Extending Life Cycle Models of Optimal Portfolio Choice:
Integrating Flexible Work, Endogenous Retirement, and Investment Decisions with Lifetime Payouts

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Abstract

This paper derives optimal life cycle portfolio asset allocations as well as annuity purchases trajectories for a consumer who can select her hours of work and also her retirement age. Using a realistically-calibrated model with stochastic mortality and uncertain labor income, we extend the investment universe to include not only stocks and bonds, but also survival-contingent payout annuities. We show that making labor supply endogenous raises older peoples' equity share; substantially increases work effort by the young; and markedly enhances lifetime welfare. Also, introducing annuities leads to earlier retirement and higher participation by the elderly in financial markets. Finally, if we allow for an age-dependent leisure preference parameter, this fits well with observed evidence in that it generates lower work hours and smaller equity holdings at older ages as well as sensible retirement age patterns.

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