 48% | 45% | 42% | 47% | 47% |
| 2009 | 34% | 40% | 38% | 33% | 36% | 39% | 37% | 28% | 32% | 36% |
| 2010 | 32% | 38% | 39% | 32% | 35% | 41% | 35% | 24% | 27% | 35% |
| 2011 | 32% | 38% | 38% | 31% | 34% | 40% | 36% | 25% | 26% | 35% |
| 2012 | 29% | 37% | 33% | 28% | 31% | 36% | 34% | 22% | 23% | 32% |
| 2013 | 30% | 35% | 33% | 28% | 31% | 38% | 34% | 22% | 24% | 32% |
| 2014 | 32% | 38% | 37% | 31% | 35% | 41% | 37% | 25% | 29% | 35% |
| 2015 | 31% | 35% | 34% | 29% | 34% | 40% | 36% | 24% | 27% | 34% |

| Hispanic | | | | | | | | | | |
|-----------------|--------------------|---------------------|---------------------------|---------------------------|-----------------------|---------------------------|---------------------------|-----------------|----------------|--------------------|
| Year | New England | Mid Atlantic | East North Central | West North Central | South Atlantic | East South Central | West South Central | Mountain | Pacific | All Regions |
| 2006 | 34% | 31% | 32% | 31% | 27% | 26% | 33% | 31% | 30% | 30% |
| 2007 | 43% | 39% | 38% | 35% | 37% | 31% | 38% | 38% | 40% | 38% |
| 2008 | 43% | 41% | 41% | 35% | 42% | 34% | 40% | 41% | 41% | 41% |
| 2009 | 30% | 34% | 31% | 26% | 32% | 28% | 33% | 28% | 28% | 30% |
| 2010 | 28% | 33% | 31% | 25% | 30% | 29% | 31% | 26% | 24% | 28% |
| 2011 | 27% | 33% | 31% | 26% | 28% | 29% | 30% | 26% | 23% | 27% |
| 2012 | 25% | 32% | 27% | 23% | 25% | 28% | 28% | 23% | 21% | 25% |
| 2013 | 25% | 30% | 27% | 24% | 26% | 29% | 27% | 24% | 23% | 25% |
| 2014 | 27% | 30% | 28% | 26% | 28% | 29% | 30% | 26% | 24% | 27% |
| 2015 | 24% | 28% | 26% | 23% | 26% | 29% | 29% | 23% | 22% | 25% |

| Asian | | | | | | | | | | |
|-------|-------------|--------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------|-------------|
| Year | New England | Mid Atlantic | East North Central | West North Central | South Atlantic | East South Central | West South Central | Mountain | Pacific | All Regions |
| 2006 | 21% | 23% | 22% | 25% | 20% | 19% | 18% | 21% | 23% | 22% |
| 2007 | 23% | 25% | 24% | 29% | 25% | 22% | 23% | 29% | 26% | 26% |
| 2008 | 22% | 27% | 26% | 27% | 28% | 26% | 25% | 31% | 25% | 26% |
| 2009 | 18% | 23% | 19% | 19% | 22% | 21% | 20% | 22% | 19% | 20% |
| 2010 | 17% | 23% | 19% | 18% | 20% | 22% | 21% | 20% | 17% | 19% |
| 2011 | 18% | 24% | 21% | 18% | 21% | 23% | 20% | 20% | 17% | 19% |
| 2012 | 15% | 23% | 18% | 16% | 19% | 23% | 18% | 18% | 16% | 17% |
| 2013 | 16% | 22% | 19% | 16% | 19% | 22% | 18% | 17% | 17% | 18% |
| 2014 | 17% | 22% | 19% | 17% | 20% | 22% | 18% | 18% | 19% | 19% |
| 2015 | 15% | 20% | 18% | 16% | 19% | 20% | 18% | 19% | 18% | 18% |

| Non-Hispanic White | | | | | | | | | | |
|--------------------|-------------|--------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------|-------------|
| Year | New England | Mid Atlantic | East North Central | West North Central | South Atlantic | East South Central | West South Central | Mountain | Pacific | All Regions |
| 2006 | 22% | 25% | 25% | 23% | 21% | 24% | 22% | 21% | 21% | 23% |
| 2007 | 25% | 27% | 27% | 25% | 25% | 26% | 23% | 25% | 25% | 26% |
| 2008 | 24% | 28% | 26% | 23% | 26% | 26% | 23% | 26% | 26% | 26% |
| 2009 | 18% | 22% | 18% | 16% | 21% | 20% | 18% | 19% | 19% | 19% |
| 2010 | 18% | 21% | 19% | 16% | 21% | 23% | 20% | 18% | 18% | 19% |
| 2011 | 18% | 22% | 21% | 16% | 20% | 23% | 20% | 18% | 18% | 20% |
| 2012 | 16% | 20% | 18% | 14% | 18% | 21% | 18% | 16% | 16% | 17% |
| 2013 | 17% | 20% | 19% | 15% | 19% | 22% | 19% | 16% | 17% | 18% |
| 2014 | 19% | 21% | 20% | 16% | 21% | 23% | 20% | 17% | 19% | 20% |
| 2015 | 18% | 20% | 18% | 15% | 20% | 21% | 19% | 16% | 17% | 18% |

Source: 2006-2015 HMDA Data



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