
**THE VIABILITY AND EFFECTIVENESS OF VARIOUS INTEREST RATE AND
CREDIT DERIVATIVE PRODUCTS IN HEDGING RISKS OF A RESIDUAL EQUITY
OWNER IN MORTGAGE BACKED SECURITIES**

***Atul Malik*¹**

Post Graduate Student
Indian Institute of Management Bangalore

Manas Gupta

Post Graduate Student
Indian Institute of Management Bangalore

Mudit Mehta

Post Graduate Student
Indian Institute of Management Bangalore

May 31, 2006

Acknowledgement – The authors of this paper Atul Malik, Manas Gupta and Mudit Mehta were doing their internships in Ocwen Financial Solutions, Bangalore; Merrill Lynch, Hong Kong and HSBC London respectively while this paper was written

¹ **Atul Malik – Corresponding Author**

Email – atulm05@iimb.ernet.in

Phone – 91-9886360246

Address – G316, Hostel Blocks, IIM Bangalore, Bannerghatta Road, Bangalore -560 076, India

ABSTRACT

Around the world, in most of the countries which have an active Debt Market, the mortgages form a major constituent of it. The portion of equity left after securitizing a pool of mortgages is known as the Residual Equity, which is normally owned by the issuer of Mortgage Backed Securities. The yield on these residuals is affected by two main factors – the Prepayment Rate and the Default Rate. These two parameters in turn depend upon a number of factors. The Prepayment Rate is mostly influenced by the prevailing interest rates as a reduction in the interest rates make the people refinance their mortgage loans and thus lead to an increase in the prepayment speed. So the Constant Prepayment Rate (CPR) is taken as a function of interest rates, although there are a number of other smaller reasons also that affect the prepayment speed. Similarly the defaults are measured by the Constant Default Rate (CDR) and they directly impact the return on these residuals.

This paper attempts to explore the viability of using various interest rate and credit derivative products in hedging the Prepayment and Default Risk of Residual Owners in MBS. The most common interest derivative products used are bond options, interest rate caps and floors, and swap options. The swaps have been used extensively by the Mortgage Portfolio managers and Mortgage Servicer but whether they can be used by the residual owners as well, has been explored in this paper. Similarly the Credit Default Swaps and Total Return Swaps can be used to hedge against credit defaults. But all of them may not be applicable in certain situations and in some of the scenarios, certain alternatives may be more appropriate than others. So the objective of the paper is to explore alternative hedging options available to residual owners and evaluate their effectiveness.

Keywords: Residual Equity owners, Mortgage Backed Securities, hedging, interest rate derivatives, credit derivatives, Prepayment Rate, Default Rate