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Rational Decumulation

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Abstract

We focus on the decumulation decision that faces an individual upon entering retirement, and seek a rational set of choices for an individual who receives a lump-sum settlement from retirement savings programs, together with accumulated private savings and Social Security credits. In the spirit of Merton (1969, 1971) and Richard (1975), we develop a continuous-time model to study the asset allocation choices, where life annuities are included along with fixed income and equity as the asset classes, and the inflation-protected life annuity is the riskless asset in an intertemporal context with an uncertain lifetime. Unlike previous continuous-time models of annuities, wherein the existence of actuarial notes or instantaneous term annuities is posited and individual behavior relative to these hypothetical annuities is examined, our model accommodates more realistically the principal features and structure of actual annuities that are available - i.e., we consider irrevocable life annuities. Individual behavior differs markedly from earlier studies under a variety of economic conditions. In particular, high levels of annuitization are shown to be rational under a wide range of risk aversion levels, even when stock market returns and annuity price loadings are assumed to be much greater than is generally the case. Ours is also the first study to model individual behavior under the possibility of default by the insurer issuing annuities. We find that even a little default risk can have a very large impact on annuity purchase decisions. We further find that state insolvency guaranty programs can have a big impact upon the levels of rational life annuity purchases - particularly annuities of large size. This occurs even if the guaranty limits are relatively low. Higher guaranty limits have a much smaller incremental impact on annuity purchases. Insurers with lower credit ratings may benefit relatively more from such programs.

Keywords: Annuities, Asset allocation, Retirement, Default, Insurance**JEL Classification:** C61, D14, D91, G11, G22, G28, H55, J26[Suggested Citation](#) >[Show Contact Information](#) >[Download This Paper \(Delivery.cfm/SSRN_ID917223_code10397.pdf?abstractid=917223&mirid=1\)](https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID917223_code10397.pdf?abstractid=917223&mirid=1)[Open PDF in Browser \(Delivery.cfm/SSRN_ID917223_code10397.pdf?abstractid=917223&mirid=1&type=2\)](https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID917223_code10397.pdf?abstractid=917223&mirid=1&type=2)

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