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The fourth issue of *The Journal of Retirement* features a comprehensive study of employer-provided defined contribution (DC) retirement plans, as well as technical studies of investment issues, and a study of the major risks to retirement security. To mark the successful launch of its new journal, Institutional Investor Journals held a breakfast meeting on October 4, 2013 at the Union League Club in New York City. Allison Adams, group publisher, introduced four speakers: the *JOR*'s editor, and three senior financial executives. This issue begins with edited versions of their presentations; whose common theme was that retirement security faces many challenges. Sandy Mackenzie listed a number of different issues he thought should be priorities for future contributors to the *JOR*. To name only the most important issue each of the subsequent speakers raised, Ed Van Dolsen (TIAA-CREF) stressed the importance of enhancing the role of lifetime income products, and Anil Suri (Merrill Lynch Global Wealth Management) reviewed the major pitfalls encountered in financial planning as well as several different approaches to dealing with them. Finally, Doug Fisher (Fidelity) emphasized some basic social and economic trends that might threaten retirement security, including the state of the federal government's finances and the need for reform of its major entitlement programs.

Retirement security experts have long debated the consequences of the shift away from the traditional pension to the 401(k) and other DC plans. Many believe that this shift has worsened the retirement prospects of older Americans. In "Defined Contribution Plans as a Foundation for Retirement Security," authors Jeffrey R. Brown and Scott J. Weisbenner take issue with this view. They note that the shift from traditional pensions to DC plans does not appear to have eroded the coverage of employer-provided retirement plans as a whole. They acknowledge that 401(k) plans have shortcomings, but argue that these are much less pronounced than they used to be. The role of company stock in participant portfolios has declined, asset allocation is more balanced, and more and more plan members are getting advice from their employers. The authors readily acknowledge the scope for further improvement, and they suggest a number of measures to broaden coverage, increase the contribution rates of workers where these rates are low, mitigate investment risk, and encourage more plan sponsors to provide guaranteed lifetime income. In the authors' view, the alternative advanced by some economists, a government-run second tier, is seriously flawed. The article presents a strong, but not uncritical defense of the current DC-based, employer-provided pension system. Some pension experts will probably take issue with it.

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A basic concern of retirement investing is the need to select a spending or withdrawal rate as well as an asset allocation strategy that will avoid running out of money. Apart from relying on life annuities, the standard approach would be to assume a conservative drawdown rate. In “Can Collars Reduce Retirement Sequencing Risk? Analysis of Portfolio Longevity Extension Overlays (LEOs)” Moshe A. Milevsky and Steven E. Posner analyze a strategy for extending portfolio longevity by using collars (buying a put and selling a call) to reduce the probability that a bad sequence of returns could entail the early exhaustion of assets. In their first exercise, they rely on estimates of implied volatility of the S&P 500 Index from January 2007 to October 2013, a period of huge swings in stock prices, to derive estimates of prevailing options prices. They then compare a no-collar strategy with strategies having both loose and tight collars, assuming withdrawal rates ranging from zero to 10%. They find that at the (unsustainably) high withdrawal rate of 10%, all the overlays result in a higher value after seven years than does the unprotected portfolio. Overlays are more effective at high withdrawal rates, because they contain the erosion of portfolio value that occurs with a down market. However, any overlay strategy, regardless of the rate of withdrawal, will boost the minimum portfolio above what it would be without an overlay. The second exercise to “test” their theory of whether collars can help is based on a model that generates option prices using the Black–Scholes formulation and a stochastic process for investment returns simulated 100,000 times. It, too, finds that an overlay strategy increases portfolio longevity.

The authors then look at the problem of sustainable withdrawals from another angle, which is to compare the lump sum that would be needed to keep the probability of running out of money while alive below some specified minimum. This involves simulating the cost of a stream of income, given assumptions about the probability of death in any given year and stochastic investment returns. Their result is worth noting: For a 95% probability of a \$4 per year income for life, a lump sum of \$90 is needed with a tight collar, and \$144 with no collar. This result also suggests that collars are valuable. The authors characterize their results as preliminary, and they propose as the next step a comparison of an options-based strategy to increase portfolio longevity with an asset-allocation based strategy.

A perennial issue with retirement planning is the trade-off between the savings rate and the assumed rate of return to savings. In Australia, the government-sponsored DC system is gradually raising the rate at which employers

must withhold retirement savings contributions from their employees, from 9% to 12%. In their article, “Retirement Adequacy through Higher Contributions: Is This the Only Way?” Michael Drew, Pieter Stoltz, Adam Walk, and Jason West consider whether at least some increase in retirement income might instead be obtained by a change in investment strategy. They contrast a conventional target date fund approach with an approach that maintains a high share of equities through working lifetimes but also incorporates a feedback rule, according to which the share of equities is raised when returns are below average. The results suggest that a different investment strategy might take the place of some of the proposed increase in the contribution rate, or simply result in better outturns on average.

The authors emphasize that there is no magical investment strategy that can substitute for saving money, but they maintain that their approach is a tried and tested way to increase retirement security. Their findings can be applied beyond Australia to any DC plan, whether or not the plan sponsor is contemplating an increase in contribution rates.

Sponsors of 401(k) plans choosing among different target date funds confront an embarrassment of choice. The choice is complicated by the competing goals a TDF is expected to achieve: a high replacement rate, on the one hand, and on the other, the avoidance of a substantial capital loss in the initial years after retirement, should retirees need to encroach on their capital. In “Evaluation of Target-Date Glide Paths within Defined Contribution Plans” Richard K. Fullmer and James A. Tzitzouris, Jr. propose two new metrics to evaluate the performance of TDFs along these two dimensions. The first, the income replacement potential index (IRP) is the ratio of sustainable constant income in retirement to final salary net of saving. It is derived from the probability distribution of the simulations of a model of investment returns, given salary and saving behavior assuming that the plan participant’s assets are not run down to zero before death. (The model is based on a database of 401(k) plan participants.) The IRP calculations shown are based on the median value obtained from a simulation.

As a test of the reliability of the IRP, a CVaR statistic at a probability of 5% is calculated. One of the article’s most interesting results is that the most aggressive fund they test has both a higher IRP and a lower 5% CVaR than the most conservative fund. This result holds for even lower probabilities. The 5% CVaR shortfall is high at about 50%, but this tail of the distribution reflects the low contribution rates of the bottom 5% of the distribution. Raising contribution

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rates from their average of 5.6% to 10% greatly reduces the average shortfall.

The second indicator is balance recovery potential (BRP), and is defined as the maximum cumulative amount that can be withdrawn from an account in constant annual increments over a specified period, expressed as a percentage of the highest preretirement monthly balance. The authors note the trade-off between the balance at retirement and the probability of a BRP shortfall—the higher the median balance at retirement expressed as a percentage of salary, the greater the 5% CVaR of a BRP shortfall. This trade-off is evident, whatever the length of the horizon.

The authors use the two metrics to illustrate the difficult choices faced by plan sponsors in choosing a fund. They further develop their analysis by splitting their sample population into quintiles, which allows them to determine how variations in earnings and savings levels affect their results. They find that the relative trade-off between IRP and BRP is substantially unaffected by these variables. It is not surprising to find that low earners who are high savers have the highest IRP and lowest 5% CVaR of shortfall in IRP, but the difference between this group and low savers, whether they are high or low earners is very pronounced. Being a high rather than a low saver has a much bigger effect on income in retirement than investing aggressively.

Debates regarding risks to retirement security have been hampered by the inherent difficulty of projecting the future incomes in retirement of the current working generation. In his article “Why Does Retirement Readiness Vary: Results from EBRI’s 2014 Retirement Security Projection Model,” Jack VanDerhei tackles this problem by applying a complex simulation model developed by EBRI and based on a database of some 24 million 401(k) plan participants. The model projects social security and DB pension benefits as well as the DC balances that households can expect to have as they reach age 65, assumed to be the age of retirement. A household’s expenditures in retirement have a predictable and an unpredictable component, the latter being the costs of nursing homes and home health care. A household begins to run down its financial assets when its expenditures exceed Social Security and DB pension benefits. If it exhausts its financial assets, it is assumed to sell its house and use the proceeds to augment its financial asset holdings. When all financial assets are exhausted, and pension benefits cannot pay the household’s expenses, it is considered to have run out of money. The Retirement Readiness Rating™ (RRR) is the

percentage of households of a given generation that will *not* run out of money.

The model finds that the recovery in the stock market and housing prices have moderately improved the retirement readiness of Early and Late Baby Boomers and Gen Xers. However, the RRR of households in the lowest income quartile is barely affected and remains below 17%. Further substantial gains from asset price appreciation do not seem likely.

The article then turns to present findings from two different types of simulation exercises: the impact of a change in a key variable such as average rates of return on assets by demographic group or income quartile, and the impact on a household of excessively high or low longevity, asset returns, or stochastic health care expenditure. The most striking finding from the first exercise is the impact of increasing participation in a DC plan. The increase in the RRR from no participation to 20 or more years is high for all income quartiles, rising from 17.2% to 35.9% for the lowest quartile, and from 57.4% to 87.7% for the second highest. The impact of even a substantial reduction in the rate of return from the base case rate is not nearly as great, and is negligible for the lowest quartile.

The article explains that households who draw the low cards as far as longevity or health care costs are concerned can suffer a sharp drop in their RRR. For example, the most long-lived quartile of Early Boomers have an RRR of only 37.9%, compared to 63.1% for the second shortest lived. Swings like this are a serious problem in a world where DB pensions and annuitization are uncommon, and they point to the need for a greater availability of lifetime income solutions. Similarly, households that have unexpectedly large nursing home or home care costs suffer a marked drop in their RRR compared to those households who avoid these costs. A broader market in LTC insurance could mitigate this contingency.

Economists schooled in the conventional, analytical approach to the subject have written a great deal that is relevant for retirement planning, even if it is not always presented as such. Economists assume that we determine how much to save for retirement by weighing the benefits (or utility) of consumption (personal expenditure) while working versus consumption when retired. How much consumption we are willing to forgo during working life, or the trade-off between jam today and jam tomorrow, depends on the rate of return to savings, our perceived life expectancy, and our willingness to tolerate fluctuations in consumption. One person might be

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more willing to tolerate a drop in living standards entailed by unusual longevity than another. In contrast, retirement planners usually apply a rule of thumb to determine consumption, like 3.5% of wealth at the beginning of the year.

In “Retirement Income Research: What Can We Learn from Economics?” Gordon Irlam and Joseph Tomlinson provide a clear account of the basics of the conventional economic approach, which is known as stochastic dynamic programming (SDP), and also explain the simplifications that are needed to apply it in practice. They then carry out a test of their approach, comparing it with the results of various rules of thumb, as well as with scenarios of partial optimization. They test two different utility functions, reflecting differences in tolerance for unstable consumption, and they show how different assumptions affect the allocation of a portfolio’s assets as well as consumption patterns over time. They find that SDP yields a higher level of utility than any of the various rules of thumb tested. At the same time, the authors recognize that the economist’s approach will not be generally adopted until both retirement planners and their clients are more comfortable with theoretical concepts like utility.

The very narrow market for life annuities will not surprise many of the *JOR*’s readers. In “Why Don’t People Annuitize? The Role of Advice Provided by Retirement Planning Software,” John A. Turner considers the possibility that a bias in the advice given by retirement planning software may partly explain the small market. The author reports on an experiment he carried out that entailed putting together a set of pertinent economic, social, and demographic data to define two hypothetical persons. In one case, the person’s circumstances make annuitizing at least part of the retirement nest egg

a very sound idea (she has no pension, expects to live a long time, etc.); in the other case, it is definitely a bad idea (he has a pension from work in addition to social security, etc.). Of the 22 retirement planning tools the author tested, only two recommended annuitization. These two tools recommended annuitization for both of the test cases, thus ignoring their very different circumstances. Turner also found that none of the retirement calculators had much to say about annuitization. Although it would be a stretch to claim that a bias against annuities explains all by itself how few of the retirement planning tools offer the annuity option, the tools’ disregard of annuities might be reducing the demand for annuities by older Americans who lack a pension.

The *JOR* will occasionally review books that the editor considers especially noteworthy. *Retirement Income: Risks and Strategies*, by Mark Warshawsky and several collaborators, certainly merit that description. The book focuses on annuities, analyzing them from virtually every angle. It has an excellent discussion of what economists call the annuity puzzle, including chapters that report on simulation analyses of annuities compared with more conventional investments. *Retirement Income* also addresses how the demand for annuities might be affected by uncertain medical costs. This worthwhile book makes an overwhelmingly strong case for retirees to annuitize at least some of their wealth at retirement, and it deserves a home in the library of any serious student of retirement security.

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Publisher’s Note

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