



Ten Myths about Subprime Mortgages

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On close inspection many of the most popular explanations for the subprime crisis turn out to be myths. Empirical research shows that the causes of the subprime mortgage crisis and its magnitude were more complicated than mortgage interest rate resets, declining underwriting standards, or declining home values. Nor were its causes unlike other crises of the past. The subprime crisis was building for years before showing any signs and was fed by lending, securitization, leveraging, and housing booms.

Subprime mortgages have been getting a lot of attention in the United States since 2000, when the number of subprime loans being originated and refinanced shot up rapidly. The attention intensified in 2007, when defaults on subprime loans began to skyrocket. Researchers, policymakers, and the public have tried to identify the factors that explained these defaults.

Unfortunately, many of the most popular explanations that have emerged for the subprime crisis are, to a large extent, myths. On close inspection, these explanations are not supported by empirical research.

Myth 1: Subprime mortgages went only to borrowers with impaired credit

Subprime mortgages went to all kinds of borrowers, not only to those with impaired credit. A loan can be labeled subprime not only because of the characteristics of the borrower it was originated for, but also because of the type of lender that originated it, features of the mortgage product itself, or how it was securitized.

Specifically, if a loan was given to a borrower with a low credit score or a history of delinquency or bankruptcy, lenders would most likely label it subprime. But mortgages could also be labeled subprime if they were originated by a lender specializing in high-cost loans—although not all high-cost loans are subprime. Also, unusual types of mortgages generally not available in the prime market, such as “2/28 hybrids,” which switch to an adjustable interest rate after only two years of a fixed rate, would be labeled subprime even if they were given to borrowers with credit scores that were sufficiently high to qualify for prime mortgage loans.

The process of securitizing a loan could also affect its subprime designation. Many subprime mortgages were secu-

ritized and sold on the secondary market. Securitizers rank ordered pools of mortgages from the most to the least risky at the time of securitization, basing the ranking on a combination of several risk factors, such as credit score, loan-to-value and debt-to-income ratios, etc. The most risky pools would become a part of a subprime security. All the loans in that security would be labeled subprime, regardless of the borrowers’ credit scores.

The myth that subprime loans went only to those with bad credit arises from overlooking the complexity of the subprime mortgage market and the fact that subprime mortgages are defined in a number of ways—not just by the credit quality of borrowers. One of the myth’s byproducts is that examples of borrowers with good credit and subprime loans have been seen as evidence of foul play, generating accusations that such borrowers must have been steered unfairly and sometimes fraudulently into the subprime market.

Myth 2: Subprime mortgages promoted homeownership

The availability of subprime mortgages in the United States did not facilitate increased homeownership. Between 2000 and 2006, approximately one million borrowers took subprime mortgages to finance the purchase of their first home. These subprime loans did contribute to an increased level of homeownership in the country—at the time of mortgage origination. Unfortunately, many homebuyers with subprime loans defaulted within a couple of years of origination. The number of such defaults outweighs the number of first-time homebuyers with subprime mortgages.

Given that there were more defaults among all (not just first-time) homebuyers with subprime loans than there were first-time homebuyers with subprime loans, it is impossible to conclude that subprime mortgages promoted homeownership.

Myth 3: Declines in home values caused the subprime crisis in the United States

Researchers, policymakers, and the general public have noticed that a large number of mortgage defaults and foreclosures followed the decline in house prices. This observation resulted in a general belief that the crisis occurred because of declining home values.

The decline in home values only revealed the problems with subprime mortgages; it did not cause the defaults. Research shows that the quality of newly originated mortgages was worsening every year between 2001 and 2007; the crisis was brewing for many years before house prices even started slowing down. But because the housing boom allowed homeowners to refinance even the worst mortgages, we did not see this negative trend in loan quality for years preceding the crisis.

Myth 4: Declines in mortgage underwriting standards triggered the subprime crisis

An analysis of subprime mortgages shows that within the first year of origination, approximately 10 percent of the mortgages originated between 2001 and 2005 were delinquent or in default, and approximately 20 percent of the mortgages originated in 2006 and 2007 were delinquent or in default. This rapid jump in default rates was among the first signs of the beginning crisis.

If deteriorating underwriting standards explain this phenomenon, we would be able to observe a substantial loosening of the underwriting criteria between 2001-2005 and 2006-2007, periods between which the default rates doubled. The data, however, show no such change in standards.

Actually, the criteria that are associated with larger default rates, such as debt-to-income or loan-to-value ratios, were, on average, worsening a bit every year from 2001 to 2007, but the changes between the 2001-2005 and 2006-2007 periods were not sufficiently high to explain the near 100 percent increase in default rates for loans originated in these years.

Myth 5: Subprime mortgages failed because people used homes as ATMs

Rising house prices and falling mortgage interest rates before 2006 gave many homeowners an opportunity to refinance their mortgages and extract cash. The cash extracted from home equity could be spent for home improvements, bill payments, or general goods and services. Among subprime mortgages that were securitized, more than half were originated to refinance existing mortgages into larger ones and to take cash out of home equity.

While this option was popular throughout the subprime years (2001-2007), it was not a primary factor in causing the massive defaults and foreclosures that occurred after both home prices and interest rates reversed their paths. Mortgages that were originated for refinancing actually performed better than mortgages originated solely to buy a home (comparing mortgages of the same age and origi-

nation year). The rates of default for cash-out refinance mortgages within one year of origination were 17 percent for mortgages originated in 2006 and 20 percent for those originated in 2007. In contrast, the rates of default within one year of origination for mortgages originated to buy a home were 23 percent and 27 percent for the origination years 2006 and 2007, respectively.

Myth 6: Subprime mortgages failed because of mortgage rate resets

Among subprime loans, the most popular type of adjustable rate mortgage (ARM) is a hybrid, a loan whose interest rate is reset after an initial two- or three-year period of fixed rates. A fixed-rate mortgage (FRM), on the other hand, never has its rate reset. The belief that rate resets caused many subprime defaults has its origin in the statistical analyses of loan performance that were done on these two types of loans soon after the problems with subprime mortgages were coming to light. Those analyses compared loan performance in a way that was conventional at the time, but which turned out to be inappropriate for these loans.

To ascertain whether ARMs or FRMs were experiencing different levels of default, analysts compared the proportion of outstanding FRMs that were delinquent to the proportion of outstanding ARMs that were delinquent. Based on that comparison, the proportion of delinquent hybrid loans had begun to skyrocket after 2006, while that of fixed-rate loans looked as if it was fairly stable.

The problem with this type of analysis is that it hid problems with FRMs because it considered all outstanding loans; that is, it combined loans that had been originated in different years. Combining old with more recent loans influences the results, first, because older loans tend to perform better. Second, FRM loans were losing their popularity from 2001 to 2007, so fewer loans of this type were being originated every year. When newer loans were defaulting more than the older loans, any newer FRM defaults were hidden inside the large stock of older FRMs. By contrast, the ARM defaults were more visible inside the younger ARM stock.

To illustrate the problem, consider the following example. Suppose there are 1,000 FRMs and 100 ARMs outstanding in the market. In the current year, 100 new FRMs and 100 new ARMs are originated. Suppose the default rate for both types of new loans is 100 percent within a year and that old loans do not default. The observed default rate for FRMs is 100 out of 1,100 outstanding loans (9.1 percent), and the default rate for ARMs is 100 out of 200 outstanding loans (50 percent). Even though the level of default is the same for all new originations, the FRM pool looks much healthier.

If we compare the performance of adjustable- and fixed-rate loans by year of origination (which keeps new and old loans separate), we find that FRMs originated in 2006 and 2007 had 2.6 and 3.5 times more delinquent loans within one year of origination, respectively, than those originated in 2003. Likewise, ARMs originated in 2006 and 2007 had

2.3 times and 2.7 times more delinquent loans one year after origination, respectively, than those originated in 2003. In short, FRMs showed as many signs of distress as did ARMs. These signs for both types of mortgage were there at the same time; it is not correct to conclude that FRMs started facing larger foreclosure rates after the crisis was initiated by the ARMs.

Myth 7: Subprime borrowers with hybrid mortgages were offered (low) “teaser rates”

By design, a hybrid mortgage contract offers a fixed mortgage rate for a couple of years; after that, the rate is scheduled to reset once or twice a year to the current market rate plus a margin that is prespecified in the contract. A market rate combined with the margin may be lower or higher than the initial fixed mortgage rate, as it largely depends on the market rate that prevails at the reset time.

Hybrid mortgages were available both in prime and subprime mortgage markets, but at significantly different terms. Those in the prime market offered significantly lower introductory fixed rates, known as “teaser rates,” compared to rates following the resets. People assumed that the initial rates for subprime loans were also just as low and they applied the same label to them—“teaser rates.” We need to understand, though, that the initial rates offered to subprime hybrid borrowers may have been lower than they most likely would have been for the same borrowers had they taken a fixed-rate subprime mortgage, but they were definitely not low in absolute terms.

The average subprime hybrid mortgage rates at origination were in the 7.3–9.7 percent range for the years 2001–2007, compared to average prime hybrid mortgage rates at origination of around 2–3 percent. The subprime figures are hardly “teaser rates.”

Myth 8: The subprime mortgage crisis in the United States was totally unexpected

Observing the extent of the subprime mortgage crisis in the United States and the global financial crisis that followed, it is hard to tell that this turmoil and its magnitude were anticipated by anyone. The data suggest, though, that some market participants were likely aware of an impending market correction.

In a market with rapidly rising prices, mortgage contracts that cannot be sustained can be terminated through prepayment or refinancing. Borrowers can change houses and mortgage contracts easily in a booming environment, and defaults do not occur as frequently as they would without the boom. Because of this ability to dispose of unsustainable mortgages, signs of the crisis brewing between 2001 and 2005 were hidden behind a “mask” of rising house prices. Using a statistical model to control for rising housing prices, Otto Van Hemert and I determined that default rates were increasing every year for six consecutive years before the crisis had shown any signs. This deterioration is observable

now, with the help of hindsight and research findings, but it was also known to some extent to those who were securitizing subprime mortgages in those years. Securitizers seemed to have been adjusting mortgage interest rates to reflect this deterioration in loan quality. In short, lenders’ expectations of the increasing risk of massive defaults among subprime borrowers were forming for years before the crisis; most likely, it was not the crisis that was unexpected, it was its timing and magnitude.

Myth 9: The subprime mortgage crisis in the United States is unique in its origins

The mortgage crisis in the United States is large and devastating, and it has led to global financial turmoil. In this sense, it is certainly unique. However, neither the origin of this crisis or the way it has played out was unique at all. In fact, it seems to have followed the classic lending boom-and-bust scenario that has been observed historically in many countries. In this scenario, a lending boom of a sizable magnitude leads to a lending-market collapse if it is associated with a deterioration in lending standards, an increase in the riskiness of loans, and a decrease in the price markup of said risk. Argentina in 1980, Chile in 1982, Sweden, Norway, and Finland in 1992, Mexico in 1994, and Thailand, Indonesia, and Korea in 1997 all experienced a pattern similar to the U.S. subprime boom-and-bust cycle. The United States has had similar episodes, though on a smaller scale, as well: a crisis with farm loans in the 1980s and one with commercial real estate loans in the 1990s.

Myth 10: The subprime mortgage market was too small to cause big problems

Before the crisis, there was a conventional belief that a market as relatively small as the U.S. subprime mortgage market (about 16 percent of all U.S. mortgage debt in 2008) could not cause significant problems in wider arenas even if it were to crash completely. However, we now see a severe ongoing crisis—a crisis that has affected the real economies of many countries in the world, causing recessions, banking and financial turmoil, and a credit crunch—radiating out from failures in the subprime market. Why is it so?

The answer lies in the complexity of the market for the securities that were derived from subprime mortgages. Not only were the securities traded directly, they were also repackaged to create more complicated financial instruments (derivatives), such as collateralized debt obligations. The derivatives were again split into various tranches, repackaged, re-split and repackaged again many times over. This, most likely, was one of the mechanisms that amplified problems in the subprime securitized market, and the subsequent subprime-related losses. Each stage of the securitization process increased the leverage financial institutions were taking on (as they were purchasing the securities and derivatives with borrowed money) and made it more difficult to value their holdings of those financial instruments. With the growing leverage and inability to value the securities, uncertainty about the solvency of a number of large financial firms grew.

Conclusion

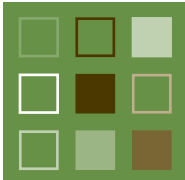
Many of the myths presented here single out some characteristic of subprime loans, subprime borrowers, or the economic circumstances in which those loans were made as the cause of the crisis. All these factors are certainly important for borrowers with subprime mortgages in terms of their ability to keep their homes and make regular mortgage payments. A borrower with better credit characteristics, a steady job, a loan with a low interest rate, and a home whose value keeps increasing is much less likely to default on a mortgage than a borrower with everything in reverse.

But the causes of the subprime mortgage crisis and its magnitude were more complicated than mortgage interest rate resets, declining underwriting standards, or declining home values. The crisis had been building for years before showing any signs. It was feeding off the lending, securitization, leveraging, and housing booms.

Recommended Reading

“Understanding the Subprime Mortgage Crisis,” by Yuliya Demyanyk and Otto Van Hemert. 2008. Forthcoming in *The Review of Financial Studies*. Working paper available at <http://ssrn.com/abstract=1020396>.

“Quick Exits of Subprime Mortgages,” by Yuliya Demyanyk. 2009. *St. Louis Review* 91:2 (March/April), pp. 79–93.



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