

Abstract of the paper:

The paper explores how the requirement of gender-neutral premium calculation and the new rules of surplus participation for participating life annuities affect insurance company's profitability and policyholder's wellbeing. We analyze the real data observed for annuity prices in the German market. Further, we examine the impact of unisex calculation, allowing for different assumed and realized gender compositions. To this end, we develop a realistically calibrated asset and liability model for a PLA with stochastic mortality, interest rates and equity returns. We show that for males, the disadvantages of PLA's unisex pricing as compared to the gender-specific calculation are substantially lower, if we measure them by considering a lifetime utility and account for both distributed surpluses and stochastic mortality. For the insurance company, the gender mix composition turns out to be less important than the capital market influence.