Reorienting Retirement Risk Management

EDITED BY

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and Olivia S. Mitchell

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Preface

How can we find new ways to identify and then successfully manage the risks associated with retirement saving and dissaving? In the aftermath of the global financial crisis, it is becoming ever clearer that more must be done to enhance financial knowledge and financial education. Employers, employees, and other institutions – including governments – must play a more proactive role in this process. At the same time, new financial products will be required to help retirement plans innovate in the financing arena. This volume identifies ways to enhance retirement risk management so as to offset some of the uncertainty surrounding retirement saving, build more assets for retirement, better fund retirement plans, and help manage assets during the payout phase.

In the process of preparing this book, several key people and institutions played essential roles. Excellent editorial help was provided by my coeditor Robert Clark, a capable partner and colleague in research and development. On behalf of the Council, I thank him along with all the contributors to the book, the many reviewers who helped bring this work to fruition, and the PRC Advisory Board on whom we rely for guidance. We are also grateful for the intellectual and financial sustenance provided by our Senior Partners and the Institutional Members of the Pension Research Council, listed elsewhere in this volume. The Wharton School graciously provided access to conference facilities and more through its Impact Conference funding. Additional financial support was received from the Pension Research Council, the Boettner Center for Pensions and Retirement Research, and the Ralph H. Blanchard Memorial Endowment at the Wharton School of the University of Pennsylvania. The manuscript was expertly prepared and carefully edited by Matthew Rosen and Andrew Gallagher, with oversight and direction from Hilary Farrell.

Our work at the Pension Research Council and the Boettner Center of the Wharton School of the University of Pennsylvania has focused on aspects of pensions and retirement security for more than 50 years. This fine volume will be a welcome addition to the libraries of all concerned with retirement security.

Olivia S. Mitchell

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Abbreviations

AAUP	American Association of University Professors
AIR	Assumed Interest Rate
ASR	asset/salary ratio
COLAs	Cost-of-Living Adjustments
CPF	Central Provident Fund
CPP	Canada Pension Plan
CPPIB	Canadian Pension Plan Investment Board
DB	defined benefit
DC	defined contribution
EBRI	Employee Benefit Research Institute
EBRI/ERF	Employee Benefits Research Institution/Education and Research Fund
EBRI/ICI	Employee Benefit Research Institute/Investment Company Institute
EPDV	Expected Present Discounted Value
ERISA	Employee Retirement Income Security Act
FAB	Field Assistance Bulletin
FAS	Financial Accounting Statement
GASB	Governmental Accounting Standards Board
GDP	Gross Domestic Product
GLWB	Guaranteed Lifetime Withdrawal Benefits
GM	General Motors
IVA	Immediate Variable Annuities
IRS	Internal Revenue Service
ISG	International Steel Group Incorporated
MINT	Model of Income in the Near Term
MS	Minimum Sum
MSS	Minimum Sum Scheme
MWR	money's worth ratio
NAV	Net Asset Value
NUA	Net Unrealized Appreciation
OLS	ordinary least squares
PBGC	Pension Benefit Guaranty Corporation
PPA	Pension Protection Act
PRC	Pension Rights Center
QDIA	Qualified Default Investment Alternatives
QPP	Quebec Pension Plan

RMDs	Required Minimum Distributions
RR	replacement rate
SIPP	Survey of Income and Program Participation
SOA	Society of Actuaries
TIAA-CREF	Teachers Insurance and Annuity Association, College Retirement Equities Fund
UAW	United Auto Workers
UPS	United Parcel Service
USCB	United States Census Bureau
USDOL	United States Department of Labor
USGAO	United States Government Accountability Office
VEBA	Voluntary Employee Benefit Association

Chapter 1

The Evolution of Retirement Risk Management

Robert L. Clark and Olivia S. Mitchell

Retirement risk management will require significant modification if it is to be effective in helping position retirees to withstand the challenges of the future. Recent economic events, including the massive upheaval in global financial markets, have altered the landscape in which pension and endowment funds operate. Plummeting retirement asset values, along with employers' and employees' inability to make pension contributions, are contributing to sharp drops in retirement plan funding. In many countries, government social security systems are also facing insolvency. These factors, in tandem with an aging population and rising longevity, are giving rise to serious questions about the future of retirement in America and around the world.

This volume explores how workers and firms can reassess the risk associated with retirement saving and make creative adjustments to adapt to these new risks and realities. Our effort is grouped into three areas. First, we take up the key role for financial knowledge, implying a need for greater financial education programs. Second, we show how employers, acting as plan sponsors, and workers, must reconsider pension plan design so as to help them better address the new realities. Third, we argue that novel financial products will be required to help retirement plans innovate in the financing arena. The chapter authors of this volume, each an expert in his or her field, take up all these important aspects of retirement planning, providing new research and policy recommendations, and showing how retirement plans can be amended to better meet the retirement needs of workers and firms. This introductory chapter provides an orientation and a brief overview of key findings.

Revisiting retirement saving and dissaving

The last 2 decades have brought about a global shift from defined benefit (DB) pensions to defined contribution (DC) plans. According to Brett

Hammond and David Richardson (2010), this will require new ways of conceptualizing retirement saving adequacy. In traditional DB pensions, participants can project what future benefits will be as a percent of salary using their plan formulas; such formulas usually depend on a generosity parameter (e.g., 1.5 percent) times years of service, multiplied by final average salary. Accordingly, an employee with 30 years of service would have a pension replacement rate of 45 percent, which – along with Social Security benefits – can then be evaluated as to whether it is sufficient to retire on. By contrast, participants in DC plans may know their asset accruals but generally will be unable to convert these into benefit payout amounts.

To help approach this problem, the authors devise a measure they call the 'asset/salary ratio' (ASR), which accounts for future salary growth, rates of return, discount rates, the number of years expected in retirement, and estate planning needs. The most important inputs are contribution rates and the number of years contributed, notwithstanding popular emphasis on asset allocation, fund choice, and consultants. Next, using information from Teachers Insurance and Annuity Association, College Retirement Equities Fund (TIAA-CREF) data files on 3.5 million people, Hammond and Richardson measure how well funded participants are, by comparing the value of assets accumulated against likely future spending patterns in retirement. Their analysis indicates that, on average, the participants they study were more than adequately funded for retirement. The authors conclude that achieving sufficient retirement saving requires early and continuous contributions to retirement accounts, relatively high contribution rates, tilting allocations toward greater use of equities, and using catch-up contributions to increase account balances. Thus, pension plans that encourage early participation and provide strong incentives for increased contributions raise the likelihood that participants will be secure in retirement.

Retirement security also depends on financial literacy, and there is mounting evidence that many employees lack basic information about their retirement plans and financial mathematics. To counter this, the work by Robert Clark, Melinda Morrill, and Steven Allen (2010) examines the effectiveness of employer-provided financial education and preretirement planning programs. As individuals begin to transition from full-time work into retirement, they confront several key decisions that will affect their well-being in retirement. Without appropriate knowledge and information, many will make incorrect choices. Important retirement-related questions include when to retire from one's career job, whether to take a lump-sum distribution from a DB plan, whether to annuitize a 401(k) account, and when to claim Social Security payments. Many of these decisions are irreversible and will have profound impacts on financial well-being throughout retirement.

Recognizing the difficulty of making these decisions, several larger employers have recently sponsored educational programs to help with the decision process. Clark and colleagues examine nine large companies and chart characteristics of the financial education sessions offered; some are conducted in-house, while others are offered by outside financial education groups. The sessions range in length from 1.5 hours to 2.5 days. Seminar participants were asked to respond to a short survey on financial planning both before and after the education sessions. The authors show that the sessions did enhance financial knowledge, and as a result of the programs, employees changed their planned retirement behavior. Plans to annuitize 401(k) accounts and or take lump-sum distributions also changed.

When employer education is unavailable, people may instead turn to retirement calculators to help them with retirement planning. In their chapter, Anna Rappaport and John Turner (2010) examine how well computer calculators do in projecting future retirement income needs and accumulations. Their review suggests that many of these programs are too simple and provide misleading information about retirement saving. Furthermore, the programs often fail to address key retirement risks; instead, the information presented frequently masks risks that can fundamentally alter expected retirement income flows. The programs also differ in the ways they treat economic and personal variables: for instance, some ignore owner-occupied housing as an asset, while others compute the annuity value of housing, assuming the asset is fully liquid. Most calculators fail to address residential market risk, and none handles variable rate mortgages. The programs also do a poor job of estimating expected returns on retirement saving accounts, with many overestimating future rates and ignoring investment fees. A related problem is that few of the retirement advice programs properly model Social Security, though the government-provided benefit is the most important component of retirement income for many. Indeed, many calculators do a poor job of predicting Social Security benefits; for example, one uses the same payment regardless of the worker's age or length of work life. Further, the software packages differ dramatically in their assessments of retirement readiness, often taking too short a time horizon and underestimating longevity. Thus, many who follow the advice given by the programs may ultimately run out of money.

Nevertheless, the authors point out that using retirement planning software can help users to begin thinking about their long-term financial needs, even if the programs have some shortcomings. And these programs are now easier to use than were the earlier versions of financial planning programs. Finally, the software used by professional financial planners can be substantially more sophisticated, with some including Monte Carlo simulation approaches (rarely included in free consumer-oriented online programs).

Turning to retirement planning advice offered by employers, Lynn Pettus and Hall Kesmodel (2010) not that this is easier now than before, due to the passage of the Pension Protection Act (PPA) in 2006. The law sought to address concerns about whether employers would be in violation of the Employee Retirement Income Security Act (ERISA) by taking on a fiduciary role if they provided services to employees to help them learn about retirement saving and investment. Thus, the PPA was intended to increase the availability of high-quality advice to employees, and in fact some progress has been made: plan provider alliances now cover at least 43 million participants and more than half of those plan sponsors offer advice. The primary delivery model for employer-provided financial education programs is through online computer models and support programs with financial advisors acting as intermediaries.

Nevertheless, online computer models may not be the best method of providing actionable advice since some prefer to work with an advisor face to face. Moreover, computer programs intended to help with retirement saving plans often do not take into account the participant's larger financial situation. For example, a model may endorse the employee's decision to increase 401(k) contributions from 3 to 4 percent, yet for a worker carrying credit card debt with high interest rates, it might be more sensible to pay down those obligations. On the other hand, a financial advisor may face conflicts of interest; thus, some advisors could favor one financial product over another based on commissions, and financial advisors working in an employee education program may appear to have the employer's tacit endorsement. For these reasons, plan sponsors may wish to consider expanding financial planning education to cover more than just retirement saving and take into account housing, overall debt, and tax considerations as well, and to be alert to possible conflict of interest issues.

The environment for retirement plan redesign

While it seems clear that labor income risk should be a central determinant of one's retirement saving path, this topic is often overlooked in practice. For this reason, Raimond Maurer, Olivia Mitchell, and Ralph Rogalla (2010) undertake an analysis of how this form of risk can be mitigated in DC pension plans, taking into account social security as well. The authors find that human capital is many peoples' single most important asset and, as such, it should be included in any analysis of retirement portfolios. The authors argue that those with stable incomes and DB pensions will optimally develop a different asset mix than would investment bankers with highly variable and volatile earnings.

To examine what this means in practice, the authors construct a simulation model to derive recommended portfolio allocations, taking into account social security, labor income certainty, endogenous retirement ages, and differences in individual risk aversion. Their results imply that, for most people, it will be optimal to gradually purchase annuities over the life cycle. That is, people with very low labor income risk and high social security benefits should hold high equity positions while working, and begin to buy payout annuities around age 55. Those with higher labor income and low social security benefits should start to purchase payout annuities earlier, at around age 40. By doing so, people can build up their own individualized DB plan. The authors also point out that people who have purchased annuities have a steady stream of secondary income to buffer against labor income risk, which then permits them to hold more equity.

To further examine the interaction between pension benefits and pension plan type, Craig Copeland and Jack VanDerhei (2010) evaluate how pension freezes can influence retirement incomes. Their specific objective is to quantify the amount of potential retirement income foregone when employers freeze their DB plans, a phenomenon that has become quite prevalent following the 2006 passage of the Pension Protection Act, which added new funding requirements. It is important to note that some employers simply froze their DB programs, but others enriched their DC contributions in the process. The chapter draws on employer-provided survey data and a retirement projection model to gauge benefit generosity. The researchers report that when DB plans freeze accruals for new employees, expected nominal replacement rates fall by less than 1 percent for employees under age 25 and over 55, and 2 percent for those aged 30–34. Next, Copeland and VanDerhei show that 40 percent of DB participants aged 20–24 would have better replacement rates with an enhanced DC plan, but the figure falls below 10 percent for people over 55. The chapter concludes that, as companies move away from 'paternalistic' DB plans, employers will provide automatic enrollment in saving plans to encourage participation.

A different model for plan design is offered by Damon Silvers (2010), who sees voluntary individualized retirement accounts as a failure, in part because people are allowed to extract assets from their DC plans. Instead, he argues that new formats for collective retirement plans are needed to address the disconnect between short-term market volatility and the long-term needs of pension funds. He has proposed a new plan structure whereby a demographically diverse workforce could unite to set up a pension that would buy portfolio insurance issued in the form of a derivative that would keep plan assets stable, even as the value of the underlying portfolio fluctuated. Yet the financial crisis has suggested that precisely

when this type of risk management solution is needed, it will not be available. This may mean that government plans would have to be expanded to address three forms of risk. Investment risk can be handled by a collective professional management of assets with no more than 10 percent of a portfolio in company stock. Longevity risk can be addressed with mandatory annuitization and tougher limits on the ability to withdraw saving. Employer credit risk could be diminished with universal pension portability and a shift away from employer-sponsored plans.

A key element of retirement income security involves annuitization, with some governments moving gradually to increase retiree participation in such longevity protection. In Singapore, the government has ordered that mandatory annuitization will be rolled out as part of the compulsory Singaporean Central Provident Fund (CPF) scheme. Joelle Fong, Olivia Mitchell, and Benedict Koh (2010) explore this proposal and discuss the implications of requiring participants to purchase annuities. Clearly, mandatory annuitization will help avoid adverse selection, but how important this is, is an empirical question. After evaluating the private annuity market in Singapore, the authors conclude that private insurance offers good value for the money and the relatively low fraction of participants currently purchasing voluntary annuities is mainly attributable to inertia and financial illiteracy. Therefore, the new program may crowd out private offerings, though retirees may benefit due to limitations on withdrawals and mandatory annuitization.

Innovations in retirement risk financing

As noted at the outset, novel financial products will also be required to help retirement plans confront and manage risks innovatively. In his chapter, Igor Balevich (2010) discusses longevity risk and explores how pension plans might outsource longevity protection. While expected life spans have risen steadily in the last century, there is still much debate about whether the pace of longevity improvement will continue, in the face of rising obesity and related health risks. Balevich outlines three main approaches to the problem: plan design, risk transfer to insurers, and hedging. The shift from DB to DC plans has already moved longevity risk – and many other uncertainties – from the employer to the employee, particularly when retirees take lump sums instead of annuitizing with their employers. Risk transfer to an insurer permits a pension plan to eliminate its exposure to longevity by purchasing annuities; in the United Kingdom, several companies have already moved into this business, challenging traditional insurance companies. In the United States, the US Treasury Department and Internal Revenue Service essentially banned noninsurance-based

risk transfers in the United States as of mid-2008. Another way to cope with longevity risk, rather than attempting to eliminate it entirely, is to hedge the risk through derivative products such as longevity swaps. A longevity swap allows a plan to make fixed payments based on mortality expectations and receive floating payments tied to the mortality experience of the underlying population. The contract would be for a shorter period of time than the full term of the pension payout, but multiple contracts could be staggered with varying maturity dates. Since this hedge is not perfect, firms could be left with basis risk associated with the difference in mortality in their own population versus the national population.

In addition to building retirement assets, a major concern of retirement planning is how to best utilize assets in retirement. The mutual fund industry has been working actively to offer products that compete with the insurers, and John Ameriks, Michael Hess, and Liqian Ren (2010) assess several payout products currently available on the market. The global financial crisis has introduced many new uncertainties into retirement planning, particularly with guaranteed products facing difficult times. The researchers explore mutual fund products that involve a mechanism to provide periodic drawdowns, identifying are two main types: the 'endowment' style that seeks to provide payouts in perpetuity and the 'time-horizon' style where payments are scheduled over a set period. Neither type of plan offers guaranteed payments or returns; instead, they offer targeted or formula-driven distributions of assets along with a professionally managed investment portfolio. One criticism of these plans is that investors could construct similar evaluations themselves, raising the question of whether bundling by fund managers is worth 50 or 60 basis points.

To understand how payout funds and other retirement income vehicles perform over time, the authors simulate a 30-year time-horizon fund with an initial target payout rate of 5 percent. They compare this plan to other schemes including systematic distribution from a balanced mutual fund, a fixed lifetime income annuity, a variable immediate annuity, a variable annuity with a guarantee, a required minimum distribution plan, and combination strategies. They present a range of outcomes including income volatility, the probability of exhausting funds, the residual portfolio value, and internal rate of return. Their analysis shows that all strategies produce a wide variety of outcomes, including payouts and the wealth remaining to be bequeathed.

Another innovation in retirement finance is risk budgeting. The Canada Pension Plan (CPP) portfolio is managed according to this principle, as described by Sterling Gunn and Tracy Livingstone (2010). The authors point to three key points concerning risk budgeting. First, it is not an 'off-the-shelf' solution, but must be tailored to each fund. Second, it is also a way to reinforce investment decisions with total portfolio objectives. Third,

it challenges an organization to quantify its risk and accept that number. CPP is a three-tiered plan made up of a basic old-age supplement, a contributory pension, and voluntary saving. The scheme underwent major reforms in 1997 to enhance retirement saving adequacy, including setting contribution rates at the current rate of 9.9 percent. Interestingly, when the CPP Investment Board (CPPIB) was created in 1999, its establishment was coupled with limitations on federal government intervention; in exchange, the government made it clear to pension officials that contribution rates could not be raised again. As a result of this compromise, risk budgets have become part of the annual business planning process and require set expectations for the amount of risk needed to achieve return targets; the Board must annually approve an active risk limit, explaining exactly how much discretion management has to deviate from the reference portfolio. In practice, this has been particularly challenging in evaluating real estate and infrastructure investments.

Another interesting way to manage retirement risk is the Voluntary Employees' Beneficiary Association (VEBA), a scheme that seeks to preserve workers' health-care benefits even as companies offering them are restructuring. Aaron Bernstein (2010) explores the benefits and risks of these plans in his chapter, which notes that the VEBA is a century-old concept. VEBAs are essentially trust funds – originally set up to help prefund retiree health obligations. Today, there are about 12,000 of these flexible, tax-advantaged funds that, until now, were considered to be 'humdrum' internal funding schemes. They became nationally prominent in 2007, however, when the United Auto Workers (UAW) negotiated with Detroit automakers and succeeded in placing the retiree health obligations in VEBAs. Since VEBA is an independent trust fund responsible for retiree health care for a specified number of people, if it runs short of money, there will be insufficient funds to cover the health care of the participants. And the employer is absolved of responsibility for providing additional monies to cover shortfalls. While Bernstein believes these funds have some shortcomings, given the plight of the automakers, VEBAs may have helped save jobs because they allowed employers to shift pension obligations off their books, laying the groundwork for deeper restructuring. Today, VEBAs are mainly found in the heavily unionized sectors, because union-directed funds are not subject to limits imposed by Congress in 1984 designed to prevent employers from using VEBAs as tax shelters.

Following the global economic slump and sharp downturns in sales triggering bankruptcy filings by General Motors and Chrysler, VEBAs have now given employees a seat at the table during their employers' restructurings. For instance, financed in part by company stock at Chrysler, VEBAs gave employees an important position in bankruptcy proceedings; the union has gained 55 percent of the company as a result of its VEBA

obligations, and union employees are now placed ahead of bondholders and creditors in court proceedings.

Conclusion

The global financial crisis has brought unpredictable capital markets, widespread unemployment, poor corporate earnings, and weak global economies. These factors will continue to threaten the future of retirement security for older workers and retirees for years to come. Yet the crisis also affords an opportunity to revisit, reexamine, and adjust the institutions and programs on which we have relied in the past for retirement saving. In doing so, we have reconsidered the opportunities these plans provide for workers to accumulate sufficient monies to finance retirement. Equally important, we have examined the methods of payouts and the patterns of decumulation embedded in these programs. The new realities of financial markets and the greater recognition of risk and uncertainty make it imperative to develop a new structure to enhance future retirement security. This volume informs the debate by exploring how workers and firms can reassess the risk associated with retirement saving and respond creatively to the new risks and realities.

The studies included in this volume highlight several key points central to enhancing retirement risk management, in order to reduce some of the uncertainty surrounding the retirement saving process, the accumulation of sufficient assets for retirement, funding of retirement plans, and managing assets in retirement. Most salient is the urgent need for greater financial education, financial literacy, and support for financial advice and planning. Individuals who have inadequate or incorrect information about their retirement plans and general financial mathematics will make retirement decisions that undermine their economic well-being. An important policy concern is whether older workers can, in fact, boost their financial literacy to make better retirement choices. Plan sponsors also have a key role to play, as do financial advisors, in their role of finding innovative solutions to the uncertainties of aging. And last, but certainly not least, new financial products including longevity risk financing will be invaluable in making retirement more secure for millions of today's workers.

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