

Mortgage-Backed Securities Report

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Dealing With Risks Associated With Prepayment-Sensitive Assets

Although the recent rise in interest rates has greatly reduced the urgency for strategies addressing prepayment risks, these dangers must not be forgotten or neglected. As implied by the term "prepayment sensitive," some assets are exposed to prepayment uncertainty and are generally mortgage related. Examples of mortgage-related assets that are negatively affected by prepayments include: traditional and excess mortgage servicing (either purchased or originated); premium mortgage-backed securities; residuals from collateralized mortgage obligations; and the interest only portion of stripped mortgage-backed securities. Some forms of non-mortgage-backed, prepayment-sensitive assets are credit card receivables and sinking-fund bonds.

Since prepayments are influenced by several uncontrollable factors, there is no completely failsafe method of dealing with them. One of the uncontrollable factors is foreclosure. Because a foreclosed loan is, in most cases, bought out of a group or pool at par, it is difficult to accurately project future foreclosure-related prepayment rates. An important issue related to both prepayments and foreclosures is geography. The economic health of any area is seen as a prime factor in payback stabilization. A depressed region usually causes a large number of borrowers to default due to loss of income or relocation to find work. Unfortunately, just as a depressed region can foster rapid prepayments, so can a booming region. An active region can lead to a high rate of housing turnover. Thus, historical prepayment data may no longer be applicable, since most mortgages are no longer assumable, and each time a house is sold, a new loan is generated to repay the existing loan.

The Role of Interest Rates. Fortunately for forecasters, mortgage-related prepayment sensitivity is most closely associated with interest rate movement, which makes it feasible to deal with some of the prepayment uncertainty. An important consideration when dealing with prepayment and interest rate sensitivity is the funding method that will be employed.

When funding a mortgage asset with debt, floating-rate or short-term debt will protect the asset much better than

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utilizing long-term fixed rate liabilities. Both floating-rate and short-term debt accomplish the same goal; frequent repricing of the liability. Frequent liability repricing is desirable because as interest rates move, the actual and projected performance of the asset will also fluctuate. Since prepayment-sensitive assets do not perform well during periods of falling interest rates, liabilities need to be repriced downward. This interest rate reduction on liabilities offsets poor asset performance precipitated by lower rates. During rising interest rate cycles, better-than-expected performance of the asset should balance the higher cost of debt that will be incurred.

Prepayment-sensitive assets are often not funded with debt, or investors may simply prefer to employ another hedging strategy. During periods of falling interest rates, hedging strategies endeavor to replace diminished income from the hedged asset with increased income from the hedging vehicle. During rising interest rate cycles, hedging losses will be offset by higher asset earnings due to prepayment deceleration. This strategy can be accomplished with several hedging vehicles, the most obvious of which is financial futures. This type of hedge incorporates buying treasury bond futures, which offer excellent liquidity and leverage but allow for a high degree of liability and require frequent monitoring.

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Another hedging strategy would be to purchase call options on treasury bonds. Options offer good leverage and limit liability but because of the inherent time premium may not efficiently track interest rate movement. Both financial futures and options need to be fine tuned constantly or rolled over several times during the hedging horizon. This maintenance generates higher broker commissions, which dilute the performance of the overall hedge.

Using POs. A more suitable method for hedging prepayment-sensitive assets is the principal only portion of a stripped mortgage-backed security (SMBS PO or simply a PO). A SMBS simply divides the principal from the interest payments in a group of mortgages, and the PO holder receives the principal paydowns and prepayments as they occur. Since POs are purchased at a deep discount from par, prepayments are welcome. If PO prepayments correlate with prepayments on the hedged asset, the profit from the POs will offset the decreased income from the hedged asset.

A derivation of the PO hedge would be to buy POs and simultaneously reverse repo (or finance) the position.

Although the haircut and the interest rate would be greater than a treasury reverse repo, this option is still quite attractive. Another conservative strategy employs the purchase of long-term zero coupon bonds. The basic premise of this strategy utilizes the deep discount of zero coupon bonds and their high degree of positive convexity. This positive convexity causes the market value of zero coupon bonds to appreciate more in an up market than they lose in a down market, given the same magnitude of interest rate movement. The market value of zero coupon bonds should move inversely to the market value of the hedged asset.

Observation: Regardless of the strategy used, it is important to keep in mind that hedges are imperfect and may not perform in reality in the same manner that they do in theory. Much of their success relies on the careful assessment of the relationship between the prepayment-sensitive asset and the appropriate hedging vehicle. Although imperfections exist, hedging should substantially reduce the risks associated with prepayment sensitivity.

—Larry Kirschner