Proposal for 2011 Ackoff Doctoral Student Fellowship

Annuity Demand and Health Insurance

Daniel W. Sacks

Approved: Olivia S. Mitchell, Faculty Advisor

Research Question

I propose to study the relationship between health insurance availability and annuitization at the time of retirement. Standard theory suggests that, absent a bequest motive, people should convert all of their assets into annuities (Davidoff, Brown, and Diamond, 2005). In practice, however, people rarely annuitize much of their wealth (Brown 2008). One explanation for this "annuitization puzzle" is that elderly Americans face uninsured medical expenditure risk, and holding liquid wealth, rather than annuities, provides partial insurance.

Prior Literature

Some research provides simulation evidence suggestive that medical expenditure risk may reduce the demand for annuities (Paschenko 2010; Peijnenberg, Nijman, and Werker, 2010). In this project, I will study the question directly by seeing whether Medigap insurance is related to higher rates to higher annuitization rates.

Proposed Methodology

To answer this question, we cannot just ask whether individuals with more health insurance are also more likely to annuitize. Health insurance demand is likely to be correlated with many of the determinants of annuity demand, especially risk aversion (inducing a positive bias) and mortality prospects (which induces a negative bias). To overcome this problem, I will use the price of Medigap insurance as an instrument for health insurance.

It is clear that the price of insurance will be correlated with the demand for insurance, but for price to be a valid instrument, it must also be excluded from the annuity demand equation. If insurance pricing reflects individual risks or preferences, then this exclusion restriction will be violated. In practice, however, this kind of pricing does not occur: during the first six months of retirement, insurance companies are barred from medical underwriting. And in practice, insurance companies are permitted only to use age, sex, and (in some cases) community information to price the contracts on offer (Maestas, Schroeder and Goldman, 2007; Robst, 2006), suggesting that insurance prices are largely orthogonal to individual characteristics (conditional on age and sex, which will be controlled).

Data

I will implement this empirical strategy using data from the Health and Retirement Study. The HRS has information on annuitization, the outcome of interest. It also has very detailed information on health, wealth, mortality and mortality expectations, and attitudes towards risk. I can use these data to examine the plausibility of the exclusion restriction by seeing whether insurance prices are correlated with these variables (conditional on age and sex). The HRS does not, unfortunately, contain information on the price of insurance. I will therefore merge the HRS data with data on insurance premiums which have been collected by Weiss Ratings, Inc. These data, which are available by plan, age, sex, and company, all at the zip code level, are proprietary and I will use the Ackoff funds to purchase these data essential to this research.

References

Brown, Jeffrey R. 2008. "Understanding the Role of Annuities in Retirement Planning," in Annamaria Lusardi, ed., *Overcoming the Savings Slump: How to Increase the Effectiveness of Financial Education and Savings Programs*. University of Chicago Press, 178-206.

Davidoff, Thomas, Jeffrey R. Brown and Peter A. Diamond. 2005. "Annuities and Individual Welfare," *American Economic Review*, 95(5): 1573-1590.

Maestas, Nicole, Mathis Schroeder and Dana Goldman. 2008. "Price Variation in Markets with Homogeneous Goods: The Case of Medigap," NBER Working Paper #14679.

Robst, John. "Estimation of a Hedonic Pricing Model for Medigap Insurance," *Health Research and Educational Trust*, 41(6): 2097-2113.

Paschenko, Svetlana. 2010. "Accounting for non-Annuitization," Federal Reserve Bank of Chicago Working Paper.

Peijnenberg, Kim, Theo Nijman, and Bas Werker. 2010. "Health Cost Risk and Optimal Retirement Provision: A Simple Rule for Annuity Demand." Wharton School Pension Research Council Paper 2010-08.

Faculty supervisor: Olivia S. Mitchell

Budget Justification:

I will use the Ackoff funds to purchase data from Weiss Ratings, Inc which sells the data for [redacted]. There are 17 years of data in total. I am requesting [redacted] in funding, but I could combine a smaller award with my own money or other funding, if I receive it, to purchase as much data as possible.

Description of other current sources of research and travel funding

I have applied for a TRIO grant that, if awarded, would provide funding for purchasing two years of data.

Signed: Daniel W. Sacks