Advantages of Annuitization versus Systematic Withdrawals

by Larry H. Rubin

With the rapid growth of defined contribution pension plans, more education and research needs to be placed on the disposition of assets. More and more retirees are electing to self-manage longevity risk. The goal of these retirees should be to maximize income with an acceptable probability of ruin. One of the major conclusions of the Raymond Murphy's paper is that individuals have a real risk of outliving their retirement funds. This can come from either living too long or poor investment performance. I would like to focus on the first of these two risks. Based on the Annuity 2000 table, a 65-year-old female has approximately a 27% probability of living past age 94. For the more common situation of a couple, the probability of one of the two living past age 94 is over 35%. Yet this is the point at which funds are expected to run out under a moderately conservative asset allocation with a 6% withdrawal assumption. With ongoing improvements in life expectancy and medical technology and gene therapy, it is virtually certain that the actual probability of running out of funds will be much higher. In fact, the Annuity 2000 table assumes no improvements in mortality.

Data from the Social Security Administration show significant improvement in mortality (see Figure 1). If we were to apply these mortality improvement factors to the Annuity 2000 table, we find that for a couple both age 65 the probability that one will be alive past age 94 is over 50%.

TIAA-CREF has been in the business of managing defined contribution plans since 1918. A key feature of the TIAA-CREF retirement system is the emphasis placed on educating our policyholders on a wide range of retirement-related products including the advantages of annuitization. At TIAA-CREF this process begins from the moment the participant enrolls in the plan. We provide annual income illustrations to our participants that not only assist in their planning process but also reinforce the purpose of their retirement plan. Our retirement seminars focus on the advantages of annuitization, we develop easy-to-read and understand materials, and our publications place their focus on annuity income. We seek to make annuitization the natural inclination of a participant rather than the exception. As a result of these efforts, over 70% of participants who can elect a cash withdrawal or systematic withdrawal option elect to receive the distribution of their retirement assets in the form of a life annuity.

Why do we believe annuitization is the better option? Figure 2 compares the annual income under a variable annuity compared to a plan of systematic withdrawals in which the payments increase by 4% per year. In both cases the average annual return is assumed to be 8.75%.

Income Differences

Under the variable annuity the initial income is 15% higher than under the systematic withdrawals. The annual growth in income is 4.5% versus 4% under the systematic withdrawals, and the risk of outliving assets is completely eliminated. When compared to annuitization, systematic withdrawals result in higher risk with a suboptimal standard of living. Most important is the peace of mind later in life that annuitization offers. When a 65-year-old develops a plan of systematic withdrawals expected to last 30 years, the point of running

FIGURE 1
MORTALITY IMPROVEMENT TREND OF ANNUITANTS BASED ON SOCIAL SECURITY DATA FOR 1982–1992

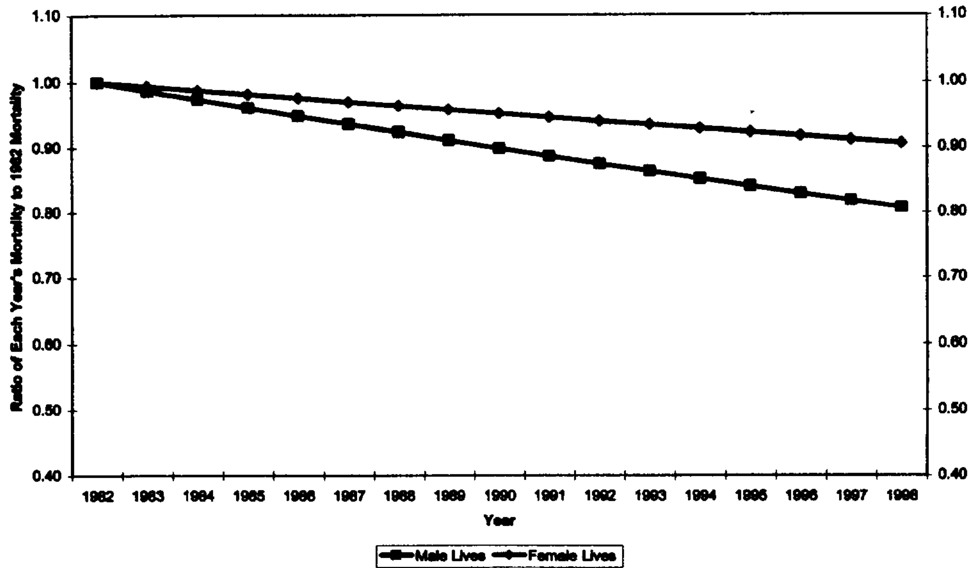
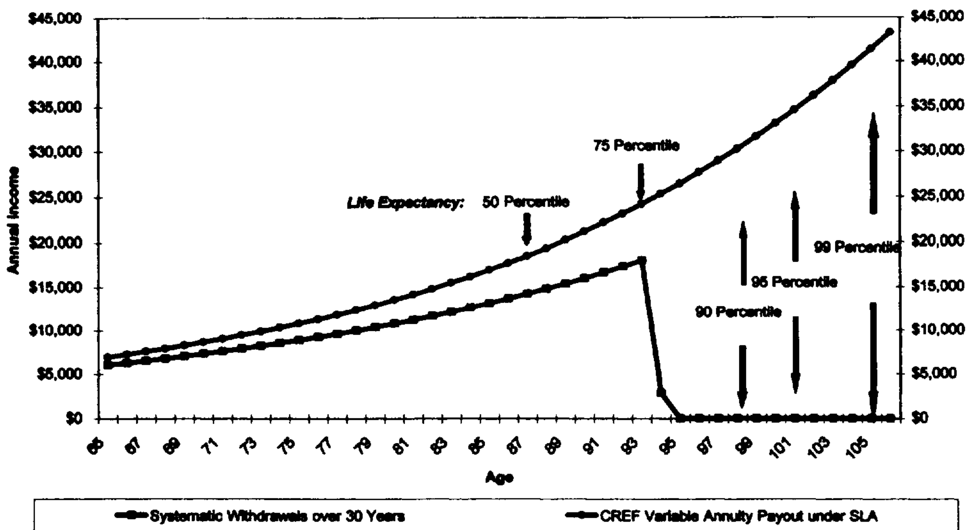


FIGURE 2
COMPARISON OF ANNUAL INCOME: VARIABLE PAYOUT ANNUITY VS. SYSTEMATIC WITHDRAWALS FOR BENEFITS STARTING AT AGE 65



Note: Assumes CREF variable annuity return is 8.75% per year.

out of money is so far off as to be not much of a concern. It is significantly different, 20–25 years later, for a now 85- or 90-year-old who is now looking at potentially running out of money in 5–10 years and is now forced to dramatically cut back on spending in case they live beyond their original age 65 life expectancy when they began their plan.

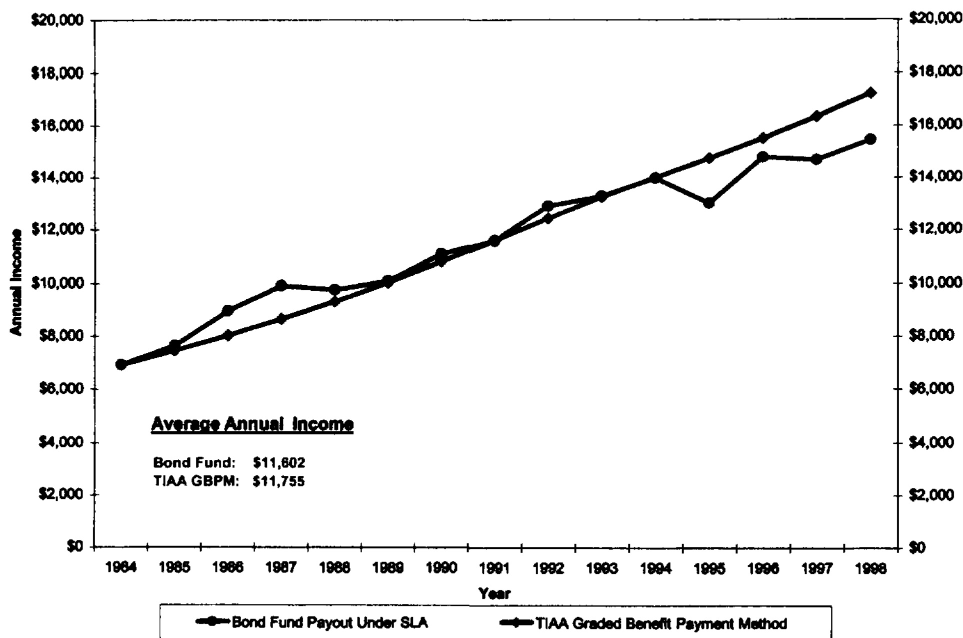
Annuities can be invested in both fixed and equity instruments. In order to have better diversification and lower risk a plan should have both fixed-income and equity instruments. When it comes to assets allocated to fixed income in retirement, fixed annuities offer advantages over variable annuities invested in fixed-income instruments: (1) They smooth out changes in market values of assets due to changes in interest rates; and (2) they enable the company offering the product to invest in higher yielding illiquid assets such as commercial mortgages, private placements, and real estate. However, fixed annuities have a major drawback in that they do not offer any protection from inflation.

In order to overcome the problems of fixed annuities, in 1984 TIAA introduced the Graded-Benefit Payment Method. Under this method the initial income from a fixed annuity is calculated using a 4% interest rate similar to the AIR for a variable annuity. Amounts earned in excess of 4% are used to purchase additional retirement income, thereby producing a stream of growing income by year.

Figure 3 shows the historical income under the TIAA Graded Benefit Payment Method versus a hypothetical variable annuity where the returns are based on the Lehman Aggregate Index. The income is slightly higher under the Graded-Benefit Payment Method, but more importantly the income continually rises versus the Mark-to-Market Bond Fund, which shows considerably more variability. Also note that we are looking at a period of generally declining interest rates that should be expected to favor the market-value-based fund, as well as a real estate depression that adversly impacts a fixed annuity.

In 1997 approximately 26% of retirees electing to receive income from TIAA elected to receive all or a portion of their income under the Graded Benefit Payment Method.

FIGURE 3
COMPARISON OF HISTORICAL ANNUAL INCOME: BOND FUND PAYOUT ANNUITY VS. TIAA GRADED BENEFIT PAYMENT METHOD



Note: Bond fund returns are based on the Lehman Brothers Aggregate Bond Index net of expenses.

Historical Look

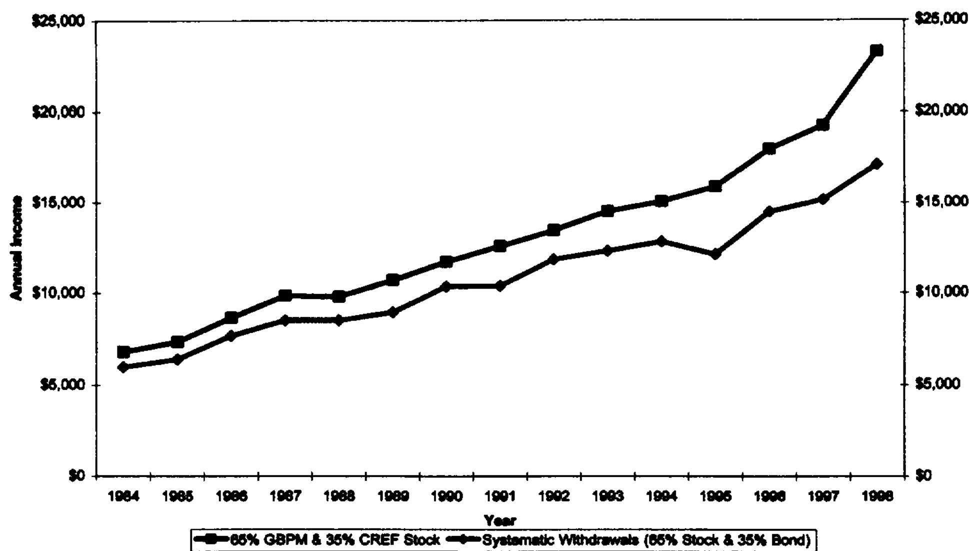
Figure 4 shows the income from 1984 to 1997 from an annuity combination with 65% TIAA Graded Benefit Payment Method and 35% CREF stock as compared to systematic withdrawals. The systematic withdrawal option assumes that the amount withdrawn is adjusted each year based on fund performance and that the fund becomes exhausted within 29 years. Under the annuitization option, income is consistently higher and of course cannot be outlived. Although annuitization clearly enables individuals to optimize their income, critics of annuitization note legitimately that a retiree may want or need to modify their allocation during the payout period as their risk horizon changes.

With long retirement horizons and volatile markets, retirees today need to continue to manage their assets and income streams. With the growth of the stock market and retirees receiving greater amounts of income than expected, there is a natural tendency to attempt to lock in the higher income levels or rebalance their portfolios. Also, as remaining life expectancy shortens, there is a natural and appropriate tendency to lower risk.

In 1996 TIAA-CREF began offering post-retirement transfers, under which transfers a participant receiving income from any CREF account can transfer their reserve and begin to receive income either from any other CREF account or from TIAA. We believe these new flexibilities help to answer a key criticism of annuities, namely, the irrevocable decision made at age 65 of how an annuitant's assets will be allocated for the rest of their lives.

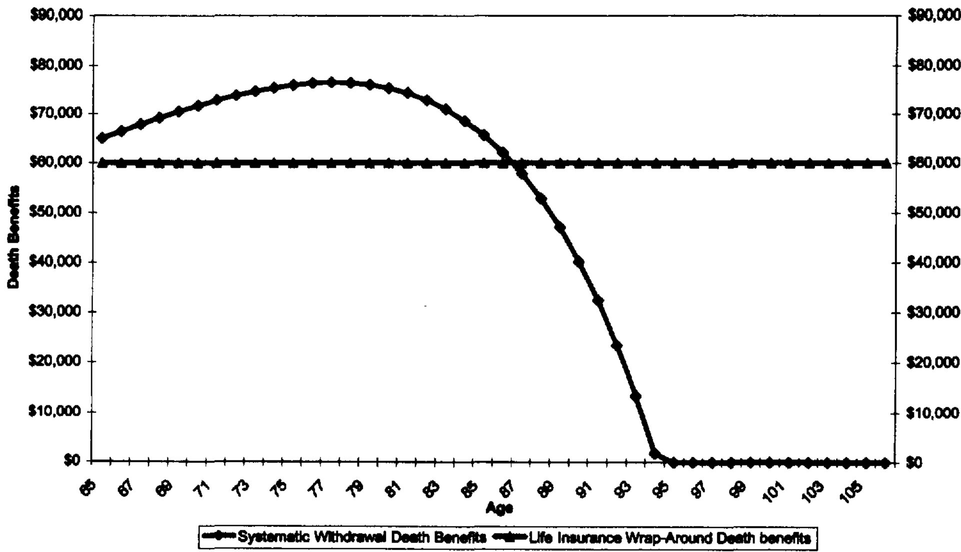
With the emphasis on defined contribution retirement plans, advice on how to distribute the assets is going to grow. We at TIAA-CREF believe that a retirement system that results in potentially over 50% of couples having at least one person outliving assets and potentially spending a portion of their retirement years in poverty is unsound. We believe that for the majority of individuals the answer is annuitization for a large portion of their retirement savings. However, there are a number of challenges that need to be addressed in order to encourage annuitization.

FIGURE 4
COMPARISON OF HISTORICAL ANNUAL INCOME: SYSTEMATIC WITHDRAWALS VS. 65% GRADED BENEFIT PAYMENT METHOD AND 35% CREF STOCK PAYOUT ANNUITY



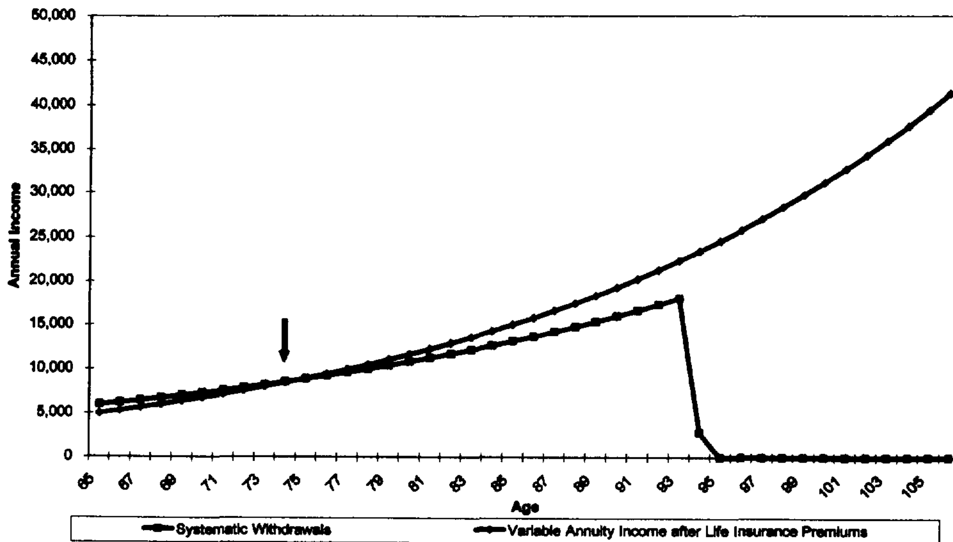
Note: Stock returns are based on the S&P 500 Total Return Index, and bond returns are based on the Lehman Brothers Aggregate Bond Index.

FIGURE 5
COMPARISON OF AFTER-TAX DEATH BENEFITS: SYSTEMATIC WITHDRAWALS VS. WRAP-AROUND LIFE INSURANCE



Note: Life Insurance death benefits are derived from a level premium whole life policy with premiums paid by a portion of annuity income.

FIGURE 6
COMPARISON OF ANNUAL INCOME: SYSTEMATIC WITHDRAWALS VS. VARIABLE ANNUITY INCOME UNDER A SINGLE LIFE ANNUITY OPTION AFTER PAYING LIFE INSURANCE PREMIUMS



Note: Assumes an 8.75% Investment return per year.

A Financial Myth

"If I die, the insurance company keeps my money." Like any other insurance, annuities pool mortality risk to insure against living too long, and like with any other insurance there is the potential loss if the insured event does not happen. You generally don't find financial planners advising against fire insurance because if the house doesn't burn down the insurance company keeps my money. When the tax impact is considered, this insurance is relatively inexpensive. Money left in qualified retirement plans to pass down to heirs is subject to both state and federal income tax as well as potential estate taxes if the estate is large enough; in addition, the federal and state income tax is not deductible against the estate tax. If there is a desire to bequest some of the assets built up in a defined contribution plan to an heir, then the retiree can use a portion of their annuity income to purchase a life insurance policy with benefits free from state and federal income tax and through proper planning can be made free from estate taxes (see Figure 5).

A whole life insurance policy with a $60,000 face amount purchased with a single life annuity results in a slight initial decrease in income in the early years compared to systematic withdrawals crossing over in approximately ten years (see Figure 6).

The after-tax death benefit for the life policy is higher beginning in the 24th year. This assumes no state income taxes or estate taxes which would only serve to make the life insurance policy perform relatively better.

We are entering an era of more and more retirees living on the accumulated assets in their defined contribution plans. Annuitization should help to prevent significant portions of these retirees from outliving their assets and spending portions of their retirement years in poverty.