Life Settlement Pricing

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August 22, 2011

Abstract

A life settlement is a financial transaction in which the owner of a life insurance policy sells an unneeded policy to a third party for more than its cash value and less than its face value. The value of the life settlement product is the expected discounted value of the benefit discounted from the time of death. We apply the Double Exponential Jump Diffusion mortality model in the Whole Life Time Distribution Dynamic Pricing (WLTDDP) method. The WLTDDP method generates a complete life table with the whole distribution of life times instead of using only the expected life time (life expectancy). When a life settlement underwriter's gives an expected life time for the insured, information theory can be used to adjust the DEJD mortality table to obtain a distribution that is consistent with the underwriter projected life expectancy that is as close as possible to the DEJD mortality model. The WLTDDP method, incorporating the underwriter information, provides a more accurate projection and evaluation for the life settlement products. Another advantage of WLTDDP is that it incorporates the effect of dynamic longevity risk changes by using an original life table generated from the DEJD mortality model table.

Key words: Life Settlement, Double Exponential Jump Diffusion Model, Whole Life Time Distribution Dynamic Pricing method.