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Optimal Financial Planning Strategies: A Life-Cycle Analysis

The mandatory, government-organized pay-as-you-go pension system in Germany faces serious challenges. Government pension benefits are expected to decrease in the future. Thus, individual financial planning strategies are becoming increasingly important. Utilizing theoretically well-founded decision criteria, but at the same time considering, as far as possible, real-world conditions, this contribution determines individual financial planning strategies. A major focus is the development of an empirically calibrated intertemporal model that allows optimizing consumption, saving, and asset allocation over the lifecycle. The model is then calibrated with German empirical data for life-span, risk-free, and risky asset returns, inflation, nontradable labor income, government pensions, and private annuities. International data are used for the (expected utility) objective function, which also considers bequest motives. The individual's lifespan, the risky return, labor income, and government pensions are modeled to be stochastic. Optimal financial planning strategies are derived for different individuals with different characteristics and within different decision situations, taking into consideration borrowing and short-selling restrictions. In particular, optimal annuity demand, and intra-family risk sharing are analyzed.