



The Mortgage Market in 2010: Highlights from the Data Reported under the Home Mortgage Disclosure Act

Robert B. Avery, Neil Bhutta, Kenneth P. Brevoort, and Glenn B. Canner, of the Division of Research and Statistics, prepared this article. Nicholas W. Henning and Shira E. Stolarsky provided research assistance.

The Home Mortgage Disclosure Act of 1975 (HMDA) is a consumer protection statute requiring most mortgage lending institutions with offices in metropolitan areas to publicly 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 in a variety of public policy and research endeavors to explore mortgage market activity; in this connection, the HMDA data have been especially valuable when combined with other types of information, such as the socioeconomic and demographic status of different populations and geographies.

The 2010 HMDA data consist of information reported by more than 7,900 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

Until recently, the Federal Reserve Board implemented the provisions of HMDA through its Regulation C.⁴ On July 21, 2011, rulemaking responsibility for HMDA was transferred

Note: This article was prepared in September 2011, before revisions were made to scheduled loan-size limits applicable to loans purchased by the Federal Housing Administration, Fannie Mae, and Freddie Mac. Subsequently, only the changes applicable to Fannie Mae and Freddie Mac were implemented.

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 2010 is provided in appendix A.

⁴ Information about Regulation C (12 C.F.R. pt. 203) is available at www.federalreserve.gov.

from the Board to the newly established Consumer Financial Protection Bureau (CFPB) (discussed later in the section “Future Changes in HMDA”).⁵ The Federal Financial Institutions Examination Council (FFIEC) has played, and will continue to play, a role in collecting the HMDA data from reporting institutions and facilitating public access to the information.⁶ In September each year, the FFIEC has released summary tables pertaining to lending activity from the previous calendar year for each reporting lender and aggregations of home-lending activity for each metropolitan statistical area (MSA) and for the nation as a whole.⁷ The FFIEC also has made available to the public a data file containing virtually all of the reported information for each lending institution.⁸

This article offers a summary of the 2010 HMDA data and provides basic tables created from these data and the HMDA data from earlier years.⁹ We then narrow the focus and present more-detailed findings from our initial review of the data. Our review highlights several prominent findings:

- Mortgage originations decreased between 2009 and 2010 in the HMDA data from just under 9 million loans to fewer than 8 million loans. Most significant was the decline in the number of refinance loans despite historically low baseline mortgage interest rates throughout the year. Home-purchase loans also dropped, but less so than the decline in refinance lending.
- While loans originated under the Federal Housing Administration (FHA) mortgage insurance program and the Department of Veterans Affairs (VA) loan guarantee program continue to account for a historically large proportion of loans, such lending fell more than did other types of lending.
- We draw on data from a national credit bureau to highlight the importance of house price declines and changes in underwriting relative to earlier in the decade for refinance activity during 2010. We estimate that, in the absence of home equity problems and underwriting changes, roughly 2.3 million first-lien owner-occupant refinance loans would have been made during 2010 on top of the 4.5 million such loans that were actually originated.
- A sharp drop in home-purchase lending activity occurred in the middle of 2010, right alongside the June closing deadline (although the deadline was retroactively extended to September) of the federal first-time homebuyer tax credit program. The ending of this

⁵ For information about the Consumer Financial Protection Bureau, see www.consumerfinance.gov.

⁶ 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.

⁷ For the 2010 data, the FFIEC prepared and made available to the public 45,961 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; for the 2010 data, it prepared and made publicly available 2,478 MSA-specific PMI reports on behalf of the PMI companies. 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.

⁸ 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.

⁹ 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 2009 and 2010 and from the “final” HMDA data for years prior to that. Consequently, numbers in this article for the years 2008 and earlier may differ somewhat from numbers calculated from the initial public release files.

program during 2010 may help explain the decline in the incidence of home-purchase lending to lower-income borrowers between the first and second halves of the year.

- Home-purchase lending in highly distressed census tracts identified by the Neighborhood Stabilization Program (NSP) was 75 percent lower in 2010 than it had been in these same tracts in 2005. This decline was notably larger than that experienced in other tracts and appears to primarily reflect a much sharper decrease in lending to higher-income borrowers in the highly distressed neighborhoods.
- The share of loans that originators hold in their portfolios rather than sell into the secondary market, especially among owner-occupant refinance loans, has risen since the beginning of 2009 but is still well below levels around the mid-2000s.
- National single-family home loan limits on both FHA loans and Freddie Mac and Fannie Mae purchases are scheduled to fall on October 1, 2011. Analysis of the 2010 HMDA data suggests that the number of loans affected by these limit changes is likely to be small. For example, about 1.3 percent of both the 2010 home-purchase and refinance loans fell into a size range affected by the proposed limit changes for Freddie Mac and Fannie Mae. Although the affected number of loans is small relative to the total number of loans, the analysis also shows that the number is large relative to the current jumbo loan market. How easily the private market would be able to absorb this potentially large increase in the market for jumbo loans is unclear.
- All loans reported in the 2010 HMDA data are covered under new rules governing whether a loan is classified as higher priced. The data show that the incidence of higher-priced lending across all products in 2010 was about 3.2 percent. As in the past, black and Hispanic-white borrowers were more likely in 2010, and Asian borrowers less likely, to obtain loans with prices above the HMDA price-reporting thresholds 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 remained about the same as in 2009. Analyses of the HMDA data in previous years have consistently found that denial rates vary across applicants grouped by race or ethnicity, which is also the case in 2010. However, the HMDA data do not include sufficient information to determine the extent to which these differences reflect illegal discrimination.

A Profile of the 2010 Mortgage Market

HMDA covers all of the nation's leading home lenders as well as a large number of others. Banking institutions—commercial banks, savings institutions (savings and loans and savings banks), and credit unions—account for most of the reporting entities, although many mortgage companies are covered as well. For 2010, 7,923 institutions reported on their home-lending activity under HMDA: 3,818 commercial banks; 856 savings institutions; 2,041 credit unions; and 1,208 mortgage companies, 839 of which were not affiliated with a banking institution ([table 1](#)).

The number of reporting institutions has fluctuated over the years. Some of the fluctuation is due to changes in reporting requirements, including increases in the minimum asset level used to determine coverage.¹⁰ Mergers, acquisitions, and failures also account for some of

¹⁰ For the 2011 reporting year (covering lending in 2010), the minimum asset size for purposes of coverage was \$39 million. The minimum asset size changes from year to year with changes in the Consumer Price Index for Urban Wage Earners and Clerical Workers. The threshold for the 2010 data was unchanged from the level applicable to the prior year. See the FFIEC's guide to HMDA reporting at www.ffiec.gov/hmda/guide.htm.

Table 1. Distribution of reporters covered by the Home Mortgage Disclosure Act, by type of institution, 2000–10**Number**

Year	Depository institution				Mortgage company			All institutions
	Commercial bank	Savings institution	Credit union	All	Independent	Affiliated ¹	All	
2000	3,609	1,112	1,691	6,412	981	332	1,313	7,725
2001	3,578	1,108	1,714	6,400	962	290	1,252	7,652
2002	3,628	1,070	1,799	6,497	986	310	1,296	7,793
2003	3,642	1,033	1,903	6,578	1,171	382	1,553	8,131
2004	3,945	1,017	2,030	6,992	1,317	544	1,861	8,853
2005	3,904	974	2,047	6,925	1,341	582	1,923	8,848
2006	3,900	946	2,037	6,883	1,334	685	2,019	8,902
2007	3,918	929	2,019	6,866	1,132	638	1,770	8,636
2008	3,942	913	2,026	6,881	957	550	1,507	8,388
2009	3,925	879	2,017	6,821	914	389	1,303	8,124
2010	3,818	856	2,041	6,715	839	369	1,208	7,923

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).

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 2010, the number of reporting institutions fell 2 percent from 2009, continuing a downward trend since 2006, when HMDA coverage included nearly 8,900 lenders. Among the types of reporters, the number of mortgage companies fell the most from 2009, decreasing 7 percent; since 2006, the number of mortgage companies has declined about 40 percent.

Reporting institutions vary greatly by both asset size and volume of reported mortgage lending activity. Most reporters are small, and many extend relatively few loans. For 2010, 53 percent of the banking institutions covered by HMDA had assets under \$250 million, and 74 percent of them reported information on fewer than 100 loans; only 0.6 percent of these smaller banking institutions reported on more than 1,000 loans (**table 2**). Among all depository institutions, about 54 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 more than five times that of depository institutions).

In any given year, institution failures and closings can affect the volume of reported loans and applications because some of the lenders that fail or were closed extended loans but did not report. Seventy-nine institutions that reported HMDA data for 2009 ceased operations and did not report lending activity for 2010.¹¹ Although it is not possible to know

¹¹ Each year, the Federal Reserve Board tracks each financial institution that is expected to report (including all lenders that reported data for the previous calendar year) and then contacts, if possible, those institutions that did not submit a report. In some cases, nonreporting is due to a cessation of business; in most others, it is the result of a merger, acquisition, or consolidation. When a merger, acquisition, or consolidation occurs, all lending by the institutions covered by HMDA in that year is supposed to be reported by the surviving entity; only when an institution goes out of business or the surviving entity is not a HMDA-covered reporter is the volume of reported loans likely affected.

Table 2. Number and distribution of home lenders, by type of lender and by number of loans, 2010

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	
	Num-ber	Percent of sub-category ¹	Num-ber	Percent of sub-category ¹	Num-ber	Percent of sub-category ¹	Num-ber	Percent of sub-category ¹	Num-ber	Percent of sub-category ¹	Num-ber	Percent of sub-category ¹	Num-ber	Percent of sub-category ¹
Depository institution														
Commercial bank														
Less than 250	1,126	53.5	426	20.2	392	18.6	116	5.5	29	1.4	15	.7	2,104	100
250–499	224	28.5	123	15.7	220	28.0	138	17.6	61	7.8	19	2.4	785	100
500–999	86	18.4	53	11.3	88	18.8	99	21.2	100	21.4	41	8.8	467	100
1,000 or more	52	11.7	24	5.4	56	12.6	42	9.5	81	18.3	188	42.4	443	100
All	1,488	39.2	626	16.5	756	19.9	395	10.4	271	7.1	263	6.9	3,799	100
Savings institution														
Less than 250	140	36.6	93	24.3	91	23.8	41	10.7	11	2.9	7	1.8	383	100
250–499	16	8.6	19	10.2	68	36.6	57	30.6	16	8.6	10	5.4	186	100
500–999	12	8.4	11	7.7	31	21.7	41	28.7	30	21.0	18	12.6	143	100
1,000 or more	5	3.5	7	5.0	13	9.2	22	15.6	31	22.0	63	44.7	141	100
All	173	20.3	130	15.2	203	23.8	161	18.9	88	10.3	98	11.5	853	100
Credit union														
Less than 250	766	55.8	300	21.9	256	18.7	41	3.0	8	.6	1	.1	1,372	100
250–499	51	16.7	34	11.1	104	34.0	80	26.1	30	9.8	7	2.3	306	100
500–999	14	7.1	10	5.1	43	21.8	55	27.9	49	24.9	26	13.2	197	100
1,000 or more		.0	1	.6	13	8.3	25	16.0	41	26.3	76	48.7	156	100
All	831	40.9	345	17.0	416	20.5	201	9.9	128	6.3	110	5.4	2,031	100
All depository institutions														
Less than 250	2,032	52.7	819	21.2	739	19.2	198	5.1	48	1.2	23	.6	3,859	100
250–499	291	22.8	176	13.8	392	30.7	275	21.5	107	8.4	36	2.8	1,277	100
500–999	112	13.9	74	9.2	162	20.1	195	24.2	179	22.2	85	10.5	807	100
1,000 or more	57	7.7	32	4.3	82	11.1	89	12.0	153	20.7	327	44.2	740	100
All	2,492	37.3	1,101	16.5	1,375	20.6	757	11.3	487	7.3	471	7.0	6,683	100
Mortgage company²														
All	185	16.1	110	9.5	139	12.1	119	10.3	159	13.8	440	38.2	1,152	100
All institutions	2,677	34.2	1,211	15.5	1,514	19.3	876	11.2	646	8.2	911	11.6	7,835	100

¹ Distribution sums horizontally. For example, the second column, first row shows that 53.5 percent of commercial banks with assets of less than \$250 million originated less than 50 loans in 2010.

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

how many applications or loans these 79 institutions originated in 2010 before discontinuing operations, one can gauge their potential importance by measuring their lending activity in 2009. In the aggregate, these nonreporting companies accounted for only 0.2 percent of the 2009 loan or application records submitted under HMDA. Therefore, it seems highly unlikely that the 2010 data are affected in any meaningful way by the underreporting that may have occurred because these lenders did not report activity for the part of 2010 in which they may have made some loans.

Reporting institutions submitted information on 12.95 million applications for home loans of all types in 2010 (excluding requests for preapproval), down about 14 percent from 2009 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 2010, about 5 percent of all applications were approved but not accepted by the applicant (data not shown in tables). Overall, about 61 percent of the applications submitted in 2010 resulted in an extension of credit (data derived from [tables 3.A and 3.B](#)), a share little changed from 2009.

Table 3. Home loan activity of lending institutions covered under the Home Mortgage Disclosure Act, 2000–10**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	4,201,057	9,935,678	826,916	26,257	209,055	4,294,528	19,493,491
2010	3,838,896	8,421,592	668,903	25,484	164,672	3,229,010	16,348,557

Note: Here and in subsequent tables, except as noted, data include first and junior liens, site-built and manufactured homes, 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 upon 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.

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 2010, lenders reported information on nearly 3.2 million loans that they had purchased from other institutions, a decline of nearly 25 percent from 2009. Finally, lenders reported on roughly 165,000 requests for preapproval of home-purchase loans that

Table 3. Home loan activity of lending institutions covered under the Home Mortgage Disclosure Act, 2000–10**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	2,784,956	5,758,875	387,970	19,135	8,950,936
2010	2,541,791	4,961,814	340,604	19,128	7,863,337

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.

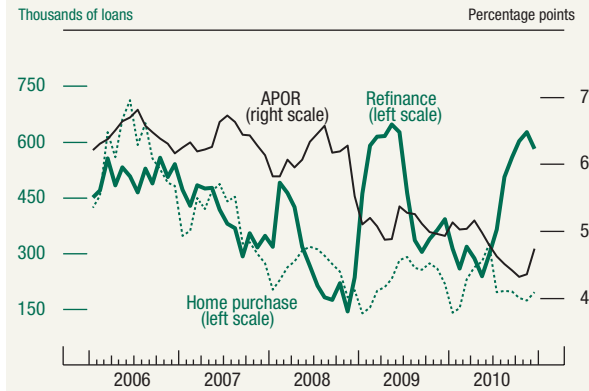
Lending for Home Purchase or Refinancing in 2010

Although relatively stable in the past two years, the volume of home-purchase lending has fallen sharply since 2006 (figure 1).¹² In June 2006, the peak month for home-purchase lending that year, nearly 712,000 home-purchase loans were extended, compared with only 326,000 such loans in June 2010, the most active month that year. On a yearly basis, the number of home-purchase loans reported by lenders covered by HMDA in 2010 was down nearly 9 percent from 2009 and was 62 percent lower than in 2006 (data derived from table 3.B).

Because of the extraordinary difficulties in the housing and mortgage markets, the federal government has taken several actions to support their recovery. One of the actions, the first-time homebuyer tax credit program, reduced the tax bill or increased the amount of refund for eligible homebuyers.¹³ The program was originally scheduled to end (or “sunset”) on November 30, 2009, but was extended a few weeks to provide benefits to those eligible homebuyers who entered into binding contracts to purchase their homes by April 30, 2010, and closed the sales by June 30, 2010 (after the fact, the closing deadline was extended to September 30, 2010, but that extension affected only a small number of sales).

The first-time homebuyer tax credit program likely stimulated homebuying in 2009 as individuals sought to purchase their homes before the initial scheduled sunset date.¹⁴ The extension of the law until the end of June 2010 may help explain, in part, the increase in loan volume in the spring of 2010 and then the sharp falloff in the monthly flow of new

Figure 1. Volume of home-purchase and refinance originations and average prime offer rate, by month, 2006–10



Note: The data are monthly. Loans are first- and second-lien mortgages excluding those for multifamily housing. The average prime offer rate (APOR) is published weekly by the Federal Financial Institutions Examination Council. It is an estimate of the annual percentage rate 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 (www.ffiec.gov/ratespread/newcalc.aspx).

¹² Lenders report the date on which action on an application is taken. For originations, the “action taken” date is the closing date or date of origination for the loan. This date is the one we use 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 “offer rates” made by lenders to prime borrowers. The loan pricing is likely to reflect the interest rate available at the time of the lock date. Thus, the timing of the loan volume and interest rate series may be slightly misaligned in the figure.

¹³ The program was not limited to first-time homebuyers. Eligibility for the tax credit also was extended to homebuyers who were long-time residents of their previous homes. The program included income and home-value limits. For more information, see Internal Revenue Service (2009), “First-Time Homebuyer Credit Extended to April 30, 2010; Some Current Homeowners Now Also Qualify,” press release, November 24, www.irs.gov/newsroom/article/0,,id=215791,00.html; and Internal Revenue Service, “First-Time Homebuyer Credit,” webpage, www.irs.gov/newsroom/article/0,,id=204671,00.html.

¹⁴ Our analysis in an earlier article suggested that about 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, 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, pp. A39–A77.

home-purchase originations after that despite a decline in mortgage interest rates over the remainder of the year.¹⁵

To a greater degree than for home-purchase lending, the volume of refinance lending is aligned with changes in interest rates, expanding as mortgage rates fall and retrenching when rates rise. The interest rate environment in both 2009 and 2010 was generally quite favorable for well-qualified borrowers who sought to refinance, particularly in the second half of 2010, when the rate on 30-year fixed-rate mortgages fell to record lows. Nonetheless, compared with 2009, the number of reported refinancings was down about 14 percent (table 3.B). (Factors affecting the level of refinance activity in 2010 are explored in the later section “Factors Influencing Refinancing Activity in 2010.”)

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. HMDA data help document the role of non-owner-occupant lending over time because the borrower’s intended occupancy status is one of the reported items.¹⁶

As the boom in housing emerged in the first half of the past decade, the HMDA data showed a sharp increase in non-owner-occupant lending used to purchase one- to four-family homes (table 4). The volume of non-owner-occupant lending then fell sharply beginning in 2007 and remained at comparably low levels through 2010. In 2010, 76 percent fewer non-owner-occupant loans were extended than in 2005, the peak year for non-owner-occupant lending. The number of non-owner-occupant loans in 2010 was little changed from that in 2009.

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 Since 2005, the share has fallen, dropping to about 11 percent in both 2009 and 2010. Although diminished since the middle of this decade, in both the volume of lending and as a share of lending, non-owner-occupant lending continues to be an important aspect of the mortgage market.

As noted, the relative importance of non-owner-occupant lending varies from place to place. In some places, such as resort towns, non-owner-occupant lending reflects the activity of both investors and purchasers of second homes. In other areas, most of the non-owner-occupant homebuying is by investors seeking to buy units for year-round rental. The HMDA data provide an opportunity to explore the geographic variation in non-owner-oc-

¹⁵ The volume of home-purchase originations fell nearly 40 percent from June 2010 to July 2010 and then remained at reduced levels for the rest of the year.

¹⁶ An investment property is a non-owner-occupied dwelling that is intended to be rented or resold for a profit. Some non-owner-occupied units—vacation homes and second homes—are for the primary use of the owners and thus would not be considered investment properties. The HMDA data do not, however, distinguish between these two types of non-owner-occupied dwellings.

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,” paper presented at the Housing Economics and Research Conference, UCLA Ziman Center for Real Estate, Los Angeles, April, www.anderson.ucla.edu/x30674.xml.

Table 4. Home loan applications and home loans for one- to four-family properties, by occupancy status of home and type of loan, 2000–10**Number**

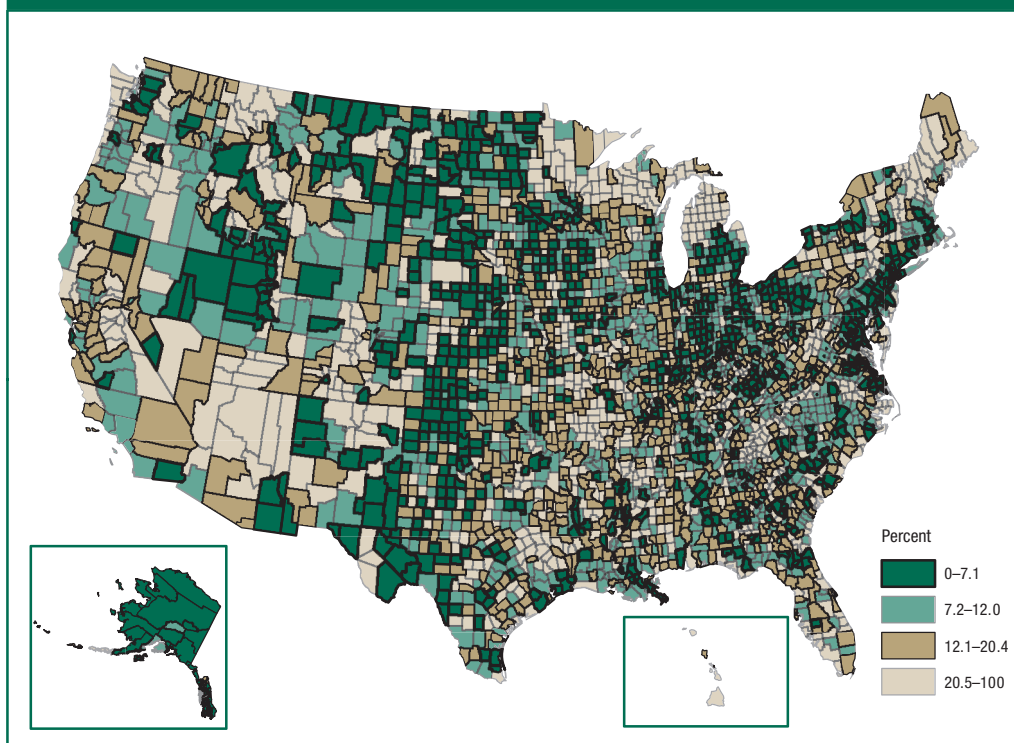
Year	Applications				Loans			
	Owner occupied		Non-owner occupied		Owner occupied		Non-owner occupied	
	Conventional	Nonconventional ¹	Conventional	Nonconventional ¹	Conventional	Nonconventional ¹	Conventional	Nonconventional ¹
A. Home purchase								
2000	6,350,643	1,311,101	604,919	12,524	3,411,887	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	1,883,278	1,884,136	427,338	6,305	1,171,033	1,320,412	289,796	3,715
2010	1,728,715	1,689,471	415,315	5,395	1,088,855	1,166,477	284,625	1,834
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	7,251,066	2,051,766	617,707	15,139	4,404,215	998,585	348,599	7,476
2010	6,318,522	1,447,521	640,046	15,503	3,943,819	653,671	356,238	8,086
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	740,061	28,437	58,171	247	348,409	11,212	28,183	166
2010	582,775	34,437	51,300	391	302,612	11,804	26,131	57

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.

cupant lending across geographies, although it is not possible to distinguish between investors and second-home buyers.

For the analysis here, we calculated the non-owner-occupant share of home-purchase lending in each county nationwide in 2010 (**figure 2**). Many of the counties with elevated non-owner-occupant lending rates are resort locations such as portions of northern New Eng-

Figure 2. Incidence of non-owner-occupant lending for first-lien home-purchase loans on one- to four-family, site-built homes, by county and by quartile, 2010



land, Michigan, Colorado, and some coastal areas.¹⁸ Other areas may have elevated non-owner-occupant activity due to investors purchasing homes in markets that have experienced significant declines in home values, such as the “sand states” of Arizona, California, Florida, and Nevada. The sharply reduced values of properties involved in short sales or foreclosures have afforded investors and others opportunities to purchase non-owner-occupied homes in these areas.

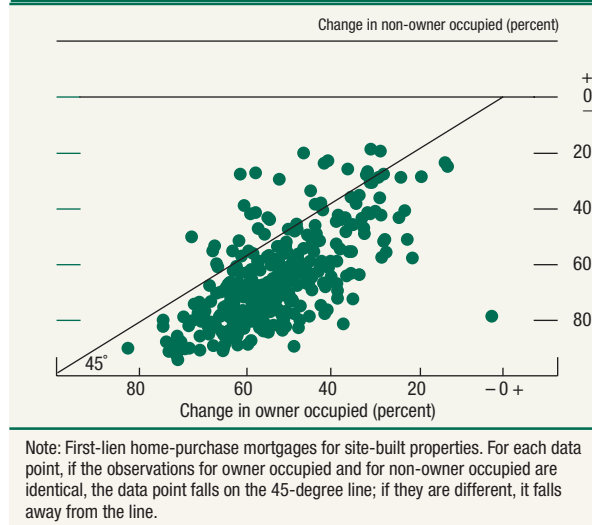
Nevertheless, the decline in the volume of non-owner-occupant lending that has been observed nationally has affected almost all geographic areas. In all but a handful of MSAs, the percentage decline in non-owner-occupant lending between 2005 and 2010 exceeded the decline in owner-occupant lending ([figure 3](#)). Non-owner-occupant lending has fallen the most in the MSAs that experienced the largest declines in owner-occupant lending.

Further analysis suggests that at least some of the decline in non-owner-occupant lending stems from the locations where such loans were concentrated rather than an overall change in the national market for such loans. We selected an analysis group of census tracts in the top 5 percent of the incidence of total one- to four-family non-owner-occupant lending in MSAs in the sand states (where non-owner-occupant lending has been cited as a particular problem) in 2005. We compared the decline in lending in these tracts between 2005 and 2010 with the lending changes in all other tracts in the sand state MSAs.

¹⁸ Many of these resort areas are in rural counties, which creates a potential bias for HMDA-based calculations. Lenders without offices in metropolitan areas do not have to report HMDA data. If borrowers for non-owner-occupant loans are less likely than those for owner-occupant loans to use local lenders, this circumstance would bias the HMDA incidence of non-owner-occupant lending upward in rural areas.

Overall, lending in the analysis group declined 74 percent between 2005 and 2010, although non-owner-occupant lending fell more in these tracts (78 percent) than owner-occupant lending (71 percent). In contrast, overall lending fell significantly less in tracts where non-owner-occupant lending had not been concentrated (59 percent), with non-owner-occupant lending again experiencing a relatively larger decline (70 percent) than owner-occupant lending (58 percent). It cannot be determined from these results whether characteristics of the tract neighborhoods or the high presence of non-owner-occupant lending led to the excessive decline.

Figure 3. Comparison of the change in the volume of lending for owner-occupied housing with the change in that for non-owner-occupied housing, by metropolitan statistical area, 2005–10



Types of Loans

As noted, the total number of loans to purchase homes has fallen sharply since the height of the housing boom in 2005 and 2006, when lenders extended about 7 million loans in each of those years (table 3.B). Although the total number of home-purchase loans has fallen substantially since then, 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 fell some from 2009 to 2010, such loans still accounted for 46 percent of the home-purchase loan market in 2010, down marginally from a 48 percent share in 2009 but still much greater than the 8 percent share in 2006.

Nonconventional loans are a major component of the overall home-purchase loan market, but they play a much smaller role in certain segments of the market. For example, nonconventional loans accounted for only about 1 percent of the loans extended to non-owner occupants for the purchase of a home in 2010. Also, nonconventional loans made up a relatively small share (about 25 percent) of the loans used to purchase manufactured homes (table 5).

As in the home-purchase loan market, nonconventional lending has also garnered a larger share of the refinance market in the past few years, although the number of conventional loans used for refinancing still exceeds that of nonconventional loans by a wide margin (table 4). In 2006, conventional loans used for refinancing outnumbered nonconventional loans 48 to 1; in 2010, the proportion was about 6 to 1.

The increase in nonconventional home-purchase and refinance lending 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

Table 5. Loans on manufactured homes, by occupancy status of home and type of loan, 2004–10
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	43,253	20,558	7,895	29
2010	44,810	17,086	7,631	28
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	36,765	21,765	5,922	59
2010	26,304	9,748	5,013	69
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	9,710	439	1,110	1
2010	7,963	427	991	2

¹ See table 4, note 1.

of the property value. (These factors and their role in 2010 lending are discussed in more detail in a later section, “The Continuing Role of Government in the Mortgage Market.”)

The Private Mortgage Insurance Market

Historically, mortgage lenders have required a borrower to make a down payment before they would extend a loan to buy a home or refinance an existing mortgage. In the conventional loan market, lenders typically have required that a borrower make a down payment of at least 20 percent of a home’s value unless the borrower received some type of third-party backing, such as mortgage insurance.

Private mortgage insurance (PMI) emerged in the 1950s alongside the longstanding FHA and VA loan programs to help bridge the gap between lenders reluctant to extend mortgages with high loan-to-value (LTV) ratios and consumers interested in borrowing more than 80 percent of the underlying home’s value. For a borrower seeking a conventional loan with a low down payment, the lender can require that the borrower purchase mortgage insurance from PMI companies to protect the lender against default-related losses up to a contractually established percentage of the principal amount.

Over the years, PMI-backed loans became a significant part of the mortgage market. As a form of protection for lenders against losses from defaulting borrowers, PMI competes with FHA insurance and VA loan guarantees. Thus, the relative attractiveness of PMI at any point in time is closely related to FHA and VA underwriting and pricing decisions and the sizes of the loans these government agencies may back. PMI also competes against the willingness of lenders to bear the risk of loss through self-insurance by extending a first-lien mortgage with little or no down payment in conjunction with a junior-lien mortgage (often referred to as a “piggyback” loan). Historically, the annual volume of PMI issuance has varied in response to these competitive pressures and to the overall level of mortgage activity in any given year.

In 1993, the Mortgage Insurance Companies of America asked the FFIEC to process data from the largest PMI companies on applications for mortgage insurance and to produce disclosure statements for the public based on the data and timed to be released with the HMDA data.¹⁹ The PMI 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.

The seven companies that reported data for 2010 dominate the PMI industry.²⁰ Thus, these data cover the vast majority of PMI written in the United States, allowing for meaningful analysis of these data alongside the HMDA data.²¹ For 2010, the seven PMI companies reported on nearly 370,000 applications for insurance leading to the issuance of 260,000 insurance policies, down from about 636,000 applications and 367,000 policies in 2009 (table 6). Both the 2009 and 2010 volumes were substantially smaller than the totals reached in 2002 and 2003, when PMI issuance was about 2 million policies a year. Overall, 61 percent of the PMI policies issued in 2010 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 site-built properties; less than 0.04 percent of the policies involved manufactured homes. About 10 percent of PMI insurance applications were denied in 2010, down from about 12 percent in 2009 but still substantially 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

The large reduction in PMI activity reflects several factors, including reduced demand stemming from a sharp fall in homebuying activity and higher prices relative to alternatives, as well as tighter underwriting adopted by the PMI companies in response to elevated claims and losses experienced during the recent recession and the ongoing recovery.²³ The roles of these various factors can be seen from the memo items in the last seven columns of

¹⁹ Founded in 1973, the Mortgage Insurance Companies of America is the trade association for the PMI industry.

²⁰ One firm that reported data in previous years, Triad Guaranty Insurance Corporation, stopped issuing new policies in July 2008 but continues to manage existing policies.

²¹ Some care must be exercised in comparing the PMI and HMDA data. First, because of reporting rules, the HMDA data do not cover all lending for properties in rural areas. However, the PMI reporting firms provide information on all privately insured loans regardless of property location. Second, the “action date” for PMI issuance is the date that the PMI insurance was extended, which is often different from the date the loan was closed, which determines the HMDA action date. For loans taken out near the beginning or end of a calendar year, this factor could shift the PMI reporting into a reporting year different from that of the loan. Third, the size of the loan and borrower characteristics can also differ between the two data sources. Finally, the PMI data do not capture “pool insurance”—that is, insurance written for pools of loans rather than individual mortgage loans. The omission of this type of insurance tends to understate the breadth of PMI coverage.

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

²³ For a more detailed analysis, 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, 2000–10

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	
B. Refinance⁴								
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

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

table 6, which focus on owner-occupant site-built lending. Taken in isolation, PMI rose as a share of conventional lending from 2006 to 2007 and then fell back sharply in 2009 and further still in 2010. Some of this change reflects variation in the share of borrowers with high-LTV loans. However, as can be seen from the table, much of the change, particularly since 2008, reflects substitution among high-LTV credit enhancement alternatives, including nonconventional FHA and VA loans and junior-lien piggyback loans. Indeed, since 2008, the share of total home-purchase loans covered by one of these enhancements has remained quite stable (last column of table 6). Thus, the record low number of PMI policies issued in 2010 likely paints a very misleading picture regarding high-LTV lending. The steadily rising share of the loan market covered by some sort of credit enhancement evident in the last column of table 6 suggests that high-LTV loans, perhaps driven by a rising portion of the market that is composed of first-time homebuyers, may be at record high rather than record low levels.

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 in the previous section,

Table 6. Private mortgage insurance applications and issuance for one- to four-family properties, by occupancy status of home and type of property, 2000–10—continued

Number

Year	Memo						
	Conventional loans ²	Ratio of loans with PMI to conventional loans	Nonconventional loans ³	Ratio of loans with PMI plus nonconventional loans to total loans	Junior liens	Ratio of loans with PMI plus junior liens to conventional loans	Ratio of loans with PMI plus nonconventional loans and junior liens to total loans
A. Home purchase							
2000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2001	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2002	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2003	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2004	4,209,787	19.4	573,606	29.1	736,636	36.7	44.3
2005	4,520,378	15.2	437,552	22.7	1,221,999	42.0	47.1
2006	4,013,196	16.7	416,143	24.5	1,268,289	48.0	52.9
2007	3,031,606	33.8	422,450	41.9	551,343	51.7	57.6
2008	1,636,194	36.4	971,528	60.1	91,498	41.7	63.4
2009	1,128,950	18.4	1,318,940	62.4	42,083	22.1	64.1
2010	1,048,544	14.8	1,165,087	59.6	40,311	18.6	61.4
B. Refinance⁴							
2000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2001	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2002	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2003	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2004	6,543,036	6.0	306,995	10.3	859,752	19.1	22.7
2005	6,017,589	5.2	160,395	7.7	1,196,737	25.0	27.0
2006	4,707,669	5.0	125,718	7.5	1,588,754	38.7	40.3
2007	3,764,022	9.7	204,054	14.3	1,095,750	38.8	41.9
2008	2,554,287	10.1	532,340	25.6	400,414	25.7	38.6
2009	4,455,692	3.5	1,006,236	21.2	198,475	7.9	24.9
2010	3,990,017	2.5	661,650	16.4	162,755	6.6	19.9

² 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."

³ 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." 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.

⁴ 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.

PMI Private mortgage insurance.

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 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 (HELOCs), to provide a readily available and relatively cheap source of credit. Under the regulations that

Table 7. Home loans for one- to four-family properties, by occupancy status of home, type of loan, and lien status, 2004–10

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	1,128,950	42,083	...	1,318,940	1,472	...	287,760	2,036	...	3,706	9	...
2010	1,048,544	40,311	...	1,165,087	1,390	...	282,941	1,684	...	1,822	12	...
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	4,290,072	114,143	...	998,089	496	...	341,852	6,747	...	7,460	16	...
2010	3,855,876	87,943	...	653,434	237	...	350,517	5,721	...	8,078	8	...
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	165,620	84,332	98,457	8,147	2,416	649	19,598	3,174	5,411	101	29	36
2010	134,141	74,812	93,659	8,216	2,660	928	17,730	2,482	5,919	35	17	5

¹ See table 4, note 1.² Unsecured loans are collected only for home-improvement loans under the Home Mortgage Disclosure Act.

... Not applicable.

govern HMDA reporting, most of these stand-alone junior-lien loans are not reported.²⁴ Most piggyback loans, however, must be reported. Thus, the volume of junior-lien lending reported under HMDA may be more indicative of the volume of piggyback lending than of junior-lien lending as a whole.

Before the financial crisis and the collapse in home values, when the use of piggyback loans was more common and the size limits on Fannie Mae and Freddie Mac purchases were lower, many more junior-lien loans were reported in the HMDA data. For example, in 2006, which represented the high-water mark for junior-lien lending, over 1.3 million conventional junior liens used for the purchase of owner-occupied properties were reported under HMDA, and another 1 million conventional junior-lien loans were taken out to refi-

²⁴ Unless a junior lien is used for home purchase or explicitly for home improvements, it is not reported under HMDA unless it is used to refinance an existing lien. Further, about one-half of all junior liens are HELOCs, which do not have to be reported in the HMDA data regardless of the purpose of the loan.

nance loans backed by owner-occupied properties (**table 7**). Virtually all such lending was conventional; fewer than 1,000 loans involved government-backed programs. As the elevated credit risk associated with high-LTV-ratio lending became apparent during the Great Recession and its aftermath, underwriting tightened and junior-lien loans became difficult to obtain or were no longer made available. The number of junior-lien loans for the purchase of owner-occupied homes reported under HMDA fell by more than one-half in 2007, dropped sharply again in each of the ensuing years, and decreased somewhat to about 40,000 such loans in 2010. The number of junior-lien loans used for refinancing also fell substantially starting in 2007 and continued to fall, reaching almost 88,000 in 2010. Substantial declines were also observed in the number of junior-lien loans backed by non-owner-occupied properties, whether the loans were for home purchase or refinancing.

The category in which the number of junior-lien loans reported in the HMDA data has declined the least has been junior-lien loans for home-improvement purposes. In 2010, almost 80,000 junior-lien loans were used for home improvement. While this number was down 11 percent from 2009 and 86 percent from 2005, the decline was less steep than that observed for other types of junior-lien lending. As a result, junior-lien loans used for home improvement accounted for 37 percent of junior-lien loans reported under HMDA.

Loan Sales

Among the information included in the annual HMDA data is the type of purchaser for loans that are originated and sold during the year. For purposes of reporting, lenders are provided with nine types of purchasers that may be used to classify loan sale activity. 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.²⁵ Ginnie Mae and Farmer Mac focus on loans backed directly by government guarantees or insurance, primarily FHA-insured or VA-guaranteed loans. The government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac are focused on conventional loans that meet the underwriting standards established by those entities.

Overall, 80 percent of the first-lien home-purchase and refinance loans for one- to four-family properties originated in 2010 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 the loan (**table 8**).²⁶ For example, about 70 percent of the conventional loans extended in 2010 for the purchase of owner-occupied one- to four-family dwellings were sold that year. In contrast, about 93 percent of the nonconventional loans used to purchase owner-occupied homes were reported as sold in 2010. 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, as is the share of loans extended for the purchase of manufactured homes.

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 port-

²⁵ Ginnie Mae does not buy or sell loans; rather, it guarantees investors on the timely payment of interest and principal for mortgage-backed securities backed by FHA or VA loans. (See the Ginnie Mae website at www.ginniemae.gov.) Farmer Mac purchases certain types of agriculture-related loans. (See a description of Farmer Mac programs at www.farmermac.com/Lenders/Programs.) Fannie Mae and Freddie Mac are government-sponsored enterprises, which, while federally chartered, are privately owned. However, in 2008, these two entities were placed under government conservatorship. (See the Fannie Mae and Freddie Mac websites at www.fanniemae.com/kb/index?page=home and www.freddie.com.)

²⁶ Some loans recorded as sold in the HMDA data are sold to affiliated institutions and thus are not true secondary-market sales. In 2010, 6.3 percent of the loans recorded as sold in the HMDA data were sales to affiliates.

Table 8. Distribution of home loan sales for one- to four-family properties, by occupancy status of home and type of loan, 2000–10

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	70.4	39.7	91.7	34.5	57.4	34.1	88.7	35.6
2010	69.8	37.1	92.7	30.0	60.3	34.9	91.7	24.0
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	79.8	51.7	90.4	36.4	61.8	39.6	93.8	35.9
2010	76.8	46.2	90.2	38.1	65.4	40.4	90.5	43.9
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	25.0	17.4	63.8	37.3	18.2	13.3	55.4	9.6
2010	21.3	13.2	60.6	34.7	18.4	12.6	47.4	28.1

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.

folio, leading the reported loan sales to understate the proportion of each year's originations that are eventually sold. (We deal with this issue in more detail in the later section "The Continuing Role of Government in the Mortgage Market.")

Table 9. Cumulative distribution of home loans, by borrower income and by purpose and type of loan, 2010

Percent

Upper bound of borrower income (thousands of dollars) ¹	Home purchase					Refinance				
	FHA	VA	Other ²	Total	Memo: Higher priced ³	FHA	VA	Other ²	Total	Memo: Higher priced ³
24	5.1	.9	3.2	3.8	10.4	3.4	2.8	1.9	2.1	11.2
49	42.0	23.4	25.3	32.1	48.5	28.2	20.0	15.8	16.9	44.7
74	70.0	57.8	47.1	57.5	71.0	58.6	49.4	36.3	38.4	70.0
99	85.4	78.2	63.1	73.5	82.6	78.7	71.2	55.2	57.3	83.9
124	92.7	89.5	74.4	83.2	88.6	89.4	84.7	69.7	71.5	90.7
149	96.2	94.8	81.8	88.8	91.7	94.5	91.6	79.2	80.6	93.9
199	98.7	98.5	90.0	94.3	94.9	98.1	97.2	89.4	90.2	96.7
249	99.5	99.5	93.9	96.7	96.5	99.1	99.0	93.9	94.4	97.8
299	99.7	99.8	95.9	97.8	97.3	99.4	99.6	96.1	96.4	98.5
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	65.8	77.6	110.3	89.2	79.3	78.1	85.6	118.5	114.7	72.4
Median	55	68	78	66	51	67	75	92	89	54

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 Other loans include loans originated with a Farm Service Agency or Rural Housing Service guarantee and conventional loans.

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.

Borrower Incomes and Loan Sizes

Under the provisions of 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. The vast majority of loan applications and loans reported under HMDA include income information. For example, in 2010, income information was not reported for only about 1 percent of the borrowers purchasing a home with a nonconventional loan and for about 3 percent of those using a conventional loan (data not shown in tables). Income information is not reported more often for refinance loans, particularly those that are nonconventional (about one-third of the FHA loans and two-thirds of the VA loans), 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 income can be evaluated in many ways, here the focus is on patterns by loan product. For home-purchase or refinance lending, borrowers using FHA and VA loans have lower mean or median incomes than other loans despite the fact that the FHA (and VA) loan limits were increased substantially in 2008, allowing the program to be used much more widely than by the lower- and moderate-income households that have been the traditional focus of the program (table 9). For example, in 2007, the year before the increase in loan limits, about 7 percent of FHA borrowers had incomes of \$100,000 or more, while in 2010, the share increased to 15 percent. Overall, in 2010, the median incomes for FHA, VA, and conventional loan borrowers were \$55,000, \$68,000, and \$110,000, respectively (data for only 2010 shown in tables).

Table 10. Cumulative distribution of home loans, by loan amount and by purpose and type of loan, 2010
Percent

Upper bound of loan amount (thousands of dollars) ¹	Home purchase					Refinance				
	FHA	VA	Other ²	Total	Memo: Higher priced ³	FHA	VA	Other ²	Total	Memo: Higher priced ³
24	.1	.0	.5	.3	4.1	.1	.0	.5	.4	5.6
49	1.6	.4	3.1	2.3	18.1	1.1	.5	2.6	2.3	19.8
74	8.1	2.3	9.4	8.3	35.7	5.5	3.4	8.0	7.6	37.1
99	19.7	7.3	17.6	17.6	50.0	13.7	9.6	16.8	16.2	52.1
149	48.2	27.8	37.9	41.3	71.9	38.3	31.2	37.6	37.5	71.9
199	69.7	53.7	54.0	60.5	83.4	61.3	55.2	55.3	56.0	82.4
274	86.7	78.1	70.9	78.0	91.2	82.2	78.4	73.5	74.7	90.5
417	97.0	95.2	88.3	92.4	95.9	95.4	95.7	92.3	92.8	97.4
625	99.5	99.3	96.1	97.8	98.1	99.2	99.2	97.5	97.7	99.1
729	99.9	99.7	97.5	98.6	98.6	99.8	99.7	98.5	98.7	99.4
More than 799	100	100	100	100	100	100	100	100	100	100
Memo: Loan amount (thousands of dollars)										
Mean	176.7	215.3	236.6	210.2	140.4	197.6	211.0	222.6	219.4	131.8
Median ¹	153	191	184	169	100	173	187	182	181	95

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.

Loan amounts also differ across loan types, with FHA or VA loans, on average, being smaller than “other” loans ([table 10](#)). However, an upward shift in the distribution of loan amounts for both FHA and VA home-purchase loans occurred in the past couple of years, continuing into 2010 (data for only 2010 shown in tables). The shift likely reflects the same forces that are changing the distribution of borrower incomes.

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

For purposes of analysis, loan applications, loans, and requests for preapproval reported under HMDA can be grouped in many ways. Every loan application and request for preapproval reported in 2010 can be categorized into 25 distinct product categories characterized by type of loan and property, purpose of the loan, and lien and owner-occupancy status (tables 11 and 12). 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.

Disposition of Applications

As noted, the 2010 HMDA data include information on nearly 13 million loan applications, about 85 percent of which were acted upon by the lender (data derived from [table 11](#)). Patterns of denial rates are largely consistent with what has been observed in ear-

Table 11. Disposition of applications for home loans, and origination and pricing of loans, by type of home and type of loan, 2010

Type of home and loan	Applications			
	Number submitted	Acted upon by lender		
		Number	Number denied	Percent denied
1–4 family nonbusiness related ³				
Owner occupied				
Site built				
Home purchase				
Conventional				
First lien	1,468,647	1,280,452	193,739	15.1
Junior lien	57,538	51,101	8,539	16.7
Government backed				
First lien	1,645,713	1,442,912	230,196	16.0
Junior lien	1,794	1,532	143	9.3
Refinance				
Conventional				
First lien	6,102,081	5,213,320	1,104,659	21.2
Junior lien	152,757	139,288	46,906	33.7
Government backed				
First lien	1,421,776	1,074,474	357,759	33.3
Junior lien	443	330	83	25.2
Home improvement				
Conventional				
First lien	217,286	194,078	53,581	27.6
Junior lien	161,820	146,322	65,692	44.9
Government backed				
First lien	19,308	13,603	4,889	35.9
Junior lien	10,845	8,551	5,437	63.6
Unsecured (conventional or government backed)	187,731	182,267	85,213	46.8
Manufactured				
Conventional, first lien				
Home purchase	200,165	191,498	105,052	54.9
Refinance	54,005	48,665	19,158	39.4
Other	86,655	77,187	32,703	42.4
Non-owner occupied ⁴				
Conventional, first lien				
Home purchase	384,535	338,090	58,566	17.3
Refinance	606,900	506,110	150,278	29.7
Other	78,723	69,113	27,184	39.3

lier 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

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 tables 11 and 12 with those in the tables from earlier years, including denial rates, can be made by consulting the following articles: 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, 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, pp. A107–A146; Robert B. Avery, Kenneth P. Brevoort, and Glenn B. Canner (2007), “The 2006 HMDA Data,” *Federal Reserve Bulletin*, vol. 93, 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, 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, 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, 2010—continued

Type of home and loan	Loans originated											
	Number	Loans with APOR spread above the threshold ¹										
		Number	Percent	Distribution, by percentage points of APOR spread						APOR spread (percentage points)		Number of HOEPA-covered loans ²
				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 related ³												
Owner occupied												
Site built												
Home purchase												
Conventional												
First lien	1,002,871	32,983	3.3	39.7	21.7	15.7	15.1	5.1	2.8	2.5	2.2	...
Junior lien	39,910	5,880	14.7	...	...	...	40.5	48.7	10.8	4.3	4.2	...
Government backed												
First lien	1,147,045	14,964	1.3	80.0	13.9	3.1	1.6	.5	.9	1.8	1.7	...
Junior lien	1,347	9	.7	...	...	...	33.3	55.6	11.1	4.4	4.4	...
Refinance												
Conventional												
First lien	3,825,680	49,359	1.3	42.0	17.6	12.8	13.9	5.8	8.0	2.7	2.2	917
Junior lien	85,338	10,171	11.9	...	...	...	31.6	37.5	30.9	4.8	4.4	280
Government backed												
First lien	643,178	31,696	4.9	39.3	35.4	17.5	6.5	1.0	.3	2.2	2.1	277
Junior lien	226	3	1.3	...	...	...	33.3	33.3	33.3	4.9	4.0	0
Home improvement												
Conventional												
First lien	130,514	13,160	10.1	29.3	18.2	14.2	17.0	7.7	13.7	3.2	2.6	533
Junior lien	73,908	8,222	11.1	...	...	...	31.2	36.3	32.6	4.8	4.4	238
Government backed												
First lien	7,830	1,254	16.0	23.3	32.1	23.6	12.7	5.7	2.7	2.6	2.4	15
Junior lien	2,644	2,185	82.6	...	...	...	2.0	18.2	79.9	6.5	6.7	0
Unsecured (conventional or government backed)	90,452	...	...	...	...	...	...	...	...	...	...	...
Manufactured												
Conventional, first lien												
Home purchase	44,436	35,574	80.1	4.7	5.6	7.1	19.4	17.8	45.4	5.2	4.7	...
Refinance	25,369	9,063	35.7	13.6	10.8	13.1	24.6	16.6	21.3	3.9	3.5	711
Other	36,449	6,827	18.7	25.3	16.8	11.8	18.0	11.4	16.7	3.4	2.8	330
Non-owner occupied ⁴												
Conventional, first lien												
Home purchase	256,857	12,627	4.9	39.3	18.4	14.1	15.8	5.9	6.6	2.7	2.3	...
Refinance	327,819	9,656	2.9	48.1	17.8	11.5	12.9	5.1	4.7	2.5	2.0	54
Other	38,962	2,692	6.9	17.9	14.1	10.1	22.8	17.5	17.6	3.6	3.5	35

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.

Table 11. Disposition of applications for home loans, and origination and pricing of loans, by type of home and type of loan, 2010—continued

Type of home and loan	Applications			
	Number submitted	Acted upon by lender		
		Number	Number denied	Percent denied
Business related ³				
Conventional, first lien				
Home purchase	29,771	28,920	973	3.4
Refinance	30,632	29,617	1,612	5.4
Other	10,266	9,684	960	9.9
Multifamily ⁵				
Conventional, first lien				
Home purchase	8,315	7,689	1,004	13.1
Refinance	12,769	11,883	1,815	15.3
Other	4,400	4,034	648	16.1
Total	12,954,875	11,070,720	2,556,789	23.1

⁵ Includes business-related and nonbusiness-related applications and loans for owner-occupied and non-owner-occupied properties.
... Not applicable.

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 15.1 percent in 2010, compared with a denial rate of 55 percent for such applications for owner-occupied manufactured homes.

In addition to the application data provided under HMDA, nearly 443,000 requests for preapproval were reported as acted on by the lender in 2010 (table 12). About 26 percent of these requests for preapproval were denied by the lender. Not surprisingly, the number of requests for preapproval is down substantially from the levels recorded at the height of the

Table 11. Disposition of applications for home loans, and origination and pricing of loans, by type of home and type of loan, 2010—continued

Type of home and loan	Loans originated											
	Number	Loans with APOR spread above the threshold ¹										
		Number	Percent	Distribution, by percentage points of APOR spread						APOR spread (percentage points)		Number of HOEPA-covered loans ²
				1.5–1.99	2–2.49	2.5–2.99	3–3.99	4–4.99	5 or more	Mean	Median	
Business related ³												
Conventional, first lien												
Home purchase	27,321	953	3.5	22.7	29.7	22.3	21.5	2.8	1.1	2.6	2.4	...
Refinance	27,525	727	2.6	23.4	27.8	23.7	19.1	4.0	2.1	2.6	2.5	...
Other	8,528	151	1.8	16.6	17.9	14.6	28.5	12.6	9.9	3.2	3.0	...
Multifamily ⁵												
Conventional, first lien												
Home purchase	6,249	209	3.3	32.5	24.9	25.4	14.8	.5	1.9	2.4	2.3	...
Refinance	9,620	285	3.0	31.6	24.6	22.5	16.8	2.8	1.8	2.5	2.4	1
Other	3,259	50	1.5	46.0	20.0	12.0	8.0	12.0	2.0	2.5	2.1	0
Total	7,863,337	248,700	3.2	31.3	16.5	11.2	15.8	10.6	14.6	3.2	2.6	3,391

Table 12. Home-purchase lending that began with a request for preapproval: Disposition and pricing, by type of home, 2010

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										
					Num-ber	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 related ³																		
Owner occupied																		
Site built																		
Conventional																		
First lien	214,845	50,155	23	130,475	21,520	16,756	85,438	1,676	2.0	47.6	23.5	11.3	11.3	4.6	1.8	2.3	2.0	
Junior lien	5,327	942	18	3,787	271	170	3,196	1,075	33.6	...	...	...	28.4	63.7	7.9	4.3	4.2
Government backed																		
First lien	175,857	53,837	31	109,419	13,499	12,287	79,928	1,055	1.3	87.5	10.2	1.5	.1	.2	.5	1.8	1.7	
Junior lien	218	22	10	193	22	10	159		.0	...	...	...	...	...	...	...	...
Manufactured																		
Conventional, first lien	13,777	1,288	9	12,241	1,483	4,436	4,283	2,364	55.2	16.3	5.1	6.0	9.1	10.1	53.4	5.6	5.3	
Other	2,147	781	36	1,324	286	255	724	15	2.1	73.3	13.3	13.3	...	...	...	1.9	1.7
Non-owner occupied ⁴																		
Conventional, first lien	28,822	5,378	19	19,395	2,983	2,290	13,045	427	3.3	41.0	16.6	14.1	14.3	9.6	4.5	2.7	2.3	
Other	1,195	450	38	724	258	295	154	10	6.5	20.0	...	...	40.0	10.0	30.0	4.3	3.7
Business related ³																		
Conventional, first lien	398	19	5	372	41	17	309	15	4.9	13.3	26.7	46.7	6.7	6.7	.0	2.7	2.8	
Other	106	5	5	98	12	19	65	1	1.5	...	...	...	100.0	...	...	3.9	3.9
Multifamily ⁵																		
Conventional, first lien	96	4	4	88	9	10	67	3	4.5	...	33.3	66.7	...	...	...	2.4	2.6
Other	15			15	5	2	8	1	12.5	100.0	...	...	...	...	...	1.6	1.6
Total	442,803	112,881	25	278,131	40,389	36,547	187,376	6,642	3.5	34.6	10.6	6.3	11.7	15.8	21.2	3.8	2.9	

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.

housing boom. In 2006, covered institutions reported that they received nearly 1.2 million requests for preapproval upon which they took action (data not shown in tables).

Rule Changes Related to Higher-Priced Lending

The rules governing whether a loan is classified as higher priced under HMDA were changed in 2008, with implementation affecting loan classifications for applications after October 1, 2009. All loans reported in the 2010 HMDA data, regardless of the date of

application, are covered under the new rules. The purpose of the rule change was to address concerns that had arisen about the distortive effects of changes in the interest rate environment on the reporting of higher-priced lending under the original methodology.²⁸ Under the original methodology, changes in underlying market rates of interest, particularly a steepening or flattening of the yield curve, could result in two loans of equivalent credit and prepayment risk being classified differently under HMDA as higher priced or not at different points in time, an outcome that was unintended.²⁹

To address the distortions arising from the method used to classify loans as higher priced or not, the price-reporting rules under HMDA were modified. Lenders are now required to compare the APR on the loan with the “average prime offer rate” (APOR) for loans of a similar type (for example, a 30-year fixed-rate mortgage). 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).³⁰ If the difference is more than 1.5 percentage points for a first-lien loan or more than 3.5 percentage points for a junior-lien loan, then the loan is classified as higher priced and the rate spread is reported. Since APORs move with changes in market rates and are product specific, it is anticipated that the distortions that existed under the old methodology will be overcome.

The Incidence of Higher-Priced Lending

The data show that the incidence of higher-priced lending across all products in 2010 was about 3.2 percent (table 11).³¹ 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 2010, among first-lien home-purchase loans for site-built homes, 3.3 percent of conventional loans had APRs above the price-reporting threshold, versus 1.3 percent of nonconventional loans. 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 2010, the incidence of higher-priced lending for conventional first-lien refinance loans was 1.3 percent, whereas for comparable junior-lien loans it was 11.9 percent. This relationship is found despite the fact that the threshold for reporting a junior-

²⁸ The rules for reporting loan pricing information under HMDA were originally adopted in 2002, covering lending beginning in 2004. These older rules required lenders to compare the APR on the loan with the yield on a Treasury security with a comparable term to maturity to determine whether the loan should be considered higher priced: If the difference exceeded 3 percentage points for a first-lien loan or 5 percentage points for a junior-lien loan, the loan was classified as higher priced and the rate spread (the amount of the difference) was reported.

²⁹ For a more detailed discussion of the problems with the old price-reporting rules that led to the change, see Avery and others, “The 2009 HMDA Data.”

³⁰ The weekly PMMS reports the average contract rates and points for all loans and the margin for adjustable-rate loans for loans offered to prime borrowers (those who pose the lowest credit risk). The survey currently reports information for two fixed-rate mortgage products (30-year and 15-year terms) and two adjustable-rate mortgage products (1-year adjustable rate and a 5-year adjustable rate). 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.

³¹ 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 data.

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, a result consistent with the elevated credit risk associated with such lending. For 2010, 80 percent of the conventional first-lien loans used to purchase manufactured homes were higher priced.

Rate Spreads for Higher-Priced Loans

Although there is considerable variation across loan products in the incidence of higher-priced lending, the variation across products in mean and median APOR spreads as reported in the HMDA data is much smaller. For example, for 2010, the mean APOR spread reported for higher-priced conventional first-lien loans for the purchase of an owner-occupied site-built home was about 2.5 percentage points, compared with about 1.8 percentage points for higher-priced first-lien nonconventional loans used for the same purpose (table 11).

It is worth noting that the vast majority of nonconventional loans reported as higher priced in 2010 exceeded the HMDA price-reporting thresholds by only a small amount: Specifically, 80 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 40 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 (39 percent) is a little less than the share of higher-priced conventional refinancing loans with such APORs (about 42 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 2010, the typical higher-priced conventional first-lien loan to purchase a manufactured home had a reported spread of about 5.2 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.³² For 2010, 655 lenders reported extending nearly 3,400 loans covered by HOEPA (table 11; data regarding lenders not shown in tables). In comparison, 1,153 lenders reported on about 6,500 loans covered by HOEPA in 2009. In the aggregate, HOEPA-related lending made up less than 0.1 percent of all of the originations of home-secured refinancings and home-improvement loans reported for 2010 (data derived from tables).³³

³² 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 2010 number of HOEPA loans is comparable to that of earlier years. The requirement to report HOEPA loans in the HMDA data relates to whether the loan is subject to the original protections of HOEPA, as determined by the coverage test in the Federal Reserve Board's Regulation Z, 12 C.F.R. pt. 226.32(a). The required reporting is not triggered by the more recently adopted protections for "higher-priced mortgage loans" under Regulation Z, notwithstanding that those protections were adopted under authority given to the Board by HOEPA. See 73 Fed. Reg. 44522 (July 30, 2008).

³³ HOEPA does not apply to home-purchase loans.

Factors Influencing Refinancing Activity in 2010

As discussed earlier, the APOR for a 30-year fixed-rate mortgage fell sharply at the end of 2008 and into 2009, and then it fell to well under 5 percent in 2010 (figure 1). Moreover, these rate declines appear to have sparked elevated refinance activity in early 2009 and late 2010. Still, overall refinance activity in both 2009 and 2010 appears low compared with what might have been expected given the sharp decline in interest rates. For example, interest rates last fell sharply in the early 2000s, and refinance volume peaked in 2003 at over 15 million loans, more than the combined refinance volume in 2009 and 2010 (table 3.B).

One explanation for subdued refinance activity is that lenders may be less willing or less able to take risk than earlier in the decade. The Federal Reserve's quarterly Senior Loan Officer Opinion Survey on Bank Lending Practices indicates that lenders have tightened credit standards during the past few years.³⁴ Lenders could also be adjusting prices in light of perceptions that borrowers with the same nominal characteristics (credit score, for example) pose more risk now than they did several years ago because of the substantially weaker and more uncertain conditions in employment and housing markets. Lenders may also be pricing risk more stringently because they are passing on certain fees from the GSEs. In 2008, both Fannie Mae and Freddie Mac started charging additional fees ("loan-level pricing adjustments") on loans to borrowers in credit score and LTV ranges in which they had not charged such fees before. In addition to these factors, the increased fees and tighter underwriting by PMI companies noted earlier and the increased presence of junior-lien loans—which must be closed, refinanced, or resubordinated—relative to the past may also be impeding refinance activity.

Subdued refinance activity may also stem from the fact that the financial standing of many borrowers has been undermined by sharp house price declines and the associated loss of home equity, especially for those residing in Arizona, California, Florida, Michigan, and Nevada, where home prices fell more than 20 percent from the end of 2006 to the end of 2009, according to the Federal Housing Finance Agency (FHFA) home price index.³⁵ A borrower with little or no home equity may need to pay down his or her loan balance substantially before being able to qualify for a refinance, which could be difficult.

That said, a few programs have been introduced in recent years to help facilitate refinancing for those with little or no equity. Perhaps most notable is the Home Affordable Refinance Program. To be eligible, borrowers must be current on their payments, and their loans must have been originated before June 2009, be backed by the GSEs, and have balances that do not exceed 125 percent of the respective home values. Thus far, the program has had less of an effect than initially expected, perhaps because of some issues raised previously, such as getting junior-lien holders to agree to resubordinate their loans under the new refinance loan.³⁶

To help describe refinance activity in more detail than is possible with the HMDA data, we draw on a relatively new data source—the FRBNY Consumer Credit Panel/Equifax. The panel is a nationally representative longitudinal database of individuals with detailed infor-

³⁴ See Board of Governors of the Federal Reserve System, "Senior Loan Officer Opinion Survey on Bank Lending Practices," webpage, www.federalreserve.gov/boarddocs/SnLoanSurvey.

³⁵ See Federal Housing Finance Agency, "House Price Index," webpage, www.fhfa.gov/Default.aspx?Page=14. Elevated levels of unemployment and underemployment across much of the country have also likely damped refinancings, since reduced incomes and unstable employment make qualifying for loans more difficult.

³⁶ For a more detailed discussion of why the Home Affordable Refinance Program may not have had more robust results thus far, see Elizabeth A. Duke (2011), "Rebalancing the Housing Market," speech delivered at the Federal Reserve Board Policy Forum "The Housing Market Going Forward: Lessons Learned from the Recent Crisis," Washington, September 1, www.federalreserve.gov/newsevents/speech/duke20110901a.htm.

mation, 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.³⁷ 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 and current balance; (2) each consumer's credit score as of the end of 2009; and (3) each consumer's geographic location at the level of the census block (a subunit of a census tract).³⁸

Refinance mortgage loans are not explicitly identified in the credit bureau data, but because we can follow a given mortgage borrower over time, we can infer whether that borrower refinanced his or her mortgage during any particular period. Estimates of “refinance rates” (the shares of borrowers that refinanced their mortgages) during 2010 are provided by credit score, geography, and year of loan origination for those with mortgages outstanding as of the end of 2009 (**table 13**, top panel). To simplify the analysis, we focus on consumers who had exactly one closed-end mortgage with an outstanding balance of at least \$50,000 as of the end of 2009 and stayed in the same census block over the course of 2010 (a proxy for not having changed residence; we simply want to omit from the analysis those who moved).³⁹ We then look at their mortgage accounts at the end of 2010 and classify consumers as having refinanced during 2010 if they (1) opened at least one closed-end mortgage in 2010 and (2) no longer had a positive-balance mortgage with an origination date matching that of the mortgage that was outstanding at the end of 2009.

Estimated refinance rates in 2010 were highest among consumers with pristine credit scores (820 or higher) whose loans were originated between 2006 and 2008—years with relatively high interest rates.⁴⁰ Within these origination years, lower credit scores were associated with much lower refinance rates within both groups of states. For example, in “other” states—those states that did not experience the largest declines in home values—refinance rates for consumers with credit scores of 680 to 719 were less than half of those for consumers with the highest credit scores.

Estimated refinance rates are also generally lower for borrowers in the five states that experienced house price declines of 20 percent or more (“sharpest declines”) within each score group, especially for loans originated between 2005 and 2007—the time that house prices peaked. Those who purchased homes without significant down payments or reduced their equity substantially through refinancing during this period would have been most affected

³⁷ 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). It is important to note that all individuals in the database are anonymous: Names, street addresses, and Social Security numbers have been suppressed. Individuals are distinguished and can be linked over time through a unique, anonymous consumer identification number assigned by Equifax.

³⁸ This 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). An individual's credit score at the end of 2009 represents a reasonable metric of the score that would have been available to a lender that received an application for a refinancing during 2010.

³⁹ Those consumers with relatively small balances are less likely to find it in their financial interest to refinance. Indeed, table 10 indicates that more than 97 percent of refinance loans in 2010 were for amounts in excess of \$50,000.

⁴⁰ Unfortunately, the credit bureau data lack information on the interest rate of the loan or the structure of the loan (for example, whether it is an adjustable- or fixed-rate mortgage). Thus, we cannot determine more precisely whether a given borrower has a strong financial incentive to refinance. For example, borrowers with adjustable-rate mortgages may be less inclined to refinance because they already enjoy the benefits of falling rates.

Table 13. Estimated refinance rates for borrowers with outstanding loans in states grouped by degree of decline in house prices, by year of loan origination and credit score category, 2010 and 2003

Percent

Year of loan origination	Estimated refinance rates during 2010										
	Credit score category ¹									Memo	
	Less than 680		680–719		720–819		820 or more		All	APOR difference ³	Proportion of borrowers
	Steepest declines ²	Other ²	Steepest declines ²	Other ²	Steepest declines ²	Other ²	Steepest declines ²	Other ²			
Before 2003	.7	1.9	4.5	7.1	9.1	12.8	10.8	13.5	8.5	n.a.	10.3
2003	1.3	2.1	6.8	8.4	11.4	14.1	14.2	15.3	11.6	1.1	13.5
2004	.8	1.8	5.0	8.2	11.2	14.7	15.8	18.1	10.5	1.2	8.4
2005	.6	1.8	4.5	9.3	10.0	16.6	15.8	22.8	10.3	1.2	10.7
2006	.5	2.4	3.9	10.8	9.4	19.4	17.0	23.1	9.2	1.7	10.9
2007	1.3	3.8	4.4	12.1	11.5	19.7	17.0	24.0	10.9	1.6	12.6
2008	5.6	6.1	12.3	14.7	20.1	22.7	27.2	28.9	16.8	1.3	13.0
2009	5.0	4.5	7.8	6.2	10.8	8.6	15.1	10.5	8.4	.4	20.6
Memo											
All origination years	1.7	3.2	6.4	9.7	11.8	14.8	15.6	17.4	10.7	...	100.0
Proportion of borrowers	7.0	22.0	2.0	7.6	11.1	37.7	3.7	8.8	100.0	...	...
Estimated refinance rates during 2003											
Before 1996	21.6	18.3	30.2	28.9	33.6	34.9	31.1	29.1	29.3	n.a.	11.6
1996	24.0	18.6	30.4	36.7	43.2	40.4	30.8	37.9	32.1	2.1	2.7
1997	25.0	18.5	36.0	38.4	47.6	46.8	42.5	41.0	35.6	1.9	3.4
1998	24.1	20.8	41.3	39.3	49.8	45.5	51.3	44.2	39.4	1.2	12.0
1999	25.7	19.9	41.4	39.2	48.1	44.7	48.2	39.3	36.3	1.7	10.3
2000	27.6	21.6	48.1	43.9	48.1	47.1	36.8	45.3	34.2	2.3	5.9
2001	35.6	28.2	46.0	39.1	52.5	46.6	57.9	47.8	41.4	1.2	25.3
2002	29.1	24.3	34.9	29.7	38.2	32.8	47.1	33.6	31.4	.7	28.8
Memo											
All origination years	28.7	23.1	39.3	35.4	44.3	40.7	44.7	38.6	35.5	...	100.0
Proportion of borrowers	8.1	23.7	3.3	9.5	12.9	38.8	1.3	2.5	100.0	...	...

¹ Credit scores for borrowers are measured as of the beginning of the year.² "Steepest declines" consists of the five states with the steepest declines in house prices from 2006 to 2009: Arizona, California, Florida, Michigan, and Nevada; "other" consists of all remaining states.³ The average prime offer rate (APOR), which is published weekly by the Federal Financial Institutions Examination Council, is an estimate of the annual percentage rate on 30-year fixed-rate 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. The APOR difference is the difference in average annual APOR between the year of loan origination and the year of refinance. For 2010, the average annual APOR is 4.75 percent; for 2003, it is 5.885 percent.

Source: Federal Reserve Bank of New York Consumer Credit Panel/Equifax.

n.a. Not available.

... Not applicable.

by declining house prices. Also, the difference in refinance rates tends to rise as credit scores fall, suggesting that low equity seems to compound the problem of lower scores in efforts to refinance. For example, among those with loans originated in 2006, the estimated refinance rate for consumers with pristine credit scores is nearly 25 percent in the other states, compared with roughly 17 percent in the states with the sharpest declines, while for the group with the second-highest score (720–819), this difference becomes more pronounced—about 19 percent versus 9 percent.

In contrast, analogous estimates for 2003 in the bottom panel of table 13 indicate that refinance rates that year did not vary systematically across state groups and did not fall with credit scores until scores dropped below 680. In other words, the current pattern of refinance activity across state and credit score groups does not appear to be explained by his-

torical precedent. The findings overall provide evidence consistent with the view that losses of home equity, weak economic conditions, and tighter underwriting (whether due to decreased appetite for risk or an increased assessment of risk) damped refinance activity in 2010.⁴¹

We can use the estimates in table 13 to make an inference about the share of mortgagors at the end of the 2009 who would have refinanced during 2010 if home equity was not an impediment and underwriting was similar to what it was in 2003 (that is, similar across credit score groups except for the group with scores below 680). Specifically, if we assume that refinance rates for each state-score-year group were identical to the refinance rates for those with pristine scores in other states and that, as in 2003, refinance rates for those with scores below 680 are about 60 percent of what they were for pristine score types, then the overall refinance rate in 2010 would have been just over 16 percent instead of just under 11 percent.⁴²

This “counterfactual” refinance rate might be conservative since it abstracts away from the problems posed by the increased incidence of junior liens, noted earlier. However, we also estimated refinance rates for those with a positive-balance HELOC and found nearly identical refinance rates as those shown in table 13.⁴³ The counterfactual rate might also be conservative because declining house prices affected borrowers in the other states at least to some extent, but, notably, we found refinance rates for those in the subset of states where prices have not declined since 2006 to be very similar to those for the other states as a whole (data not shown in tables). Overall, this exercise suggests that refinance rates could have been just over 5 percentage points, or just over 50 percent, higher in the absence of home equity problems and underwriting changes. Applying that number to the HMDA data implies that roughly an additional 2.3 million first-lien owner-occupant refinance loans would have been made during 2010 on top of the roughly 4.5 million such loans that were in fact originated (data derived from table 7).

The Continuing Role of Government in the Mortgage Market

The HMDA data for 2008 and 2009 showed that the share of new mortgage loans either explicitly or implicitly guaranteed by the federal government rose dramatically from 2006. This increased government role continued in 2010, with the share of loans that were originated through the FHA, VA, and, to a much lesser extent, FSA or RHS programs, or that were owned outright or in mortgage pools guaranteed by Fannie Mae or Freddie Mac, remaining about the same as it was in 2009. This section discusses the underlying causes of this trend. To facilitate our analysis, we employ a revised data set designed to correct for one of the limitations in the HMDA reporting system.

⁴¹ One could imagine comparing denial rates on refinance applications in the HMDA data across geographies and over time to gauge the difficulty of refinancing currently. However, as discussed later, changes over time in the composition of applicants as credit conditions change would likely confound such an analysis.

⁴² For example, instead of a refinance rate of 22.7 percent for 2008 borrowers in other states with a score between 720 and 819, such borrowers would have had a refinance rate of 28.9 percent. Similarly, instead of a refinance rate of 10 percent for 2005 borrowers in the steepest-decline states, they would have had a refinance rate of 22.5 percent. After adjusting the refinance rates for each cell in this manner, the counterfactual rate is then calculated as a weighted average of each cell, where the weights are given by the share of borrowers in each cell.

⁴³ Analysis of the data suggests that of those with at least one closed-end mortgage with a balance above \$50,000 at the end of 2009, about two-thirds had just that one mortgage, about 13 percent had two first-lien mortgages, and about 20 percent had a junior lien—either a closed-end mortgage or a HELOC with a positive balance. Of those with a junior lien, about two-thirds had a HELOC as opposed to a closed-end junior lien. Because of the data structure, it is difficult to estimate refinance rates for those who have a closed-end junior-lien loan. Also note that the bureau data do not identify junior-lien loans explicitly; instead, we assume that those with a HELOC and those with a second closed-end mortgage that is no more than 25 percent of the size of the other closed-end mortgage have a junior lien.

Under HMDA reporting rules, all loans originated under the FHA, VA, FSA, or RHS programs must be identified as such.⁴⁴ However, loans placed in pools that are guaranteed by or sold to the GSEs Fannie Mae and Freddie Mac are identified only if they are sold directly to the GSEs or directly placed in a pool during the same year of the loan origination. The HMDA data therefore tend to undercount loans ultimately sold to the GSEs for two reasons. First, sales can take place in a year subsequent to origination, especially among loans originated during the fourth quarter. Second, lenders may not sell loans directly to the GSEs but instead may sell them to other financial institutions that form mortgage pools for which investors subsequently obtain GSE credit guarantees.

For the analysis in this section, we adjust the HMDA data to attempt to correct for the undercount of GSE loans. First, in addition to reporting their mortgage originations, financial institutions are also required to report their loan purchases and the types of purchasers if the loans are resold. Using information on loan size, location, date of origination, and date of purchase, we were able to match more than 50 percent of the loans that were originated from 2006 to 2010 and then sold to other financial institutions to the records for the same loans in the loan purchase files. From those matched loans, we were then able to obtain the ultimate loan dispositions from the filings of loan purchases. Of the portion we were unable to match, most were originated (and purchased) by one large organization, which supplied us with the aggregate disposition of the purchased loans. For those sold loans that we were still unable to match, we assumed that the distribution of the ultimate disposition matched that of similar loans that we could match.

Second, to address the undercount of GSE loans originated in October through December of each year, we used an imputation formula based on the allocation of loans originated in the preceding September and the following January to assign the ultimate disposition of conventional loans.⁴⁵ The imputation was conducted separately for the largest mortgage originators and took account of the characteristics of the loan, including size and location.

Figure 4 illustrates the changing structure of the mortgage market between 2006 and 2010 using our adjusted data for the four major loan types reported under HMDA. It groups first-lien site-built mortgages into four distinct categories: (1) loans insured by the FHA, backed by the VA, or issued or guaranteed by the FSA or RHS (“nonconventional”); (2) conventional loans sold to Fannie Mae or Freddie Mac or placed in pools guaranteed by them (“GSE”); (3) conventional loans sold to an affiliate or held in the portfolio of the originating lender (“portfolio”); and (4) all other conventional loans, including those sold into the private securitization market or to unaffiliated institutions (“other”). Panels 4.A, 4.B, and 4.C show patterns for owner-occupant home-purchase, refinance, and home-improvement loans; panel 4.D shows patterns for all non-owner-occupant loans regardless of purpose.⁴⁶

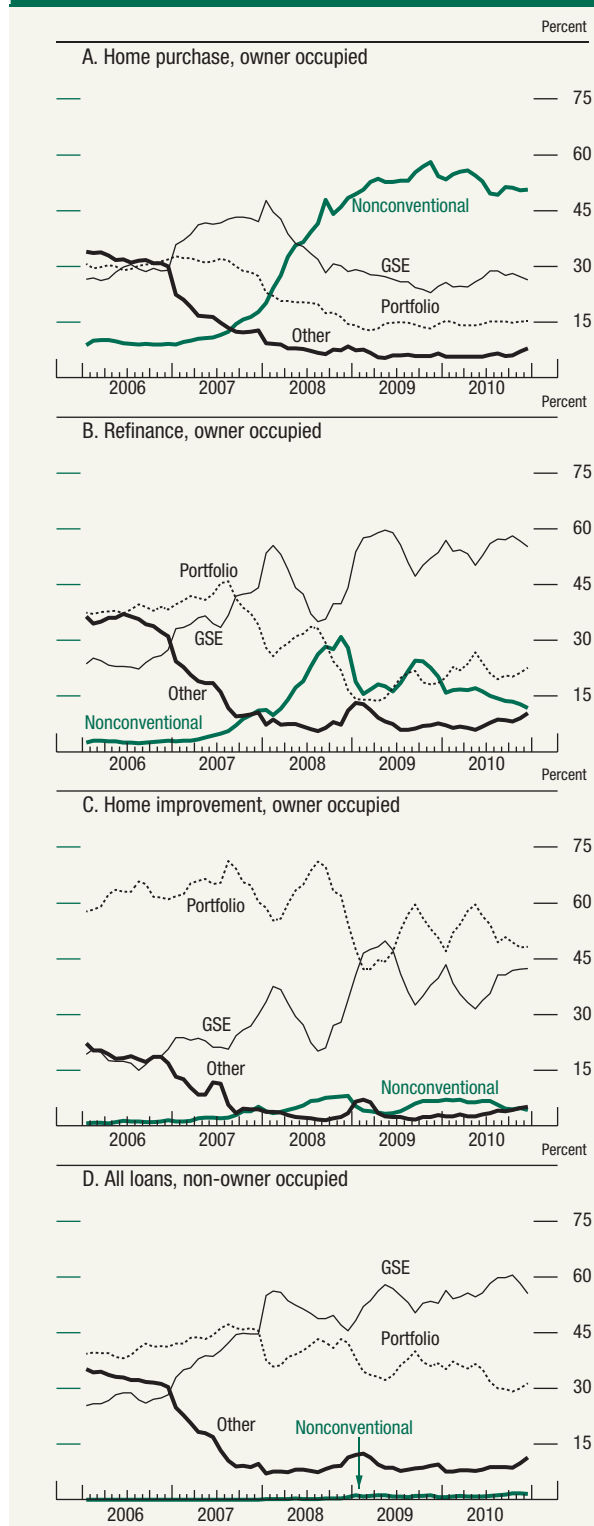
Our adjusted data show a greater role for the GSEs than that implied by the raw HMDA data. The raw HMDA data reported by lenders show that 39.6 percent of owner-occupant

⁴⁴ For the 2010 reporting year, 77.5 percent of the nonconventional first-lien owner-occupant home-purchase loans were FHA loans, 15.2 percent were VA guaranteed, and 7.3 percent were covered under the FSA or RHS programs. For nonconventional refinance loans, 79.2 percent were FHA, 20.3 percent VA, and 0.4 percent FSA or RHS.

⁴⁵ For 2010, only the September data were used.

⁴⁶ The home-improvement and non-owner-occupant loan categories are more heterogeneous than the other two. The home-improvement category may include some “cash-out” refinance loans, which would be treated as refinancings except that some of the funds are used for home improvements, as well as smaller new loans on homes that previously had no mortgage. The non-owner-occupant category presented here is heterogeneous by construction since it includes all types of loans. As a consequence of this heterogeneity, the disposition of liens in these two categories is likely more sensitive to market changes than that of liens in the refinance and home-purchase categories.

Figure 4. Share of lending, by purpose of loan and occupancy status of home and by type of loan, 2006–10



Note: The data are monthly. Loans are first liens on one- to four-family, site-built properties and exclude 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 definitions of loan types, see text.

refinance loans originated in 2010 were reported as sold directly to the GSEs or placed in a mortgage pool guaranteed by them (data derived from tables 7 and 8); our revised data imply that the "correct" figure is likely to be much higher (over 55 percent).

The data in figure 4 show that the subprime-based private securitization market declined at the end of 2006 and throughout 2007, while the GSEs gained market share. Portfolio and nonconventional market shares remained relatively constant until the end of 2007. The years 2008 through 2010 show a different dynamic, with nonconventional home-purchase market share rising dramatically and then remaining constant before dropping somewhat in 2010. The GSEs play a much more prominent role in the refinance market; their share rose dramatically at the beginning of 2008, fell through August, and then rose again into 2009 and 2010. Portfolio and other lending dropped precipitously from 2007 to 2009 before increasing somewhat in 2010, particularly in the refinance market.

These changing patterns reflect the actions of a number of players. Nonconventional lending has traditionally focused on the high-LTV market, offering investors mortgage insurance protection against borrower default. PMI companies also offer similar insurance for high-LTV conventional loans, with PMI (or some other credit enhancement) required by statute for loans with LTVs above 80 percent that are sold to the GSEs. Lenders can also choose to forgo PMI and (1) hold the loan directly or (2) issue a junior-lien piggyback loan for the portion of the loan above 80 percent and still sell the 80 percent loan to the GSEs. The choice among PMI,

public mortgage insurance, or a piggyback loan is likely to be made by borrowers (and lenders) based on the relative pricing and underwriting standards of the PMI and the non-conventional loan products. Prices and underwriting established by purchasers in the secondary market also matter. Both GSEs charge fees for loans they purchase or guarantee, with the fees varying by LTV and credit quality and subject to change over time. The GSE, FHA, and VA programs are also subject to statutory limits on loan size, which can and have been changed. Finally, the willingness of financial institutions to hold mortgages in portfolio is likely to be sensitive to their cost of funds, their capital position, and other factors.

Many of these items have changed over the past five years and likely influenced lending outcomes, as described in previous articles. Relative to previous years, there was relatively little change in 2010. The most notable event, discussed earlier, was the expiration of the first-time homebuyer tax credit program. The program—which, in an earlier article, we estimated that one-half of the home-purchase loans in 2009 qualified for—expired in April 2010 for loans closing through June 2010. By targeting first-time homebuyers, the program likely stimulated demand for high-LTV home-purchase mortgages. An FHA loan may have had particular appeal for such borrowers because the FHA allowed the tax credit to be used in advance as part of the down payment. This factor may potentially explain the decline in nonconventional market share in the latter part of 2010. However, another factor may also have been in play. In April 2010, the FHA raised its upfront underwriting fee 0.5 percentage point.⁴⁷ The share of nonconventional loans in the home-purchase market peaked in April—well before the end of the first-time homebuyer tax credit program—and fell about 4 percentage points, remaining at that level through the end of the year. Notably, the share of nonconventional loans in the refinance market, which was unaffected by the tax credit program, peaked in May and declined about 4 percentage points thereafter.

In the sections that follow, we discuss the differential implications that these changes may have had for particular groups and the potential effects that proposed changes in the GSE and FHA limits may have on the marketplace.

Demographic Patterns

As discussed earlier, 2008 and 2009 were characterized by the increased roles of the GSEs and of the FHA, VA, FSA, and RHS programs. Such government-related lending continued at roughly the same levels in 2010. This section examines how government-related lending played out differently across borrower groups. We differentiate among borrowers by race and ethnicity, relative income (for both the neighborhood and the borrower), location (state), type of lender, and indicators of low-quality lending.

Changes in the share and number of home-purchase and refinance loans from 2006 to 2010 for different groups are shown (tables 14.A and 14.B). These data indicate different patterns for home-purchase lending compared with refinance lending. For example, the shares of home-purchase loans to black and Hispanic-white borrowers decreased from 2006 to 2009, but the decrease in these groups' shares of the refinance market was more severe and continued in 2010. Also, the share of refinance loans to borrowers with low or moderate incomes (LMIs) fell significantly from 2006 to 2010, while the share of home-purchase loans to such borrowers increased significantly. Most of this growth took place in 2008 and 2009 but was sustained in 2010, when the first-time homebuyer tax credit program was still in place. Notably, the share of home-purchase lending to LMI borrowers fell significantly

⁴⁷ Fees were raised for mortgages with case numbers assigned (generally at the point of FHA application) after April 5, 2010. Most of the mortgages closing in April probably had case numbers assigned before the price rise.

Table 14. Distribution across various defining loan characteristics, by type of loan, 2006–10**A. Home purchase**

Percent except as noted

Characteristic	Nonconventional ¹	GSE ²	Other ³	Portfolio ⁴	Overall incidence	Memo: Total loans
	2006					
Minority status of borrower ⁵						
Black or African American	12.7	5.0	11.6	7.5	8.6	378,832
Hispanic white	9.7	7.4	16.8	12.0	12.0	530,196
Asian	1.0	4.7	4.7	4.8	4.4	193,106
Non-Hispanic white	67.4	72.4	53.7	63.2	63.2	2,788,537
Other minority or missing ⁶	9.3	10.6	13.3	12.5	11.9	524,820
LMI census tract or borrower ⁷						
Census tract	16.6	12.1	18.7	15.7	15.7	694,040
Borrower	39.7	24.9	20.0	23.4	24.3	1,071,650
Other ⁸	52.6	65.6	61.6	60.6	61.6	2,718,443
Missing ⁹	1.0	2.8	6.4	7.0	5.0	221,735
Loan characteristic or occupancy status						
High payment-to-income ratio ¹⁰	10.1	11.4	23.5	17.0	16.9	744,714
Non-owner occupant ¹¹	.1	16.4	15.7	19.3	15.8	828,530
Property location ¹²						
Sand states	7.6	15.4	31.6	23.9	22.4	989,164
Rust states	14.6	17.3	11.6	13.9	14.2	626,722
Other	77.8	67.3	56.8	62.2	63.4	2,799,605
Type of lender						
Depository	34.6	45.4	24.6	59.8	42.1	1,857,480
Affiliate of depository	24.8	38.8	23.5	12.2	24.5	1,083,165
Independent mortgage company	40.6	15.8	52.0	28.0	33.4	1,474,846
Memo						
Share of loans ¹³	9.4	28.4	31.9	30.2	100.0	...
Number of loans	415,642	1,255,763	1,410,690	1,333,396	4,415,491	4,415,491

Note: See general note to table 10.

¹ See table 4, note 1.² See table 8, note 2.³ Other loans are conventional loans sold to non-government-related or non-affiliate institutions.⁴ Portfolio loans are conventional loans held by the lender or sold to an affiliate institution.

⁵ Categories for race and ethnicity reflect 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.

⁶ Other minority consists of American Indian or Alaskan Native, and Native Hawaiian or other Pacific Islander. "Missing" indicates that information for the characteristic was missing on the application.

⁷ Low- or moderate-income (LMI) borrowers have lower income, or the property is in a lower-income census tract. 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. 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. "Lower" is less than 80 percent of the median.

⁸ Other consists of all non-lower- and non-missing-income borrowers who are not in a lower-income census tract.

⁹ Income was not relied upon in the underwriting of the loan.

¹⁰ High payment-to-income ratio is 30 percent or more.

¹¹ Loan share is calculated as the percentage of non-owner-occupant loans to total first-lien mortgages for one- to four-family, site-built properties; excludes business loans.

¹² "Sand states" consist of Arizona, California, Florida, and Nevada; "rust states" consist of Illinois, Indiana, Michigan, Ohio, and Wisconsin; "other" consists of all other states.

¹³ Loan share is calculated for all first-lien mortgages for owner-occupied, one- to four-family, site-built properties; excludes business loans in the appropriate year.

... Not applicable.

Table 14. Distribution across various defining loan characteristics, by type of loan, 2006–10—continued**A. Home purchase—continued**

Percent except as noted

Characteristic	Nonconventional ¹	GSE ²	Other ³	Portfolio ⁴	Overall incidence	Memo: Total loans
	2007					
Minority status of borrower ⁵						
Black or African American	13.5	6.1	7.3	7.2	7.5	260,102
Hispanic white	10.0	8.2	9.4	10.8	9.4	324,813
Asian	.9	4.6	4.7	5.3	4.4	151,796
Non-Hispanic white	65.7	69.9	66.6	64.6	67.2	2,319,963
Other minority or missing ⁶	9.9	11.1	12.0	12.0	11.4	393,252
LMI census tract or borrower ⁷						
Census tract	16.5	13.3	13.7	15.4	14.4	496,923
Borrower	34.0	25.4	22.9	23.8	25.6	881,813
Other ⁸	56.8	64.9	64.6	62.7	63.2	2,179,254
Missing ⁹	1.4	2.2	4.5	4.5	3.2	110,259
Loan characteristic or occupancy status						
High payment-to-income ratio ¹⁰	9.6	14.4	18.1	16.4	15.0	519,152
Non-owner occupant ¹¹	.1	14.2	13.5	18.2	13.9	557,248
Property location ¹²						
Sand states	10.0	16.1	22.2	22.1	18.1	626,126
Rust states	13.4	15.8	11.3	13.6	14.1	486,601
Other	76.6	68.2	66.5	64.3	67.7	2,337,199
Type of lender						
Depository	42.0	54.9	30.4	73.7	55.3	1,906,245
Affiliate of depository	20.5	30.0	21.4	10.8	21.5	742,984
Independent mortgage company	37.5	15.1	48.2	15.4	23.2	800,697
Memo						
Share of loans ¹³	12.2	41.0	15.9	30.9	100.0	...
Number of loans	421,731	1,415,691	546,954	1,065,550	3,449,926	3,449,926

in the second half of 2010, after the homebuyer program expired (data not shown in tables).

We also show trends in two metrics of loan quality that can be derived from the HMDA data—the percentage of loans with estimated front-end debt-payment-to-income (PTI) ratios exceeding 30 percent (a warning level in underwriting) and the percentage of loans for non-owner-occupied properties.⁴⁸ Both measures fell significantly over the sample period, although most of this decline had taken place before 2009. In 2010, patterns for these measures diverge as the incidence of high-PTI lending declines and that of non-owner-occupant lending increases for both home-purchase and refinance lending.

Some of the changes from 2006 to 2010 may reflect factors specific to certain geographic areas rather than factors specific to certain demographic groups. For instance, a decline in lending in California relative to the rest of the nation would tend to generate a relative decline in lending to Hispanic white borrowers because of the prevalence of this group in California. Indeed, the share of loans extended to residents of the sand states—Arizona, California, Florida, and Nevada—declined, particularly for refinance lending from 2006 to 2009, rebounding some in 2010. Nevertheless, even after controlling for differential trends

⁴⁸ The monthly mortgage payment used for the PTI ratio is estimated assuming all mortgages are fully amortizing 30-year fixed mortgages. If the loan pricing spread is reported in the HMDA data, the loan contract rate is assumed to be the same as the APR. Otherwise, it is assumed to be equal to the APOR plus 20 basis points prevailing at the loan's estimated lock date.

Table 14. Distribution across various defining loan characteristics, by type of loan, 2006–10—continued**A. Home purchase—continued**

Percent except as noted

Characteristic	Nonconventional ¹	GSE ²	Other ³	Portfolio ⁴	Overall incidence	Memo: Total loans
	2008					
Minority status of borrower ⁵						
Black or African American	10.6	3.4	3.6	4.4	6.3	165,326
Hispanic white	11.4	6.7	5.0	7.1	8.4	221,125
Asian	1.7	7.6	5.4	5.0	4.7	124,028
Non-Hispanic white	65.7	70.2	76.3	71.7	69.3	1,817,967
Other minority or missing ⁶	10.6	12.1	9.6	11.7	11.3	295,369
LMI census tract or borrower ⁷						
Census tract	15.8	11.3	10.6	12.4	13.2	345,114
Borrower	34.8	23.9	27.9	26.1	28.7	752,263
Other ⁸	56.2	68.1	65.1	62.3	62.3	1,634,396
Missing ⁹	1.8	1.3	1.5	5.1	2.2	58,967
Loan characteristic or occupancy status						
High payment-to-income ratio ¹⁰	10.0	12.5	14.0	11.3	11.5	300,482
Non-owner occupant ¹¹	.1	17.3	13.7	20.8	12.1	362,514
Property location ¹²						
Sand states	20.3	20.5	17.6	14.7	19.1	500,134
Rust states	13.2	13.7	12.4	14.7	13.6	357,154
Other	66.5	65.8	70.0	70.6	67.3	1,766,527
Type of lender						
Depository	49.0	69.4	38.4	76.6	60.8	1,594,761
Affiliate of depository	12.2	16.0	9.9	7.1	12.4	324,708
Independent mortgage company	38.8	14.6	51.6	16.3	26.8	704,346
Memo						
Share of loans ¹³	37.2	35.5	7.8	19.5	100.0	...
Number of loans	976,496	930,285	204,881	512,152	2,623,815	2,623,815

in lending across markets—that is, removing overall market trends from the analysis—the racial and income trends described earlier mostly remain (data not shown in tables).

Borrowers of different demographic groups showed large differences in their propensity to use different types of loans, with significant changes from year to year. All groups showed substantial increases in their use of nonconventional loans from 2006 through 2009 (data derived from tables 14.A and 14.B).⁴⁹ Black and Hispanic-white borrowers, however, relied particularly heavily on these government programs, a trend that continued in 2010. In 2010, more than 80 percent of home-purchase loans and more than 40 percent of refinance loans to black borrowers were nonconventional. For Hispanic white borrowers in 2010, nearly three-fourths of their home-purchase loans and 25 percent of their refinance loans were nonconventional. In 2006, over 40 percent of home-purchase and refinance loans to both black and Hispanic-white borrowers were sold into the private securities market or sold to a nongovernment purchaser. By 2007, these shares had dropped significantly, and the GSE and portfolio shares of loans among these groups had grown. In 2008 and 2009, the share of home-purchase loans to black and Hispanic-white borrowers that were sold to the GSEs fell, while the share of refinance loans to both groups that were sold to the GSEs rose from 2007 through 2009 and remained flat in 2010.

⁴⁹ The incidence of a type of loan for a group can be calculated from the data in tables 14.A and 14.B by multiplying the number of loans of a given type (shown as memo items in the last rows of the tables) by the share attributable to a group and then dividing the result by the product of the total number of loans and the overall incidence for the group. For example, the incidence of nonconventional refinance lending for blacks in 2010 was $(1,164,102 \times 0.093) / (2,211,409 \times 0.06) = 81.6$ percent.

Table 14. Distribution across various defining loan characteristics, by type of loan, 2006–10—continued**A. Home purchase—continued**

Percent except as noted

Characteristic	Nonconventional ¹	GSE ²	Other ³	Portfolio ⁴	Overall incidence	Memo: Total loans
	2009					
Minority status of borrower ⁵						
Black or African American	8.5	1.7	2.1	3.8	5.7	139,223
Hispanic white	11.6	4.3	4.8	5.8	8.5	207,398
Asian	2.5	9.8	7.6	6.0	5.2	127,383
Non-Hispanic white	66.7	72.7	75.4	73.7	69.8	1,705,278
Other minority or missing ⁶	10.6	11.4	10.0	10.7	10.8	264,419
LMI census tract or borrower ⁷						
Census tract	14.8	8.9	9.9	11.8	12.6	307,507
Borrower	44.1	27.1	29.8	30.6	36.9	902,855
Other ⁸	48.6	66.3	63.9	59.0	55.6	1,357,856
Missing ⁹	1.9	1.8	1.6	4.9	2.3	56,110
Loan characteristic or occupancy status						
High payment-to-income ratio ¹⁰	7.2	7.2	8.5	6.1	7.1	173,996
Non-owner occupant ¹¹	.1	17.0	15.7	21.4	9.4	252,616
Property location ¹²						
Sand states	22.5	21.3	24.2	13.4	21.0	512,741
Rust states	12.5	14.8	9.7	15.1	13.3	324,397
Other	65.1	63.9	66.1	71.5	65.7	1,606,563
Type of lender						
Depository	47.7	67.9	36.2	80.2	56.8	1,388,372
Affiliate of depository	11.5	12.8	7.0	7.1	11.0	267,763
Independent mortgage company	40.7	19.3	56.8	12.8	32.2	787,566
Memo						
Share of loans ¹³	53.9	25.9	6.2	14.1	100.0	...
Number of loans	1,316,296	632,774	150,303	344,328	2,443,701	2,443,701

Patterns of loan-type incidence for LMI borrowers and borrowers living in LMI census tracts are similar to those for black and Hispanic-white borrowers but are more muted. Loans to these borrowers were less likely to be sold on the nongovernment secondary market in 2006, and the shift toward nonconventional loans in 2008 and 2009 was not as large. The share of borrowers with income missing from their loan applications fell from 2006 through 2009 (more than one-half of these loans were sold into the private secondary market in 2006). The incidence of missing income for refinance loans actually rose in 2008 and 2009, likely the result of “streamlined” refinance programs.

In 2006 and 2007, nonconventional loans as well as GSE loans were significantly less likely than portfolio or private secondary-market loans to be classified as low quality by our measures—high PTI or non-owner occupant. However, by 2008, this lower incidence for high-PTI loans had largely disappeared.

Loans originated in the sand states in 2006 and 2007 were much more likely to be sold into the private secondary market than loans originated in other states. By 2008, differences in the disposition patterns between the sand states and the rest of the country had largely disappeared in the home-purchase market, perhaps in part because of changes in the FHA and GSE loan limits. However, in the refinance market, loans originated in the sand states in 2008 and 2009 were more likely to be purchased by the GSEs and less likely to be part of the nonconventional loan programs than loans in other states.

Table 14. Distribution across various defining loan characteristics, by type of loan, 2006–10—continued**A. Home purchase—continued**

Percent except as noted

Characteristic	Nonconventional ¹	GSE ²	Other ³	Portfolio ⁴	Overall incidence	Memo: Total loans
	2010					
Minority status of borrower ⁵						
Black or African American	9.3	1.7	2.1	3.9	6.0	133,479
Hispanic white	12.3	4.1	4.3	5.8	8.7	192,629
Asian	2.7	10.0	7.6	5.8	5.4	119,582
Non-Hispanic white	65.3	72.7	77.0	74.3	69.3	1,532,692
Other minority or missing ⁶	10.3	11.5	9.0	10.2	10.5	233,027
LMI census tract or borrower ⁷						
Census tract	14.7	8.5	8.7	11.0	12.1	267,862
Borrower	44.4	25.0	26.5	29.5	36.0	795,853
Other ⁸	49.2	69.0	68.2	61.4	57.4	1,269,444
Missing ⁹	1.2	1.2	.8	4.0	1.6	35,451
Loan characteristic or occupancy status						
High payment-to-income ratio ¹⁰	6.3	4.5	4.6	4.1	5.4	118,567
Non-owner occupant ¹¹	.0	19.5	16.7	20.8	10.3	254,770
Property location ¹²						
Sand states	23.0	22.5	21.2	13.1	21.3	471,150
Rust states	12.1	15.0	10.8	15.5	13.3	293,754
Other	64.9	62.5	68.0	71.3	65.4	1,446,505
Type of lender						
Depository	44.9	64.3	33.6	76.2	54.0	1,194,152
Affiliate of depository	12.1	13.3	6.3	7.8	11.4	251,801
Independent mortgage company	43.0	22.4	60.1	16.0	34.6	765,456
Memo						
Share of loans ¹³	52.6	26.5	6.1	14.8	100.0	...
Number of loans	1,164,102	585,550	135,216	326,540	2,211,409	2,211,409

Loan-Size Limits

Before 2008, the National Housing Act, as amended in 1998 Mortgage Letter 1998-28, required that FHA mortgage limits for one- to four-family homes be set at 95 percent of the median house price prevailing in an area (either county or MSA), subject to an overall national minimum and maximum.⁵⁰ Loans purchased by the GSEs were also subject to a limit, based on national median house prices, which was fixed at \$417,000 for single-family homes in the continental United States from 2006 to 2008. The Congress authorized an increase in these limits as part of the Economic Stimulus Act, passed in February 2008; it did so again as part of the Housing and Economic Recovery Act (HERA), enacted in July 2008; and it did so once more as part of the American Recovery and Reinvestment Act, passed in February 2009.⁵¹

⁵⁰ For counties in an MSA, the limit for the county with the highest median house price is used for all counties in the MSA. In 2006 and 2007, the national maximum for FHA single-family home loans was \$271,050 in most areas of the country. VA loans do not have a size limit, but they do have a guarantee limit, which is tied to GSE loan limits. FSA loans are also subject to different, and generally higher, limits. Only LMI borrowers in rural areas are eligible for RHS loans, but the loans do not have an explicit maximum size limit.

⁵¹ New standards released on March 6, 2008, raised the limit for GSE one- to four-family home loans to 125 percent of the area median house price, subject to an overall limit of \$729,750 for single-family homes in the continental United States (the limit could also not be lower than \$417,000). FHA limits were also raised to 125 percent of the median house price prevailing in an area, subject to the same \$729,750 national maximum for single-family homes applicable to the GSEs.

Table 14. Distribution across various defining loan characteristics, by type of loan, 2006–10**B. Refinance**

Percent except as noted

Characteristic	Nonconventional ¹	GSE ²	Other ³	Portfolio ⁴	Overall incidence	Memo: Total loans
	2006					
Minority status of borrower ⁵						
Black or African American	15.4	6.4	11.2	9.4	9.5	421,906
Hispanic white	7.9	8.1	12.7	10.1	10.5	465,534
Asian	.6	2.8	3.0	3.0	2.9	129,561
Non-Hispanic white	65.0	68.8	54.4	63.5	61.7	2,745,229
Other minority or missing ⁶	11.2	13.9	18.7	13.9	15.5	690,582
LMI census tract or borrower ⁷						
Census tract	19.9	14.3	20.3	17.9	17.9	796,633
Borrower	29.1	26.0	23.1	25.8	25.0	1,114,002
Other ⁸	41.5	61.6	59.9	59.7	59.8	2,660,680
Missing ⁹	22.4	4.7	5.3	4.6	5.4	238,240
Loan characteristic or occupancy status						
High payment-to-income ratio ¹⁰	8.9	16.7	34.9	21.6	24.7	1,099,408
Non-owner occupant ¹¹	.5	10.1	10.5	10.9	10.3	512,617
Property location ¹²						
Sand states	10.6	28.3	38.5	29.9	32.0	1,424,317
Rust states	22.1	16.6	11.8	14.6	14.3	638,511
Other	67.4	55.0	49.6	55.5	53.7	2,389,984
Type of lender						
Depository	30.1	44.4	20.4	60.1	41.6	1,852,818
Affiliate of depository	21.3	42.4	24.6	17.6	26.2	1,165,423
Independent mortgage company	48.6	13.2	55.0	22.3	32.2	1,434,571
Memo						
Share of loans ¹³	2.7	24.3	34.9	38.1	100.0	...
Number of loans	121,388	1,081,771	1,552,086	1,697,567	4,452,812	4,452,812

Note: See notes to table 14.A.

The new FHA and GSE limits have remained in place, with only modest variation, since early 2008. However, barring congressional action, national single-family home loan limits on both FHA and GSE lending are scheduled to fall from \$729,750 to \$625,500 on October 1, 2011. Both FHA and GSE loan limits in areas not subject to the national cap are scheduled to fall from the current 125 percent to 115 percent of the area's median house price, with GSE single-family loans still subject to a base limit of \$417,000.

Analysis presented in a previous article concluded that the increased loan limits accounted for less than 10 percent of the growth in nonconventional lending in 2008 and an even smaller portion of the growth in GSE loan purchases.⁵² Here we examine what the effects of the limit changes scheduled for October 1, 2011, are likely to be, based on lending patterns observed in 2010.

Analysis released by the Department of Housing and Urban Development (HUD) suggests that 669 counties and county equivalents, predominantly located in high-cost areas on both coasts, will face changed FHA loan limits for one- to four-family homes as of October 1,

⁵² See Avery and others, "The 2008 HMDA Data."

Table 14. Distribution across various defining loan characteristics, by type of loan, 2006–10—continued**B. Refinance—continued**

Percent except as noted

Characteristic	Nonconventional ¹	GSE ²	Other ³	Portfolio ⁴	Overall incidence	Memo: Total loans
	2007					
Minority status of borrower ⁵						
Black or African American	15.8	6.5	8.3	8.9	8.3	302,575
Hispanic white	7.2	8.3	9.7	9.7	9.1	331,243
Asian	.6	2.9	3.2	3.4	3.0	110,107
Non-Hispanic white	63.8	67.9	60.8	63.5	64.7	2,363,168
Other minority or missing ⁶	12.7	14.4	18.0	14.4	14.9	545,126
LMI census tract or borrower ⁷						
Census tract	19.4	14.4	16.3	17.0	16.0	585,951
Borrower	27.0	24.3	20.8	23.8	23.7	864,197
Other ⁸	48.0	64.0	64.9	61.9	62.4	2,278,791
Missing ⁹	16.6	3.7	4.7	4.5	4.9	179,165
Loan characteristic or occupancy status						
High payment-to-income ratio ¹⁰	9.7	16.9	27.2	20.7	19.8	724,001
Non-owner occupant ¹¹	.3	10.9	10.8	11.8	10.8	439,923
Property location ¹²						
Sand states	10.0	25.0	32.6	28.5	26.9	982,417
Rust states	22.1	16.5	11.4	14.6	15.2	555,083
Other	68.0	58.5	55.9	56.9	57.9	2,114,719
Type of lender						
Depository	38.6	52.1	23.3	70.2	54.0	1,971,896
Affiliate of depository	15.9	32.9	28.4	18.0	25.2	918,701
Independent mortgage company	45.4	15.0	48.3	11.7	20.9	761,622
Memo						
Share of loans ¹³	5.4	37.1	16.7	40.9	100.0	...
Number of loans	196,178	1,354,690	608,485	1,492,866	3,652,219	3,652,219

2011.⁵³ Similar analysis by the FHFA suggests that 250 counties and county equivalents will face changes in GSE limits.⁵⁴ These numbers are not fully set, and some disagreement remains as to what the final changes will be.⁵⁵ Nevertheless, we use the projected limit changes forecast by HUD and FHFA to identify lending in 2010 in potentially affected areas.⁵⁶

All of the counties facing changes in GSE limits are in high-cost areas where 2010 GSE and FHA limits are the same. For about one-half of these counties, the FHA and GSE limits are projected to be reduced by the same amount, and future borrowers seeking loans in size ranges affected by the limits would not be able to use either the FHA or GSE programs. In the remaining counties facing GSE limit changes, the FHA limits are projected to fall below the \$417,000 GSE base limit for single-family homes. In these counties, borrow-

⁵³ U.S. Department of Housing and Urban Development (2011), "Potential Changes to FHA Single-Family Loan Limits beginning October 1, 2011 from Implementation of the Housing and Economic Recovery Act of 2008," market analysis brief, May 26, portal.hud.gov/hudportal/documents/huddoc?id=FHA_Loan_Limits_HERA.pdf.

⁵⁴ Federal Housing Finance Agency (2011), "Possible Declines in Conforming Loan Limits," Mortgage Market Note 11-01, revised May 26, www.fhfa.gov/rss.aspx?page=77&id=0.

⁵⁵ See Robert Dietz and Natalia Siniavskaya (2011), *GSE and FHA Loan Limit Changes for 2011: Scope of Impact*, Special Studies (Washington: National Association of Home Builders, June 1), www.nahb.org/reference_list.aspx?sectionID=734.

⁵⁶ A similar analysis was done using the 2009 HMDA data. See Josiah Madar and Mark A. Willis (forthcoming), "Why We Need to Pay Attention to the Upcoming FHA and GSE Loan Limit Reductions," working paper (New York: Furman Center for Real Estate and Urban Policy).

Table 14. Distribution across various defining loan characteristics, by type of loan, 2006–10—continued**B. Refinance—continued**

Percent except as noted

Characteristic	Nonconventional ¹	GSE ²	Other ³	Portfolio ⁴	Overall incidence	Memo: Total loans
	2008					
Minority status of borrower ⁵						
Black or African American	12.9	3.8	3.2	5.7	5.9	173,990
Hispanic white	6.6	5.7	4.1	5.6	5.7	166,460
Asian	.8	4.0	3.5	2.9	3.1	90,200
Non-Hispanic white	66.2	73.0	78.0	74.6	72.6	2,125,675
Other minority or missing ⁶	13.6	13.4	11.2	11.2	12.7	371,098
LMI census tract or borrower ⁷						
Census tract	16.4	10.4	9.1	12.5	11.9	349,779
Borrower	24.6	22.5	22.0	26.2	23.9	698,388
Other ⁸	48.2	68.2	71.1	64.3	63.7	1,865,918
Missing ⁹	20.5	3.5	1.7	2.9	6.3	183,152
Loan characteristic or occupancy status						
High payment-to-income ratio ¹⁰	10.8	12.5	14.1	11.9	12.2	355,909
Non-owner occupant ¹¹	.3	9.7	8.8	12.4	8.9	285,676
Property location ¹²						
Sand states	9.3	20.2	18.5	15.4	16.8	491,249
Rust states	18.9	17.4	16.4	17.4	17.6	515,072
Other	71.8	62.4	65.1	67.2	65.6	1,921,102
Type of lender						
Depository	42.4	70.9	39.5	79.4	65.7	1,923,557
Affiliate of depository	12.3	16.9	12.7	12.1	14.4	422,510
Independent mortgage company	45.2	12.2	47.9	8.5	19.9	581,356
Memo						
Share of loans ¹³	18.0	46.6	7.6	27.7	100.0	...
Number of loans	526,300	1,365,322	223,593	812,208	2,927,423	2,927,423

ers with loan requests between \$417,000 and the current limits will no longer have access to either the FHA or GSE programs. Borrowers who will no longer be eligible for FHA loans with requests below \$417,000 in these counties and borrowers in counties facing only declines in their FHA limits will still meet GSE loan-size standards. Consequently, in our analysis, we divide 2010 loans into eight groups based on proposed GSE and FHA limit changes: *loans in counties with projected GSE limit changes with loan sizes* (1) below both the 2010 GSE/FHA and proposed 2011 FHA limits, (2) above the 2011 FHA limit but below the proposed 2011 GSE limit, (3) below the 2010 GSE/FHA limit but above the proposed 2011 GSE limit, or (4) above both the 2010 and proposed 2011 GSE/FHA limits (jumbo loans); *loans in counties with projected FHA but not GSE limit changes with loan sizes* (5) below both the 2010 and proposed FHA 2011 limits, (6) below the 2010 FHA limit but above the proposed 2011 FHA limit, or (7) above both the 2010 and proposed 2011 FHA limits; and *loans* (8) in counties with no changes in either the GSE or FHA loan limits.

Totals for first-lien owner-occupant one- to four-family home-purchase and refinance 2010 lending based on these groupings are presented ([tables 15.A](#) and [15.B](#)). Lending totals are shown for the market as a whole and for various demographic and other loan characteristics. For comparison purposes, we also give overall figures for jumbo loans—those with loan sizes above the GSE (and FHA) loan limits for their areas in 2010.

Overall, only 1.3 percent of the 2010 home-purchase loans (and 1.3 percent of refinance loans) fell into a size range that is currently eligible for both the FHA and GSE programs

Table 14. Distribution across various defining loan characteristics, by type of loan, 2006–10—continued**B. Refinance—continued**

Percent except as noted

Characteristic	Nonconventional ¹	GSE ²	Other ³	Portfolio ⁴	Overall incidence	Memo: Total loans
	2009					
Minority status of borrower ⁵						
Black or African American	9.9	1.8	1.5	2.9	3.5	184,715
Hispanic white	6.7	2.8	2.7	3.7	3.7	194,931
Asian	1.2	5.1	4.5	3.4	4.1	214,526
Non-Hispanic white	69.0	77.9	81.4	77.3	76.4	4,036,066
Other minority or missing ⁶	13.2	12.4	10.0	12.6	12.3	651,511
LMI census tract or borrower ⁷						
Census tract	12.9	6.1	5.8	8.6	7.8	410,913
Borrower	17.8	19.6	19.2	23.7	19.9	1,049,444
Other ⁸	30.6	72.6	75.5	68.7	64.3	3,396,044
Missing ⁹	48.8	4.2	1.8	2.9	12.2	642,540
Loan characteristic or occupancy status						
High payment-to-income ratio ¹⁰	6.5	5.9	7.0	5.2	6.0	318,238
Non-owner occupant ¹¹	.5	5.6	5.3	10.1	5.4	304,291
Property location ¹²						
Sand states	12.0	17.4	17.8	13.2	15.7	831,014
Rust states	16.3	19.2	15.1	18.1	18.1	956,928
Other	71.7	63.4	67.1	68.7	66.1	3,493,807
Type of lender						
Depository	45.0	74.5	48.2	84.6	68.3	3,606,134
Affiliate of depository	9.4	11.6	5.7	6.3	9.8	516,553
Independent mortgage company	45.6	13.9	46.1	9.1	21.9	1,159,062
Memo						
Share of loans ¹³	18.9	55.7	8.9	16.5	100.0	...
Number of loans	996,883	2,943,187	469,542	872,137	5,281,749	5,281,749

but will not be eligible for either program under the proposed limits (column 3). An additional 2.1 percent of 2010 home-purchase loans (and 2.4 percent of refinance loans) would potentially have been affected by the FHA changes in markets where GSE limits are unchanged (column 6) or FHA limits fall more than GSE limits (column 2).

However, within these ranges, the proposed changes likely would have had a significant effect—53.4 percent of the home-purchase loans and 59.6 percent of the refinance loans originated in 2010 in size ranges that would have exceeded the proposed 2011 GSE size limits were sold to the GSEs. For FHA loans, the effect is somewhat smaller but still significant—43.7 percent of the home-purchase loans with sizes eligible under 2010 limits but ineligible under 2011 limits in counties with no GSE changes were FHA or VA loans. For refinance loans, only 15.2 percent of loans meeting these criteria were FHA or VA loans.

Borrowers affected by FHA limit changes but with loan sizes under the GSE limits would appear to be likely to have the GSEs as a viable option if the changes are implemented (although lending standards for FHA loans differ from those for loans eligible for purchase by the GSEs in ways other than just loan size). In 2010, 35.0 percent of home-purchase borrowers and 58.8 percent of refinance borrowers falling into a size range affected by the proposed FHA changes in areas where GSE limits are unchanged had their loans sold to the GSEs.

It is more difficult to know what options will be available for borrowers no longer eligible under either the GSE or FHA programs. On the one hand, the overall share of national

Table 14. Distribution across various defining loan characteristics, by type of loan, 2006–10—continued**B. Refinance—continued**

Percent except as noted

Characteristic	Nonconventional ¹	GSE ²	Other ³	Portfolio ⁴	Overall incidence	Memo: Total loans
	2010					
Minority status of borrower ⁵						
Black or African American	8.3	1.8	1.3	2.5	2.9	129,539
Hispanic white	6.5	3.0	2.5	3.5	3.5	159,529
Asian	1.7	6.3	6.3	4.1	5.1	231,709
Non-Hispanic white	72.0	76.2	80.1	77.1	76.1	3,427,377
Other minority or missing ⁶	11.6	12.7	9.8	12.8	12.3	555,817
LMI census tract or borrower ⁷						
Census tract	11.5	6.1	5.5	7.7	7.2	323,864
Borrower	18.5	19.1	16.9	20.5	19.1	861,326
Other ⁸	38.9	76.0	78.6	64.1	68.3	3,074,326
Missing ⁹	39.3	1.1	.9	11.5	8.9	400,435
Loan characteristic or occupancy status						
High payment-to-income ratio ¹⁰	3.9	3.9	3.5	4.2	3.9	175,837
Non-owner occupant ¹¹	1.1	7.3	6.5	9.3	6.8	329,180
Property location ¹²						
Sand states	14.7	19.3	19.3	16.3	18.0	809,714
Rust states	14.1	19.5	14.0	20.2	18.4	830,582
Other	71.2	61.2	66.6	63.5	63.6	2,863,675
Type of lender						
Depository	45.9	71.5	39.0	86.1	68.3	3,077,907
Affiliate of depository	8.3	12.0	5.0	5.6	9.5	428,287
Independent mortgage company	45.8	16.5	56.1	8.3	22.2	997,777
Memo						
Share of loans ¹³	14.5	55.7	8.1	21.7	100.0	...
Number of loans	652,922	2,510,493	365,277	975,279	4,503,971	4,503,971

lending for loans that would be affected by changes in the GSE limit was considerably higher in 2010 than in 2008 and 2009 (bottom of tables 15.A and 15.B). However, it is about the same as the share in 2006 and 2007, before the limits were raised. These figures suggest that factors other than GSE (and FHA) loan limits affected the relative amount of lending taking place within these bands.

On the other hand, if the loans affected by the GSE (and FHA) changes had been forced into the jumbo market in 2010, this move would have resulted in a 50 percent increase in the size of the national home-purchase jumbo market and a 63 percent increase in that of the national refinance jumbo market.⁵⁷ Holding such loans on the portfolios of originating institutions would have meant an increase of over 20 percent in portfolioed loans for institutions serving the 250 counties where limits were changed. These numbers are substantial

⁵⁷ The effects of the limit changes (and the disappearance of the private secondary securities market) are evident in the substantial decline of the jumbo share of the mortgage market from 2007 to 2008. On the surface, it would appear that none of the jumbo market loans would have been eligible for the FHA/VA programs or for purchase by the GSEs. Yet in 2010, almost one-fourth of the home-purchase loans, and 16 percent of the refinance loans, exceeding the maximum GSE/FHA loan limits were reported in the HMDA data as nonconventional or sold to the GSEs. One explanation for this result is that the loans may be for two- to four-family homes, which have higher limits. Some are VA loans, which are not strictly subject to the limits but only to a limitation on the insurance guarantee (about 35 percent of jumbo nonconventional loans were VA loans, a percentage significantly higher than the overall share of VA nonconventional loans). Some may simply be reporting errors or have loan sizes very near the limits such that rounding errors may have led to their misclassification. This issue may be of particular concern for FHA loans—almost one-half of all 2010 FHA loans reported as exceeding the FHA loan limit had loan sizes within \$10,000 of the limit.

Table 15. Distribution across various defining loan characteristics, by type of loan and by loan size in relation to government-sponsored enterprise or Federal Housing Administration loan limits, 2010**A. Home purchase**

Percent

Characteristic	Counties with GSE/FHA limit change				Only FHA limit change			Unaffected market ¹	Memo	
	Less than all limits ¹	Only FHA limit status changed ¹	FHA and GSE limit status changed ¹	Greater than all limits ¹	Less than both FHA limits ¹	FHA limit status changed ¹	Greater than all FHA limits ¹		2010 overall incidence	2010 jumbo loans
Minority status of borrower ²										
Black or African American	6.3	2.4	1.6	1.4	6.6	2.9	2.4	6.1	6.0	3.4
Hispanic white	13.2	7.3	3.1	3.1	8.4	3.5	2.2	6.6	8.7	4.2
Asian	11.4	8.2	16.3	9.3	3.2	5.1	4.8	2.1	5.4	5.5
Non-Hispanic white	55.5	68.2	59.7	64.6	72.3	76.2	77.5	77.1	69.3	71.4
Other minority or missing ³	13.6	13.9	19.3	21.6	9.5	12.3	13.0	8.1	10.5	15.6
LMI census tract or borrower ⁴										
Census tract	18.2	2.9	3.9	2.8	13.0	3.2	2.9	8.5	12.1	1.9
Borrower	34.3	.2	.1	.1	46.2	1.2	.3	35.8	36.0	1.9
Other ⁵	56.6	96.1	95.0	95.3	48.6	94.6	95.7	58.0	57.4	68.7
Missing ⁶	.9	.8	1.1	1.7	.9	1.1	1.2	2.8	1.6	27.5
Loan characteristic, type of loan, or occupancy status										
High payment-to-income ratio ⁷	10.3	6.1	9.9	7.9	3.9	4.9	3.4	2.6	5.4	5.9
Nonconventional ⁸	50.2	31.9	21.0	14.0	60.2	43.7	15.1	53.9	52.6	18.7
GSE ⁹	31.8	42.9	53.4	1.8	23.1	35.0	41.8	23.1	26.5	5.8
Other ¹⁰	7.0	13.0	8.9	3.1	5.6	8.5	9.9	5.4	6.1	3.4
Portfolio ¹¹	11.0	12.2	16.7	81.2	11.0	12.9	33.1	17.7	14.8	72.2
Non-owner occupant ¹²	10.5	14.2	5.2	13.3	10.9	7.9	10.2	9.9	10.3	12.9
Property location ¹³										
Sand states	40.9	39.4	53.7	40.0	23.7	28.0	15.7	2.4	21.3	20.0
Rust states	.0	.0	.0	.0	23.5	17.7	22.9	15.5	13.3	8.4
Other	59.0	60.6	46.3	60.0	52.8	54.3	61.4	82.1	65.4	71.6
Type of lender										
Depository	48.6	50.9	58.5	76.4	49.3	51.0	61.6	60.8	54.0	66.4
Affiliate of depository	9.6	8.3	11.2	13.0	11.4	11.5	14.4	12.5	11.4	9.4
Independent mortgage company	41.8	40.8	30.3	10.6	39.3	37.5	23.9	26.7	34.6	24.2
Memo ¹⁴										
2010 share of loans	27.8	.7	1.3	1.0	29.1	1.4	2.5	36.2	100.0	2.6
2009 share of loans	27.4	.7	.8	.8	29.8	1.3	2.1	37.1	100.0	3.1
2008 share of loans	25.3	1.0	.9	1.2	28.5	1.7	3.0	38.5	100.0	3.7
2007 share of loans	23.3	1.1	1.0	2.3	28.6	1.9	3.5	38.3	100.0	8.9
2006 share of loans	24.7	1.2	1.2	2.3	36.4	1.5	2.4	30.2	100.0	10.1

Note: See general note to table 10.

¹ "Less than all limits" indicates loans made with loan size less than the old and newly proposed loan-size limit for both government-sponsored enterprise (GSE) and Federal Housing Administration (FHA) loans. "Only FHA limit status changed" indicates loans made with loan size between the old and newly proposed FHA loan limits but unaffected by the GSE limit changes. "FHA and GSE limit status changed" indicates loans made with loan size between both the old and newly proposed GSE and FHA loan limits. "Greater than all limits" indicates loans made with a loan size greater than both the old and newly proposed loan-size limits for GSE and FHA loans. "Less than both FHA limits" indicates loans made with loan size less than the old and newly proposed loan-size limit for FHA loans. "FHA limit status changed" indicates loans made with loan size between the old and newly proposed FHA loan limits. "Greater than all FHA limits" indicates loans made with a loan size greater than both the old and newly proposed loan-size limits for FHA loans. "Unaffected market" indicates loans made in counties that had no change in the GSE or FHA limits.

² See table 14.A, note 5.

³ See table 14.A, note 6.

⁴ See table 14.A, note 7.

⁵ See table 14.A, note 8.

⁶ See table 14.A, note 9.

⁷ See table 14.A, note 10.

⁸ See table 4, note 1.

⁹ See table 8, note 2.

¹⁰ See table 14.A, note 3.

¹¹ See table 14.A, note 4.

¹² See table 14.A, note 11.

¹³ See table 14.A, note 12.

¹⁴ See table 14.A, note 13.

Table 15. Distribution across various defining loan characteristics, by type of loan and by loan size in relation to government-sponsored enterprise or Federal Housing Administration loan limits, 2010**B. Refinance**

Percent

Characteristic	Counties with GSE/FHA limit change				Only FHA limit change			Unaffected market ¹	Memo	
	Less than all limits ¹	Only FHA limit status changed ¹	FHA and GSE limit status changed ¹	Greater than all limits ¹	Less than both FHA limits ¹	FHA limit status changed ¹	Greater than all FHA limits ¹		2010 overall incidence	2010 jumbo loans
Minority status of borrower ²										
Black or African American	3.0	1.3	.8	.9	2.8	1.5	1.4	3.3	2.9	1.3
Hispanic white	5.1	4.0	2.0	1.8	3.0	1.9	1.4	2.8	3.5	1.9
Asian	10.3	6.0	15.4	7.1	2.9	5.1	4.0	1.6	5.1	4.9
Non-Hispanic white	65.1	72.9	62.6	69.3	80.4	79.2	81.6	83.4	76.1	77.1
Other minority or missing ³	16.5	15.7	19.2	20.9	10.9	12.2	11.7	8.9	12.3	14.9
LMI census tract or borrower ⁴										
Census tract	9.2	2.4	2.3	1.9	7.6	3.0	2.3	5.9	7.2	1.7
Borrower	18.7	1.3	.2	.2	23.3	2.2	.9	20.1	19.1	1.5
Other ⁵	68.1	89.2	93.5	94.5	63.3	86.3	92.5	67.4	68.3	74.9
Missing ⁶	8.4	7.4	4.2	3.5	9.9	8.9	4.4	9.2	8.9	22.0
Loan characteristic, type of loan, or occupancy status										
High payment-to-income ratio ⁷	6.2	6.7	8.2	8.6	2.7	5.5	4.9	2.2	3.9	6.9
Nonconventional ⁸	11.3	11.1	10.0	6.4	16.2	15.2	5.2	17.4	14.5	8.8
GSE ⁹	59.9	61.0	59.6	1.9	56.2	58.8	54.0	52.4	55.7	8.7
Other ¹⁰	9.2	11.6	12.3	2.4	6.9	9.0	10.1	7.7	8.1	4.0
Portfolio ¹¹	19.5	16.2	18.2	89.2	20.7	17.0	30.7	22.4	21.7	78.6
Non-owner occupant ¹²	7.2	9.3	3.8	9.7	6.2	4.9	7.0	7.1	6.8	9.6
Property location ¹³										
Sand states	37.8	31.6	63.0	42.6	11.5	19.3	11.6	1.6	18.0	20.9
Rust states	.0	.0	.0	.0	33.9	30.0	29.5	23.2	18.4	13.4
Other	62.2	68.3	37.0	57.4	54.6	50.8	58.9	75.1	63.6	65.8
Type of lender										
Depository	64.9	62.7	56.8	78.0	68.9	61.6	65.7	72.1	68.3	76.4
Affiliate of depository	8.3	8.2	10.8	14.6	9.8	10.1	12.8	9.9	9.5	11.5
Independent mortgage company	26.7	29.1	32.5	7.4	21.3	28.2	21.5	18.0	22.2	12.1
Memo ¹⁴										
2010 share of loans	31.9	.7	1.3	.9	28.3	1.7	2.9	32.3	100.0	2.1
2009 share of loans	30.7	.7	.6	.5	28.3	1.8	3.1	34.2	100.0	2.0
2008 share of loans	27.8	.8	.6	1.0	28.7	1.8	3.2	36.1	100.0	2.8
2007 share of loans	31.7	1.2	1.2	2.3	28.5	1.7	3.2	30.1	100.0	9.3
2006 share of loans	28.5	1.3	2.0	3.3	28.8	1.7	2.9	31.5	100.0	10.5

Note: See notes to table 15.A.

and suggest that at least some of these loans would not have been originated or would have been originated only at higher prices.

Examination of the demographic data shows that borrowers with loan sizes eligible under 2010 limits but ineligible under 2011 limits for both GSE and FHA limit changes were disproportionately Asian, lived outside LMI census tracts, had non-LMI incomes, and used independent mortgage banks, relative to the average borrower. More than one-half of such borrowers lived in the sand states, and none lived in the “rust states” of Illinois, Indiana, Michigan, Ohio, and Wisconsin (because none of the affected counties lie in the rust states). Such borrowers were also more likely than average to have a PTI ratio exceeding 30 percent.

Borrowers facing only FHA limit changes similarly were less likely than average to live in LMI census tracts or have LMI incomes, but unlike those affected by the GSE limits, such borrowers show geographic and racial distributions similar to the national averages.

Credit Circumstances in Neighborhood Stabilization Program Neighborhoods

Concerns about neighborhoods experiencing high levels of housing market distress have been a particular focus of public policy in recent years. This focus has been motivated by the belief that elevated levels of foreclosure and property abandonment can adversely affect not only those directly involved in the foreclosures, but also others in the surrounding neighborhood.⁵⁸ Such negative externalities or spillover effects may arise as foreclosed and often vacant properties attract vandalism and crime, and these units may be poorly maintained, casting a pall over the neighboring properties and adversely affecting their market values.⁵⁹ In the extreme, these spillover effects can help create a self-reinforcing downward spiral that can devastate the quality of life in an area.

To address the foreclosure problem, as part of the 2008 HERA, the Congress established and funded the Neighborhood Stabilization Program.⁶⁰ The NSP provides emergency assistance to state and local governments seeking to support neighborhoods experiencing high levels of property abandonment and foreclosure. To help ensure that funds are appropriately targeted, the monies are directed to households or individuals with incomes less than 120 percent of the broader area median income.

To bolster congressional efforts, in December 2010, the federal bank and savings institution regulatory agencies revised the regulations that implement the Community Reinvestment Act (CRA) to support the stabilization of communities hard hit by elevated foreclosures.⁶¹ In particular, the revised regulations encourage covered institutions to support the NSP. Under the CRA rules, lenders are encouraged to make loans and investments and provide services to support NSP activities to individuals and neighborhoods beyond the traditional focus of the CRA (specifically, individuals and neighborhoods classified as lower income). Allowing banking institutions to receive CRA consideration for activities in NSP-targeted

⁵⁸ See Paul A. Joice (2011), "Neighborhood Stabilization Program," U.S. Department of Housing and Urban Development, *Cityscape: A Journal of Policy Development and Research*, vol. 13 (1), pp. 135–41.

⁵⁹ See, for example, Kai-yan Lee (2008), "Research Review: Spillover Effects of Foreclosures on Communities," Federal Reserve Bank of Boston, *New England Community Developments*, issue 2, pp. 10–12, www.bostonfed.org/commdev/necd/index.htm#2008. Estimates of spillover effects on surrounding properties are also in Center for Responsible Lending (2009), "Soaring Spillover: Accelerating Foreclosures to Cost Neighbors \$502 Billion in 2009 Alone; 69.5 Million Homes Lose \$7,200 on Average," May, www.responsiblelending.org/mortgage-lending/research-analysis/soaring-spillover-accelerating-foreclosures-to-cost-neighbors-436-billion-in-2009-alone-73-4-million-homes-lose-5-900-on-average.html.

⁶⁰ The NSP is administered by HUD. Funds are distributed to acquire, repair, and resell foreclosed and abandoned properties. Since the creation of the program, additional funding has been provided in two subsequent laws: the American Recovery and Reinvestment Act of 2009 and the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010. Although each of the three laws has the same broad objective, the provisions of the laws differ in how the funds may be allocated. For more information about the NSP, see U.S. Department of Housing and Urban Development, "Neighborhood Stabilization Program Resource Exchange," webpage, <http://hudnsphelp.info/index.cfm>.

⁶¹ For more information, see Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency, and Office of Thrift Supervision (2010), "Agencies Expand Scope of Community Reinvestment Act Regulations to Encourage Support for HUD Neighborhood Stabilization Program Activities," joint press release, December 15, www.federalreserve.gov/newsevents/press/bcreg/20101215a.htm. For details on the proposed revision to the CRA, see Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency, and Office of Thrift Supervision (2010), "Agencies Propose to Expand Scope of Community Reinvestment Act Regulations to Encourage Depository Institution Support for HUD Neighborhood Stabilization Program Activities," joint press release, June 17, www.federalreserve.gov/newsevents/press/bcreg/20100617c.htm.

neighborhoods provides additional incentives for these institutions to leverage government funds targeted to these areas and populations.

Under the NSP program, funds may be used in different ways, including for the purchase or rehabilitation of abandoned or foreclosed properties, the demolition of blighted structures, and the redevelopment of demolished or vacant properties. NSP funds can also be used to help homebuyers purchase properties. The NSP is a nationwide program, but participation requirements may differ across states and cities.

In deciding which neighborhoods to target, HUD relies on a statistical model that estimates which neighborhoods are likely to be experiencing high rates of foreclosure and mortgage delinquencies. Based on the outputs of this model, each census tract is given an NSP score ranging from 1 to 20. Scores are scaled so that each score point is given to 5 percent of the census tracts. Census tracts with NSP scores in the top quintile (“high-NSP tracts”), those with scores of 17 to 20, are eligible for aid. “Lower-NSP tracts,” those with scores below 17, are not generally eligible for aid unless they are in states that have very few tracts with NSP scores above 17, in which case the state is permitted to use a lower-threshold NSP score for identifying areas eligible for NSP funds.

An evaluation of the effectiveness of the NSP program is beyond the scope of this article. Some of the interventions, like the changes to the CRA, are too new to evaluate, and others require more data than HMDA provides. However, the HMDA data can be used to assess mortgage activity across all areas scored for the NSP program. Because the NSP program has been in existence for a few years, it is possible that recent loan flows may have been affected by the program to some degree. Nevertheless, this analysis can highlight some of the potential challenges involved in aiding these communities.

Substantial differences between high-NSP tracts and lower-NSP tracts existed long before the recent difficulties in mortgage and housing markets emerged. In the 2000 census, high-NSP tracts were characterized by higher minority concentrations and lower relative-income levels than lower-NSP tracts ([table 16](#)). Similarly, lending activity in these tracts before the subprime crisis was notably different. Using 2005 as a reference point, lending in the high-NSP tracts was characterized by elevated rates of loan denial; larger incidences of higher-priced loans, piggyback loans, and non-owner-occupant lending; and smaller shares of lending by lenders subject to the CRA. New home buyers in areas with high-NSP tracts also tended to have lower credit scores than buyers in other areas.

Since 2005, lending activity in high-NSP tracts has fallen faster than in lower-NSP tracts. In 2005, more home-purchase loans were extended in high-NSP tracts than in tracts in any of the other NSP score quintiles. Since 2005, declines in home-purchase lending volumes have been particularly steep in high-NSP neighborhoods. In 2010, home-purchase lending in high-NSP tracts was down 75 percent from 2005 levels. This decline was much more rapid than that experienced in the other NSP quintiles. As a result, in 2010, fewer loans were originated in the high-NSP tracts than in any of the other NSP quintiles, a reversal of the pattern observed in 2005.

One potential reason for the steeper decline in home-purchase lending in the high-NSP neighborhoods is offered by the role of the sand states. House price declines have been particularly steep in these states, and previous HMDA analyses have shown that mortgage lending has fallen more steeply in these states since the height of the housing boom. Because the high-NSP tracts are more likely to be located in the sand states than lower-NSP tracts—in 2005, the sand states accounted for 71 percent of loans to high-NSP neighborhoods, a share double that of any of the other NSP quintiles—we would expect the more-rapid lending declines experienced by the sand states to result in a faster decline in

Table 16. Borrower, loan, and census-tract characteristics related to lending in areas grouped by Neighborhood Stabilization Program score, 2005 and 2010

Percent

Characteristic	NSP score ¹					
	1–4	5–8	9–12	13–16	17–20	All
2005						
Borrower						
<i>Income ratio (percent of area median)²</i>						
Lower	14.8	21.7	25.4	27.1	19.5	21.4
Middle	20.9	24.8	25.4	23.9	21.8	23.2
High	60.2	49.3	44.8	44.2	52.3	50.4
Minority ³	18.8	17.1	21.3	29.8	45.5	27.1
Memo: Mean credit score ⁴	728.0	708.0	697.0	688.0	675.0	701.0
Loan or application characteristic or occupancy status						
Higher priced ⁵	8.9	15.6	20.9	26.9	36.0	22.0
Non-owner occupant ⁶	13.7	14.2	15.9	18.3	24.5	17.6
Nonconventional ⁷	5.7	8.6	8.9	8.0	4.6	7.0
Denial rate	10.4	12.9	15.2	17.8	21.4	15.9
Piggyback ⁸	12.4	15.3	16.9	19.5	25.1	18.1
Census tract of property⁹						
Minorities as a percent of population ¹⁰	24.0	18.1	23.8	36.3	55.9	31.6
Income ratio (percent of area median) ¹¹	127.6	111.4	101.2	93.3	83.2	103.3
CRA assessment area ¹²	34.7	29.3	27.1	25.6	21.7	27.5
Sand states ¹³	7.6	8.7	14.1	29.4	70.7	27.7
Memo: Total loans	1,167,022	1,157,129	1,093,234	1,025,695	1,358,619	5,801,699

Note: First-lien home-purchase mortgages for one- to four-family, site-built properties.

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.A, note 5. Minority borrowers are borrowers other than non-Hispanic whites.

⁴ Credit scores are for those individuals who moved into the census tract in 2005 or 2010, as appropriate, and took out a first mortgage during that year. Note that because of differences between reporting requirements under the Home Mortgage Disclosure Act (HMDA) and the information provided to the consumer credit reporting agencies, the credit scores presented may differ some from those of the borrowers included in the HMDA data. Credit score data from the Federal Reserve Bank of New York Consumer Credit Panel/Equifax.

⁵ See table 9, note 3.

⁶ Includes loans for which occupancy status was missing.

⁷ See table 4, note 1.

⁸ In piggyback lending, borrowers simultaneously receive a first-lien loan and a junior-lien (piggyback) loan to purchase a home from the same lender.

⁹ Census-tract data for minority and income characteristics are derived from tract-weighted means based on population. Minority and income data are based on the 2000 census and are calculated for tracts that originated at least one loan in the appropriate year.

¹⁰ See table 14.A, note 5. Those other than non-Hispanic whites are considered minorities. This characteristic reflects the average minority population of the census tracts in the NSP score group.

¹¹ 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. “Lower” is less than 80 percent of the median; “middle” is 80 percent to 119 percent; and “high” is 120 percent or more.

¹² The loan was made in a neighborhood that is in a Community Reinvestment Act (CRA) assessment area of the lender.

¹³ Sand states consist of Arizona, California, Florida, and Nevada.

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

Table 16. Borrower, loan, and census-tract characteristics related to lending in areas grouped by Neighborhood Stabilization Program score, 2005 and 2010—continued

Percent

Characteristic	NSP score ¹					
	1–4	5–8	9–12	13–16	17–20	All
2010						
Borrower						
<i>Income ratio (percent of area median)²</i>						
Lower	19.7	29.3	35.7	41.6	46.0	32.8
Middle	22.9	25.6	25.4	24.0	23.4	24.3
High	55.3	43.1	36.8	32.3	29.0	41.0
Minority ³	17.9	15.5	18.8	26.8	42.4	22.9
Memo: Mean credit score ⁴	754.0	738.0	729.0	720.0	710.0	734.0
Loan or application characteristic or occupancy status						
Higher priced ⁵	1.5	2.1	2.8	3.1	3.0	2.4
Non-owner occupant ⁶	9.6	10.3	11.4	12.4	14.5	11.4
Nonconventional ⁷	32.4	44.7	50.7	55.6	63.0	47.4
Denial rate	11.0	12.9	15.0	17.4	20.9	15.0
Piggyback ⁸	.6	.4	.3	.3	.2	.4
Census tract of property⁹						
Minorities as a percent of population ¹⁰	23.8	17.9	23.7	35.9	55.0	31.1
Income ratio (percent of area median) ¹¹	128.0	111.6	101.4	93.7	84.2	103.8
CRA assessment area ¹²	39.1	31.0	29.3	30.0	33.6	33.0
Sand states ¹³	7.6	8.3	13.4	29.7	71.6	22.7
Memo: Total loans	615,001	550,180	466,428	392,822	384,384	2,408,815

lending to high-NSP tracts. However, the HMDA data reveal that lending volumes in high-NSP tracts located outside of the sand states actually fell slightly more (73 percent) than in the sand states (71 percent). This result suggests that the declines in lending volumes that are observed for the high-NSP tracts do not simply reflect geographic differences.⁶²

A second possible reason for the steeper declines in home-purchase lending in the high-NSP neighborhoods is the role of the non-owner-occupant lending in these neighborhoods. Again, using 2005 as the base year, the share of home-purchase lending backed by non-owner-occupied properties in high-NSP tracts (25 percent) was 6 percentage points higher than in any of the lower-NSP quintiles. Since non-owner-occupant lending has fallen more rapidly than lending for owner-occupied properties across the board (as noted earlier), this finding can help explain some of the more-rapid decline in the lending activity in high-NSP neighborhoods. Non-owner-occupant lending fell 83 percent in the high-NSP tracts between 2005 and 2010—a decline that was higher than that observed for overall home-purchase lending in the high-NSP tracts or in the lower-NSP quintiles over the same period. Nevertheless, when the analysis is limited to owner-occupant lending, home-purchase lending has still fallen substantially in high-NSP tracts (68 percent) and at a rate that is well above the declines in lower-NSP tracts.

This outcome suggests that the steeper decline in lending in high-NSP neighborhoods appears to be broadly based, in that it has not been limited to non-owner-occupant lending or lending in specific states or MSAs. Instead, the steeper decline appears to reflect a changing pattern of home-purchase activity by higher-income borrowers. Loans to lower-

⁶² This finding differs with the conclusions of an analysis of lending in high-foreclosure neighborhoods conducted in a previous article (see Avery and others, “The 2009 HMDA Data”). That analysis suggested that the more-rapid declines in lending activity in high-foreclosure neighborhoods, compared with other neighborhoods, largely reflected geographic differences.

income borrowers declined less steeply between 2005 and 2010 in high-NSP tracts (31 percent) than in lower-NSP tracts (36 percent). This pattern is reversed for lending to higher-income borrowers. In high-NSP tracts, loans to higher-income borrowers were 84 percent lower than they had been in 2005. While lower-NSP tracts also experienced sharp contractions, the declines have been less severe. The percentage decline in the high-NSP tracts was 13 percentage points above the fourth NSP quintile and 35 percentage points higher than the declines in the first quintile. The patterns for loans to middle-income borrowers have also contracted more sharply in high-NSP tracts, though the sizes of the differences have not been as large.

This changing income pattern of homebuyers suggests a challenge that efforts like the NSP confront in attempting to stabilize neighborhoods. Not only has home-purchase lending declined more rapidly in the highly distressed neighborhoods identified, but also the composition of the borrowers taking out loans has shifted notably toward those with lower incomes. While the share of loans going to higher-income borrowers in the lower-NSP quintiles declined from 50 percent in 2005 to 43 percent in 2010, in high-NSP tracts the decline was much steeper, falling from 52 percent in 2005 to 29 percent in 2010. This outcome suggests that much of the decline in lending in the highly distressed tracts reflects reduced inflows from higher-income borrowers. The lower income levels of new borrowers in the high-NSP tracts may inhibit the stabilization of these communities.

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. 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.⁶³ Analyses also have found that differences across groups in mean APR spreads paid by those with higher-priced loans were generally small.⁶⁴ Here we examine the 2010 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

⁶³ 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.”

⁶⁴ 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*, Staff Report 368 (New York: Federal Reserve Bank of New York, April); 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.

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 sex 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.⁶⁵ Comparisons for lending 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”).⁶⁶ The analysis here distinguishes between conventional and nonconventional lending, reflecting the different underwriting standards and fees associated with these two broad loan product categories.⁶⁷

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

As noted earlier, 2010 is 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 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 differences across groups are considerably smaller since 2008 than in the years prior.⁶⁸ Data reported for the last three months of 2009 using the new threshold showed only modest differences across groups.

The overall reported incidence of higher-priced lending is slightly higher in 2010 than for the last three months of 2009. Group patterns are similar. The 2010 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 ([table 17.A](#)). These relationships hold both for home-purchase and refinance lending and for nonconventional loans ([table 17.B](#)). For example, for conventional home-purchase lending in 2010, the incidence of higher-priced lending was 6.0 percent for black borrowers, 7.1 percent for Hispanic white borrowers, and 1.0 percent for Asians, compared with 3.3 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 2010 are significantly reduced, but not completely

⁶⁵ 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.

⁶⁶ 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.

⁶⁷ 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.

⁶⁸ See Avery and others, “The 2008 HMDA Data.”

Table 17. Incidence of higher-priced lending, unmodified and modified for borrower- and lender-related factors, by type and purpose of the loan and by race, ethnicity, and sex of borrower, 2010**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
	Home purchase				Refinance			
Race other than white only ¹								
American Indian or Alaska Native	3,066	6.62	5.43	3.82	8,915	2.93	1.84	1.65
Asian	87,321	1.02	2.87	3.39	219,886	0.22	0.97	1.31
Black or African American	21,982	6.00	5.44	3.98	74,144	3.96	2.88	1.92
Native Hawaiian or other Pacific Islander	2,357	2.04	3.37	3.57	7,428	0.85	1.61	1.35
Two or more minority races	364	1.92	2.98	3.07	1,378	0.73	1.44	1.25
Joint	14,776	2.37	3.41	3.43	56,000	0.80	1.51	1.53
Missing	88,728	1.04	1.77	3.38	403,288	0.59	0.83	1.34
White, by ethnicity ¹								
Hispanic white	41,665	7.08	5.00	3.81	110,378	2.30	1.73	1.61
Non-Hispanic white	731,874	3.34	3.34	3.34	2,919,913	1.33	1.33	1.33
Sex								
One male	271,589	3.35	3.35	3.35	731,931	1.46	1.46	1.46
One female	196,692	2.94	2.79	3.12	576,115	1.73	1.37	1.40
Two males ²	10,960	7.23	7.23	7.23	26,429	1.59	1.59	1.59
Two females ²	8,256	4.17	5.32	6.67	25,460	1.70	1.40	1.47

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.A, note 5.

² Data reflect updates to the Home Mortgage Disclosure Act (HMDA) files received by the Federal Financial Institutions Examination Council since the public release of the files in September 2011. The updated data are primarily corrections of gender identification of applicants previously submitted by one large lender. All other data in the tables and figures presented in this article are unchanged and reflect the HMDA files as originally released to the public in September 2011.

n.a. Not available.

eliminated, after controlling for lender and borrower characteristics. For example, the gross 2010 difference in the incidence of higher-priced conventional lending for home-purchase loans between Hispanic whites and non-Hispanic whites of 3.7 percent falls to only about 0.5 percentage point when the other factors available within the HMDA data are accounted for. For both conventional and nonconventional lending, the black-versus-non-Hispanic-white disparity is reduced to about 0.6 percentage point for both home-purchase and refinance loans. These disparities 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.

With regard to the sex of applicants, we report differences between one male and one female and between two males and two females. Here, no notable differences are evident for either conventional or nonconventional lending.

Rate Spreads by Race, Ethnicity, and Sex

The 2010 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

Table 17. Incidence of higher-priced lending, unmodified and modified for borrower- and lender-related factors, by type and purpose of the loan and by race, ethnicity, and sex of borrower, 2010**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 only ¹								
American Indian or Alaska Native	7,047	1.35	1.34	1.08	2,636	4.74	3.58	2.09
Asian	31,550	0.76	0.81	0.88	10,898	3.14	3.26	3.13
Black or African American	106,782	2.39	1.91	1.56	53,487	9.88	5.48	4.20
Native Hawaiian or other Pacific Islander	5,133	1.05	1.25	1.15	2,400	4.25	3.51	3.40
Two or more minority races	750	0.67	1.73	1.62	349	1.72	2.79	2.93
Joint	16,561	0.62	1.18	0.91	11,048	1.96	3.35	3.49
Missing	88,344	1.37	1.06	1.03	57,523	2.50	2.63	2.27
White, by ethnicity ¹								
Hispanic white	134,178	2.18	1.24	1.21	36,241	5.77	3.16	2.90
Non-Hispanic white	742,748	1.01	1.01	1.01	458,231	4.62	4.62	4.62
Sex								
One male	393,079	1.42	1.42	1.42	177,634	4.12	4.12	4.12
One female	275,264	1.81	1.32	1.34	118,046	9.28	5.50	5.05
Two males ²	17,524	1.39	1.39	1.39	5,706	1.63	1.63	1.63
Two females ²	13,442	1.55	1.39	1.59	4,983	3.65	3.48	2.55

Note: See notes to table 17.A.

result holds for both conventional ([table 18.A](#)) and nonconventional lending ([table 18.B](#)). For example, for conventional home-purchase loans, the gross mean APOR spread was 2.74 percentage points for black borrowers and 2.66 percentage points for Hispanic white borrowers, while it was 2.48 percentage points for non-Hispanic white borrowers and 2.45 percentage points for Asian borrowers. Accounting for borrower-related factors or the specific lender used by the borrowers reduces these differences.

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 is also the case in 2010. In 2010, as in past years, blacks and Hispanic whites had notably higher gross denial rates than non-Hispanic whites, while the differences between Asians and non-Hispanic whites generally were fairly small by comparison ([tables 19.A](#) and [19.B](#)). For example, in 2010, the denial rates for conventional home-purchase loans were 30.9 percent for blacks, 22.9 percent for Hispanic whites, 14.4 percent for Asians, and 12.3 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 smaller than for conventional home-purchase loans; the gap between Asians and non-Hispanic whites was higher.

For both conventional and nonconventional 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,

Table 18. 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 the loan and by race, ethnicity, and sex of borrower, 2010

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 only ²								
American Indian or Alaska Native	203	2.81	2.67	2.64	261	2.99	3.18	2.71
Asian	888	2.45	2.53	2.43	474	2.34	2.67	2.55
Black or African American	1,318	2.74	2.91	2.64	2,934	3.31	3.25	2.70
Native Hawaiian or other Pacific Islander	48	2.54	2.57	2.56	63	2.68	3.03	2.63
Two or more minority races	7	2.52	2.66	2.36	10	2.75	2.38	2.67
Joint	350	2.70	2.76	2.49	448	2.68	2.60	2.65
Missing	919	2.28	2.27	2.54	2,394	2.68	3.26	2.59
White, by ethnicity ²								
Hispanic white	2,949	2.66	2.52	2.53	2,537	3.00	2.74	2.66
Non-Hispanic white	24,458	2.48	2.48	2.48	38,698	2.63	2.63	2.63
Sex								
One male	9,095	2.54	2.54	2.54	10,677	2.72	2.72	2.72
One female	5,773	2.48	2.48	2.51	9,946	2.80	2.73	2.72
Two males ³	792	2.56	2.56	2.56	419	2.75	2.75	2.75
Two females ³	344	2.55	2.48	2.98	434	2.91	2.52	2.95

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.A, note 5.

³ Data reflect updates to the Home Mortgage Disclosure Act (HMDA) files received by the Federal Financial Institutions Examination Council since the public release of the files in September 2011. The updated data are primarily corrections of gender identification of applicants previously submitted by one large lender. All other data in the tables and figures presented in this article are unchanged and reflect the HMDA files as originally released to the public in September 2011.

n.a. Not available.

although unexplained differences remain between non-Hispanic whites and other racial and ethnic groups.

Conventional lending denial rate disparities between groups, both gross and controlling for other factors, have narrowed somewhat in the past several years. For example, the conventional home-purchase denial rate disparity between blacks and non-Hispanic whites, controlling for all factors, narrowed from 10.8 percentage points in 2008 to 9.2 percentage points in 2010. This narrowing appears to stem more from changes in the composition of the applicant pool over time than from changes in the way lenders act on specific applications. For example, the gross overall denial rate for conventional home-purchase loans used in the analysis of this section fell about 0.3 percentage point from 2009 to 2010 (data not shown in tables). Yet if the analysis is restricted to a comparison of applicants of the same race, gender, income, location, and loan request, applying to the same lender, the denial rate rose about 0.2 percentage point. A similar analysis using 2008 and 2009 data shows that a gross decline in the denial rate of about 2.9 percentage points between the two years drops to almost zero when controlling for borrower characteristics and lender. An analysis of refinance loans shows similar patterns, although the differences between gross denial rate

Table 18. 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 the loan and by race, ethnicity, and sex of borrower, 2010

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 only ²								
American Indian or Alaska Native	95	1.84	1.81	1.78	125	2.20	2.12	2.12
Asian	239	1.83	1.81	1.83	342	2.10	2.12	2.15
Black or African American	2,556	1.83	1.85	1.89	5,286	2.39	2.31	2.26
Native Hawaiian or other Pacific Islander	54	1.99	1.78	1.89	102	2.09	2.07	2.09
Two or more minority races	5	1.62	1.79	1.95	6	2.10	2.01	2.09
Joint	103	1.93	1.96	1.66	217	2.08	2.15	2.20
Missing	1,213	1.83	1.84	1.80	1,437	2.03	2.22	2.07
White, by ethnicity ²								
Hispanic white	2,929	1.77	1.79	1.84	2,091	2.26	2.17	2.16
Non-Hispanic white	7,510	1.86	1.86	1.86	21,178	2.17	2.17	2.17
Sex								
One male	5,600	1.82	1.82	1.82	7,322	2.21	2.21	2.21
One female	4,984	1.83	1.82	1.81	10,955	2.29	2.22	2.22
Two males ³	243	1.77	1.77	1.77	93	2.03	2.03	2.03
Two females ³	208	1.77	1.73	1.74	182	2.03	2.24	2.03

Note: See notes to table 18.A.

changes and changes controlling for borrower characteristics and lender are more muted. Patterns for nonconventional lending are similar but also more muted.

Some Limitations of the Data in Assessing Fair Lending Compliance

Both 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 measures of credit history (including credit scores) and LTV and differences in choice of loan products. Differential costs of loan origination and the competitive 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

Table 19. Denial rates on applications, unmodified and modified for borrower- and lender-related factors, by type and purpose of the loan and by race, ethnicity, and sex of applicant, 2010**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 only ¹								
American Indian or Alaska Native	4,874	30.9	25.1	17.4	15,873	38.0	36.0	27.7
Asian	112,928	14.4	15.0	14.3	291,887	18.5	21.7	21.8
Black or African American	34,916	30.9	24.8	21.5	141,550	41.3	35.6	31.1
Native Hawaiian or other Pacific Islander	3,279	20.8	17.3	15.5	11,972	31.7	31.4	25.8
Two or more minority races	541	26.6	23.4	14.1	2,271	32.1	35.1	29.0
Joint	18,241	12.5	15.1	13.1	72,901	17.5	22.3	20.6
Missing	121,297	18.8	18.6	15.5	619,516	28.3	27.5	23.3
White, by ethnicity ¹								
Hispanic white	59,719	22.9	17.3	16.5	178,990	31.9	27.0	25.0
Non-Hispanic white	894,301	12.3	12.3	12.3	3,844,364	19.0	19.0	19.0
Sex								
One male	352,879	16.5	16.5	16.5	1,073,760	25.6	25.6	25.6
One female	251,817	15.9	14.7	15.2	827,460	24.8	23.5	23.8
Two males ²	14,497	18.1	18.1	18.1	68,883	58.4	58.4	58.4
Two females ²	10,901	18.3	16.6	15.9	40,212	32.0	32.8	36.1

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.A, note 5.

² Data reflect updates to the Home Mortgage Disclosure Act (HMDA) files received by the Federal Financial Institutions Examination Council since the public release of the files in September 2011. The updated data are primarily corrections of gender identification of applicants previously submitted by one large lender. All other data in the tables and figures presented in this article are unchanged and reflect the HMDA files as originally released to the public in September 2011.

n.a. Not available.

Fair Lending Examination Procedures.⁶⁹ 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 CFPB implements the expanded data reporting requirements set forth in the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd–Frank Act), including the provision requiring the reporting of rate spread information for all loans (see the next section).

⁶⁹ The Interagency Fair Lending Examination Procedures are available at www.ffiec.gov/PDF/fairlend.pdf.

Table 19. Denial rates on applications, unmodified and modified for borrower- and lender-related factors, by type and purpose of the loan and by race, ethnicity, and sex of applicant, 2010**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 only ¹								
American Indian or Alaska Native	9,187	18.1	18.2	16.6	4,900	39.1	41.6	35.7
Asian	41,472	18.4	17.4	16.2	18,754	34.1	35.6	33.0
Black or African American	145,752	22.0	20.1	19.3	105,774	42.2	41.6	37.8
Native Hawaiian or other Pacific Islander	6,697	18.2	16.8	15.4	3,939	32.0	39.1	35.7
Two or more minority races	1,002	20.4	16.4	13.9	796	48.0	50.7	42.8
Joint	19,901	12.6	14.1	13.3	16,577	26.5	31.8	31.3
Missing	118,582	20.4	20.9	18.3	130,599	48.3	43.9	33.6
White, by ethnicity ¹								
Hispanic white	179,737	19.9	16.4	16.3	62,190	33.2	35.2	34.7
Non-Hispanic white	892,067	12.7	12.7	12.7	715,795	29.5	29.5	29.5
Sex								
One male	496,319	16.4	16.4	16.4	306,236	35.0	35.0	35.0
One female	346,589	16.3	15.2	15.5	203,795	35.4	33.1	33.5
Two males ²	23,455	20.5	20.5	20.5	9,291	31.2	31.2	31.2
Two females ²	1,777	19.2	17.4	16.3	8,465	33.9	30.9	29.7

Note: See notes to table 19.A.

Future Changes in HMDA

The Dodd–Frank Act includes many provisions that change the landscape of the financial services industry generally and that of the mortgage market in particular. Two provisions in the Dodd–Frank Act bear directly on the HMDA data. First, title X of the Dodd–Frank Act shifts the responsibility for writing rules to implement a host of consumer protection statutes, including HMDA, to the new CFPB. With respect to HMDA, the CFPB has authority to prescribe rules regarding (1) the nature and scope of the data to be collected and reported, (2) the method of submitting data, (3) the format and content of disclosures, and (4) required modifications to the HMDA data prior to public disclosure by the FFIEC and the reporting entities to help protect the privacy of individuals.

Second, the Dodd–Frank Act amended HMDA, requiring covered institutions to collect and report several new data items. The new data items range widely and include information about loan terms, the property and originator involved in the transaction, and the borrower, as well as a unique loan identification number.

The New Data Items

The following enumerates the new data items that must be reported and those that were mentioned in the Dodd–Frank Act but for which discretion was left to the CFPB to decide whether to include them in the required reporting. The new items fall into several categories; the items that may be included at the discretion of the CFPB are noted.

- *Loan terms*
 - Total points and fees

- APOR rate spread for all loans, measured against a benchmark rate to be determined by the CFPB (now required only for higher-priced loans)
- Duration (and existence) of prepayment penalty
- Indicator of whether mortgage has an adjustable rate
- Length of introductory interest rate period for adjustable-rate mortgages
- Presence of negative amortization feature
- Term to maturity
- *Property information*
 - Property value
 - Parcel identification number, at the option of the CFPB
- *Originator information*
 - Origination channel (such as retail loan officer or broker)
 - Originator identification number (as set forth in the Secure and Fair Enforcement for Mortgage Licensing Act, or SAFE Act), at the option of the CFPB⁷⁰
- *Borrower information*
 - Credit score, in a form determined by the CFPB
 - Age
- *Universal loan identification number*, at the option of the CFPB

Four of these items are currently being collected by institutions covered by HMDA but are not reported or disclosed to the public. These items are required inputs into the “rate spread calculator” made available to covered entities by the FFIEC to determine whether the APOR spread on a loan is large enough to require reporting of the interest rate spread.⁷¹ The four items are (1) the term to maturity, (2) the APOR spread, (3) an indicator of whether the loan has a fixed or adjustable interest rate, and (4) the length of the introductory rate period for adjustable-rate loans.

The Dodd–Frank Act also stipulated changes in the way in which the new data items (except for borrower age) would be released to the public as compared with the current data release. The act states that the new items will be reported in grouped form as counts of loans and loan dollars, with the CFPB determining the appropriate groupings.

Timing

At the time of this writing, there is some uncertainty about the schedule for forthcoming changes to HMDA rules. Under the Dodd–Frank Act, reporting entities are given a period of time to make changes to their data collection and reporting systems before compliance must begin with a revised rule. Following the issuance of final rules, a minimum of nine additional months must pass before data collection begins. On the January 1 following that nine-month period, institutions would be required to begin collecting the new data elements, with reporting of the modified data by March 1 of the next calendar year. For example, if new final rules are adopted in February 2013, collection of the expanded data would begin January 1, 2014, with reporting beginning in 2015.

⁷⁰ The SAFE Act created the Nationwide Mortgage Licensing System and Registry, which will, among other things, assign unique identifying numbers to all residential mortgage originators employed by banking institutions, Farm Credit System institutions, and others, including mortgage companies and brokers. See Federal Financial Institutions Examination Council, “Secure and Fair Enforcement for Mortgage Licensing Act (S.A.F.E. Act) FAQs,” webpage, www.ffiec.gov/safeact.htm.

⁷¹ See Federal Financial Institutions Examination Council, “New FFIEC Rate Spread Calculator,” webpage, www.ffiec.gov/ratespread/NewBulkRateSpread.aspx.

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