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Affordable Retirement Income through Savings and Annuities

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Abstract

This paper proposes a new system for accomplishing affordable retirement security.

Compulsory savings for all workers is combined with new transparent investment vehicles designed to promote competition based on expense levels, fund performance, and customer service. At least 50 percent of all accounts are invested in Treasury inflation-protected securities (TIPS) to preserve purchasing power. The balance of accounts can be invested more aggressively to provide growth. Employers may voluntarily supplement retirement savings. Pre-retirement distributions are restricted to disability, death, and limited hardship withdrawals and loans. All accounts are fully portable and 100 percent vested.

Upon retirement—generally at participant’s choice between ages 60 and 70—50 percent of the account must be annuitized in a participating variable annuity (PVA) backed by TIPS. All investment experience, expenses, and pooled longevity experience are passed to annuitants through periodic benefit adjustments. Annuities are priced uniformly based only on age at commencement, and longevity experience is shared among cohort groups through the creation of a federal Longevity Pooling Agency (LPA).

Pricing of annuities is based on nationwide cohort group mortality tables and the real interest rate implicit in TIPS. Pricing is expected to be approximately 20 percent below the price of current inflation-indexed annuities and almost 40 percent below common recommendations for self-annuitization.

The result is a lifetime income for all retirees at an affordable price that incorporates individual equity, inflation protection, and competitive financial markets.

Highlights

The United States faces serious challenges in financing the retirement of current and future generations. The traditional three tiers of retirement security—Social Security, employer-based pensions, and individual savings—appear unable to meet demands. Social Security financing is inadequate, private employer pension plans are disappearing, and individual savings—including employer contributions to defined-contribution (DC) plans—are insufficient.

This paper presents the author’s response to the Society of Actuaries’ call for new retirement system models to overcome these challenges. It proposes a new Tier 2 structure—an employment-based retirement system that provides a meaningful level of retirement income to all workers.

The paper:

- Assumes the current Tier 1 system (Social Security) remains in place, with changes to balance anticipated benefits and revenues. These changes would likely combine some reductions in the rate of benefit increases, some increases in the full retirement age, and some tax increases.
- Does not specifically address Tier 3—individual savings. Encouraging voluntary savings through the tax code and other methods would enhance the financial security of many workers, but the purpose here is not to design those motivations/vehicles.
- Does not address medical benefits—adequately financing Medicare and supplemental medical benefits in retirement remains a significant challenge. A robust Tier 2 will help mitigate but will not eliminate this issue.

The proposed structure strives to bridge the wide gulf between social insurance and voluntary savings, involving compromise and distinct differences from both Tiers 1 and 3, accomplished by:

- *Minimizing intergenerational subsidies.* Unlike Tier 1, the Tier 2 retirement system should promote equity among generations of workers, with each generation funding its own benefits.
- *Extending universal coverage.* The broadest possible coverage creates the greatest efficiencies and thus the lowest cost.
- *Maximizing use of the private sector.* Competition within the private sector produces value and innovation.
- *Calling on government entities only in areas the private sector cannot adequately address.* The government can effectively promote competition in the private sector by ensuring that all financial products are transparent and easy to compare.
- *Making retirement income uniformly available to all workers.* Tier 2 should benefit all workers without bias based on gender, marital status, ethnic status, health status, or the other characteristics that often affect commercial annuity markets.
- *Creating a mechanism to pool the longevity risk within cohort groups.* Longevity is a risk that individuals have difficulty managing. A new system needs to pool the longevity risk efficiently.

This mandatory retirement system offers a high degree of individual equity, inflation protection, and income replacement. An outline of how it works follows:

- Benefits are funded through contributions based on earned wages.
- A minimum required contribution can be made by the employee or employer. Employers are not obligated to contribute but must enroll all employees, withhold employee contributions, and transmit funds to a selected investment company.
- All participants are always 100 percent vested in their accounts, which are fully portable.
- There is no penalty for changing employers (although some employers may choose to contribute more than others).

- There is little intergenerational transfer and minimum taxpayer subsidy.
- Funds accumulate in individual accounts and are invested in TIPS and target date funds. Distributions before retirement are limited to disability benefits and death benefits, and perhaps some hardship withdrawals and loans.
- Income replacement is provided at a uniform price for all workers of the same age. Individuals receive the full experience of their invested funds and pool longevity experience with a cohort group.
- Retirement income is paid to individuals through mandatory partial annuitization into PVAs. These annuities guarantee income for a lifetime, with the amount varying each year based on actual investment, expense and mortality experience. Annuities are designed with an expectation that income keeps pace with inflation, but there's no guarantee.
- One government agency oversees the industry and facilitates the pooling of longevity experience on the broadest possible basis. The agency is fully funded by the companies and individuals participating in the system, with no taxpayer funds involved.

These elements and related points are detailed in the following sections.

The Need: Shortcomings of the Current System

The current Tier 1 is a social system intended to provide sufficient income for a modest, perhaps minimal, standard of living in retirement. Benefits are heavily weighted toward low-income workers. The system is not fully funded and involves intergenerational transfer of assets. While benefits are related to the taxes an individual pays, there is no intent to provide individual equity in the sense that everyone should get out at least what they put in.

Social Security is a social system that always has and will continue to provide disproportionate benefits to low-income workers. The current level of replacement income in Social Security is not adequate to sustain a comparable standard of living in retirement for most workers.

Social Security financing is precarious; the tax structure will not support the promised benefits beyond approximately 2040. Changes to benefits and taxes can make the system financially viable, but this is likely to produce some decline in the real value of replacement income—increasing the need for a robust Tier 2 system.

The existing system of some employment-based retirement plans and voluntary savings is inadequate and will not provide the additional income most retirees need to sustain a standard of living in retirement similar to that of their working years.

This employer-based system has multiple flaws:

- Defined-benefit (DB) plans are rapidly declining in coverage. Many lament this decline and suggest that only DB plans can provide secure lifetime income, but the reality is this: Employers don't want the volatile effects of these plans on their balance sheet, and they're voting with their feet. Coverage of DB plans has been diminishing since the mid-1980s, and the recent financial market crisis accelerated this decline.
- DC plans currently provide broad coverage, but still fail to cover many workers. Many small employers do not sponsor plans; even among employers that do, workers often choose not to participate or participate at very low levels.
- Benefits depend highly on investment elections—elections usually made by the participant rather than an investment professional. Many workers are befuddled by a wide range of choices and lack understanding about proper fund allocation.
- Most DC plans and many DB plans pay benefits at retirement as a lump sum rather than a lifetime income. This poses multiple challenges to the retiree, such as investing prudently and spending only enough to ensure the funds will last a lifetime. Those plans that do provide lifetime income seldom provide inflation protection.

A replacement for the current voluntary system needs to address these shortcomings. A new retirement system that supplements Social Security should:

- Provide broad coverage, including virtually the entire labor force.
- Reduce investment choices and ensure that part of each worker's retirement assets is in safe investments that can reasonably be expected to protect the individual from inflation's erosive effect.
- Deliver a lifetime income with a high probability of keeping up with inflation and sustaining a standard of living comparable to pre-retirement.

Attaining these goals will not be easy. It calls for substantial changes in the way we design the system. There will be controversy and objections—particularly from those with a vested interest in the current system.

This paper suggests a system for accumulating funds during one's career and paying out those funds over the worker's lifetime. Specifics help illustrate the system's operation—the individual's annual contribution, maximum covered wage, threshold for lump-sum distributions, percent of funds invested in default options, etc. In most cases the following sections describe a potential range for these factors. The actual specifics will result from many compromises, and will reflect the political process of evaluating conflicting interests. The new structure can work well within a wide range of these specifics, which will influence the ultimate benefits delivered to retirees.

The emphasis of this paper is on the system's basic structure, not the specific value of any certain element.

Two Phases, Two Challenges

Ensuring financial security throughout retirement involves two very different challenges:

- *The accumulation phase*—An individual needs to accrue enough wealth to provide adequate funds during retirement. How much is needed? How much must be saved and for how long? How should the funds be invested? The answers are not obvious, and employees often revise the plan to reach a specific goal many times over a career. Even with a good plan, uncommon discipline is needed to defend it against the other demands on financial resources.
- *The spend-down phase*—Accumulated funds are used to provide income during the nonworking years of retirement. Questions remain about how to invest, but another immediate question surfaces: How much can be withdrawn each year? The greatest challenge in this spend-down phase is to ensure the funds last the individual's full lifetime without excessive transfer to a subsequent generation.

Part 1—The Accumulation Phase

Changes in our retirement system over the last 30 years demonstrate a clear point: The path of least resistance lies in DC plans. While many argue the merits and efficiencies of DB (this author included), widespread coverage of workers in these plans seems unlikely in the future because of understandable employer rejection. This paper embraces the path of least resistance in adopting the DC approach to the accumulation phase, but differs significantly in the spend-down phase.

Yet a DC accumulation phase faces numerous challenges. Providing universal coverage, setting an appropriate contribution level, determining employer involvement, and selecting the right investments ... all are daunting tasks.

The proposed structure accumulates funds throughout the working years by establishing retirement savings accounts (RSAs) for all workers.

Individual Accounts

DC plans can also be called individual account (IA) plans, which puts more emphasis on their broader characteristics. The IA helps ensure equity to the individual and is fully transparent. IA plans track for each person:

- Contribution amounts,
- Investment income credited,
- Expenses charged to the account, and
- The benefit ultimately paid out to the retiree.

¹ Cash balance plans, a type of DB plan, establish a nominal account and credit contributions as well as nominal investment income, but the account is hypothetical—and they don't balance to trust assets.

By tracking all these amounts, the account shows individuals exactly what they get for their contributions. This is quite different from Social Security or DB plans, neither of which tracks investment income or expenses.¹ Although Social Security does maintain a record of the individual's earnings that are the basis for tax payments, benefits are not paid from this account.

The IA also helps participants appreciate the plan by reporting current account value with every statement. Most individuals have little idea about the value of their Social Security account or DB plans; IAs overcome this communication issue by periodically reporting a current value showing the changes since the previous report. The IA in an RSA can go further in communicating the benefit by also showing the monthly income the balance would provide at various potential retirement ages, i.e., ages 60, 65, and 70. Converting the current balance to a monthly income would be based on inflation-adjusted interest rates and a standard mortality table discussed later. These rates are likely to be quite stable and will show income in terms of current purchasing power.

The RSAs for all workers will be IA plans.

Universal Coverage

All workers need assurance of financial security when they reach an age where they can no longer work. This can happen only if participation is mandatory for the broadest class of workers possible.

Social Security coverage is broad now, but does not encompass many state and local government workers. This presents a constitutional challenge that must be overcome if we're to have a uniform, effective program. Regardless of how the current Social Security coverage issue is addressed, a new Tier 2 retirement system to supplement it should cover employees of every organization—large or small, public or private.

Social Security would be more effective, and many inequities would be resolved, if it were expanded to include all workers. Universal coverage has proven possible and effective in other countries and can surely be accomplished in the United States.

Universal coverage could be implemented through a participation mandate at the individual taxpayer level—with all workers required to be in an RSA. Employers would have to withhold the minimum required contribution from their wages and forward the funds to the worker's RSA. Employers could make the contribution on behalf of the employee so that wages are not reduced, and all contributions would be reported on the W-2 to demonstrate the minimum contribution had been made.

Compliance would be enforced through the tax-filing process. For example, if a self-employed individual didn't make the minimum required contribution, the tax due with Form 1040 would be increased by the necessary amount (plus a penalty to discourage such activity); the Treasury would then transfer the minimum contribution to the taxpayer's RSA.

Minimum Required Contributions

The minimum required contribution amount will be hotly debated. Ask any financial advisor how much you need to save for retirement and the answer is the same: "More!" This is perhaps an accurate response, but not very helpful. Nevertheless, the contribution needs to be large enough to defray

reasonable expenses and build a meaningful level of assets by retirement. Anything less than 3 percent of pay would likely mean excessive expenses relative to the amount contributed and would not provide a significant retirement income.

To maintain a standard of living in retirement consistent with the working years, many studies conclude 15 percent of pay or more is required throughout a career. This mandatory savings level is not likely to be politically attractive, however, and there's no need for a mandatory system to *fully* replace an individual's standard of living.

A politically acceptable minimum contribution level may be 5 percent to 10 percent of pay:

- At the low end, contributions would be large enough to make necessary expenses reasonable and would yield a meaningful benefit at retirement. A danger of selecting the low end is that many individuals will think they don't need to save more.
- At the high end, the accumulations would replace a significant part of pre-retirement income. A danger at the high end is that our labor market would be more expensive, which might affect the economy and future growth.

Transition rules might start the minimum required contribution at an even lower level, such as 3 percent, and increase it 1 percent per year until the ultimate rate is reached.

There is no need to give a tax shelter to contributions based on very large incomes, so compensation subject to the minimum percent contribution should be limited, similar to the way Social Security taxes are limited to pay below the Social Security Wage Base (SSWB). But the limit should be higher, to help all workers accrue enough for their retirement. A possible range for the maximum pay level subject to the minimum required contribution is at least twice the SSWB as a lower limit, and perhaps \$1 million as an upper limit. The current compensation limit in qualified plans is another benchmark.

Employee contributions to the RSA are made with pretax dollars and are always 100 percent vested.

Voluntary employee contributions in excess of the mandatory contribution might be allowed if that level is low. For example, if political compromises result in a system with a 4 percent of pay mandatory contribution, it would be reasonable to allow voluntary contributions of another 6 percent for a total of 10 percent. This would enable workers to benefit from the spend-down provisions of this proposal. On the other hand, if the mandatory contribution is 10 percent or more, voluntary contributions would probably be better left to Tier 3—a system designed exclusively for voluntary contributions.

Employer Contributions

Employers would be free to make the minimum required contribution for the employee or additional contributions to the employee's account. Some employers, particularly those that currently sponsor retirement plans, probably would want to contribute to the employee's account. There would be an upper limit, similar to the IRC §415 limit, but increased substantially to allow all workers to build sufficient funds. The maximum dollar contribution should be at least 10 percent of the maximum wage considered.

All employer contributions to the RSA are deductible to the employer and not currently taxable to the employee. All employer contributions are immediately vested.

Investment Companies

Broad competition among investment management firms should be encouraged for RSA funds. Banks, mutual funds, and other financial institutions could establish individual accounts but would first have to demonstrate compliance with minimum criteria. To be eligible to accept RSA contributions, a financial institution must:

- Segregate all funds in separate accounts not subject to the financial institution's creditors (similar to the way mutual funds are organized).
- Establish a governance process separate from the governance of the sponsoring institution (comparable to mutual fund trustees).
- Show all fund expenses and net fund returns in a fully transparent, standardized way for easy comparison among managers.
- Offer the required default funds.
- Be audited annually by an independent firm to confirm compliance with all requirements.

Fees would be allowed (but not required) for:

- Setting up an account,
- Quarterly maintenance (small flat dollar amount),
- Percentage of assets under management (could vary by fund), and
- Asset transfers (assessed when funds are transferred out).

These fees are the only income the investment companies receive; commissions, rebates, loads, or similar items are prohibited. For example, any rebate offered by a brokerage firm to the investment manager as an incentive to direct trading must be credited to the investment fund as an expense reduction.

Competition among financial institutions is enhanced by standardized reporting; firms can distinguish themselves by keeping expenses low and providing excellent service.

Employers would be able to select one or more financial institutions to accept the contributions of all employees. However, to encourage competition, that institution must allow the participant one feeless transfer per calendar year to another financial institution. Individuals can establish an RSA with any qualified financial institution, but their payroll deductions would first go to the one selected by the employer.

Investment Funds

Recent investment market volatility demonstrates the consequences of substantial risk to retirement funds. While volatile investments may produce superior returns over some long periods, that's little solace to someone retiring when markets are plummeting. Our current system burdens every individual with the

responsibility of determining appropriate asset allocation; many are woefully unprepared. Attempts to provide investment education, while helpful, will never give every American adequate skills.

Retirement assets should be invested with their specific purpose in mind. Each year the worker contributes a portion of annual pay; the funds are intended to replace part of the individual's purchasing power and to maintain it throughout the retirement years. This calls for keeping pace with inflation.

TIPS are the primary investment that can achieve this goal with certainty and maintain a retiree's purchasing power.

In the proposed structure, every financial institution that invests RSA funds must establish a TIPS fund as the required investment for a portion of the account. As with other parameters, the required level will be subject to much debate, but 50 percent is suggested.

A risk-averse participant can choose to invest more in the TIPS fund. Other participants willing to incur additional risk for the opportunity of greater gains could invest the remaining 50 percent of their account in target date funds (also known as life-cycle or age-rated funds). These funds should have narrow ranges of allowable asset allocation bands to which the financial institutions must adhere. Based on age or target year, the narrow bands:

- Help in comparing the performance reports of various institutions, and
- Produce meaningful competition for investment results in addition to expense levels and participant service.

Some may criticize this mandatory investment in conservative funds, but it is consistent with the funds' purpose. Tier 2 is a mandatory system intended to ensure a reasonable level of purchasing power in retirement for everyone beyond the minimal levels provided by Social Security. Tier 3, a purely voluntary system of encouraging further savings, is the place for risky investments.

This substantial investment in TIPS would create an increased domestic demand for U.S. government securities. As the system matured, the demand might exceed the supply of government securities, although that day is likely to be many years in the future. Should this occur, investment in other high-quality fixed-income securities could be allowed.

All income earned by the RSA is tax sheltered. Income is not taxed while in the account, but RSA distributions are generally taxable income.

Pre-retirement Distributions

Withdrawals would not be permitted from the RSA before retirement age except for death or disability and limited amounts for hardships or loans.

At death before retirement age, 100 percent of the RSA would pass to the spouse's RSA if married, or directly to the other designated beneficiary if not married or if a spouse waiver was signed (similar to ERISA rules). Death transfers to RSAs would not be taxable. Death transfers to other designated beneficiaries would be fully taxable.

At disability (qualified by Social Security), periodic distributions would be permitted, with the maximum a function of taxable income (subject to the eligible compensation limit) before disability. For example, the maximum distribution might be an amount that, when combined with Social Security, would equal 60 percent of taxable income before disability. Disability distributions would be taxable income. Lump-sum distributions would not be allowed.

RSAs would be permitted to make periodic distributions to purchase disability insurance. Several types of disability coverage might develop in the marketplace. For example, coverage might provide periodic income benefits to the individual, in which case additional withdrawals from the RSA would not be required. Alternatively, the disability benefit might provide continued contributions to the RSA account during the period of disability.

Some current qualified retirement plans allow hardship withdrawals. Those supporting hardship withdrawals argue that the funds belong to the individual, and severe financial hardships that cannot be met by other sources should be a reason to allow distributions. On the other hand, these withdrawals undermine the individual's future financial security. Hardship withdrawals, if allowed, should be limited to relatively small amounts—similar to current loan restrictions on qualified plans.

Current qualified plans also allow loans up to \$50,000 and require repayment. But loans often result in accumulating less for retirement when participants lower their contribution rate to make loan repayment easier or terminate employment and fail to repay the loan.

Loans from an RSA can be accomplished by requiring repayment without any offsetting reduction in the minimum required payment. Repayment must be in addition to the minimum required contribution and, if employment is changed, must continue with the next employer. New employers would have to withhold the loan payment and remit to the appropriate financial institution at the employee's request. A significant tax penalty would result if the employee defaults by not informing the new employer about the loan.

Loan payments would be deferred for any period when the individual receives unemployment compensation.

RSAs would be subject to division upon the dissolution of a marriage. Part of the RSA could be transferred to the RSA of the spouse pursuant to a domestic relations order. Standards similar to those of current qualified domestic relations orders would be established.

Retirement Age

The RSA is an individual account that holds investments made by the employee and/or employer. The employee owns the funds and should reap the full benefit. The employee also should be able to decide when to retire—within the constraints of a minimum and maximum. Little is gained by encouraging or discouraging retirement at any particular age. Some will choose to retire early, and others will choose to continue working. Funds accumulated in the RSA should be available without penalty and without incentive to retire at a certain age:

- A minimum retirement age prevents early withdrawals for purposes other than retirement. Current tax law allows distributions from retirement accounts as early as age 55 if made as lifetime annuities or age 59½ otherwise. Earlier withdrawals are subject to tax penalties. Social Security sets 62 as the earliest retirement age.

- A maximum retirement age requires the start of retirement benefits to avoid an indefinite tax deferral. The tax shelter was created to provide retirement income, not pass wealth to another generation. The current qualified plan rules requiring distributions to begin at age 70½ accomplish this purpose. Social Security does not have a maximum retirement age, but essentially imposes one by eliminating benefit increases at age 70.

Ages suggested by the current system, 59½ and 70½, seem adequate, but 60 and 70 would be simpler, and are used in later examples.

A worker could choose to keep working past the maximum retirement age even if receiving RSA distributions. RSA contributions after the maximum age would not be required, but could be continued voluntarily.

These details can be debated endlessly but do not affect the proposed basic structure. The accumulation phase structure is a compulsory IA plan substantially invested in inflation-indexed securities. Funds are generally not available until retirement.

Part 2—The Spend-Down Phase

A worker who participates in the RSA for a full career would accumulate enough at retirement to replace a substantial portion of pre-retirement income. But considerable challenges remain.

Broad Longevity Risk Sharing

Perhaps the most perplexing difficulty a retiree faces is how to manage funds to last a lifetime. The average life expectancy of a healthy age-65 retiree is about 20 years, but some die unexpectedly only months after retiring, while others live 30, even 40 years or more in retirement.

Financial advisors give a common rule of thumb for how much to withdraw the first year from total accumulated funds: 4 percent. This implies that you need to accumulate 25 times the amount of your first-year expenses. Yet you can purchase a fully guaranteed inflation-protected annuity for less than 20 times the annual amount. How can an insurance company provide this guarantee for 20 percent less than the financial advisor's guideline?

Insurers effectively pool the longevity risk for those who purchase annuities. This risk pooling enables them to provide a lifetime income for less than the cost of providing a fixed monthly payment for the retiree's life expectancy. Perhaps it's not intuitive, but pooling this risk actually creates value.²

Pooling the longevity risk for retirees:

- *Enables all retirees to be confident they'll have an income for their entire life.* There is no risk of running out of funds.
- *Creates large savings on a macro level.* A retiree with an average life expectancy of 20 years who accumulates enough to last 20 years has about a 50 percent chance of outliving those funds. To have

² A rudimentary formula proven by all actuarial students demonstrates that the cost of a life annuity is less than the cost of an annuity certain over the individual's life expectancy for any interest rate greater than zero.

enough to last 30 years, that retiree would need 20 percent to 30 percent more—depending on the investment return—and still could outlive the 30-year span.

If all retirees saved 20 percent to 30 percent more than needed for average life expectancy, there would be enormous oversavings for retirement. Most of the excess funds would be transferred to subsequent generations.

- *Has limitations.* It's most effective when the risk is pooled over a large number of annuitants and when there's no anti-selection. Anti-selection—one of the factors contributing to the relative expense of annuities—can be illustrated by two individuals about to retire who are considering the purchase of an annuity. Assume the first is healthy, fit, never smoked, exercises regularly, and has parents and grandparents who lived to be 90. The second is overweight, smokes, never exercises, and has a family history of heart disease. Who is more likely to buy the annuity? Of course it is the healthy person. Insurance companies recognize this, and base their longevity projections on generally healthy individuals who are more likely to live longer than the “average person.” *In other words, one reason annuity rates are high is because only those who expect to live many years purchase annuities.*

Mandatory Annuitization

Annuity rates would be lower if everyone bought annuities, and this brings us to another mandatory feature of the Tier 2 retirement system: RSAs must be partially annuitized at retirement. Requiring all retirees to purchase an annuity with at least part of their RSA not only would greatly reduce anti-selection bias, but also would ensure that each retiree:

- Can pay the lowest possible premium, and
- Has a lifetime income regardless of low investment returns or other calamities.

Annuity conversions could start as early as retirement age 60. Annuitization could also be deferred, but not beyond age 70—when a participant must annuitize the minimum required amount.

The minimum annuitization might be 50 percent of the account, with additional amounts:

- Voluntarily annuitized,
- Withdrawn as a lump sum, or
- Withdrawn as periodic distributions, but not less than under the current minimum distribution rules of current qualified plans.

Non-annuity withdrawals could be made only after minimum annuitization is complete.

Requiring all retirees to purchase annuities seems to compromise the objective of individual equity. The healthy annuitant who gets a lower premium would be delighted, but what about the unhealthy retiree who doesn't expect to live as long, or even the healthy retiree who dies unexpectedly soon after retirement? These people do not seem to get the full benefit of funds they built up during their working years.

This dilemma can be addressed by making a cash refund feature a part of all annuities, providing a special benefit that may be payable at the annuitant's death. If the total paid to the annuitant is less than the premium paid for the annuity, a death benefit would be paid equal to the shortfall. In the extreme example, if a retiree dies after purchasing an annuity but before the first monthly benefit is paid, the entire premium would be paid as a death benefit to the beneficiary.

Although mandatory annuitization would substantially reduce anti-selection, it would not be eliminated. Mortality experience studies indicate a correlation between longevity and wealth; individuals with greater wealth have access to better health care and other factors linked with longer life span. Even if annuitization is mandatory, longevity experience would likely be skewed toward those with larger account balances and those who voluntarily elect to annuitize more than the minimum requirement. This simply indicates that experience will never exactly follow the mortality tables—and that additional factors are needed to help stabilize any system.

Guarantees and Risk

Everyone wants a fully guaranteed retirement benefit. Unfortunately, guarantees are expensive. Fully guaranteed annuities are available in the insurance market, but disdained by many, at least partially because of the expense.

An insurance company that promises a guaranteed annual income for life protects the annuitant against at least three risks and charges the annuitant for this risk transfer:

- *Longevity risk*—Insurers expect to pool longevity risk among a large number of annuitants, but recognize that the annuitant is likely to be healthy and live longer than the average individual. To compensate, they base the premium on a mortality table that expects greater longevity and add margins to protect against the risk.
- *Investment risk*—Insurers intend to invest the premium and use investment income to pay part of the annuitant's periodic benefit. They must estimate the return expected on these investments. If they intend to make a profit on the annuity, they must estimate—not overestimate—this return very carefully. They generally invest conservatively, in high-quality fixed-income investments with predictable returns.
- *Expense risk*—Insurers guarantee an expense level for the annuitant's lifetime. They must estimate the cost they incur for many years in the future—again, conservatively, if they expect to make a reasonable profit on the transaction. There's no going back to ask for additional premium later.

These pressures for the insurance company to add margins in order to protect profitability are partially offset by a competitive market that places downward pressure on annuity premiums. But the prospective annuitant wants assurance that the insurer can make payments in the future—and generally is willing to pay more for that assurance. In addition, state insurance regulators require all insurers to meet certain requirements, including adequate reserves, so that payments will be made as promised.

These guarantees not only add to the cost of providing an annuity, but also mean there will be winners and losers in these transactions. Consider an annuity with a premium that implies a 4 percent investment return over the annuitant's expected lifetime. Even if the insurer invests the premium in very high-quality fixed-income securities (perhaps U.S. Treasuries) with an expected 4 percent return, the actual return is highly likely to differ. If it's a little more, the insurer profits; if it's less, the profit is

reduced, possibly eliminated. The longevity risk and expense risk involve similar potential winners and losers. The insurers must add margins to protect against these possible losses; otherwise they might fail and the annuitant, or the state insurance guarantee fund, will suffer.

Social Security guarantees a fixed annual income with cost-of-living increases. Its price is borne by future taxpayers. If retirees actually live longer than Social Security actuaries project, or if inflation is greater than expected, future taxpayers have to pay more, or the guarantee might be broken.

Guarantees seem reasonable in a social insurance system that involves intergenerational subsidies. But in a mandatory supplemental retirement system that strives to produce equity and eliminate intergenerational subsidies, guarantees are very expensive. Minimizing guarantees may enable the system to provide better benefits at a lower cost to most participants.

The Variable Annuity

A variable annuity (VA) is simply a lifetime income benefit where investment experience is passed on to the annuitant rather than guaranteed. In a VA, the exact amount of each periodic benefit changes, depending on the overall experience of the funds backing the annuity. Let's look at a simple example.

Assume you have \$100,000 to cover certain expenses over the next five years (the example can be expanded to longer periods or lifetimes, but a short period helps keep it clear). If the money is deposited in a non-interest-bearing account, you could withdraw \$20,000 a year for five years.

However, if you anticipate investing the funds and earning a return, you may be able to withdraw more. For example, if you expect to earn 4 percent (the assumed investment return or AIR), you could withdraw almost \$21,600 a year. At the start of the first year, you withdraw \$21,600, leaving about \$78,400 in the fund. If it earns 4 percent during the year you would have \$81,537 at year-end. The following table shows exact amounts.

Table 1. Assumed Earnings at 4 Percent

Year	Balance at Beginning of Year	Withdrawal	Balance after Withdrawal	Investment Earnings	Balance at End of Year
1	\$100,000.00	\$(21,598.76)	\$78,401.24	\$3,136.05	\$81,537.29
2	81,537.29	(21,598.76)	59,938.53	2,397.54	62,336.07
3	62,336.07	(21,598.76)	40,737.31	1,629.49	42,366.80
4	42,366.80	(21,598.76)	20,768.04	830.72	21,598.76
5	21,598.76	(21,598.76)	0.00	-	-

At the start of the fifth year, you have exactly enough to make the final withdrawal. But what happens if you don't earn exactly 4 percent each year? Suppose you underestimated, or interest rates simply rise and you actually earn 5 percent each year. As the next table shows, you would have money left over at the end of five years.

Table 2. Actual Earnings at 5 Percent

Year	Balance at Beginning of Year	Withdrawal	Balance after Withdrawal	Investment Earnings	Balance at End of Year
1	\$100,000.00	\$(21,598.76)	\$78,401.24	\$3,920.06	\$82,321.30
2	82,321.30	(21,598.76)	60,722.54	3,036.13	63,758.67
3	63,758.67	(21,598.76)	42,159.91	2,108.00	44,267.91
4	44,267.91	(21,598.76)	22,669.15	1,133.46	23,802.61
5	23,802.61	(21,598.76)	2,203.85	110.19	2,314.04

The opposite could happen also. You might earn less than 4 percent and not have enough money for your last withdrawal. Is there a way to adjust withdrawals to reflect actual earnings? There is, as Table 3 shows, assuming a constant return of 5 percent.³

Table 3. Earnings at 5 Percent—Adjusted Withdrawal

Year	Balance at Beginning of Year	Withdrawal	Balance after Withdrawal	Investment Earnings	Balance at End of Year
1	\$100,000.00	\$(21,598.76)	\$78,401.24	\$3,920.06	\$82,321.30
2	82,321.30	(21,806.44)	60,514.86	3,025.74	63,540.60
3	63,540.60	(22,016.12)	41,524.48	2,076.22	43,600.70
4	43,600.70	(22,227.81)	21,372.89	1,068.64	22,441.53
5	22,441.53	(22,441.53)	0.00	-	-

In this case the withdrawals increase each year as you continually earn more than the assumed 4 percent. If you knew with certainty that you were going to earn 5 percent each year, you could increase each payment to \$21,997.60, but at the beginning, 4 percent was your best estimate of your expected return.

A similar adjustment will work when the amount of investment earnings changes every year, as Table 4 shows.

Table 4. Variable Earnings—Adjusted Withdrawal

Year	Balance at Beginning of Year	Withdrawal	Balance after Withdrawal	Actual Rate of Return	Investment Earnings	Balance at End of Year
1	\$100,000.00	\$(21,598.76)	\$78,401.24	5%	\$3,920.06	\$81,537.29
2	82,321.30	(21,806.44)	60,514.86	2%	1,210.30	61,725.16
3	61,725.16	(21,387.09)	40,338.07	8%	3,227.05	43,565.12
4	43,565.12	(22,209.67)	21,355.45	3%	640.66	21,996.11
5	21,996.11	(21,996.11)	0.00		-	-

³ The formula to determine the adjusted withdrawal is: Adjusted Withdrawal = Previous Withdrawal × (1 + AR)/(1 + AIR) where AR is Actual Return and AIR is Assumed Investment Return.

Some find an alternative way of thinking about VAs easier to understand. The initial deposit of \$100,000 could be thought of as buying annuity units (similar to mutual fund shares). Units for a five-year certain annuity at 4 percent AIR would have a price of \$4.629895.⁴ Each unit would make an initial payment of \$1.00 and subsequent payments would be adjusted based on the actual return.⁵ Our initial fund of \$100,000 would buy 21,598.76 units. Table 5 shows how the unit value calculation produces the same result.

Table 5. Variable Earnings—Annuity Units

Year	Annuity Unit Payment Value	Adjusted Withdrawal	Balance after Withdrawal	Actual Rate of Return	Investment Earnings	Balance at End of Year
1	\$1.000000	\$(21,598.76)	\$78,401.24	5%	\$3,920.06	\$81,537.29
2	1.009615	(21,806.44)	60,514.86	2%	1,210.30	61,725.16
3	0.990199	(21,387.09)	40,338.07	8%	3,227.05	43,565.12
4	1.028284	(22,209.67)	21,355.45	3%	640.66	21,996.11
5	1.018397	(21,996.11)	0.00		-	-

A VA that pays a lifetime income works in a similar manner:

- The payment is adjusted periodically (usually once per year, but it could be more frequent), based on the actual return on investments backing the annuity.
- With a VA the annuitant gets the full benefit of all investment earnings, but also bears the risk that the investments might not earn as much as expected. In the example above, in year 3, the amount withdrawn is actually less than the year 1 withdrawal, but in all other years the withdrawal is greater.
- Benefits continue for a lifetime, not just the five years in the above example.

The AIR is an important component of the VA. A high AIR will produce a larger initial payment, but make it more difficult to exceed the assumed earnings and have an increasing annuity. A low AIR results in lower initial payments, but a greater likelihood of payments increasing in the future.

Immediate VAs are available in the insurance market today, providing purchasers a means to retain the risks and rewards of investments, while transferring longevity risk to the insurance company. Unfortunately, many of these products have very high expenses and are not as transparent as the system proposed for a new Tier 2.

Participating Variable Annuity

The term “participating annuity” has generally been used to describe an annuity that shares with the participant some of the insurer’s risks and/or rewards. Some participating annuities share excess investment returns over a certain amount; others share longevity gains above a threshold level.

⁴ A compound interest function: $(1-v^5)/(1-v)$.

⁵ The adjustment in payment value is:

New Payment Value = Old Payment Value $\times (1 + AR)/(1 + AIR)$ where AR is Actual Return and AIR is Assumed Investment Return, in this case 4 percent.

When combined with a VA, the term “participating variable annuity (PVA)” means an annuity that passes actual investment experience, actual expenses and actual longevity experience to the annuitant through periodic benefit adjustments.

Creating such annuities makes it possible to provide lifetime income to large groups without incurring the extra cost of guarantees and without any potential subsidy from outside the group. PVAs are not generally available in the insurance market today.

A structure must be created to provide PVAs with longevity risk pooling on the widest possible basis.

To create such contracts and to pool longevity experience on the widest possible level, a new structure is needed. This structure will entail a new type of annuity company and a government entity to facilitate longevity pooling, as described below.

Federally Chartered Annuity Companies

Private industry should be the site of this new structure, not the government. Private industry provides the best means of producing competitive products, with the government’s role limited to enabling risk sharing on the widest possible basis and ensuring that competition among vendors is based on the proper factors.

A new financial institution could be created and regulated by the federal government. These organizations, federally chartered annuity companies (FCACs), would provide the investment funds and administrative capability to deliver PVAs consistently throughout the country. The FCAC might be affiliated with the financial institution that accumulated the RSA funds, but could be entirely different. There probably would be far fewer FCACs than financial institutions that accumulated RSA funds.

For the widest possible longevity pooling and to avoid issues regarding selection of longevity risk, all FCACs should be required to base annuity premiums on the same mortality table and the same AIR. Premiums would depend only on age. This means that two people of the same age would pay the same premium rate for an annuity—regardless of gender, race, health, or any other factor.

Since the annuity’s initial price would be the same for all companies, competition among FCACs would be based on service levels, expense ratios, and their investment fund performance.

Longevity Differences

Longevity experience is not the same for all Americans; in fact, there is much variability based on several factors, the most obvious being gender. Women live longer than men—about four to five years longer by most measurements. But many other factors influence longevity including race, health status, marital status, and personal health habits. Some actuaries even measure longevity experience based on postal codes.

Charging the same premium for all individuals of the same age would be a recipe for disaster. Healthy retirees with long life expectations would flock to buy these annuities, but they would be shunned by the unhealthy and those with shorter life expectations. An insurer that charged the same premiums for males and females would attract mostly females to their product. This pricing structure would collapse in a free and competitive market.

The same rate for all individuals is not a market-driven pricing policy. This rate structure would be socially driven—a pricing structure intended to accomplish a specific purpose: making longevity protection available to all Americans at a reasonable price.

Mandatory annuitization would help limit the selection issue, but random differences between the annuitant groups for various companies would sink some firms and produce windfall profits for others. A method of pooling longevity experience on a large scale needs to be created. But first, here are a few more details on the FCACs and annuities.

More on FCACs and Annuity Structure

All annuities issued by the FCACs would be PVAs. Annuity purchase rates would be based on a mortality table established by the federal agency that regulates the FCACs. The AIR, or hurdle rate, used for annuity premium rates would also be determined by the federal agency, based on the real interest rate implicit in TIPS. The AIR and the mortality table could be periodically revised by the regulatory agency.

The mortality table used for the annuity premium would be a broad-based cohort table representative of longevity experience (and projected experience) for the entire United States. One cohort table would be used for all retirees born within a certain time frame (perhaps as little as one year or as many as 10); the only variable would be age at commencement. The table would not distinguish based on gender, race, health status, or any variable other than age.

The development of this table is beyond the scope of this paper, but a simple illustration can estimate pricing. If we use 2 percent interest to approximate the real return on TIPS and the Social Security cohort life table for 1950 (age 60 in 2010), and then simply average male and female rates to approximate a unisex rate, the price for each \$1 of annual income at age 65 as a PVA would be \$15.20. This compares to \$18 to \$20 for an inflation-indexed commercial annuity today or to the \$25 of accumulation typically recommended by financial advisors.⁶

Similar to the accumulation phase, a retiree would be required to invest 100 percent of the minimum required annuity funds in the TIPS fund. Any additional annuity the individual elected to purchase could be invested in the TIPS fund, a target fund, or any other fund the FCAC offers. Other funds would have requirements similar to those for qualified funds today.

Additional details follow:

- The FCAC would pay annuities from each selected fund (only the TIPS fund if no voluntary annuitization) and indicate to the retiree how much was being disbursed from each annuity fund.
- Annuities would be adjusted once per year based on the investment return of each annuity fund.⁷ The investment return would be determined for each fund. Fully transparent investment expenses and administrative expenses would be deducted from the investment return; the net return would be compared to the AIR. If actual return exceeded AIR, next year's monthly payments would

⁶ These annuity rates are based on straight life annuities. Actual annuities might include a cash refund feature, as discussed earlier, and a joint and survivor provision for married retirees.

⁷ Annual adjustment is common for existing qualified variable benefit plans. Some insurance companies offer monthly adjustment of variable annuities, which would be a desirable enhancement to lessen the risk exposure for all entities.

increase to reflect the gain; if the return was less than AIR, next year's monthly payments would decrease to reflect the loss.⁸

- Annuities invested in the TIPS fund would be expected to increase each year by approximately the rate of inflation, although this is not guaranteed and deviations would certainly take place.
- Annuities invested in other funds could increase or decrease based on investment performance. Because the funds would generally be expected to experience returns greater than AIR (based on the real return implicit in TIPS), annuities would generally increase, but this also is not a guarantee.
- Annuity payments would be taxable as ordinary income to the recipient, but subject to a 10 percent exclusion from taxable income. This exclusion would make the mandatory annuitization more palatable to the individual and encourage additional annuitization beyond the minimum required amount. This tax subsidy is the only aspect of the proposal that involves some intergenerational cost. It is relatively small and should prove beneficial in gaining acceptance for the mandatory annuitization.
- At a married retiree's death, the annuity would be continued to the spouse (contingent beneficiary) in the selected percent (50 percent, 75 percent, or 100 percent) if the retiree had elected a joint and survivor annuity.
- At a single retiree's or contingent beneficiary's death, a lump sum would go to the retiree's designated beneficiary if total payments to the retiree and contingent beneficiary were less than the premium paid for the annuity. The lump-sum amount would be the premium paid less all payments previously made to the retiree and contingent beneficiary (no adjustment for investment income/loss). If total payments to the retiree and contingent beneficiary exceeded the premium paid, no death benefit would be payable and all payments would cease.
- All FCACs would compete on the basis of investment returns, expenses, and service to investors. Mortality experience would not affect company performance or profitability.
- Competition among FCACs could be enhanced by allowing retirees to transfer to a competing FCAC periodically, perhaps once every three or five years, so they're not locked into one company for their lifetime. If a company's funds perform poorly, their expenses prove higher than other companies, or their service is unsatisfactory, the retiree could transfer to a competing FCAC. Upon a transfer, the original FCAC would transfer to the successor FCAC the reserve, calculated on the mortality table and interest rate at the time of transfer.

Pooling Longevity Experience through a New Federal Agency

A mechanism must be created to pool mortality experience over all companies offering these annuities to sustain the single pricing structure and ability to transfer funds periodically. This mechanism would not evolve naturally in the private sector; government involvement is essential to provide the broadest possible longevity pooling.

⁸ The formula for adjustment is:
New Benefit = Old Benefit × (1 + AR)/(1 + AIR) where AR is Actual Return and AIR is Assumed Investment Return used to determine the annuity premium

This could be accomplished by a new federal agency—the Longevity Pooling Agency (LPA). The LPA would be supported entirely by the companies it oversees (the FCACs) and RSA participants, with no taxpayer funds involved. In this sense it would be similar to the Pension Benefit Guaranty Corporation.

As the government entity overseeing the annuitization of all RSA balances, the LPA would:

- Issue charters to annuity companies that comply with all requirements for an FCAC.
- Promulgate the mortality table and assumed interest rate used for the standard pricing of annuities by all FCACs.
- Promulgate adjustments to the mortality table for determining required reserves and the annual mortality charges.
- Audit or oversee the audit of all FCACs, particularly with respect to the periodic determination of required reserves.
- Collect funds from FCACs with excess reserves and distribute funds to FCACs with insufficient reserves. This redistribution of reserves may be annual, but biennial or triennial might be possible and would mean lower expenses.
- Enforce penalties for misstatement of reserves.

Each FCAC would calculate the required reserves for its block of annuity business, based on the mortality table and interest rate promulgated by the LPA. If actual reserves exceeded the required amount, the company would remit the excess to the LPA; if actual reserves were less than the required amount, the company would request additional funds from the LPA. Upon audit and approval, the LPA would transfer funds to the FCAC.

Since all annuities would be participating VAs, only mortality experience would cause a company to have a surplus or deficit with respect to the required reserves. Any investment gains or losses with respect to the AIR would be reflected in adjustments to the underlying annuity. All expenses—both investment-related and administrative—would be charged against the annuities and fully transparent to the annuitant. So the only reason a company might experience a deficit would be that their annuitants lived longer than the mortality table would expect.

Additional details follow:

- The aggregate experience of all FCACs should approximate the experience expected by the mortality table, but this is not guaranteed; there would almost always be deviations. To prevent them from undermining the system, the table must be constructed conservatively, with a mechanism for continual adjustment to reflect actual experience as it emerges.
- The LPA would establish the mortality table on the basis of the broadest possible experience throughout the country. The table should be a cohort table—that is, it must reflect that the longevity expectations differ based on year of birth. The life expectancy for a 65-year-old born in 1940 is different from that of a 65-year-old born in 1960.

- The primary method of adjusting reserves would be an annual mortality charge assessed against all annuities as a number of basis points against the return on invested funds. This serves two main purposes by providing:
 - Operating funds to the LPA, and
 - A means for the LPA to adjust annuities based on actual longevity experience.

For example, assume the mortality charge is initially established as 30 basis points for all annuitants. In subsequent years the LPA determines that annuitants born in 1945 through 1949 are living longer than expected, but annuitants born in 1950 through 1954 are dying sooner than expected. Overall reserves of the system could be kept in balance and intergenerational subsidies avoided by increasing the annual mortality charge for annuitants born in 1945 through 1949 and decreasing the annual mortality charge for annuitants born in 1950 through 1954.

The LPA would receive its funding from three sources:

- *The annual mortality charge assessed against all annuity payments.* The amount would be collected by the FCAC and remitted to the LPA. With respect to the retiree's annuity, the mortality charge would be treated as an administrative expense and netted against the investment return of the PVA. The amount might initially be 30 basis points, subsequently adjusted based on actual experience.
- *An annual mortality charge assessed against all RSA account balances.* This charge should be minimal, perhaps 5 basis points or less. This charge is designed to help finance the LPA, which will benefit all participants.
- *An assessment against any non-annuity distribution from an RSA.* This would include death benefits, whether paid directly to a beneficiary or transferred to their RSA account, and lump-sum or periodic nonannuity distributions to participants. The assessment proposed is 30 basis points, comparable to the annual charge on annuities. This might also be adjusted subsequently based on the LPA's financial needs.

Funding the LPA by charges to FCACs and participants and keeping all funding independent of taxpayer money would help ensure that each generation of workers accrues its own benefits without intergenerational transfers.

Making It Work

The proposed structure aims to meet both accumulation and spend-down phase challenges in providing a meaningful retirement income to all workers.

The accumulation phase could be adopted gradually and without major structural changes. The mandatory contribution could be phased in over several years to ease any jolt to the economy and labor cost structure. With a few years of advance planning, employers could modify and gradually phase out existing employee retirement plans. Existing DB plans could be maintained for current members, but new employees would be covered by RSAs. Employers would be permitted to reduce future accruals for current members to reflect the value of any employer contribution to the RSA.

Structural changes for the spend-down phase would take longer to accomplish. The creation of FCACs would greatly simplify the regulation of annuity companies. State regulation of insurance companies (including non-RSA annuities) would continue, but all annuities purchased by RSAs would be subject to federal regulation and standard throughout the country.

The LPA would be established in advance and would set the requirements and charter process for FCACs. This would likely take several years. Initial funding of the LPA would be challenging because the sources of revenue proposed would not be significant until annuities were being paid to retirees from the FCACs. Temporary funding through loans from general revenues might be necessary, with the loans to be repaid when annuity payments become substantial.

The audit and supervisory role should be exceptionally strong. FCACs could be tempted to overstate required reserves in order to qualify for additional funds. Stringent audit requirements and substantial penalties for misstatement of reserves could mitigate this risk.

As the system matures, the investment in TIPS would become very large. Other types of fixed-income securities might be considered for the RSA and FCAC investment funds if necessary to maintain market equilibrium.

The basic model of compulsory savings and annuity payout with pooled longevity could be implemented on other than a national model. Statewide or regional plans covering most or all workers could apply these concepts, but the efficiencies would not be as great as in a national system.

Taxation Summary

Various tax aspects of Tier 2 have been mentioned throughout this paper; they are summarized below:

Contributions to an RSA by an individual or an employer would not be taxable income to the employee at the time of contribution. All such contributions by the employer would be deductible from taxable income. All income earned by the RSA would be sheltered from taxation. Any lump sum or periodic distribution from the RSA would be taxable income, including a disability payment or hardship withdrawal (if allowed). Default on a loan repayment would result in taxable income and a tax penalty (perhaps greater than the current 10 percent to further discourage default). A spouse's transfer to the RSA at the participant's death would not be taxable. Transfer to a beneficiary at the participant's death would be taxable.

Conversion of an RSA account balance to an annuity would not be a taxable event. All income earned by annuity funds within an FCAC would be sheltered from taxation. Annuity payments from an FCAC would be taxable, but subject to a 10 percent exclusion from taxable income. This additional tax benefit would enhance the annuity benefit and encourage more voluntary conversions to annuities. Death benefits resulting from the cash refund feature of the annuity would be taxable.

A Look at the Future

After a gradual transition period, a robust Tier 2 system will produce many benefits for the economy. Labor costs will quickly adjust to the new structure, and all workers will take part in building a secure financial future. Substantial new domestic demand will be created for government securities. Financial

institutions will compete aggressively to be the RSA vendor of choice, and the competition will be focused on expenses, fund performance, and customer service.

Employers will experience lower costs in administering benefit plans. RSA costs will be limited to selecting an RSA provider, enrolling participants, and transmitting funds. The high cost of administering ERISA retirement plans will fade into the past. Financial statement volatility affecting both the income statement and the balance sheet will be a distant memory. Fiduciary responsibilities and the risk of litigation no longer will be employer concerns.

The greatest additional benefits will be experienced by future retirees. Imagine looking forward to retirement with the knowledge that:

- In addition to an adequately financed and secure Social Security benefit, you will have an additional substantial lifetime income that is highly likely to keep pace with inflation.
- You will have the flexibility to invest part of retirement funds for growth, with the security that at least half of your supplemental income is backed by government securities.

Poverty among the elderly will be reduced, and welfare costs will likely decrease. The additional income for retirees will increase discretionary income, making retirees an important component of strong consumer spending driving our economy.

Investing in our future through compulsory savings and ensuring lifetime income for all retirees at a reasonable price is an investment we cannot afford to miss.

Donald E. Fuerst, FSA, FCA, EA, MAAA, is senior pension fellow at the American Academy of Actuaries in Washington, DC.

Glossary of Acronyms

AIR—Assumed Investment Return

AR – Actual Return

FCAC – Federally Chartered Annuity Company

IA – Individual Account

LPA – Longevity Pooling Agency

PVA – Participating Variable Annuity

RSA – Retirement Savings Account

TIPS – Treasury Inflation-Protected Securities

VA – Variable Annuity