Optimal retirement financial planning for retirees with time-inconsistent preferences

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Abstract

Although researchers have shown that purchasing longevity insurance at retirement assures pensioners of a higher annual income for the rest of their lives, most retirees (who have a choice) choose to take the lump sum and self-manage the portfolio. In recent years, behavioral factors has been used to explain low demand of immediate annuities; at the same time, they shed some light on the desirability of deferred annuities. In this analysis, we adopt hyperbolic discount model to analyse the optimal retirement financial planning, from the perspective of retirees. We evaluate a decumulation strategy comprising a deferred annuity purchased at retirement and optimal consumptions and savings before the commencement of the annuity. Using numerical optimisation, we firstly work out the percentage of wealth to be invested in the deferred annuity product with a fixed deferred period and the optimal consumption path, for a retiree who have time-inconsistent preferences. Furthermore, with the availability of a wide range of deferred annuity products, we identify which deferred period is the most attractive and what proportion of wealth should be invested in this deferred annuity products, for investors with the same behavioral obstacles.

Keywords Hyperbolic discounting, Annuities, Retirement financial planning