Optimal annuitization and bequest motives

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Timing the annuitization decision has critical economic implications because it directly affects how well-prepared individuals are to provide consumption in their old age. This decision hinges on various risk factors such as market risk, longevity risk, potential future needs of liquid funds and bequest motives. Building on Yaari's pioneering work [1], which suggested that individuals without bequest motives should convert all their retirement savings into annuities, numerous studies have explored the annuitization choice within the "all or nothing" institutional framework, where immediate lifetime annuities are purchased just at one point in time.

In this paper, we investigate the effect of bequest motives on the annuitization decision for a retired individual who maximizes the market value of future cash flows. From a mathematical point of view, the problem is formulated as an optimal stopping problem. The individual faces a choice between investing in the financial market or converting his capital into periodic income through an annuity. The attractiveness of the annuity depends on market conditions and the retiree's health status. To account for the unpredictable nature of health conditions, we adopt a stochastic mortality force framework. Initially, the individual enjoys optimal health, but at an unforeseen point, his health deteriorates, triggering an increase in the mortality risk. In this context, the individual must determine when (if ever) to purchase the annuity.

[1] M.E. Yaari, Uncertain lifetime, life insurance and the theory of consumer. Rev. Econ. Stud. 32 (1965), pp. 137–150.