



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

## JASON J. FICHTNER,

*PhD, is Senior Lecturer in the Department of Economics and Finance, and Associate Director of the Master of International Economics and Finance program at the Johns Hopkins University School of Advanced International Studies. He is also a Research Fellow with both the Alliance for Lifetime Income and the Retirement Income Institute.*

*Kaitlyn O'Neill is a student at the Johns Hopkins School of Advanced International Studies working toward a Master of Arts degree in international economics and finance. She also holds a Bachelor of Commerce degree in economics and management science.*

**Authors, Titles and Publication Dates of the Articles Addressed in the Insight**  
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## Who Should Read This Insight:

Insurance companies, annuity manufacturers, pension plan designers, workers, finance professionals, and policymakers.

## Institute Research Agenda Topic:

New takes on the annuity puzzle.

# Insight: THE ANNUITY PUZZLE AND THE ROLE OF PENSION PLAN STRUCTURE AND DECISION FRAMING

## IDEAS IN THE INSIGHT YOU CAN PUT INTO ACTION

The authors' research findings suggest the following insights: (1) Low annuitization rates might be explained by pension plan structure design (i.e., a plan might require a survey participant to take a retirement benefit in the form of a lump-sum payment if the individual has an account balance below a certain threshold), rather than consumer preferences. (2) The framing of the annuitization decision for retirees might impact their decisions, with a consumption frame promoting annuitization and an investment frame discouraging annuitization.

## PRINCIPAL INSIGHTS

This article consists of descriptions of both an empirical study and a behavioral study conducted by the authors, Shlomo Benartzi, Alessandro Previtro, and Richard H. Thaler, as well as the results of these studies, which provide insight into the annuity puzzle. The annuity puzzle describes the distinction between economic theory, which suggests that purchasing annuities make individuals better off when they face the risk of outliving their assets; and economic data, which shows that relatively few retirees opt to receive their retirement benefit in the form of an annuity. The authors' empirical study makes use of two distinct data sets to understand the low annuitization rate among retirees and the potential reasons for that low annuitization rate. To further understand the annuity puzzle, the authors' behavioral study looks at the impact on the consumer's decision whether to annuitize or how the decision to annuitize is described or framed.

In the empirical study, the authors analyzed two distinct data sets on the annuitization decision. The annuitization decision is retirees' decision to receive their retirement benefit in the form of an annuity (retirement benefit in the form of a series of payments made at fixed intervals) instead of a lump-sum payment (retirement benefit in the form of a single payment). The first data set examined by the authors reported the annuitization decisions of IBM employees between the years 2000 and 2008, consisting of more than 18,000 annuitization decision records. The authors found that 88% of employees chose to receive their retirement benefit fully in the form of an annuity, 8% received the benefit in the form of a combination of a lump-sum payment and an annuity, and 5% received the benefit in the form of a lump-sum payment. Given that employees below the age of 65 were presented with an annuity option that enhanced the value by approximately 15%–20% to encourage early retirement, however, the authors decided to also look exclusively at the payout decisions of employees above the age of 65. Employees age 65 or older were not presented with an enhanced annuity, and the authors found that the annuitization rate for that group dropped to 61%.

The second data set analyzed by the authors consisted of annuitization decisions from 112 different pension plans, between the years 2002 and 2008, with more than 103,000 annuitization decision records. One of the large pension plans included in this data set had an annuitization rate of 0% for survey participants with account balances of less than \$5,000, since these participants were required to receive their benefit in the form of a lump-sum payment. The authors found that the annuitization rate for account balances greater than \$5,000 for the same plan, however, was 96%. Furthermore, they found that the average annuitization rate across the entire plan (those with balances both above and below \$5,000) was only 13%, since most plan participants had account balances of less than \$5,000. These statistics led the authors to believe that low annuitization rates might be explained by the structure of the pension plans rather than by consumer preferences. Furthermore, the authors believe that, to get a clearer sense of the annuity puzzle, researchers should not look at the annuitization rates of plan participants as a whole, but should instead look at the annuitization rates of plans after excluding young employees, terminated employees, and employees with small account balances.

The authors supposed that these plan design factors do not fully explain the annuity puzzle, however, so decided to also conduct a behavioral study. The behavioral study conducted by the authors made use of the inherent difference between the way in which traditional defined-benefit pension plans and cash-balance pension plans are framed. With traditional defined-benefit pension plans, the employee is guaranteed a specific amount of lifetime income, depending on tenure and salary (e.g., a lifetime pension equal to 50% of final average pay). With a cash-balance pension plan the survey participant's account is credited with a specific percentage of the employee's compensation, along with interest. The authors hypothesize that defined-benefit pension plans have an inherent consumption frame (i.e., a long-term frame that focuses on how the money from the annuity will ultimately be spent over time), because the retirement benefit is usually communicated as being monthly or annual income. Therefore, the authors hypothesize that defined-benefit pension plans promote annuitization. Alternatively, the authors hypothesize that cash-balance pension plans have an inherent investment frame (i.e., an intermediate frame that narrowly focuses on the risk and return features of the annuity) because they are communicated to retirees as being account balances.

The authors tested these hypotheses using the data set on annuitization decisions from 112 different pension plans, which included 75 defined-benefit pension plans and 37 cash-balance pension plans. They found that the annuitization rate was 53% for the defined-benefit pension plans and 41% for the cash-balance pension plans. Therefore, the statistical results of their behavioral study supported their hypothesis that the investment frame inherent in a cash-balance pension plan resulted in lower annuitization, relative to a defined-benefit pension plan with an inherent consumption frame.

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

**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.*

**annuitize:** *When you turn your current account balance into a series of periodic income payments, either for a specific period of time or for your whole life.*

**annuity:** *A financial product that can offer protected lifetime income and even potentially grow your money.*

**cash-balance plan:** *A cash balance plan is one in which participants receive a set percentage of their yearly compensation plus interest charges.*

**defined-benefit 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.*

**defined-contribution plan:** *A defined-contribution plan is a retirement plan that's typically tax-deferred, like a 401(k) or a 403(b), in which employees contribute a fixed amount or a percentage of their paychecks to an account that is intended to fund their retirements.*

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