Who Should Read This Insight:
Retirees and their financial advisors, annuity manufacturers, policymakers, regulators

Institute Research Agenda Topic:
New takes on the annuity puzzle

Definitions of **bold key terms** are at the end of this article.

SVETLANA PASHCHENKO
is Assistant Professor in the Department of Economics of the Terry College of Business at the University of Georgia. She earned her doctorate from the University of Virginia.

Authors, Titles and Publication Dates of the Articles Addressed in the Insight
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Insight: WHAT FACTORS CAN EXPLAIN LOW ANNUITY MARKET PARTICIPATION RATE AMONG U.S. RETIREES?

IDEAS IN THIS INSIGHT YOU CAN PUT INTO ACTION

- **Retirees and their financial advisors:** One of the most important reasons that annuitization had been unattractive for many retirees is that they already had considerable annuity-like income from Social Security and defined-benefit pensions. However, defined-benefit pension plans are now less common; individuals who do not have these plans should pay closer attention to private annuitization options.

- **Annuity manufacturers:** Two other important reasons why retirees do not buy annuities are (1) the large minimum premiums, and (2) the illiquidity of a large portion of retirement wealth. Two possible courses of actions could address these reasons for not buying annuities. The first would be to reduce the minimum amount of money required to purchase an annuity with the help of some pooled (i.e., group) annuity products that would allow retirement savers with similar mortality risks to buy relatively small shares of the pooled annuity. The second possible course of action would be to develop annuity-based reverse mortgages.

- **Policymakers and regulators:** In light of the above, the best strategy is to create a regulatory and educational environment that would stimulate development of the annuity products described above.

PRINCIPAL INSIGHTS

This article evaluates different reasons why retirement savers in the United States do not buy private annuities. To illustrate this problem and to set the ground for subsequent discussion, the insight uses a simple example:

Suppose an individual has at most three years left to live. Moreover, every year he has a 20% probability of dying.

In the first year he has $1,000. He can invest this in a regular bond; let us assume this bond will bring a return of 2%. That means that in the second period (year) this individual will have $1,020. He can keep $515 and reinvest the other $505 in a bond with the same rate of return, which will bring him $515 in the third year. Thus, his income flow will be $515 per year.

Suppose, instead, he invests in an **actuarially fair annuity**. This **annuity** will convert the retirement saver's $1,000 into income of $714, which is substantially higher than the $515 per year obtained from bond investments.

Why then do so few people buy private annuities? The article considers seven possible explanations:

1. *Bequest motive.* An important difference between the two investment strategies (i.e., bonds vs. annuities) in the simple example above is that, if the retirement saver dies in the second period, his beneficiaries receive $1,020 if he had invested in a bond. His beneficiaries receive nothing if he bought an annuity. If he wants to leave something to his beneficiaries (i.e., if he has a **bequest motive**) he can favor a bond over an annuity.

2. *Adverse selection.* In the example above, an annuity is assumed to be actuarially fair. Suppose, instead, that an insurance company prices an annuity assuming every customer has a survival probability of 90%. This can happen if the company cannot verify each customer's survival chances, and prices its products based on the assumption that people with high survival probability are more likely to buy annuities. Our retirement saver (whose true survival probability is 80%) now can only purchase an annuity income of $602 (as opposed to $714). This is still better than a bond, but the difference may be considered not large enough if some other impediment to **annuitization** is also present.

3. *Medical expenses.* Suppose there is a possibility an individual might experience a critical health issue in the second period that requires him to pay $800 out of pocket for his health care. If an individual purchases an actuarially fair annuity, he will have only $714 in the second period, which is not enough to cover his possible expenses. In contrast, if he keeps money in a bond, he will have $1,020 in the second period, which is enough to cover his health-care expenses.

4. *Minimum purchase requirement.* Insurance companies typically set a minimum on the smallest annuity they would sell. In our example, suppose an insurance company does not sell annuities that provide income of less than $1,000 per period. This annuity will cost $1,399. The retirement saver in our example has only $1,000. Thus, even if he is willing to purchase an annuity, he does not have enough retirement savings to meet the minimum purchase requirement.

5. *Illiquid housing wealth.* The problem with the minimum purchase requirement can be exacerbated by the fact that a significant part of many people's wealth at retirement is illiquid (i.e., cannot be used easily, like equity in a house). If $500 of our retirement saver's wealth is illiquid, he can afford to purchase annuity income of $357 per period at most. Thus, even relatively small minimum purchase requirements will deter him from the annuity market.

6. *Government-provided means-tested transfers.* One advantage of annuities is that they protect an individual against the situation when he lives a long life and exhausts his resources. However, means-tested benefits provided by the government to impoverished individuals (including older individuals who exhaust their resources) also protect against this situation and thus crowd out the demand for annuities.

7. *Pre-annuitized wealth.* Another important consideration is that a substantial part of total wealth of retirees in the United States is already annuitized. Social Security and **defined-benefit pension plans** entitle people to a stream of annuity income. If two-thirds of the wealth of our retirement saver is already annuitized, he will likely keep the remaining one-third of his wealth in liquid form (e.g., invest in a bond).

This article simulates behavior of retirees using the data on wealth, pension income, medical expenses, and survival probabilities. It starts by comparing two extreme cases. Case 1 is when none of the seven impediments to annuitization described above is present. Case 2 is when all these impediments are present simultaneously. The contrast between the predictions of the model under these two scenarios is striking. In Case 1, 97% of retirement savers are predicted to buy an annuity. With the exception of the poorest retirees, everyone buys annuities. In Case 2, 20% of retirement savers are predicted to buy annuities. The article then considers Case 3, which differs from Case 2 in two ways: (1) the minimum purchase requirement is increased, and (2) the definition of illiquid wealth now includes not only housing but also the value of businesses and vehicles. In Case 3, 7.5% of retirement savers buy annuities. Thus, once all possible impediments to annuitization are combined and the illiquidity of wealth is properly accounted for, the **annuity puzzle** can be explained.

Another question the article addresses is the importance of each of the impediments to annuitization. To do this, several alternative versions of the model are considered with impediments removed one at a time.

The results reveal the following. The most important factor affecting annuity demand is pre-annuitized wealth (i.e., retirement savers already have a substantial amount of annuity-like income from Social Security and defined-benefit pension plans). The next three most important factors are illiquid housing wealth, minimum purchase requirements, and bequest motives.

In summary, the most important reasons why retirees do not buy annuities are as follows. First, they already receive substantial annuity income from their pensions. Second, annuity requires big upfront investments because of the minimum purchase requirement. Coupled with the fact that a large part of many retirement savers' wealth is illiquid, they either do not have enough resources to meet this requirement or are not willing to annuitize such a big fraction of their remaining wealth. Third, retirees have a strong bequest motive, meaning they would like to preserve part of their wealth in non-annuitized form for their heirs.

To learn more, visit the Retirement Income Institute at
www.allianceforlifetimeincome.org/retirement-income-institute

KEY TERMS ARE SOURCED FROM THE ALLIANCE FOR LIFETIME INCOME'S ANNUITIES LANGUAGE GLOSSARY AND INVESTOPEDIA

Actuarially fair annuity: *An annuity is actuarially fair if its price depends on the survival probability of a person buying it.*

Annuitization: *The process of converting an investment into a series of periodic income payments by buying an annuity or beginning an income flow from an annuity.*

Annuity: *A financial product that can offer protected lifetime income and even potentially grow your money. Only single-premium immediate annuities are considered in this article. The purchase of this product will give a retirement saver a constant stream of income per period as long as he is alive. It does not include death rider, spousal benefits, or any other features.*

Annuity puzzle: *The annuity puzzle refers to the fact that few people choose to annuitize even a portion of their accumulated savings even though they have many good and rational reasons to do so.*

Bequest motive: *A bequest motive is an owner's desire to give assets such as stocks, bonds, jewelry, and cash to individuals or organizations through the provisions of a will or an estate plan. Bequests can be made to family members, friends, institutions, or charities.*

Defined-benefit (pension) plan: *A defined-benefit plan is an employer-sponsored retirement plan where employee benefits are computed using a formula that considers several factors, such as length of employment and salary history.*

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