



Defined Contribution
Retirement Plans
Should Look and Feel
More Like Defined
Benefit Plans

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Overview

In **Defined Contribution Retirement Plans Should Look and Feel More Like Defined Benefit Plans**, published in the Winter 2017 issue of *The Journal of Portfolio Management*, **Antti Ilmanen**, **David Kabiller**, and **Rodney Sullivan** of AQR and **Laurence Siegel** of the **CFA Institute Research Foundation** show that DC retirement plans, as they currently stand, are inadequate to meet the challenges of our looming retirement crisis.

They describe how the addition of features borrowed from DB plans can help DC plans improve retirement outcomes through better risk management and improved diversification of portfolios. **Institutional Investor Journals** spoke with Laurence Siegel and Rodney Sullivan about how policymakers and DC plan designers can restructure DC plans to better manage risk and create more efficient portfolios.

Practical Applications

- **Diversification is always important.** Add new sources of risk premia and alternative investment strategies across asset classes and rely less on equity market risk.
- **Pool longevity risk.** Create better investment vehicles for sharing longevity risk.
- **Work longer, save more.** Longer working lives increase savings and potential investment returns while decreasing funding requirements and significantly increasing Social Security benefits.

Practical Applications Report

Defined contribution (DC) retirement plans have largely replaced defined benefit (DB) pension plans, but DC plans, which were designed to be supplements to pensions, aren't currently positioned to solve the looming retirement crisis in the United States.



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Antti manages AQR's Portfolio Solutions Group, which advises institutional investors and sovereign wealth funds, and develops the firm's broad investment ideas. Before AQR, Antti spent seven years as a senior portfolio manager at Brevan Howard, a macro hedge fund, and a decade in a variety of roles at Salomon Brothers/Citigroup. He began his career as a central bank portfolio manager in Finland.

Over the years, he has advised many institutional investors, including Norway's Government Pension Fund Global and the Government of Singapore Investment Corporation. Antti has published extensively in finance and investment journals and has received a **Graham and Dodd award** and **Bernstein Fabozzi/Jacobs Levy awards** for his articles.

His book *Expected Returns* (Wiley, 2011) is a broad synthesis of the central issues in investing. Antti recently scored a rare double in winning the best-paper and runner-up award for best articles published in 2012 in *The Journal of Portfolio Management* (co-authored articles "The Death of Diversification Has Been Greatly Exaggerated" and "The Norway Model").

Antti earned MSc degrees in economics and law from the University of Helsinki and a PhD in finance from the University of Chicago.



Key Definitions

Alternative risk premia

The rewards for bearing alternative risk exposure, or the rewards for assuming active, systematic risks (risks that in the context of modern portfolio theory cannot be diversified away) other than overall market risk. Alternative risk premium exposures are well known, empirically tested sources of return that can be systematically harvested through dynamic long/short strategies. They can be thought of either as returns that underlie “classic” hedge fund strategies (hedge fund risk premia) or the returns from “classic” styles (style premia), such as value, momentum, carry, and defensive. —AQR Capital Management

Defined benefit retirement plan

A pension plan in which payments are calculated according to length of service and amount of salary earned at the time of retirement.

Defined contribution retirement plan

A retirement plan in which a certain amount of money or percentage of salary is set aside each year by the employee, sometimes with company matching, in investments meant to fund retirement.

Longevity risk

The potential for an individual or group of individuals to outlive assets or income set aside for retirement, and refers institutionally to the potential risk of a defined contribution or a defined benefit plan being subject to higher-than-expected payouts.

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—Rodney Sullivan

In Defined Contribution Retirement Plans Should Look and Feel More Like Defined Benefit Plans Antti Ilmanen, David Kabiller, and Rodney Sullivan of AQR, and Laurence Siegel of the CFA Institute Research Foundation, show how DC plans can be improved by adding features borrowed from DB plans. However, even the best-designed DC plans cannot provide Americans with a secure retirement unless they are better funded.

WHAT WENT WRONG?

DB plans, the gold standard for retirement plans, have begun to fade away, a victim of macroeconomic forces. Declining interest rates and increased lifespans sent liabilities higher. Inflation also reduced the value of many pensions, and funding shortfalls forced many DB plans to close or be dramatically scaled back.

Enter the DC plan, introduced in the early 1980s mostly in the form of the 401(k) vehicle. A rapid transition from DB to DC plans followed. However, DC plans, as currently utilized, have significant structural disadvantages, including often poorly understood risk exposures and relatively inefficient investment strategies.

Success will require some combination of increased savings rates, working longer, spending less, and investing more wisely. The poor savings level in the US is particularly acute, showing that Americans are either unwilling or unable to put aside enough of their income to securely fund retirement. As one sobering statistic illustrates, 41% of households have no retirement savings at all, and 61% have less than \$1,000 saved.¹ “These data are for people 55 to 65 years old. That’s unambiguously not a good situation,” says Sullivan.

Even those who carefully nurture a nest egg can get burned when they don’t have adequate resources for unexpected expenses. “You can save very diligently year after year, and then you lose your job or get sick, and you invade the principal. That’s how a lot of DC plans get ruined,” explains Siegel.

DB SOLUTIONS FOR DC PLANS

The good news is that DC plans can be significantly improved by adopting some of the best features of DB plans. “It’s not easy to do, but it can be done,” says Sullivan. “We think that target-date funds have been a dramatic improvement in terms of moving us toward the efficient frontier, but it doesn’t take us all the way there. One way that DC plans can be more like DB plans is to invest more wisely,” he notes. Sullivan recommends an investment approach that increases diversification, not only as a way to enhance returns but to better balance portfolio risk.

The typical glide path of a target-date fund reduces allocations into equities from 90% at younger ages to 50% when people are nearing retirement, but Sullivan explains that those lower allocations still result in more volatility than people expect. “In drawdown periods, that can be very painful for investors,” he says.

“We make the case for further diversifying beyond that typical 50/50 portfolio. A more diversified, risk-balanced portfolio may be better than a dollar-balanced portfolio,” Sullivan explains. This approach means “investing in different types of



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alternative liquid strategies, or styles, rather than just index funds,” adds Siegel. “It’s investing in all the asset classes and strategies that generate wealth over the long term, rather than just US equities and US bonds,” he notes.

“Here at AQR, we call it the ‘better investing triangle,’” explains Sullivan. The base of the triangle is made up of inexpensive, market risk premia. “These are mostly traditional—and sometimes nontraditional— assets: stocks, bonds, and commodities—but long only. These are things that investors have access to cheaply,” he observes.

The second layer of the triangle is made up of alternative risk premia: style premia, or smart beta, as well as alternative investment strategies. “These alternative risk premia have been shown to exist, historically and empirically and there’s an economically intuitive reason as to why each of them may persist and enhance portfolios in the future,” says Sullivan.

Sullivan explains that the third layer of the triangle is to add alpha, a topic the authors plan to explore more in future research. “However, we differentiate alpha from those alternative risk premia,” notes Sullivan. “Alternative risk premia can be a bit more expensive than market risk premia, but still can be accessed by a wide array of people, and can be done in a cost-effective way,” he advises.

Because people are living longer, the need to pool longevity risks is more acute than ever, but DC plans don’t provide much access to pooling. “The only thing an individual can do to pool longevity risk is purchase an annuity,” says Siegel, “and most DC plans don’t offer them, so you have to go out on your own. And very often they’re not well priced or explained, and the fees are high— it’s just not a great market.”

WORKING LONGER, SAVING MORE

Siegel says it’s important to educate financial advisors and plan participants about what they can do to increase their capacity to save more and how to manage the decumulation phase of retirement.

Choosing to work longer is one of the best ways to increase your standard of living in retirement. Delaying Social Security benefits until age 70 results in a whopping increase of 76%, compared with starting to draw benefits at age 62. Working longer also gives you more income to save and invest, more time for you to grow your investment returns, and fewer years of retirement to fund.

Sullivan emphasizes that lower expected market returns will put even more pressure on the need to save more. Another article based on AQR research, **How Much Should DC Savers Worry about Expected Returns?** in *The Journal of Retirement*, quantifies the impact. “People have to save more than they typically think as a result of lower expected returns,” he warns. “We hate to be the bearer of bad news, but that’s the reality of where we are. It’s important that we face these challenges head-on, and then have an honest conversation about what to do about it,” he recommends.



LIFE OUTSIDE OF RETIREMENT PLANS

Siegel, who describes himself as semiretired, splits his time between Chicago and California, where he likes to play music and walk on the beach. He still does plenty of research, though, both on his own and in his capacity as head of the CFA Institute Research Foundation. Sullivan lives in Connecticut and enjoys playing tennis with his kids. He is the frequent photographer for his daughters' fashion blog. He also golfs and occasionally participates in spring triathlons.

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David Kabiller is co-founder and the head of business development at **AQR**, overseeing client relationships, business development and strategic initiatives. In this role, he has helped foster AQR's tradition of innovation by initiating AQR's international expansion into Europe and Asia and spearheading its introduction of mutual funds. In addition to these corporate milestones, David is dedicated to investor education and fostering young research talent. To that end, he was instrumental in creating the "AQR University" symposia series for financial advisors and the Master Class program for institutional investors.

For the academic community, David helped create the **AQR Insight Award** for outstanding innovation in applied academic research and was a founding member of the **LBS AQR Asset Management Institute**. David has co-authored papers on topics including derivatives, enhanced indexation, securities lending, insurance-linked securities, hedge funds, and the secret of Warren Buffett's investing acumen. He is a member of Northwestern University's Board of Trustees and chairman of the Executive Council of the university's International Institute for Nanotechnology (IIN). He is also a member of the Advisory Council of the AQR Asset Management Institute at London Business School and has served on the Board of Trustees for the **Terra Foundation for American Art**.

Prior to AQR, David was a vice president at Goldman, Sachs & Co., where he established and maintained relationships with the chief investment officers of many of the largest pension and endowment funds in North America. He earned a BA in economics and an MBA from Northwestern, where he received an athletic scholarship to play tennis and was named to the Big Ten's Academic All-Conference team. At Northwestern, David founded the **Kabiller Prize** and the **Kabiller Young Investigator Award** for researchers in nanoscience and nanomedicine, and established **NU for Life**, a program dedicated to the professional development of Northwestern student-athletes. He is a CFA charterholder.



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Larry is the Gary P. Brinson director of research at the **CFA Institute Research Foundation** and an independent consultant. Before 2009, he was director of research in the investment division of the Ford Foundation and prior to that he was one of the founding employees of Ibbotson Associates. Larry is on the board and program committee of the Q Group and the editorial boards of **The Journal of Portfolio Management** and **The Journal of Investing**. He has won numerous writing awards including the **Graham and Dodd** top award. He attended the University of Chicago (BA 1975, MBA 1977). Larry works and lives in Wilmette, Illinois and Del Mar, California.



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Rodney serves as vice president at **AQR Capital Management**, where he is responsible for the firm's global outreach programs that update and educate clients and investors about the firm's research, strategies and ideas. Formerly, Rodney was head of publications and editor of the **Financial Analysts Journal** at CFA Institute. He is the editor of numerous books for investment professionals and has published widely in various scholarly journals, newspapers, and magazines.

Rodney is a former member of the Board of Directors at **The Institute for Quantitative Research in Finance** and a practitioner director at **Financial Management Association International**. He is a CFA charterholder and has a BS and MA in economics from Virginia Commonwealth University.