HOUSING AND MORTGAGE MARKETS IN 2010

July 2011
Preface

This Federal Housing Finance Agency (FHFA) research paper reviews developments in the housing sector and mortgage markets in the United States in 2010. The paper is part of FHFA’s ongoing effort to enhance public understanding of the nation’s housing finance system. The paper was prepared by Andrew Leventis, Valerie Smith, Jesse Weiher, and Ken Lam of the Office of Policy Development and Research under the supervision of Austin Kelly and Robert S. Seiler, Jr. Peter Alex, Joshua Foster, Hanna Nguyen, and Alison Wardle provided research assistance.

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Housing and Mortgage Markets in 2010

Summary

The U.S. economy continued to show signs of improvement in 2010, supported by government programs and policies implemented in 2008 and 2009. Economic growth, as measured by real gross domestic product (GDP), was positive throughout the year. Inflation, as measured by the consumer price index (CPI), accelerated, but only slightly. Most market interest rates declined further. After a dismal 2009, the nation’s debt and equity securities markets showed major price gains. Financial market liquidity improved as well, and credit spreads remained close to their levels before the onset of the financial crisis in 2008. While labor market conditions improved from 2009, they remained troublesome, with the unemployment rate in December 2010 only one-half of a percentage point below the 9.9 percent level one year earlier.

Conditions in the housing sector remained weak in 2010. House prices generally declined at a slower pace and, in some markets, rose modestly. Delinquency rates for single-family houses fell but remained higher than are normal, while delinquency rates for commercial/multifamily properties rose. Foreclosure starts rose steadily in the first three quarters before falling in the fourth as servicers addressed foreclosure problems. Housing starts and sales fell sharply after the federal government’s homebuyer tax credit ended in the spring. The homeownership rate continued to fall, despite historically low mortgage interest rates, which helped to make homes more affordable.

Single-family mortgage originations dropped sharply from 2009’s level, primarily reflecting a slower pace of refinancing; multifamily originations rebounded. The Federal Housing Administration (FHA) continued to have a major presence in the primary mortgage market, with FHA financing accounting for almost one-fifth of all single-family lending. Mortgage purchases and issuance of mortgage-backed securities (MBS) by Fannie Mae and Freddie Mac (the Enterprises) declined in 2010 along with the drop in mortgage originations, but the Enterprises continued to dominate conventional mortgage lending markets. The Enterprises’ share of single-family MBS issuance remained high as very little private-label MBS were issued in 2010. Issuance of MBS guaranteed by Ginnie Mae was strong, and outstanding MBS guaranteed by Ginnie Mae passed the $1 trillion mark. Lending by the Federal Home Loan Banks (FHLBanks) continued to decline due to both the decline in mortgage lending activity and the availability of alternative sources of financing.

Developments in the Broader Economy

The U.S. economy continued to recover slowly in 2010 from the severe recession that ended in mid-2009. Inflation remained low. Financial markets gained strength and market liquidity improved. Job growth was weak, however, and unemployment remained high. The Federal Reserve responded by intensifying quantitative easing efforts. Quantitative easing helped to keep financial market liquidity high and interest rates very low.
Economy Expands, but Recovery Remains Jobless; Financial Conditions Improve

Economic growth was more robust in 2010 than in 2009. Real gross domestic product grew by 2.8 percent, after growing by only 0.2 percent during 2009. Most sectors of the economy expanded, but residential fixed investment continued to lag.

For much of 2010 unemployment was unusually high for this stage of an economic recovery. The unemployment rate was between 4.7 and 4 percentage points higher than the 5 percent rate just before the start of the recession in December 2007. Of all recessions since World War II, only after the recession that began in January 1980 did the unemployment rate remain that far above the pre-recession level for so long afterward (Figure 1). That was due to the renewed recession that started in July 1981.

![Figure 1](image)

Source: U.S. Census Bureau and National Bureau of Economic Research

Both debt and equity markets were stronger in 2010 than in the previous year. Domestic stock indexes rose, and credit spreads were little changed. The spread between the three-month London Interbank Offered Rate (LIBOR) and the three-month Treasury bill rate ranged from 9 to 47 basis points. That spread was generally narrower than in 2009, when it ranged from 15 to 133 basis points, and well below the spreads in the fourth quarter of 2008 (Figure 2).
**Interest Rates Remain Low, Prices Rebound in Response to Federal Reserve Actions**

To provide liquidity and stimulate aggregate demand, the Federal Reserve kept the federal funds target rate between 0 and 25 basis points for all of 2010 and continued its policy of quantitative easing through purchases of mortgage-backed securities (MBS) guaranteed by Fannie Mae and Freddie Mac (the Enterprises) and Ginnie Mae; and, to a lesser extent, long-term debt issued by government-sponsored enterprises (GSEs). At the beginning of 2010, the Federal Reserve held over $908 billion in Enterprise and Ginnie Mae MBS and over $776 billion in Treasury securities. In March the Federal Reserve stopped purchasing MBS, but in November it inaugurated a second round of quantitative easing by aggressively buying Treasury securities. By the end of 2010 the Federal Reserve held over $1 trillion in both MBS and Treasury securities—more than at any point in 2009 (Figure 3). The Federal Reserve’s MBS holdings fell slightly in the second half of the year as the underlying mortgages prepaid, but its Treasury holdings continued to expand.
As measured by the Consumer Price Index (CPI), the general price level, excluding food and energy, rose 1.0 percent in 2010. That was a decline from 2009, reflecting the continued weakness in U.S. and global economic conditions. Expected inflation, measured in the inflation indexed Treasuries (TIPS) market, remained low, but was higher than the near zero expectation from the first half of 2009 (Figure 4).

The Federal Reserve’s actions kept interest rates very low during 2010. The one-year Constant Maturity Treasury (CMT) generally remained below 0.5 percent throughout the year. Long-term interest rates fell through the first nine months of the year. The yield on the 10-year CMT
peaked in April at 4.0 percent, declined steadily through October, reaching a low of 2.4 percent, and ended the year at 3.3 percent, a half percentage point lower than at the end of 2009. Because long-term interest rates fell more than short-term rates, the Treasury yield curve flattened over the course of the first three quarters before steepening at the end of the year (Figure 5).

Source: Federal Reserve System

**Mortgage Rates Fall**

Mortgage interest rates, which generally have followed the trend of long-term Treasury rates, fell in 2010, especially during the first ten months of the year, assisted in the first quarter by the Federal Reserve’s purchases of large volumes of MBS. According to Freddie Mac’s Primary Mortgage Market Survey (PMMS), the average commitment rate on 30-year fixed-rate mortgages (FRMs) fell from 5.03 percent in January to a record low in October of 4.23 percent—60 basis points lower than at year-end 2009—before climbing to 4.71 percent at the year’s end (Figure 6). For the year, the 30-year FRM commitment rate averaged 4.69 percent, 35 basis points below the average for 2009. Likewise, the average commitment rate on one-year Treasury-indexed adjustable-rate mortgages (ARMs) decreased through November and then increased in December 2010 (Figure 7). For the year, the one-year ARM commitment rate averaged 3.75 percent, 93 basis points lower than the year before.
The spread between commitment rates on FRMs and ARMs held relatively stable throughout the first ten months of 2010. From January through October, the spread between commitment rates on 30-year FRMs and 1-year ARMs varied from a low of 79 basis points to a high of 93 basis points (Figure 7). However, by year’s end, the FRM-ARM spread had widened to 160 basis points—wider than any point since March of 2005—as FRM commitment rates rose while ARM commitment rates continued to fall.
Housing Market Developments

Conditions in the U.S. housing market improved in 2010 but remained weak. Prices for single-family houses continued to decline in most markets but less rapidly than in the two previous years. Values for multifamily properties rose sharply in 2010. Despite the increase in home affordability, sales of both new and existing homes declined. Real-estate owned (REO) properties and short sales accounted for a large share of homes sold in 2010. The inventory of unsold homes showed little change. Vacancy rates for both homeowners and renters remained elevated. Although varying from state to state, delinquencies of single-family mortgages eased somewhat during the year. Delinquency rates for commercial/multifamily properties rose. The rate of foreclosure starts remained mostly unchanged, and the homeownership rate continued to fall despite a rise in home affordability.

Home Values Sag

Despite substantial direct and indirect efforts to stimulate housing markets, home values generally drifted downward in 2010. Significant price declines were evident in only select locations. Between December 2009 and December 2010, FHFA’s monthly purchase-only index for the United States and the S&P/Case-Shiller 20-City composite index declined by 3.3 percent and 2.5 percent, respectively. Both seasonally adjusted measures exhibited relative strength early in the year, rising 0.8 percent and 0.9 percent, respectively, between January and May (Figure 8). That strength, however, faded as various federal and state homebuyer tax credits expired. The federal tax credit, which provided up to $8,000 for first-time homebuyers and $6,500 for move-up homebuyers, required that binding sales agreements be in place by April and that closings occur by September.

![Figure 8](image-url)

Source: Federal Housing Finance Agency and Standard & Poors
The effects of the tax credit quickly dissipated over the summer, as a shrinking share of closed transactions reflected pre-May sales agreements, leaving only a temporary boost to house prices. The FHFA index, which is estimated using home purchase prices observed in data from Enterprise-financed mortgages, generally fell after May, declining a total of 3.6 percent between May and December. The S&P/Case-Shiller measure, which incorporates data for homes with other types of financing, began to decline slightly later. As that “monthly” index actually reflects transaction prices over a three-month look-back period, the S&P/Case-Shiller index began to decline in July and exhibited a smoother descent. However, the decline in that index ultimately looked similar to the decline in the FHFA index, as a 3.8 percent decrease in prices was measured for the June-to-December period.

Over the course of the full year, house price declines were generally greatest in states in the Mountain Census Division, the Pacific Northwest, and parts of the Southeast (Figure 9). Between the fourth quarter of 2009 and 2010, double digit percentage price declines were evident in five states: Alabama, Georgia, Arizona, Idaho, and Oregon. Arizona’s decline of 13.4 percent continued the steep price declines of the prior two years, when prices fell 12.3 percent and 21.4 percent, respectively. Price declines in the other four states were worse than in the two prior years.

![Figure 9: Four-Quarter Price Change by State Purchase-Only Index (Seasonally Adjusted)](image)

Source: Federal Housing Finance Agency

House values sagged fairly consistently in the middle of the country as well as in the Middle Atlantic and New England. Prices fell between one percent and four percent in most states in those areas, with only North Dakota, the District of Columbia, Alaska and West Virginia showing stable or increasing prices.

While house prices declined during 2010, property rents were generally stable. Thus, the price-to-rent ratio—a metric sometimes used for determining whether home values have strayed from “fundamental” values—fell during the year. In a historical context, that decline contributed to a
cumulative offset of most of the extraordinary run-up in relative property values that occurred in the housing boom (Figure 10). The price-to-rent ratio, which was generally flat during the 1990s, rose steadily and quickly during the boom, peaking in early 2006. By the end of 2010, however, relative prices had fallen back down to levels evident in early 2001.

Source: FHFA Monthly Purchase-Only House Price Index (Not Seasonally Adjusted)

Home Sales Slump after Expiration of Tax Credit

Total estimated sales volumes for new and existing houses were down in 2010. Estimates from the National Association of Realtors’ Existing Home Sales series indicate that 4.9 million units were sold, down from 5.2 million units in 2009. (Box A discusses the divergence between that series and other estimates of existing home sales in recent years.) The Census Bureau’s estimates for sales of new homes showed a sharper percentage decline, falling from 375,000 units in 2009 to 322,000 in 2010. The latter estimate was the slowest pace of new houses sold since the data series began in 1963.

As with house values, sales volume trends during 2010 reveal a clear impact of the mid-year expiration of the federal homebuyer tax credit. For both new and existing houses, the rate of sales in the first several months of the year was significantly higher than later in the year (Figure 11). The seasonally adjusted annualized rate of sales for existing homes fluctuated from about 5.0 million to 5.7 million units between January and June and then fell to between 3.9 million and 4.6 million units in the subsequent four months. The seasonally adjusted annualized rate of new home sales peaked early in the year, ranging from 350,000 and 410,000 units between January and April, and decreased to between 280,000 and 325,000 units in later months.
Box A

Divergence of Estimates of the Recent Volume of Existing Home Sales

For sales of existing homes, the most commonly reported statistics for aggregate transaction activity are those published by the National Association of Realtors (NAR). Those data, which are reported monthly for the U.S. as a whole and quarterly for individual states, are estimates based on data samples from Multiple Listing Services (MLSs) throughout the country. While those samples are large, they do not reflect all MLS activity. Moreover, some properties, such as homes directly sold by their owners, are never listed on local MLS and, thus, are not captured in the NAR sample. To address those issues, the NAR’s statistics have been “benchmarked” to Census Data. The benchmarking procedure, which was last completed in 2000, provides adjustments that NAR uses to infer total national (and state) sales volumes.

Recent indications, including data on mortgage originations reported pursuant to the Home Mortgage Disclosure Act of 1975 (HMDA) and data on home sales collected from county recorder offices and summarized by CoreLogic, show a divergence between the NAR series and alternative metrics. Estimates of total U.S. existing house sales that are based on those other data sources have tended to show lower transaction activity. For example, a recent report by CoreLogic indicated that its database contained 3.3 million property transactions in 2010, a much smaller number than the 4.9 million transactions from NAR’s existing home sales series. Although CoreLogic recognized that the geographic coverage of its data was more limited, it estimated that it was only missing 10 percent to 15 percent of transactions. Thus, a reasonable “adjusted” national estimate from CoreLogic would be about 3.9 million at the high end, far below the NAR estimate (Figure A-1).

![Figure A-1](image_url)

Sources: National Association of Realtors Existing Home Sales series (Not Seasonally Adjusted) and CoreLogic Housing and Mortgage Trends Report (February 2011).
The source of the divergence between the NAR numbers and other available metrics is not entirely clear. Moreover, the alternative metrics have their own problems. For example, the HMDA data are reported after a significant lag, as they are released a full nine months after year’s end. Also, any data based on county recorder statistics (such as those reported by CoreLogic) have their own built-in lags; county recorders sometimes take several months to fully process and reflect transactions activity. In this paper, the NAR’s Existing Home Sales series remains the focal dataset used for assessing trends in transaction activity. Nevertheless, FHFA is actively monitoring ongoing efforts to understand and improve existing metrics of real estate sales volumes.

Source: U.S. Census Bureau and National Association of Realtors

**Distressed Sales Remain Steady**

House sales that would be classified as distressed—sales of REO properties and short sales—comprised a significant share of total sales in 2010, as in the previous year. As a proportion of total sales, distressed sales ranged from about 25 percent to 30 percent during the year (Figure 12). The year’s peak of 30.9 percent was in January, which was followed by a steady decline in the spring, the normal peak of the home buying season. By the summer and through the remainder of the year, the distressed share of sales hovered at just under 30 percent.
Single- and Multifamily Construction Declines

Responding to large inventories of unsold houses and the expiration of homebuyer tax credits, building activity for single-family houses (properties with one to four units) slumped in 2010. The rate of single-family starts strengthened in the early part of the year, continuing the rebound that had occurred in 2009. Between April and May, however, the rate of starts fell 18 percent and never returned to the pre-May levels (Figure 13). In December, the seasonally adjusted annualized rate of single-family starts dipped to 427,000 units, the lowest rate recorded since the spring of 2009, when home starts were at their lowest levels since the 1963 inception of the current data series.

The rate of new construction for multifamily properties (those with five or more units) fluctuated sharply during the year, but did not exhibit the same post-April drop-off as experienced by single-family starts. The seasonally adjusted annualized rate fluctuated from a low of 62,000 units in February to a high of 168,000 units in August. New multifamily construction ended the year at approximately the same pace as it began the year; the average annualized rate of multifamily starts was at 87,000 units in the final three months of the year, just above the 82,000 average for the months of January through March.
Inventories of For-Sale Properties Fluctuate Sharply, but End Year Little Changed

As the rate of house sales fluctuated during 2010, so did the relative inventory of unsold houses—the number of months that it would take to “burn off” existing inventories at contemporary sales rates. That measure rose in the summer months with the expiration of the federal homebuyer tax credit and the concomitant decline in sales activity. In August, for example, the relative inventory was twelve months for existing homes and nine months for new homes (Figure 14). By year-end, however, both measures had returned to the levels evident at the start of the year. At about eight months, the relative inventory of existing houses explicitly for sale at year’s end was only slightly higher than the level in December 2009 and only two months above the historical norm of about six months. Owing in large part to a decline in building activity for new homes, the relative inventory of new houses at year-end was around the historical norm.

As in 2009, a major concern in 2010 was quantifying the shadow inventory of unsold houses. Such inventory includes houses that, because of mortgage distress, are likely to be sold in short-sales or out of lenders’ or investors’ portfolios of REO. It also includes houses whose owners would like to sell, but are discouraged and do not actively list their property. Although it is difficult to quantify the latter, the former can be approximated with the number of mortgages that are seriously delinquent. As of the fourth quarter, data from the Mortgage Bankers Association, for instance, indicated that roughly 3.7 million mortgages were seriously delinquent. As the average annualized rate of home sales in the fourth quarter rate was 4.7 million units, that volume of delinquent loans translated to about 9.4 months of possible inventory coming into the market.
If adjustments are made to account for the fact that some seriously-delinquent mortgages are collateralized by houses that are already for-sale, and some delinquencies may cure, the sum of for-sale and shadow inventory provides a measure of “total” inventory. That measure, while not capturing the difficult-to-quantify element of discouraged home sellers, is a more precise metric of total market supply than statistics that rely only on the volume of property listings. Assuming that approximately one-quarter of the homes financed with seriously delinquent mortgages were already for sale, and that few of those loans will cure, a reasonable estimate of “total inventory” at the end of 2010 would be 16.5 months. Although the corresponding figure of 13.4 months at year-end 2009 was much lower, the actual number of properties in total inventory did not change dramatically in 2010. Indeed, the number of units of inventory at the end of 2010, 6.5 million, was actually slightly less than at year-end 2009. The significant increase in relative inventory reflects the large change in the rate of house sales. The annualized rate of home sales in the fourth quarter of 2010 was only 80 percent of the rate four quarters before. There were large differences across states in the proportion of total inventory attributable to houses for sale versus shadow inventory (see Box B).

**Vacancy Rates Remain High**

Vacancy rates for both homeowners and renters remained at elevated levels in 2010, changing very little from 2009. With the large number of bank-owned properties that were unoccupied, the vacancy rate for “homeowner” properties varied from between 2.5 percent and 2.7 percent, the same range as in 2009 (Figure 15). Contrasting with those relatively high levels, vacancy rates during the housing boom of 2000 to 2005 ranged from 1.7 percent to 2.0 percent.
Mortgage Delinquencies Ease Slightly, While Foreclosure Activity Expands

High rates of unemployment and the large share of borrowers with loan balances in excess of their home values kept mortgage delinquency rates at extraordinary levels in 2010. Serious delinquency rates for prime and subprime mortgages had reached record levels in the fourth quarter of 2009. In the first quarter of 2010, the rate of serious delinquency for prime loans fell slightly to 7.1 percent and rose for subprime loans to 30.2 percent (Figure 16). As the year wore on, both rates eased slightly as unemployment rates fell and economic conditions improved. By the four quarter, the serious delinquency rate had fallen 3.1 percentage points for subprime borrowers and 0.8 percentage points for prime borrowers. Some of that decline is attributable to an increase in loan modifications and foreclosures in 2010. Box C discusses modification activity under the Administration’s Home Affordable Modification Program (HAMP).
Inventory Overhang by State

The relative size of the inventory of unsold houses differed sharply by state at the end of 2010. The number of months of total inventory—including both for-sale properties and houses not for sale whose owners were seriously delinquent on their loans—varied from a low of about 3 months in North Dakota to 27 months in Delaware (Figure B-1). Relative inventories generally were lowest in the Great Plains and were relatively high in most, but not all, states with the weakest housing markets. Inventories were notably large in the Southeast Atlantic area where, between North Carolina and Florida, they ranged from 19 months to 25 months.

The degree to which shadow inventory contributed to total inventory was markedly different across states. Statistics for Wisconsin and Florida, in particular, clearly illustrate the variation that was present at the end of 2010. At 23 months and 25 months respectively, the total inventory in the two states was quite similar, but there were large differences in for-sale inventory (“FS” in Figure B-1) and “shadow” inventory (i.e., serious delinquencies, or “SDQ” in Figure B-1). Roughly eight months of Wisconsin’s inventory was comprised of shadow inventory, whereas the corresponding number for Florida was 14 months. A comparison of California and Georgia similarly illustrates a vast difference despite similar “total inventories”; roughly 40 percent of California’s inventory was comprised of for-sale homes, a much smaller share than the 60 percent proportion in Georgia.
Serious mortgage delinquency rates varied dramatically across states in 2010. As of the fourth quarter, the highest serious delinquency rates (across all loan types) were in Florida and Nevada. At 17.4 percent and 19.4 percent, respectively, they far exceeded rates in other states (Figure 17). States with double-digit serious delinquency rates also included Arizona, Illinois, and New Jersey. A number of states in the Plains (the Dakotas, Iowa, and Kansas) and the Northern Rocky Mountains (Montana, Wyoming, and Colorado), which had not participated in the housing boom, had the lowest serious delinquency rates in the country. The rates in those states were associated with relatively low levels of unemployment. There were also large differences among states in the share of borrowers whose equity in their homes was negative (see Box D).
Launched in February 2009 as part of the Administration’s efforts to stabilize the housing market and avoid unnecessary foreclosures, the Home Affordable Modification Program (HAMP) offers eligible homeowners opportunities to work with lenders and servicers to modify the terms of their mortgages to make the payments more affordable.

A HAMP loan modification reduces a homeowner’s monthly mortgage payment to 31 percent of his verified gross (pre-tax) income. To create an affordable payment, the servicer applies a series of modification steps in the following order: (1) a reduction in the interest rate to as low as two percent, (2) an extension of the term to up to 40 years, and (3) principal forbearance. A portion of the principal can also be forgiven, although that is optional on the part of the servicer. Qualified homeowners must complete a trial period of three to four months to demonstrate that they will be able to make their reduced payments on time before their mortgage will be permanently modified.

Through December 2010, about 1.5 million homeowners had entered HAMP trial periods, up 62 percent from the end of 2009. A total of 579,650 borrowers had permanently modified their mortgages, an eight-fold increase from year-end 2009. New trial modifications averaged 27,000 per month and new permanent modifications 30,000 per month in the second half of 2010. Over the course of 2010, the volume of active permanent modifications increased, while active trials were converted to permanent modifications, so that trial volume continued to decline. At year-end 2010 the total estimated reduction in monthly mortgage payments for homeowners with permanent modifications exceeded $4.5 billion, up from $1.5 billion one year before. The median monthly savings was $527 as of December 2010—37 percent of the median monthly payment before modification—and both figures were comparable to those reported for the end of 2009.

At the end of 2010, all active permanent modifications involved interest rate reductions. In addition, term extension and principal forbearance had been used in 58.3 percent and 30.3 percent of the modifications completed to date. According to the Treasury report, homeowners in HAMP permanent modifications are performing better than many expected, with re-default rates lower than industry standards in the past. Twelve months after receiving permanent modifications, less than 16 percent of homeowners have missed three consecutive payments.

HAMP modifications carried out by Fannie Mae and Freddie Mac accounted for about half of overall HAMP volume in 2010. Both Enterprises have been aggressively carrying out their own loan modifications and other home retention actions for homeowners who were determined ineligible for HAMP and related programs. During 2010, the Enterprises completed a total of 575,000 loan modifications, more than triple the 2009 volume. HAMP loan modifications comprise 49 percent of those completed by the Enterprises.
In the nation as a whole, the rate of foreclosures starts rose steadily in the first three quarters of 2010 before falling toward year-end due to significant concern over legal issues surrounding foreclosure paperwork. As a share of outstanding prime mortgages, the proportion of U.S. loans entering foreclosure varied from 0.9 percent to 1.1 percent over the four quarters in 2010 (Figure 16). For subprime loans, the rate was between 3.3 percent and 3.4 percent in three of the four quarters, with an anomalous 2.8 percent rate logged in the spring quarter.

**Homeownership Rate Declines Further Even as Affordability Improves**

In 2010, the affordability of U.S. homes improved somewhat as house values fell and interest rates dropped to historic lows. That outcome was primarily a function of a sharp improvement in affordability in the fourth quarter of the year, however. In that quarter, the National Association of Realtors’ Home Affordability Index was 185.0, which meant that a household earning the median income had 85 percent more income than was necessary to pay the mortgage payment on a median-valued house. By contrast, in the first three quarters of 2010 as well as in all of 2009, the affordability index hovered in the 160-173 range. The improvement in affordability in the fourth quarter reflected, in part, the decline in house prices in that quarter.

Despite improvements in home affordability, the homeownership rate continued to fall in 2010. Tightened underwriting standards and the substantial rate of foreclosure activity during the year contributed to that decline. Between the fourth quarters of 2009 and 2010, the share of households claiming ownership tumbled 0.7 percentage points to 66.5 percent, a very large decline in historical terms (Figure 18). The decline brought the U.S. homeownership rate to more than two percentage points below its 2004 peak level.

![Figure 18](image-url)
Box D
Differences Among States in the Share of Borrowers with Negative Equity

CoreLogic publishes quarterly reports that estimate the proportion of homeowners who are “underwater”—that is, their mortgage balances exceed the value of their homes. CoreLogic’s statistics, which are computed using detailed mortgage data and house values estimated using automated valuation models, are provided for cities, states, and the nation as a whole.

Data that reflect conditions in the fourth quarter of 2010 reveal vast differences among states in the share of borrowers with negative equity. The share of underwater borrowers ranged from 6 percent in Oklahoma to 65 percent in Nevada, with a near-continuous range of outcomes between those values (Figure C-1). Not coincidentally, the states that have been hardest-hit in the housing bust have the most significant shares. Besides Nevada, other states with the greatest negative equity include Arizona, Florida, California, and Michigan—areas that have seen very dramatic price declines since 2006.

![Figure C-1: Share of Mortgaged Properties in Negative Equity Position](image)

Source: CoreLogic 2010Q4 Negative Equity Report

CoreLogic estimates that the overall national share of underwater mortgages remained essentially unchanged between the fourth quarters of 2009 and 2010, dropping from 23.8 percent to 23.1 percent. Although price declines added to the number of underwater loans during the year, mortgage defaults and subsequent foreclosures ultimately extinguished many loans for which homeowners had been in a negative equity position.
Multifamily Property Values Show Robust Increases

In contrast to the trend for single-family properties, values for multifamily properties rose sharply in 2010. Rebounding from relatively low prices in late 2009, when multifamily values were 20 percent to 30 percent below their 2007 peak levels, multifamily prices rose steadily throughout 2010 (Figure 19). The Moody’s/REAL Commercial Property Price Index (CPPI)—a price index estimated from observed price changes for apartment buildings valued at $2.5 million or more—rose 12 percent between the fourth quarters of 2009 and 2010. The MIT Transaction-Based Index (TBI) for apartments, which is estimated using a smaller dataset but a more involved estimation approach, reported a 17 percent price gain over the same four-quarter interval. Interestingly, although the two indexes showed slightly different price trajectories during the decade (the CPPI showing an earlier beginning date for the boom and higher peak-level pricing), both the CPPI and TBI indexes suggested that apartment building prices ended 2010 at exactly 42 percent above year-end 2000 levels.

![Figure 19 Prices for Multifamily Properties (Apartment Buildings) 2000-2010](image)

Source: Moody’s REAL CPPI Index and MIT/CRE Transaction Based Index

Commercial/Multifamily Delinquency Rates Rise

The economic downturn continued to push delinquencies of mortgages that finance commercial and multifamily properties higher in 2010. The delinquency rate for properties financed with private-label commercial MBS (loans delinquent at least 30 days, in foreclosure, and held as real estate owned) rose for the third straight year, reaching a high of 8.95 percent in the fourth quarter of 2010, the highest level since the MBA began reporting those data (Figure 20). The delinquency rate for commercial and multifamily mortgages held by banks and thrifts (loans delinquent at least 90 days) rose from 3.9 percent to 4.2 percent, whereas the rate for such
mortgages owned by life insurance companies (loans delinquent 60 days or more) remained flat at 0.19 percent. Fannie Mae and Freddie Mac saw their multifamily delinquency rates (loans delinquent at least 60 days) rise as well. Between December 2009 and December 2010, those rates rose from 0.63 percent to 0.71 percent for Fannie Mae and from 0.20 percent to 0.31 percent for Freddie Mac.

Source: Mortgage Bankers Association Mortgage Delinquency Rates for Major Investor Groups

Developments in the Primary Mortgage Market

Against a background of weak labor markets, decreased property values, and tight lending conditions, single-family mortgage lending declined in 2010. Government-insured loans continued to capture a large share of the origination market. Historically low interest rates helped to support mortgage refinancing, albeit to a lesser degree than in 2009. Multifamily originations rebounded. Continued declining house prices reduced housing equity, limiting homeowners’ opportunities to extract equity and to qualify for new loans for the purpose of lowering their mortgage rates. Despite widening spreads, borrowers continued to choose fixed-rate mortgages (FRMs) over adjustable-rate mortgages (ARMs) by a wide margin. Big banks’ dominance of the mortgage markets became more pronounced, and the broker channel share of originations market shrunk further.

Single-Family Mortgage Originations Fall

According to Inside Mortgage Finance Publications, originations of single-family mortgages fell 13.5 percent in 2010 to $1.57 trillion (Figure 21). Conventional/conforming mortgages—those that meet Enterprise underwriting and purchase eligibility criteria—continued to dominate
single-family originations in 2010, accounting for approximately two-thirds of lending, similar to the year before (Figure 22). Mortgages insured by the Federal Housing Administration (FHA) or guaranteed by the Department of Veterans Affairs (VA) accounted more than 23 percent of single-family mortgages originated in 2010, down only slightly from 2009. Overall, nearly 91 percent of single-family loans originations benefited from direct federal backing or the indirect government support provided to the Enterprises. Activity in the jumbo and non-prime market segments continued to be subdued.

The credit quality of the borrowers who took out FHA-insured single-family mortgages improved for the third straight year in 2010. The average credit score of FHA borrowers, calculated using models developed by Fair Isaac Corporation (FICO), rose to 704 from 694 in 2009 (Figure 22). The share of FHA-insured borrowers with credit scores below 620 fell to 2 percent, down from 6 percent in 2009 and 45 percent in 2007. The purchase mortgage share of FHA-insured loans rose, also for the third straight year, to 68 percent, up from 65 percent in 2009. As in 2009, FHA-insured loans accounted for over 40 percent of all mortgages taken out to finance home purchases, up from 7 percent or 8 percent in each of 2004 through 2007.
Net new insurance of conventional loans written by private mortgage insurers fell again in 2010, to approximately $70 billion. That represented about 4.5 percent of single-family mortgage originations.

**Figure 22**
Average Credit Score and Share of Credit Scores Below 620, Single-Family Mortgages Insured by the Federal Housing Administration, 2004 to 2010

Source: Federal Housing Administration

**Figure 23**
Share of Single-Family Mortgage Originations, by Market Segment

Source: Inside Mortgage Finance Publications

**Refinancings Fall but their Share of Single-Family Originations Remains High**

Refinance originations declined sharply in absolute terms in 2010 from approximately $1.4 trillion in 2009 to just over $1 trillion. However, historically low mortgage interest rates helped
to keep the refinance share of originations high. According to Freddie Mac’s Primary Mortgage Market Survey (PMMS), the refinance share of mortgage originations fell to 58 percent in the second quarter of 2010 from 70 percent in the first quarter, but rose in both the third and fourth quarters, exceeding 70 percent in each, as mortgage interest rates fell below 4.5 percent (Figure 24). For the year, the refinance share of mortgage applications was 76 percent, up from 70 percent in 2009 and 48 percent the year before.

Figure 24
30-year FRM Rates and Refinance Share

Source: Board of Governors of the Federal Reserve System and Freddie Mac’s PMMS

There were notable changes in the behavior of homeowners who refinanced their mortgages in 2010. According to Freddie Mac’s PMMS, 46 percent of homeowners who refinanced their first-lien home mortgage in the fourth quarter lowered their principal balance by paying-in additional money at closing. That was the highest rate since Freddie Mac began tracking that data in 1985; the rates for the earlier quarters in 2010 were also quite high relative to previous years. Second, in the fourth quarter of 2010, only 16 percent of refinancing homeowners increased their balances by at least five percent. That was the lowest cash-out share since Freddie Mac began tracking that statistic, and the shares for earlier quarters were much lower than in the past. Finally, refinancing borrowers’ choice of new mortgages changed over the course of the year. In the final quarter of 2009, 13 percent of borrowers who originally had a 30-year mortgage chose a new 15-year FRM when they refinanced, whereas in the final quarter of 2010, an estimated 20 percent of such borrowers made that election.

Equity Extraction from Refinancing Declines as Homeowner Equity Falls

Falling housing prices have caused homeowner equity to fall dramatically in recent years. According to the Federal Reserve’s flow of funds accounts, equity in household real estate in
2005 totaled $13.2 trillion, which represented 59.7 percent of the value of that real estate. By the end of 2010, those values had fallen dramatically, to $6.3 trillion and 38.5 percent, respectively. According to data compiled by Freddie Mac, during the decade ending in 2009, homeowners who refinanced their homes extracted an estimated $1.5 trillion of equity—an average of $150 billion a year. Because of declining home values, equity withdrawals from refinancing declined 55 percent in 2010, to $33 billion, the lowest level since 2000 (Figure 25).

![Figure 25: Home Equity Extracted through Refinancing](image)

Source: Freddie Mac

**Adjustable-Rate Share of Applications Remains in Single-Digits**

Applications for single-family mortgages with adjustable rates rose slightly in 2010. According to Freddie Mac’s PMMS, single-family ARM applications represented six percent of all applications in 2010, higher than the five percent level in 2009 but the third consecutive year in single digits (Figure 26). Even homeowners who refinanced their mortgages in 2010 generally avoided ARMs, despite lower rates for those mortgages. The decline in rates on FRMs, which fell below 4.5 percent in the second half of the year, provided strong incentives for borrowers to lock-in long-term fixed rates.
Trends in the Terms of Conventional Purchase-Money Originations Are Mixed

The terms of conventional mortgages originated in 2010 continued to reflect stringent underwriting practices. However, measures of the loan-to-value (LTV) ratios of conventional fixed-rate loans showed different trends. According to FHFA’s Monthly Interest Rate Survey (MIRS), the average LTV ratio of single-family conventional, purchase-money mortgages fell slightly for the third consecutive year to 74 percent in 2010. At the same time, the proportion of such loans with LTV ratios greater than 90 percent, which had dropped sharply in 2009, rose one percentage point to nine percent (Figure 27).

Concentration of Origination and Servicing at Large Banks Continues

Since the mortgage crisis began in 2007, the financial services industry has become significantly more concentrated. Big banks have become bigger. For instance, Countrywide and Merrill Lynch became part of Bank of America, JPMorgan Chase acquired Bear Stearns and Washington Mutual, and Wells Fargo acquired Wachovia. The ongoing consolidation in the financial services industry has resulted in a further concentration of mortgage origination and servicing activities at very large financial institutions.
Consolidation in the single-family mortgage origination business continued in 2010. According to Inside Mortgage Finance Publications, the top 25 lenders’ share of all originations grew from 86.5 percent in 2009 to 89.1 percent in 2010 (Figure 28). However, the top ten originators increased their share of originations a little more, from 73.7 percent in 2009 to 75.6 percent in 2010. A bit larger still was the growth in the share of the top five originators, which increased from 61.7 percent to 63.7 percent. Bank of America, Wells Fargo, JPMorgan, Citigroup, and GMAC were the top five mortgage originators in each of the past two years.
Mortgage servicing activity has also become increasingly concentrated. For instance, according to Inside Mortgage Finance Publications, in 2007 the top 10 mortgage servicers accounted for 43 percent of loans serviced (Figure 29). Their share of servicing balances increased to 66 percent in 2010. During that time, the share of the top three mortgage servicers almost doubled, increasing from about 25 percent to approximately 49 percent. Bank of America, Wells Fargo, and Chase were the top three mortgage servicers last year.

While mortgage lenders continue to rely on multiple channels of production to originate single-family loans, the trend in recent years has been away from the broker channel and more towards the retail channel. According to Inside Mortgage Finance Publications, the retail share of originations rose from 47.6 percent in 2009 to 50.4 percent in 2010 (Figure 30). In wholesale or correspondent production, the share of loans acquired from correspondents (lenders that close loans in their own name and sell them) increased from 37.4 percent in 2009 to 38.6 percent in 2010. Mortgage brokers saw their share of originations fall for the fifth consecutive year, to 11 percent of loans originated in 2010, down from 15 percent in 2009 and 31 percent in 2005.
Multifamily Mortgage Originations Rebound

Lending to finance multifamily properties (those with five or more units) bounced back in 2010. According to the Mortgage Bankers Association (MBA), originations of multifamily mortgages had fallen 40 percent in 2008 and again in 2009 to about $52 billion. Preliminary MBA estimates suggest that originations rose to more than $60 billion, but lending activity remained well below levels seen before the crisis (Figure 31).
Secondary Mortgage Market Developments

Declining activity in the primary mortgage market carried over into the secondary mortgage market in 2010. Fannie Mae and Freddie Mac decreased their MBS issuance by more than 20 percent. Ginnie Mae’s issuance declined as well, but its outstanding MBS topped the $1 trillion mark. Activity in the private-label market remained muted.

MBS Issuance Declines; Government and Government-Sponsored Entities Continued to Dominate Activity

After rising more than 48 percent in 2009, issuance of mortgage-backed securities (MBS) backed by single-family mortgages fell 18 percent in 2010 to $1.5 trillion. While government and government-sponsored entities overwhelmingly dominated mortgage securitization in 2010, their issuance declined sharply. Fannie Mae showed the largest decline, of 24 percent, followed by Freddie Mac, whose issuance volume fell by 19 percent. Ginnie Mae’s issuance was down 14 from the previous year.

For the third consecutive year, private-label issuers remained virtually inactive in the mortgage securitization market. Private-label MBS issuance, which peaked in 2005 at approximately $1.2 trillion, totaled about $60 billion or approximately four percent of total MBS issued in the U.S. in 2010 (Figure 32). That amount consisted almost entirely of resecuritizations.

Source: Inside Mortgage Finance Publications
Issuance of MBS backed by multifamily mortgages was up sharply at both Fannie Mae and Freddie Mac in 2010. In fact, the Enterprises have increased their issuance volume significantly since the onset of the credit crisis in 2007. Fannie Mae issuance increased 61 percent to $26.5 billion, its highest volume ever. Freddie Mac increased its issuance almost three-fold to $8.3 billion, its highest volume since 2003. Issuance of MBS backed by multifamily mortgages by private entities has essentially dried up in recent years (Figure 33). Enterprise issuance as a share of multifamily originations has increased in recent years and rose to 53 percent in 2010 (based on MBA’s preliminary estimates of originations) from 37 percent in 2009.

![Figure 33: Distribution of Issuance of Multifamily MBS, By Issuer](image)

Source: Fannie Mae, Freddie Mac, and Inside Mortgage Finance Publication

**Enterprises’ Mortgage Purchase Volume Declines**

In 2010, Fannie Mae and Freddie Mac each reduced its purchases of single-family mortgages, in line with the drop in conventional single-family originations. Combined Enterprise purchases of single-family loans declined 15 percent to about $1.0 trillion, down from $1.2 trillion in 2009 (Figure 34). Freddie Mac’s purchases totaled $386 billion in 2010, down 19 percent, while Fannie Mae’s purchases were $607 billion, down 13 percent.
Purchases of multifamily mortgages by Fannie Mae and Freddie Mac decreased by 10 percent in 2010 to $32.7 billion. Fannie Mae purchased $17 billion in multifamily loans in 2010, down 13 percent from the year before. Freddie Mac’s purchases decreased by 7.2 percent to $15.4 billion (Figure 35). Combined Enterprise purchases represented 49.8 percent of multifamily originations in 2010 (based on MBA’s preliminary estimates), down from 69.5 percent in 2009.

Credit Quality of Enterprise Single-Family Purchases Remains Strong

Fannie Mae and Freddie Mac began tightening their underwriting standards in the second half of 2007. Since then, the credit risk characteristics of single-family mortgages purchased by the Enterprises have generally improved. That improvement was sustained in 2010.
The weighted average LTV ratio of loans purchased by Freddie Mac increased slightly to 67 percent in 2010 from 66 percent in 2009, but remained below the level for 2008, 71 percent. The weighted average LTV ratio for Fannie Mae acquisitions rose from 67 percent to 68 percent (Figure 36). The proportion of loans purchased with high LTV ratios rose at both Enterprises. After falling from 10 percent in 2008 to three percent in 2009, the proportion of loans with LTV ratios greater than 90 percent purchased by Fannie Mae rose to seven percent in 2010. The proportion for Freddie Mac in 2010 increased to three percent, from two percent the year before; the level for 2008 was 9 percent. The rise in the share of mortgages with high LTV ratios purchased by each Enterprise was attributable to the Home Affordable Refinance Program (HARP), under which borrowers who are current but whose loans have current LTV ratios above 80 percent up to 125 percent may refinance without obtaining new or additional mortgage insurance coverage.
After rising by about 20 points a year in 2008 and 2009, the weighted average credit score, calculated using models developed by Fair Isaac Corporation (FICO), of borrowers whose mortgages were purchased by Fannie Mae in 2010 remained about the same as in 2009 (762 versus 761 in 2009; Figure 37). The share of loans purchased by the Enterprise that were made to borrowers with credit scores below 620 remained steady at 0.4 percent, down from three percent in 2008 and six percent in 2007. Trends for Freddie Mac were comparable. Specifically, the weighted average credit of borrowers whose loans were purchased by Freddie Mac was unchanged at 758, while the share of borrowers with credit scores below 620 remained low at 1 percent.
The share of refinance mortgages purchased by the Enterprises decreased slightly or remained flat in 2010. In addition, tighter underwriting, falling housing prices, and changes in guarantee fee pricing reduced the cash-out share of the refinance loans the Enterprises purchased. Fannie Mae’s refinance share of purchases decreased slightly to 78 percent, down from 80 percent in 2010. Cash-out refinancings accounted for 26 percent of refinance loans purchased by the Enterprise, compared with 34 percent the year before. Freddie Mac’s refinance share of purchases held steady at 80 percent; the refinance share was 59 percent in 2008. Cash-out refinancings accounted for 26 percent of that Enterprise’s refinance mortgages purchased in 2010, compared with about one-third the year before. The decline in the cash-out shares reflects the drop in borrower home equity caused by falling home prices.

**Total Residential Mortgage Debt Outstanding Continues to Fall; Enterprises’ Share Rises to Highest Level Ever**

The high level of mortgage foreclosures, the lower volume of mortgage originations, and investor write-offs caused total residential mortgage debt outstanding to fall to $11.4 trillion, the lowest level since before the credit crisis began. That was the third consecutive year of decline. Single-family mortgage debt declined more than three percent, to $10.5 trillion, whereas multifamily debt outstanding declined by less than one percentage point. Multifamily debt represented 7.4 percent of total residential debt outstanding, up from 7.3 percent the year before and 6.3 percent before the onset of the financial crisis.

Each Enterprise’s total mortgage book of business—mortgage assets held for investment plus MBS held by others—fell in 2010. Fannie Mae’s total book of business declined more than one percent to $3.2 trillion, as compared with a 4.0 percent increase the previous year. Freddie Mac’s total book of business declined 3.8 percent to approximately $2.2 trillion, as compared with a two percent increase the year before. Notwithstanding their declining books of business, Fannie Mae and Freddie Mac ended the year holding and guaranteeing approximately 46.7 percent of the nation’s outstanding residential mortgage debt. That was just slightly higher than the year before, but their highest share ever (Figure 38).
Government and government-sponsored entities, including Fannie Mae and Freddie Mac, were the largest holders of multifamily mortgage debt in 2010, accounting for more than one-third of that debt; they were followed by commercial banks. While governmental entities increased their holdings of multifamily mortgage debt last year, the holdings of most other investor groups declined (Figure 39).
Combined Enterprise Holdings of Mortgage Assets Held for Investment Fall

Each Enterprise’s Senior Preferred Stock Agreement (PSPA) with the Department of the Treasury requires that, starting on December 31, 2010 and each year thereafter for as long as the Enterprise is subject to the PSPA, the Enterprise reduce its mortgage assets held for investment to 90 percent of the level of those assets it was allowed to hold as of the end of the previous year until the maximum size of the assets reaches $250 billion. The PSPAs allowed each Enterprise to hold a maximum of $900 billion of mortgage assets as of the end of 2009. Under the PSPAs, the maximum mortgage assets permitted as of December 31, 2010 was $810 billion.

During 2010, Fannie Mae showed an increase in its mortgage assets held for investment of 7.7 percent to $789 billion, driven by an increase in purchases of delinquent loans from its single-family MBS trusts. Freddie Mac’s holdings declined 2.1 percent to $697 billion due to sales and liquidations, partially offset by purchases of seriously delinquent loans purchased from its MBS trusts. Both Enterprises’ holdings were below the level required by the PSPAs as of year’s end (Figure 40).

Although the unpaid principal balance (UPB) of the combined mortgage assets held by Fannie Mae and Freddie Mac declined less than three percent in 2010, there were major shifts in the types of such assets held by the companies. For instance, each Enterprise reduced holdings of its own securities, by 30 percent at Freddie Mac and 27 percent at Fannie Mae. Those reductions (totaling $259 billion (UPB) combined) were offset mostly by increased holdings of mortgage loans, 69 percent at Freddie Mac and 52 percent at Fannie Mae or 58 percent combined to $662 billion (UPB). As mentioned above, both Enterprises purchased significant volumes of delinquent loans from their respective MBS trusts in 2010.
Both Enterprises also continued to reduce their holdings of securities backed by subprime and Alt-A mortgages in 2010. The combined holdings of the latter securities were down over nine percent to about $113 billion (Figure 41).

![Graph](image)

Source: Fannie Mae and Freddie Mac

**Mortgage Securities Market Shrinks; Government-Related Institutions Are Major Holder of Mortgage Securities**

The single-family mortgage securities market contracted approximately four percent in 2010, to $6.6 trillion, for mostly the same reasons as residential outstanding mortgage debt. Outstanding private-label MBS had peaked in 2007 at about $2.2 trillion, representing at that time about one-third of the U.S. mortgage securities market. Private-label securities declined more than 14 percent in 2008, 18 percent in 2009, and about another 17 percent in 2010, to $1.3 trillion. The non-agency share of the MBS market fell to less than 20 percent in 2010. Outstanding MBS guaranteed by the Enterprises and Ginnie Mae increased about 10 percent in 2009 and declined about two percent in 2010, to about $5.3 trillion.

In addition to the decline in outstanding single-family MBS, 2010 saw a further concentration of the holdings of those securities by certain investor groups. Depository institutions (banks and thrifts) maintained their position as the largest investor group, holding more than one-fifth of those securities. Federal Reserve/Treasury combined holdings increased to over 17 percent of total single-family MBS outstanding (Figure 42). However, the large reductions in holdings of their own MBS caused the combined share of Fannie Mae and Freddie Mac to fall to less than 12 percent.
Large Banks Increase Their Holdings of MBS

Increased MBS holdings of large banks contributed to the larger share of MBS held by depository institutions in 2010 (Figure 43). According to data compiled by the FDIC, the largest commercial banks—accounted for more than 40 percent of mortgage-related securities held by commercial banks in 2010. One bank alone accounted for more than 20 percent of the total held by commercial banks.
Federal Home Loan Banks Lending Activity Falls Sharply

The Federal Home Loan Banks (FHLBanks)—a major source of liquidity to the mortgage market at the height of the credit crisis—saw their lending activity decline further in 2010. FHLBank advances outstanding, which had reached a high of over $1 trillion in the third quarter of 2008, declined 24 percent in 2010 to $479 billion. Advances represented about 55 percent of total FHLBank assets (Figure 44). FHLBank investments in MBS declined for the second year in a row, falling by 3 percent to $147 billion, with most of that drop in holdings of private-label securities. Mortgage loans held by the FHLBanks also continued to decline, falling by 14 percent to $61 billion.

Source: Federal Home Loan Banks Office of Finance