Household Strategies for Managing Longevity Risk

Introduction and Background

Over the past 100 years, average life expectancies in developed countries have increased by more than 20 years. Although the rate of increase has slowed, this upward trend is expected to continue in the future. In the earlier part of the 1900s, the increases in life expectancy were primarily attributable to improvements in mortality at the younger ages, resulting from advances in modern medicine--the introduction of antibiotics, vaccines, and improved sanitation. More recently, we have seen decreases in mortality at older ages, due to life-extending technologies and improved disease management. Further improvement is projected by most experts, but they disagree about how much improvement to expect. Our goal in this study is to understand the link between life span and the wealth needed to successfully fund the retirement period.

Although there have also been corresponding increases in retirement dates over the last decades, they have been more modest than the changes in life expectancies. As a result, most individuals will have much longer retirement periods than were experienced by previous generations. Although our study considers the retirement period for a married couple, our focus on the longest-lived households implies that we are also focusing on what happens to the widows as we follow the households through the death of the second spouse.

Because this study focuses on longevity risk, we consider several strategies that can finance or mitigate the financial risks of a long retirement period, including delayed retirement, joint and survivor annuity purchase, long-term care insurance purchase, and various housing alternatives including reverse mortgage and house downsizing. Although many of these are marginally beneficial alone, we conclude that combination strategies have the largest impact.

Methodology

We develop a model that incorporates the most common risks and uncertainties faced by retirees, including longevity, inflation, investment, health, and long-term care risks. We test this model using a Monte Carlo simulation that forecasts potential post-retirement income and expenses for representative pre-retiree households who are exposed to various risks during their retirement period. For each of these households, the parameters for income, wealth, expenses, and retirement plan participation are selected based on national data. The design of the model allows estimation of retirement wealth needs, probability of shortfall, and the effect of various risk mitigation strategies on retirement outcomes, and also allows us to evaluate the differences in outcomes for the longest-lived households.

Most U.S. households approach retirement with too little financial wealth to support an average life expectancy, let alone an extra-long life. The approach we take in our analysis is to first estimate the amount of wealth that would be needed for households at the median and 75th percentile based on income and wealth. We initially assume no change in standard of living in retirement and no reliance on financial products to mitigate the risk. We also compare the wealth needed by those who live to their life expectancy to that needed to support unusually long lives. We then alter the assumptions and report on improvements, if any, resulting from various strategies and products. We conclude by evaluating combination strategies.

The following list summarizes the main risk management strategies that we evaluate in this research, comparing the outcomes to a base case in which the household undertakes no risk management, include:

- The effect of delayed retirement
- The effect of downsizing housing at retirement
- The effect of entering into a reverse mortgage arrangement at or during retirement
- The purchase of long-term care insurance
- The purchase of immediate or deferred annuities
- The combination effects of various strategies

Results

All of the simulations are completed and we are in the process of finalizing a draft of the formal paper. Not surprisingly, our results show that the longest-lived households need greater wealth accumulation than is required on average to be able to maintain their standard of living in retirement. In addition to financing more years of regular expenses, those who live longer have a greater chance of experiencing shocks such as unexpected health costs, extended periods of long-term care, or economic downturns. Financial products that provide lifetime income or that cover specific future expenses can help households have more successful retirement periods. The main results of our study are as follows:

- People who live longer than average need more wealth to maintain their standard of living in retirement. Simulation results show that the 75th percentile base case household with the $105,000 household preretirement income needs $880,000 in non-housing wealth to retire at age 66 with 90% confidence of meeting all expected retirement expenses. Delaying retirement to age 70 reduces the amount needed at age 66 to $610,000. In contrast, the wealth needed at age 66 increases to $990,000 for those households who have at least one spouse who lives to age 92 or longer. For the longest-lived, delaying retirement to age 70 reduces the wealth needed at age 66 to $710,000. Simulation results for lower income households show similar benefit for delayed retirement, at a lower magnitude.

- In general, the differences between the 90th and 50th percentile confidence levels are quite large. These differences can be attributed to the combined effect of the various shocks to

income and wealth that we have modeled in the simulation. Clearly, planning for what is needed "on average" will result in a much larger probability of shortfall because accumulated wealth will not be sufficient to cover unexpectedly large expenses.

- For couples who own a home at retirement and do not have an outstanding mortgage, a reverse mortgage can improve financial well-being in retirement. The reverse mortgage produces life income that reduces the need to tap other financial resources, but also reduces home equity that could be needed to meet future needs. Households that enter retirement with a mortgage are worse off than those who do not.

- All else equal, downsizing housing by 30% at retirement reduces the amount of wealth needed to be financially successful in meeting household needs. At the 90% confidence level, this strategy reduces wealth needed by about 7%. This is a combined effect of reduced expenses (e.g. property taxes, insurance, and repairs) and increased investment wealth as the net difference in home value after transaction costs is added to the retirement nest egg.

- The purchase of long-term care insurance on one or both spouses has only a small effect on wealth needed at retirement, but may be a beneficial component of a combination strategy for managing post-retirement risks. This can be particularly important for the surviving spouse who is likely to be a widow and will have depleted assets by the time she may need to enter care.

- We do not find immediate or deferred joint and survivor annuities to have much impact on the wealth needed at retirement for these representative households. If annuities are fairly priced (present value of the payments equals the price of the annuity), then this result is not surprising. For the longest-lived, the survivor is assured of continuing annuity payments, but the purchasing power of these fixed payments declines over time.

- For the 75th percentile household, the best combination strategy we tested (delayed retirement to age 70, reverse mortgage at age 75, and the purchase of LTC insurance on the wife only), the wealth needed at age 66 to be 90% confident of making it through retirement is reduced by 74%, from $880,000 to $230,000. This wealth level is approximately equivalent to the amount of non-housing wealth these representative households actually have based on national data. For the longest-lived, the wealth needed is reduced by 67% (from $990,000 to $340,000).

Our research suggests that longevity risk should be more carefully incorporated in household retirement planning. Most people, if they plan at all, appear to anticipate an average life span. Compared to those with average lifespans, the longest-lived will need substantially more wealth to maintain their pre-retirement standard of living through to old age. Financial products that provide lifetime income or that cover specific future expenses can help households have more successful post-retirement periods.