

THE RESEARCH CONTRIBUTIONS OF THE CENTER FOR RETIREMENT RESEARCH AT BOSTON COLLEGE

by Steven A. Sass*

Background and Introduction

The Center for Retirement Research (CRR) at Boston College was established in October 1998 as part of the Social Security Administration's (SSA's) Retirement Research Consortium (RRC). To advance the RRC's larger goal "to inform the public and policymakers about policy alternatives and their consequences," the CRR's mission is to produce policy-relevant research on Social Security and retirement income issues, educate and train new researchers in the field of retirement income policy, and disseminate research findings to the research community, policymakers, and the general public.

The CRR and its affiliates—the Brookings Institution, the Massachusetts Institute of Technology, Syracuse University, and the Urban Institute—produce research studies that address Social Security and retirement income issues as part of the RRC's annual research cycle.¹ The CRR also conducts research on Social Security and retirement income independent of the RRC initiative. To enlarge the pool of qualified researchers in the field of retirement income policy, the CRR manages SSA's Steven H. Sandell Dissertation Awards and other dissertation fellowship programs for junior scholars. Research findings are disseminated through the CRR's working papers and biweekly issue in brief series, delivered via e-mail to over 4,000 recipients, and as articles in refereed journals. The CRR has also produced literature that synthesize current research on key Social Security and retirement income policy issues.²

This article reviews the CRR's research contributions over its 10-year history and their implications for Social Security and retirement income policy in three major areas: (1) Social Security's long-term financing shortfall, (2) the adequacy of retirement incomes, and (3) labor force participation at older ages as a means to improve retirement income security. The CRR at

Boston College has received substantial funding support from SSA in each area and has also successfully leveraged SSA's investment by attracting funding from other sources.

Social Security's Financing Shortfall

Social Security's long-term financing shortfall was the dominant policy concern throughout the CRR's existence. According to recent projections of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Fund (2009), benefit outlays will exhaust the Social Security trust fund in 2037.³ Ongoing tax revenues will then be able to pay only 76 percent of scheduled benefits, declining to 74 percent at the end of the program's 75-year projection period, in 2083.

The shortfall is hardly new. Congress, following recommendations of the Greenspan Commission, addressed the problem in 1983. It accelerated the introduction of scheduled tax increases, building up assets in the Social Security trust fund to pay future benefits; and it scheduled an increase in the full retirement age (FRA), from 65 to 67, to cut retirement benefits by about 13 percent when fully phased in. The 1983 Amendments to the Social Security Act closed the program's projected 75-year shortfall at the time, but they left the trust fund with growing projected annual

Selected Abbreviations

CRR	Center for Retirement Research at Boston College
DB	defined benefit
DC	defined contribution
EEA	earliest eligibility age
FRA	full retirement age

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Selected Abbreviations—*continued*

HRS	Health and Retirement Study
RRC	Retirement Research Consortium
SSA	Social Security Administration

deficits before the end of the 75th year, so the long-range solvency problem soon reemerged.

When the 1994–1996 Social Security Advisory Council (1997) revisited the problem, it considered more far-reaching reforms than combinations of tax increases and benefit cuts. Particularly noteworthy was the Advisory Council’s consideration of potential investments in private equities that offer higher expected returns than those projected for the special-issue Treasury bonds held by the Social Security trust fund. Equity investment could be made directly by the trust fund, or alternatively, through individual accounts, which are invested, owned, and managed by prospective beneficiaries and funded either out of individual payroll taxes or by an additional tax on earnings. The Advisory Council, however, failed to reach a consensus on a single plan and instead presented three quite different proposals, reflecting both the difficulty in closing the shortfall within Social Security’s traditional institutional framework and strong divisions in the policy community on how to respond at the eve of the creation of the RRC and CRR.

During the nascent years of the RRC and CRR, the *Final Report of the President’s Commission to Strengthen Social Security* (2001) energized and focused retirement policy research. The report’s primary reform plan to restore long-range solvency (model 2) reduced the growth in future benefits by indexing initial benefits to increases in prices rather than wages (as occurs under current law), effectively freezing their purchasing power at current levels. Payroll tax rates would be unchanged, but workers could divert a portion of their payroll taxes (up to 4 percent of earnings) to an individual account in exchange for a reduction in their traditional Social Security benefit. The reduction would be based on an interest rate somewhat less than the government bond rate, and the account could be invested in equities and other assets with higher expected returns. According to projections made by SSA’s Office of the Actuary, a two-earner household retiring in 2052 could expect a retirement income equal to 89 percent of the Social Security benefits scheduled under current law. Although less than currently scheduled benefits, this amount is 23 percent

more than what Social Security could actually pay out of projected tax revenues, according to estimates prepared for the commission.

The CRR conducted a variety of studies on issues critical in evaluating the commission’s model 2 and other proposals for reforming Social Security. These include the expected returns, risks, and benefits of equity investments; administrative costs in individual account programs and how they might be reduced; postreform benefit levels and their policy implications; and automatic mechanisms other nations use to eliminate financing shortfalls, such as the one that has plagued Social Security and dominated the policy debate, creating more heat than light, for more than a quarter century.

Both the 1994–1996 Advisory Council and President’s Commission viewed equity investments as a way to improve the financial performance of the nation’s retirement income system. The gain is based on the expectation that equities produce higher returns than bonds—whether bonds held in the Social Security trust fund or bonds issued to offset the loss of Social Security revenues, which are redeemed through reductions in workers’ retirement benefits, as they direct their payroll taxes to individual accounts. The size of the gain depends in part on the size of the equity premium—the excess returns of equities over bonds. Based on historical data, the Office of the Actuary had used a 400 basis-point equity premium to estimate the effect of various reform proposals on the Social Security shortfall. Diamond (1999) reviews the literature and concludes that reductions in the cost of stock investing, the high value of stocks at the end of the 1990s, and expectations of slower economic growth should significantly reduce the equity premium used in such projections.⁴

A second issue critical in evaluating reform proposals that use equity investments is treatment of the risk. Equities are risky, with substantial variance in the returns they deliver. Burtless (2000) shows that this translates into substantial variance in the retirement incomes produced by individual accounts invested in equities; had Social Security always included such accounts, workers with these accounts who were retiring just a few years apart would often have dramatically different retirement incomes. The Office of the Actuary ignored risk when scoring reform proposals, crediting equities with their expected rate of return with no adjustment for such variance in outcomes. Munnell, Sass, and Soto (2005) review how other government agencies treat risk when evaluating the

finances of similar programs that invest in equities, such as the Railroad Retirement program; the authors find that these agencies generally use a risk-adjusted (that is, riskless) rate that eliminates the equity premium and any improvement in their evaluation of a program's finances.

Individual accounts are a major component of many reform proposals, and the CRR's studies found the administrative costs of such accounts varying widely among countries that include these accounts in their social security programs. Sundén (2000); Palme, Sundén, and Söderlind (2005); and Weaver (2005) assess Sweden's low-cost public/private system, which gives workers wide discretion when choosing private-sector investment managers and uses the government's payroll deduction and social security apparatus to collect contributions and make payments, provide record-keeping and reporting services, and transfer funds with private-sector investment managers after aggregating net contributions, transfers, and payouts. At the other extreme, Sass (2004), Soto (2005a), Weaver (2006), and Williamson (1999, 2000) describe the systems in the United Kingdom and Chile, where private-sector firms handle collections, recordkeeping and reporting, payments, transfers, and investment management. The added administrative expenses in private-sector systems can be quite costly—an additional 100 basis points in fees reduce retirement incomes by roughly 20 percent, and administrative expenses are especially high for low-wage workers, whose contributions and account balances are relatively low.⁵

A major concern in proposals that close the shortfall by cutting benefits and include carve-out individual accounts is the postreform level of retirement income and the secure provision of a basic retirement income. Uccello and others (2003) and Favreault and others (2004) use the Urban Institute's Dynamic Simulation of Income Model (DYNASIM) to project the retirement incomes of different demographic groups under various specifications of the President's Commission's approach and with various assumptions regarding administrative costs, investment returns, and annuitization rules. The studies find that retirement incomes would generally be lower even under their most optimistic assumptions: The additional income provided by carve-out accounts would not offset the effect of freezing the purchasing power of Social Security benefits at current levels, which by 2050 reduces benefits before a carve-out by a projected 23 percent. Those studies also project higher rates of "near poverty"—incomes less than 150 percent of the federal poverty

line—for vulnerable groups such as divorced or never married individuals, blacks, and those without a high school diploma.

Using SSA's Modeling Income in the Near Term (MINT) model, Davies and Favreault (2004) project increased dependence on Social Security's means-tested Supplemental Security Income program under various specifications of the President's Commission's approach. The study also finds the provision of a minimum Social Security benefit, as proposed in model 2, far more effective in reducing poverty among the elderly than the Supplemental Security Income program. Retirement incomes might also be less than commonly projected. Uccello (2000) finds that workers in the Survey of Consumer Finances who are covered by defined benefit (DB) pension plans invest a greater share of their 401(k) accounts in equities; so equity allocations in carve-out individual accounts and the higher retirement incomes they are expected to produce could be less than projected given the sharp reduction in guaranteed Social Security benefits.

In *Social Security and the Stock Market: How the Pursuit of Market Magic Shapes the System*, Munnell and Sass (2007) compare the experience of three nations that adopted reforms similar to the three proposals advanced by the 1994–1996 Social Security Advisory Council. The benefit cut and carve-out approach, as implemented in the United Kingdom, led to a dramatic shift from a social insurance system to a means-tested old-age income system. As benefit cuts and carve-outs reduced guaranteed retirement incomes, means-tested programs expanded. To reduce moral hazard (the hazard that those workers who lose £1 in benefits for every £1 of income from work or savings would work less and save less), the government introduced a tapered withdrawal rate (reducing benefits by £0.4, not £1), which resulted in one-half of the elderly now eligible for means-tested benefits—a greater share eligible for those benefits at some point in their lifespan and a greater share eligible in the future, as guaranteed benefits continue to fall relative to means-tested thresholds. Australia created mandatory individual accounts to supplement its Age Pension program—a means-tested system with a 40 percent tapered withdrawal rate, which provides full benefits to one-half of the elderly population and full or partial benefits to all but 10 percent. The means test in the Age Pension program dampens the variance in retirement incomes produced by the add-on accounts; but it does so at the cost of significant moral hazard. Canada addressed the long-term shortfall in

its Canada Pension Plan by raising taxes and investing trust fund assets in equities. The investment program is widely seen as conservatively funded and professionally managed; its use of equities has not expanded moral hazards and the variance in equity returns can be pooled across multiple worker cohorts (Monk and Sass 2009).

CRR studies also reviewed automatic mechanisms other nations have adopted to close long-term financing shortfalls in social security programs. Sundén (2000), Williamson and Williams (2003), and Brooks and Weaver (2005) analyze notional defined contribution (DC) designs—where social security contributions are recorded in a notional account; balances are credited with a notional return; and at retirement, balances are converted into a monthly benefit stream using a notional annuity rate. Such systems generally include automatic adjustments that affect benefits, not contributions, in response to shocks—pegging the notional return, and thus the future benefits of current workers, on contribution inflows and annuity rates at retirement so that the benefits of new retirees are affected by the cohort’s projected mortality experience. Ponds and van Riel (2007) review the automatic adjustment mechanisms in the funded, government-mandated DB programs in The Netherlands, which cover essentially all workers. These Dutch programs adjust both contributions and benefits in response to shocks. Monk and Sass (2009) assess the automatic mechanism in the Canada Pension Plan, which adjusts both contributions and benefits should the “stewards” of the plan, the federal and provincial governments, fail to close a long-term shortfall. The automatic adjustments—an increase in contributions sufficient to amortize half the shortfall over 75 years and cut the benefits of current pensioners by about 7 percent—were designed not to go into effect but to motivate politicians (by motivating current pensioners) to close the shortfall in a more politically acceptable way.

Given the critical importance of Social Security’s long-term financing problem and the public’s need to be better informed about how it could be addressed, the CRR produced the *Social Security Fix-It Book*, a “citizen’s guide” to the primary options proposed for restoring solvency. *Fix It* uses a clean and inviting layout, a limited amount of text that is simple but precise, and entertaining and informative illustrations to present the role of Social Security and the need for a “lasting fix.” The estimates of the effect of various reform initiatives in closing the financing shortfall are

largely produced by SSA’s Office of the Actuary. More than 50,000 copies of *Fix It* have been printed to date.⁶

Retirement Income Adequacy

Today we live in the “golden age of retirement.” The expansion of Social Security and employer pension plans, the creation of Medicare, and the rise in home ownership over the past half century have allowed most retirees to maintain a reasonable approximation of the standard of living they enjoyed during their working years. Engen, Gale, and Uccello (2000) find only 20 percent of households in the initial Health and Retirement Study (HRS) cohort (individuals born from 1921 through 1931) at risk of hardship. Johnson, Mermin, and Uccello (2006) and Coile and Milligan (2006) report that the elderly are vulnerable to deteriorating health, financial setbacks, and declining living standards as they age. Favreault and Steuerle (2007) and Smeeding (1999, 2004) find that benefits often fail to keep certain portions of the elderly population—single older women, in particular—out of poverty or near poverty (incomes less than 150 percent of the federal poverty line). They also suggest reforms, such as a universal flat-rate benefit, to assure minimally adequate retirement incomes.⁷ Despite these areas of weakness, the overall economic standing of the elderly, compared with the young, has likely never been better.

The concern is how well retirement incomes will hold up when the baby boom generation exits the workforce. As Social Security is the largest source of cash income for two-thirds of elderly households, SSA’s calculation of monthly benefits paid to the stylized “medium earner,” as a share of preretirement earnings, is a common measure for assessing retirement income adequacy. Through the last quarter of the twentieth century, the benefits of this stylized medium earner—essentially an individual who consistently earns the average wage and retires at age 65—generally replaced about 40 percent of preretirement earnings. But as most workers retire as married couples and claim benefits before age 65, this figure might not be a reliable indicator of the program’s role in replacing preretirement earnings. Munnell and Soto (2005a), however, estimate actual household replacement rates in the HRS population and find that these complicating factors largely cancel each other out, and Social Security benefits replace about 44 percent of the “average” household’s preretirement earnings.

Social Security replacement rates, however, are now being cut in response to the rise in the program's FRA; the phase-in period began in 1983. When the cuts are fully phased in, for workers born in or after 1960, benefits claimed at any age will decline by about 13 percent. Including projected increases in Medicare Part B premiums and income taxes retirees will pay on benefits, Munnell (2003) estimates a 25 percent reduction in the net cash benefits—to about 30 percent of preretirement earnings—for medium earners born in 1960 or later, who claim at age 65. Munnell, Sanzenbacher, and Soto (2007) also project a decline in replacement rates for married couples because of the increased employment of married women. Although the sharp rise in the employment of married women raises preretirement household earnings, it often has little or no effect on the household's Social Security retirement benefits, as increases in the worker benefits earned by the wife are offset, dollar for dollar, by a loss of spousal and survivor benefit top-ups until those top-ups are gone. Butrica, Smith, and Toder (2002) actually project an increase in the wage-adjusted poverty rate from 8 percent to 10 percent of the elderly, mainly a result of the rise in the FRA and changes in marital composition.⁸

Employer-sponsored retirement income plans that are publicly subsidized and regulated are the second most important source of retirement income, providing about 20 percent of elderly household cash income if wages are included as a source of income; without wages, these plans provide about 25 percent of elderly household retirement income.⁹ Participation has remained remarkably constant over the past quarter century, at about half the nation's workforce, suggesting the continued importance of employer plans going forward. Among private-sector employers, however, DC retirement savings plans have largely replaced DB pensions. The transition in the private sector was primarily due to the demise of existing DB plans and employers opting for DC formats when creating new plans. Recently, however, employers have been converting or replacing existing DB plans with DC plans. Studies by Dushi, Friedberg, and Webb (2006) and Munnell and Soto (2007) document the rising financial risks to employer sponsors of DB plans and their role in encouraging the shift to DC formats. Munnell, Haverstick, and Soto (2007) explain the persistence of DB plans in state and local governments by their less mobile and more risk-averse workforce, a higher degree of unionization. The authors note that employee contributions moderate financial risks and

that state and local governments, as perpetual entities, are not subject to the same stringent counter-cyclic funding requirements. Munnell, Haverstick, and others (2008) nevertheless find these plans about as well funded as DB plans in the private sector. Munnell, Golub-Sass, and others (2008) find that ideology (in the form of a Republican governor and legislature), not economic factors, appears to be the most influential factor behind the few public-sector conversions from DB to DC pension plan formats.

Much of the CRR's work on employer plans has focused on the new DC programs. In *Coming Up Short: The Challenge of 401(k) Plans*, Munnell and Sundén (2004) synthesize much of their research, as well as research done by others, to produce an overall evaluation of such plans as a source of retirement income. As the title makes clear, the authors find significant limitations in the ability of 401(k) plans to function as a reliable source of retirement income. The major problems include participation shortfalls; irrational asset allocations, especially excessive allocations to employer stock and a failure to rebalance in response to aging and market shifts; assets leaking out of worker accounts before retirement; and an almost complete lack of annuitization upon retirement. *Coming Up Short* also emphasizes the consensus in the research community, based on numerous studies of participant behavior, that well-designed defaults can significantly improve the performance of DC plans as a source of retirement income. Unless explicitly choosing otherwise, workers would participate, contribute target amounts, allocate assets according to some life-cycle formula, roll balances into an individual retirement account when changing employers, and at retirement receive a portion of their balance as a joint-and-survivor annuity.

The CRR produced further studies of DC plans after *Coming Up Short*. Poterba (2004) calculates the effect of taxes on retirement saving within and outside tax-deferred retirement accounts. He shows that the different taxation of capital appreciation—as capital gains in taxable accounts and as ordinary income upon withdrawal from traditional retirement accounts—results in long-term equity investments producing more income in retirement when held in taxable accounts. Munnell (2005) analyzes the adverse effects of proposed reductions in capital gains and marginal income tax rates on the attractiveness of participating in, or sponsoring, a DC plan. Agnew and others (2007) find that participation in DC plans is explained more by financial literacy and trust in the firms that

administer the plan and invest its assets than by the worker's income. Reinforcing the *Coming Up Short* conclusion, Sorokina, Webb, and Muldoon (2008) find a decline in the ability of employer plans to replace preretirement earnings with the shift from DB to DC plans. Munnell, Soto, and others (2006) identify a major explanatory factor. The authors find that asset returns in DC plans are a full percentage point less than returns in DB plans—a differential roughly equal to the additional administrative costs of DC plans.

The rational response to the coming decline in replacement income provided by Social Security and employer pension plans is an increase in other types of saving. The widely noted collapse of the personal saving rate since the early 1980s—to approximately zero by 2005—suggests that this has not occurred. Bosworth (2004) examines various explanations, including measurement problems created by disinflation (which produced a spurious “decline,” as less “saving” is now needed to offset inflation and maintain the real value of assets) and a sharp run-up in asset values (which reduced or even eliminated the need to save). The study shows that correcting for mismeasurement reduces but hardly eliminates the decline in saving, and the decline was largely complete well before the sharp run-up in asset values in the late 1990s. Thus the decline in saving remains real, puzzling, and troublesome. To evaluate effects on future retirement incomes, Munnell, Golub-Sass, and Varani (2005) estimate the changes in the saving rate of the working-age population, including the portion of business saving attributable to the working-age population, since the early 1980s. The study finds that the saving rate of the working-age population remained significantly greater than zero; dissaving by the elderly drove the aggregate rate below zero. Nevertheless, saving by the working-age population declined, rather than increased, even though the income these workers will get from Social Security will replace a declining share of preretirement household earnings. Studies by Bosworth, Bryant, and Burtless (2004) and Engelhardt and Kumar (2007a) on the effect of demographic swings on saving and investment demand also suggest that it will become more difficult to accumulate retirement wealth while working and to rely on such wealth to provide an income in retirement, as the baby boom generation exits the labor force. These studies find saving less responsive to demographic swings than investment demand. So saving should decline less than investment demand as the population ages, reducing the return on assets, the growth of assets in retirement

accounts, and the income these accounts can provide in retirement.

To gauge the extent of the retirement income problem going forward, the Center for Retirement Research at Boston College (2006) developed a National Retirement Risk Index. This index estimates the share of working-age households “at risk” of lacking sufficient retirement income to maintain a reasonable approximation of their preretirement standard of living, that is, households with projected retirement incomes at 10 percent or more below the estimated amount needed to maintain preretirement living standards. Depending on factors such as household composition, home ownership, and the level of preretirement income, households are classified as at risk if their projected retirement income is less than about 65 percent of their income in their fifties. The retirement income calculation assumes the household head retires at age 65, not the current average retirement age of 63, and the household annuitizes all assets, including the value of home equity not consumed over the household's remaining life, leaving no intended or unintended bequest. Driven by scheduled declines in Social Security replacement rates (the retirement income estimates do not include additional benefit cuts to close the long-term shortfall) and projected declines in replacement income provided by employer plans and other types of saving and rising longevity, the study finds a steady rise in the share of households at risk—35 percent of older boomers (born from 1948 through 1954), 44 percent of younger boomers (born from 1955 through 1964), and 49 percent of “Generation X” (born from 1965 through 1972)—that could well mark the end of the “golden age of retirement.”¹⁰

The well-being of future retirees will also depend on their ability to draw incomes out of two increasingly important types of wealth—financial assets held in DC plans and the equity in their homes. Projections of the well-being of future retirees, such as the CRR's National Retirement Risk Index, generally assume retirees will consume much or all of this wealth, either through annuitization or by adopting some optimal drawdown strategy based on survival probabilities and household time and risk preferences. Retirees today, however, are quite resistant to annuitizing financial assets or tapping home equity as a source of retirement income through downsizing, borrowing, or taking out a reverse mortgage.¹¹ To the extent that future retirees fail to convert financial and housing wealth into retirement income, their standard of living will be less than generally projected.

The private annuity market is currently quite small. But given the decline in Social Security and employer DB pension annuity income, rising longevity, and uncertainty about the magnitude and distribution of future longevity gains, the value of private annuities could rise significantly. Davidoff, Brown, and Diamond (2003) show that annuitization is likely to produce large welfare gains for households aiming to maintain their standard of living in retirement. Poterba (2001) and Brown (2000) review factors that have limited the growth of annuity markets, most importantly adverse selection, administrative costs, and the relatively ample annuity income provided by Social Security and employer DB pensions; analyze the effect of mandating full or partial annuitization, which reduces adverse selection and administrative costs; and find such mandates generally welfare-improving, given the relative decline in annuity income from Social Security employer pensions. Innovations that make private annuities less costly and more attractive could expand annuity take-up. Webb, Gong, and Sun (2007) analyze one such innovation, the advanced life deferred annuity—a product that can be purchased, say, at the point of retirement and provide a lifetime payout beginning at ages 75, 80, or even older. Advanced life deferred annuities are relatively inexpensive, address a widespread anxiety about outliving one's assets at advanced ages, and thus could be quite attractive. Agnew and others (2008) show that the way in which annuity options are framed, or presented, significantly affects their appeal. Insuring longevity, however, is tricky. Friedberg and Webb (2005) provide evidence that insurance companies might be underestimating recent mortality improvements and underpricing annuity contracts, but could hedge this risk relatively inexpensively using mortality-contingent bonds.

Studies of retiree well-being too often ignore the role of owner-occupied housing. Soto (2005b) shows that the elderly generally own their homes, either free and clear or nearly free and clear. Owner-occupied housing provides an important stream of in-kind income, which is received (and consumed) free of income tax. Butrica, Goldwyn, and Johnson (2005) show that real estate taxes, utility bills, general upkeep, and other housing-related costs are also the largest expenditure item in the budgets of elderly households—even larger than medical care. Although Munnell and Soto (2008) find that about 30 percent of households aged 50–62 had increased mortgage debt in response to the rapid run-up in housing prices earlier in the decade, home equity is by far the largest

untapped asset available as a source of retirement income for most households in or near retirement. The elderly, however, rarely convert housing wealth into cash income. Munnell, Soto, and Aubry (2007) report the results of a survey that finds that few households approaching retirement plan to tap their home equity for retirement, but those inadequately prepared for retirement and dependent on DC plans as opposed to DB plans are more disposed to do so. As retirees increasingly find themselves ill-prepared and dependent on DC plans, home equity could thus become a far more important source of retirement income.¹²

Working Longer

Given the decline in replacement income provided by Social Security and employer pension plans, the limited extent of other savings, and the pattern of resistance to annuitization or tapping home equity as a source of retirement income, the only alternative to sharply lower living standards for many retirees is to remain in the labor force longer. Working longer has a powerful impact on retirement incomes. Monthly Social Security benefits increase about 7–8 percent each year a worker postpones claiming from age 62 to 70. As these adjustments are actuarially fair, the gains in income drawn from 401(k)s, on a risk-adjusted basis, will be much the same. Butrica, Smith and Steuerle (2006) and Munnell, Buessing, and others (2006), using somewhat different approaches, both find that an additional 2–4 years in the labor force could offset, for the baby boom generation, the decline in the share of earnings replaced by Social Security and employer pension plans.¹³ The average retirement age for men had remained essentially unchanged, at 63, since the mid-1980s.¹⁴ So working an additional 2–4 years means pushing the average retirement age to 66, which was the average retirement age for men in 1960, or to 67, the FRA under Social Security for workers born in 1960 or later.

Munnell and Sass (2008) synthesized much of the research on the prospects for extending working careers in *Working Longer: A Solution to the Retirement Income Challenge*. As reported in *Working Longer*, health is not a major obstacle in extending careers. A review of the evidence, also reported in Munnell and Libby (2007), indicates that individuals aged 55–64 today are healthier than their counterparts in 1960 and that work has become less physically demanding, though perhaps 15–20 percent of workers would not be able to remain in the labor force into their mid-to-late sixties. For those who can work

at these ages, Calvo (2006) finds that work actually enhances health and happiness. So the critical questions are whether workers will choose to extend their careers and whether employers will choose to employ them.

The literature reviewed in *Working Longer* suggests that the coming decline in earnings replacement from Social Security and employer pension plans might not, on its own, lead workers to stay in the labor force long enough to assure reasonably secure retirements. This research finds that the availability of benefits is generally more important in retirement decisions than the level of benefits. Munnell, Soto, and Zhivan (2008) do find a statistically significant relationship between estimated earnings replacement rates and retirement decisions, but the effect is small. Their study estimates that a 10 percentage-point decline in replacement rates—comparable to the projected decline in net Social Security replacement rates by 2030 for the average individual retiring at age 65—would raise the labor force participation rate for men aged 55–64, currently about 70 percent, by just 1.5 percentage points.

Other studies, however, provide grounds for optimism that workers will opt to remain in the labor force longer. Defined contribution retirement plans, unlike employer defined benefit pension plans, lack financial incentives that encourage retirement at particular ages. Drawing a retirement income out of a savings account is also much riskier than relying on the annuity provided by a DB pension. Munnell, Triest, and Jivan (2004) estimate that the shift from DB to DC plans could raise the retirement age of those affected by about one year. Various studies also suggest that the increased labor force participation of succeeding cohorts of married women will raise participation rates. As Johnson (2004) finds that couples tend to retire together and as Coile (2003) finds that the continued employment of married women tends to extend their husbands' careers, the increased labor force participation of married women should extend both their own and their husbands' work lives.¹⁵ Muldoon and Kopcke (2008) report that the majority of workers no longer claim Social Security benefits at the program's earliest eligibility age (EEA) of 62, as they had since the mid-1980s, although most still claim by 63.

Although the average retirement age for men has remained relatively steady since the mid-1980s, participation rates among men aged 65–69 have indeed increased dramatically, from about 20 percent at the end of the 1980s to above 35 percent today. Engelhardt and Kumar (2007b) associate the sharp rise in this

age group with the elimination of the Social Security earnings test—which many workers incorrectly view as a tax—once workers attain the FRA. Such responsiveness to financial incentives suggests that workers will indeed opt to extend their work lives as the retirement income system contracts. Haider and Loughran (2001), however, dispute this inference. Their study finds that men aged 65–69 who remain in the labor force are disproportionately educated, high-wage workers who earn much less than they had at younger ages, and the authors conclude that nonpecuniary considerations play a critical role in their work/retirement decisions. More educated, high-wage workers are also those who are least at risk of having inadequate retirement incomes. So their increased participation at older ages does less to ameliorate the nation's retirement income challenge than a more broad-based extension of working careers.

Even if workers want to stay in the labor force into their late sixties, the decision is not theirs alone. Employers must provide opportunities. And here the CRR's research findings have been somewhat discouraging. Eschtruth, Sass, and Aubry (2007) find employers lukewarm about retaining even half of the workers they expect will want to stay on the job 2–4 years longer because of a lack of resources to retire at the organization's traditional retirement age.¹⁶ Sapozhnikov and Triest (2007) analyze the effect of cohort size on wage rates—controlling for educational attainment, experience, and time trend—and find that the large number of older workers in the labor market, now that the oldest baby boomer is age 63, reduces their market value. Also troubling is a sharp decline in career employment, defined as employment with a single employer from middle age (or earlier) to retirement. Using age and tenure data from the Current Population Survey, Munnell and Sass (2008) report that only 44 percent of employed men aged 58–62 currently work full time for the same employer they had at age 50, a dramatic change from the early 1980s when 70 percent of men in that age range were working full time for their age-50 employer. For workers in their fifties, job transitions are often quite difficult. Lahey (2006) documents significant age discrimination in the job search, using interview request rates responding to paired résumés submitted by applicants for entry-level jobs, with information on the résumés addressing concerns over issues such as job skills and the need for health insurance.¹⁷ Johnson and Kawachi (2007) report that workers in the HRS who change jobs typically get sharply lower wages and benefits,

though the effect on well-being is ambiguous. The authors find that new positions are also less stressful and job-changers are somewhat more likely to say that their new positions are enjoyable. Job-changing, however, significantly raises the risk of displacement.¹⁸ Although older workers are generally less prone to displacement, Munnell, Sass, and others (2006) find that tenure, not age, is the reason; older workers today are actually at greater risk of displacement than younger workers with similar amounts of tenure.

Given the importance of benefit availability in retirement decisions, the most effective way to keep workers in the labor force longer, thereby enhancing retirement income security, could be an increase in the EEA for Social Security benefits. Raising the EEA should also make older workers more attractive to employers. Munnell, Sass, and Soto (2006), analyzing the results of an employer survey, find that the limited time employers expect older workers to remain on the job significantly diminishes their attractiveness. To the extent that a higher EEA postpones the expected departure date, employers should be more willing to hire, train, and promote older workers.

The primary objection to raising the EEA is the hardship it would create for those unable to work or find employment and who lack the financial resources to support themselves without working. Raising the EEA is also seen as unfair to groups with low life expectancy, such as low-wage workers and certain minorities, who would collect the higher monthly benefit payable at the higher EEA for a shorter period of time. To estimate the share of the workforce at risk of hardship if the EEA were raised from age 62 to age 64, Munnell, Meme, and others (2004) review the health and financial status of workers in the HRS who claim retirement benefits at ages 62 or 63. They concluded that only 4 percent of the workforce is physically unable to work to age 64 and lack the resources needed to support themselves without working. If the EEA were raised, the standard approach for addressing that at-risk population is to expand Social Security's Disability Insurance or Supplemental Security Income programs. Using earnings data that SSA already collects, Zhivan and others (2008) analyze an alternative approach that would raise the EEA for most workers but retain an earlier EEA, and perhaps an earlier FRA, for workers with low lifetime earnings. The study shows that such an "elastic" EEA could be an effective and target-efficient way to protect vulnerable workers and workers with low life expectancy.

Although monthly Social Security benefits are higher the later a worker claims, lifetime benefits are much the same no matter when a worker with average life expectancy claims. But because Social Security provides special spousal and survivor benefits to married couples, the value of household lifetime benefits can be affected by claiming ages.¹⁹ Munnell and Soto (2005d) calculate current claiming ages that maximize the expected present value of household benefits based on the age difference between the spouses and the relative size of benefits based on their earnings records. The study finds that most married men maximize the value of household benefits if they claim at age 69, as their wives are likely to survive them and as a survivor gets their higher monthly benefit. Sass, Sun, and Webb (2008), using a sample of actual households from the first HRS cohort (which had different benefit rules that provided smaller increases to workers who claimed past the FRA), find that the median maximizing ages were 66 for the husband and 62 for the wife. The study compares the expected value of benefits claimed at the household's maximizing ages with the value of benefits had both husband and wife claimed at age 62. It finds little difference in the expected value of benefits while the husband is alive, but a 25 percent gain in the expected value of the wife's survivor benefits if the husband claims at the maximizing age. As low incomes among elderly widows is a major social problem, the study suggests guaranteeing the low-earning spouse a survivor benefit equal to the higher earner's FRA benefit, paid for by reducing the higher earner's benefit if claimed before the FRA.

An Evaluation After 10 Years

The CRR at Boston College, in its first 10 years of existence—

- Produced or oversaw the production of roughly 200 basic research studies on key policy issues.
- Helped train and educate many promising new scholars in the field, primarily through its management of SSA-sponsored education and training programs.
- Disseminated this research widely through its working papers and biweekly issue in brief series, currently sent by e-mail to 4,000 subscribers; through literature providing overviews of research findings on key policy issues; through educational products designed for the general public; and through a dedicated media outreach campaign.²⁰

These contributions enhanced our understanding of the retirement income challenges the nation faces, expanded areas of consensus on how these challenges might be addressed, and helped ameliorate some of the strong divisions in the policy community that were present at the CRR's birth. The CRR's contributions can be seen in the enactment of the Pension Protection Act of 2006, which addressed various shortcomings in employer retirement income plans. The CRR's review of the 401(k) institution, *Coming Up Short*, helped make the case that reform was needed—that 401(k) plans as currently structured would not produce enough retirement income for workers dependent on these programs. It also supported the emerging consensus that best-practice defaults—a halfway house between government mandates and laissez-faire—could go a long way toward improving 401(k) performance. The CRR also helped open critical new areas of retirement policy research. Perhaps most important is the employment of older workers, increasingly viewed as the nation's most effective response to shortcomings in the retirement income system. Given the nation's pressing retirement income challenges, the CRR's contributions to the policy debate have arrived none too early.

Notes

¹ During part of the past 10 years, the CRR also had affiliations with the American Enterprise Institute, the Center for Strategic and International Studies, and the Max Planck Institute for Demographic Research.

² The research output of the CRR and its affiliates, organized by topic, is listed at <http://www.crr.bc.edu>.

³ The 2037 exhaustion date refers to the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund combined. For the purposes of this article, all references to the “trust fund” will reflect the two funds combined.

⁴ SSA's actuaries later reduced their assumed rate of return on equities from 7.0 percent to 6.5 percent when analyzing proposals from the President's Commission.

⁵ The model 2 proposal avoided those costs by requiring centralized account administration and restricted investment choice to low-cost options on balances less than \$5,000.

⁶ The *Social Security Fix-It Book* is available for download at the CRR at Boston College's Web site: http://www.crr.bc.edu/special_projects/the_social_security_fix-it_book.html; hard-copies are available at Amazon.com for \$4.95. Other public education efforts addressing the Social Security reform debate include

Munnell (2004); Brown, Hassett, and Smetters (2005); and Munnell and Soto (2005b, 2005c).

⁷ Many proposals that restore solvency by cutting benefits rather than raising revenues, including model 2, include provisions that raise benefits for vulnerable groups such as widow(er)s and low-wage workers.

⁸ The wage-adjusted poverty rate adjusts the poverty threshold in line with the rise in real wages, unlike the official poverty rate, which adjusts the poverty threshold in line with prices. The wage-adjusted rate reflects a relative definition of poverty—deprivation relative to current social norms; the official price-adjusted poverty rate reflects an absolute definition of poverty—deprivation relative to biological necessity (or, in the case of the U.S. official poverty rate, relative to social norms in the 1960s).

⁹ Munnell and Soto (2005a) and Social Security Administration (2006).

¹⁰ Also see Butrica, Iams, and Smith (2003)—“It's All Relative: Understanding the Retirement Prospects of Baby-Boomers”—which highlights the importance of the standard of reference, whether the adequacy of retirement incomes is measured relative to workers' preretirement standard of living or some other standard, such as the standard of living of current retirees.

¹¹ Without annuitization, households pursuing “optimal” drawdown strategies would consume more of their incomes when relatively young and have incomes declining rather steeply over time, with “unlucky,” long-lived households having no income at the end of their lives other than their Social Security benefits. This consumption pattern is inferior to that offered by an actuarially fair annuity, given reasonable assumptions and abstracting from bequest and precautionary wealth-holding motives. Butrica and Mermin (2006) find such a front-loaded household pattern of expenditures, albeit not nearly so radical as indicated by most optimizing models. Smeeding and others (2006) find that U.S. retirees retain significant amounts of home equity—far more than retirees in other industrialized nations—and suggest that a greater need for precautionary assets against possible long-term care expenditures might explain this difference in the behavior of U.S. retirees. Cox and Soldo (2004) provide evidence that retirees also hold assets as potential bequests, offered in exchange for care from adult children.

¹² Inheritances, most often the value of the parents' house, are sometimes seen as an important retirement asset. But such bequests have not been major contributors to the income of most retirees and are unlikely to be so in the future. Cox and Soldo (2004), however, do show that the promise of a bequest is sometimes explicitly or implicitly exchanged for caregiving.

¹³ Burtless and Quinn (2002) also review working longer as a response to the contraction of the retirement income system.

¹⁴ The average retirement age is defined here as the age at which more than half of men are not participating in the labor force. Preliminary data suggest that the average retirement age has risen recently, from 63 to 64.

¹⁵ Schirle (2008) provides strong evidence for this point.

¹⁶ As reported in Munnell, Sass, and Aubry (2006), these employers expect that one out of four of their employees will lack the resources needed to retire at the organization's traditional retirement age and, in response, will want to stay on the job 2–4 years longer. The employers' lack of interest in retaining these workers highlights the importance of employer demand for older workers as an issue to be addressed in retirement income policy.

¹⁷ Lahey (2006) also finds evidence that more vigorous antidiscrimination efforts could be counterproductive. As states with tougher regimes have lower employment rates for older workers, employers seem to respond by avoiding hiring or retaining older workers.

¹⁸ Displacement rates in the 1996–2004 Displaced Worker Surveys averaged 15.9 percent for those with less than 1 year of tenure and 11.3 percent for those with 1–5 years of tenure, dropping to 5.5 percent for those with 5–10 years of tenure and 4.0 percent for those with 10 or more years of tenure.

¹⁹ Spousal benefits are only available if both spouses have claimed. Survivors are entitled to their spouse's monthly benefit (reduced if claimed early) if greater than their own earned benefit, and their spouse's monthly benefit is based on the spouse's claiming age.

²⁰ The CRR's working papers and issue in brief series can also be downloaded from its Web site, which currently averages 9,000 unique visitors per month. To disseminate research beyond the English-speaking world, the CRR also translates the introductions to its briefs into Spanish and the full text of selected briefs into Spanish and Chinese, and it distributes these translations via e-mail and the Web.

In addition to the overviews previously discussed, Munnell and Sundén (2003) edited *Death and Dollars: The Role of Gifts and Bequests in America*, an anthology on inheritance and its current and prospective impact on retirement income security. Clark, Munnell, and Orszag (2006) edited the *Oxford Handbook of Pensions and Retirement Income*, an anthology covering the latest research and major theoretical frameworks for assessing retirement income systems.

The CRR produced *Working Longer*, a film on the retirement income benefits of remaining in the labor force longer and the challenges workers face in doing so, and *When Should I Retire and Start Social Security?*, which explains the importance of Social Security claiming ages on the monthly retirement income of a worker and his or her survivor, using the same popular format as the CRR's *Social Security Fix-It Book*. The Center for Retirement Research at Boston College and the Educational Technology Center

at Northeastern University (2008) produced *Get Rich Slow*, an interactive group game designed to educate and motivate participants to become actively engaged in retirement planning (available for download at <http://www.crr.bc.edu>).

The CRR's e-mail distribution includes about 200 journalists, and accommodating requests for interviews is an important CRR priority. As a result, the CRR currently averages about 45 press citations per month, and CRR staff regularly appear on national radio and TV programs and are featured in documentaries such as Hedrick Smith's influential *Can You Afford to Retire?*

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