MORTALITY HETEROGENEITY AND THE DISTRIBUTIONAL CONSEQUENCES OF MANDATORY ANNUITIZATION

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Annuities provide insurance against outliving one's wealth that ought to be valued by risk-averse households facing an uncertain lifespan. However, rates of voluntary annuitization are extremely low, not only in the United States, but also in many other countries.

There are many explanations for the reluctance of households to voluntarily annuitize, including the fact that most households already hold much of their wealth in annuitized form through Social Security and defined benefit pension plans. But many commentators believe that increases in the cost of annuities resulting from adverse selection, as well as ignorance and inertia on the part of retirees, likely contribute.

Mandatory annuitization offers a solution to the above problems. By compelling high mortality households to annuitize, the cost of annuities is reduced for everyone. One can identify three types of households; those who would have annuitized anyway, those who would not have annuitized before, but would wish to do so at the more favorable rates made possible by compulsion, and those who would prefer not to annuitize, even at the more favorable rates. The first two types of households would benefit from mandatory annuitization, whereas the third type would suffer a loss.

Previous research has shown that single individuals in each of twenty socio-economic categories, but not necessarily every individual in each category, would benefit in expected utility terms from mandatory annuitization on uniform and actuarially fair terms. Furthermore, although the average money's worth of annuities varied very considerably between categories, the differences were extremely small when evaluated in expected utility terms.

But the above analysis covered only single individuals. Most households entering retirement are married, and previous research has shown that married couples will value annuities much less highly than single individuals due to longevity risk pooling within marriage. Furthermore, the analysis assumed no pre-annuitized wealth, whereas research has shown that most households entering retirement hold the great majority of their wealth in pre-annuitized form. An

additional difficulty is that the wealthy have lower mortality and will likely have larger annuitizable account balances than the poor, so that mandatory annuitization may not result in actuarial fairness even in the absence of insurance company administrative costs.

The present paper extends the previous analyses to calculate the impact of mandatory annuitization on married couples, to incorporate pre-annuitized wealth, and to consider the relationship between mortality and annuitizable account balances. More specifically, it calculates the average proportion of pre-annuitized wealth among Health and Retirement Study households in each socio-economic category who attained age 65 between 1994 and 2000. Disregarding pre-annuitized wealth, it finds that married couples in all the socio-economic categories studied value annuitization less highly than single individuals, and that there is now considerable between-group variation in valuations. When account is taken of pre-annuitized wealth, the values placed on annuitization further decrease, and the between-group variations increase still further, driven in part by the fact that the high mortality groups also have the highest proportions of pre-annuitized wealth. Notwithstanding the above variations, the average household in each group would still place a positive value on annuitization.

But group averages undoubtedly conceal a great deal of within-group heterogeneity in the valuation placed on annuitization. Economic theory indicates that, in addition to the factors mentioned previously, a household's willingness to pay for annuitization will depend on its subjective mortality beliefs and its degree of risk aversion. Health and Retirement Study households are invited to assess their probabilities of surviving to ages 75 and 85. But it is difficult to convert these probabilities into subjective annual survival probabilities because many households answer either zero or 100 percent, and their survival probabilities cannot be literally either zero or 100 percent.

The present paper uses a Bayesian updating technique to recover subjective annual survival probabilities from the above responses. We show that the subjective life tables vary appropriately with socio-economic status and aggregate to published life tables.

Health and Retirement Study households are invited to rank their preferences over various lotteries – whether they would prefer their current income for life to a lottery where there is a 50 percent chance of a y percent increase and an equal chance of a z percent decrease. These responses are used to calculate each household's coefficient of risk aversion.

The authors then use numerical optimization techniques to calculate each Health and Retirement Study household's willingness to pay for annuitization of their unannuitized wealth on actuarially fair terms. The calculation takes account of each household's proportion of pre-annuitized wealth, subjective mortality beliefs, coefficient of risk aversion, and the age difference between husband and wife. The authors find that 16.5 percent of all households, but 36.5 percent of households where neither spouse completed high school, would be worse off under mandatory annuitization.

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