Rising Rates
Playing defense with mortgage-backed securities

by C.J. Pickering and Mark Evans

Many bank investment managers are understandably reluctant to buy high coupon mortgage-backed securities because rapid prepayments can reduce yields substantially. However, there is an upside. When rates go up and prepayments slow down, premiums are written down more slowly and yields go up. These characteristics allow premium mortgage-backed securities to reflect some of the advantages of floating rate securities.

Table I (constructed using February 2003 data) outlines the characteristics, under rising and falling rates, of three high-premium mortgage-backed securities.

The three example securities had constant prepayment rates (CPR) between 30 percent and 35 percent. These prepayment rates produced yields that ranged from 3.18 percent to 3.96 percent.

Table II and Graph A show the risk and rewards (yields and effective durations) of the three examples of mortgage-backed securities under rising and falling rates.

The circled dots on Graph A represent the current yields and duration at the rates that were current in February. The 20-year mortgage-backed security was yielding 3.96 percent and had an effective duration of 2.9 years. With rates up 100 basis points, prepayments slow down, the yield goes up to 5.24 percent and the duration increases to 5.2 years. With rates up 200 basis points the yield goes up to 5.28 percent and the duration increases to 5.7 years. Recognize that a 200 basis point rise in rates means a 200 basis point rise in rates for that particular security.

Note that the example 20-year mortgage-backed security has about the same price volatility and effective duration in the rising rate scenario as the 15-year mortgage-backed security. This is due to the fact the 20-year instrument’s higher coupon (6.0 percent versus 5.5 percent) provides more of a cushion against rising rates despite the five-year longer maturity.
The Downside

Obviously, as rates go up, the market value of these securities will go down. Graph A gives a good indication of the loss. A security with an effective duration of five years, for example, will lose approximately 9 percent of its value with a 200 basis point rise in rates. This means that with rates up 200 basis points immediately, the example seven-year balloon, 15-year mortgage-backed security and 20-year mortgage-backed security will lose market values of approximately 6.5 percent, 10.1 percent and 9.9 percent, respectively.

The good news is that changes in market value are not reflected in the bank’s income or regulatory capital unless sold. Note, however, changes are reflected in the bank’s reported capital.

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For More Information

ICBA members are invited to call ICBA Securities at (800) 422-6442 for the following complimentary information:

- *Independent Banker* reprint of risk-and-reward charts,
- *Independent Banker* reprint of investing during rapidly rising rates, and
- List of currently available high coupon mortgage-backed securities with yields and durations under rising and falling rates.