Optimal Distribution Rules for Defined Contribution Plans: What Can the United States and Australia Learn from Other Countries?

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Abstract

The United States and most other industrialized nations have multi-pillar retirement systems that include a public component and a private component. Increasingly, the private component is an employer-provided defined contribution plan or other privately-managed individual retirement savings account. In order to get adequate retirement income from these defined contribution plans, employees need to ensure that significant contributions are made to these plans (contribution phase), that those contributions are invested well and retained until retirement (accumulation phase), and that the accumulated retirement savings are used to provide benefits throughout retirement (distribution phase). This paper focuses on the rules governing that distribution phase.

At the outset, this paper discusses the current rules governing benefit distributions from defined contribution plans in the United States and other countries. Next, this paper explains the various types of financial products that can be used to provide defined contribution plan participants with lifetime retirement income. Finally, this paper considers how distribution rules and regulations can be used to encourage retirees to take their defined contribution plan distributions in the form of annuities or other lifetime income products.

Pertinent here, longevity risk—the risk of outliving one's retirement savings—is probably the greatest risk facing current and future retirees with defined contribution plans. As life expectancy increases, accumulated retirement savings in individual accounts will need to finance an ever-greater portion of retirees' ever-longer retirements. In that regard, traditional *lifetime annuities* offer one approach for spreading retirement savings out over a lifetime. Another popular approach is for retirees to commit to *systematic withdrawals* of, say, 4 percent of their

account balances each year—a strategy that has a relatively low risk of ruin (running out of money before death). Another alternative involves buying *longevity insurance*, for example, buying a deferred annuity at age 65 that starts making annual payments only if the annuitant lives past age 85. Finally, retirees can invest in *variable annuities with guaranteed lifetime withdrawal benefits*—funds that provide guaranteed systematic withdrawals for life, with guaranteed minimums that kick in if the underlying investment funds are ever depleted due to long life and/or poor investment returns.

Today, relatively few countries have distribution rules that encourage retirees to take their defined contribution plan distributions in the form of annuities or alternate lifetime income products. Ultimately, this paper seeks to identify the optimal set of distribution rules to encourage individuals to select lifetime retirement income products that can insure against longevity risk.

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I. INTRODUCTION

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Today, relatively few countries have distribution rules that encourage retirees to take their defined contribution plan distributions in the form of annuities or alternate lifetime income

[1] An annuity is a financial instrument (e.g., an insurance contract) that converts a lump sum of money into a stream

products. Ultimately, this paper seeks to identify the optimal set of distribution rules to encourage individuals to select lifetime retirement income products that can insure against longevity risk.

II. A DEFINED CONTRIBUTION WORLD

The United States and most other industrialized nations have multi-pillar retirement systems that can be described as falling within the World Bank's multi-pillar model for retirement savings consisting of 1) a government pension, 2) an occupational pension, and 3) personal savings.[2] In most industrialized nations, retirement income is provided through a combination of a first-tier public system, a second-tier employment-based pension system, and a third-tier of supplemental voluntary savings. Increasingly, the second- and third-tier components take the form of defined contribution (DC) plans, Individual Retirement Accounts, and similar types of individual retirement savings accounts. Defined contribution plans are also known as "individual account" plans because each worker has her own account, as opposed to the more traditional "defined benefit" pension plans which pool plan assets for the benefit of all of the employees.[3] Another key difference is that at retirement, defined contribution plans tend to

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of income payable over a period of years, typically for life. The person holding an annuity is called an annuitant.

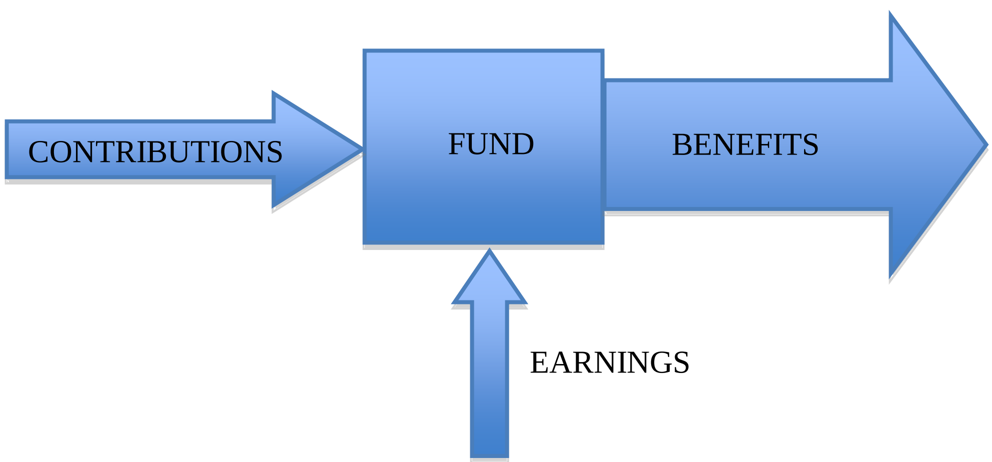
[2] WORLD BANK, AVERTING THE OLD AGE CRISIS: POLICIES TO PROTECT THE OLD AND PROMOTE GROWTH xiv (Oxford University Press, 1994). See also Robert Holzmann & Richard Hinz, OLD-AGE INCOME SUPPORT IN THE 21ST CENTURY: AN INTERNATIONAL PERSPECTIVE ON PENSION SYSTEMS AND REFORM (World Bank, 2005), http://www.egm.org.tr/kutuphane/Old_Age_Income_Support_Complete.pdf (suggesting an additional pillar for informal intrafamily or intergenerational sources of both financial and nonfinancial support to the elderly, including access to health care and housing); Lans Bovenberg & Casper van Ewik, *The Future of Multi-Pillar Pension Systems* (Network for Studies on Pensions, Aging and Retirement, Discussion Paper No. 09/2011-079, 2011), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1935307.

[3] In a defined benefit plan, an employer promises employees a specific benefit at retirement. To provide that benefit, the employer typically makes payments into a trust fund, contributed funds grow with investment returns, and eventually the employer withdraws funds from the trust fund to pay promised benefits. Employer contributions are based on actuarial valuations, and the employer bears all of the investment risks and responsibilities.

Defined benefit plans often provide each worker with a specific annual retirement benefit tied to the worker's final average compensation and number of years of service. *See*, *e.g.*, JONATHAN BARRY FORMAN, MAKING distribute benefits in the form of lump sum cash distributions, while traditional defined benefit pension plans are designed to pay monthly pension benefits from retirement until death.[4]

Under a typical defined contribution plan, the employer contributes a specified percentage of the worker's compensation to an individual investment account for the worker. For example, contributions might be set at 10 percent of annual compensation. Under such a plan, a worker who earned $30,000 in a given year would have $3,000 contributed to an individual investment account for her ($3,000 = 10 percent × $30,000). Her benefit at retirement would be based on all such contributions plus investment earnings. See Figure 1.

Figure 1. A Simple Defined Contribution Plan



AMERICA WORK 215 (2006). For example, a plan might provide that a worker's annual retirement benefit (*B*) is equal to 2 percent, times the number of years of service (*yos*), times final average compensation (*fac*) (*B* = 2 percent × *yos* × *fac*). Under this final-average-pay formula, a worker with 30 years of service would receive a retirement benefit equal to 60 percent of her pre-retirement earnings (*B* = 60 percent × *fac* = 2 percent × 30 *yos* × *fac*). Final average compensation is typically computed by averaging the worker's salary over the last three or five years prior to retirement. Alternatively, some plans use career-average compensation instead of final-average compensation. Under a career-average compensation formula, benefits are based on a percentage of an average of career earnings for every year of service by the employee.

[4] While many defined benefit plans allow for lump sum distributions, the default benefit for many defined benefit plans is a retirement income stream in the form of an annuity for life. In the United States, for example, defined benefit plans are generally designed to provide annuities, i.e., "definitely determinable benefits . . . . over a period of years, usually for life after retirement." 26 C.F.R. § 1.401-1(b)(1).

A. THE DOMINANCE OF DEFINED CONTRIBUTION PLANS

In recent years, defined contribution plans have come to dominate the pension landscape. For example, 50 percent of full-time private industry workers in the United States participated in defined contribution plans in 2011, up from 40 percent in 1989-90; meanwhile, participation in defined benefit plans fell from 42 percent in 1989-90 to just 22 percent in 2011.[5] In the aggregate, defined contribution plans held 57 percent of pension assets in the United States in 2010 (up from just 49 percent in 2000).[6] Similarly, 81 percent of pension assets in Australia were held by defined contribution plans (and the same percentage in 2000), 60 percent in Switzerland (up from just 48 percent in 2000), and 40 percent in the United Kingdom (up from just 3 percent in 2000).[7] Clearly, there is a worldwide trend towards establishing defined contribution plans, although defined benefit (DB) plans do still hold significant assets in Japan (98 percent DB in 2010), the Netherlands (94 percent DB in 2010), and Canada (95 percent DB in 2010).[8] All in all, however, in the United States, Australia, and many other industrialized nations, the era of the traditional defined benefit pension plan is largely behind us.[9] Pertinent here, our new "defined contribution world" appears to be producing lower rates of saving and

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[5] William J. Wiatrowski, *Changing Landscape of Employment-based Retirement Benefits*, COMPENSATION AND WORKING CONDITIONS ONLINE (U.S. Department of Labor, Bureau of Labor Statistics, September 29, 2011), http://www.bls.gov/opub/cwc/cm20110927ar01p1.htm. See also U.S. GOVERNMENT ACCOUNTABILITY OFFICE, GAO-11-333, PRIVATE PENSIONS: SOME KEY FEATURES LEAD TO AN UNEVEN DISTRIBUTION OF BENEFITS 12 (fig. 2) (2011) (showing that 92 percent of the new pension plans formed from 2003-2007 were defined contribution plans, as opposed to defined benefit plans); U.S. Department of Labor, Employee Benefits Security Administration, *Private Pension Plan Bulletin* 3 (tbl. A1) (December 2011), http://www.dol.gov/ebsa/PDF/2009pensionplanbulletin.PDF (showing that, in 2009, there were almost 76 million participants in defined contribution plans, compared with just over 41 million participants in defined benefit plans).

[6] Towers Watson, *Global Pension Asset Study 2011* (February 2011) 8, 33-34, http://www.towerswatson.com/assets/pdf/3761/Global-Pensions-Asset-Study-2011.pdf.

[7] *Id.*

[8] *Id.*

retirement income than defined benefit plans did previously.[10] Consequently, many analysts have expressed doubts as to whether current and future generations of retirees will have adequate retirement incomes.[11]

B. THE LIFE CYCLE MODEL AND BEHAVIORAL ECONOMICS

Economists typically use a life cycle to model the work, saving and retirement choices of individuals.[12] The life cycle model assumes that workers try to maintain a consistent level of consumption over their lifetimes. Under the model, individuals start life with no inheritance and

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[9] EDWARD A. ZELINSKY, THE ORIGINS OF THE OWNERSHIP SOCIETY: HOW THE DEFINED CONTRIBUTION PARADIGM CHANGED AMERICA (2004); Edward A. Zelinsky, *The Defined Contribution Paradigm*, 114(3) YALE LAW JOURNAL 451 (2004).

[10] *See*, *e.g.*, Jack VanDerhei, *The Importance of Defined Benefit Plans for Retirement Income Adequacy*, 32(8) EBRI NOTES 7 (Employee Benefit Research Institute, 2011) (showing that having a defined benefit plan at age 65 significantly reduces the risk that retirement income will be inadequate).

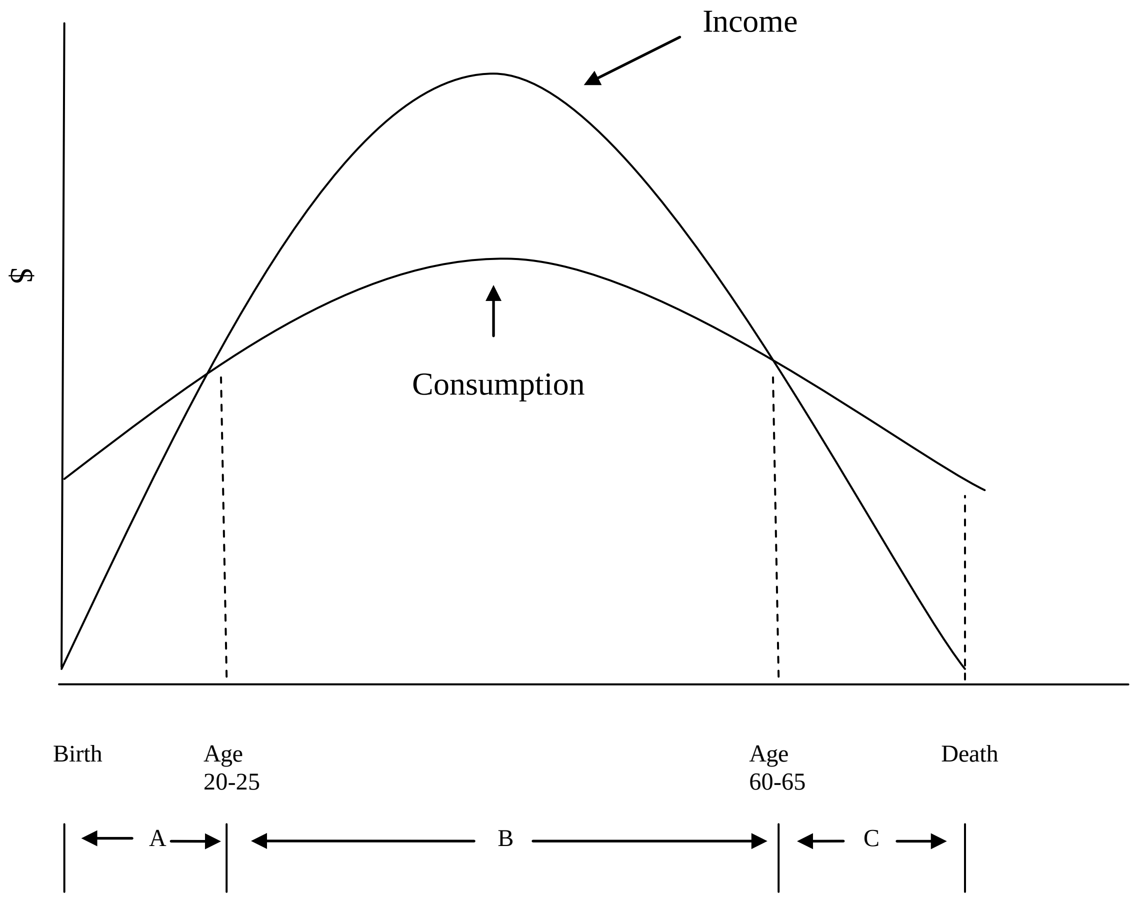
[11] *Id.*; Simon Archer, *A Report on Canadian Pension Law Reform* 17 (May, 17, 2011), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1884307 (discussing Canada); Gordon L. Clark, *From Corporatism to Public Utilities: Workplace Pensions in the 21st Century* (April 14, 2011), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1809646 (discussing the United Kingdom). See also Melissa M. Favreault, Richard W. Johnson, Karen E. Smith & Sheila R. Zedlewski, *Boomers' Retirement Income Prospects* (Urban Institute Brief No. 34, 2012), http://www.urban.org/uploadedpdf/412490-boomers-retirement-income-prospects.pdf (4 out of 10 late baby-boomers will lack sufficient income at age 79 to replace 75 percent of what they earned between ages 50 and 54); Alicia H. Munnell, Anthony Webb & Francesca Golub-Sass, *The National Retirement Risk Index: After the Crash* (Boston College Center for Retirement Research Issue in Brief No. 9-22, 2009), http://crr.bc.edu/images/stories/Briefs/IB_9-22.pdf (half of households will not have enough retirement income to maintain their preretirement living standards); Steven Greenhouse, *After the Storm, the Little Next Eggs That Couldn't*, NEW YORK TIMES, March 7, 2012, http://www.nytimes.com/2012/03/08/business/retirementspecial/recovering-from-a-crash-to-make-a-second-act.html?_r=1; but see John Karl Scholz, Ananth Seshadri & Suurachai Khitatrakun, *Are Americans Saving 'Optimally' for Retirement?*, 114(4) JOURNAL OF POLITICAL ECONOMY 607 (2006) (optimistically predicting that less than 20 percent of households have less retirement wealth than optimal); Austin Nichols, *Do Financial Planners Advise Us to Save Too Much for Retirement?* (Urban Institute Program on Retirement Policy Paper, 2012), http://www.urban.org/UploadedPDF/412510-Do-Financial-Planners-Advise-Us-to-Save-Too-Much-for-Retirement.pdf (Americans are not necessarily saving too little for retirement).

[12] This section follows Jonathan Barry Forman, *Pensions & Retirement*, in LABOR AND EMPLOYMENT LAW AND ECONOMICS of the ENCYCLOPEDIA OF LAW AND ECONOMICS, Vol. 2, Chapter 19, 539, at 552-54 (Kenneth G. Dau-Schmidt, Seth Harris & Orly Lobel, eds., 2d ed., 2009); see also NICHOLAS BARR & PETER DIAMOND, REFORMING PENSIONS: PRINCIPLES AND POLICY CHOICES 26-31 (2008); ROBERT L. CLARK, RICHARD V. BURKHAUSER, MARILYN MOON, JOSEPH F. QUINN & TIMOTHY M. SMEEDING, THE ECONOMICS OF AN AGING SOCIETY 99 (2004); Sharon A. DeVaney & Sophia T. Chiremba, *Comparing the Retirement Savings of the Baby Boomers and Other Cohorts*, COMPENSATION AND WORKING CONDITIONS (U.S. Department of Labor, Bureau of Labor Statistics, January 24, 2005), http://www.bls.gov/opub/cwc/cm20050114ar01p1.htm; Albert Ando & Franco Modigliani, *The life cycle hypothesis of saving*, 53(1) AMERICAN ECONOMIC REVIEW 55 (1963).

end it leaving behind no bequests. Individuals try to smooth out their average annual consumption, by borrowing when they are young, and earning enough during their working years to both repay their loans and save for retirement. Under the model, individuals have perfect foresight so that they can save exactly enough so that they can live off their savings until death and die exactly when they run out of money.[13] See Figure 2.

[13] Of note, the life-cycle model assumes relatively level spending by retirees throughout retirement, and for simplicity most of the discussion in this paper follows that assumption. In fact, consumption patterns in retirement are different at different ages and the overall pattern is U-shaped rather than flat. In the initial *active* phase, higher incomes may be needed to meet the expenses of travel and leisure activities. This is often followed by a less expensive *passive* phase when retirees are still living independently but reduce their spending as they have a more sedentary lifestyle. Finally, many retirees will fall into a *frail* phase of declining health and when more income is need to help pay for greater assistance. *See, e.g.*, Jack Jie Ding, *Annuitization with Phased Consumption Requirements: Who, When and How Much* (2011), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2014453.

Figure 2. Stages of the Simple Economic Life Cycle



Major Life Periods:

A. 'Youth': Period when consumption exceeds income (up to age 20-25).
B. 'Working Life': Period where income exceeds consumption (20-25 to 60-65).
C. 'Retirement': Period where consumption exceeds income (60-65 and beyond).

Source: Following ROBERT L. CLARK, RICHARD V. BURKHAUSER, MARILYN MOON, JOSEPH F. QUINN & TIMOTHY M. SMEEDING, THE ECONOMICS OF AN AGING SOCIETY 100 (fig. 4.2) (2004).

To be sure, individuals are not completely rational about saving for retirement or about converting their retirement savings into income streams in retirement. Among other things, most people think about retirement in terms of current dollars. They look at the current monthly benefits available to them from Social Security and their traditional defined benefit plans, and they look at the apparently large sums accumulated in their defined contribution plans (and generally available to them only if they retire). As a result, a kind of "money illusion" leads most older Americans to believe that they are better off financially than they really are.

Unfortunately, inflation after retirement almost invariably erodes the value of accrued pension benefits. Moreover, older workers often fail to consider how their benefits and needs will change over the course of their retirement. In addition, many older Americans underestimate their life expectancies. Moreover, most workers lack even a rudimentary understanding of the financial resources required for a 20- or 30-year retirement.[14] What looks like an adequate retirement income at age 55, 62, 65, or even 67 may not be enough to live on at age 80 when work is not a likely option and savings have been depleted. In short, many older Americans overestimate their financial ability to meet their future retirement income needs and, consequently, choose to retire too early and spend too much each year after retirement.[15]

At bottom, the life cycle model assumes that workers are always rational actors who will make reasoned choices about how much to save.[16] The reality, however, is that attitudes and many other psychological factors lead people to save less than the optimal amount. That is where behavioral economics can help. Behavioral economics acknowledges the psychological aspects of decision-making in the real world. Behavioral principles can be used to help redesign pension plans to increase savings rates and to encourage people to choose retirement income

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[14] *See, e.g.*, Sudipto Banerjee, *Expenditure Patterns of Older Americans, 2001–2009* (Employee Benefit Research Institute Issue Brief No. 368, 2011), http://www.ebri.org/pdf/briefspdf/EBRI_IB_02-2012_No368_ExpPttns.pdf (discussing pre- and postretirement expenses).

[15] In that regard, for example, a recent study of the holdings of households in their last years of life found that a substantial fraction of persons die with virtually no financial assets—46.1 percent had less than $10,000. Moreover, many of these households also have no housing wealth and rely almost entirely on Social Security benefits for support. James M. Poterba, Steven F. Venti & David A. Wise, *Were They Prepared for Retirement? Financial Status at Advanced Ages in the HRS and AHEAD Cohorts* (National Bureau of Economic Research Working Paper No. 17824, 2012), http://www.nber.org/papers/w17824.

streams over lump sum distributions. For example, studies have shown that automatically enrolling people into 401(k) plans can achieve higher levels of participation, and automatically escalating the levels of their contributions can dramatically increase their level of saving for retirement.[17] Along the same lines, some analysts recommend that a substantial portion of the assets in defined contribution plans should automatically be paid out as annuities, unless the retirees affirmatively elect otherwise.[18]

III. Defined Contribution Plans in the United States, Australia, and Other Countries

A. Defined Contribution Plans in the United States

The United States has a "voluntary" pension system.[19] That is, employers are not required to have pensions. However, when employers do provide pensions, those pensions are typically subject to regulation under the *Employee Retirement Income Security Act of 1974* (ERISA).[20]

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[16] *See, e.g.*, Alicia H. Munnell, *How Much to Save for a Secure Retirement* (Boston College Center for Retirement Research Issue in Brief No. 11-13, 2011), http://crr.bc.edu/images/stories/Briefs/IB_11-13.pdf.

[17] *See, e.g.*, Peter Orszag, *Behavioral Economics: Lessons from Retirement Research for Health Care and Beyond* (Congressional Budget Office, 2008), http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/96xx/doc9673/08-07-presentation_rrc.pdf. Pertinent here, the Pension Protection Act of 2006 provides incentives to plan sponsors that implement automatic features like automatic enrollment in 401(k) plans and gradual contribution rate escalation.

[18] *See, e.g.*, George A. (Sandy) MacKenzie, The Decline of the Traditional Pension 200-03 (2010); J. Mark Iwry & John A. Turner, *Automatic Annuitization: New Behavioral Strategies for Expanding Lifetime Income* (Retirement Security Project Paper No. 2009-2, 2009), http://www.brookings.edu/~/media/Files/rc/papers/2009/07_annuitization_iwry/07_annuitization_iwry.pdf (discussing various default strategies); William G. Gale, J. Mark Iwry, David C. John & Lina Walker, *Increasing Annuitization in 401(k) Plans with Automatic Trial Income* (Retirement Security Project Paper No. 2008-2, 2008), http://www.brookings.edu/~/media/Files/rc/papers/2008/06_annuities_gale/06_annuities_gale.pdf (recommending defaulting retirees into receiving at least 24 consecutive monthly payments from an annuity or similar lifetime income product).

[19] Forman, *supra* note 3, at 214; Kathryn L. Moore, *An Overview of the U.S. Retirement Income Security System and the Principles and Values It Reflects*, 33 Comparative Labor Law & Policy Journal 5, 17 (2011).

[20] Public Law No. 93-406, 88 Stat. 864 (1974). See generally Joint Committee on Taxation, *Present Law and Background Relating to the Tax Treatment of Retirement Savings* (Report No. JCX-32-12, 2012), http://www.jct.gov/publications.html?func=startdown&id=4418.

1. Retirement Savings are Tax-Favored

Most pension plans qualify for favorable tax treatment. Basically, an employer's contributions to a tax-qualified retirement plan on behalf of an employee are not taxable to the employee.[21] Moreover, the pension fund's earnings on those contributions are tax-exempt.[22] As more fully described below, workers pay tax only when they receive distributions of their pension benefits, and, at that point, the usual rules for taxing annuities apply.[23] Nevertheless, the employer is allowed a current deduction for its contributions (within limits).[24] See Figure 3.[25]

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[21] 26 U.S.C. (hereinafter Internal Revenue Code [I.R.C.]) § 402. See also Congressional Budget Office, *Use of Tax Incentives for Retirement Saving in 2006* (2011), http://www.cbo.gov/sites/default/files/cbofiles/attachments/2011-10-14-TaxIncentives.pdf.

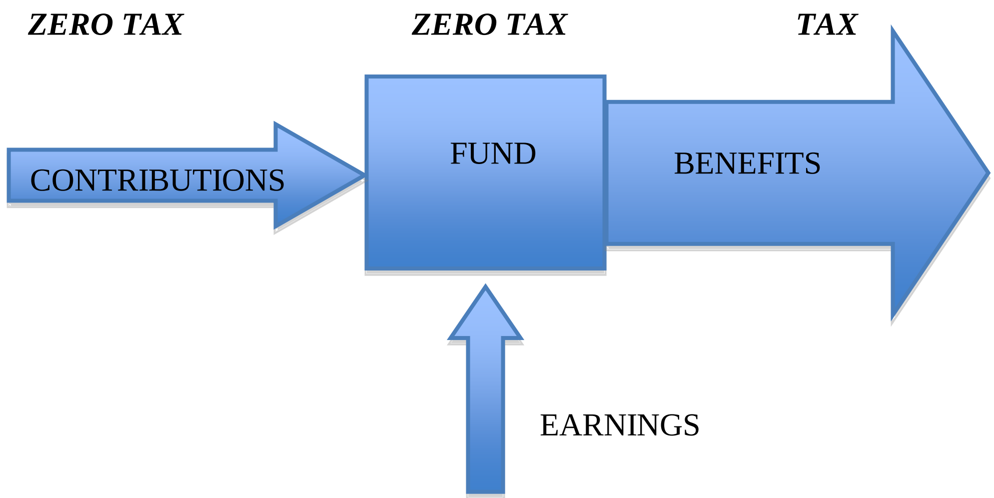
[22] I.R.C. § 501(a).

[23] I.R.C. §§ 72, 402. An individual receiving benefits under an annuity or pension usually excludes a fraction of those benefits from income. That fraction (the "exclusion ratio") is based on the amount of premiums or other after-tax contributions made by the individual. The exclusion ratio enables the individual to recover her own after-tax contributions tax free and to pay tax only on the remaining portion of benefits which represents income. See *infra* Subsection III.A.3.a.

[24] I.R.C. § 404. Also of note, since 2002, certain low- and moderate-income individuals have been able to claim a tax credit of up to $1,000 for certain qualified retirement savings contributions. I.R.C. § 25B. The credit equals a percentage (50 percent, 20 percent, or 10 percent) of up to $2,000 of contributions. In effect, the credit acts like an employer match: the government matches a portion of the employee's contributions. Employer matches encourage workers to contribute, at least up to the match level, and the saver's tax credit seems to have similar pro-savings effects. *See, e.g.*, William G. Gale & Peter R. Orszag, *Private Pensions: Issues and Options* (Urban-Brookings Tax Policy Center Discussion Paper No. 9, 2003), http://www.urban.org/UploadedPDF/310666_TPC-DP9.pdf; Lisa Southwirth & John Gist, *The Saver's Credit: What Does It Do For Saving?* (AARP Public Policy Institute Insight on the Issues Paper, 2008) http://assets.aarp.org/rgcenter/econ/i1_credit.pdf.

[25] This so-called exempt-exempt-taxable (EET) approach is followed by many of the world's pensions. *See, e.g.*, OECD, PENSIONS AT A GLANCE 2011: RETIREMENT-INCOME SYSTEMS IN OECD AND G20 COUNTRIES 58, 122-23 (2011), http://www.oecd-ilibrary.org/finance-and-investment/pensions-at-a-glance-2011_pension_glance-2011-en; Kwang-Yeol Yoo & Alain de Serres, *Tax Treatment of Private Pension Savings in OCDE Countries* (OECD Economic Studies Paper No. 39, 2004/2, 2005), http://www.oecd.org/dataoecd/19/0/35663569.pdf; Jonathan Barry Forman, *The Tax Treatment of Public and Private Pensions Around the World*, 14 AMERICAN JOURNAL OF TAX POLICY 299 (1997).

Figure 3. U.S. Tax Treatment of a Simple Defined Contribution Plan



The benefits of saving in a tax-favored individual account can be illustrated with a simple example.[26] Consider a 25-year-old worker with zero retirement savings who earns a $30,000 annual salary. Assume that she will receive annual salary increases that average 3 percent so that her anticipated annual salary would be around $100,000 at age 67. Further assume that she saves 10 percent of her annual salary each year in a traditional brokerage account that earns a hypothetical 6.6 percent annual rate of return and that she is subject to an average tax rate of 25 percent on those investments—yielding a 5 percent after-tax rate of return. Her total accumulation in that taxable brokerage account at age 67 would be $604,813.[27] If she instead

[26] This example follows Legg Mason Retirement Advisory Council, *The savings crisis of working Americans: The retirement industry call to action* 5-7 (2011), http://www.erisa-lawyers.com/documents/FinalApprovedWhitePaper.pdf.
[27] The study also estimated that that brokerage account could provide $80,000 a year for this worker (80 percent replacement) for just a few years, until the owner reached age 74. *Id.*

contributed that 10 percent a year to a tax-favored individual account plan, she would have accumulated $1,254.952.[28]

2. Types of Defined Contribution Plans

There are a variety of different types of defined contribution plans, including money purchase pension plans, target benefit plans, profit-sharing plans, stock bonus plans, and employee stock ownership plans ("ESOPs").[29] Of particular note, profit-sharing and stock bonus plans often include a feature that allows workers to choose between receiving cash currently or deferring taxation by placing the money in a retirement account according to Internal Revenue Code section 401(k). Consequently, these plans are often called "401(k) plans," and they are the most popular type of retirement plan in the United States.[30] The maximum annual amount of such elective deferrals that can be made by an individual in 2012 is $17,000, although workers over the age of 50 can contribute another $5,500 (for a total of up to $22,500).[31]

Favorable tax rules are also available for certain individual retirement accounts (IRAs).[32] Almost any worker can set up an IRA with a bank or other financial institution. In 2012, individuals without pension plans can contribute and deduct up to $5,000 to an IRA, although individuals over age 50 can contribute and deduct another $1,000 (for a total of up to $6,000);

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28 The study notes that this larger balance should provide 80 percent income replacement for a significantly longer period than the taxable brokerage account. *Id.*

29 *See*, *e.g.*, U.S. Department of Labor, Bureau of Labor Statistics, *Six Ways to Save for Retirement*, 3(3) PROGRAM PERSPECTIVES 1, 2 (2011), http://www.bls.gov/opub/perspectives/program_perspectives_vol3_issue3.pdf.

30 *See*, *e.g.*, U.S. Department of Labor, Bureau of Labor Statistics, *BLS examines popular 401(k) retirement plans*, 2(6) PROGRAM PERSPECTIVES 1 (2006), http://www.bls.gov/opub/perspectives/program_perspectives_vol2_issue6.pdf.

31 Internal Revenue Service, *IRS Announces Pension Plan Limitations for 2012* (IR-2011-103, 2011), http://www.irs.gov/newsroom/article/0,,id=248482,00.html.

32 I.R.C. § 219.

and spouses can contribute and deduct similar amounts.[33] If a worker is covered by another retirement plan, however, the deduction may be reduced or eliminated if the worker's income exceeds $58,000 for a single individual or $92,000 for a married couple.[34] Like private pensions, IRA earnings are tax-exempt, and distributions are taxable.[35]

Also, since 1998, individuals have been permitted to set up so-called Roth IRAs.[36] Unlike regular IRAs, contributions to Roth IRAs are not deductible. Instead, withdrawals are tax-free. Like regular IRAs, however, Roth IRA earnings are tax-exempt. And since 2006, employers have been permitted to set up Roth 401(k) plans that operate in a similar fashion.[37] See Figure 4.

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[33] Internal Revenue Service, *2012 IRA Contribution and Deduction Limits* (October 20, 2011), http://www.irs.gov/retirement/participant/article/0,,id=188232,00.html.

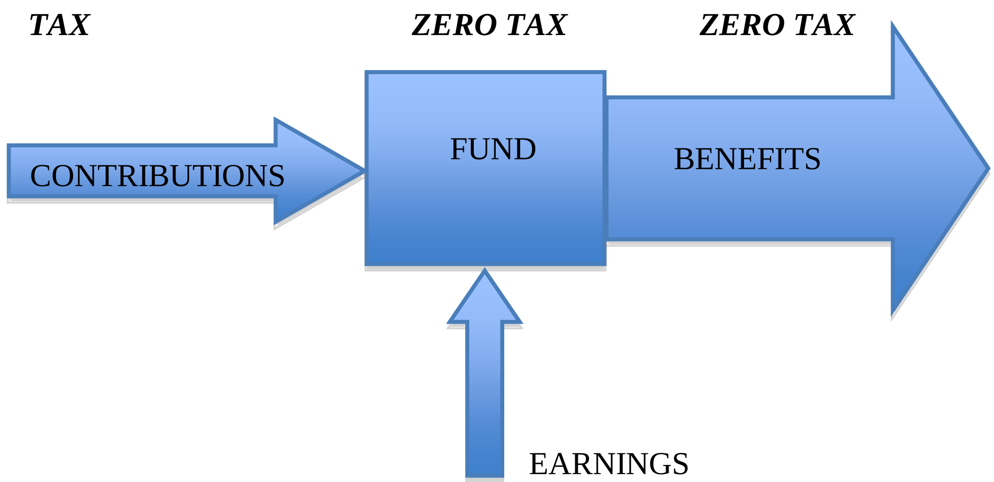
[34] Internal Revenue Service, *supra* note 31.

[35] Also, so-called "Keogh plans" give self-employed workers an ability to save for retirement that is similar to plans that employers sponsor, and Keogh plans allow self-employed workers to contribute more than they could otherwise contribute to a regular IRA. Internal Revenue Service, *Retirement Plans for Small Business (SEP, Simple, and Qualified Plans)* 2, 12 (Publication No. 560, February 7, 2012), http://www.irs.gov/pub/irs-pdf/p560.pdf.

[36] I.R.C. § 408A.

[37] I.R.C. § 402A.

Figure 4. U.S. Tax Treatment of a Roth Defined Contribution Plan



3. Key Distribution Rules

a. <u>The Tax Treatment of Distributions</u>

Pension benefits or annuity payments may be fully taxable or partially taxable. For example, a participant's pension benefits will be fully taxable if the participant's employer contributed all of the cost for the pension without any of the contributions being included in the employee's taxable wages.[38]

On the other hand, if an individual made after-tax contributions to a pension or annuity, she can exclude part of her pension or annuity distributions from income. Under Internal Revenue Code sections 72 and 402, the individual can exclude a fraction of each benefit payment from income. That fraction (the "exclusion ratio") is based on the amount of premiums or other after-tax contributions made by the individual. The exclusion ratio enables the individual to

[38] Pension benefits would also be fully taxable it the participant has already received all of her previously taxed contributions tax free in previous years. See generally Internal Revenue Service, *Pension and Annuity Income* (Publication No. 575, 2011), http://www.irs.gov/pub/irs-pdf/p575.pdf.

recover her own after-tax contributions tax free and to pay tax only on the remaining portion of benefits which represents income.

Taxpayers who begin receiving annuity payments from a qualified retirement plan after November 18, 1996, generally can use the so-called Simplified Method to figure the tax-free part of their benefits.[39] Under the Simplified Method, the Code provides a table with a fixed number of anticipated payments that depends upon the annuitant's age as of the annuity starting date. The taxpayer then divides the total of her after-tax contributions over the applicable number of anticipated payments and excludes the amount so determined each year. For example, if the annuity is payable over the life of a single individual, the number of anticipated payments is determined as shown in Table 1.

Table. 1. Simplified Method, Single Life

Age at annuity starting date	*Number of anticipated payments*
55 or under	360
56-60	310
61-65	260
66-70	210
71 or older	160

Source: Internal Revenue Service, *Pension and Annuity Income* 42 (tbl. 1) (Publication No. 575, 2011), http://www.irs.gov/pub/irs-pdf/p575.pdf.

Similarly, if the annuity is payable over the lives of more than one individual, the number of anticipated payments is determined as shown in Table 2.

[39] *Id.* at 12.

Table. 2. Simplified Method, Joint Lives

Combined ages at annuity starting date	*Number of anticipated payments*
110 or under	410
110-120	360
121-130	310
131-140	260
141 or older	210

Source: Internal Revenue Service, *Pension and Annuity Income* 42 (tbl. 2) (Publication No. 575, 2011), http://www.irs.gov/pub/irs-pdf/p575.pdf.

b. Normal Retirement Age

In the United States, the Employee Retirement Income Security Act of 1974 (ERISA) defines "normal retirement age" as the earlier of the time specified in the plan or the later of age 65 or the fifth anniversary of the time the employee commenced participation in the plan.[40] The Age Discrimination in Employment Act of 1967 (ADEA) outlawed mandatory retirement before the age of 65.[41] The limit was raised to 70 in 1978 and finally removed altogether in 1986. The Act generally prohibits employers from discriminating against workers over the age of 40.[42]

c. Premature Distributions and Loans

Internal Revenue Code section 72(t) generally imposes a 10 percent tax on pension distributions made before an individual reaches age 59½, but there are numerous exceptions.[43] For example, there is an exception for distributions that take the form of a lifetime annuity, and there are exceptions for distributions on account of disability or to cover high medical expenses.

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40 ERISA § 3(24), 29 U.S.C. § 1002(24); I.R.C. § 411(a)(8).

41 29 U.S.C. §§ 621-634.

42 *Id.* Also, since 1988, employers have been prohibited from ceasing benefit accruals for employees who work beyond age 64 and from excluding participants who are hired within five years of normal retirement age. I.R.C. § 411(b)(2)(A) prohibits a defined contribution plan from ceasing allocations, or reducing the rate at which amounts are allocated to a participant's account, "because of the attainment of any age." Similarly, I.R.C. § 411(b)(1)(H) prohibits a defined benefit plan from ceasing accruals, or reducing the rate of benefit accruals, "because of the attainment of any age." Parallel provisions are found in ERISA and in ADEA. ERISA §§ 204(b)(1)(H)(i), (ii), 29 U.S.C. §§ 1054(b)(1)(H)(i), (ii); 29 U.S.C. § 623(i).

43 *See*, *e.g.*, Internal Revenue Service, *Retirement Topics – Tax on Early Distributions* (February 22, 2012), http://www.irs.gov/retirement/participant/article/0,,id=211440,00.html.

Distributions from an Individual Retirement Account can even be used to purchase a residence or pay college tuition. Also, many plans allow participants to borrow against their accounts.[44]

d. Rollovers

Under Internal Revenue Code section 401(a)(31), qualified plans must allow participants to elect to have certain distributions made in the form of direct trustee-to-trustee transfers to an IRA or defined contribution plan.[45]

e. Minimum Distribution Age

Internal Revenue Code section 401(a)(9) generally requires participants in retirement plans to begin taking distributions soon after they reach age 70½.[46] Failure to take the required minimum distribution can result in a 50 percent excise tax penalty on the excess of the amount required to have been distributed over the amount that actually was distributed.[47] In addition, a plan that fails to make the required minimum distributions can be disqualified.

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[44] I.R.C. § 72(p).

[45] I.R.C. § 401(a)(31)(B) requires that qualified plans making automatic payouts to terminated participants of up to $5,000 (so-called "mandatory distributions") must transfer the funds to an IRA or annuity selected by the plan sponsor unless the amount is less than $1,000 or the participant elects otherwise.

[46] More specifically, distributions typically must begin no later than April 1 of the calendar year following the calendar year in which the employee attains age 70½. Distributions after the death of a plan participant must also meet certain minimum distribution requirements. An exception allows older workers with a pension plan from their current employer to delay distributions until they retire, but workers with pensions from prior employers and IRA holders must begin taking distributions from those plans soon after they reach age 70½.

[47] I.R.C. § 4974. Of note, President Barrack Obama's 2012 budget calls for the elimination of the minimum required distribution requirements if the aggregate value of the individual's tax-favored retirement plan accumulations is $75,000 or less. U.S. DEPARTMENT OF THE TREASURY, GENERAL EXPLANATIONS OF THE ADMINISTRATION'S FISCAL YEAR 2013 REVENUE PROPOSALS 172-73 (2012), http://www.treasury.gov/resource-center/tax-policy/Documents/General-Explanations-FY2013.pdf.

4. The Decline of Annuitization

The United States has a well-developed annuity market.[48] Nevertheless, over the years, there has been a significant decline in annuitization of retirement savings by American workers. The shift to defined contribution plans is a large part of the story, as defined contribution plans typically distribute benefits in the form of lump sum distributions rather than as annuities.[49] Indeed, relatively few defined contribution plans even offer annuity options, and, in any event, relatively few participants elect those annuity options.[50] In 2010, for example, just 18 percent of private industry workers in defined contribution plans had annuities available to them.[51] Along the same lines, one study found that at retirement, only about 1 percent of retirees elect to take the lifetime income products that are embedded in their defined contribution plans.[52] The

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[48] Anthony Webb, *The United States Longevity Insurance Market*, in SECURING LIFELONG RETIREMENT INCOME: GLOBAL ANNUITY MARKETS AND POLICY 63 (Olivia S. Mitchell, John Piggott & Noriyuki Takayama, eds., 2011).

[49] TowersWatson, *International Pension Plan survey: Report 2011* (2011), http://www.towerswatson.com/assets/pdf/6036/TW-EU-2011-22755-IPP-survey.pdf (lump sums distributions are by far the most prevalent form of distribution for defined contribution plans).

Of note, over the years, defined benefit plans have also shifted towards paying lump sum distributions in lieu of annuities. For example, 52 percent of participants in medium and large defined benefit plans were permitted to take a lump-sum distribution in 2005, up from just 14 percent in 1991. U.S. Department of Labor, Bureau of Labor Statistics, *National Compensation Survey: Employee Benefits in Private Industry in the United States, 2005*, 66 (tbl. 51) (Bulletin No. 2589, 2007). See also Craig Copeland, *Lump-Sum Distributions*, 26(12) EMPLOYEE BENEFIT RESEARCH INSTITUTE NOTES 7 (2005).

[50] *See*, *e.g.*, Beverly I. Orth, *Approaches for Promoting Voluntary Annuitization* (Paper presented at the 2008 Retirement 20/20 Conference, Society of Actuaries, Washington, DC, November 17-18, 2008), http://www.soa.org/library/monographs/retirement-systems/retirement2020/2008/november/mono-2008-m-rs08-01-orth.pdf.

[51] U.S. Bureau of Labor Statistics, *National Compensation Survey: Health and Retirement Plan Provisions in Private Industry in the United States*, 2010, tbl. 21 (Bulletin No. 2770, 2011), *available at*, http://www.bls.gov/ncs/ebs/detailedprovisions/2010/ownership/private/table21a.pdf. Another study estimated that only about 1 percent of defined contribution plans offer a deferred annuity product among their investment choices. Michael J. Brien & Constantijn W.A. Panis, *Annuities in the Context of Defined Contribution Plans* 15 (November 2011), http://www.dol.gov/ebsa/pdf/Deloitte2011.pdf. See also *The Retirement Challenge—Making Savings Last A Lifetime, Hearing before the Senate Special Committee on Aging* 111th Congress, 194-222 (2010) (statement of the Investment Company Institute), http://aging.senate.gov/publications/6162010.pdf (discussing low levels of annuitization from defined contribution plans).

[52] Martha L. Tejera, *Retirement Income in DC Plans: What Our Experience with DB Plans Tells Us*, 3(1) INSTITUTIONAL RETIREMENT INCOME COUNCIL 1 (2012),

problem for many retirees is that lump sum distributions can be all too easily dissipated. Indeed, one study found that 54 percent of those who took lump sum distributions from their retirement plan had exhausted their savings within three years of retirement.[53]

To be sure, after people retire, they can use distributions from their retirement plans to purchase annuities, but relatively few retirees do. According to an analysis of the 2008 cycle of the University of Michigan's Health and Retirement Survey, only about 4.1 percent of retirees converted their defined contribution account balances into annuities within a year of retiring.[54]

a. The Annuity Puzzle

All in all, people rarely choose to buy annuities voluntarily, even though purchasing annuities could rationally help maximize their expected retirement incomes. That is, the demand for annuities is lower than expected, and this shortfall has come to be known as the "annuity puzzle."[55]

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http://iricouncil.org/docs/Volume%203,%20Number%201.pdf (citing Hewitt Associates, *Survey Findings: Trends and Experiences in 401(k) Plans* 68 (2009)).

[53] TowersWatson, *supra* note 49, at 3

[54] Brien & Panis, *supra* note 51. See also Paul Yakoboski, *Retirees, Annuitization and Defined Contribution Plans* 3, 5 (TIAA-CREF Institute Trends and Issues, April 2010), http://www.tiaa-crefinstitute.org/ucm/groups/content/@ap_ucm_p_tcp_docs/documents/document/tiaa02029462.pdf (finding that only around 19 percent of retirees with significant defined contribution plan assets but little defined benefit pension income annuitized a portion of their retirement savings).

[55] Manahem E. Yaari, *Uncertain Lifetime, Life Insurance, and the Theory of the Consumer*, 32(2) REVIEW OF ECONOMIC STUDIES 137 (1965); Franco Modigliani, *Life Cycle, Individual Thrift, and the Wealth of Nations*, 76(3) AMERICAN ECONOMIC REVIEW 297 (1986); Shlomo Benartzi, Alessandro Previtero & Richard H. Thaler, *Annuitization Puzzles*, 25(4) JOURNAL OF ECONOMIC PERSPECTIVES 143 (Fall 2011); Julie R. Agnew, Lisa R. Anderson, Jeffrey R. Gerlach & Lisa R. Szykman, *The Annuity Puzzle and Negative Framing* (Boston College Center for Retirement Research Issue in Brief No. 8-10, 2008), http://crr.bc.edu/images/stories/ib_8-10.pdf; Jeffrey R. Brown, Jeffrey R. Kling, Sendhil Mullainathan & Marian V. Wrobel, *Why Don't the People Insure Late Life Consumption? A Framing Explanation of the Under-Annuitization Puzzle* (TIAA-CREF Institute Research Dialogue No. 88, 2008), http://www.tiaa-crefinstitute.org/ucm/groups/content/@ap_ucm_p_tcp_docs/documents/document/tiaa02029383.pdf; Svetlana Pashchenko, *Accounting for non-annuitization* (Federal Reserve Bank of Chicago Working Paper No. WP-2010-03(2010), http://chicagofed.org/digital_assets/publications/working_papers/2010/wp2010_03.pdf; Charles S. Yanikoski, *How We Sell – and Why We Fail to Sell – Annuities* (RetirementWorks, March 7, 2012), http://www.stillriverretire.com/Downloads/Selling_Annuities.pdf; John A. Turner, *Why Don't People Annuitize? The*

No doubt, there are many reasons for this low demand for annuities. Financial literacy is often low among consumers.[56] Moreover, relatively few retirees are willing to give up control over their retirement savings by buying an annuity: they would just rather have money in the bank. Many also want to leave money to their children (economists call this a bequest motive). Also, because of adverse selection (i.e., those that voluntarily purchase annuities tend live longer than those that do not), annuities may not be priced very well for those with normal life expectancies.

Finally, it is important to note that Social Security and Supplemental Security Income (SSI) already provide inflation-adjusted monthly benefits that may crowd out private annuities.[57] In February of 2012, for example, the Social Security system paid benefits to almost 36 million retired workers, and the average monthly benefit paid to a retired worker was $1,231.73.[58] Similarly, in February of 2012, more than two million elderly Americans received SSI benefits from the federal government, and the average monthly benefit was $415.70.[59]

In fairness, it should be noted that many elderly Americans have little in the way of financial assets that could be annuitized. According to one study of households between the ages

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Role of Advice Provided by Retirement Planning Software (Pension Research Council Working Paper No. WP2010-07, 2010), http://www.pensionresearchcouncil.org/publications/document.php?file=858; Society of Actuaries, *Understanding and Managing the Risks of Retirement* 11 (Society of Actuaries, Key Findings and Issues, March 2012) (fewer than half of retirees and pre-retirees use risk pooling strategies to manage retirement risks).

[56] *See, e.g.*, Annamaria Lusardi, Olivia S. Mitchell & Vilsa Curto, *Financial Sophistication in the Older Population* (National Bureau of Economic Research, Working Paper No. 17,863, 2012), http://www.nber.org/papers/w17863.

[57] *See, e.g.*, Monika Bütler, Kim Peijnenburg, & Stefan Staubli, *How Much Do Means-Tested Benefits Reduce the Demand for Annuities?* (Network for Studies on Pensions, Aging and Retirement, Discussion Paper No. DP 09/2011-52, 2011), http://arno.uvt.nl/show.cgi?fid=114894.

[58] U.S. Social Security Administration, *Monthly Statistical Snapshot, February 2012* (March 2012), http://www.ssa.gov/policy/docs/quickfacts/stat_snapshot.

[59] *Id.*

of 65 and 69 in 2008, the median household had less than $52,000 in annuitizable wealth.[60] All in all, just 47 percent of those elderly households could increase their life-contingent annual income by more than $5,000 a year.[61]

b. Recent Efforts in the United States

Of note, the Internal Revenue Service and the U.S. Department of Labor recently mounted a joint effort to gather research and recommendations about so-called "Lifetime Income Options for Retirement Plans."[62] In that regard, the U.S. Treasury and the Internal Revenue Service recently released "an initial package of proposed regulations and rulings intended to remove impediments and otherwise ease the offering of lifetime income choices that can help retirees manage their savings."[63] Among other changes, that guidance makes it easier for plans to offer the option of partial annuities, makes it easier for plans to offer the option of longevity annuities, clarifies how 401(k) participants can be offered the option of purchasing an annuity from their employer's defined benefit plan, and clarifies how 401(k) participants can be offered the option of a deferred annuity under the 401(k) plan consistent with the plan qualification rules.

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60 James Poterba, Steven Venti & David Wise, *The Composition and Drawdown of Wealth in Retirement*, 25(4) JOURNAL OF ECONOMIC PERSPECTIVES 95, 103, 113 (Fall 2011).

61 *Id.* at 96.

62 *See*, *e.g.*, U.S. Department of Labor, Employee Benefits Security Administration, *Lifetime Income Options for Participants and Beneficiaries in Retirement Plans* (2010), http://www.dol.gov/ebsa/regs/cmt-1210-AB33.html.

63 U.S. Department of Treasury, *Treasury Fact Sheet: Helping American Families Achieve Retirement Security by Expanding Lifetime Income Choices* (February 2, 2012), http://www.treasury.gov/press-center/press-releases/Documents/020212%20Retirement%20Security%20Factsheet.pdf. See also, Executive Office of the President Council of Economic Advisors, *Supporting Retirement for American Families* (February 2, 2012), http://benefitslink.com/articles/CEA_report_2_2_2012.pdf; *Prop. regs., rulings facilitate "longevity annuities"*, *Journal of Accountancy* (April 2012), http://www.journalofaccountancy.com/Issues/2012/Apr/Annuities.htm?WBCMODE=PresentationUnpublished&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+JournalOfAccountancy+%28Journal+of+Accountancy%29.

B. Superannuation (Pensions) in Australia

The Australian pension system, known as superannuation, offers another approach for designing a defined contribution pension plan.[64] At present, working taxpayers, their employers and the self-employed generally must contribute 9 percent of their earnings to superannuation funds and generally cannot access those funds until retirement after reaching age 60,[65] earlier death or disability. At that time, the savings can be taken in the form of a lump sum distribution, a pension, or a combination thereof, depending on what the particular superannuation plan provides.

Contributions by employers for their employees have been compulsory since 1992,[66] and the mandatory contribution rate has been 9 percent of employee earnings since the 2002-03 tax year.[67] Of note, however, the Australian Government recently enacted legislation to increase the superannuation guarantee rate from 9 percent to 12 percent.[68] See Table 3.

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[64] *Superannuation Guarantee (Administration) Act of 1992* (Cth); OECD, *supra* note 25, at 193-96. See also Social Security Administration and the International Social Security Association, Social Security Programs Throughout the World: Asia and the Pacific, 2010, 32-40 (2011), http://www.ssa.gov/policy/docs/progdesc/ssptw/2010-2011/asia/ssptw10asia.pdf; Peggy Haines, *Australia*, in A Comparative Survey of Pension Law Issues 127 (Jonathan Mort & Lisa Butler Beatty, eds, International Pension & Employee Benefits Lawyers Association, 2nd revised ed., 2011); Dana M. Muir, *Building Value in the Australian Defined Contribution System: A Values Perspective*, 33 Comparative Law & Policy Journal 93 (2011); David C. John & Ruth Levine, *National Retirement Savings Systems in Australia, Chile, New Zealand and the United Kingdom: Lessons for the United States* (Retirement Security Project Paper No. 2009-1, 2009), http://www.brookings.edu/papers/2009/07_retirement_savings_john.aspx.

[65] The so-called "preservation age" is the earliest age that retirement benefits can be paid from a superannuation fund and still get concessional tax treatment. The preservation age was initially set at age 55 but people born after 1964 must wait until age 60. Australian Taxation Office, *Key factors that affect how your super payout is taxed* (March 27, 2012), http://www.ato.gov.au/individuals/content.aspx?menuid=0&doc=/content/86252.htm&page=3&H3.

[66] *Superannuation Guarantee (Administration) Act of 1992* (Cth); OECD, *supra* note 25, at 194.

[67] Employers do not have to make superannuation contributions for workers earning less than AUD$450 a month (equivalent to AUD$5,400 a year), but they can choose to contribute for those workers. Australian Taxation Office, *Guide to superannuation for employers* (July 13, 2011), http://www.ato.gov.au/content/00249857.htm. There is also an upper limit: employers do not have to make superannuation contributions for employees' pay above this threshold. For each quarter of the tax year 2011-12, this limit was AUD$43,820 per quarter. Australian Taxation Office, *Key superannuation rates and thresholds* (February 24, 2012),

Table 3. Increasing the Australian superannuation guarantee rate from 9 to 12 percent

Year	*Percent*
2013-14	9.25
2014-15	9.5
2015-16	10
2016-17	10.5
2017-18	11
2018-19	11.5
2019-20 and subsequent years	12

Source: Superannuation Guarantee (Administration) Act of 1992 (Cth) ss 19(2) (as amended by the *Superannuation Guarantee (Administration) Amendment Act of 2012* (Cth) s 3)

Employer contributions are deductible regardless of the amount,[69] and employees are not subject to any income tax on those contributions; however, contributions in excess of AUD$25,000 per year in 2011-12 (and AUD$50,000 per year for those over age 50) are taxed at 31.5 percent.

Unlike the tax treatment of regular defined contribution plans in the United States, Australian superannuation funds typically pay tax at a 15 percent rate on their *receipt* of contributions made by employers and individuals who have claimed a deduction.[70] Superannuation funds also pay tax at a 15 percent rate on the income that they earn (10 percent for capital gains on assets held for at least one year).[71] Of note, however, superannuation funds

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http://www.ato.gov.au/superfunds/content.aspx?menuid=0&doc=/content/60489.htm&page=19&H19. This limit is indexed to a measure of average earnings, and is worth around 2½ times average wages. OECD, *supra* note 25, at 193.

[68] *Superannuation Guarantee (Administration) Act of 1992* (Cth) ss 19(2) (as amended by the *Superannuation Guarantee (Administration) Amendment Act of 2012* (Cth) s 3); Commonwealth, *Revised Explanatory Memorandum, Superannuation Guarantee (Administration) Amendment Bill 2011*, Senate (2012), at 9, http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22legislation%2Fems%2Fr4698_ems_c39fb7ba-2037-4c99-bfec-63981ec49bcc%22. See also Australian Government, *Superannuation -- Increasing the Superannuation Guarantee Rate (SG) to 12 percent* (Stronger, Fairer, Simpler: A tax plan for our future, Fact Sheet, July 26, 2011), http://www.futuretax.gov.au/content/FactSheets/downloads/Fact_sheet_SG_rate_increase.pdf.

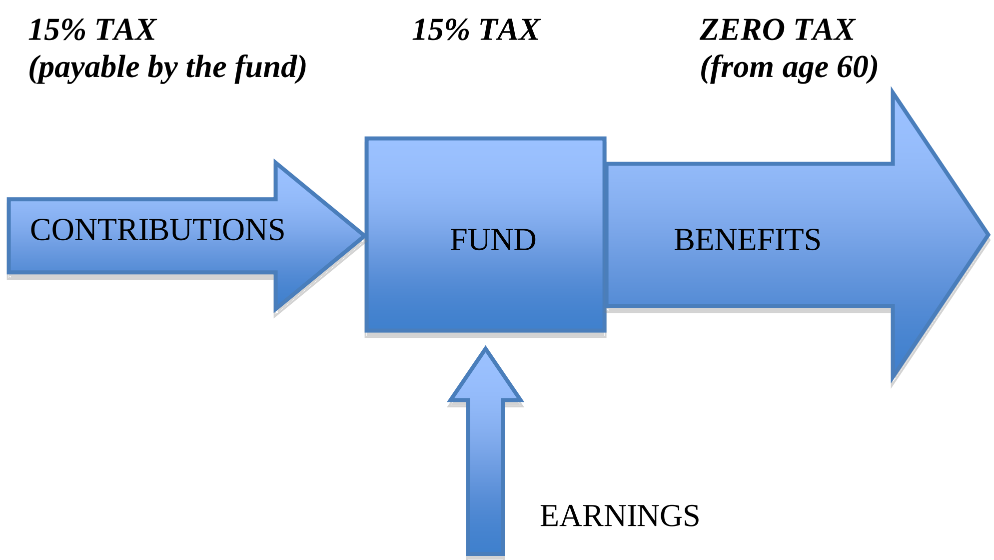
[69] *Income Tax Assessment Act of 1997* (Cth) ss 290.60–290.80.

[70] *Income Tax Assessment Act 1997* (Cth) Division 295.

[71] Because of Australia's imputation tax system for corporate income taxes, however, the superfund gets tax credits imputed to it for the corporate income taxes paid by the Australian companies whose stock it holds. Consequently,

pay no tax on income from assets that are used to support the payment of benefits in the form of a retirement income stream, once that income stream has commenced. Moreover, benefits paid, either as a lump sum distribution or pension, are generally tax-free for people age 60 and over. See Figure 5.

Figure 5. Australian Taxation of a Simple Defined Contribution Plan



Australia does little to encourage or mandate annuities, and, not surprisingly, annuitization rates in Australia are quite low.[72] In 2009, for example, just 17 life annuity policies

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the effective tax rate on superfunds is typically far less than the 15 percent statutory rate. Of note, certain pension funds run by government agencies do not pay tax on contributions or earnings because of provisions in the Australian Constitution. These make up about 10 percent of all pension funds in Australia. *See, e.g.*, Australian Taxation Office, *Super contributions - for defined benefit funds and untaxed funds* (June 15, 2011), http://www.ato.gov.au/individuals/content.aspx?menuid=0&doc=/content/00134932.htm&page=6; Australian Taxation Office, *Examples of untaxed super funds* (April 16, 2012), http://www.ato.gov.au/individuals/content.aspx?doc=/content/00119853.htm.

[72] Hazel Bateman & John Piggott, *Too Much Risk to Insure? The Australian (non-) Market for Annuities*, in Mitchell, Piggott & Takayama, *supra* note 48, at 81, 82; Roberto Rocha, Dimitri Vittas & Heinze P. Rudolph, *The Payout Phase of Pension Systems: A Comparison of Five Countries* 23 (World Bank Policy Research Working Paper No. WPS5289, 2010), http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2010/04/29/000158349_20100429154401/Rendered/PDF/WPS5288.pdf; Ding, *supra* note 13 (finding that annuities are overpriced and therefore underutilized in Australia).

were sold in Australia.[73] As in the United States, the public Age Pension probably crowds out annuities. Of note, however, the Australian government has expressed concern about its role in expanding the range of lifetime income products.[74]

Pertinent here, Australia's Age Pension is a means-tested income support benefit for seniors that is funded from general revenues.[75] The current qualifying age for the Australian Age Pension is 65 years for men and 64 years and 6 months for women but will be 65 years after July 1, 2013.[76] Starting in 2017, the pension age for both men and women will gradually increase until it reaches 67 years on July 1, 2023.[77] Effective March 20, 2012, single workers who qualify for the full Age Pension receive a maximum of AUD$695.30 every fortnight, and couples receive AUD$1,048.20.[78] The single benefit is designed to provide about 25 percent of average male earnings.[79] Benefits are reduced by both an asset test and an income test.[80] For example, effective March 20, 2012, the income test reduces the Age Pension by 40 cents for each dollar of income over AUD$150 per fortnight for singles and 20 cents for each dollar of income over

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[73] Bateman & Piggott, *supra* note 72, at 96 (tbl. 6.5).

[74] *See*, *e.g.*, Australia's Future Tax System, *The Retirement income system: Report on strategic issues* (May 2009), 45-47. See also Bateman & Piggott, *supra* note 72, at 82.

[75] *See*, *e.g.*, OECD, *supra* note 25; SOCIAL SECURITY ADMINISTRATION AND THE INTERNATIONAL SOCIAL SECURITY ASSOCIATION, *supra* note 64.

[76] Australian Government, Department of Health and Ageing, *Australian Government Directory of Services for Older People 2011* (January 12, 2011), at Chapter 5, *Centrelink pensions and allowances*, http://www.health.gov.au/internet/publications/publishing.nsf/Content/ageing-agdos-2011-toc~ageing-agdos-2011-ch5~ageing-agdos-2011-ch5-01.

[77] *Id.*

[78] Australian Government, Department of Human Services, Centrelink, *Payment rates* (March 20, 2012), http://www.centrelink.gov.au/internet/internet.nsf/payments/age_rates.htm. These amounts exclude the Pension Supplement amounts of up to $60.20 every fortnight for singles and $90.80 for couples. *Id.* See also Australian Government, Department of Human Services, Department of Human Services, Centrelink, *The Pension Supplement* (February 23, 2012), http://www.centrelink.gov.au/internet/internet.nsf/individuals/ssp_pension.htm.

[79] OECD, *supra* note 25, at 194.

[80] Australian Government, Department of Human Services, Centrelink, *Payments* (November 25, 2009), http://www.centrelink.gov.au/internet/internet.nsf/payments/age_iat.htm.

AUD$264 for couples.[81] In 2008 just 56 percent of recipients received the maximum rate Age Pension.[82]

C. Other Countries

As in the United States and Australia, the level of voluntary annuitization is generally low around the world.[83] That is, annuity markets are "generally thin."[84] In Sweden, for example, the development of the annuity markets has been held back by public pensions and by traditional occupational pensions.[85] In Germany, annuity markets are well-developed but underutilized.[86] For tax reasons, annuities are unattractive in Japan,[87] and, in India, government policy on life annuities is underdeveloped.[88]

However, there are a few countries that have significantly higher levels of annuitization.

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[81] Australian Government, Department of Human Services, Centrelink,*Payments: Income test for pensions* (March 20, 2012), http://www.centrelink.gov.au/internet/internet.nsf/payments/chartc.htm.

[82] OECD, *supra* note 25, at 194.

[83] Olivia S. Mitchell & John Piggott, *Turning Wealth into Lifetime Income: The Challenge Ahead*, in Mitchell, Piggott & Takayama, *supra* note 48, at 1, 3.

[84] *Id.*

[85] Edward Palmer & Bo Larson, *The Swedish Annuity Market: Where It is and Where it's Headed*, in Mitchell, Piggott & Takayama, *supra* note 48, at 13, 15, 27. As Sweden shifts towards defined contribution plans however, these authors expect that around 40 percent of new retirees will be in the market for privately provided retirement income products. *Id.* at 21. See also Social Security Administration and the International Social Security Association, Social Security Programs Throughout the World: Europe, 2010, 296-302 (2010), http://www.ssa.gov/policy/docs/progdesc/ssptw/2010-2011/europe/ssptw10europe.pdf; Mackenzie, *supra* note 18, at 238-40.

[86] Barbara Kaschützke & Raimond Maurer, *The Private Life Annuity Market in Germany: Products and Money's Worth Ratios*, in Mitchell, Piggott & Takayama, *supra* note 48, at 131.

[87] Mitchell & Piggott, *supra* note 83, at 7; Junichi Sakamoto, *Annuity Markets in Japan*, in Mitchell, Piggott & Takayama, *supra* note 48, at 159.

[88] Mitchell & Piggott, *supra* note 83, 7; Mukul G. Asher & Deepa Vasudevan, *Market Structure and Challenges for Annuities in India*, in Mitchell, Piggott & Takayama, *supra* note 48, at 32.

1. Chile

For example, approximately two-thirds of all participants in Chile's 10-percent-of-pay national contributory defined contribution system purchase annuities.[89] Chile has achieved this high rate of annuitization largely by restricting the options for retirement distributions. The main options are a phased withdrawal benefit or a life annuity.[90] Under the phased withdrawal approach, the retiree retains ownership of the account balance, and the fund administrator makes monthly distributions based on a government formula that takes into account the retiree's age, sex, and marital status. Alternatively, retirees can purchase life annuities from insurance companies. Of note, because of government regulation and the relatively large and competitive market for annuities in Chile, commissions to purchase life annuities are quite low—under 2 percent, and money's worth values are relatively high.[91]

2. Switzerland

Switzerland has a mandatory occupational pension system for most employees.[92] Pension wealth can be withdrawn as a lump sum, as an annuity, or a combination of the two options. The

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[89] Jose Ruiz & Olivia S. Mitchell, *Pension Payouts in Chile: Past, Present, and Future Prospects*, in Mitchell, Piggott & Takayama, *supra* note 48, at 107, 126. For that matter, close to 60 percent of participants in its national pension system elect to take *immediate life* annuities upon retirement. *Id.* at 111. See also OECD, *supra* note 25, at 208-211; SOCIAL SECURITY ADMINISTRATION AND THE INTERNATIONAL SOCIAL SECURITY ASSOCIATION, SOCIAL SECURITY PROGRAMS THROUGHOUT THE WORLD: THE AMERICAS, 76 (2012), http://www.socialsecurity.gov/policy/docs/progdesc/ssptw/2010-2011/americas/ssptw11americas.pdf; Alberto Arenas de Mesa, David Bravo, Jere R. Behrman, Olivia S. Mitchell & Petra E. Todd, *The Chilean Pension Reform Turns 25: Lesssons from the Social Protection Survey*, in LESSONS FROM PENSION REFORM IN THE AMERICAS 25 (Stephen J. Kay & Tapen Sinha, eds., 2008).

[90] Ruiz & Mitchell, *supra* note 89, at 109.

[91] *Id.* at 111, 122-26. The so-called "money's worth ratio" is "the discounted expected present value of the lifetime payment stream relative to the premium, conditional on survival." *Id.* at 124.

[92] Monika Bütler & Stefan Staubli, *Payouts in Switzerland: Explaining Developments in Annuitization*, in Mitchell, Piggott & Takayama, *supra* note 48, 195; Monika Bütler & Martin Ruesch, *Annuities in Switzerland* (World Bank Policy Research Working Paper No. WPS4438, 2007), http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2007/12/12/000158349_20071212141747/Rendered/PDF/wps4438.pdf; Benjamin Avanzi, *What is it that makes the Swiss annuitise? A description of the Swiss retirement system* 16(2) AUSTRALIAN ACTUARIAL JOURNAL 135 (201); MACKENZIE, *supra* note 18, at 240-42.

pension system is highly regulated, and, in particular there are minimum interest rate requirements and minimum conversion rates (at which the accumulated retirement balances are transformed into annuity streams) that ensure high money's worth values for annuities. Payout choices are also strongly influenced by the fact that in most pension plans, the default option is an annuity, and peer effects are also important.[93] In the end, Switzerland has markedly higher annuitization rates than most other countries—approximately 80 percent.[94]

3. United Kingdom

The United Kingdom has the largest annuity market in the world, primarily because individuals who have saved in tax-favored pension plans are required to annuitize at least 75 percent of their pension wealth.[95] To be sure, retirees have considerable leeway over how much to annuitize and when.[96] For example, they can buy guaranteed annuities—annuities that guarantee up to 10 years of payments whether or not the annuitant is alive. Retirees can also delay annuitization until they reach age 75, and they can draw down at least some of their pension wealth until then.

4. Singapore

Singapore is moving towards mandatory annuitization.[97] It recently announced that its citizens must annuitize at least a certain minimum amount of the retirement assets held by them

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[93] Bütler & Staubli, *supra* note 92, at 203, 212.
[94] Bütler & Ruesch, *supra* note 92, at 89; Bütler & Staubli, *supra* note 92, at 203 (only between 10 and 30 percent of individuals cash out).
[95] Edmund Cannon & Ian Tonks, *Compulsory and Voluntary Annuity Markets in the United Kingdom*, in Mitchell, Piggott & Takayama, *supra* note 48, 171.
[96] *Id.* at 173-74.
[97] Joelle H.Y. Fong, Olivia S. Mitchell & Benedict S. K. Koh, *Longevity Risk Management in Singapore's National Pension System* (Pension Research Council Working Paper No. WP2010-10, 2010), http://bpub.wharton.upenn.edu/documents/research/Mitchell%20-%20WP2010-10[1].pdf; *Steve Forbes Interview: Olivia Mitchell, Pension and Retirement Expert*, August 29, 2011,

in the Central Provident Fund (CPF), although the rest can be taken as a lump sum. The government has also decided that it will enter the insurance market as a provider of those annuities. Of note, pension income from approved annuity providers is exempt from tax.[98]

5. Poland

The new Polish pension system will also pay out benefits in the form of life annuities.[99]

6. Canada

So-called "guaranteed lifetime withdrawal benefit (GLWB) annuities" were recently developed in Canada (and have spread to the United States and other countries).[100] As more fully described below, a GLWB is based on a variable annuity, but allows investors to lock in a minimum guarantee for life, even if the funds in the variable annuity are exhausted.[101] Observers expect the Canadian market for annuities will continue to grow in size and innovation.[102]

IV. LIFETIME RETIREMENT INCOME PRODUCTS

A. INTRODUCTION

Retirees face numerous risks in managing their assets through retirement.[103] Pertinent here, longevity risk—the risk of outliving one's retirement savings—is probably the greatest risk

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http://www.forbes.com/sites/steveforbes/2011/08/29/steve-forbes-interview-olivia-mitchell-pension-and-retirement-expert/4/; OECD, PENSIONS AT A GLANCE ASIA/PACIFIC 2011, at 76, 77 (2011), http://www.oecd.org/dataoecd/37/41/49454618.pdf.

[98] Fong et al., *supra* note 97, at 12.

[99] Marek Szczepański, *The Design of Supplementary Pension Schemes in Poland and Longevity Risk: Current Situation and Proposed Changes* 4 (Pensions Institute Discussion Paper No. PI-1202, 2012), http://www.pensions-institute.org/workingpapers/wp1202.pdf. As for third-tier, supplementary pension schemes, the annuity market in Poland is fairly thin. *Id.* at 8.

[100] Moshe A. Milevsky & Ling-wu Shao, *Annuities and their Derivatives: The Recent Canadian Experience*, in Mitchell, Piggott & Takayama, *supra* note 48, at 50, 56.

[101] See *infra* Subpart IV.E.

[102] Milevsky & Shao, *supra* note 100, at 61.

[103] The top risks for today's retirees include: longevity, inflation, market volatility, withdrawal rate, health care expenses, and unexpected events. Ameriprise Financial, *Making your retirement income last a lifetime* (2010), http://hwcdn.net/v3n9d4a6/cds/alwp/advisor/david.p.weidman/cdocuments-and-settingsandrewdesktopwebsite-downloadsmaking-your-retirement-income-last-a-lifetiime634532517160486099.pdf. See also Youngkyun Park,

facing current and future retirees with defined contribution plans. As life expectancy increases, accumulated retirement savings in individual accounts will need to finance an ever-greater portion of retirees' ever-longer retirements. At present, a 65-year-old woman has an even chance of living past age 86, while a 65-year-old man has an even chance of living past age 84.[104] Also of note, today's college students have a 50-50 chance of living to age 100.[105] See also Table 4, which shows the slightly different period life expectancies at birth and at age 65.

Retirement Income Adequacy With Immediate and Longevity Annuities (Employee Benefit Research Institute Issue Brief No. 357, 2011), http://www.ebri.org/pdf/briefspdf/EBRI_IB_05-2011_No357_Annuities.pdf (discussing strategies for managing three types of risk: investment income, longevity, and long-term care).

[104] BOARD OF TRUSTEES, FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND FEDERAL DISABILITY INSURANCE TRUST FUNDS, 2012 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND FEDERAL DISABILITY INSURANCE TRUST FUNDS 91 (tbl. V.A4) (2012), http://www.ssa.gov/oact/tr/2012/tr2012.pdf (cohort life expectancy, intermediate assumptions, life expectancy for a 65-year-old female in 2010—20.7 years, for a 65-year-old male—18.6 years). The cohort life expectancy at a given age for a given year represents the average number of years of life remaining if a group of persons at that exact age, born on January 1, were to experience the mortality rates for the series of years in which they reach each succeeding age.

[105] Robert F. Fogel, *Foreword: Toward an Era of Longevity and Wealth*, in Kay & Sinha, *supra* note 89, at 1, 4.

Table 4. Life Expectancy for Men and Women, 1940–2060

Year	*Life expectancy at birth*		*Life expectancy at age 65*	
	Male	*Female*	*Male*	*Female*
Actual				
1940	61.4	65.7	11.9	13.4
1960	66.7	73.2	12.9	15.9
1980	69.9	77.5	14.0	18.4
2000	74.0	79.4	15.9	19.0
2010	75.7	80.5	17.5	20.0
Projected				
2020	77.1	81.3	18.5	20.5
2040	79.4	83.2	19.8	21.6
2060	81.3	84.8	21.0	22.7
2080	83.0	86.2	22.0	23.6

Source: BOARD OF TRUSTEES, FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND FEDERAL DISABILITY INSURANCE TRUST FUNDS, 2012 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND FEDERAL DISABILITY INSURANCE TRUST FUNDS 90 (tbl. V.A3, period life expectancy, intermediate assumptions) (2012), http://www.ssa.gov/oact/tr/2012/tr2012.pdf.

Note: The period life expectancy at a given age for a given year represents the average number of years of life remaining if a group of persons at that age were to experience the mortality rates for that year over the course of their remaining lives.

The joint life expectancy of a 65-year-old couple is even more remarkable. There is a 50 percent chance that at least one 65-year-old spouse will live to age 91, and there is a 25 percent chance that at least will live to 95.[106] That means married couples can easily have 25 or 30 years in retirement. Pertinent here, one study estimated that three out of five new middle-class retirees will outlive their financial assets if they attempt to maintain their pre-retirement standard of living.[107]

106 Fred Reish, *Living "Room"? The problem with living too long*, PLAN SPONSOR (August 2011), http://www.plansponsor.com/MagazineArticle.aspx?id=6442481375.

107 Ernst & Young LLP, *Retirement Vulnerability of New Retirees: The likelihood of outliving their financial assets* (2008), http://paycheckforlife.org/uploads/2008_E_Y_RRA.pdf. See also Ernst & Young LLP, *Updated Retirement Vulnerability Analysis: The likelihood of outliving their financial assets* (2009), http://www.paycheckforlife.org/userfiles/file/Updated%20Retirement%20Vulnerability%20Analysis_2009_FINAL.pdf; *Don't take a lifestyle cut in retirement: Five ways to help close your income gap, no matter what your age* (Fidelity Viewpoints, April 18, 2012), https://www.fidelity.com/viewpoints/retirement-readiness (estimating that many retirees will face a 28 percent income drop in retirement).

Retirees can use a variety of approaches to help manage their longevity risk.[108] One approach is for retirees to commit to *systematic withdrawals* of, say, 4 percent of their account balances each year—a strategy that has a relatively low risk of ruin (running out of money before death). Alternatively, traditional *lifetime annuities* offer another approach for spreading retirement savings out over a lifetime. Another alternative involves buying *longevity insurance*, for example, buying a deferred annuity at age 65 that starts making annual payments only if the annuitant lives past age 85. Finally, retirees can invest in products like *variable annuities with guaranteed lifetime withdrawal benefits*—funds that provide guaranteed systematic withdrawals for life, with guaranteed minimums that kick in if the underlying investment funds are ever depleted due to long life and/or poor investment returns. Depending on each retiree's specific circumstances, the best strategy may involve a combination of the foregoing financial products and approaches.[109]

B. Systematic Withdrawals

One of the simplest and most common strategies to manage retirement savings is to invest all of the retirement savings in a diversified portfolio and then use a conservative withdrawal rate and a systematic withdrawal plan (SWP) designed to have a high probability that the retirement savings will last for 20 or 30 years. To be sure, many people start out by simply investing their

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[108] *See, e.g.*, Society of Actuaries, *Designing a Monthly Paycheck for Retirement* (Managing Retirement Decisions Series, 2012), http://www.soa.org/files/pdf/research-pen-monthly-paycheck.pdf; Gary C. Bhojwani, *Rethinking what's ahead in retirement* (Allianz Life Insurance Company of North America, 2011), https://www.allianzlife.com/content/public/Literature/Documents/ent-1154.pdf; Anthony Webb, *Making Your Nest Egg Last a Lifetime* (Boston College Center for Retirement Research Issue in Brief No. 9-20, 2009), http://crr.bc.edu/images/stories/Briefs/ib_9-20.pdf; Bonnie-Jeanne MacDonald, Bruce Jones, Richard J. Morrison, Robert L. Brown & Mary Hardy, *Research and Reality – A Literature Review on Drawing Down Retirement Financial Savings* (Society of Actuaries, 2011), http://www.soa.org/WorkArea/DownloadAsset.aspx?id=19866.

retirement savings in a portfolio of stocks and bonds and then trying to live off the interest and dividends, with an eye towards leaving the principal sum to their heirs.

More typically, however, individuals invest their retirement savings and try to draw down their principal and investment income carefully through managed withdrawals. In that regard, financial planners often suggest following the so-called *4 percent rule*.[110] The basic idea is to set spending at 4 percent of retirement savings and invest those savings in a 50-percent stock/50-percent bond portfolio. Each year thereafter, spending is increased to keep up with inflation. For example, assuming that our hypothetical investor has a $1,000,000 nest egg, in the first year the retiree would withdraw 4 percent ($40,000), and each year thereafter that dollar amount would be increased to keep up with inflation.[111] Assuming a 3 percent inflation rate, annual withdrawals would increase to $41,200 in the second year, $42,436 in the third year, and so on. While there is some possibility of running out of money, most financial planners believe this strategy will work for 30 years.[112]

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109 *See, e.g.*, Steve Vernon, *The Retirement Income Menu: An Idea Whose Time Has Come*, 2(9) INSTITUTIONAL RETIREMENT COUNCIL UPDATE 1, 5 (2011), http://iricouncil.org/docs/The_Retirement_Income_Menu.pdf (describing various ways to generate retirement income from an account balance).

110 William P. Bengen, *Determining Withdrawal Rates Using Historical Data*, 7(4) JOURNAL OF FINANCIAL PLANNING 171 (1994). See also Janemarie Mulvey & Patrick Purcell, *Converting Retirement Savings into Income: Annuities and Periodic Withdrawals* (Congressional Research Service Report, 2008), http://assets.opencrs.com/rpts/R40008_20081201.pdf; Benjamin Bridges, Robert Gesumaria & Michael Leonesio, *Assessing the Performance of Life-Cycle Portfolio Allocation Strategies for Retirement Saving: A Simulation Study*, 70(1) SOCIAL SECURITY BULLETIN 23 (2010).

111 This example follows Eleanor Laise, *A Strategy for a Lifetime of Income*, KIPLINGER'S RETIREMENT REPORT (August 2011), http://www.kiplinger.com/features/archives/krr-a-strategy-for-a-lifetime-of-income.html.

112 To minimize the prospect of outliving their nest eggs, however, in the recent economic recession, some financial advisors recommended that retirees skip their scheduled inflation adjustments or withdraw less than 4 percent of their new balances. *Id.* See also Wade D. Pfau, *Safe Savings Rates: A New Approach to Retirement Planning over the Life Cycle*, JOURNAL OF FINANCIAL PLANNING (May 2011), http://www.fpanet.org/journal/CurrentIssue/TableofContents/SafeSavingsRates/ (questioning the fixed withdrawal rate approach); Fred Reish, Bruce Ashton & Pat Barnes, *The Problem with Spending Too Fast: Retirement Savings Withdrawal Rates*, 3(2) INSTITUTIONAL RETIREMENT INCOME COUNCIL 1 (2012), http://iricouncil.org/docs/Volume_3_Number_2.pdf.

C. LIFETIME ANNUITIES

Traditional *lifetime annuities* offer another approach for managing retirees' longevity risk. Depending on the retiree's age, immediate annuities can provide cash flows of 7 percent of funds invested or more, and immediate annuities provide a powerful hedge against longevity.[113] For example, for a 65-year-old man who purchased a $100,000 immediate, level-payment annuity without inflation protection in 2011, the annual payout would be around $6,732 or 6.73 percent of the annuity's purchase price.[114] Because women tend to live longer than men, the annual payout for a 65-year-old woman who elected an immediate, level-payment annuity in 2011 would be just $6,264 or 6.26 percent of the annuity's purchase price.[115]

With inflation-adjusted annuities, annual payouts start lower but can end up higher. For example, as mentioned, for a 65-year-old man who purchases a $100,000 immediate, level-payment annuity without inflation protection, the annual payout would be $6,732.[116] If that man instead chose an annuity stream with a 3 percent escalator, the annual payout in the first year would be just $4,944.[117]

Annuities do have several disadvantages, however. In particular, annuitants lose control of the underlying funds, and unless a guarantee feature is selected, nothing will remain for their

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[113] Farrell Dolan, *Applying the 4-Box Strategy to Retirement Income Planning: Generating a Lifetime of Income*, LIMRA'S MARKETFACTS QUARTERLY 84, 88 (Fall 2009), http://pjwalkercommunications.com/wp-content/uploads/2010/02/Market-Facts.pdf; Darla Mercado, *Making the case for annuities*, INVESTMENTNEWS, March 25, 2012, http://www.investmentnews.com/article/20120325/REG/303259969&issuedate=20120323&sid=RI0326.

[114] *Immediate Annuities Update*, 27(1) ANNUITY SHOPPER 23 (Winter 2012), at 28 (tbl. 5), http://annuityshopper.com/archives/2012-Jan-Annuity-Shopper.pdf.

[115] *Id.* For annuity calculators, *see, e.g.*, Web Financial Tools, *Instructions for Using the Life Annuity Calculator*, http://www.webfinancialtools.com/life_annuity.html; moneychimp, *Annuity Calculator*, http://www.moneychimp.com/calculator/annuity_calculator.htm; and FreeAnnuityRates.com, *Immediate Annuity Calculator*, http://www.freeannuityrates.com/annuities/calculators/immediate-annuity-calculator.php.

[116] *Immediate Annuities Update*, *supra* note 114.

heirs in the event of an early death. Also, because of adverse selection, annuities are not priced very well.[118] Indeed, payouts from actuarially fair annuities would be about 15 percent higher than in current markets.[119] In that regard, many analysts believe that most retirees will get the most value for their investment if they defer their decision to annuitize until the age of 75 or 80.[120]

D. Longevity Insurance (e.g., Deferred Annuities)

Alternatively, retirees can protect against longevity risk by purchasing *longevity insurance*.[121] The typical approach is to buy a deferred annuity at age 65 that starts making annual payments only if the annuitant lives past age 80 or 85.[122] For example, in February of 2012, a 65-year-old man could invest $100,000 in a MetLife deferred annuity, and beginning at age 85, he would receive a level lifetime income of $25,451.04 per year.[123] Alternatively, he

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117 *Id.*

118 See *supra* Subsection III.A.4.a.

119 Author's calculation from Poterba et al., *supra* note 60, at 102 (tbl. 3) (17.6% = [9.95% ÷ 8.46%] - 1; where the actuarially fair life annuity for a 65-year-old-man in 2008 was 9.95 percent and the *Annuity Shopper* price was just 8.46 percent).

120 *See, e.g.*, Moshe A. Milevsky, *Optimal Annuitization Policies: Analysis and Options*, 5(1) NORTH AMERICAN ACTUARIAL JOURNAL 57 (2001). See also Anthony Webb, *Providing Income for a Lifetime: Bridging the Gap between Academic Research and Practical Advice* (AARP Research Report No. 2009-11, 2009), http://assets.aarp.org/rgcenter/ppi/econ-sec/2009-11.pdf.

121 *See, e.g.*, Jason S. Scott, *The Longevity Annuity: An Annuity for Everyone?* 64(1) FINANCIAL ANALYSTS JOURNAL 40 (2008), http://corp.financialengines.com/employer/FE-LongevityAnnuity-FAJ-08.pdf; Anthony Webb, Guan Gong & Wei Sun, *An Annuity that People Might Actually Buy* (Boston College Center for Retirement Research Issue in Brief No. 7-10, 2007), http://crr.bc.edu/images/stories/Briefs/ib_7-10.pdf; Darla Mercado, *Longevity insurance faces hurdles to become a retirement option*, INVESTMENTNEWS, March 25, 2012, http://www.investmentnews.com/article/20120325/REG/303259963; Anne Tergesen, *How to Create a Pension (With a Few Catches)*, WALL STREET JOURNAL, April 9, 2012, http://online.wsj.com/article/SB10001424052970204571404577253853314354494.html?mod=rss_Retirement_Planning#printMode.

122 *See, e.g.*, *6 Tips for Evaluating Longevity Insurance*, (October 18, 2011), http://money.usnews.com/money/blogs/the-best-life/2011/10/18/6-tips-for-evaluating-longevity-insurance_print.html; Michael Barry, *Hedging Longevity*, PLAN SPONSOR 54 (January 2012).

123 *MetLife Investors Longevity Income Guarantee Quote* (personal communication from Hersh L. Stern, WebAnnuities Insurance Agency, Inc., February 7, 2012, in the possession of the author).

could purchase a deferred annuity that instead starts at age 80 that pays $17,069.40 per year; at age 75 that pays $11,649.84 per year; or at age 70 and pays $8,133.60 per year.[124] Companies do not offer inflation-adjusted deferred annuities, but some companies do offer fixed step-ups.[125]

In short, deferred annuities can decrease worries about longevity risk. With a relatively small upfront investment, a retiree can secure an income stream that starts sometime in the future, and the retiree can then use the rest of her savings to cover the fixed number of years until the year that the deferred annuity payments start.[126] To be sure, there is some risk of running out of money before the year that the deferred annuity starts, but that is certainly a more manageable risk that trying to manage one's retirement savings over the indefinite future.

Pertinent here, however, the current U.S. minimum distribution rules can make it difficult to purchase longevity insurance with funds that are held inside defined contribution plans.[127] In that regard, however, the Internal Revenue Service recently released proposed regulations that would ease the minimum distribution requirements to permit up to $100,000 (or, if less, 25

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[124] *Id.*

[125] Joseph A. Tomlinson, *Income Choices*, FINANCIAL PLANNING (May 1, 2011), http://www.financial-planning.com/fp_issues/2011_5/income-choices-2672801-1.html (comparing various investment strategies including systematic withdrawals, immediate annuities, deferred annuities, and guaranteed lifetime withdrawal benefits).

[126] *See, e.g.*, Stephen Sexauer, Michael Walter Peskin & Daniel Cassidy, *Making Retirement Income Last a Lifetime* 68(1) FINANCIAL ANALYSTS JOURNAL 74 (2012) (proposing a "decumulation benchmark" that would use about 88 percent of retiree savings to purchase a laddered portfolio of Treasury Inflation-Protected Securities [TIPS] for the first 20 years and a deferred life annuity purchased with the remaining 12 percent); Rick Wurster, *DC 20/20: Pathways to a Secure Retirement*, 4(2) ROTMAN INTERNATIONAL JOURNAL OF PENSION MANAGEMENT 54, 58 (Fall 2011) (suggesting that an annuity providing 35 percent real income replacement at age 85 would cost about 7.5 percent of a participant's average account balance at retirement).

[127] I.R.C. § 401(a)(9); Natalie Choate, *New! Longevity Insurance for IRAs*, MORNINGSTAR ADVISOR (March 9, 2012), http://www.morningstar.com/advisor/t/52769065/new-longevity-insurance-for-iras.htm.

percent of the participant's account balance) to be used to purchase a so-called "Qualifying Longevity Annuity Contract" (QLAC).[128]

Finally, it is worth emphasizing that workers might be able to buy deferred annuities in installments, starting at a young age. For example, a worker could use a portion of her retirement savings each year to purchase a deferred life annuity that starts at age 65, or at the advanced ages of 70, 75, 80, 85, or even 90.[129] Accordingly, this type of deferred annuity product could be used to provide retirement benefits that mimic the lifetime pensions provided by traditional defined benefit plans.

E. Guaranteed Lifetime Withdrawal Benefits

Finally, retirees can use *variable annuities with guaranteed lifetime withdrawal benefits* (GLWB) funds to manage their longevity risk. GLWB annuities started in Canada in 2007.[130] A GLWB is based on a variable annuity, but it allows investors to lock in a minimum guarantee for life.[131] Mechanically, the investor or retiree deposits or rolls over a sum of money into a variable annuity with subaccounts that are invested in a portfolio of stocks, bonds, and other generic investments. Depending on market performance, that investment portfolio grows (or shrinks). In

[128] *Longevity Annuity Contracts*, 77 Federal Register 5,443 (February 3, 2012) (to be codified at 26 C.F.R. pt. 1); U.S. Department of Treasury, *supra* note 63. See also Robert J. Toth, Jr., *First Steps to Modernizing DC Annuitization: QLAC s and Revenue Ruling 2012-3*, 68 PENSION & BENEFITS DAILY (April 10, 2012), http://www.businessofbenefits.com/uploads/file/TOTHQLAC.pdf.

[129] Moshe A. Milevsky, *Real Longevity Insurance with a Deductible: Introduction to Advanced-Life Delayed Annuities (ALDA)*, 9(4) NORTH AMERICAN ACTUARIAL JOURNAL 109 (2005). See also Zorast Wadia, *Longevity Risk & Retirement*, 31(1) ACTUARIAL DIGEST 4 (Spring 2012), http://www.theactuarialdigest.com/For%20Website/actuarial_digest_spring2012.pdf.

[130] Milevsky & Shao, *supra* note 100, at 56.

[131] Of note, by the end of 2009, annuities accounted for 83 percent of the $544 billion of retirement income product assets in the United States, with variable annuity guaranteed living benefits accounting for 71 percent, immediate and deferred annuities accounting for 12 percent, and reverse mortgages accounting for the other 17 percent. Jacob M. Herschler, *A U.S. Perspective on Annuity Lifetime Income Guarantees* (presentation in Mexico City, June 8, 2011), http://www.oecd.org/dataoecd/56/41/48130072.pdf.

any event, at retirement, the annuitant starts taking guaranteed withdrawals from the account. Payouts come from the invested funds, but if those funds are ever depleted due to long life and/or poor investment returns, the guaranteed minimum kicks in. On the other hand, if the investment portfolio performs well, payouts can be increased.[132]

The guaranteed withdrawal rate is determined at the time of the sale, and it might be set at between 4 and 6 percent depending upon the age when withdrawals are set to begin.[133] The guaranteed amount is determined by multiplying the guaranteed rate by the guaranteed base which is determined when withdrawals begin. As already mentioned, depending on the contract, if the investment portfolio does well, the guaranteed base might reset to a higher level and generate even greater withdrawals.

On the downside GLWB annuities can be very complicated, they can have annual costs that exceed 3 percent of asset value, they can have heavy surrender charges, and they typically do not have an inflation adjustment on the withdrawal benefit.[134] All in all, GLWB annuities are similar to systematic withdrawal in that the investor maintains control over the assets, but the investor trades a lower rate of return (gross return less fees) for the guarantee of not outliving assets.

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[132] Financial wizards will understand that these are essentially mutual funds "with a complex path-dependent put option that allows for a minimal withdrawal." Milevsky & Shao, *supra* note 100, at 56.

[133] *See*, *e.g.*, Benny Goodman & Seth Tanenbaum, *The 5% Guaranteed Minimum Withdrawal Benefit: Paying Something for Nothing?* (TIAA-CREF Institute Research Dialogue No. 89, 2008), http://www.tiaa-crefinstitute.org/ucm/groups/content/@ap_ucm_p_tcp_docs/documents/document/tiaa02029381.pdf.

[134] Society of Actuaries, *supra* note 108, at 6; Tomlinson, *supra* note 125 (noting that fees run about 2 percent for the lowest cost products and may approach 4 percent for products that also include sales loads).

So-called "stand-alone living benefits" are similar to GLWBs, except that instead of using a variable annuity chassis, stand-alone living benefits use mutual funds or managed accounts as the base.[135]

V. OPTIMAL DISTRIBUTION RULES

Clearly, there are a number of possible approaches for helping retirees insure against longevity risk. While lump sum distributions tend to be dissipated quickly, annuities and similar products can last a lifetime. Government policy should almost certainly be designed to encourage retirees to purchase such lifetime income products.[136]

A. ENCOURAGING ANNUITIZATION

1. Mandatory Annuitization

One approach for promoting lifetime retirement income would be for the government to require retirees to purchase annuities or similar lifetime income guarantees. As already mentioned, that is the approach that Singapore, Sweden, and Poland are taking, and the United Kingdom and Chile have been pushing annuitization for years.[137] In that regard, President George W. Bush's *Commission to Strengthen Social Security* recommended that at least a portion of the balances in its proposed individual accounts should be annuitized.[138] More specifically,

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[135] Tomlinson, *supra* note 125.

[136] *See, e.g.*, Roberto Rocha & Dimitri Vittas, *Designing the Payout Phase of Pension Systems: Policy Issues, Constraints and Options* (World Bank Policy Research Working Paper No. WPS5289, 2010), http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2010/05/04/000158349_20100504092303/Rendered/PDF/WPS5289.pdf; Pamela Perun, *Retirement Savings: Confronting the Challenge of Longevity* (The Aspen Institute Initiative on Financial Security, 2010), http://www.aspeninstitute.org/sites/default/files/content/docs/pubs/ConfrontingLongevity_AspenIFS.pdf; U.S. GOVERNMENTAL ACCOUNTABILITY OFFICE, GAO-11-400, RETIREMENT INCOME: ENSURING INCOME THROUGHOUT RETIREMENT REQUIRES DIFFICULT CHOICES (2011); *The Retirement Challenge: Making Savings Last a Lifetime: Hearing Before the Senate Committee on Aging*, *supra* note 51; FORMAN, *supra* note 3, at 238-39.

[137] See *supra* Subpart III.C.

[138] The President's Commission to Strengthen Social Security, *Strengthening Social Security and Creating Personal Wealth for All Americans* 41-42 (2001), http://govinfo.library.unt.edu/csss/reports/Final_report.pdf; John F. Cogan

the Commission recommended that lump sum distributions be permitted only to the extent that the individual's Social Security benefit plus the joint annuity (if married) exceeded the amount that would protect either spouse from falling below the poverty line during retirement.

On the plus side, if everyone had to buy an annuity with all or part of their defined contribution plan savings, annuity prices would fall, both because the larger annuity market would be more efficient and because adverse selection would decline as virtually every retiree would buy an annuity, not just those who expected longevity.[139] To be sure, such an annuity mandate might be unpopular, and it may or may not enhance the welfare of older Americans.[140]

2. Defaults

Alternatively, the government might just want to take steps to encourage annuitization. For example, the government could require defined contribution plans to make annuity options

& Olivia S. Mitchell, *Perspectives from the President's Commission on Social Security Reform*, in Kay & Sinha, *supra* note 89, at 216, 229-30.

[139] Estelle James, Truman Packard & Robert Holzmann, *Reflections on Pension Reform in the Americas: From 'Averting the Old-Age Crisis' to 'Keeping the Promise of Old-Age Security' and Beyond*, in Kay and Sinha, *supra* note 79, at 164, 169-70.

[140] *See, e.g.*, Poterba et al., *supra* note 60, at 115 (suggesting caution); MACKENZIE, *supra* note 18, at 253 (encouraging annuitization). In passing, it is worth noting that workers with higher lifetime earnings tend to live longer than workers with relatively lower lifetime earnings, so annuitization can disproportionately favor the former over the latter. BARR & DIAMOND, *supra* note 12, at 140.

available to plan participants.[141] The government could even require plans to default participants into annuities or trial annuities, unless the plan participants affirmatively elect otherwise.[142]

Pertinent here, defaults matter. For example, after the Employee Retirement Income Security Act of 1974 made joint-and-survivor annuities the default option for traditional pension plans, an additional 25 percent of married men elected joint-and-survivor annuitization at retirement.[143] Similarly, when the Retirement Equity Act of 1984 made explicit spousal consent a requirement for opting out of joint-and-survivor annuities, joint-and-survivor annuitization went up another 5 to 10 percentage points.[144] Of particular importance, "any default will significantly influence realized outcomes simply because of the endorsement effect."[145]

It could even make sense to encourage (or require) individuals to allocate a portion of their *contributions* to annuities or annuity-like products.[146] Such "in-service" annuities would enable workers to obtain streams of lifetime income each year that they work, just as workers with traditional defined benefit plan pensions currently do. Moreover, by annuitizing savings in

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[141] *See*, *e.g.*, U.S. GOVERNMENT ACCOUNTABILITY OFFICE, *supra* note 136, at 38-39; Tejera, *supra* note 52, at 6. Even if the government imposes no new requirements, plan sponsors should want to develop lifetime income options for their plan participants. *See*, *e.g.*, Institutional Retirement Income Council, *A Call to Action* (IRIC White Paper, 2010), http://www.iricouncil.org/docs/A%20Call%20to%20Action%20White%20Paper%20High%20Res.pdf; Vernon, *supra* note 109, at 8-9 (suggesting that employers should voluntarily offer a menu of six choice including immediate annuities). See also Fred Reish & Bruce Ashton, *Fiduciary Considerations for Insured Retirement Income Products: Focus on Guaranteed Withdrawal Benefits*, JOURNAL OF PENSION BENEFITS (2011), http://www.drinkerbiddle.com/files/Publication/de8d7597-4a26-4f81-9eb9-798c35c435ec/Presentation/PublicationAttachment/b61e73f8-7635-4181-9834-89c9b831df22/Pages%20from%20JPB_Autumn11-4%20pdf%20-%20Adobe%20Acrobat.pdf.

[142] *Id.* at 39-40; MACKENZIE, *supra* note 18, at 200-03; Gale et al., *supra* note 18; Jeffrey R. Brown, *Understanding the Role of Annuities in Retirement Planning*, in OVERCOMING THE SAVINGS SLUMP 178, 199-200 (Annamaria Lusardi, ed., 2008); Jeffrey R. Brown, *Automatic Lifetime Income as a Path to Retirement Income Security* (White Paper prepared for the American Council of Life Insurers, September 2009), http://www.iricouncil.org/docs/Automatic_Lifetime_IncomePaper.pdf.

[143] John Beshears, James J. Choi, David Laibson & Brigitte C. Madrian, *The Importance of Default Options for Retirement Saving Outcomes: Evidence from the USA*, in Kay & Sinha, *supra* note 89, at 59, 70-71.

[144] *Id.*

[145] *Id.* at 81.

multiple installments over many years rather than just at retirement, in-service annuities would reduce investment risk and income risk to individuals.[147]

For that matter the government could actually get into the market of selling annuities and other lifetime income products or, alternatively, guaranteeing products sold by private companies.[148] The U.S. Treasury already sells inflation-adjusted bonds that can be useful in developing inflation-adjusted financial products.[149] Some have also suggested that the Social Security Administration could sell supplemental annuities at a subsidized rate.[150]

Some analysts have also suggested using the tax system to encourage people to take their distributions as annuities. For example, the government could exempt annuity payouts from income taxation or favor them with a reduced tax rate.[151]

B. More Financial Education about Lifetime Income Products

Government also has a role in promoting financial education about annuities and other lifetime income products. For example, in addition to showing the total balance in a defined contribution account, benefits statements might be required to include an estimate of the "annuity

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146 *See*, *e.g.*, Brown, *supra* note 142; Yakoboski, *supra* note 54, at 5.

147 MACKENZIE, *supra* note 18, at 195-96.

148 *See*, *e.g.*, Lawrence A. Frolik, *Protecting Our Aging Retirees: Converting 401(k) Accounts Into Federally Guaranteeed Lifetime Annuities*, 47 SAN DIEGO LAW REVIEW 277 (2010) (suggesting that the federal government guarantee lifetime annuities for retirees); Henry T. C. Hu & Terrance Odean, *Paying for Old Age*, NEW YORK TIMES, February 25, 2011, at A19 (recommending that the federal government issue annuities).

149 *See*, *e.g.*, TreasuryDirect, *Treasury Inflation-Protected Securities (TIPS)* (April 22, 2011), http://www.treasurydirect.gov/indiv/products/prod_tips_glance.htm.

150 Orth, *supra* note 50, at 3.

151 *See*, *e.g.*, Retirement Security Needs Lifetime Pay Act of 2009, H.R. 2748, 111th Cong. (2009) (a bill introduced by former Representative Earl Pomeroy [D-N.D.] to encourage guaranteed lifetime income payments by excluding from income a portion of such payments). Szczepański, *supra* 99, at 8, suggests that Poland could provide tax exemptions in the distribution phase to those individuals who choose life annuities.

equivalent" lifetime income stream of payments.[152] More specifically, individual benefit statements could be required to show the monthly annuity payment that would be made if the employee's total account balance were used to buy a single life annuity that commenced when the employee reaches age 65, and, for married employees, these individualized statements would also show the monthly annuity payments under a qualified joint and survivor annuity.

Education about annuities themselves could also help. Interest in annuities can increase when they are described as a form of insurance against outliving one's resources.[153]

C. ASSET TESTS

Another problem has to do with the treatment of pensions under the asset tests used in means-tested public programs like Medicaid, food stamps, and Supplemental Security Income (SSI) in the United States and the Age Pension in Australia. The stringent asset tests under those programs often require low-income workers to withdraw the balances in their defined contribution plans and "spend down" those assets before they can qualify for benefits.[154] Consequently, these asset tests can encourage individuals to dissipate their retirement savings and may even discourage individuals from saving for retirement in the first place. While distributions from retirement accounts should probably count as "income" in determining eligibility for means-tested benefits, modest amounts held in defined contribution plans and annuities should probably be excluded from the asset tests.

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[152] *See, e.g.*, Lifetime Income Disclosure Act, S. 267, 112th Cong. (2011) (Senator Jeff Bingaman); H.R. 677, 112th Cong. (2011) (Representative Rush Holt); U.S. GOVERNMENT ACCOUNTABILITY OFFICE, *supra* note 136, at 48-49; Advisory Council on Employee Welfare and Pension Plans, *Report On The Spend Down Of Defined Contribution Assets At Retirement* (2008), http://www.dol.gov/ebsa/publications/2008ACreport3.html (recommending "that the Department of Labor encourage, authorize, endorse and facilitate plan communications that use retirement income replacement formulas based on final pay and other reasonable assumptions in employee benefit statements on an individual participant basis." *Id.* at Recommendation 4).

[153] Poterba et al., *supra* note 60, at 114.

D. Other Things Government Can Do

In passing, it is worth noting that, in addition to promoting annuities and other lifetime retirement income options, there are many other steps that government could take to help improve lifetime retirement incomes.

1. Encourage Workers to Save More

At the outset, it would make sense to encourage people to save more while they are working. For example, elsewhere, I have argued that the United States should think about a mandatory universal pension system like Australia, Singapore, and Chile have.[155] At the very least, we should adopt policies that make 401(k) plans or payroll-deduction IRAs available to all workers.[156]

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154 *See, e.g.*, Bütler et al., *supra* note 57.

155 Jonathan Barry Forman, *Should We Replace the Current Pension System with a Universal Pension System?*, 16(2) Journal of Pension Benefits 48 (2009); Jonathan Barry Forman & Adam Carasso, *Tax Considerations in a Universal Pension System* (Urban-Brookings Tax Policy Center Discussion Paper No. 28, 2007), http://www.urban.org/publications/411593.html. See also Teresa Ghilarducci, When I Am Sixty Four: The Plot Against Pensions and the Plan to Save Them (2008); U.S. Government Accountability Office, GAO-09-642, Private Pensions: Alternative Approaches Could Address Retirement Risks Faced by Workers but Pose Trade-offs (2009).

156 *See, e.g.*, The Automatic IRA Act of 2012, H.R. 4049, 112th Cong. (2012) (Representative Richard E. Neal); Forman, *supra* note 3, at 233-35; William G. Gale & David C. John, *The President's 2013 Budget Would Enable Almost All Americans to Save for Retirement* (February 15, 2012), http://www.brookings.edu/opinions/2012/0215_budget_retirement_gale_john.aspx; J. Mark Iwry & David C. John, *Pursuing Universal Retirement Security Through Automatic IRAs* (Retirement Security Project Paper No. 2009-3, 2009), http://www.brookings.edu/~/media/Files/rc/papers/2009/07_automatic_ira_iwry/07_automatic_ira_iwry.pdf; Benjamin H. Harris & Rachel M. Johnson, *Economic Effects of Automatic Enrollment in Individual Retirement Accounts* (AARP Research Report, 2012), http://www.aarp.org/content/dam/aarp/research/public_policy_institute/econ_sec/2012/Economic-Effects-of-Auto-IRA-Research-Report-AARP-ppi-econ-sec.pdf; Benjamin H. Harris & Ilana Fischer, *The Population of Workers Covered by the Auto IRA: Trends and Characteristics* (AARP Research Report, 2012), http://www.aarp.org/content/dam/aarp/research/public_policy_institute/econ_sec/2012/Population-of-Workers-Auto-IRA-Trends-and-Characteristics-Research-Report-AARP-ppi-econ-sec.pdf (finding that between 24 million and 43 million workers—approximately one-quarter of the workforce—would be eligible for automatic enrollment in the proposals under consideration in Congress).

2. Help Workers Do a Better Job with Their Investments

Government could also help defined contribution plan participants do a better job managing their retirement savings.[157] In particular, government regulations should be designed to improve investment returns. At the same time, government regulations should help minimize fees.

a. Recent Efforts in the United States

For example, in recognition of the historically poor investment choices made by individual employees, the Pension Protection Act of 2006 amended ERISA section 404(c) to improve the default investments for workers who do not direct their own investments.[158] The new law encourages employers to replace their low-yield, stable-value bond funds with so-called "qualified default investment alternatives" (QDIAs). These include balanced funds (funds with an unchanging mix of stocks and bonds), life-cycle funds (funds which gradually shift their investments from stocks towards bonds as workers age), and variable annuity contracts or other pooled investment funds.[159] All in all, changing plan default funds can result in better returns and larger defined contribution plan accumulations.

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[157] Stephen Blakely, *Is There a Future for Retirement?*, 32(9) EBRI NOTES 16 (Employee Benefit Research Institute, 2011) (statement of Mathew Greenwald), http://www.ebri.org/pdf/Notes.Sept11.Pol-For-only.06Sept.pdf.

[158] Olivia S. Mitchell, Gary R. Mottola, Stephen P. Utkus & Taxkeshi Yamaguchi, *The Dynamics of Lifecycle Investing in 401(k) Plans* (University of Pennsylvania Population Aging Research Center, PARC Working Paper No. 19, 2008), http://repository.upenn.edu/cgi/viewcontent.cgi?article=1018&context=parc_working_papers.

[159] More specifically, the final regulation provides for four types of so-called "qualified default investment alternatives" (QDIAs): a product with a mix of investments that takes into account the individual's age or retirement date (e.g., life-cycle or targeted-retirement-date funds); an investment service that allocates contributions among existing plan options to provide an asset mix that takes into account the individual's age or retirement date (e.g., a third-party managed fund); a product with a mix of investments that takes into account the characteristics of the group of employees as a whole, rather than each individual (e.g., a balanced fund); and a capital preservation product for only the first 120 days of participation (an option for plan sponsors wishing to simplify administration if workers opt-out of participation before incurring an additional tax). The final regulation also clarifies that a QDIA may be offered through variable annuity contracts or other pooled investment funds. U.S. Department of Labor, Employee Benefits Security Administration, *Regulation Relating to Qualified Default Investment Alternatives in Participant-Directed Individual Account Plans* (Fact Sheet, April 2008), http://www.dol.gov/ebsa/pdf/fsQDIA.pdf; 29 C.F.R.§

Providing investment guidance for participants can also increase their investment returns. In that regard, for example, a recent study of 401(k) accounts found that workers who got investment help improved their annual returns by about 3 percent.[160] Over 20 years that could mean the difference between having $10,000 grow to $71,400 as opposed to just $42,100 for those who handle their own affairs. Pertinent here, the U.S. Department of Labor recently finalized regulations that will make it easier for plan sponsors to give investment advice to plan participants.[161]

Extending fiduciary rules to more of those involved in managing investments, as the United States is trying to do by expanding its definition of who is a fiduciary, also seems like a sound policy that should lead to better investment returns for plan participants.[162]

Minimizing fees can also help increase investment returns and defined contribution plan accumulations.[163] Accordingly, efforts need to be made to regulate the fees and expenses

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2550.404c-5. See also Joseph Masterson, *Target Date Funds: Ready, Fire, Aim* (2011) 19(1) JOURNAL OF PENSION BENEFITS 3 (2011).

[160] Financial Engines & Aon Hewitt, *Help in Defined Contribution Plans: 2006 Through 2010* (September 2011), at 3, http://www.aon.com/attachments/thought-leadership/report_help_defined_contribution_plans_092211.pdf.

[161] *Investment Advice; Participants and Beneficiaries; Final Rule*, 76 Federal Register 66,136 (October 25, 2011) (to be codified at 29 C.F.R. pt. 2550); U.S. Department of Labor, Employee Benefits Security Administration, *US Labor Department publishes final regulation to improve access to quality investment advice* (News Release Number 11-1537, October 24, 2011), http://www.dol.gov/opa/media/press/ebsa/EBSA20111537.htm.

[162] *See, e.g.*, U.S. Department of Labor, Employee Benefits Security Administration, *Definition of the Term "Fiduciary" Proposed Rule* (accessed May 1, 2012), http://www.dol.gov/ebsa/regs/cmt-1210-AB32.html.

[163] High fees clearly reduce the rate of return on individual account investments, and over the course of a lifetime, high fees can reduce retirement savings significantly. For example, imagine a 45-year-old employee who plans to leave $20,000 in a 401(k) account until retirement at age 65. If those assets earn a 6.5 percent net annual return—a 7 percent investment return minus a 0.5 percent charge for fees, that $20,000 will grow to $70,500 at retirement. On the other hand, if fees are instead 1.5 percent annually, that $20,000 investment will grow to just $58,400. That additional 1 percent annual fee will reduce the account balance at retirement by around 17 percent. U.S. GOVERNMENT ACCOUNTABILITY OFFICE, GAO-07-21, PRIVATE PENSIONS: CHANGES NEEDED TO PROVIDE 401(K) PLAN PARTICIPANTS AND THE DEPARTMENT OF LABOR BETTER INFORMATION ON FEES 7 (2006). See also John Ameriks, *Commentary: Investment costs hit retirees with double whammy* (Vanguard, April 18, 2012), https://institutional.vanguard.com/VGApp/iip/site/institutional/researchcommentary/article/InvRetDoubleWhammy. Pertinent here, the Thrift Savings Plan for U.S. Government employees manages to keep fees so low that it reported

associated with defined contribution plans.[164] Pertinent here, the U.S. Department of Labor recently released regulations that require disclosure of fees, expenses, and other plan and investment-related information to participants and beneficiaries in participant-directed defined contribution plans that are subject to ERISA.[165]

b. Recent Efforts in Australia

Similarly, new proposed legislation released by the Australian government would create a new single, low-cost default superannuation product called MySuper.[166] This low-cost and simple default superannuation product will replace the existing default funds and "will improve outcomes for the majority of members who do not wish to be actively involved in choosing their superannuation arrangements, while maintaining freedom of choice for those members who do."[167]

3. Preserve Benefits until Retirement

Another major problem with defined contribution plans is that they are leaky. While defined benefit plans typically provide lifetime annuities for retirees and their spouses, defined contribution plans in the United States typically allow participants to withdraw all or a portion of

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an expense ratio of just .025 percent (approximately 25 cents per each $1,000 of investment). Thrift Savings Plan, *Investment Funds: Expense Ratio* (2012), https://www.tsp.gov/investmentfunds/fundsoverview/expenseRatio.shtml.

164 See Jonathan Barry Forman, *The Future of 401(k) Plan Fees*, in Alvin D. Lurie (ed), NEW YORK UNIVERSITY REVIEW OF EMPLOYEE BENEFITS AND EXECUTIVE COMPENSATION 9-1 (LexisNexis, 2007); Stewart Neufeld, *The Tyranny of Compounding Fees: Are Mutual Funds Bleeding Retirement Accounts Dry?* (2011) 24(12) JOURNAL OF FINANCIAL PLANNING 60, 67 (2011), http://mydigimag.rrd.com/publication/?i=89511 (recommending "that plan fiduciaries be required to select default investments that track broad market indices (equity, money, bonds) and that have total fees (MERS [management expense ratios]) as low as possible, ideally not more than 10 bps" [10 bps, or basis points equals 0.1 percent]).

165 Department of Labor, Employee Benefits Security Administration, *US Department of Labor extends and aligns applicability dates for retirement plan fee disclosure rules* (News Release, July 13, 2011), http://www.dol.gov/ebsa/newsroom/2011/11-1063-NAT.html.

166 Australian Government, *Stronger Super Information Pack* (September 21, 2011), http://strongersuper.treasury.gov.au/content/publications/information_pack/downloads/information_pack.pdf.

their individual accounts, and many plans allow participants to borrow against their accounts.[168] All in all, a significant portion of these premature distributions and loans will be dissipated before retirement.[169] Accordingly, it could make sense to prohibit premature distributions and loans from defined contribution plans and IRAs.[170]

Australia approached this issue using tax incentives. From the mid-1980s, workers could begin taking distributions any time after age 55. Since 2007, however, distributions are tax-free only if they are taken after the worker reaches age 60, and that rule has generally resulted in workers leaving their funds alone until at least that age.

4. Encourage People to Work Longer

Governments should also do more to discourage early retirements.[171] Working longer increases retirement savings and reduces the number of years that retirement savings need to

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167 Australian Government, *Stronger Super: Key Points* (2011), http://strongersuper.treasury.gov.au/content/Content.aspx?doc=publications/government_response/key_points.htm.

168 See *supra* Subsection III.A.3.c.

169 *See, e.g.*, FORMAN, *supra* note 3, at 233; Lori Lucas, *Plug the Drain: 401(k) Leakage and the Impact on Retirement* (Defined Contribution Institutional Investment Association, August 1, 2011), http://www.dciia.org/info/publications/Documents/DCIIA%20Plug%20the%20Drain.pdf; Timothy (Jun) Lu, Olivia S. Mitchell & Steven Utkus, *An Empirical Analysis of 401(k) Loan Defaults* (Financial Literacy Center, Working Paper WR-799-SSA, 2010), http://www.rand.org/content/dam/rand/pubs/working_papers/2010/RAND_WR799.pdf (finding that about 20 percent of 401(k) plan participants had loans; about 1 in 10 loans resulted in a default; and of those employees who terminated employment, the loan default rate was nearly 80 percent).

170 At the very least, we might change the defaults that, following an employee's termination, allow employers to distribute balances of less than $5,000 to those employees rather than preserving them in some kind of retirement savings account. *See, e.g.*, Beshears et al., *supra* note 143, at 82-83; and the explanation of rollovers in Subsection III.A.3.d, *supra*.

171 *See, e.g.*, Jonathan Barry Forman & Yung-Ping (Bing) Chen, *Optimal Retirement Age* in Alvin D. Lurie (ed), NEW YORK UNIVERSITY REVIEW OF EMPLOYEE BENEFITS AND EXECUTIVE COMPENSATION (LexisNexis, 2008) 14-1; Carlo Cottarelli, *The Challenge of Public Pension Reform in Advanced and Emerging Economies* 25 (International Monetary Fund, December 28, 2011), http://www.imf.org/external/np/pp/eng/2011/122811.pdf; Alicia H. Munnell, Natalia Sergeyevna Orlova & Anthony Webb, *How Important is Asset Allocation to Financial Security in Retirement?* (Boston College Center for Retirement Working Paper No. 2012-13, 2012), http://crr.bc.edu/wp-content/uploads/2012/04/wp-2012-13.pdf.

cover.[172] One way to encourage later retirements would be to raise the retirement age. In the United States, for example, the I.R.C. section 72(t) penalty on premature withdrawals only applies to distributions made before an individual reaches age 59½. It would make sense to toughen this penalty and raise the eligibility age to age 62, the early retirement age for the Social Security system.

Similarly, it would make sense to raise the normal retirement age for pensions. As mentioned, ERISA generally defines "normal retirement age" as the earlier of the time specified in the plan or age 65.[173] Meanwhile, "full retirement age" under the Social Security system is currently age 66, but it is gradually increasing to age 67.[174] It would make sense to tie the normal retirement age for pension plans to the full retirement age for Social Security, and keep it tied to the Social Security's full retirement age, even if that full retirement age is eventually increased.[175]

Also, as the Social Security system offers actuarially fair increases in benefits to those who delay taking the benefits, the government should encourage people to delay taking their

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[172] Jack VanDerhei & Craig Copeland, *The Impact of Deferring Retirement Age on Retirement Income Adequacy*, (Employee Benefit Research Institute Issue Brief No. 358, 2011), http://www.ebri.org/pdf/briefspdf/EBRI_IB_06-2011_No358_Defr-Ret.pdf; Blakely, *supra* note 157; Joseph Quinn, Kevin Cahill, Kevin & Michael Giandrea, *Early Retirement: The Dawn of a New Era?* 14 (TIAA-CREF Policy Brief, July 2011), http://www.tiaa-crefinstitute.org/pdf/research/dvds_books/pb_earlyretirement0711.pdf; Alicia H. Munnell, *How Much to Save for a Secure Retirement* (Boston College Center for Retirement Research Issue in Brief No. 11-13 2011), http://develop.fafo.no/files/news/8018/IB_11-13.pdf.

[173] ERISA § 3(24); 29 U.S.C. § 1002(24) ; I.R.C. § 411(a)(8); Subsection III.A.3.b, *supra*.

[174] Social Security Administration, *Full retirement age* (April 30, 2012), http://www.socialsecurity.gov/retire2/retirechart.htm.

[175] See also Forman & Chen, *supra* note 171; Ralph Stevens, *Sustainable full retirement age policies in an aging society: the impact of uncertain longevity increases on retirement age, remaining life expectancy at retirement, and pension liabilities* (Paper for the International Pension Workshop, Network for Studies on Pensions, Aging and Retirement, Collegio Carlo Alberto, Moncalieri [Turin] Italy, June 17, 2011), http://www.netspar.nl/files/Evenementen/2011-06-17%20IPW/ralph%20stevens.pdf.

benefits at least until they reach their full retirement age.[176] For example, consider a worker who reached age 62 in January of 2012 and earned the maximum taxable amount under Social Security for every year of her working life. If she claims her Social Security benefits at 62, she will get $1,855 per month.[177] If she instead waits until she is 65, she will get $2,310 per month, and if she waits until age 70, she will get $3,266 per month—and she can get even more when we factor in cost-of-living increases and extra earnings.

Australia also has a higher retirement age for its Age Pension than for its Superannuation Guarantee, and better coordination is called for.[178]

5. Make It Easier to Annuitize Housing and Other Forms of Wealth

Government might also want to help people find ways to annuitize housing and other forms of wealth. For example, the government might want to do more to encourage reverse mortgages. To be sure, there is great variation in housing wealth across households, and many households may prefer to hold on to their housing wealth as a reserve of sorts—for an emergency

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[176] *See, e.g.*, Kenn Beam Tacchino, David A. Littell & Bruce D. Schobel, *A Decision Framework for Optimizing the Social Security Claiming Age*, 28(2) BENEFITS QUARTERLY 40 (Second Quarter 2012); Mary Beth Franklin, *5 Steps to a Secure Retirement*, KIPLINGER'S PERSONAL FINANCE (October 2011), http://www.kiplinger.com/magazine/archives/5-steps-to-a-secure-retirement.html; Ann Tergesen, *How to Make Your Nest Egg Last Longer*, WALL STREET JOURNAL, December 19, 2011, http://online.wsj.com/article/SB10001424052970203802204577066164082847438.html; C. Eugene Steuerle & Richard B. Fisher, *Social Security as a Source of Annuities: A Simplified Social Security Option* (paper presented at the Pension Rights Center conference on Re-Imagining Pensions, Washington, DC, 2012), http://www.pensionrights.org/what-we-do/events/re-imagining-pensions/social-security-annuities; Phillip Moeller, *How Delaying Retirement Can Help You*, U.S. NEWS & WORLD REPORT MONEY, April 9, 2012, http://money.usnews.com/money/blogs/the-best-life/2012/04/09/how-delaying-retirement-can-help-you.

[177] Social Security Administration, *Automatic Determinations: Workers with Maximum–Taxable Earnings* (October 19, 2011), http://www.ssa.gov/oact/COLA/examplemax.html.

[178] *See, e.g.*, Australia's Future Tax System, *The Retirement income system: Report on strategic issues* 35 (2009), http://taxreview.treasury.gov.au/content/downloads/retirement_income_report_stategic_issues/retirement_income_report_20090515.pdf.

or for their heirs.[179] Still, the government could probably do more to educate people about the benefits of reverse mortgages, and the government could probably do more to facilitate them.[180]

Facilitating the sale or annuitization of life insurance policies could also provide additional lifetime retirement income for retirees.[181]

VI. Conclusion

Workers today are building up most of their retirement savings in defined contribution plans and other individual retirement savings accounts. Many of those workers will need to use their savings to provide retirement income over retirements that can last 20 years or more. Retirees can best manage that longevity risk by taking their distributions in the form of annuities and other lifetime retirement income products, and government policies should be designed to encourage the use of those financial products.

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[179] Poterba et al., *supra* note 60, at 104, 105, 113.

[180] *See, e.g.*, U.S. Department of Housing and Urban Development, *Frequently Asked Questions about HUD's Reverse Mortgages* (accessed March 2, 2012), http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/hecm/rmtopten.

[181] *See, e.g.*, *Survey: Boomers Considering Cashing-In Life Insurance to Fund Retirement: Over Half the U.S. Population Postponing Retirement* (January 25, 2012), http://finance.yahoo.com/news/survey-boomers-consider-cashing-life-112500985.html (discussing life settlements); The Lifeline Program, *How Life Insurance Can Save Your Retirement* (accessed April 19, 2012), http://www.thelifeline.com/WhitePaper/#/1/.