



The Mortgage Market in 2011: Highlights from the Data Reported under the Home Mortgage Disclosure Act

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Since 1976, most mortgage lending institutions with offices in metropolitan areas have been required under the Home Mortgage Disclosure Act of 1975 (HMDA) to disclose detailed information about their home-lending activity each year. The Congress intended that HMDA achieve its legislative objectives primarily through the force of public disclosure.¹ These objectives include helping members of the public determine whether financial institutions are serving the housing needs of their local communities and treating borrowers and loan applicants fairly, providing information that could facilitate the efforts of public entities to distribute funds to local communities for the purpose of attracting private investment, and helping households decide where they may want to deposit their savings. The data have also proven to be valuable for research and are often used in public policy deliberations related to the mortgage market.

The 2011 HMDA data consist of information reported by more than 7,600 home lenders, including all of the nation's largest mortgage originators. Together, the home-purchase, refinance, and home-improvement loans reported represent the majority of home lending nationwide and thus are broadly representative of all such lending in the United States.² The HMDA data include the disposition of each application for mortgage credit; the type, purpose, and characteristics of each home mortgage that lenders originate or purchase during the calendar year; the census-tract designations of the properties related to those loans; loan pricing information; personal demographic and other information about loan applicants, including their race or ethnicity and income; and information about loan sales.³

On July 21, 2011, rulemaking responsibility for HMDA was transferred from the Federal Reserve Board to the newly established Consumer Financial Protection Bureau.⁴ The Federal Financial Institutions Examination Council (FFIEC) continues to be responsible for collecting the HMDA data from reporting institutions and facilitating public access to the

¹ A brief history of HMDA is available at Federal Financial Institutions Examination Council, "History of HMDA," webpage, www.ffiec.gov/hmda/history2.htm.

² It is estimated that the HMDA data cover about 90 to 95 percent of Federal Housing Administration lending and between 75 and 85 percent of other first-lien home loans. See U.S. Department of Housing and Urban Development, Office of Policy Development and Research (2011), "A Look at the FHA's Evolving Market Shares by Race and Ethnicity," *U.S. Housing Market Conditions* (May), pp. 6–12, www.huduser.org/portal/periodicals/ushmc/spring11/USHMC_1q11.pdf.

³ A list of the items reported under HMDA for 2011 is provided in appendix A. The 2011 HMDA data reflect property locations using the census-tract geographic boundaries created for the 2000 decennial census. The 2012 HMDA data will use the census-tract boundaries constructed for the 2010 decennial census. Thus, in this article, census-tract population and housing characteristics reflect the geographies established for the 2000 census data.

⁴ For information about the Consumer Financial Protection Bureau, see www.consumerfinance.gov.

information.⁵ In September of each year, the FFIEC releases summary tables pertaining to lending activity from the previous calendar year for each reporting lender as well as aggregations of home-lending activity for each metropolitan statistical area (MSA) and for the nation as a whole.⁶ The FFIEC also makes available to the public a data file containing virtually all of the reported information for each lending institution.⁷

The main purpose of this article is to describe mortgage market activity in 2011 and in previous years based on the HMDA data.⁸ Our analysis yields several key findings:

- The number of home loans of all types reported by covered lenders declined between 2010 and 2011 from about 7.9 million loans to slightly less than 7.1 million loans. Refinance loans fell more than home-purchase loans, although refinancings surged toward the end of 2011 as interest rates dropped. The total of 7.1 million loans reported in 2011 is the lowest number of loans reported in the HMDA data since 6.2 million in 1995.
- Government-backed loans originated under programs such as the Federal Housing Administration (FHA) mortgage insurance program and the Department of Veterans Affairs (VA) loan guarantee program accounted for a slightly smaller share of home-purchase loans in 2011 relative to 2010 but continue to make up a historically large part of the owner-occupant home-purchase mortgage market, at nearly 50 percent.
- Despite the surge in the government-backed share of home-purchase loans, which historically have gone to borrowers with relatively low credit scores, analysis of credit record data indicate that credit scores of home-purchase borrowers are considerably higher now than at any point in the past 12 years. The median score of such borrowers has risen about 40 points since the end of 2006, and the 10th-percentile score is up by about 50 points.
- Our analysis of the HMDA data suggests that, at the retail level, the mortgage market has not become much more concentrated over the past five years. The 10 most active organizations accounted for about 37 percent of all first-lien mortgage originations in 2011—only slightly higher than the 35 percent share for the top 10 organizations in 2006.
- Consistent with the overall decline in home-purchase and refinance lending, the HMDA data show that from 2010 to 2011, all income and racial or ethnic groups experienced a drop in home-purchase lending, although the extent of the decline varied some across groups. Only low-income borrowers avoided a fall in refinance lending.

⁵ The FFIEC (www.ffiec.gov) was established by federal law in 1979 as an interagency body to prescribe uniform examination procedures, and to promote uniform supervision, among the federal agencies responsible for the examination and supervision of financial institutions. The member agencies are the Board of Governors of the Federal Reserve System, the Consumer Financial Protection Bureau, the Federal Deposit Insurance Corporation, the National Credit Union Administration, the Office of the Comptroller of the Currency, and representatives from state bank supervisory agencies. Under agreements with these agencies and the Department of Housing and Urban Development, the Federal Reserve Board collects and processes the HMDA data.

⁶ For the 2011 data, the FFIEC prepared and made available to the public 48,347 MSA-specific HMDA reports on behalf of reporting institutions. The FFIEC also makes available to the public similar reports about private mortgage insurance (PMI) activity. The costs incurred by the FFIEC to process the annual PMI data and make reports available to the public are borne by the PMI industry. All of the HMDA and PMI reports are available on the FFIEC's reports website at www.ffiec.gov/reports.htm.

The designation of MSAs is not static. From time to time, the Office of Management and Budget updates the list and geographic scope of metropolitan and micropolitan statistical areas. See Office of Management and Budget, "Statistical Programs and Standards," webpage, www.whitehouse.gov/omb/inforeg_statpolicy.

⁷ The only reported items not included in the data made available to the public are the loan application number, the date of the application, and the date on which action was taken on the application.

⁸ Some lenders file amended HMDA reports, which are not reflected in the initial public data release. A "final" HMDA data set reflecting these changes is created two years following the initial data release. The data used to prepare this article are drawn from the initial public release for 2011 and from the "final" HMDA data set for years prior to that. Consequently, numbers in this article for the years 2010 and earlier may differ somewhat from numbers calculated from the initial public release files.

- The HMDA data suggest that lending activity has not yet rebounded in neighborhoods experiencing high levels of distress. In fact, home-purchase lending in census tracts identified by the Neighborhood Stabilization Program (NSP) as being highly distressed declined by a larger percentage since 2010 than such lending in less-distressed tracts. This decline was particularly pronounced for lower- and middle-income borrowers in these neighborhoods.
- The incidence of higher-priced lending across all products in 2011 was about 3.7 percent, up from 3.2 percent in 2010. Similar to patterns observed in the past, black and Hispanic-white borrowers were more likely, and Asian borrowers less likely, to obtain higher-priced loans than were non-Hispanic white borrowers. These differences are significantly reduced, but not completely eliminated, after controlling for lender and borrower characteristics.
- Overall, loan denial rates in 2011 remained virtually unchanged from 2010, at about 23 percent of all applications. Denial rates vary across loan types and purposes, and across applicants grouped by race or ethnicity, as in past years. The HMDA data do not include sufficient information to determine the extent to which these differences reflect illegal discrimination.
- Comparing home-purchase borrower incomes reported in the HMDA data with income reported by homebuyers in household surveys suggests that incomes on mortgage applications may have been significantly overstated during the peak of the housing boom. In more recent years, there is no evidence of overstated incomes.
- The change from using data from the 2000 decennial census (Census 2000) to using data from the 2010 census and the 2006–10 American Community Survey (ACS) as the basis for deriving median family income will affect how banking institutions fare in Community Reinvestment Act (CRA) performance evaluations. Had the new census-tract relative-income classifications been used in 2011, there would have been a net increase in mortgage lending to low- and moderate-income (LMI) neighborhoods of about 150,000 loans, about 22 percent higher than the number of LMI loans in 2011 under current census-tract relative-income classifications.

A Profile of the 2011 HMDA Data

For 2011, a total of 7,632 institutions reported on their home-lending activity under HMDA: 4,497 banking institutions; 2,017 credit unions; and 1,118 mortgage companies, 812 of which were not affiliated with a banking institution (these companies are referred to in this article as “independent mortgage companies”) (table 1). The number of reporting institutions changes some from year to year. Some of the fluctuation is due to changes in reporting requirements, primarily related to increases in the minimum asset level used to determine coverage.⁹ Mergers, acquisitions, and failures also account for some of the year-over-year changes. Finally, periodic changes in the number and geographic footprints of metropolitan areas influence reporting over time, as HMDA’s coverage is limited to institutions that have at least one office in an MSA. For 2011, the number of reporting institutions fell nearly 4 percent from 2010, continuing a downward trend since 2006, when HMDA coverage included just over 8,900 lenders.¹⁰

⁹ For the 2012 reporting year (covering lending in 2011), the minimum asset size for purposes of coverage was \$40 million. The minimum asset size changes from year to year with changes in the Consumer Price Index for Urban Wage Earners and Clerical Workers. See the FFIEC’s guide to HMDA reporting at www.ffiec.gov/hmda/guide.htm.

¹⁰ There were 138 institutions that ceased operations and did not report lending activity for 2011, but these nonre-

Table 1. Distribution of reporters covered by the Home Mortgage Disclosure Act, by type of institution, 2000–11

Year	Depository institution			Mortgage company			All institutions
	Banking institution	Credit union	All	Independent	Affiliated ¹	All	
2000	4,721	1,691	6,412	981	332	1,313	7,725
2001	4,686	1,714	6,400	962	290	1,252	7,652
2002	4,698	1,799	6,497	986	310	1,296	7,793
2003	4,675	1,903	6,578	1,171	382	1,553	8,131
2004	4,962	2,030	6,992	1,317	544	1,861	8,853
2005	4,878	2,047	6,925	1,341	582	1,923	8,848
2006	4,846	2,037	6,883	1,334	685	2,019	8,902
2007	4,847	2,019	6,866	1,132	638	1,770	8,636
2008	4,855	2,026	6,881	957	550	1,507	8,388
2009	4,810	2,017	6,827	925	399	1,324	8,151
2010	4,677	2,041	6,718	848	371	1,219	7,937
2011	4,497	2,017	6,514	812	306	1,118	7,632

Note: Here and in all subsequent tables, components may not sum to totals because of rounding.

¹ Subsidiary of a depository institution or an affiliate of a bank holding company.

Source: Here and in subsequent tables and figures, except as noted, Federal Financial Institutions Examination Council, data reported under the Home Mortgage Disclosure Act (www.ffiec.gov/hmda).

Reporting Institutions by Size and Mortgage Lending Activity

Most institutions covered by HMDA are small, and most extend relatively few loans. For 2011, 57 percent of the depository institutions (banking institutions and credit unions) covered by HMDA had assets under \$250 million, and 76 percent of them reported information on fewer than 100 loans (data derived from [table 2](#)). Among all depository institutions, nearly 55 percent reported on fewer than 100 loans. Across different types of lenders, mortgage companies tend to originate larger numbers of loans on a per-reporter basis than the other institutions (38 percent of the mortgage companies reported more than 1,000 loans, a share equal to about six times that for depository institutions).

In the aggregate, reporting institutions submitted information on 11.7 million applications for home loans of all types in 2011 (excluding requests for preapproval), down about 10 percent from the total reported for 2010 and far below the 27.5 million applications processed in 2006, just before the housing market decline (data derived from [table 3.A](#)). The majority of loan applications are approved by lenders, and most of these approvals result in extensions of credit. In some cases, an application is approved but the applicant decides not to take out the loan; for example, in 2011, about 5 percent of all applications were approved but not accepted by the applicant (data not shown in tables). Overall, about 60 percent of the applications submitted in 2011 resulted in an extension of credit (data derived from [tables 3.A and 3.B](#)), a share little changed from 2010. The total number of loans reported in 2011, 7.1 million (as shown in [table 3.B](#)), was about 10 percent lower than in 2010 and is the lowest number of mortgage loans reported under HMDA since about 6.2 million loans were reported in 1995 (data prior to 2000 not shown in tables).

porting companies accounted for only 0.89 percent of the 2010 loan application records submitted under HMDA.

Table 2. Number and distribution of home lenders, by type of lender and by number of loans, 2011

Type of lender, and subcategory (asset size in millions of dollars)	Less than 50		50–99		100–249		250–499		500–999		1,000 or more		All	
	Number	Percent of sub-category ¹	Number	Percent of sub-category ¹	Number	Percent of sub-category ¹	Number	Percent of sub-category ¹	Number	Percent of sub-category ¹	Number	Percent of sub-category ¹	Number	Percent of sub-category ¹
Depository institution														
Banking Institution														
Less than 250	1,215	51.6	509	21.6	463	19.7	126	5.4	24	1.0	17	.7	2,354	100
250–499	231	24.9	131	14.1	317	34.2	173	18.6	56	6.0	20	2.2	928	100
500–999	106	17.7	61	10.2	120	20.0	150	25.0	119	19.9	43	7.2	599	100
1,000 or more	66	11.1	25	4.2	67	11.3	68	11.4	129	21.7	239	40.2	594	100
All	1,618	36.2	726	16.2	967	21.6	517	11.6	328	7.3	319	7.1	4,475	100
Credit Union														
Less than 250	783	58.5	301	22.5	207	15.5	36	2.7	11	.8	0	.0	1,338	100
250–499	42	13.9	52	17.2	111	36.6	70	23.1	25	8.3	3	1.0	303	100
500–999	16	7.8	14	6.9	49	24.0	58	28.4	48	23.5	19	9.3	204	100
1,000 or more	0	.0	4	2.4	13	7.9	28	17.1	40	24.4	79	48.2	164	100
All	841	41.9	371	18.5	380	18.9	192	9.6	124	6.2	101	5.0	2,009	100
All depository institutions														
Less than 250	1,998	54.1	810	21.9	670	18.1	162	4.4	35	.9	17	.5	3,692	100
250–499	273	22.2	183	14.9	428	34.8	243	19.7	81	6.6	23	1.9	1,231	100
500–999	122	15.2	75	9.3	169	21.0	208	25.9	167	20.8	62	7.7	803	100
1,000 or more	66	8.7	29	3.8	80	10.6	96	12.7	169	22.3	318	42.0	758	100
All	2,459	37.9	1,097	16.9	1,347	20.8	709	10.9	452	7.0	420	6.5	6,484	100
Mortgage company²														
All	185	17.0	68	6.2	133	12.2	135	12.4	149	13.7	419	38.5	1,089	100
All institutions	2,644	34.9	1,165	15.4	1,480	19.5	844	11.1	601	7.9	839	11.1	7,573	100

¹ Distribution sums horizontally. For example, the second column, first row shows that 51.6 percent of banking institutions with assets of less than \$250 million originated less than 50 loans in 2011.

² Independent mortgage company, subsidiary of a depository institution, or affiliate of a bank holding company.

The HMDA data also include information on loans purchased by reporting institutions during the reporting year, although the purchased loans may have been originated at any point in time. For 2011, lenders reported information on 2.9 million loans that they had purchased from other institutions, a decline of nearly 9 percent from 2010. Finally, lenders reported on roughly 186,000 requests for preapproval of home-purchase loans that did not result in a loan origination (table 3.A); preapprovals that resulted in loans are included in the count of loan extensions cited earlier.

Home-Purchase and Refinance Lending

In June 2006, the peak month for home-purchase lending that year, nearly 712,000 home-purchase loans were extended, compared with only 254,000 such loans in June 2011, the most active month that year (figure 1).¹¹ On an annual basis, the number of home-purchase loans (including both first and junior liens) reported in HMDA in 2011 was down about 5 percent from 2010 and was 64 percent lower than in 2006 (data derived from table 3.B).

¹¹ Lenders report the date on which they took action on an application. For originations, the “action date” is the closing date or date of origination for the loan. This date is used to compile data at the monthly level. Generally, the interest rate on a loan is set at an earlier point, known as the “lock date.” The interest rate series in the figure is constructed from the results of a survey of interest rates being offered by lenders to prime borrowers. Since a loan’s pricing likely reflects the interest rate available at the time of the lock date, the timing of the loan volume and interest rate series may be slightly misaligned in the figure.

Table 3. Home loan activity of lending institutions covered under the Home Mortgage Disclosure Act, 2000–11**A. Applications, requests for preapproval, and purchased loans**

Number

Year	Applications received for home loans, by type of property				Requests for preapproval ¹	Purchased loans	Total
	1–4 family			Multifamily			
	Home purchase	Refinance	Home improvement				
2000	8,278,219	6,543,665	1,991,686	37,765	n.a.	2,398,292	19,249,627
2001	7,692,870	14,284,988	1,849,489	48,416	n.a.	3,767,331	27,643,094
2002	7,406,374	17,491,627	1,529,347	53,231	n.a.	4,829,706	31,310,285
2003	8,179,633	24,602,536	1,508,387	58,940	n.a.	7,229,635	41,579,131
2004	9,792,324	16,072,102	2,202,744	61,895	332,054	5,146,617	33,607,736
2005	11,672,852	15,898,346	2,539,158	57,668	396,686	5,874,447	36,439,157
2006	10,928,866	14,045,961	2,480,827	52,220	411,134	6,236,352	34,155,360
2007	7,609,143	11,566,182	2,218,224	54,230	432,883	4,821,430	26,702,092
2008	5,017,998	7,729,143	1,404,008	42,792	275,808	2,921,821	17,391,570
2009	4,216,589	9,982,768	831,504	26,141	216,865	4,301,021	19,574,888
2010	3,847,796	8,433,333	670,147	25,550	170,026	3,229,295	16,376,147
2011	3,630,284	7,390,690	686,788	35,048	185,943	2,944,662	14,873,415

Note: Here and in subsequent tables, except as noted, data include first and junior liens, one- to four-family homes (site-built and manufactured properties), and owner- and non-owner-occupant loans.

¹ Consists of requests for preapproval that were denied by the lender or were accepted by the lender but not acted on by the borrower. In this article, applications are defined as being for a loan on a specific property; they are thus distinct from requests for preapproval, which are not related to a specific property. Information on preapproval requests was not required to be reported before 2004.

n.a. Not available.

One factor that may help explain the drop in home-purchase lending between 2010 and 2011 is the ending of the first-time homebuyer tax credit program in April 2010.¹² The first-time homebuyer tax credit program likely stimulated homebuying in the first half of

Table 3. Home loan activity of lending institutions covered under the Home Mortgage Disclosure Act, 2000–11**B. Loans**

Number

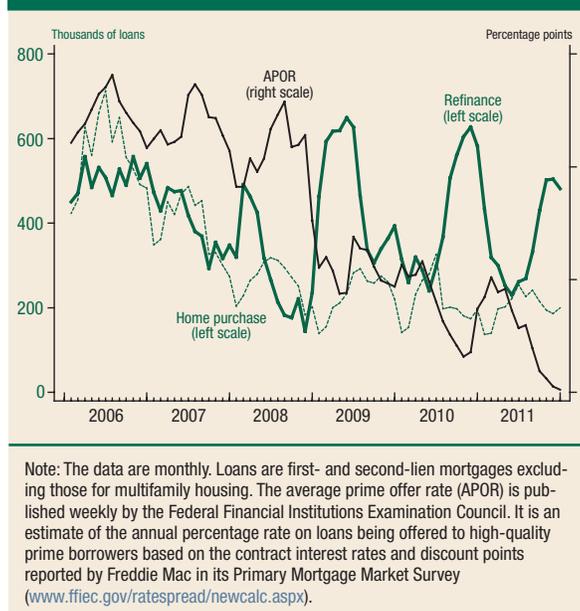
Year	Loans, by type of property				Total
	1–4 family			Multifamily	
	Home purchase	Refinance	Home improvement		
2000	4,787,356	2,435,420	892,587	27,305	8,142,668
2001	4,938,809	7,889,186	828,820	35,557	13,692,372
2002	5,124,767	10,309,971	712,123	41,480	16,188,341
2003	5,596,292	15,124,761	678,507	48,437	21,447,997
2004	6,429,988	7,583,928	966,484	48,150	15,028,550
2005	7,382,012	7,101,649	1,093,191	45,091	15,621,943
2006	6,740,322	6,091,242	1,139,731	39,967	14,011,262
2007	4,663,267	4,817,875	957,912	41,053	10,480,107
2008	3,119,692	3,457,774	568,287	31,509	7,177,262
2009	2,792,939	5,772,078	389,981	18,974	8,973,972
2010	2,546,590	4,968,603	341,401	19,168	7,875,762
2011	2,416,854	4,311,870	339,427	27,111	7,095,262

2010 as individuals sought to purchase their homes before the sunset date.¹³ Data from the National Association of Realtors (NAR) support this view: The NAR annual survey of home buyers and sellers indicates that first-time buyers accounted for about 47 percent of all home purchases in 2009 and half of home sales in 2010 before falling to a 37 percent share in 2011.¹⁴

To a greater extent than for home-purchase borrowing, the volume of refinance lending over time generally follows the path of interest rates (typically with a fairly short lag), expanding as mortgage rates fall and retrenching when rates rise. The interest rate environment over the past few years has generally been quite favorable for well-qualified borrowers who have sought to refinance. In some cases, the same individuals have refinanced on more than one occasion to take advantage of the declining interest rate environment. However, many other individuals with outstanding loans have not been able to refinance, either because they could not meet income-related or credit-history-related underwriting standards or because of collateral-related issues, including situations where the outstanding balance on the loan exceeds the home value.¹⁵

Compared with 2010, the number of reported refinance loans in 2011 was down about 13 percent (table 3.B). Although the total volume of refinancing in 2011 was down quite a bit from 2010, lenders experienced much higher demand in some months than others. In 2011, the peak month for refinance issuance was November, with nearly 504,000 loans, compared with only 230,000 loans in May (figure 1). The surge in refinance activity toward the end of 2011 reflects the steady drop in mortgage rates over the course of the year, which by November and December saw annual percentage offer rates on 30-year fixed-rate loans dip to about 4 percent.

Figure 1. Volume of home-purchase and refinance originations and average prime offer rate, by month, 2006–11



¹² Those entering into binding contracts to purchase their homes by April 30, 2010, were eligible for the tax credit. For more information, see Internal Revenue Service, “First-Time Homebuyer Credit,” webpage, www.irs.gov/newsroom/article/0,,id=204671,00.html.

¹³ Our analysis in an earlier article suggested that one-half of the home-purchase loans in 2009 qualified under the first-time homebuyer tax credit program. See Robert B. Avery, Neil Bhutta, Kenneth P. Brevoort, Christa Gibbs, and Glenn B. Canner (2010), “The 2009 HMDA Data: The Mortgage Market in a Time of Low Interest Rates and Economic Distress,” *Federal Reserve Bulletin*, vol. 96 (December), pp. A39–A77.

¹⁴ See National Association of Realtors (2011), “NAR Home Buyer and Seller Survey Reflects Tight Credit Conditions,” news release, November 11, www.realtor.org/news-releases/2011/11/nar-home-buyer-and-seller-survey-reflects-tight-credit-conditions.

¹⁵ See analysis of the factors influencing refinance activity in Robert B. Avery, Neil Bhutta, Kenneth P. Brevoort, and Glenn B. Canner (2011), “The Mortgage Market in 2010: Highlights from the Data Reported under the Home Mortgage Disclosure Act,” *Federal Reserve Bulletin*, vol. 97 (December), pp. 1–60.

Non-Owner-Occupant Lending

Individuals buying homes either for investment purposes or as second or vacation homes are an important segment of the housing market in general, and in some areas of the country, they are particularly important. In the current period of high foreclosures and elevated levels of short sales, investor activity helps reduce the overhang of unsold and foreclosed properties. In some cases, investors or second-home buyers are able to purchase their properties for cash; in other cases, they choose to borrow and finance their purchases. Surveys sponsored by the NAR find that in 2011, about half of investors paid cash for their purchases and 42 percent of vacation-home buyers paid cash for their properties.¹⁶

The HMDA data help document the role of non-owner-occupant lending over time. The data show a sharp increase in non-owner-occupant lending used to purchase one- to four-family homes (site-built and manufactured properties) during the first half of the previous decade (table 4). The volume of non-owner-occupant lending fell sharply beginning in 2007 and has remained at comparably low levels through 2011. Although non-owner-occupant lending in 2011 remained subdued compared with levels reached in the middle of the previous decade, such lending did pick up from 2010, increasing nearly 10 percent.

As shown in table 4, the post-2007 decline in non-owner-occupant lending has been more severe than that in owner-occupant lending. Between 2000 and 2005, the share of non-owner-occupant lending used to purchase one- to four-family homes rose, increasing over this period from about 9 percent to 16 percent (data derived from table 4).¹⁷ The share fell to about 11 percent in both 2009 and 2010 but rebounded to 13 percent in 2011.

Conventional versus Government-Backed Loans

Although the total number of home-purchase loans has fallen substantially since 2005, virtually all of the decline has involved conventional lending; the volume of nonconventional home-purchase loans (sometimes referred to as “government backed” loans)—including loans backed by insurance from the FHA or by guarantees from the VA, the Farm Service Agency (FSA), or the Rural Housing Service (RHS)—has increased markedly since the mid-2000s. From 2006 to 2009, the total number of reported conventional home-purchase loans fell 77 percent, while the number of nonconventional home-purchase loans more than tripled (table 4). Although the number of nonconventional home-purchase loans has fallen since reaching its high mark in 2009, such loans still accounted for about 43 percent of home-purchase lending in 2011. The increase in nonconventional lending in recent years reflects several factors, such as increased loan-size limits allowed under the FHA and VA lending programs and reduced access (including more-stringent underwriting and higher prices) to conventional loans, particularly those that allow the borrower to finance more than 80 percent of the property value.¹⁸

¹⁶ See United Press International (2012), “Investor Purchases Soar 65 Percent,” UPI.com, March 30, www.upi.com/Business_News/Real-Estate/News/2012/03/30/Investor-Purchases-Soar-65-Percent/9321333117717.

¹⁷ Research using credit record data suggests that in states that experienced the largest run-up in home prices, investors accounted for about one-half of the home-purchase loans. See Andrew Haughwout, Donghoon Lee, Joseph Tracy, and Wilbert van der Klaauw (2011), “Real Estate Investors, the Leverage Cycle, and the Housing Market Crisis,” Federal Reserve Bank of New York Staff Reports 514 (New York: Federal Reserve Bank of New York, September), www.newyorkfed.org/research/staff_reports/sr514.pdf.

¹⁸ Nonconventional loans play a small role in certain segments of the home-purchase market. For example, nonconventional loans accounted for less than 1 percent of the loans extended to non-owner occupants for the purchase of a home in 2011. Also, nonconventional loans made up a relatively small share (about 24 percent) of the loans used to purchase manufactured homes (data derived from table 5).

Table 4. Home loan applications and home loans for one- to four-family properties, by occupancy status of home and type of loan, 2000–11

Number

Year	Applications				Loans			
	Owner occupied		Non-owner occupied		Owner occupied		Non-owner occupied	
	Conventional	Non-conventional ¹	Conventional	Non-conventional ¹	Conventional	Non-conventional ¹	Conventional	Non-conventional ¹
A. Home purchase								
2000	6,350,643	1,311,101	604,919	12,524	3,411,887	963,345	404,133	8,378
2001	5,776,767	1,268,885	627,598	19,688	3,480,441	1,003,795	440,498	14,128
2002	5,511,048	1,133,770	747,758	13,923	3,967,834	870,599	547,963	8,474
2003	6,212,915	1,014,865	943,248	8,623	4,162,412	761,716	667,613	4,560
2004	7,651,113	799,131	1,335,241	6,839	4,946,423	574,841	906,014	2,710
2005	9,208,214	610,650	1,850,174	3,814	5,742,377	438,419	1,199,509	1,707
2006	8,695,877	576,043	1,653,154	3,792	5,281,485	416,744	1,040,668	1,425
2007	5,960,571	599,637	1,044,112	4,823	3,582,949	423,506	655,916	896
2008	2,940,059	1,424,483	647,340	6,116	1,727,692	972,605	415,930	3,465
2009	2,017,982	1,966,335	442,409	6,711	1,174,648	1,323,966	290,560	3,765
2010	1,822,790	1,763,826	425,345	5,853	1,090,328	1,169,729	284,700	1,833
2011	1,791,526	1,558,447	461,481	4,768	1,076,446	1,025,827	313,138	1,443
B. Refinance								
2000	6,051,484	110,380	379,299	2,502	2,170,162	64,882	198,695	1,293
2001	12,737,863	705,784	823,748	17,592	6,836,106	524,228	516,616	12,181
2002	15,623,327	742,208	1,111,588	14,504	9,058,654	535,370	706,570	9,377
2003	21,779,329	1,236,467	1,563,430	23,310	13,205,472	895,735	1,007,674	15,871
2004	14,476,350	497,700	1,084,536	13,516	6,649,588	304,591	621,667	8,082
2005	14,494,441	262,438	1,135,929	5,538	6,336,004	158,474	603,914	3,257
2006	12,722,112	208,405	1,112,891	2,553	5,382,950	122,134	585,142	1,016
2007	10,173,282	375,860	1,012,827	4,213	4,123,507	196,897	496,577	894
2008	5,829,633	1,240,472	650,042	8,996	2,593,793	522,243	337,914	3,824
2009	7,290,061	2,058,210	619,286	15,211	4,414,509	1,000,911	349,147	7,511
2010	6,325,488	1,449,925	642,401	15,519	3,948,746	655,574	356,183	8,100
2011	5,550,634	1,136,045	682,769	21,242	3,401,097	512,839	384,911	13,023
C. Home improvement								
2000	1,833,277	91,575	65,286	1,548	843,884	10,896	37,047	760
2001	1,771,472	16,276	60,598	1,143	788,560	6,722	32,990	548
2002	1,459,049	11,582	58,080	636	676,515	4,878	30,533	197
2003	1,430,380	13,876	63,806	325	642,065	5,226	31,113	103
2004	2,081,528	11,887	109,105	224	904,492	5,557	56,341	94
2005	2,401,030	10,053	127,857	218	1,026,340	4,483	62,298	70
2006	2,335,338	12,645	132,694	150	1,067,730	6,115	65,842	44
2007	2,072,688	16,717	128,700	119	887,123	9,409	61,321	59
2008	1,294,162	26,544	83,036	266	516,612	12,347	39,170	158
2009	743,968	28,536	58,754	246	349,993	11,256	28,568	164
2010	583,892	34,449	51,415	391	303,344	11,810	26,190	57
2011	581,023	38,194	60,763	6,808	293,735	14,392	27,768	3,532

¹ Loans insured by the Federal Housing Administration or backed by guarantees from the U.S. Department of Veterans Affairs, the Farm Service Agency, or the Rural Housing Service.

Nonconventional lending has also garnered a larger share of the refinance market. In 2006, only 2 percent of refinance loans were nonconventional, compared with 12 percent in 2011.

Table 5. Loans on manufactured homes, by occupancy status of home and type of loan, 2004–11				
Number				
Year	Owner occupied		Non-owner occupied	
	Conventional	Nonconventional ¹	Conventional	Nonconventional ¹
A. Home purchase				
2004	107,686	23,974	16,243	125
2005	101,539	27,229	17,927	56
2006	102,458	30,530	19,105	257
2007	95,584	28,554	13,963	92
2008	68,821	27,615	11,392	93
2009	43,543	20,630	7,920	29
2010	44,856	17,086	7,655	29
2011	40,312	14,663	7,482	218
B. Refinance				
2004	79,838	6,922	6,507	57
2005	73,520	7,727	6,331	26
2006	64,969	11,750	6,240	68
2007	59,591	16,174	6,332	74
2008	44,342	21,926	6,817	177
2009	37,001	21,768	6,002	73
2010	26,340	9,751	5,024	69
2011	25,299	8,919	4,765	161
C. Home improvement				
2004	17,119	128	1,269	5
2005	20,239	219	1,372	3
2006	20,886	490	1,425	2
2007	19,428	889	1,494	2
2008	12,621	681	1,324	36
2009	9,781	439	1,116	1
2010	8,012	427	999	2
2011	8,244	349	972	75

¹ See table 4, note 1.

This share dropped some from 2010, as the number of nonconventional refinance loans fell about 21 percent (table 4).¹⁹

The Private Mortgage Insurance Market

In the conventional loan market, lenders typically require that a borrower seeking to purchase an owner-occupied property make a down payment of at least 20 percent of a home's value unless the borrower obtains some type of third-party backing, such as mortgage insurance. For a borrower seeking a conventional loan with a low down payment, a lender can require that the borrower purchase mortgage insurance from a private mortgage insurance (PMI) company to protect the lender against default-related losses up to a contractually established percentage of the principal amount. As a form of protection for lenders against losses from defaulting borrowers, PMI competes with FHA insurance and VA loan guarantees.

¹⁹ For more-detailed analysis on the rise of government-backed lending in recent years, see Avery and others, "The 2009 HMDA Data."

Table 6. Private mortgage insurance applications and issuance for one- to four-family properties, by occupancy status of home and type of property, 2000–11

Number								
Year	Applications				Issuance			
	Owner occupied		Non-owner occupied		Owner occupied		Non-owner occupied	
	Site-built	Manufactured housing ¹	Site-built	Manufactured housing ¹	Site-built	Manufactured housing ¹	Site-built	Manufactured housing ¹
A. Home purchase								
2000	1,204,520	n.a.	95,549	n.a.	955,988	n.a.	75,473	n.a.
2001	1,266,440	n.a.	122,639	n.a.	1,002,385	n.a.	90,929	n.a.
2002	1,324,958	n.a.	153,277	n.a.	1,022,754	n.a.	115,573	n.a.
2003	1,315,221	n.a.	175,958	n.a.	1,021,476	n.a.	134,677	n.a.
2004	1,078,275	10,111	192,086	1,287	807,480	7,508	143,917	984
2005	886,749	10,470	174,174	1,480	676,758	7,512	130,945	1,171
2006	838,304	9,526	134,545	1,273	659,755	6,655	98,744	993
2007	1,260,666	7,928	148,057	1,113	1,015,240	5,531	109,772	774
2008	928,978	4,082	127,773	759	591,108	2,012	66,842	367
2009	341,311	535	14,372	92	206,878	125	5,208	29
2010	214,054	172	7,644	11	154,716	55	4,750	0
2011	245,677	219	11,547	8	193,215	89	8,272	0
B. Refinance²								
2000	259,245	n.a.	14,771	n.a.	185,721	n.a.	10,859	n.a.
2001	856,112	n.a.	29,870	n.a.	663,465	n.a.	17,453	n.a.
2002	1,056,788	n.a.	40,771	n.a.	775,020	n.a.	23,035	n.a.
2003	1,372,551	n.a.	46,139	n.a.	1,014,558	n.a.	27,116	n.a.
2004	597,353	6,037	31,352	233	389,563	3,956	17,243	138
2005	438,019	3,702	23,217	136	309,821	2,384	13,239	88
2006	346,978	2,554	24,201	121	234,587	1,567	14,187	78
2007	507,137	2,108	36,508	104	362,961	1,313	22,533	58
2008	454,405	1,442	33,822	123	257,189	695	11,519	34
2009	275,541	429	3,611	15	153,633	126	1,121	4
2010	145,953	135	1,437	2	99,598	56	587	0
2011	149,480	196	1,664	0	109,866	72	838	0

¹ Before 2004, property type was not collected; totals for site-built and manufactured housing are shown in the "Site-built" column.

² Includes home-improvement loans. Private mortgage insurance companies do not distinguish between refinance loans and home-improvement loans in reporting. Loan totals are the summation of refinance and home-improvement loans.

n.a. Not available.

The seven companies that reported data for 2011 dominate the PMI industry.²⁰ Thus, the reported data cover the vast majority of PMI written in the United States. For 2011, the seven PMI companies reported on nearly 409,000 applications for insurance leading to the issuance of 312,000 insurance policies, up from about 370,000 applications and 260,000 policies in 2010 (data derived from table 6). Reported volumes of PMI issuance in 2011, as in recent years, have been substantially smaller than levels prior to 2009. The large reduction in PMI issuance reflects several factors, including tighter underwriting adopted by the

²⁰ In 1993, the Mortgage Insurance Companies of America, a trade association, asked the FFIEC to process data from the largest PMI companies on applications for mortgage insurance. These data largely mirror the types of information submitted by lenders covered by HMDA. However, because the PMI companies do not receive all of the information about a prospective loan from the lenders seeking insurance coverage, some items reported under HMDA are not included in the PMI data. In particular, loan pricing information and requests for preapproval are unavailable in the PMI data. In the PMI data, the reported disposition of an application for insurance reflects the actions of the PMI companies or, in the case of a withdrawal of an application, the action of the lender.

PMI companies in response to elevated claims and losses experienced during the recent recession and the ongoing recovery.²¹

Overall, 64 percent of the PMI policies issued in 2011 covered home-purchase loans, and the remainder covered refinance mortgages (home-improvement loans are classified as refinance loans by the PMI reporters). Virtually all of the applications for PMI policies issued involved loans to purchase site-built properties, and almost all of the applications for PMI related to owner-occupied units.

The data reported by the PMI industry over the years have consistently shown that most applications for insurance are approved, as lenders are very familiar with the underwriting policies of the insurers and generally are not going to submit an application that is unlikely to be approved. Overall, about 5 percent of PMI insurance applications were denied in 2011, down from about 10 percent in 2010 and 12 percent in 2009 but still notably higher than in 2006 and 2007, when only about 2 percent of the requests for insurance were turned down (data not shown in tables).²² As with the HMDA data, PMI companies report the reason for denial. The most commonly reported reason cited by lenders related to an issue with the collateral, most likely property value.

Junior-Lien Lending

Junior-lien loans can be taken out either in conjunction with the primary mortgage (a piggyback loan) or independently of the first-lien loan. As noted, piggyback loans can be used by borrowers to avoid having to pay for private or government mortgage insurance. Similarly, piggyback loans can also be used to reduce the size of the first-lien loan to be within the size limits required by Freddie Mac or Fannie Mae without requiring a larger down payment by the borrower. Junior-lien loans that are taken out independently of a first lien can be used for any number of purposes, including to finance home-improvement projects or, in the case of open-ended home equity lines of credit, to provide a readily available source of credit that can be drawn on at the time the borrower needs the funds. Under the regulations that govern HMDA reporting, most of these standalone junior-lien loans are not reported.²³

In 2006, close to 1.3 million junior liens used for the purchase of owner-occupied properties were reported under HMDA (table 7). This number fell by more than one-half in 2007, dropped sharply again in each of the ensuing years, and decreased to less than 42,000 such loans in 2010 and 2011. More than 1 million junior-lien loans were taken out to refinance loans backed by owner-occupied properties in 2006, and this number also fell substantially starting in 2007 and continued to fall, reaching a low point of less than 74,000 in 2011.

The HMDA data also include information on junior-lien loans used for home-improvement purposes. In 2011, nearly 66,000 junior-lien loans were used for such a purpose, down some from about 80,000 reported in 2010. Both the 2010 and 2011 totals are sharply below the historic high mark of nearly 570,000 reached in 2006. Overall, junior-lien loans used for home improvement accounted for 35 percent of junior-lien loans reported under HMDA.

²¹ For a more detailed analysis of the decline in PMI issuance, see Avery and others, "The 2009 HMDA Data."

²² For the other applications that did not result in a policy being written, either the application was withdrawn, the application file closed because it was not completed, or the request was approved but no policy was issued.

²³ Unless a junior lien is used for home purchase or explicitly for home improvements, or to refinance an existing lien, it is not reported under HMDA. Further, home equity lines of credit, many of which are junior liens, do not have to be reported in the HMDA data regardless of the purpose of the loan.

Table 7. Home loans for one- to four-family properties, by occupancy status of home, type of loan, and lien status, 2004–11

Number												
Year	Owner occupied						Non-owner occupied					
	Conventional			Nonconventional ¹			Conventional			Nonconventional ¹		
	First lien	Junior lien	Unsecured ²	First lien	Junior lien	Unsecured ²	First lien	Junior lien	Unsecured ²	First lien	Junior lien	Unsecured ²
A. Home purchase												
2004	4,209,787	736,636	...	573,606	1,235	...	853,490	52,524	...	2,703	7	...
2005	4,520,378	1,221,999	...	437,552	867	...	1,049,555	149,954	...	1,685	22	...
2006	4,013,196	1,268,289	...	416,143	601	...	878,325	162,343	...	1,407	18	...
2007	3,031,606	551,343	...	422,450	1,056	...	605,714	50,202	...	888	8	...
2008	1,636,194	91,498	...	971,528	1,077	...	410,377	5,553	...	3,461	4	...
2009	1,132,424	42,224	...	1,322,489	1,477	...	288,526	2,034	...	3,756	9	...
2010	1,049,990	40,338	...	1,168,343	1,386	...	283,017	1,683	...	1,821	12	...
2011	1,036,112	40,334	...	1,024,696	1,131	...	311,831	1,307	...	1,438	5	...
B. Refinance												
2004	6,185,418	464,170	...	304,298	293	...	608,956	12,711	...	8,069	13	...
2005	5,607,642	728,362	...	158,198	276	...	578,491	25,423	...	3,236	21	...
2006	4,347,348	1,035,602	...	121,761	373	...	546,430	38,712	...	989	27	...
2007	3,462,944	660,563	...	196,544	353	...	473,336	23,241	...	879	15	...
2008	2,374,781	219,012	...	521,863	380	...	328,844	9,070	...	3,814	10	...
2009	4,300,322	114,187	...	1,000,422	489	...	342,410	6,737	...	7,495	16	...
2010	3,860,760	87,986	...	655,334	240	...	350,458	5,725	...	8,092	8	...
2011	3,327,415	73,682	...	512,629	210	...	379,519	5,392	...	13,004	19	...
C. Home improvement												
2004	357,618	395,582	151,292	2,697	2,243	617	40,028	8,153	8,160	30	54	10
2005	409,947	468,375	148,018	2,197	1,873	413	42,544	10,756	8,998	17	49	4
2006	360,321	553,152	154,257	3,957	1,735	423	43,913	13,739	8,190	18	20	6
2007	301,078	435,187	150,858	7,510	1,579	320	41,670	11,508	8,143	35	18	6
2008	179,506	181,402	155,704	10,477	1,610	260	26,482	5,473	7,215	135	13	10
2009	166,865	84,414	98,714	8,197	2,541	518	19,961	3,193	5,414	99	28	37
2010	134,370	74,941	94,033	8,218	2,663	929	17,777	2,486	5,927	35	17	5
2011	129,851	60,423	103,461	7,116	2,949	4,327	18,491	2,257	7,020	64	45	3,423

¹ See table 4, note 1.

² Unsecured loans are collected only for home-improvement loans under the Home Mortgage Disclosure Act.

... Not applicable.

Loan Sales

For each loan origination reported under HMDA in a given year, lenders report whether that loan was sold during the same year, and the type of institution to which the loan was sold.²⁴ Broadly, these purchaser types can be broken into those that are government related—Ginnie Mae, Fannie Mae, Freddie Mac, and Farmer Mac—and those that are not. Ginnie Mae and Farmer Mac focus on loans backed directly by government guaran-

²⁴ Although one of the few sources of information on loan sales, the HMDA data tend to understate the importance of the secondary market. HMDA reporters are instructed to record loans sold in a calendar year different from the year originated as being held in portfolio, leading the reported loan sales to understate the proportion of each year's originations that are eventually sold.

tees or insurance, while Fannie Mae and Freddie Mac purchase conventional loans that meet certain loan-size and underwriting standards.

Overall, about 78 percent of the first-lien home-purchase and refinance loans for one- to four-family properties originated in 2011 were reported as sold during the year (data not shown in tables). The share of originations that are sold varies some from year to year and by type and purpose of loan (table 8).²⁵ For example, 69 percent of the conventional loans extended in 2011 for the purchase of owner-occupied one- to four-family dwellings were sold that year. In contrast, nearly 94 percent of the nonconventional loans used to purchase owner-occupied homes were reported as sold in 2011. The share of conventional loans made to non-owner occupants that are reported as sold is notably smaller than that of such loans made to owner occupants. Also, the vast majority of conventional loans extended for the purchase of manufactured homes are held in portfolio; only about 10 percent of such loans were sold in 2011.

Borrower Incomes and Loan Amounts

Under HMDA, lenders report the loan amount applied for and the applicant income that the lender relied on in making the credit decision, if income was considered in the underwriting decision. Lenders do not necessarily collect and report loan applicants' entire income, because in some cases borrowers have more income than is needed to qualify for the loan.

Borrower Income

The vast majority of loan applications and loans reported under HMDA include income information. For example, in 2011, income information was not reported for less than 1 percent of the borrowers purchasing a home with a nonconventional loan and for 3 percent of those using a conventional loan (data not shown in tables). Income information is reported less often for refinance loans, particularly those that are nonconventional (about one-third of the FHA loans and 63 percent of the VA loans), most likely because of streamlined refinance programs that do not require current income to be considered in underwriting.

While the available information on amounts borrowed and applicant income can be evaluated in many ways, we focus here on patterns by loan product and purpose. For home-purchase or refinance lending, borrowers using FHA and VA loans have lower mean or median incomes than borrowers using other loans, despite the fact that the FHA (and VA) loan limits were increased substantially in 2008, potentially allowing the program to be used much more widely than by the LMI households that have been the traditional focus of the program (table 9). Although the share of FHA home-purchase borrowers with incomes above \$100,000 has roughly doubled since 2007 (the year before the increase in loan limits) to about 15 percent, the median income of borrowers getting FHA home-purchase loans was still about 30 percent lower than that of those getting conventional loans (data derived from table 9). The relatively low down-payment requirements on FHA-insured loans—the average loan-to-value ratio for FHA home-purchase loans was over 95 percent in 2011—may be continuing to attract lower-income borrowers.²⁶

²⁵ Some loans recorded as sold in the HMDA data are sold to affiliated institutions and thus are not true secondary-market sales. In 2011, 8.6 percent of the loans recorded as sold in the HMDA data were sales to affiliates.

²⁶ See U.S. Department of Housing and Urban Development (2012), *Quarterly Report to Congress on FHA Single-Family Mutual Mortgage Insurance Fund Programs, FY 2011 Q4* (Washington: HUD, January 31), http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/rmra/oe/rpts/rtc/fhartcqrly.

Table 8. Distribution of home loan sales for one- to four-family properties, by occupancy status of home and type of loan, 2000–11

Percent

Year	Owner occupied				Non-owner occupied			
	Conventional		Nonconventional ¹		Conventional		Nonconventional ¹	
	Share sold	Memo: Share sold to GSEs ²	Share sold	Memo: Share sold to GSEs ²	Share sold	Memo: Share sold to GSEs ²	Share sold	Memo: Share sold to GSEs ²
A. Home purchase								
2000	64.8	31.3	89.1	46.0	53.7	29.3	81.4	22.9
2001	66.8	34.6	86.1	46.2	57.9	34.0	92.2	23.0
2002	71.0	36.7	88.7	43.7	62.5	36.4	87.9	29.7
2003	72.3	33.1	91.2	40.7	63.1	31.8	80.8	21.6
2004	74.2	25.5	92.2	40.5	63.5	23.6	63.7	11.5
2005	75.9	18.7	89.9	32.6	69.7	18.0	49.7	16.3
2006	74.8	19.0	88.6	31.7	69.3	19.0	61.3	15.0
2007	70.1	29.1	87.6	32.5	61.4	26.9	74.9	27.6
2008	71.6	40.1	90.0	36.5	60.3	36.3	95.1	21.6
2009	70.1	40.1	91.4	35.0	56.4	34.7	88.9	35.2
2010	69.7	37.0	92.7	29.7	30.3	34.8	91.7	24.1
2011	68.9	34.2	93.5	33.4	61.9	34.5	80.3	35.2
B. Refinance								
2000	47.4	18.0	84.5	50.0	47.3	21.7	86.3	42.8
2001	61.3	37.2	85.0	51.5	61.2	38.4	92.1	33.2
2002	66.8	40.4	85.7	45.0	65.9	43.2	81.3	45.4
2003	74.2	44.8	93.8	48.0	69.8	40.4	87.4	50.7
2004	69.0	27.6	93.2	44.2	62.2	22.6	88.0	35.9
2005	69.9	19.7	89.3	33.5	64.7	16.6	85.7	40.1
2006	65.7	15.2	86.8	31.8	64.9	15.7	79.0	29.6
2007	61.7	21.9	85.1	34.5	61.1	23.9	86.9	23.9
2008	65.3	38.0	88.8	35.4	56.8	33.0	95.7	20.4
2009	79.4	52.8	89.7	37.9	61.2	40.1	93.5	36.0
2010	76.8	46.1	90.2	37.8	65.4	40.3	90.5	43.8
2011	72.7	46.4	91.3	49.8	66.4	43.5	89.5	57.6
C. Home improvement								
2000	6.3	1.1	15.6	4.7	4.4	.4	52.9	.5
2001	6.4	1.5	22.3	7.6	3.9	.8	73.7	1.1
2002	5.9	1.4	28.4	7.1	4.0	.9	55.3	3.6
2003	10.5	.8	43.8	6.7	6.5	.7	35.0	3.9
2004	23.6	6.0	48.7	23.5	23.1	7.5	20.2	7.4
2005	27.2	7.0	46.2	25.3	30.2	8.8	27.1	8.6
2006	22.0	5.3	60.4	31.8	29.4	8.9	29.5	15.9
2007	19.1	6.4	70.6	30.8	26.4	12.1	39.0	11.9
2008	14.7	8.7	80.0	49.2	20.0	14.5	74.7	6.3
2009	24.9	17.8	63.4	38.9	17.7	13.4	56.1	9.8
2010	21.2	13.2	60.6	34.7	18.3	12.6	47.4	28.1
2011	19.1	11.4	45.3	26.8	19.8	13.4	.3	.1

¹ See table 4, note 1.² Loans sold to government-sponsored enterprises (GSEs) include those with a purchaser type of Fannie Mae, Freddie Mac, Ginnie Mae, or Farmer Mac.

Table 9. Cumulative distribution of home loans, by borrower income and by purpose and type of loan, 2011

Percent										
Upper bound of borrower income (thousands of dollars) ¹	Home purchase					Refinance				
	FHA	VA	Conventional ²	Total	Memo: Higher priced ³	FHA	VA	Conventional ²	Total	Memo: Higher priced ³
24	5.3	1.1	3.2	3.7	9.5	3.5	2.3	2.4	2.4	10.2
49	41.5	23.2	25.4	31.0	48.3	28.2	19.5	16.6	17.4	41.5
74	69.4	56.7	47.0	55.9	72.2	58.1	48.0	36.8	38.4	67.2
99	84.9	77.0	62.6	71.9	83.9	77.8	69.3	54.9	56.6	81.8
124	92.5	88.4	73.9	81.9	89.8	88.6	83.1	68.9	70.4	89.4
149	96.1	94.0	81.3	87.8	92.9	93.9	90.5	78.2	79.4	93.2
199	98.7	98.2	89.6	93.7	95.9	98.0	96.6	88.4	89.2	96.4
249	99.4	99.4	93.7	96.3	97.2	99.2	98.7	93.1	93.6	97.7
299	99.7	99.7	95.8	97.5	98.0	99.6	99.4	95.4	95.8	98.3
More than 299	100	100	100	100	100	100	100	100	100	100
Memo: Borrower income, by selected loan type (thousands of dollars) ¹										
Mean	66.3	79.0	111.1	92.1	73.2	76.9	88.0	121.9	118.3	76.5
Median	56	69	79	68	51	67	76	92	90	56

Note: First-lien mortgages for owner-occupied, one- to four-family, site-built properties; excludes business loans. Business-related loans are those for which the lender reported that the race, ethnicity, and sex of the applicant or co-applicant are "not applicable." For loans with two or more applicants, lenders covered under the Home Mortgage Disclosure Act (HMDA) report data on only two. Income for two applicants is reported jointly.

¹ Income amounts are reported under HMDA to the nearest \$1,000.

² Conventional loans plus some loans originated with a Farm Service Agency or Rural Housing Service guarantee.

³ Higher-priced loans are those with annual percentage rates 1.5 percentage points or more above the average prime offer rate for loans of a similar type published weekly by the Federal Financial Institutions Examination Council.

FHA Federal Housing Administration.

VA Department of Veterans Affairs.

Loan Amounts

Unlike the data on borrower incomes, loan amounts are provided for all applications and loans reported in the HMDA data. Loan amounts differ across loan types, with FHA or VA loans, on average, being smaller than conventional loans (which make up most of the "other" category in table 10). However, an upward shift in the distribution of loan amounts for both FHA and VA home-purchase loans has occurred in the past couple of years, continuing into 2011 (data for only 2011 shown in tables). The shift reflects several factors, including the higher loan limits allowed under these programs.

Application Disposition, Loan Pricing, and Status under the Home Ownership and Equity Protection Act

In tables 11 and 12, we categorize every loan application and request for preapproval reported in 2011 into 25 distinct product categories characterized by type of loan and property, purpose of loan, and lien and owner-occupancy status. Each product category contains information on the number of total and preapproval applications, application denials, originated loans, loans with prices above the reporting thresholds established by HMDA reporting rules for identifying higher-priced loans, loans covered by the Home Ownership and Equity Protection Act of 1994 (HOEPA), and the mean and median annual percentage rate (APR) spreads for loans reported as higher priced.

Table 10. Cumulative distribution of home loans, by loan amount and by purpose and type of loan, 2011
Percent

Upper bound of loan amount (thousands of dollars) ¹	Home purchase					Refinance				
	FHA	VA	Conventional ²	Total	Memo: Higher priced ³	FHA	VA	Conventional ²	Total	Memo: Higher priced ³
24	.1	.0	.5	.3	2.8	.1	.0	.5	.5	4.3
49	2.0	.4	3.2	2.5	13.9	1.6	.7	3.3	3.0	16.8
74	9.6	2.6	9.7	9.0	29.8	7.4	3.9	10.3	9.8	32.8
99	22.1	7.8	18.3	18.7	44.9	17.3	10.5	20.2	19.5	47.5
149	50.9	28.3	38.9	42.2	68.8	44.5	32.9	41.2	41.1	68.4
199	71.7	53.6	55.1	60.9	82.0	66.5	55.8	58.1	58.7	80.3
274	88.5	77.5	71.9	78.4	91.2	85.3	77.6	74.7	75.8	89.4
417	97.4	94.5	88.8	92.4	96.9	96.0	94.6	92.0	92.5	96.9
625	99.6	99.1	96.0	97.6	98.8	99.3	99.0	97.0	97.3	99.0
729	99.9	99.7	97.4	98.5	99.2	99.9	99.6	98.1	98.3	99.3
More than 799	100	100	100	100	100	100	100	100	100	100
Memo: Loan amount (thousands of dollars)										
Mean	170.2	217.2	234.7	210.1	141.6	185.3	212.9	220.3	217.0	141.6
Median ¹	147	191	180	167	109	160	185	173	172	104
Note: First-lien mortgages for owner-occupied, one- to four-family, site-built properties; excludes business loans. Business-related loans are those for which the lender reported that the race, ethnicity, and sex of the applicant or co-applicant are "not applicable."										
¹ Loan amounts are reported under the Home Mortgage Disclosure Act to the nearest \$1,000.										
² See table 9, note 2.										
³ See table 9, note 3.										
FHA Federal Housing Administration.										
VA Department of Veterans Affairs.										

Disposition of Applications

As noted, the 2011 HMDA data include information on 11.7 million loan applications, nearly 86 percent of which were acted on by the lender (data derived from table 11). With respect to the disposition of applications, patterns of denial rates are largely consistent with what had been observed in earlier years.²⁷ Denial rates on applications for home-purchase loans are notably lower than those observed on applications for refinance or home-improvement loans. Denial rates on applications backed by manufactured housing are much higher than those on applications backed by site-built homes. For example, the denial rate for first-lien conventional home-purchase loan applications for owner-occupied site-built properties was 14.8 percent in 2011, compared with a denial rate of 52.7 percent for such applications for owner-occupied manufactured homes.

Under the provisions of HMDA, reporting institutions may choose to report the reasons they provide consumers whose applications are turned down. Reporting institutions may

²⁷ The information provided in the tables is identical to that provided in analyses of earlier years of HMDA data. Comparisons of the numbers in the tables with those in tables from earlier years, including statistics on denial rates, can be made by consulting the following articles: Avery and others, "The Mortgage Market in 2010"; Avery and others, "The 2009 HMDA Data"; and Robert B. Avery, Neil Bhutta, Kenneth P. Brevoort, Glenn B. Canner, and Christa N. Gibbs (2010), "The 2008 HMDA Data: The Mortgage Market during a Turbulent Year," *Federal Reserve Bulletin*, vol. 96 (April), pp. A169–A211. Also see Robert B. Avery, Kenneth P. Brevoort, and Glenn B. Canner (2008), "The 2007 HMDA Data," *Federal Reserve Bulletin*, vol. 94 (December), pp. A107–A146; Robert B. Avery, Kenneth P. Brevoort, and Glenn B. Canner (2007), "The 2006 HMDA Data," *Federal Reserve Bulletin*, vol. 93 (December), pp. A73–A109; Robert B. Avery, Kenneth P. Brevoort, and Glenn B. Canner (2006), "Higher-Priced Home Lending and the 2005 HMDA Data," *Federal Reserve Bulletin*, vol. 92 (September), pp. A123–A166; and Robert B. Avery, Glenn B. Canner, and Robert E. Cook (2005), "New Information Reported under HMDA and Its Application in Fair Lending Enforcement," *Federal Reserve Bulletin*, vol. 91 (Summer), pp. 344–94.

Table 11. Disposition of applications for home loans, and origination and pricing of loans, by type of home and type of loan, 2011

Type of home and loan	Applications			
	Number submitted	Acted upon by lender		
		Number	Number denied	Percent denied
1-4 FAMILY				
Nonbusiness related³				
Owner occupied				
<i>Site built</i>				
Home purchase				
Conventional				
First lien	1,438,327	1,260,646	186,025	14.8
Junior lien	57,851	50,569	7,915	15.7
Government backed				
First lien	1,450,709	1,274,493	203,893	16.0
Junior lien	1,930	1,407	233	16.6
Refinance				
Conventional				
First lien	5,367,738	4,595,645	1,021,597	22.2
Junior lien	122,890	113,873	36,232	31.8
Government backed				
First lien	1,115,624	829,981	264,225	31.8
Junior lien	354	262	57	21.8
Home improvement				
Conventional				
First lien	211,771	187,603	51,680	27.5
Junior lien	131,977	123,254	57,825	46.9
Government backed				
First lien	15,879	11,175	3,407	30.5
Junior lien	8,455	6,705	3,476	51.8
Unsecured (conventional or government backed)	230,011	224,145	113,447	50.6
<i>Manufactured</i>				
Conventional, first lien				
Home purchase	196,525	189,483	99,788	52.7
Refinance	51,727	46,960	18,555	39.5
Other	70,033	62,119	22,064	35.5
Non-owner occupied⁴				
Conventional, first lien				
Home purchase	417,027	368,926	58,290	15.8
Refinance	648,094	548,887	161,447	29.4
Other	98,538	88,891	36,593	41.2

cite up to three reasons for each denied application, although most of those that provide this information cite only one reason. An analysis of the reasons for denial provided to prospective borrowers whose applications for conventional credit for the purchase of owner-occupied homes were turned down finds that collateral-related issues and debt-to-income considerations were the two categories of reasons that have seen the largest increase since 2006 (data not shown in tables). Debt-to-income issues were also cited somewhat more often for applications for FHA or VA home-purchase loans, but collateral was the category that had the largest percentage increase. These relationships are not surprising, given the changes in underwriting practices and the widespread decline in home values since 2006.

Table 11. Disposition of applications for home loans, and origination and pricing of loans, by type of home and type of loan, 2011—continued

Type of home and loan	Loans originated											
	Number	Loans with APOR spread above the threshold ¹										Number of HOEPA-covered loans ²
		Number	Percent	Distribution, by percentage points of APOR spread						APOR spread (percentage points)		
				1.5–1.99	2–2.49	2.5–2.99	3–3.99	4–4.99	⁵ or more	Mean	Median	
1–4 FAMILY												
Nonbusiness related³												
Owner occupied												
<i>Site built</i>												
Home purchase												
Conventional												
First lien	995,061	38,660	3.9	41.6	22.0	13.3	14.6	5.8	2.9	2.5	2.1	...
Junior lien	39,943	5,465	13.7	...	...	...	38.6	48.1	13.3	4.5	4.2	...
Government backed												
First lien	1,009,654	28,592	2.8	71.3	21.5	3.2	1.1	2.1	.9	2.0	1.8	...
Junior lien	1,115	4	.4	...	...	...	25.0	50.0	25.0	5.2	4.8	...
Refinance												
Conventional												
First lien	3,299,037	51,664	1.6	46.8	16.6	11.0	13.6	6.0	6.1	2.6	2.1	735
Junior lien	71,341	9,550	13.4	...	...	...	30.0	38.9	31.2	4.8	4.5	201
Government backed												
First lien	503,259	29,744	5.9	31.7	26.0	20.5	19.6	1.7	.4	2.5	2.3	46
Junior lien	190	6	3.2	...	...	...	...	66.7	33.3	4.9	4.8	0
Home improvement												
Conventional												
First lien	126,491	10,663	8.4	29.0	16.8	13.8	17.8	7.9	14.8	3.2	2.6	366
Junior lien	59,607	6,781	11.4	...	...	...	30.8	33.5	35.7	4.9	4.5	187
Government backed												
First lien	6,846	1,723	25.2	18.8	23.0	26.2	25.5	2.8	3.7	2.8	2.6	10
Junior lien	2,914	2,472	84.8	...	...	...	3.0	5.9	91.1	7.0	7.1	0
Unsecured (conventional or government backed)												
	102,899	...	...	...	...	...	...	...	...	...	...	...
<i>Manufactured</i>												
Conventional, first lien												
Home purchase	39,960	32,623	81.6	4.5	3.4	5.3	13.8	16.2	56.7	5.7	5.4	...
Refinance	24,477	7,933	32.4	17.1	9.7	10.8	21.9	16.5	24.0	3.9	3.6	577
Other	33,238	5,777	17.4	32.9	15.6	9.9	14.0	10.6	17.0	4.1	2.6	214
Non-owner occupied⁴												
Conventional, first lien												
Home purchase	285,333	13,696	4.8	46.4	16.6	11.2	13.6	5.6	6.6	2.6	2.1	...
Refinance	355,243	13,207	3.7	59.1	14.9	8.6	10.3	4.5	2.7	2.3	1.8	32
Other	48,084	2,760	5.7	24.6	12.7	7.5	19.8	17.5	17.9	3.5	3.4	13

¹ Average prime offer rate (APOR) spread is the difference between the annual percentage rate on the loan and the APOR for loans of a similar type published weekly by the Federal Financial Institutions Examination Council. The threshold for first-lien loans is a spread of 1.5 percentage points; for junior-lien loans, it is a spread of 3.5 percentage points.

² Loans covered by the Home Ownership and Equity Protection Act of 1994 (HOEPA), which does not apply to home-purchase loans.

³ Business-related applications and loans are those for which the lender reported that the race, ethnicity, and sex of the applicant or co-applicant are "not applicable"; all other applications and loans are nonbusiness related.

⁴ Includes applications and loans for which occupancy status was missing.

... Not applicable.

Table 11. Disposition of applications for home loans, and origination and pricing of loans, by type of home and type of loan, 2011—continued

Type of home and loan	Applications			
	Number submitted	Acted upon by lender		
		Number	Number denied	Percent denied
Business related³				
Conventional, first lien				
Home purchase	30,458	29,464	1,066	3.6
Refinance	31,687	30,609	1,813	5.9
Other	10,157	8,904	983	11.0
MULTIFAMILY⁵				
Conventional, first lien				
Home purchase	10,146	9,367	1,106	11.8
Refinance	19,588	18,303	2,410	13.2
Other	5,314	4,904	719	14.7
Total	11,742,810	10,086,575	2,354,846	23.3

⁵ Includes business-related and nonbusiness-related applications and loans for owner-occupied and non-owner-occupied properties.

In addition to the application data provided under HMDA, nearly 430,000 requests for preapproval were reported as acted on by the lender in 2011, down about 3 percent from 2010 (table 12). The majority of requests for preapprovals involved conventional loans. About 30 percent of these requests for preapproval were denied by the lender in 2011, a proportion that is higher than in 2010. Not unexpectedly, the number of requests for preapproval is down substantially from the levels recorded at the height of the housing boom, when market conditions favored home sellers and preapproval letters were a factor that enhanced the position of prospective homebuyers. In 2006, covered institutions reported that they received nearly 1.2 million requests for preapproval on which they took action (data not shown in tables).

Table 11. Disposition of applications for home loans, and origination and pricing of loans, by type of home and type of loan, 2011—continued

Type of home and loan	Loans originated												
	Number	Loans with APOR spread above the threshold ¹										Number of HOEPA-covered loans ²	
		Number	Percent	Distribution, by percentage points of APOR spread							APOR spread (percentage points)		
				1.5–1.99	2–2.49	2.5–2.99	3–3.99	4–4.99	5 or more	Mean	Median		
Business related³													
Conventional, first lien													
Home purchase	27,589	564	2.0	24.8	24.5	22.9	24.3	2.7	.9	2.6	2.5	...	
Refinance	28,177	549	1.9	25.7	21.0	26.6	18.9	6.4	1.5	2.6	2.5	2	
Other	7,693	119	1.5	17.7	15.1	13.5	23.5	20.2	10.1	3.3	3.3	...	
MULTIFAMILY⁵													
Conventional, first lien													
Home purchase	7,848	166	2.1	27.7	28.3	19.3	18.1	3.0	3.6	2.6	2.4	...	
Refinance	15,238	229	1.5	27.5	26.2	18.3	15.7	6.6	5.7	2.7	2.4	1	
Other	4,025	42	1.0	11.9	28.6	14.3	19.1	7.1	19.1	3.5	2.9	3	
Total	7,095,262	262,989	3.7	35.5	15.6	9.9	15.0	9.6	14.4	3.2	2.5	2,387	

Table 12. Home-purchase lending that began with a request for preapproval: Disposition and pricing, by type of home, 2011

Type of home	Requests for preapproval			Applications preceded by requests for preapproval ¹			Loan originations whose applications were preceded by requests for preapproval										
	Number acted upon by lender	Number denied	Per-cent denied	Number sub-mitted	Acted upon by lender		Number	Loans with APOR spread above the threshold ²									
					Number	Number denied		Number	Per-cent	Distribution, by percentage points of APOR spread						APOR spread (percentage points)	
										1.5–1.99	2–2.49	2.5–2.99	3–3.99	4–4.99	5 or more	Mean spread	Median spread
1–4 FAMILY																	
Nonbusiness related³																	
Owner occupied																	
<i>Site built</i>																	
<i>Conventional</i>																	
First lien	217,757	57,848	27	123,940	19,888	16,177	81,794	1,771	2.2	44.5	19.6	10.1	11.2	9.9	4.7	2.6	2.1
Junior lien	7,396	945	13	5,820	354	147	5,184	1,058	20.4	29.1	61.8	9.1	4.3	4.3
<i>Government backed</i>																	
First lien	160,904	62,602	39	86,517	11,279	10,616	61,790	2,568	4.2	71.0	16.4	5.5	1.8	2.3	3.0	2.1	1.8
Junior lien	146	17	12	126	32	11	83	2	2.4	100	...	4.8	4.8
<i>Manufactured</i>																	
<i>Conventional, first lien</i>																	
	3,392	1,008	30	2,282	322	469	1,252	729	58.2	5.2	2.6	5.6	8.4	10.3	67.9	6.9	6.5
<i>Other</i>																	
	2,625	1,092	42	1,474	227	172	1,047	36	3.4	83.3	11.1	5.6	1.8	1.8
Non-owner occupied⁴																	
<i>Conventional, first lien</i>																	
	35,912	7,019	20	22,454	3,355	2,372	15,514	502	3.2	50.6	18.5	9.6	11.4	6.4	3.6	2.4	2.0
<i>Other</i>																	
	725	322	44	361	91	135	115	11	9.6	36.4	36.4	9.1	9.1	...	9.1	2.6	2.1
Business related³																	
<i>Conventional, first lien</i>																	
	499	27	5	457	39	35	361	14	3.9	21.4	21.4	21.4	35.7	2.6	2.7
<i>Other</i>																	
	90	12	13	77	10	22	42	1	2.4	100	1.5	1.5
MULTIFAMILY⁵																	
<i>Conventional, first lien</i>																	
	70	2	3	65	6	10	48	5	10.4	...	40.0	20.0	40.0	2.9	2.6
<i>Other</i>																	
	3	0	0	3	1	0	2	1	50.0	100	...	4.1	4.1
Total	429,519	130,894	30	243,576	35,604	30,166	167,232	6,698	4.0	43.9	13.3	6.2	10.1	14.9	11.5	3.1	2.2

¹ These applications are included in the total reported in table 11.

² See table 11, note 1.

³ See table 11, note 3.

⁴ See table 11, note 4.

⁵ See table 11, note 5.

... Not applicable.

The Incidence of Higher-Priced Lending

Price-reporting rules under HMDA since late 2009 define higher-priced first-lien loans as those with an APR of at least 1.5 percentage points above the average prime offer rate

(APOR) for loans of a similar type (for example, a 30-year fixed-rate mortgage).²⁸ The spread for junior-lien loans must be at least 3.5 percentage points to be considered higher priced. The APOR, which is published weekly by the FFIEC, is an estimate of the APR on loans being offered to high-quality prime borrowers based on the contract interest rates and discount points reported by Freddie Mac in its Primary Mortgage Market Survey (PMMS).²⁹

The data show that the incidence of higher-priced lending across all products in 2011 was about 3.7 percent, up about 50 basis points, or 0.5 percentage point, from 2010 (table 11).³⁰ The incidence varies across loan types, products, and purposes. First, in almost all cases, nonconventional loans have a lower incidence of higher-priced lending than do comparable conventional loan products, although the differences in incidence are much smaller than in the period when many conventional loans were subprime or near prime. In 2011, among first-lien home-purchase loans for site-built homes, 3.9 percent of conventional loans had APRs above the price-reporting threshold, versus 2.8 percent of nonconventional loans. (Among nonconventional loans, those backed by VA guarantees have a particularly low incidence of being higher priced: In 2011, less than 0.04 percent of the VA-guaranteed first-lien home-purchase loans were higher priced.)

Second, with few exceptions, first-lien loans have a lower incidence of higher-priced lending than do junior-lien loans for the same purposes. For example, in 2011, the incidence of higher-priced lending for conventional first-lien refinance loans was 1.6 percent, whereas for comparable junior-lien loans it was 13.4 percent. This relationship is found despite the fact that the threshold for reporting a junior-lien loan as higher priced is 2 percentage points higher than it is for so reporting a first-lien loan. Third, manufactured-home loans exhibit the greatest incidence of higher-priced lending across all loan categories. For 2011, nearly 82 percent of the conventional first-lien loans used to purchase manufactured homes were higher priced.

The HMDA data also show that the incidence of higher-priced lending is related to borrower incomes and the amounts borrowed, with borrowers with lower incomes and those receiving smaller loans more likely to obtain a higher-priced loan. For example, 56 percent of home-purchase loans were extended to borrowers with incomes under \$75,000, while such borrowers account for 72 percent of all higher-priced home-purchase loans (table 9). Across loan amounts, 19 percent of home-purchase loans were under \$100,000, whereas 45 percent of higher-priced home-purchase loans were under \$100,000 (table 10).

Rate Spreads for Higher-Priced Loans

In 2011, the mean APOR spread reported for higher-priced first-lien conventional loans for the purchase of an owner-occupied site-built home was about 2.5 percentage points, compared with about 2.0 percentage points for higher-priced first-lien nonconventional loans

²⁸ For more about the rule changes related to higher-priced lending, see Avery and others, “The 2009 HMDA Data.”

²⁹ See Freddie Mac, “Weekly Primary Mortgage Market Survey (PMMS),” webpage, www.freddiemac.com/pmms; and Federal Financial Institutions Examination Council, “New FFIEC Rate Spread Calculator,” webpage, www.ffiec.gov/ratespread/newcalc.aspx.

³⁰ In previous articles exploring the distortions created by the old loan pricing classification methodology (see Avery and others, “The 2009 HMDA Data”), we used an adjustment technique that tried to address those distortions. The adjustment technique was similar to the new reporting rules, though it was also clearly inferior to them and could not have been implemented without access to date information, which is not part of the public use file. Without this adjustment, comparison of higher-priced data for loans covered by the old reporting rules with such data for loans covered by the new ones is not appropriate. Even with the adjustment, it is not possible to adjust the data for loans reported under the old rules to make them fully comparable to data reported under the new rules. For this reason, we restrict our discussion here to the 2010 and 2011 data.

used for the same purpose (table 11). Average spreads for first-lien conventional and government-backed refinance loans were 2.5 percentage points and 2.6 percentage points, respectively.

It is worth noting that the vast majority of nonconventional loans reported as higher priced in 2011 exceeded the HMDA price-reporting thresholds by only a small amount: Specifically, 71 percent of the higher-priced nonconventional first-lien home-purchase loans had reported spreads within 50 basis points of the threshold. By comparison, only about 42 percent of the comparable conventional loans reported as higher priced had prices this close to the margin of reporting. In contrast, the share of higher-priced nonconventional refinancing loans with APORs close to the margin of reporting (32 percent) is a little less than the share of higher-priced conventional refinancing loans with such APORs (about 47 percent).

As expected, consistent with the higher reporting threshold of junior-lien lending, higher-priced junior-lien loan products have higher mean and median APOR spreads than do higher-priced first-lien loans. Higher-priced loans for manufactured homes differ from other loan products in that they generally have the highest mean spreads. In 2011, the typical higher-priced conventional first-lien loan to purchase a manufactured home had a reported spread of about 5.7 percentage points, compared with an average spread of roughly 2.5 percentage points for comparable higher-priced loans for site-built properties.

HOEPA Loans

The HMDA data indicate which loans are covered by the protections afforded by HOEPA. Under HOEPA, certain types of mortgage loans that have interest rates or fees above specified levels require additional disclosures to consumers and are subject to various restrictions on loan terms.³¹ For 2011, 574 lenders reported extending 2,387 loans covered by HOEPA (table 11; data regarding lenders not shown in tables). In comparison, 655 lenders reported on about 3,400 loans covered by HOEPA in 2010. In the aggregate, HOEPA-related lending made up less than 0.05 percent of all the originations of home-secured refinancings and home-improvement loans reported for 2011 (data derived from tables).³²

Lender Concentration in the Mortgage Market

Recent press accounts have highlighted the outsized role of a few larger lending organizations in the mortgage market.³³ Table 13 lists the top 10 mortgage originating organizations (inclusive of their reporting mortgage lending affiliates and subsidiaries) according to the HMDA data. Wells Fargo tops the list, having originated over 900,000 loans in 2011, which translates into a market share of about 13 percent.³⁴ JPMorgan Chase and Bank of America each had a market share of over 5 percent, followed by U.S. Bank and Quicken Loans with over 2 percent. Wells Fargo, JPMorgan Chase, and Bank of America had considerably larger market shares in 2011 than in 2006, in part because of their acquisitions of Wachovia, Washington Mutual, and Countrywide, respectively. The remainder of the top

³¹ Unlike the threshold rules used to report higher-priced loans, the threshold rules used to identify HOEPA loans did not change between 2009 and 2010, and thus the 2011 number of HOEPA loans is comparable to those of earlier years.

³² HOEPA does not apply to home-purchase loans.

³³ For example, see Dakin Campbell and Hugh Son (2012), "Wells Fargo Dominates Home Lending as BofA Retreats: Mortgages," Bloomberg, May 3, www.bloomberg.com/news/2012-05-03/wells-fargo-dominates-home-lending-as-bofa-retreats-mortgages.html.

³⁴ We include all first-lien originations recorded in the HMDA data, regardless of purpose, loan type, or property type.

Table 13. Home loan originations and purchases by top 10 originators, 2011 and 2006

Percent except as noted

Organization	Loans originated ¹								Loans purchased ²			
	Number	Market share	Home purchase	Refinance	Conventional only				Number	Conventional	Conventional only	
					Home purchase (as a share of all home purchase)	Refinance (as a share of all refinance)	Held in portfolio ³	Held in portfolio or sold to affiliate ³			Held in portfolio ³	Held in portfolio or sold to affiliate ³
2011												
1. Wells Fargo & Co.	908,962	13.4	31.2	67.1	53.8	87.2	7.4	7.8	845,871	47.4	5.3	5.3
2. JPMorgan Chase & Co.	470,760	6.9	8.1	91.6	57.0	97.2	3.5	42.6	300,092	46.0	4.1	40.2
3. Bank of America Corp.	343,471	5.1	28.7	69.9	57.6	88.6	13.7	13.9	442,416	36.4	23.5	23.5
4. U.S. Bancorp	164,937	2.4	24.6	72.4	65.6	92.3	37.9	37.9	114,128	61.0	1.5	1.5
5. Quicken Loans, Inc.	143,870	2.1	8.4	91.6	42.6	64.2	.2	.2	0	n.a.	n.a.	n.a.
6. Citigroup	113,468	1.7	13.0	84.3	93.6	96.1	46.2	61.9	252,128	91.2	13.3	53.0
7. Fifth Third Bancorp	101,956	1.5	26.8	72.4	54.5	92.2	29.6	40.0	15,014	68.7	5.5	5.5
8. Flagstar Bank, FSB	92,875	1.4	39.2	58.8	49.8	82.0	.7	.7	32,249	43.2	6.4	6.4
9. Ally Financial	83,123	1.2	16.6	80.7	83.1	94.0	2.1	99.4	431,925	81.6	.5	38.3
10. SunTrust Bank	80,375	1.2	36.1	63.9	69.1	92.8	5.9	12.5	31,433	74.1	55.7	55.7
Total	2,503,797	36.9	23.7	74.9	57.4	89.3	11.7	25.5	2,465,256	56.8	8.3	27.4
Memo: All other organizations	4,284,175	63.1	41.7	55.4	56.7	86.3	34.9	36.8	479,406	61.4	21.2	21.6
2006												
1. Countrywide	872,732	8.1	50.4	45.9	92.1	98.6	3.5	13.5	1,409,623	95.6	8.0	29.5
2. Wells Fargo & Co.	697,593	6.5	58.8	37.0	89.7	96.2	24.4	24.8	411,346	72.4	17.0	17.0
3. Bank of America Corp.	356,300	3.3	57.5	34.9	97.7	99.1	41.6	41.8	193,761	99.9	58.6	58.6
4. Wachovia Corp.	341,218	3.2	29.7	64.4	95.6	99.5	48.4	64.0	61,525	99.8	55.0	83.3
5. JPMorgan Chase & Co.	317,755	3.0	44.6	52.1	91.1	98.0	6.0	100.0	204,632	89.0	37.8	99.4
6. National City Corp.	278,426	2.6	60.9	36.5	92.1	94.2	4.2	52.1	6,206	95.8	.0	95.2
7. Washington Mutual Bank, FSB	270,278	2.5	29.8	66.0	98.7	98.9	40.7	42.8	415,199	96.7	12.1	12.7
8. GMAC Bank	248,050	2.3	41.6	58.3	92.1	97.7	2.3	73.6	862,978	96.7	10.0	20.2
9. Citigroup	215,454	2.0	30.2	62.3	97.0	98.5	48.0	60.6	616,319	91.4	54.1	70.8
10. HSBC Holdings, PLC	194,308	1.8	27.7	58.0	95.5	99.4	40.7	48.8	306,585	100.0	64.4	66.8
Total	3,792,114	35.2	46.7	48.5	92.9	98.1	22.6	43.5	4,488,174	93.4	24.8	38.8
Memo: All other organizations	6,979,080	64.8	50.9	45.8	91.8	97.2	26.7	31.5	1,748,178	94.4	38.4	54.9

¹ First-lien mortgages for owner-occupied one- to four-family homes.² All liens are included because lien status is not always available.³ "Held in portfolio" refers to loans held beyond the year of origination or purchase; excludes loans originated or purchased during the last quarter of the year.

n.a. Not available.

10 organizations had market shares under 2 percent, and the top 10 collectively issued about 37 percent of all mortgage originations reported in the HMDA data in 2011, roughly the same as in 2006.

Notably, market shares derived from the HMDA data differ markedly from market shares recently reported in the press based on information compiled by Inside Mortgage Finance.

It is important to note that for HMDA reporting purposes, institutions report only mortgage applications in which they make the credit decision. Under HMDA, if an application is approved by a third party (such as a correspondent) rather than the lending institution, then that party reports the loan as its own origination and the lending institution reports the loan as a purchased loan. Alternatively, if a third party forwards an application to the lending institution for approval, then the lending institution reports the application under HMDA (and the third party does not report anything). In contrast, Inside Mortgage Finance considers loans to have been originated by the acquiring institution even if a third party makes the credit decision. Thus, many of the larger lending organizations that work with sizable networks of correspondents report considerable volumes of purchased loans in the HMDA data, while Inside Mortgage Finance considers many of these purchased loans to be originations.

To be sure, both market share numbers are important for understanding the supply side of the mortgage market. The HMDA data, by focusing on the entity that makes the approval decision, highlight that the mortgage market continues to be highly decentralized along certain dimensions, with a large number of relatively small entities operating at the retail level, working with mortgage applicants, evaluating their applications, and making lending decisions. That said, overall credit availability and pricing depend on a multitude of additional factors, such as government-sponsored enterprise and FHA practices, lenders' willingness and ability to take risk, competition between wholesale lenders, and general credit conditions and investor appetite for risk.

Table 13 shows that among the top 10 organizations, many of them reported a large number of purchased loans in 2011, particularly Wells Fargo, Bank of America, and Ally Financial. As discussed earlier, many of these purchases are likely to be from correspondents, though it is not possible from the HMDA data to determine how many. It is also worth noting that organizations often turn around and resell loans that they purchased (see last two columns of table 13).

Finally, the HMDA data indicate that the business strategies among the top 10 organizations appear to vary considerably. For example, around 30 percent of Wells Fargo's and Bank of America's originations were for home-purchase loans, compared with less than 10 percent for JPMorgan Chase and Quicken Loans. Citigroup and Ally Financial concentrated relatively more heavily on refinance loans than on home-purchase loans. These institutions also differ considerably in terms of the fraction of loans held in portfolio beyond the year of origination.³⁵ For example, U.S. Bancorp and Citigroup each held in portfolio 40 percent or more of the conventional loans they originated, compared with less than 10 percent for Wells Fargo and JPMorgan Chase. The HMDA data also reveal considerable variation across these larger lenders in the types of loans (conventional compared with FHA, VA, or FSA) they tend to extend. For example, about half of the home-purchase loans reported by Wells Fargo were conventional, whereas about 90 percent of those originated by Citigroup were of this type.

The Credit Scores of Home-Purchase Mortgage Borrowers

Additional information about individuals obtaining mortgages to purchase homes can be gained by a review of credit record data collected by credit-reporting agencies. These data can be used to identify individuals taking out mortgages to finance a home purchase and,

³⁵ For this analysis, we consider only those loans originated in the first three quarters of the year; loans originated in the last quarter of the year are less likely to be reported as sold simply because there is not much time to sell the loan.

among these, individuals who are first-time homebuyers. Because the credit record data used here include the credit scores of individuals, we can use this metric to gauge the credit risk profile of home-purchase borrowers.

The data are from the FRBNY/Equifax Consumer Credit Panel. The panel is a nationally representative longitudinal database of individuals with detailed information, at a quarterly frequency beginning in 1999, on consumer and mortgage debt and loan performance drawn from the credit records collected and maintained by Equifax, one of the three national credit bureaus.³⁶ The data include three key pieces of information with respect to this analysis: (1) details on each mortgage outstanding for a given consumer, including the year of origination; (2) each consumer's credit score as of the end of each quarter; and (3) each consumer's residential location at the level of the census block (a subunit of a census tract).³⁷ The data used here are through the end of 2011.

Home-purchase loans are not explicitly identified in credit record data, but the panel nature of the data used here allows us to follow a given individual over time and infer whether that borrower purchased a home during any particular period. Specifically, we classify an individual as a homebuyer if the credit record indicates that he or she took out a new mortgage and moved to a different location (the credit record shows that the individual moved from one census block to another). First-time home-purchase borrowers are identified in a similar manner, but their credit records must show no evidence of a previous mortgage. The credit record data show that for home-purchase borrowers in general, as well as for first-time homebuyers financing their purchase, the median credit score has increased about 40 points since 2006. Furthermore, median scores now exceed by a considerable margin the median scores for home-purchase borrowers at any time in the past 12 years (figure 2).

From the perspective of changes in access to credit, a particular group to focus on is that consisting of individuals with scores in the bottom decile of all home-purchase borrowers. Here the data show that the score that delineates the bottom decile has increased nearly 50 points since the end of 2006. Individuals with scores below this increased threshold are likely to have a very difficult time qualifying for credit and, if they manage to qualify for a loan, are likely to pay higher prices. Consistent with this observation, overall, the share of home-purchase borrowers with scores below 620, a traditional demarcation line for individuals who are typically characterized as having a credit history that would be considered subprime, fell from about 19 percent of borrowers at the end of 2006 to about 7 percent at the end of the third quarter of 2011 (data not shown in tables).

³⁶ The data are drawn using a methodology to ensure that the same individuals can be tracked over time, and that the data are representative of all individuals with a credit record as of the end of each quarter. For more information on these data, see Donghoon Lee and Wilbert van der Klaauw (2010), "An Introduction to the FRBNY Consumer Credit Panel," Federal Reserve Bank of New York Staff Reports 479 (New York: Federal Reserve Bank of New York, November), www.newyorkfed.org/research/staff_reports/sr479.pdf. It is important to note that all individuals in the database are anonymous: Names, street addresses, and Social Security numbers are not included in the data. Individuals are distinguished and can be linked over time through a unique, anonymous consumer identification number assigned by Equifax.

³⁷ This credit score is generated from the Equifax Risk Score 3.0 model. The Equifax Risk Score 3.0 is a credit score produced from a general-purpose risk model that predicts the likelihood an individual will become 90 days or more delinquent on any account within 24 months after the score is calculated. The Equifax Risk Score 3.0 ranges from 280 to 850, with a higher score corresponding to lower relative risk (for more information, see www.equifax.com). For the exercise here, we track the credit score of each individual as of the quarter before he or she took out a mortgage. Although the lender may have used a different score to underwrite the loan, it is likely that the scores used here are reflective of such scores.

Lending across Population Groups and Neighborhoods

One of the strengths of the HMDA data is that the annual data can be merged to track changes in lending activity across population groups and areas. In this section, we show changes in lending, from 2010 to 2011, to borrowers sorted by income, race, or ethnicity and by the income or minority population characteristics of the areas where they reside. We also present an analysis of lending in areas characterized by their degree of economic distress.

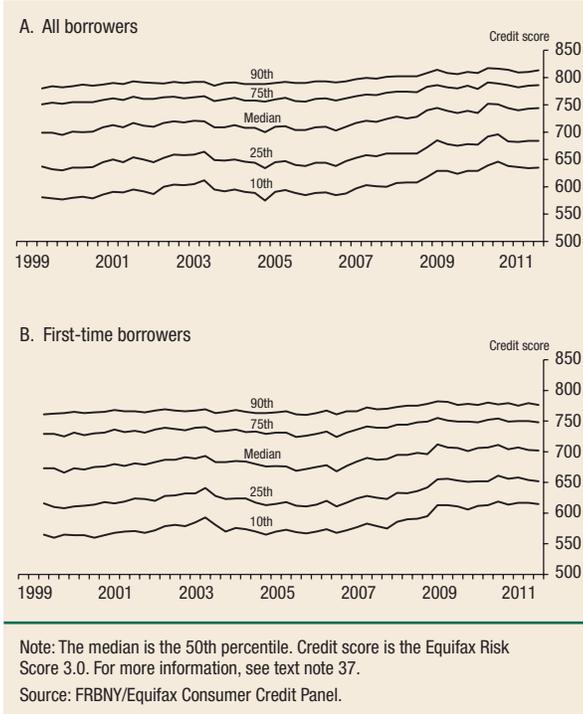
Changes in Lending, 2010 to 2011

As noted earlier, both home-purchase and refinance lending fell from 2010 to 2011. Virtually all population segments experienced these declines, although the falloff in activity was more severe for some groups than for others (table 14, memo items).³⁸ Across racial or ethnic groups, all minority populations except Hispanic whites experienced relatively large declines in activity; Hispanic whites and non-Hispanic whites both experienced relatively smaller declines in activity. Lower-income borrowers, those purchasing homes in lower-income census tracts, and those residing in areas with larger minority populations also experienced relatively large reductions in home-purchase lending.

Patterns for refinancing differed from those for home-purchase lending, as the largest declines were among non-Hispanic whites, middle- and higher-income borrowers, and those residing in areas with smaller shares of minorities and populations with relatively higher incomes. The only group to experience an increase in refinance lending was low-income borrowers; refinance lending to this population segment increased about 3 percent from 2010 to 2011.

Populations differ considerably in their use of various loan products. Most notably, black, Hispanic white, and lower-income borrowers, and those residing in areas with larger shares of minority populations, use nonconventional loans to purchase homes to a greater extent than other groups. Greater reliance on nonconventional loans may reflect the relatively low down-payment requirements of the FHA and VA lending programs. The HMDA data indicate that all groups were a little less dependent on nonconventional loans in 2011 than in 2010. Reduced reliance on nonconventional loans occurred for both home-purchase and refinance lending.

Figure 2. Credit scores of home-purchase borrowers, by selected credit score percentile, 1999–2011



³⁸ Changes in lending to different groups over the 2006–10 period were presented in an earlier article. See Avery and others, “The Mortgage Market in 2010.”

Table 14. Home lending to different populations, by characteristic of borrower and of census tract and by type and purpose of loan, 2010–11

Percent except as noted

Characteristic of borrower and of census tract	2010				2011				Memo: Percentage change in number of loans, 2010–11
	Conventional	Non-conventional ¹	Total	Memo: Number of loans	Conventional	Non-conventional ¹	Total	Memo: Number of loans	
A. Home purchase									
Borrower									
<i>Race other than white only²</i>									
American Indian or Alaska Native	33.8	66.2	100	11,183	36.5	63.5	100	9,435	-15.6
Asian	73.4	26.6	100	119,762	74.3	25.7	100	104,626	-12.6
Black or African American	18.9	81.1	100	133,969	21.6	78.4	100	113,591	-15.2
Native Hawaiian or other Pacific Islander	32.4	67.6	100	7,671	35.1	64.9	100	6,661	-13.2
<i>White, by ethnicity²</i>									
Hispanic white	26.5	73.5	100	207,108	29.2	70.8	100	195,778	-5.5
Non-Hispanic white	50.3	49.7	100	1,504,464	53.3	46.7	100	1,417,339	-5.8
<i>Income ratio (percent of area median)³</i>									
Low	38.3	61.7	100	281,788	39.9	60.1	100	254,828	-9.6
Moderate	34.9	65.1	100	552,928	37.3	62.7	100	495,859	-10.3
Middle	41.4	58.6	100	567,223	43.9	56.1	100	519,898	-8.3
High	63.0	37.0	100	816,394	65.9	34.1	100	790,223	-3.2
Census tract of property									
<i>Racial or ethnic composition (minorities as a percent of population)</i>									
Less than 10	54.3	45.7	100	806,008	56.4	43.6	100	767,580	-4.8
10–49	45.6	54.4	100	1,105,335	48.8	51.2	100	1,025,746	-7.2
50–79	37.5	62.5	100	197,401	41.0	59.0	100	169,409	-14.2
80–100	31.4	68.6	100	109,589	33.7	66.3	100	98,073	-10.5
<i>Income ratio (percent of area median)⁴</i>									
Low	39.7	60.3	100	25,879	45.0	55.0	100	21,128	-18.4
Moderate	35.9	64.1	100	242,761	39.8	60.2	100	206,299	-15.0
Middle	41.6	58.4	100	1,107,033	44.3	55.7	100	1,029,115	-7.0
High	58.1	41.9	100	819,505	60.7	39.3	100	791,254	-3.4
B. Refinance									
Borrower									
<i>Race other than white only²</i>									
American Indian or Alaska Native	76.8	23.2	100	11,981	77.6	22.4	100	10,991	-8.3
Asian	95.3	4.7	100	232,177	95.8	4.3	100	204,917	-11.7
Black or African American	58.1	41.9	100	129,828	62.5	37.6	100	119,267	-8.1
Native Hawaiian or other Pacific Islander	75.5	24.5	100	9,925	77.3	22.8	100	8,595	-13.4
<i>White, by ethnicity²</i>									
Hispanic white	75.1	24.9	100	190,507	79.0	21.0	100	176,431	-7.4
Non-Hispanic white	86.3	13.7	100	3,359,573	87.7	12.3	100	2,826,443	-15.9
<i>Income ratio (percent of area median)³</i>									
Low	54.5	45.5	100	631,539	62.4	37.6	100	648,323	2.7
Moderate	85.6	14.4	100	635,461	87.9	12.1	100	529,877	-16.6
Middle	87.7	12.3	100	1,017,330	89.1	10.9	100	821,444	-19.3
High	93.2	6.8	100	2,231,764	93.7	6.3	100	1,840,400	-17.5

Note: First-lien mortgages for owner-occupied one- to four-family homes.

¹ See table 4, note 1.

² Categories for race and ethnicity reflect the revised standards established in 1997 by the Office of Management and Budget. Applicants are placed under only one category for race and ethnicity, generally according to the race and ethnicity of the person listed first on the application. However, under race, the application is designated as *joint* if one applicant reported the single designation of white and the other reported one or more minority races. If the application is not joint but more than one race is reported, the following designations are made: If at least two minority races are reported, the application is designated as *two or more minority races*; if the first person listed on an application reports two races, and one is white, the application is categorized under the minority race. For loans with two or more applicants, lenders covered under the Home Mortgage Disclosure Act report data on only two.

Table 14. Home lending to different populations, by characteristic of borrower and of census tract and by type and purpose of loan, 2010–11—continued

Percent except as noted

Characteristic of borrower and of census tract	2010				2011				Memo: Percentage change in number of loans, 2010–11
	Conventional	Non-conventional ¹	Total	Memo: Number of loans	Conventional	Non-conventional ¹	Total	Memo: Number of loans	
Census tract of property									
<i>Racial or ethnic composition (minorities as a percent of population)</i>									
Less than 10	87.5	12.5	100	2,014,629	88.6	11.4	100	1,662,511	-17.5
10–49	84.7	15.3	100	2,114,604	85.9	14.1	100	1,825,725	-13.7
50–79	81.6	18.4	100	266,896	83.5	16.5	100	241,937	-9.4
80–100	72.9	27.1	100	119,965	77.4	22.6	100	109,871	-8.4
<i>Income ratio (percent of area median)⁴</i>									
Low	74.6	25.4	100	23,202	79.9	20.1	100	20,390	-12.1
Moderate	77.0	23.0	100	301,623	80.3	19.7	100	264,107	-12.4
Middle	82.4	17.6	100	2,094,968	83.8	16.2	100	1,779,036	-15.1
High	90.0	10.0	100	2,066,948	90.7	9.3	100	1,753,976	-15.1
C. Home improvement⁵									
Borrower									
<i>Race other than white only²</i>									
American Indian or Alaska Native	96.2	3.8	100	1,749	96.7	3.3	100	1,787	2.2
Asian	98.0	2.0	100	5,771	97.4	2.6	100	5,857	1.5
Black or African American	91.3	8.7	100	17,993	93.0	7.0	100	17,964	-2
Native Hawaiian or other Pacific Islander	95.9	4.1	100	764	95.9	4.1	100	752	-1.6
<i>White, by ethnicity²</i>									
Hispanic white	95.2	4.8	100	19,935	95.8	4.2	100	20,733	4.0
Non-Hispanic white	96.4	3.6	100	238,623	96.6	3.4	100	227,534	-4.6
<i>Income ratio (percent of area median)³</i>									
Low	93.9	6.1	100	46,348	93.0	7.0	100	45,672	-1.5
Moderate	96.2	3.8	100	63,060	95.1	4.9	100	61,778	-2.0
Middle	96.2	3.8	100	78,086	95.2	4.8	100	75,804	-2.9
High	97.2	2.8	100	127,660	96.4	3.6	100	124,873	-2.2
Census tract of property									
<i>Racial or ethnic composition (minorities as a percent of population)</i>									
Less than 10	97.2	2.8	100	160,410	96.2	3.8	100	154,798	-3.5
10–49	95.7	4.3	100	117,947	94.8	5.2	100	116,021	-1.6
50–79	95.2	4.8	100	17,870	92.8	7.2	100	17,742	-7
80–100	92.9	7.1	100	18,927	93.4	6.6	100	19,566	3.4
<i>Income ratio (percent of area median)⁴</i>									
Low	92.2	7.8	100	3,263	87.5	12.5	100	3,393	4.0
Moderate	95.0	5.0	100	36,461	94.3	5.7	100	35,492	-2.7
Middle	96.1	3.9	100	177,310	95.7	4.3	100	170,938	-3.6
High	96.9	3.1	100	92,906	96.2	3.8	100	91,865	-1.1

³ Borrower income is the total income relied on by the lender in the loan underwriting. Income is expressed relative to the median family income of the metropolitan statistical area (MSA) or statewide non-MSA in which the property being purchased is located. "Low" is less than 50 percent of the median; "moderate" is 50 percent to 79 percent (in this article, "lower income" encompasses the low and moderate categories); "middle" is 80 percent to 119 percent; and "high" is 120 percent or more.

⁴ The income category of a census tract is the median family income of the tract relative to that of the MSA or statewide non-MSA in which the tract is located as derived from the 2000 census. "Low" is less than 50 percent of the median; "moderate" is 50 percent to 79 percent; "middle" is 80 percent to 119 percent; and "high" is 120 percent or more.

⁵ Consists of first- and junior-lien loans and loans without a lien.

Credit Circumstances in Distressed Neighborhoods

Since the start of the housing downturn, access to mortgage credit has been an acute public policy concern, particularly for households with lower incomes or in neighborhoods that have been hardest hit by foreclosures. Mortgage originations have declined broadly since 2005, and, as we discussed in the review of last year's HMDA data, these declines have been greater in highly distressed neighborhoods. To determine if credit has yet begun to flow more freely in such neighborhoods, we use the HMDA data to compare mortgage credit flows from 2010 to 2011.

As in last year's review, we identify distressed neighborhoods using the scores produced by the Department of Housing and Urban Development (HUD) for the NSP.³⁹ The NSP was created by the Housing and Economic Recovery Act of 2008 to provide funds for state and local governments seeking to support neighborhoods with high levels of property abandonment and foreclosure. In deciding which neighborhoods to target, HUD uses a statistical model that estimates the likelihood that the neighborhood is experiencing high rates of foreclosure and mortgage delinquency. The outputs of this model are used to assign to each tract an NSP score ranging from 1 to 20, with a higher score indicating a greater likelihood of distress and with the scores scaled so that each score point is given to 5 percent of census tracts. While an evaluation of the success of the NSP itself is well beyond the scope of this article, we can use these scores to classify census tracts according to the degree of distress they face.

The change from 2010 to 2011 in home-purchase lending for owner-occupied properties, broken down by quintiles of the NSP score, is shown in [table 15](#). Lending declined 7.2 percent overall, though the declines were substantially greater in high-distress neighborhoods. In tracts with NSP scores of 17 to 20, home-purchase lending decreased 13.8 percent, compared with 3.3 percent in tracts with NSP scores below 5. The steeper decline in mortgage credit flows to highly distressed areas continues a trend that has been observed since the onset of the housing market downturn.

Differences in the extent of decline are also observed across borrower income levels. Lending fell more substantially for lower- and middle-income borrowers (12.3 percent and 11.3 percent, respectively) than it did for high-income borrowers (3.8 percent). Indeed, for high-income borrowers, the decline in lending appears unrelated to the degree of neighborhood distress, as indicated by the nonmonotonic relationship between lending declines and NSP score quintile. However, for lower- and middle-income borrowers, the decreases were notably larger when neighborhood distress increased. Somewhat surprisingly, lending to middle-income borrowers fell more than it did for lower-income borrowers in the bottom three quintiles of the NSP score (scores of 1 to 12). In tracts with NSP scores above 12, lending to lower-income borrowers fell off by a larger percentage than it did for high-income borrowers.

Attributing these declines to supply- or demand-side factors is not straightforward. As shown in [table 15](#), the number of applications for home-purchase loans fell by slightly more than the number of loan originations, a pattern that holds for almost all NSP quintiles. The sharper decline in applications suggests that reduced mortgage flows may primarily reflect a drop in demand; however, since potential applicants may have foregone applying because they suspected their application would be denied, the sharper fall in applications is insufficient to prove that these declines represent demand-side factors alone. Most likely, these changes reflect a combination of changes in supply and demand.

³⁹ See Avery and others, "The Mortgage Market in 2010."

Table 15. Loan characteristics related to lending in areas grouped by Neighborhood Stabilization Program score, 2011

Percent change in home-purchase lending from 2010 to 2011

Characteristic	NSP score ¹					
	1–4	5–8	9–12	13–16	17–20	All
Memo						
Loans	-3.3	-7.1	-9.3	-9.9	-13.8	-7.2
Applications	-3.9	-7.3	-9.0	-10.1	-15.4	-7.8
Borrower						
Income ratio (percent of area median) ²						
Lower	-7.4	-9.6	-11.4	-13.6	-19.6	-12.3
Middle	-8.4	-10.4	-12.2	-12.9	-16.5	-11.3
High	-1.6	-5.1	-6.8	-5.1	-5.7	-3.8
Minority ³	-4.7	-10.1	-11.2	-13.1	-14.8	-10.1
Originating institution						
Bank	-2.9	-7.0	-9.7	-10.3	-17.6	-7.1
Thrift	-20.2	-28.1	-30.2	-26.4	-18.0	-24.1
Credit union	6.6	10.8	9.2	8.9	11.2	8.5
Independent mortgage bank	4.6	-6	-3.2	-6.4	-11.2	-2.3
Top 10 organization	-14.4	-16.6	-19.3	-18.5	-22.6	-17.1
Non-top 10 organization	2.6	-2.9	-4.9	-6.1	-9.9	-2.6

Note: First and junior liens for owner-occupied one- to four-family properties in metropolitan areas. Data are the percent change in the dollar value of lending.

¹ The Neighborhood Stabilization Program (NSP) score is based on the NSP3 score created by the Department of Housing and Urban Development. The NSP score classifies census tracts into 5 percent "buckets" on a range of 1 to 20, with 1 being the best tracts and 20 being the worst in terms of a variety of factors, such as foreclosure rates. NSP scores determine eligibility for NSP funding; census tracts with the highest scores are considered the tracts with the greatest need for support. See text for further details.

² Borrower income is the total income relied upon by the lender in the loan underwriting. Income is expressed relative to the median family income of the metropolitan statistical area (MSA) or statewide non-MSA in which the property being purchased is located. "Lower" is less than 80 percent of the median; "middle" is 80 percent to 119 percent; and "high" is 120 percent or more.

³ See table 14, note 2. Minority borrowers are borrowers other than non-Hispanic whites.

Source: Department of Housing and Urban Development; Federal Financial Institutions Examination Council, data reported under the Home Mortgage Disclosure Act.

One supply factor that may be influencing how mortgage credit is flowing is the mix of lenders extending credit. In percentage terms, the largest changes involved thrift institutions, whose lending fell by almost one-fourth in 2011, and credit unions, whose lending increased by over 8 percent. While these institution types accounted for only a small share of lending in 2011 (13 percent; data not shown in table), in neither case was there a clear relationship between the change in lending and the degree of neighborhood distress. Instead, the more rapid decline in lending to distressed neighborhoods appears to involve lending by commercial banks and independent mortgage companies. Both institution types experienced larger declines in lending to tracts with higher NSP scores. While lending by commercial banks was down in 2011 for all NSP quintiles, lending by independent mortgage companies increased in tracts in the least amount of distress (the bottom quintile of NSP scores) in 2011 and fell 11 percent in tracts in the most distress. Nevertheless, both institution types had a spread of about 15 percentage points between the changes in lending in the highest and lowest NSP quintiles.

In addition to types of lenders, we can also examine lending activity by largest lenders. Home-purchase lending by the 10 largest lenders in 2011 fell more sharply in 2011 (17 percent) than lending by other financial institutions (2.6 percent). However, lending by both declined more in highly distressed neighborhoods than in neighborhoods experiencing less distress.

The results of this analysis suggest that highly distressed neighborhoods continue to experience reduced mortgage flows, which mirrors the pattern observed for the 2005–10 period discussed in last year’s review. These declines were particularly pronounced for lower-income borrowers. And while it is difficult to apportion these declines to demand and supply considerations, the sharper declines in distressed areas appear, for the most part, to have been widespread across lenders.

Differences in Lending Outcomes by Race, Ethnicity, and Sex of the Borrower

One reason the Congress amended HMDA in 1989 was to enhance its value for fair lending enforcement by adding to the items reported the disposition of applications for loans and the race, ethnicity, and sex of applicants. A similar motivation underlay the decision to add pricing data for higher-priced loans in 2004, although such data serve other purposes, including to help identify lenders active in the higher-cost or higher-risk segments of the mortgage market and provide information on the volume and locations of borrowers receiving higher-priced loans.

Over the years, analyses of HMDA data have consistently found substantial differences in the incidence of higher-priced lending and in application denial rates across racial and ethnic lines, differences that cannot be fully explained by factors included in the HMDA data.⁴⁰ Analyses also have found that differences across groups in mean APR spreads paid by those with higher-priced loans were generally small.⁴¹ Here we examine the 2011 HMDA data to determine the extent to which these differences persist.

The analysis here presents aggregated lending outcomes across all reporting institutions. Patterns for any given financial institution may differ from those shown, and for any given financial institution, relationships may vary by loan product, geographic market, and loan purpose. Further, although the HMDA data include some detailed information about each mortgage transaction, many key factors that are considered by lenders in credit underwriting and pricing are not included. Accordingly, it is not possible to determine from HMDA data alone whether racial and ethnic pricing disparities reflect illegal discrimination. However, analysis using the HMDA data can account for some factors that are likely related to the lending process. Given that lenders offer a wide variety of loan products for which basic terms and underwriting criteria can differ substantially, the analysis here can only be viewed as suggestive.

Comparisons of average outcomes (both loan pricing and denials) for each racial, ethnic, or gender group are made both before and after accounting for differences in the borrower-related factors contained in the HMDA data (income; loan amount; location of the property, or MSA; and presence of a co-applicant) and for differences in borrower-related factors plus the specific lending institution used by the borrower.⁴² Comparisons for lend-

⁴⁰ See Avery, Brevoort, and Canner, “The 2006 HMDA Data”; Avery, Brevoort, and Canner, “Higher-Priced Home Lending and the 2005 HMDA Data”; and Avery, Canner, and Cook, “New Information Reported under HMDA.”

⁴¹ See, for example, Andrew Haughwout, Christopher Mayer, and Joseph Tracy (2009), “Subprime Mortgage Pricing: The Impact of Race, Ethnicity, and Gender on the Cost of Borrowing,” Federal Reserve Bank of New York Staff Reports 368 (New York: Federal Reserve Bank of New York, April), www.newyorkfed.org/research/staff_reports/sr368.pdf; and Marsha J. Courchane (2007), “The Pricing of Home Mortgage Loans to Minority Borrowers: How Much of the APR Differential Can We Explain?” *Journal of Real Estate Research*, vol. 29 (4), pp. 399–439.

⁴² Excluded from the analysis are applicants residing outside the 50 states and the District of Columbia as well as applications deemed to be business related. Applicant gender is controlled for in the racial and ethnic analyses, and race and ethnicity are controlled for in the analyses of gender differences.

ing outcomes across groups are of three types: gross (or “unmodified”), modified to account for borrower-related factors (or “borrower modified”), and modified to account for borrower-related factors plus lender (or “lender modified”).⁴³ The analysis here distinguishes between conventional and nonconventional lending, reflecting the different underwriting standards and fees associated with these two broad loan product categories.⁴⁴

Incidence of Higher-Priced Lending by Race and Ethnicity and Sex

As noted earlier, 2010 was the first HMDA reporting year for which all of the loans subject to higher-priced loan reporting used the new Freddie Mac PMMS threshold (the PMMS threshold was also used for the last three months of 2009). Before October 1, 2009, a Treasury-based threshold was used. The change in threshold makes it problematic to compare the reported incidence of higher-priced lending in 2010 or 2011 with the incidence reported for previous years. Nevertheless, in previous articles, we have employed a methodology that adjusted the Treasury-based spread to a spread over the 30-year fixed-rate mortgage APOR reported in the PMMS. For almost all of the period from 2006 to 2009, this methodology gave a good approximation of the incidence of loans with APOR spreads more than 1.75 percentage points above the PMMS (25 basis points higher than the cutoff for higher-priced reporting in 2010). Calculations using the “adjusted spread” showed that the estimated incidence of loans more than 1.75 percentage points above the PMMS is significantly reduced from 2006 to 2008 for all racial and ethnic groups and that the differences across groups are considerably smaller since 2008 than in the years prior.⁴⁵ Data reported for the last three months of 2009 using the new threshold showed only modest differences across groups.

As noted earlier, the overall reported incidence of higher-priced lending was about 50 basis points higher in 2011 than in 2010 (data for 2010 not shown in tables). Pricing relationships observed in the 2011 HMDA data are very similar to those found in the 2010 data. The 2011 HMDA data indicate that black and Hispanic-white borrowers are more likely, and Asian borrowers less likely, to obtain conventional loans with prices above the HMDA price-reporting thresholds than are non-Hispanic white borrowers. These relationships hold both for home-purchase and refinance lending and for nonconventional loans (tables 16.A and 16.B). For example, for conventional home-purchase lending in 2011, the incidence of higher-priced lending was 7.8 percent for black borrowers, 7.3 percent for Hispanic white borrowers, and 1.3 percent for Asian borrowers, compared with 3.9 percent for non-Hispanic white borrowers.

The gross differences in the incidence of higher-priced lending between non-Hispanic whites and blacks or Hispanic whites in 2011 are significantly reduced, but not completely eliminated, after controlling for lender and borrower characteristics. For example, the gross 2011 difference in the incidence of higher-priced conventional lending for home-purchase loans between Hispanic whites and non-Hispanic whites of 3.4 percentage points falls to only about 0.55 percentage point when the other factors available within the HMDA data are accounted for. The large gap in pricing between blacks and non-Hispanic whites is similarly reduced when other factors are considered. The pricing disparities across groups are significantly lower than the higher-priced incidence disparities observed from 2004 to 2007 using both the old Treasury-based threshold and our PMMS-based adjusted spread.

⁴³ For purposes of presentation, the borrower- and lender-modified outcomes shown in the tables are normalized so that, *for the base comparison group* (non-Hispanic whites in the case of comparison by race and ethnicity and males in the case of comparison by sex), the mean at each modification level is the same as the gross mean.

⁴⁴ Although results here are reported for nonconventional lending as a whole, the analysis controls for the specific type of government-backed loan program (FHA, VA, or FSA/RHS) used by the borrower or loan applicant.

⁴⁵ See Avery and others, “The 2008 HMDA Data.”

Table 16. Incidence of higher-priced lending, unmodified and modified for borrower- and lender-related factors, by type and purpose of loan and by race, ethnicity, and sex of borrower, 2011**A. Conventional loan**

Percent except as noted

Race, ethnicity, and sex	Number of loans	Unmodified incidence	Modified incidence, by modification factor		Number of loans	Unmodified incidence	Modified incidence, by modification factor	
			Borrower-related	Borrower-related plus lender			Borrower-related	Borrower-related plus lender
			Purpose of loan					
	Home purchase				Refinance			
Race other than white only¹								
American Indian or Alaska Native	2,905	7.85	4.42	4.14	8,313	3.14	2.46	1.82
Asian	77,211	1.32	3.28	3.70	195,610	.31	.93	1.48
Black or African American	21,655	7.84	6.52	4.69	73,397	4.21	3.19	2.36
Native Hawaiian or other Pacific Islander	2,285	2.76	3.98	4.23	6,593	1.18	1.88	2.26
Two or more minority races	395	2.28	3.12	3.87	1,405	.85	2.06	1.96
Joint	15,158	2.91	4.17	4.16	48,823	.97	1.67	1.72
Missing	84,659	1.67	2.78	3.90	339,272	.74	1.09	1.64
White, by ethnicity¹								
Hispanic white	43,569	7.25	5.68	4.40	110,493	2.41	2.09	2.00
Non-Hispanic white	736,713	3.85	3.85	3.85	2,496,791	1.62	1.62	1.62
Sex								
One male	274,116	3.92	3.92	3.92	655,790	1.79	1.79	1.79
One female	192,796	3.55	3.27	3.63	522,500	1.99	1.70	1.72
Two males	10,304	7.00	7.00	7.00	22,219	2.00	2.00	2.00
Two females	7,924	4.76	5.41	6.97	22,594	2.07	1.77	2.16

Note: First-lien mortgages for owner-occupied, one- to four-family, site-built properties; excludes business loans. Business-related loans are those for which the lender reported that the race, ethnicity, and sex of the applicant or co-applicant are "not applicable." For definition of higher-priced lending and explanation of modification factors, see text and table 9, note 3. Loans taken out jointly by a male and female are not tabulated here because they would not be directly comparable with loans taken out by one borrower or by two borrowers of the same sex.

¹ See table 14, note 2.

With regard to the gender of applicants, we find relatively small differences in the incidence of higher-priced lending between single applicants of different genders and dual applicants of different genders once all available factors are taken into account.

Rate Spreads by Race, Ethnicity, and Sex

The 2011 data indicate that among borrowers with higher-priced loans, the gross APOR spreads are similar across groups for both home-purchase and refinance lending. This result holds for both conventional (table 17.A) and nonconventional lending (table 17.B). For example, for conventional home-purchase loans, the gross mean APOR spread was 2.49 percentage points for black borrowers and 2.76 percentage points for Hispanic white borrowers, while it was 2.49 percentage points for non-Hispanic white borrowers and 2.41 percentage points for Asian borrowers. Accounting for borrower-related factors or the specific lender used by the borrowers has little effect on the differences across groups.

Denial Rates by Race, Ethnicity, and Sex

Analyses of the HMDA data in previous years have consistently found that denial rates vary across applicants grouped by race or ethnicity. This continues to be the case in 2011. As in past years, blacks and Hispanic whites had notably higher gross denial rates in 2011 than non-Hispanic whites, while the differences between Asians and non-Hispanic whites

Table 16. Incidence of higher-priced lending, unmodified and modified for borrower- and lender-related factors, by type and purpose of loan and by race, ethnicity, and sex of borrower, 2011**B. Nonconventional loan**

Percent except as noted

Race, ethnicity, and sex	Number of loans	Unmodified incidence	Modified incidence, by modification factor		Number of loans	Unmodified incidence	Modified incidence, by modification factor	
			Borrower-related	Borrower-related plus lender			Borrower-related	Borrower-related plus lender
			Home purchase				Refinance	
Race other than white only¹								
American Indian or Alaska Native	5,754	2.78	2.91	2.09	2,312	5.02	3.74	2.83
Asian	26,746	2.09	2.01	2.02	8,577	4.03	3.92	4.06
Black or African American	87,774	4.16	3.53	3.10	44,070	10.80	7.33	5.24
Native Hawaiian or other Pacific Islander	4,288	2.64	2.46	2.57	1,913	3.50	3.58	4.06
Two or more minority races	681	.88	1.35	1.59	308	4.55	5.33	4.21
Joint	15,364	1.75	2.37	2.51	9,617	2.67	4.50	4.58
Missing	74,377	2.89	3.57	2.30	55,264	2.32	3.06	4.64
White, by ethnicity¹								
Hispanic white	120,229	4.78	2.79	2.59	28,384	6.50	4.20	4.23
Non-Hispanic white	660,368	2.35	2.35	2.35	344,076	5.94	5.94	5.94
Sex								
One male	359,311	2.91	2.91	2.91	147,966	4.72	4.72	4.72
One female	234,298	3.89	2.92	2.91	81,252	12.04	6.03	5.56
Two males	13,567	2.94	2.94	2.94	3,692	2.76	2.76	2.76
Two females	10,629	3.24	3.36	3.54	3,261	4.60	4.07	4.66

Note: See notes to table 16.A.

generally were fairly small by comparison (tables 18.A and 18.B). For example, the denial rates for conventional home-purchase loans were 30.9 percent for blacks, 21.7 percent for Hispanic whites, 14.8 percent for Asians, and 11.9 percent for non-Hispanic whites. The pattern was about the same for nonconventional home-purchase lending, although the gap in gross denial rates between blacks or Hispanic whites and non-Hispanic whites was notably smaller than for conventional home-purchase loans.

For both conventional and nonconventional home-purchase lending, controlling for borrower-related factors in the HMDA data generally reduces the differences among racial and ethnic groups. Accounting for the specific lender used by the applicant reduces differences further, although unexplained differences remain between non-Hispanic whites and other racial and ethnic groups. An analysis of refinance loans shows similar patterns, although the differences in gross denial rates between blacks and non-Hispanic whites and between Hispanic whites and non-Hispanic whites tend to be larger than for home-purchase lending. For example, the gross difference between black and non-Hispanic-white borrowers refinancing using a conventional loan was 20.5 percentage points.

Some Limitations of the Data in Assessing Fair Lending Compliance

Previous research and experience gained in the fair lending enforcement process show that unexplained differences in the incidence of higher-priced lending and in denial rates among racial or ethnic groups stem, at least in part, from credit-related factors not available in the HMDA data, such as credit history (including credit scores), loan-to-value ratios, and differences in loan characteristics. Differential costs of loan origination and the competitive

Table 17. Mean average prime offer rate spreads, unmodified and modified for borrower- and lender-related factors, for higher-priced loans on one- to four-family homes, by type and purpose of loan and by race, ethnicity, and sex of borrower, 2011

A. Conventional loan

Percent except as noted

Race, ethnicity, and sex	Number of higher-priced loans ¹	Unmodified mean spread	Modified mean spread, by modification factor		Number of higher-priced loans ¹	Unmodified mean spread	Modified mean spread, by modification factor	
			Borrower-related	Borrower-related plus lender			Borrower-related	Borrower-related plus lender
			Home purchase				Refinance	
Race other than white only²								
American Indian or Alaska Native	228	2.93	2.80	2.70	261	2.71	2.55	2.58
Asian	1,016	2.41	2.49	2.46	601	2.43	2.36	2.49
Black or African American	1,698	2.49	2.67	2.54	3,087	2.99	2.91	2.66
Native Hawaiian or other Pacific Islander	63	2.26	2.95	2.63	78	2.42	2.62	2.61
Two or more minority races	9	2.68	3.61	2.52	12	1.98	2.34	2.67
Joint	441	2.49	2.48	2.49	476	2.48	2.56	2.56
Missing	1,415	2.29	2.29	2.48	2,514	2.52	3.13	2.56
White, by ethnicity²								
Hispanic white	3,160	2.76	2.71	2.55	2,660	2.84	2.56	2.55
Non-Hispanic white	28,356	2.49	2.49	2.49	40,456	2.53	2.53	2.53
Sex								
One male	9,073	2.54	2.54	2.54	10,679	2.72	2.72	2.72
One female	5,767	2.48	2.48	2.51	9,937	2.80	2.73	2.72
Two males	721	2.58	2.58	2.58	445	2.54	2.54	2.54
Two females	377	2.55	2.51	2.52	467	2.68	2.56	2.49

Note: For definition of higher-priced lending and explanation of modification factors, see text. Loans taken out jointly by a male and female are not tabulated here because they would not be directly comparable with loans taken out by one borrower or by two borrowers of the same sex. For definition of average prime offer rate spread, see table 11, note 1.

¹ See table 9, note 3.

² See table 14, note 2.

environment also may bear on the differences in pricing, as may differences across populations in credit-shopping activities.

Despite these limitations, the HMDA data play an important role in fair lending enforcement. The data are regularly used by bank examiners to facilitate the fair lending examination and enforcement processes. When examiners for the federal banking agencies evaluate an institution's fair lending risk, they analyze HMDA price data and loan application outcomes in conjunction with other information and risk factors that can be drawn directly from loan files or electronic records maintained by lenders, as directed by the Interagency Fair Lending Examination Procedures.⁴⁶ The availability of broader information allows the examiners to draw firm conclusions about institution compliance with the fair lending laws.

It is important to keep in mind that the HMDA data, as currently constituted, can be used only to detect differences in pricing across groups for loans with APRs above the reporting threshold; pricing differences may exist among loans below the threshold. This gap in the loan pricing information will be addressed in coming years as the Consumer Financial Protection Bureau implements the expanded data reporting requirements set forth in the

⁴⁶ The Interagency Fair Lending Examination Procedures are available at www.ffiec.gov/PDF/fairlend.pdf.

Table 17. Mean average prime offer rate spreads, unmodified and modified for borrower- and lender-related factors, for higher-priced loans on one- to four-family homes, by type and purpose of loan and by race, ethnicity, and sex of borrower, 2011

B. Nonconventional loan

Percent except as noted

Race, ethnicity, and sex	Number of higher-priced loans ¹	Unmodified mean spread	Modified mean spread, by modification factor		Number of higher-priced loans ¹	Unmodified mean spread	Modified mean spread, by modification factor	
			Borrower-related	Borrower-related plus lender			Borrower-related	Borrower-related plus lender
			Home purchase				Refinance	
Race other than white only²								
American Indian or Alaska Native	160	1.78	1.91	1.95	116	2.49	2.50	2.53
Asian	558	2.10	1.96	1.93	346	2.35	2.30	2.38
Black or African American	3,651	1.94	1.93	1.96	4,758	2.63	2.55	2.49
Native Hawaiian or other Pacific Islander	113	1.91	1.95	1.95	67	2.44	2.47	2.24
Two or more minority races	6	2.07	1.89	2.01	14	2.25	2.23	2.22
Joint	269	1.97	2.00	1.97	257	2.36	2.59	2.45
Missing	2,151	2.21	2.18	1.98	1,281	3.33	4.42	2.32
White, by ethnicity²								
Hispanic white	5,749	1.88	1.92	1.96	1,845	2.47	2.39	2.44
Non-Hispanic white	15,531	1.96	1.96	1.96	20,442	2.44	2.44	2.44
Sex								
One male	10,449	1.93	1.93	1.93	6,977	2.60	2.60	2.60
One female	9,114	1.99	1.95	1.93	9,785	2.63	2.65	2.64
Two males	399	1.90	1.90	1.90	102	2.17	2.17	2.17
Two females	344	1.85	1.84	1.92	150	2.30	2.16	2.23

Note: See notes to table 17.A.

Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010, including the provision requiring the reporting of rate spread information for all loans.

Assessing the Accuracy of Borrower Income Reported in the HMDA Data

During the housing boom of the 2000s, one underwriting practice that proliferated was the granting of mortgages with little or no documentation of income and assets. To investigate the extent to which borrower incomes may have been overstated on mortgage applications as a result of such practices, we compare the incomes reported for home-purchase borrowers in the HMDA data with the incomes of homebuyers taking out mortgages reported in Census 2000 and the ACS for 2005 through 2010.⁴⁷ While incentives to overstate income on mortgage applications sometimes exist, no such incentive exists when reporting income for the census or ACS. Thus, the Census 2000 and ACS data may provide “true” measures of income of homebuyers with which to gauge the accuracy of income reported on mortgage applications.⁴⁸

⁴⁷ Others have conducted similar research, comparing HMDA data with American Housing Survey data for the years 1995 through 2007. Our analysis confirms and expands on theirs by comparing HMDA data with a different data source and by extending the analysis through 2010. See McKinley L. Blackburn and Todd Vermilyea (2012), “The Prevalence and Impact of Misstated Incomes on Mortgage Loan Applications,” *Journal of Housing Economics*, vol. 21 (June), pp. 151–68.

⁴⁸ There are circumstances when applicants for mortgages do not need to report all income to a prospective lender

Table 18. Denial rates on applications, unmodified and modified for borrower- and lender-related factors, by type and purpose of loan and by race, ethnicity, and sex of applicant, 2011**A. Conventional loan application**

Percent except as noted

Race, ethnicity, and sex	Number of applications acted upon by lender	Unmodified denial rate	Modified denial rate, by modification factor		Number of applications acted upon by lender	Unmodified denial rate	Modified denial rate, by modification factor	
			Borrower-related	Borrower-related plus lender			Borrower-related	Borrower-related plus lender
			Home purchase				Refinance	
Race other than white only¹								
American Indian or Alaska Native	4,165	23.8	21.3	16.1	14,554	36.2	35.0	28.8
Asian	99,848	14.8	14.8	13.5	266,844	19.3	23.1	23.4
Black or African American	34,475	30.9	24.2	21.3	138,918	40.5	36.3	32.1
Native Hawaiian or other Pacific Islander	3,130	20.3	16.1	15.1	10,738	31.9	31.6	28.6
Two or more minority races	576	24.0	24.7	19.7	2,349	32.8	36.7	31.3
Joint	18,679	12.1	14.3	12.9	65,079	18.7	23.5	22.1
Missing	115,081	18.6	18.7	14.9	529,019	29.2	28.6	24.4
White, by ethnicity¹								
Hispanic white	60,885	21.7	16.2	15.7	179,810	32.0	28.5	26.6
Non-Hispanic white	894,159	11.9	11.9	11.9	3,362,076	20.0	20.0	20.0
Sex								
One male	353,445	16.0	16.0	16.0	987,535	26.7	26.7	26.7
One female	245,656	15.6	14.3	14.8	767,689	25.8	24.4	24.6
Two males	13,586	17.9	17.9	17.9	31,981	24.5	24.5	24.5
Two females	10,332	17.6	15.3	14.5	32,124	24.0	23.5	23.7

Note: First-lien mortgages for owner-occupied, one- to four-family, site-built properties; excludes business loans. Business-related loans are those for which the lender reported that the race, ethnicity, and sex of the applicant or co-applicant are "not applicable." For explanation of modification factors, see text. Applications made jointly by a male and female are not tabulated here because they would not be directly comparable with applications made by one applicant or by two applicants of the same sex.

¹ See table 14, note 2.

The Census Bureau annually conducts the ACS, a household survey gathering a wide variety of information, including overall family income, homeownership status, and mortgage status. Because the survey was conducted on a somewhat smaller scale prior to 2005, we use only ACS data for 2005 and after, and we use Census 2000 data to measure borrower income at the beginning of the decade.⁴⁹ For each year of the analysis, we compute average family income at the state level for home-purchase borrowers in the HMDA data and for families in the ACS and Census 2000 data that appear to have recently purchased their home with a mortgage (those that reported they own their home, have a mortgage, and moved in the past year).⁵⁰ We then compute the ratio of HMDA income to ACS income (or, from Census 2000, census income), state by state and for three different periods: 2000, 2005 to 2006, and 2009 to 2010. Ratios substantially greater than 1 imply widespread overstatement of income on mortgage applications.

in order to qualify for a home loan. As such, incomes reported on mortgage applications tend to be lower than actual total household income in the absence of deliberately overstated income.

⁴⁹ Census 2000 and ACS microdata were extracted from Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek (2010), Integrated Public Use Microdata Series: Version 5.0 (machine-readable database) (Minneapolis: University of Minnesota).

⁵⁰ We use data only for metropolitan counties reported in the ACS and census microdata. This restriction helps ensure comparability between the two data sources since the HMDA data provide much better coverage of mortgage originations in metropolitan areas. In addition, results were suppressed for states with fewer than 50 households contributing to the statewide figure.

Table 18. Denial rates on applications, unmodified and modified for borrower- and lender-related factors, by type and purpose of loan and by race, ethnicity, and sex of applicant, 2011**B. Nonconventional loan application**

Percent except as noted

Race, ethnicity, and sex	Number of applications acted upon by lender	Unmodified denial rate	Modified denial rate, by modification factor		Number of applications acted upon by lender	Unmodified denial rate	Modified denial rate, by modification factor	
			Borrower-related	Borrower-related plus lender			Borrower-related	Borrower-related plus lender
			Home purchase				Refinance	
Race other than white only¹								
American Indian or Alaska Native	7,408	16.7	18.8	18.0	4,115	35.6	37.7	32.6
Asian	35,278	18.6	17.1	15.6	14,906	32.6	33.6	32.3
Black or African American	120,493	22.0	20.2	19.2	83,469	38.9	39.6	36.5
Native Hawaiian or other Pacific Islander	5,554	17.2	17.4	17.4	3,165	30.5	33.1	32.5
Two or more minority races	939	20.0	19.5	18.5	632	39.6	39.8	31.0
Joint	18,604	12.3	14.3	13.4	14,265	24.6	32.0	31.0
Missing	101,560	20.7	21.4	18.0	110,551	42.6	40.9	31.1
White, by ethnicity¹								
Hispanic white	157,053	17.9	15.9	15.6	48,034	31.4	33.0	32.3
Non-Hispanic white	796,284	12.7	12.7	12.7	538,897	28.9	28.9	28.9
Sex								
One male	453,381	15.9	15.9	15.9	253,578	33.8	33.8	33.8
One female	295,544	16.0	14.7	15.0	144,648	36.3	32.6	32.5
Two males	18,167	20.0	20.0	20.0	6,151	30.9	30.9	30.9
Two females	13,935	18.9	17.1	17.8	5,598	33.5	29.3	30.1

Note: See notes to table 18.A.

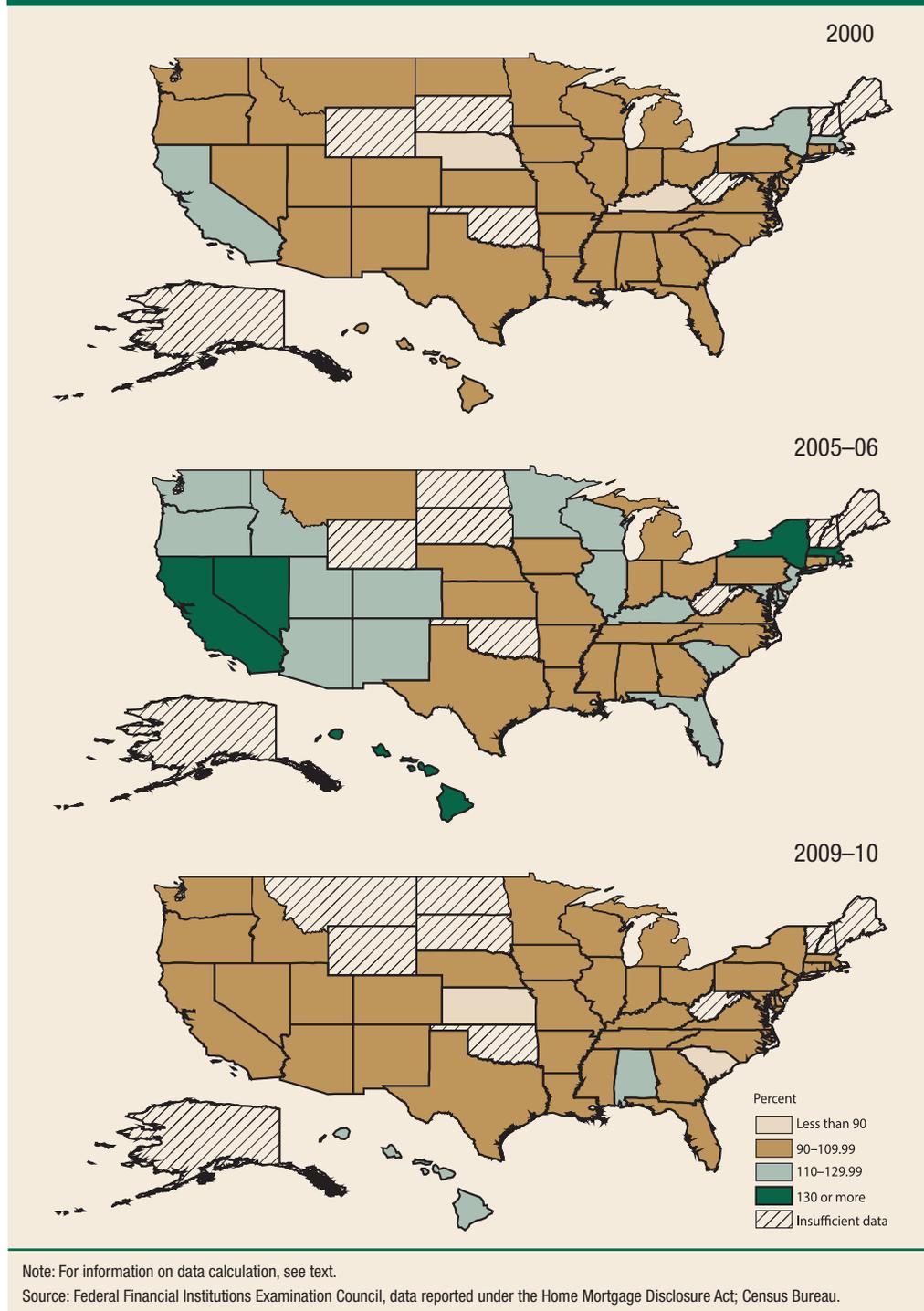
Figure 3 suggests that income on mortgage applications was widely overstated in a number of states in 2005 and 2006, particularly California, Hawaii, Massachusetts, Nevada, and New York. In these states, average borrower income as reflected in the HMDA data was 30 percent or more above the average ACS borrower income. In contrast, HMDA borrower income was no more than 10 percent above borrower income as reported in Census 2000 in almost all states. Finally, in 2009 and 2010, we observe a return to consistent incomes across data sources, with borrower incomes reported in HMDA and the ACS within 10 percent of each other in almost every state.

Users of the HMDA data should be aware that borrower income was likely significantly overstated during the peak of the housing boom, particularly in some areas of the country. One potential implication of this finding is that lending to lower-income borrowers, as measured in the HMDA data, may be attenuated around the peak of the housing market.

Transition to the 2010 Census Data and Revised Census-Tract Boundaries

Census data are used to evaluate the performance of lending institutions in complying with the CRA and the nation's fair lending laws. For example, family income data derived from the census are used to categorize census tracts by their relative median family income, and race and ethnicity data are used to characterize the minority population status of census

Figure 3. Ratio of average income for home-purchase borrowers, as reported under the Home Mortgage Disclosure Act, to average homebuyer income from Census 2000 and to that from the American Community Survey of 2005–06 and 2009–10, by state



tracts and other geographies.⁵¹ In the CRA context, the relative income of census tracts is used to identify which census tracts are considered lower income (low or moderate income) and, as a consequence, a focus of CRA attention. In the fair lending enforcement context, census-tract minority population characteristics are used, for example, to help detect poten-

tial redlining behavior, where, for example, a lender has a policy or practice that results in little or no lending in a geographic area because of its racial or ethnic composition.

Using census sources to identify income, population, and housing characteristics of census tracts and broader areas has become more complicated recently. Unlike Census 2000, which used a survey questionnaire that asked a great many detailed questions (often referred to as the “long form”), the 2010 census used a brief questionnaire (referred to as the “short form”). In particular, the 2010 census focused on gathering household population counts and race, ethnicity, sex, and age characteristic information, but it provides relatively little other information—and no data on household or family income.

In lieu of collecting extensive detailed information from every household once a decade in conjunction with the decennial census, the Census Bureau now annually conducts the ACS. The ACS collects detailed population, income, and housing information from a representative sample of about 3 million households using a long-form questionnaire. Because of a relatively small sample size, the annual ACS data do not provide sufficient information to establish reliable estimates of census-tract characteristics. However, the Census Bureau aggregates ACS data across years and publishes data for each census tract based on the most recent five-year combined ACS data. The first five-year ACS aggregate data made available were derived from the 2005–09 annual surveys and used the census-tract boundaries established for Census 2000. The more recent 2006–10 combined ACS data were released to the public in December 2011 and are available from the FFIEC at its HMDA website. The 2006–10 ACS data use the census-tract boundaries created for the 2010 census. Using five-year aggregated data derived from the ACS, it is possible to categorize each census tract by its relative median family income.

FFIEC Treatment of Updated Census and ACS Data

The FFIEC has announced that, for purposes of preparing HMDA disclosure reports and for CRA performance evaluations, the 2006–10 ACS data will be used to classify census tracts by relative median family income and that these classifications will not be changed for a period of five years.⁵² Five years hence, updated relative-income information will be derived from the combined 2011–15 ACS data, and census tracts will be reclassified according to their updated income profiles. Although, in principle, annual updates from the ACS could be used to reclassify census tracts by their relative incomes each year, the potential movement of census tracts from one relative-income category to another would greatly complicate CRA enforcement and make it difficult for lending institutions to plan and monitor their own activities.

A key aspect of the HMDA reporting rules is the requirement that lenders identify the census-tract locations of the properties involved in the applications and loans they report on each year. The 2011 HMDA data used census tracts as enumerated for Census 2000 and do not reflect any of the updated 2010 census or ACS data. Census-tract identifiers for the forthcoming 2012 HMDA data will be those enumerated for the 2010 census: Analysis of these data will use the 2010 census data and the 2006–10 ACS data.

⁵¹ Relative income is the ratio of the census-tract median family income to the median family income of the broader area (either the MSA or the nonmetropolitan portion of the state) where the census tract is located.

⁵² For a discussion of the shift to the 2006–10 ACS data for census-tract relative-income classification, see Federal Financial Institutions Examination Council (2011), “FFIEC Announces the Use of American Community Survey Data in Its Census Data Files,” press release, October 19, www.ffiec.gov/press/pr101911_ACS.htm. The classification may change if the Office of Management and Budget (OMB) establishes new MSAs or alters the boundaries of existing MSAs. The OMB is scheduled to release new MSA delineations in 2013.

There were substantial changes in the number and boundaries of census tracts between the 2000 and 2010 censuses. As a consequence of population growth and migration, as well as other factors, such as new road construction, the 2010 census includes many more census tracts than Census 2000, and the geographic areas of many census tracts used for Census 2000 have been altered. Overall, Census 2000 included about 66,300 census tracts; the 2010 census includes about 74,000 census tracts. About 46 percent of the 2010 census tracts have the same geographic boundaries as in 2000, and about 72 percent have a land area that is 95 percent or more identical to the area in 2000. For purposes of this article, the census tracts that have 2010 areas that are 95 percent or more the same as in 2000 are referred to as “substantially similar” census tracts.

The shift from the 2000 to the 2010 census has important implications for those using the HMDA data. Perhaps most important is the possibility that a loan related to a given property may have been identified as being in a census tract in a particular relative-income group one year, but a loan on that same property may be reclassified into a different relative-income category the next year simply because of the shift from the income data based on Census 2000 to the income data based on the 2006–10 ACS. Reclassification could occur because the income profile of the population in the census tract has changed (altering the numerator in the relative-income calculation), because the income profile of the broader area has changed (altering the denominator in the relative-income classification), or both.

Evaluating the Effects of Census Data Changes

In order to gauge the potential effects of census data changes on the classification of lending activity, we undertook some simulations using the 2011 HMDA data. The analysis here focuses on the reclassification of *census tracts* due to changes in their relative family incomes and the reclassification of *home lending* (of all types) due to the reclassification of the census tracts where the properties associated with the loans are located. Because the location of branch offices may influence an institution’s home-lending activity and because branch locations are an important component of CRA performance evaluations, we also assess the effects of the census data changes on *branch office* classification by census-tract income. Unlike lending, where an institution can potentially alter the geographic pattern of the home loan applications it receives by changes in marketing, outreach to real estate agents and homebuilders, and other techniques, branch office locations cannot be readily changed.

We evaluate the “pure” effects of updated population income estimates by comparing census-tract income classifications using Census 2000 data with classifications derived from the 2005–09 ACS surveys. Both Census 2000 and the 2005–09 ACS use the same census-tract boundaries. Also, to ensure that changes in MSA boundaries over the course of the past decade do not affect the analysis, we use the census-tract relative-income classifications as carried on the 2011 FFIEC HMDA data files. These files reflect the 2000 decennial estimates of median family income for each census tract but use current MSA boundary definitions. Thus, the only factors that can affect our estimates of income reclassifications are the updates to census-tract or broader area median family incomes that come about because of changes in family income estimates from shifting from Census 2000 to the more recent data based on the 2005–09 ACS.⁵³

⁵³ Using the 2005–09 ACS income data in this exercise is not ideal since the actual income estimates used for CRA and HMDA purposes will be obtained from the 2006–10 ACS data. To address the possibility that the 2005–09 ACS income data and the 2006–10 ACS income data for individual census tracts differ significantly, and consequently affect reclassification estimates, we conducted a second analysis that is limited to the subset of census tracts that have substantially similar boundaries as defined for the 2000 and 2010 censuses. Results are in the final six columns of table 19. As shown in the table, the patterns are very similar whether the analysis is done

Table 19. Effect of the transition to updated census data on classification of census tracts, home lending, and branch offices, by census-tract relative-income reclassification

Census-tract relative-income reclassification ¹	Census 2000 to 2005–09 ACS						Census 2000 to 2006–10 ACS					
	Census tracts		Loans		Branch offices		Census tracts		Loans		Branch offices	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Low to low	2,888	74	40,675	64	1,966	63	2,213	76	31,483	64	1,486	68
Low to moderate	860	22	16,682	26	718	23	624	21	13,270	27	478	22
Low to middle	110	3	2,910	5	157	5	58	2	2,441	5	118	5
Low to high	44	1	2,856	5	260	8	21	1	1,930	4	107	5
Memo: Total	3,902	100	63,123	100	3,101	100	2,916	100	49,124	100	2,189	100
Moderate to low	2,323	16	56,946	9	2,078	13	1,955	18	47,304	10	1,622	14
Moderate to moderate	9,208	65	410,331	65	10,624	66	7,060	65	301,313	65	7,912	67
Moderate to middle	2,411	17	151,120	24	3,171	20	1,813	17	104,672	23	2,139	18
Moderate to high	153	1	11,099	2	268	2	100	1	8,766	2	155	1
Memo: Total	14,095	100	629,496	100	16,141	100	10,928	100	462,055	100	11,828	100
Middle to low	108	0	2,430	0	159	0	80	0	1,795	0	113	0
Middle to moderate	4,777	15	314,565	9	6,993	14	3,784	16	237,760	11	4,967	14
Middle to middle	23,710	74	2,590,180	76	37,884	75	17,496	73	1,696,802	75	25,712	75
Middle to high	3,359	11	500,753	15	5,360	11	2,577	11	313,465	14	3,588	10
Memo: Total	31,954	100	3,407,928	100	50,396	100	23,937	100	2,249,822	100	34,380	100
High to low	8	0	64	0	21	0	0	0	0	0	0	0
High to moderate	36	0	1,342	0	71	0	23	0	1,042	0	47	0
High to middle	2,664	18	380,064	13	4,516	16	2,076	19	253,190	14	3,052	17
High to high	11,907	81	2,515,553	87	22,791	83	8,750	81	1,530,101	86	14,399	82
Memo: Total	14,615	100	2,897,023	100	27,399	100	10,849	100	1,784,333	100	17,498	100

Note: For an explanation of the transition to updated census data, see the text discussion "Transition to the 2010 Census Data and Revised Census-Tract Boundaries." Census tracts are as defined in the decennial censuses for 2000 (Census 2000) and 2010.

¹ For definitions of census-tract income categories, see table 14, note 4.

ACS American Community Survey.

Source: For census-tract locations of properties related to home loans, Federal Financial Institutions Examination Council, data reported under the Home Mortgage Disclosure Act; for branch office locations, data derived from the Summary of Deposits as of June 30, 2011.

Census-Tract Reclassification

Our analysis indicates that the transition from the Census 2000 to the 2005–09 ACS data for classifying census tracts by relative income would result in significant changes in census-tract income category classification. For example, 17 percent of the census tracts that were classified as moderate income using the 2000 income data would be reclassified as middle income, and 1 percent would be reclassified as higher income (table 19). Because these census tracts would no longer be classified as falling in the lower-income category, lending and other activities, including branch office locations, in these census tracts would no longer be a focus of CRA attention. However, about 15 percent of middle-income census tracts would be reclassified as moderate income, and activities in these census tracts would gain emphasis in CRA performance evaluations.

using the 2005–09 ACS data and the 2000 census-tract boundaries or the 2006–10 ACS data using only the substantially similar census tracts.

Loan Reclassification

Results are similar when the analysis considers reclassification of home loans instead of census tracts, but some of the transitions are more pronounced. An analysis using the Census 2000 and the 2005–09 ACS data indicates that about 24 percent of the home loans extended in 2011 and classified as falling in moderate-income census tracts would transition and be reclassified as falling in a middle-income census tract and that 2 percent of the loans would transition to a higher-income census tract. At the same time, about 9 percent of the loans falling in middle-income areas would be reclassified as falling in moderate-income areas. However, in terms of the absolute number of loans, had the new census-tract relative-income classifications been used in 2011, there would have been a net increase in mortgage lending to low- and moderate-income neighborhoods of about 150,000 loans, about 22 percent higher than the number of LMI loans in 2011 under current census-tract relative-income classifications (data derived from table 19).

Branch Office Reclassification

For our analysis of the effects of the transition from the Census 2000 to the ACS-based data on the classification of branch offices by census-tract relative income, we use the location of branch offices as reported in the Summary of Deposits (SOD) as of June 30, 2011. The SOD is an annual survey, compiled by the Federal Deposit Insurance Corporation (FDIC), of branch office deposits for all FDIC-insured banking institutions.⁵⁴ The data include the location (state, county, and census tract) of each branch (and headquarters) office and the dollar amount of deposits that are allocated to that branch by the banking institution. For this exercise, we excluded the locations of automated teller machines (ATMs). Although ATMs are considered in CRA performance evaluations under the “services test,” it seems unlikely that ATM locations have much influence on home-lending activity, the main focus of this article.⁵⁵ In total, the branch office analysis included about 98,000 branch offices.

As in the analysis of census tracts and home lending described earlier, our analysis of branch office reclassification indicates that the switch from Census 2000 data to the more recent ACS-based income data would have a notable effect on the classification of branch offices by census-tract relative income. For example, 20 percent of the branch offices that were classified as located in a moderate-income census tract using the 2000 income data would be reclassified as middle income, and 2 percent would be reclassified as higher income, using the 2005–09 ACS data. Because these branch offices would no longer be classified as located in lower-income census tracts, they would no longer be a focus of CRA attention. However, about 14 percent of branches classified as being located in middle-income census tracts based on Census 2000 data would be reclassified as being located in moderate-income census tracts, and consequently, these offices would gain emphasis in CRA performance evaluations. Because there are more branch offices in middle-income census tracts than in low- or moderate-income census tracts, the transition to the updated census information will result in a net increase of about 3,400 branch offices in areas that are the focus of CRA attention.

⁵⁴ See Federal Deposit Insurance Corporation, “Summary of Deposits,” webpage, www2.fdic.gov/sod.

⁵⁵ CRA compliance evaluations focus on three aspects of performance: lending, services, and investment. For more information, see Federal Financial Institutions Examination Council, “CRA Rating Search Frequently Asked Questions,” webpage, www.ffiec.gov/craratings/ratings_faq.htm.

Appendix A: Requirements of Regulation C

The Federal Reserve Board's Regulation C requires lenders to report the following information on home-purchase and home-improvement loans and on refinancings:

For each application or loan

- application date and the date an action was taken on the application
- action taken on the application
 - approved and originated
 - approved but not accepted by the applicant
 - denied (with the reasons for denial—voluntary for some lenders)
 - withdrawn by the applicant
 - file closed for incompleteness
- preapproval program status (for home-purchase loans only)
 - preapproval request denied by financial institution
 - preapproval request approved but not accepted by individual
- loan amount
- loan type
 - conventional
 - insured by the Federal Housing Administration
 - guaranteed by the Department of Veterans Affairs
 - backed by the Farm Service Agency or Rural Housing Service
- lien status
 - first lien
 - junior lien
 - unsecured
- loan purpose
 - home purchase
 - refinance
 - home improvement
- type of purchaser (if the lender subsequently sold the loan during the year)
 - Fannie Mae
 - Ginnie Mae
 - Freddie Mac
 - Farmer Mac
 - private securitization
 - commercial bank, savings bank, or savings association
 - life insurance company, credit union, mortgage bank, or finance company
 - affiliate institution
 - other type of purchaser

For each applicant or co-applicant

- race
- ethnicity
- sex
- income relied on in credit decision

For each property

- location, by state, county, metropolitan statistical area, and census tract
- type of structure
 - one- to four-family dwelling
 - manufactured home
 - multifamily property (dwelling with five or more units)
- occupancy status (owner occupied, non-owner occupied, or not applicable)

For loans subject to price reporting

- spread above comparable Treasury security for applications taken prior to October 1, 2010
- spread above average prime offer rate for applications taken on or after October 1, 2010

For loans subject to the Home Ownership and Equity Protection Act

- indicator of whether loan is subject to the Home Ownership and Equity Protection Act