Chapter 7 **Subprime Mortgages**

The financial crisis of 2007-09 initially was known as the *subprime crisis* because of the mortgage-backed securities (MBS) that helped trigger the crisis in the United States. What is a subprime mortgage? What role did it play in the mortgage market? How did it contribute to the financial crisis?

A residential mortgage may be called *subprime* when it does not meet key standards of a conventional *prime* mortgage.[1] Prime mortgages are those that satisfy the rules for inclusion in a collection or *pool of mortgages* to be guaranteed by a U.S. government agency or government-sponsored enterprise.[2] For this reason, prime mortgages also are called *qualifying* or *conforming* mortgages.

The purpose of the qualifying standards is to increase the likelihood that the borrower will be able to repay the loan, reducing the probability of default and lowering the expected cost to the GSE or government agency of its guarantee for the mortgage pool. The lending standards for qualifying mortgages typically include rules about the borrower's income, wealth, and credit score (Chapter 7), and about the size of mortgage, the price of the home and their ratio – known as the *loan-to-value ratio*, or LTV ratio.

Subprime loans may fail to meet several standards for a qualifying mortgage. They are made to people with a low credit score, or whose income may be low relative to the home price. The LTV could be high. And the loan may not include sufficient documentation of the borrower's ability to pay. So-called *ninja* loans represent an extreme lack of documentation: no income, no job and no assets. All of these factors mean that subprime loans have a higher probability of default than qualifying loans.

Like conventional loans, subprime loans come in two forms: fixed-rate and adjustable-rate loans (ARMs – Chapter 6). Subprime ARMs typically provide a low interest rate – known as a *teaser* rate – for the first two or three years, and then *reset* to a higher rate for the remaining period of a 30-year loan. Borrowers naturally wish to replace their mortgage after the early years to obtain a new, low teaser rate. This process is called *refinancing*. Rising house prices make it possible to refinance even when a borrower's ability to pay is low, because the lender can sell the house to recover the loan if the borrower fails to make timely payments.

The quantity of subprime loans already rose at a substantial pace in the 1990s. Over time, increased access to mortgage finance made it possible for more families to own their own homes. The percentage of owner-occupied housing in the United

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[1] There is another category of non-prime mortgages called Alt-A mortgages, for which the default probability exceeds that on prime mortgages, but is lower than that on subprime mortgages.
[2] For a description of a government-sponsored enterprise (GSE), see Chapters 3 or 13. The guarantee of a conforming mortgage pool lowers the default risk on a security backed by the pool. As a result, investors will pay more for the security and borrowers can obtain a cheaper mortgage.

States rose from 64% in 1994 to 69% at the peak a decade later. Encouraging such home ownership has been an enduring goal of U.S. public policy since the Great Depression, when the first GSE was created.

During the housing bubble, mortgage lenders relaxed their lending standards after 2002 in a variety of ways, including a decline of downpayments (which prompted a rise of the LTV ratio) and a decline of documentation (e.g. ninja loans). Subprime loans surged in volume, reaching $600 billion in 2006, or about 20% of new MBS, up from only $35 billion or less than 5% of MBS in1994.[3]

A complacent belief that nationwide house prices would continue to rise indefinitely, as they had since the 1930s, encouraged lending to borrowers with limited ability to pay. Eventually, such risky subprime ARMs posed a threat both to individual lenders and to the financial system as a whole. A widespread decline in housing prices could trigger an unprecedented rise of defaults among borrowers because: (1) many borrowers could not afford the higher reset rates on ARMs; and (2) lenders would not replace subprime ARMs with new loans at low teaser rates if home prices fell or threatened to fall below the value of the mortgage. The reason is that the incentive for a borrower to repay declines when a home is worth less than a mortgage.

Yet, even at their peak, outstanding subprime mortgages probably were only about one eighth of overall residential mortgages (which were $11 trillion in 2007). Even if all subprime mortgages unexpectedly proved worthless, the loss of wealth would have been modest compared to earlier financial shocks that had far less profound impact than the subprime crisis. For example, the loss of household wealth from the U.S. equity market plunge that began in 2000 exceeded $6 trillion.

So, why did the subprime market play such a large role in the financial disruptions of 2007-09? The key reason is that some large, highly-leveraged financial institutions retained, rather than sold, a sizable volume of new MBS, including subprime. Retaining MBS allowed these financial institutions to increase their leverage and risk-taking (see Chapter 5) and to earn fees for new issuance. Had they sold most of the MBS, their losses would have been limited when housing prices fell and defaults rose. Earlier MBS sales also might have limited the supply of easy credit that fed the housing bubble. Instead of selling the MBS, some financial institutions "bet the house" on mortgage securities and either failed or were compelled to seek a public bailout.

[3] The data are from a speech by Federal Reserve Chairman Ben Bernanke (http://www.federalreserve.gov/newsevents/speech/bernanke20080314a.htm).