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Book Reviews

Oxford Handbook of Pensions and Retirement Income, edited by Gordon L. Clark, Alicia H. Munnell, and J. Michael Orszag with the assistance of Kate Williams, 2006, Oxford, UK: Oxford University Press, 893 pages

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Over the past several years the study of the economics of pensions and retirement income has grown in importance, particularly outside the disciplines of insurance economics, law, and mathematics. The interest is increasing mainly because of the discussion about the "population bomb," which is now for most of the industrialized countries a "reversed one," an "implosion!" As international attention on retirement financing increases, it is appropriate that Clark, Munnell, and Orszag have edited this Handbook.

The Handbook is divided into five major parts, with each part being organized around a series of sections and themes. All in all, it consists of 42 chapters with an impressive list of contributors. Besides the Introduction, a first part (entitled "Retirement in Context") and a final part (entitled "Looking Ahead"), the book is divided into sections in a manner consistent with the well-known three pillars (or layers) of the pension literature: Public Retirement, Employer-Sponsored Retirement, and Individual and Household Retirement Plans.

In its total, this overpowering volume is impossible to review and to do justice to all the contributors. Therefore, let me mention only some chapters I am especially interested in.

Chapter 11, written by E. Philips Davis and Yu-Wei Hu, is about "Funding, Saving, and Economic Growth." This is a very important question because with enough growth the demographic changes are almost negligible. The authors focus on "whether such a shift from PAYG (i.e., unfunded pay-as-you-go) to funding is largely a *matter of reallocation* of the financial burden of ageing (with the risk of a generation paying twice), or whether funding *improves economic performance* sufficiently to generate some or all of the resources required to meet the need of an ageing population" (p. 201, my emphasis). All in all, the authors weigh their arguments very carefully.

David A. Wise, one of the leading specialists in this field, has written chapter 16 about "Early Retirement." The public and private pension plans allow workers to retire earlier; in addition, they "often impose a very substantial 'implicit tax' on work"

(p. 310). Combining the trend of early retirement with the forthcoming demographic trends serves to magnify the increasing financial burden for the social security systems "and thus contribute to their own insolvency" (p. 332). As a result, changes in program provision that focus on removing the incentives to retire early can have very important implications for the labor force participation of older workers and thus for the financial position of social security programs.

The third part starts with chapter 18, written by Alicia H. Munnell, entitled "Employer-Sponsored Plans: The Shift From Defined Benefit to Defined Contribution." The chapter focuses on the United States' and the United Kingdom's second tier (or layer) because "supplementary employer pension plans play a major role in the retirement income system, and the nature of those pensions has changed dramatically" (p. 361) from defined benefit (DB) to defined contribution (DC) plans. Munnell is selective in her analysis, as she does not examine Canada or the Netherlands. The focus is also not Australia (or Switzerland) because these systems are mandatory. Munnell critically evaluates the implications of shifting from DB to 401(k) plans, as well the shift to money purchase plans in the United Kingdom. Both "place virtually all risk and responsibility for retirement income on the worker" in choosing "[h]ow much to contribute, how to allocate contributions among stocks, bonds, and fixed income securities, and how to change those allocations over time" (p. 377). Furthermore, at retirement, individual accounts also face further problems: how much to annuitize, how to cope with longevity and inflation.

J. Michael Orszag and Neha Sand report in chapter 20 about the theory and empirics of the interaction between "Corporate Finance and Capital Markets." One of the questions is whether or not the plan sponsor does have "absolute control over the governance of the plan" (p. 411). A second—related—problem is that modern finance theory does not provide answers to the questions of how much to fund pensions and how to invest.

In chapter 24, Gordon L. Clark discusses the issue of "Regulation of Pension Fund Governance." He reviews the relevant literature and assesses the vices and virtues of three models of pension fund regulation: "These models do not stand alone—they have complementary relationships with one another in part because statute and market models of regulation are often seen to be solutions to the apparent problems of the golden rule model" (p. 495). He draws three lessons, where the most important in my eyes is that, "whatever the regime of pension fund regulation, information problems loom large" (p. 496).

The fourth part on "Individual and Household Retirement Provision" starts with chapter 27 by David McCarthy about "Occupational Pension Scheme Design." Here he summarizes mostly the theoretical literature about these schemes, pointing out the importance of market incompleteness and labor markets that incorporate transactions costs of job turnover, asymmetric information between job seekers and employers, moral hazard, and some effects of internal labor markets on the compensation of older employees (p. 545). This chapter should be read together with chapter 36 by David Neumark about the "interplay between productivity, compensation, and retirement" (p. 721), and pensions, as well as chapter 19 by Teresa Ghilarducci about "Organized Labor and Pensions."

In chapter 28, James M. Poterba writes about "Annuity Markets." He "summarizes the current operation . . . and the potential role of these markets in providing retirement security" (p. 562). Despite the fact that in "economic models of optimal life-cycle behavior . . . annuities should play a central role in end-of-life consumption planning . . . most nations (with the exception of the United Kingdom and its substantial compulsory market) have relatively small annuity markets" (p. 579).

In the fifth part, "Looking Ahead," a subpart is entitled "Challenges." I want to point to chapter 37 written by Gary Burtless on "Poverty and Inequality," as he asks one of the most challenging questions in this reform debate: "How does scaling back traditional pensions in favor of funded individual accounts affect the redistribution . . . achieved over the past few decades"(p. 754), in particular in the so-called Bismarckian states? Here clearly a distinction must be made between what he calls "redistribution in a single year" and "redistribution within a lifetime perspective." While the first kind is normally measured via the Gini coefficient (before and after taxes and social benefits, e.g., public pensions), the second kind is measured via "generational accounting." With respect to the first kind, he remarks that redistribution in favor of low-wage workers must take place outside the private individual retirement accounts. It thus seems very likely that "the annuities paid out of the individual retirement accounts would be much more unequal than pensions paid by current public pension systems" (p. 755). The "redistribution that takes place within the remaining (but reduced) paygo system will have to be very large indeed to offset this effect" (p. 755), and may therefore be opposed by most of the voters. With respect to the second problem, "a shift to capital-funded pensions will have sizeable effects on cross-generation transfers" (p. 756). While the generous redistribution effects for the first generations in a PAYG system must be paid by the later generations (this is the so-called "double paying" of some generations), in a fully funded system every generation pays for herself. However, as shown by some Nordic and Dutch experiences, this redistribution between generations does not necessarily imply disadvantages "for low-lifetime-income workers in any particular generation" (p. 757).

To sum up, I have only one caveat: I missed very much a chapter discussing in some length the real costs of private and public pensions. The remarks scattered elsewhere in the handbook and in chapter 29 ("Personal Pensions Marketing," written by Tryggvi T. Herbertsson) are not enough, in particular when you know that "high front-loading of costs [a normal practice in many countries] coupled with high lapse rates can lead to considerable loss for consumers . . . [and] are particularly worrisome for lower-income consumers who tend to have higher lapse rates" (p. 591). Nevertheless, this Handbook is a must on every researcher's desk wishing to understand the "advantages and disadvantages" of different systems of financing retirement income (p. viii).

Managing Downside Risk, edited by Frank Sortino and Stephen Satchell, 2001, Oxford, UK: Butterworth-Heinemann, Quantitative Finance Series, 267 pages

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The main topic of this volume, covering both theoretical and practical profiles, is of great interest: downside, "asymmetric" risk in financial markets. This is because of the implications that these predominant new modeling paradigms have in terms of financial risk identification, measurement, and management.

The book is divided into two separate sections: part 1 ("Applications of Downside Risk") and part 2 ("Underlying Theory"). The comprehensive (although heterogeneous) series of contributions—from professionals, practitioners, and academics—on the concept of downside risk offers a survey of the ways that such risk can be defined and dealt with, based on a half century of theoretical developments.

Frank Sortino, one of the editors of the book, authors the first chapter ("From Alpha to Omega"), which is mostly devoted to providing a historical excursus of the debate leading to the "schism" between the mean-variance framework—whose definitive importance is firmly acknowledged—and competing approaches. Asymmetry of uncertainty is emphasized and minimum acceptable return (MAR) is treated in the chapter, together with the importance of the stochastic dominance rules. This is in order to reveal some of the faults coming from basing decisions only on the first and second moments of the probability distributions, as in the modern portfolio theory (MPT).

Sortino's contribution serves as a useful introduction to the book, for it anticipates some of the matters treated by the following authors, and some of their conclusions. We first mention Hal Forsey (chapter 4, "The Mathematician View: Modelling Uncertainty with the Three Parameter Lognormal"), who is the author, with Sortino, of the software that comes with the book (the "Forsey-Sortino model"). Forsey describes the Pension Research Institute model designed to estimate downside risk by providing some measurements based on the MAR. Joseph Messina should be mentioned as well (chapter 6, "An Evaluation of Value at Risk and the Information Ratio (for Investors Concerned with Downside Risk")), for his discussion of the adequacy and usefulness of VAR and IR measures, when investor goals are defined in terms of MAR. Other contributions included in the second part of the book are closely linked to Sortino's paper, e.g., the one by Leslie Balzer (chapter 8, "Investment Risk: A Unified Approach to Upside and Downside Returns"), a magnificent synopsis of criticalities concerned with traditional (commonly used) and innovative risk measures, or the one by Auke Plantinga and Sebastian de Groot (chapter 10, "Preference Functions and Risk Adjusted Performance Measures"), evaluating R-adjusted performance measures and preference functions, as alternative approaches to rank investment opportunities for individuals.

Apart from the mentioned chapters, a few more sections analyze additional, specific topics, in some way related to downside risk. Chapter 2 and 3 ("The Dutch View: Developing a Strategic Benchmark in an ALM Framework," by Robert van der Meer, and "The Consultant/Financial Planner's View: A New Paradigm for Advising Individual Accounts," by Sally Atwater) deal with the determination of appropriate benchmarks in the investment process and the implementation of financial services by consultants, respectively.

Chapter 5 ("A Software Developer's View: Using Post-Modern Portfolio Theory to Improve Investment Performance Measurement"), highlights the relevance of skewness for evaluation of downside risk, and illustrates the tools of PMPT. Chapter 7, on the other hand ("A Portfolio Manager's View of Downside Risk, by Neil Riddles"), discusses downside risk as measured relative to a benchmark.

Most interesting, as well as "original," is chapter 12 by Robert Clarkson ("FARM: A Financial-Actuarial Risk Model"), in which a new view is proposed, with the declared objective to build up an actuarial theory of finance. The new theory for portfolio management is thereby explained, emphasizing the actuarial approaches to risk and the symmetry between neural mechanics of physical risk and neural mechanics of financial risk.

Chapter 9, by Stephen Satchell ("Lower Partial Moment Capital Asset Pricing Modes: A Re-Examination") is mostly theoretical, and goes deep into the class of LMCAPMs. The remaining contribution (chapter 11, "Building a Mean-Downside Risk Portfolio Frontier"), by Gustavo de Athayde, proposes an algorithm to minimize portfolios' downside risk.

The CD attached to the book contains a very friendly executable version of the above-mentioned Forsey-Sortino model, together with the source code (!), to calculate upside potential and downside risk. With very few steps, the code allows one to add several techniques, including a bootstrap, a three-parameter lognormal curve fitting, and a manual definition of MAR.

There is no doubt that this book offers a worthwhile experience to its readers, especially for people (academics and practitioners) who are confronting the measurement and management of asymmetric uncertainty and downside risk, or skewed distributions. The book is somewhat disjointed in that it remains a collection of articles, dealing in some cases with quite different subjects and points of view on downside risk. This limitation is neither an oversight nor a lack of responsibility of editors, however, but simply the consequence of the absence of a consolidated downside risk theory. By gathering these articles, the volume constitutes a significant progress toward such consolidation.