TIAA-CREF institute

TRENDS AND ISSUES

JUNE 2008

A PAYCHECK FOR LIFE: THE ROLE OF ANNUITIES IN YOUR RETIREMENT PORTFOLIO

Jeffrey R. Brown
William G. Karnes Professor of Finance, College of Business
University of Illinois at Urbana-Champaign
TIAA-CREF Institute Fellow

EXECUTIVE SUMMARY

Much of the retirement planning advice that individuals receive over the course of their lifetimes focuses on issues related to accumulating wealth, such as how much to save, how to allocate one's portfolio across different assets, the advantages of using tax-deferred accounts, and so on. Such advice is important because without wealth accumulation, most individuals would not be able to sustain their living standards after they exit the labor force. A downside of this emphasis on wealth accumulation is that many consumers have a difficult time transitioning from a mindset of "I need my portfolio to grow" to the mindset of "I need to convert my wealth to a stream of income."

One of the particular challenges that this transition presents is for consumers to think about how to provide an income stream that will last for a length-of-life that is not known at the time of retirement. Once a retiree understands the importance of having guaranteed lifetime income, the benefits of life annuities are relatively clear. This paper demonstrates that a life annuity is the most cost effective way of providing any given level of guaranteed income. Alternative strategies either fail to provide as much guaranteed income, or carry with them a risk that the individual may fail to sustain her living standards for the entirety of her life.

Many retirees will find that there is a gap between the amount of income they receive each month from guaranteed sources such as Social Security and the expenditures that they consider essential to maintaining a desired standard of living. Life annuities are well designed to fill in this gap and thus improve individual retirement income security and well-being.

Annuities, such as those provided by TIAA-CREF, can be "customized" to fit the needs and preferences of individual retirees. For example, annuity payments can be made contingent upon the life of either spouse, providing income security to both members of the couple, rather than to just one individual. An individual who is interested in maintaining a diversified investment portfolio during retirement has the ability to have her annuity income linked to such a portfolio. Other features, such as inflation protection or guaranteed minimum payouts, are also available.

FINANCIAL SERVICES
FOR THE GREATER GOOD®

INTRODUCTION

Many individuals have a dream of what they would like to do during their "Golden Years" following retirement. While those dreams vary from person-to-person, most have in common a goal of having enough resources available to ensure that they can at least maintain the standard of living to which they have become accustomed.

To achieve this goal almost always requires that individuals save money for retirement. Indeed, successful savers–including most TIAA-CREF participants–reach retirement with substantial wealth that they have accumulated through employer-sponsored plans (such as 403(b) plans) or on their own. What many retirees soon learn, however, is that SAVING money is not enough to guarantee true financial security during retirement: one must also have a plan for *spending* one's wealth. Developing a realistic and sustainable spending plan raises a host of new issues that simply did not arise when individuals were earning a regular paycheck from work and from which they saved money for the future.

One of the most important new questions that any retiree must consider is "how do I make sure that I do not outlive my savings?" While many retirees continue to have some regular sources of guaranteed income, such as from Social Security, these sources of guaranteed income are rarely sufficient to maintain one's living standard. Indeed, Social Security replaces only two dollars out of every five dollars of pre-retirement income for the average retiree, and much less for many middle and upper income individuals. Furthermore, many retirees do not have a defined benefit plan from their employer, and even those that do rarely have enough income from it to cover all their basic needs in retirement. As such, most retirees face a "gap" between their guaranteed monthly income and what they perceive to be their necessary expenditures.

When faced with uncertainty about how long one will live, it is difficult to know exactly how fast one should spend from their accumulated savings in order to fill this gap between income and expenses. Additional sources of uncertainty–such as whether one might experience unexpected and uninsured medical expenses–make such a calculation even more difficult.

Fortunately, financial products exist that are designed specifically to help individuals convert financial wealth into a steady stream of income that is guaranteed to last for the rest of one's life. These products–known as *life annuities*–improve financial security by providing a "paycheck for life." By doing so, life annuities provide insurance against a negative shock to one's living standards should one live to advanced ages. Put simply, if an individual annuitizes enough wealth to cover the gap between his monthly income and his necessary expenses, then the retiree has the freedom to invest and spend the rest of his portfolio however he wishes, knowing that his basic needs are covered no matter how long he should live.

The rest of this article explains how an annuity works, why an annuity helps ensure lifelong financial security, and some of the product options that are available to retirees.

SO, YOU DON'T KNOW HOW LONG YOU WILL LIVE?

Most of us, whether young or old, do not know with any degree of certainty just how long we are going to live. We do know that Americans are living longer than ever before, and that the "oldest old" is one of the fastest growing demographic groups in America today. For example, the *average* 65 year-old woman will live another 20 years. But it would be a mistake for a 65 year old to make a financial plan with a 20 year horizon, because one out of every three such women will live to age 90 or beyond, and one out of 30 will live to at least age 100. Thus, millions of Americans will experience periods of retirement that will extend three, or even four, decades.

Such uncertainty about length-of-life makes financial planning more difficult. Unfortunately, many financial planning tools, including software designed to help individuals plan for their retirement, have a very naïve approach for dealing with this uncertainty. In many cases, individuals are simply asked how long they expect to live, are told to add 5 or 10 years, and then guided to create a financial plan using this fixed time horizon.

This approach is unsatisfactory because it fails to recognize the financial risks that are inherent in this approach. If a retiree spends too aggressively, then he is taking a risk of not having enough money at older ages to satisfy his basic needs. If he tries to deal with this uncertainty by simply consuming less each month, then this subjects him to a lower standard of living than he could otherwise have.

So what is a consumer to do?

LIFE ANNUITIES AS PART OF THE SOLUTION

A life annuity is designed specifically to solve the problem of length-of-life uncertainty. It does so by allowing a consumer to use part of his retirement account to purchase a stream of income that is guaranteed to last for life. For couples, where the likelihood that at least one spouse will live into their 90s is much greater than for either spouse individually, a joint-and-survivor annuity can be purchased that will provide guaranteed income so long as either individual is alive.

An important feature of life annuities is that, for any given level of guaranteed monthly income for life, the annuity provides this income at lower cost than any other product. It is for this reason that a large number of academic studies by economists have shown that annuities have a very important role in the portfolios of most retired individuals. Indeed, numerous studies have shown that having access to life annuities is equivalent to a significant increase in wealth.

How is it possible that a life annuity provides this income at the lowest cost? Put simply, it is because the annuity market operates like most other insurance markets–namely, by having the provider (such as TIAA-CREF) pool resources across a large number of retirees. Because of uncertainty about length of life, some retirees will have shorter lives than average, and the resources that they contribute to the annuity pool can be used to pay a higher income to those who live longer than average. In other words, in return for having a somewhat smaller estate if one dies earlier than expected, one can benefit from having a "paycheck for life."

A COMPARISON OF AN ANNUITY TO ALTERNATIVE SPEND-DOWN STRATEGIES

This potential for higher returns can be seen in figure 1, which shows the amount of income that would be available to an individual under several alternative strategies for converting one's nest egg into retirement income. The "TIAA Annuity" line shows the nearly $7,240 of annual income (or $603 per month) that would be available for life to a 65-year-old who purchased a TIAA Traditional annuity using a single premium of $100,000 in January 2008.[1] As indicated in the figure, this income lasts for as long as this retiree lives, even if he or she should be so fortunate as to live to be age 95, 105, 115, or beyond.

1 The calculations in Figure 1 are based on the following assumptions: The monthly income payable under a TIAA Traditional annuity for a single premium applied in January 2008 for a 65 year old individual is $603.22 per month, including dividends. This assumes that payments are made under the TIAA standard payment method, which provides for a total payment (i.e., including the guaranteed amount and the dividend amount) that is expected to be stable over the retirement years. This annuity amount assumes the annuity is purchased with "new money." Long-time TIAA participants might receive somewhat higher income due to differences in interest rates and contingency reserves. The calculations of the other payout streams use a 10-year government bond yield to calculate interest, which averaged 3.74 percent in the month of January 2008, according to www.federalreserve.gov/releases/H15/data. IRS life expectancies for the "1/LE" calculation are taken from the appendix to IRS publication 590, and can be found at http://www.irs.gov/publications/p590/ar02.html. Similar calculations and discussion can be found, among other places, in Jeffrey R. Brown, "The New Retirement Challenge," white paper for Americans for a Secure Retirement, September 2004.

This annuitization strategy is then compared to three alternative strategies for spending one's income. The first alternative strategy, which is labeled "self-annuitization," shows what would happen to an individual who places $100,000 in a non-annuitized account earning the market rate of interest but who consumes the same $7,240 per year in income that the life annuity would have provided. Because this individual has not annuitized, and is therefore not benefiting from the pooling of length-of-life risk, this level of income is unsustainable: he or she would run out of money around age 85. This strategy is clearly myopic, and one would hope that any such individual would adjust his behavior as it became clear he was on a path to run out of money. Of course, doing so would require that he consume less than the amount provided by the annuity. Thus, while simplistic, this approach clearly illustrates why an annuity dominates self-annuitization for those interested in having a secure source of retirement income.

An alternative strategy is to invest one's wealth at the going market interest rate and spread it out evenly (i.e., "amortize" it) over 35 years so that the individual will run out of money precisely at age 100. When comparing this strategy to the annuity, two features stand out. First, this approach provides annual income that is approximately 28 percent lower than that provided by the annuity (or $2,068 less money per year for an annuity purchased with $100,000). Second, this approach still imposes some risk; in the event that the individual lives beyond age 100, he would have no money left to consume.

The "1 / LE," or "one-divided-by-life-expectancy," line shows what happens if an individual follows a more sophisticated draw-down strategy that is similar to one of the methods permitted by the IRS for meeting minimum distribution requirements from qualified pension plans. In particular, the strategy uses the IRS estimate of the individual's remaining life expectancy (LE), and then involves having the individual consume a fraction of remaining wealth that is equal to one divided by that life expectancy, 1/LE. So, for example, the IRS assumption for life expectancy at age 65 is 21 years, so the individual would consume 1/21st, or 4.76%, of his or her wealth. As remaining life expectancy declines with age, the fraction of wealth consumed would rise (for example, at age 80, when remaining life expectancy is only 10.2 years, the individual consumes 1/10.2, or 9.8% of remaining wealth). Unconsumed assets remain invested at market interest rates. Under this strategy, consumption initially rises because the fraction consumed rises at a rate faster than the wealth declines. Eventually, however, this approach leads to declining consumption. Once again, there are two important features of this approach. First, the income stream is always lower than that provided by a life annuity: the income from this approach never exceeds 87 percent of the annuity income level. Second, the income stream is not sustainable, falling to less than half of the annuity amount by the time the person in his or her early 90s. Should the person reach age 100, the income is miniscule.

Some financial planners recommend that retirees follow "sustainable withdrawal" rules–such as consuming only 4 or 5% of one's wealth each year. These strategies can, in fact, be sustainable, so long as the account is invested in low risk securities yielding a sufficiently high return. However, note that even a 5% withdrawal rule initially provides only $5,000 in annual income, nearly one-third less income than is available from the life annuity.

Of course, investing in some portfolios of risky assets with higher expected returns, such as a diversified portfolio of stocks and bonds, would increases the probability that of being able to match the annuity income stream for life. However, this strategy carries significant downside, exposing the individual to the possibility of poor investment returns that would prevent him from being able to sustain the targeted level of consumption. For example, one academic study simulated retired individuals who were able to pick any mix of fixed income assets, bonds and stocks to minimize the probability of running out of money while consuming the amount available from a fixed annuity.[2] The study found that even when the retirees chose the portfolio that minimized the probability of running out of money while still alive, the retirees still faced nearly a one in five chance of failing to sustain this level of income.

2 Moshe A. Milevsky and Chris Robinson, "A Sustainable Spending Rate without Simulation," Financial Analysts Journal, Vol. 61, No. 6, 2005, pp. 89 – 100.

(It should also be noted, as will be discussed in more detail below, that individuals who wish to invest in a diversified portfolio can do so through an annuity contract that links one's monthly payments to an underlying investment.)

The net result of these comparisons–as well as numerous other comparisons that have been carefully studied in academic papers[3] – is that for consumers who have a goal of meeting a specified income target for the rest of their lives, an annuity is the most effective and fool-proof way of meeting this goal.

HOW MUCH SHOULD YOU ANNUITIZE?

While the amount that one should annuitized will vary from person to person, a natural starting point is to consider converting enough wealth into life annuities to fill in the gap between one's guaranteed income and one's essential level of expenses. On a monthly basis, this gap is defined as:

Monthly Income Gap = Guaranteed Monthly Income – Essential Expenditures

Guaranteed Monthly Income would include Social Security, income from a defined benefit pension plan (if any), and any other sources of guaranteed lifetime income.[4]

Essential Expenditures includes any expenditure that an individual feels is necessary to maintain a comfortable living standard. For some people, this many include only the "basics," such as shelter, food, transportation and health care. Others may wish to include travel, assistance to family members, hobbies, or any other expenditure that they believe is essential to maintaining a desired living standard.

When calculating this monthly income gap, it is important to consider how income and expenditures will change over time. For example, Social Security income is indexed for consumer price inflation each January, while many employer pensions are not. Similarly, you should expect most of your expenses to rise over time due to inflation as well. You should also take into account the fact that your income–including Social Security–and expenses may change upon the death of a spouse.

Once you have calculated this income gap, you may wish to consider purchasing life annuities to cover this gap. Doing so will guarantee that you will have your essential expenses covered for the rest of your life.

Hopefully, you will find that the amount of money required to purchase a life annuity to fill this gap only represents a portion of your accumulated financial wealth. If so, then purchasing the annuity should provide you with a new sense of financial freedom with the rest of your portfolio. Having "insured the basics," you will now be free to invest and spend the rest of your portfolio however you wish, knowing that your essential expenditures will be covered for as long as you live. If you should find that your portfolio is too small to cover your essential expenditures, it may be even more important for you to annuitize in order to get the most out of your limited resources.

WHEN SHOULD YOU ANNUITIZE?

It is not necessary to annuitize immediately at the point of retirement. Indeed, some academic studies have suggested that it may be advantageous to wait a few years before fully annuitizing.[5] The benefits of delaying include, among others, that one may be able to purchase a higher level of monthly income for a given premium, and that one may

3 Much of this work is reviewed in Jeffrey R. Brown, "Rational and Behavioral Perspectives on the Role of Annuities in Retirement Planning," NBER Working Paper no. 13537, October 2007.

4 Individuals who have not yet claimed Social Security can obtain an estimate of their future Social Security benefit at Social Security's website www.ssa.gov.

5 See, for example, Milevsky, Moshe Arye, and Virginia R. Young. 2007. "Annuitization and Asset Allocation." *Journal of Economic Dynamics and Control*. 31(9): 3138-3177 or Dushi, Irena, and Anthony Webb. 2004. "Household Annuitization Decisions: Simulations and Empirical Analysis." Journal of Pension Economics and Finance 3(2): 109–143.

learn relevant information about their retirement expenditure needs or health status. There are also costs to delay, however. For example, one must spend out of their savings to finance their expenses during this period, leaving less money available to annuitize. Because different individuals will place different weights on these costs and benefits, it is not possible to give "one size fits all" advice about the optimal timing of annuitization.

One important factor to consider, however, is that annuitization is not an "all or nothing" or a "now or never" decision. Retirees can spread their annuity purchases out over time. For example, if a person is highly uncertain about the size of their retirement income gap, they could choose to annuitize just enough to cover the smallest likely gap, and then see how their income and expenditures evolve over the subsequent few years. If they find that the income gap is, in fact, bigger than this lower limit, they can annuitize additional resources to fill the remaining gap. For those purchasing fixed annuities, "laddered" or gradual annuitization may also be an effective way to partially smooth the annuity payout rate during periods of interest rate fluctuations.[6]

WHAT TYPES OF ANNUITIES ARE AVAILABLE?

The above discussion of annuities focused primarily on the simplest form of individual life annuities. In fact, life annuities come with a variety of features and options that allow individuals to tailor the products to their unique retirement income needs. There are several important dimensions along which annuity products can be designed, including:

Protecting one's spouse: If a married couple purchases a "single life annuity" on the husband, then upon his death, the wife would experience a substantial decline in income when the annuity payments stop. Fortunately, "joint life" annuities are commonly available. Unlike a single life annuity which pays out only as long as a single individual is alive, a joint life annuity is structured to provide income for as long as *either* member of a couple is alive. Naturally, because a joint life annuity will, on average, make more payments than would a single life annuity, this option reduces the level of income available to the annuitant for a given premium. Depending on the couple's preferences, the annuity can be designed to provide the same income after the death of a spouse, or to provide a reduced level of income to the survivor.

Protecting income from inflation: When faced with a potentially lengthy retirement period, some retirees will be justifiably concerned about protecting themselves against the erosive effects of inflation on purchasing power. By purchasing a life annuity linked to TIAA-CREF's Index Linked Bond Account, the assets of which are invested predominantly in Treasury Inflation Protected Securities, retirees receive a high degree of inflation protection over the rest of their lives.

Diversifying One's Portfolio: After spending years or even decades accumulating wealth by investing in a diversified portfolio that includes stocks, bonds and other assets, many retirees prefer to continue to have some exposure to the these broader asset classes. While recognizing that investing one's portfolio in such assets increases the volatility of one's retirement wealth, many retirees rationally desire such exposure in order to gain access to assets with higher expected rates of return. Fortunately, it is not necessary for such retirees to give up diversification in order to annuitize part of their wealth. TIAA-CREF offers a wide range of life annuities with payouts linked to the performance of an underlying portfolio of stocks and/or bonds. While the precise amount of the monthly check that an individual receives with such investments will go up or down, depending on how the portfolio performs, these products share the key benefit of fixed life annuities of providing income that is guaranteed to last for as long as one lives.

6 The initial price of purchasing a stream of guaranteed income through a fixed life annuity contract is sensitive to interest rate changes. A lower interest rate will result in a lower monthly payment for a given premium than will a higher interest rate. Delaying annuitization exposes one to the risk of future interest rate changes, although there are a number of ways to hedge this interest rate risk, such as by holding bonds (whose value rises when interest rates fall).

Guaranteeing a Minimum Number of Payments: As noted above, the mechanism through which a life annuity is able to provide a higher level of income for life than alternative approaches is that the assets of annuitants are pooled, so that the assets of those annuitants who die earlier than average can be used to provide more income to those who live longer than average. For a variety of reasons, some individuals may wish to guarantee that they and/or their estates receive a guaranteed minimum payout from the annuity contract. For individuals with these preferences, it is possible to add guarantees to standard annuity contracts. For example, one can purchase an annuity that guarantees to make at least 10 years of payments, even if the annuitant dies during that period. Of course, because guarantees reduce the extent of risk pooling in the annuity contract, such features will reduce the monthly income available from the annuity.[7] For those consumers who want the "peace of mind" of knowing they will receive a guaranteed minimum payment, however, guarantees may be valuable.

ARE ANNUITIES RIGHT FOR EVERYONE?

While life annuities are the most effective way to provide guaranteed retirement income, they may not be appropriate for all individuals. This section discusses some of the characteristics of individuals that might lead them to purchase fewer annuities.

Annuities are designed to address uncertainty about length-of-life, and they do so by pooling risk across a large number of individuals. As such, the resources of those who die early are used to provide a higher level of support to those who live much longer than average. Of course, there will be some individuals who know with a high degree of certainty that they will have a shorter lifespan. For example, an individual could have a severe medical condition that is likely to result in the individual's death. In such a case it is unlikely to be in the individual's best interest to annuitize her wealth. In such a case, it may be preferable to postpone the annuity decision until the individual has learned more about her future health prospects.

Another issue related to health is that some individuals may face greater uncertainty about future out-of-pocket medical expenditures, such as for a nursing home or other long-term care needs. For example, a person may have a disabling condition that makes it likely they will need care at older ages. Or perhaps the individual does not have family members who live in close proximity and who can help with care, making it more likely that they may need in-home assistance at older ages. In such cases, it is important to make sure that one's financial plan includes provisions to pay for such care. Several academic studies have shown that, in cases such as these, annuities may be less valuable.[8]

However, the risk of future medical expenses does not necessarily mean that one will not wish to purchase annuities. In fact, for some individuals, the best strategy may be to purchase annuities and a long-term care insurance policy, the combination of which would provide sufficient income whether in need of care or not. Some individuals, however, may not qualify to purchase a long-term care insurance policy, in which case they either need to set aside sufficient non-annuitized resources to pay for care, or be prepared to rely on Medicaid or other alternative payment arrangements in the event of a long and expensive long-term care episode.

Some individuals may be fortunate enough that they have a generous defined benefit pension from an employer, and low essential expenditure needs, and thus find that they have no gap between their income and expenses.

7 It is worth noting that guarantees may not be the best strategy for leaving an inheritance to one's children or other loved ones, because the real value of the inheritance declines as one ages. A better approach may be to purchase an annuity (without the guarantee) to provide for one's own retirement income, and use part or all of the rest of one's portfolio to leave a bequest. Having insured one's living expenses for life, one could even provide the money to one's loved ones as a gift while still living, knowing that these resources will not be needed to cover essential expenses.

8 See for example, Sinclair, Sven H., and Kent A. Smetters. 2004. "Health Shocks and the Demand for Annuities." Congressional Budget Office Technical Paper Series 2004–09 or Turra, Cassio M., and Olivia S. Mitchell. 2005."The Impact of Health Status and Out-of-Pocket Medical Expenditures on Annuity Valuation." Research Brief (RB) 2005-079. University of Michigan, Retirement Research Center.

Similarly, some individuals may place such a high value on leaving money to their estates that they are less concerned with providing for their own consumption. Unless these individuals choose to increase their spending in retirement, purchasing further annuities may be of little value. Instead, such individuals may prefer to use their assets for other purposes, such as for unexpected contingencies, to make gifts, to leave bequests, or for other purposes.

There may also be differences in preferences that make annuities less attractive to some individuals than others. For example, some people may simply prefer to have more resources when they are younger and healthier, and fewer resources when they are older and less mobile. So long as such an individual is confident in their prediction that they will value money less at older ages, then they may be less inclined to annuitize because they are less concerned with providing income at those older ages.

For these and similar reasons, there will be some individuals that will find annuities to be of less value. For many retirees, however, the financial and psychological benefits of guaranteeing that their essential expenses will be met, even at advanced ages, should make annuities an important component in their retirement portfolios.

CONCLUSIONS

The majority of retirement planning advice that individuals receive over the course of their lifetimes focuses on issues related to accumulating wealth, such as how much to save, how to allocate one's portfolio across different assets, the advantages of using tax-deferred accounts, and so on. Such advice is important, because without wealth accumulation, most individuals would not be able to sustain their living standards after they exit the labor force.

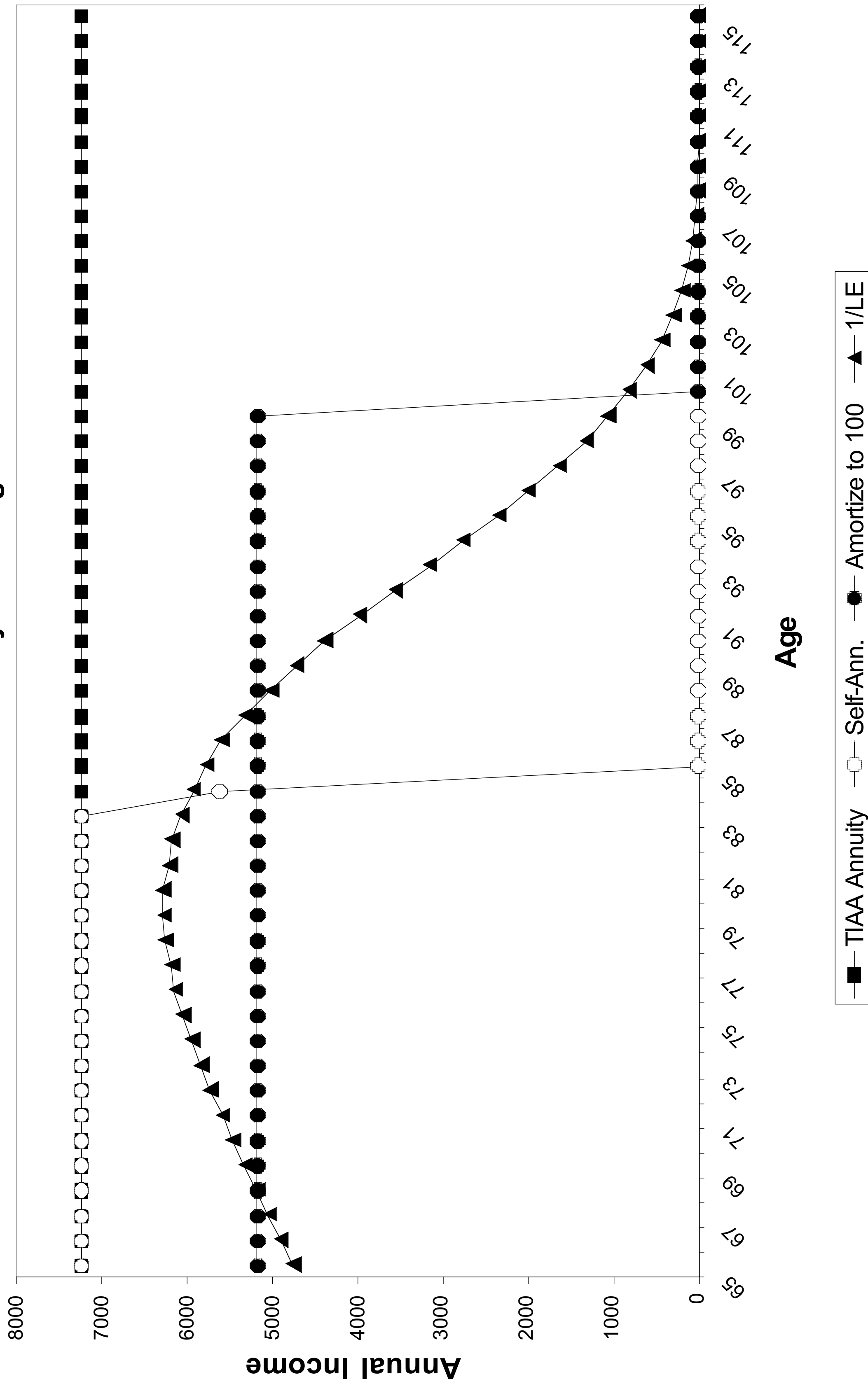
A downside of this emphasis on wealth accumulation is that many consumers have a difficult time transitioning from a mindset of "I need my portfolio to grow" to the mindset of "I need to convert my wealth to a stream of income." Providing income, of course, is often the primary point of saving for retirement in the first place, but many retirees do not begin to think about the income aspect of their efforts until they reach retirement age.

One of the particular challenges that this transition presents is for consumers to think about how to provide an income stream that will last for a length-of-life that is not known at the time of retirement. Once a retiree understands the importance of having guaranteed lifetime income, the benefits of life annuities are relatively clear. Namely, a life annuity is the most cost effective way of providing any given level of guaranteed income. Alternative strategies either fail to provide as much income, or carry the risk that the individual may fail to sustain her living standards for the entirety of her life. Because of this, a fairly large body of academic research in economics suggests that many retirees would be better off annuitizing a large share of their retirement portfolios.

Annuities, such as those provided by TIAA-CREF, can be "customized" to fit the needs and preferences of individual retirees. For example, annuity payments can be made contingent upon the life of either spouse, providing income security to both members of the couple, rather than to just one individual. Individuals who are interested in maintaining a diversified investment portfolio during retirement have the ability to have their annuity income linked to such a portfolio. Other features, such as inflation protection or guaranteed minimum payouts, are also available.

As retirees face ever longer retirements, and high levels of uncertainty about how long they will live, life annuities have a potentially important role to play in the portfolios of many retirees. Many retirees will find that there is a gap between the amount of income they receive each month from guaranteed sources such as Social Security and the expenditures that they consider essential to maintaining a desired standard of living. Life annuities are well designed to fill in this gap, and thus improve individual retirement income security and well-being.

Figure 1:
Income from Alternative Payout Strategies



ABOUT THE AUTHOR

Jeffrey R. Brown is the William G. Karnes Professor of Finance and Director of the Center for Business and Public Policy at the University of Illinois College of Business. He is a Research Associate of the National Bureau of Economic Research, where he also serves as Associate Director of the NBER Retirement Research Center. Since earning his Ph.D. in economics from MIT in 1999, Dr. Brown has served on the faculty at Harvard's Kennedy School, as a senior economist with the White House Council of Economic Advisers, and as a staff member for the President's Commission to Strengthen Social Security. Dr. Brown has served a Member of the Social Security Advisory Board since he was appointed by the President and confirmed by the Senate in 2006. Earlier this year, the President nominated Dr. Brown to serve as one of two Public Trustees of the Social Security and Medicare trust funds, a position for which he is awaiting Senate confirmation. Professor Brown has published extensively on topics related to retirement income security, and has also served as a co-founder and co-editor of the Journal of Pension Economics and Finance.