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Prime and Subprime Hybrid Mortgages

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The origin of the recent financial crisis was characterized by a sharp increase in defaults on subprime hybrid mortgages. By some estimates, delinquency rates on subprime hybrid products were almost three to four times those on non-hybrid products.[1] This corresponds well with the notion that financial fragility is often associated with financial innovation. Such innovation often leads to the introduction, adoption, and increased popularity of a product, but the associated risks are not fully understood. Not surprisingly, therefore, the current financial crisis has shed light on several financial products introduced in the years before the crisis. One such product was the hybrid adjustable-rate mortgage or the hybrid ARM.

Interestingly, hybrid mortgages are not new to the mortgage world—they existed in the prime mortgage market long before they became popular in the subprime universe. This raises some obvious questions: How did subprime hybrids differ from prime hybrids? And why did subprime hybrids perform poorly compared with other products (including prime hybrids)? This essay explores these questions, seeking to explain the distinctions between hybrids in the prime and subprime markets. It shows that subprime hybrids were significantly different from prime hybrids in terms of both the characteristics of the mortgage contract and how they were adopted.

Hybrid ARMs were specialized products that include an initial period (typically no less than 24 months) over which the repayment schedule on the mortgage resembled that of a fixed-rate mortgage (FRM) and a subsequent period over which the payment schedule resembled an ARM. These products appeared in both the prime and nonprime segments of the market. Prime hybrid products were typically known as the 3/1, 5/1, and 7/1 hybrids: The first number denotes the number of years (3, 5, or 7) before the initial interest rate was reset and the second number denotes the interval for every subsequent rate reset (1 year). In contrast, subprime hybrids came to be known as 2/28 and 3/27 hybrid mortgages—with the first number again denoting the years before the initial interest rate reset (2 or 3) and the sum of the first and second numbers denoting the term of the loan (30 years). Unlike prime hybrids, most subprime hybrids reset every six months after the initial reset.

Although similar in many ways, subprime hybrids were really different from prime hybrids.

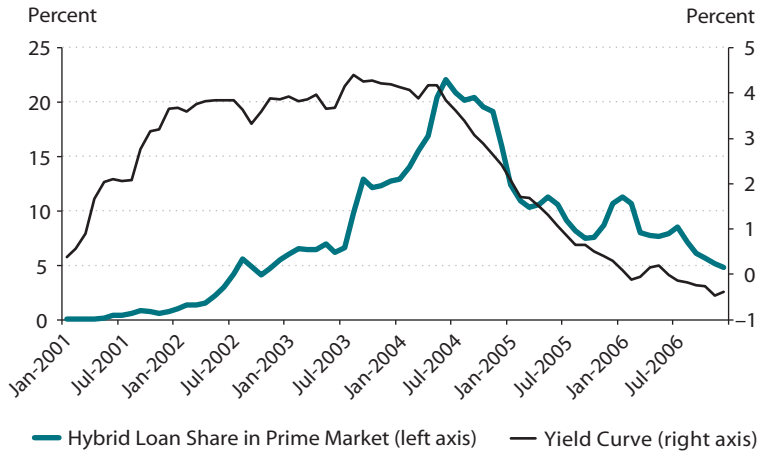
Even though prime and subprime hybrids shared common features, there were more differences between the two than similarities. First, beginning in 2000, hybrid mortgages quickly became the most prominent product in the subprime segment, rising to over 60 percent of originations between February 2004 and March 2006. In contrast, even at their peak in June 2004, prime hybrids never represented more than 22 percent of originations. Second, for almost all subprime hybrids, the initial closing rate was equal to the lifetime floor (the lowest possible rate for the life of the mortgage). In other words, subprime hybrids had *teaser rates*, and any subsequent reset over the lifetime of the loan would not result in rates lower than the initial closing rate. This feature does not appear to hold for most prime hybrids. Third, over the 2000-06 period less than 12 percent of prime hybrids had prepayment penalties—penalties on repaying or refinancing the mortgage before a given date. In contrast, during this period over 76 percent of subprime hybrids had prepayment penalties. Almost all prepayment penalties on subprime hybrids had terms that expired on the initial reset date. Such features of the subprime hybrid contract strongly resemble those of a bridge-financing contract where the higher frequency of (biannual) resets and rate increases on resets would "force" refinancing of the loan.[2]

An important fact is that hybrid products grew in prominence during the first half of the 2000s. Spurred by the willingness of lenders to try more innovative mortgage

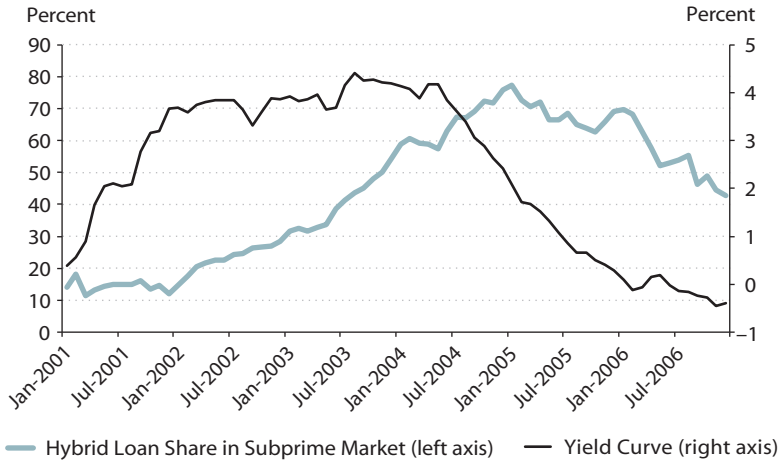
products, the hybrids rose in prominence as the yield curve steepened after 2001.[3] Compared with FRMs, the initial rate (fixed rate) on hybrid ARMs is likely to be more responsive to the short end of the term structure. Therefore, the difference in the closing rates between the hybrid ARM and the FRM is likely to be greater with a steeper yield curve. In contrast, a flatter yield curve would lower the difference in closing rates on hybrid ARMs and FRMs. This feature is best illustrated by the pattern of hybrid adoption from 2000 to 2006 in the prime segment. A steep yield curve between May 2001 and December 2004 led to the increase in hybrid adoption rates as a share of total originations in both the prime and subprime segments.

Subsequently, as the yield curve flattened, the share of prime hybrids decreased significantly to 5 percent of total originations by December 2006 (see the first chart). The share of subprime hybrids also decreased but with a lag and at a much slower rate. The decline in prime hybrids was much faster. Nevertheless, hybrids still represented 43 percent of total subprime originations in December 2006 (see the second chart). The contemporaneous correlation between the share of hybrids and the yield curve for 2000-06 is positive for the prime segment (0.156) but negative for the subprime segment (–0.285). At the very least, this raises important questions on the anomalous behavior of the changes in the adoption rate of subprime hybrids. ■

Hybrid Loan Share in Prime Market



Hybrid Loan Share in Subprime Market



SOURCE: Lender Processing Services Inc. (LPS) Applied Analytics.

Notes

[1] See, for example, Pennington-Cross, Anthony N. and Ho, Giang. "The Termination of Subprime Hybrid and Fixed-Rate Mortgages." *Real Estate Economics*, Fall 2010, *38*(3), pp. 399-426.

[2] For details on how subprime hybrids functioned as bridge-financing products and were designed to build home equity for borrowers, see Bhardwaj, Geetesh and Sengupta, Rajdeep. "Subprime Mortgage Design." *Journal of Banking and Finance*, May 2012, *36*(5), pp. 1503-19.

[3] The yield curve here is defined as the difference between the yields of the 30-year and the 6-month Treasury securities (at constant security).

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