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Down but not Out: A Cost of Capital Approach to Fair Value Margins

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Down but not Out: A Cost of Capital Approach to Fair Value Margins

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Abstract

The Market Cost of Capital approach is emerging as the standard for estimating margins for non-hedgeable risk on an insurer's fair value balance sheet. This paper develops a conceptually rigorous formulation of the cost of capital method for estimating margins for mortality, lapse, expense and other forms of underwriting risk. For any risk situation we develop a three step modeling approach which starts with i) a best estimate model and then adds ii) a static margin for contagion risk (the risk that current experience differs from the best estimate) and iii) a dynamic margin for parameter risk (the risk that the best estimate is wrong and must be revised).

We show that the solution to the parameter risk problem is fundamentally a regime switching model which can be solved by Monte Carlo simulation. The paper then goes on to develop a number of more pragmatic methods which can be thought of as short cut approximations to the first principles model. One of these short cuts is the Prospective method currently used in Europe. None of these methods require stochastic on stochastic projections to get useful results.

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