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Optimal tontines

Annuities are the traditional product used to guarantee sustainable income in retirement. But because they expose the issuer to systematic longevity risk (the risk that the population will live longer than expected), annuitants are subject to both risk charges and solvency risk. Tontines are one of several products that have been proposed to address this issue, by protecting individuals against their idiosyncratic risk, without exposing issuers to systematic risk. Such a scheme might involve an investment pool, whose proceeds are shared only among survivors. We'll discuss the optimal design of such tontines, and will show how they can be adapted to handle a heterogeneous pool of investors. This is joint work with Moshe Milevsky (York University)