



SOCIETY OF  
ACTUARIES

RETIREMENT  
SECTION

ISSUE 95 MAY 2018

# Retirement Section News

**3 Chairperson's Corner**

*By Randall Dziubek*

**5 A View from the SOA's Staff Fellow for Retirement**

*By Andrew Peterson*

**7 Perspectives from Anna Reboot, Rewire or Retire? Personal Perspectives on Phased Retirement and Managing Life Paths at Age 60 and Beyond**

*By Anna M. Rappaport*

**14 Integrating Home Equity and Retirement Savings Through the "Rule of 30"**

*By Peter Neuwirth, Barry H. Sacks and Stephen R. Sacks*

**17 2018 Call For Essays: Securing Future Retirements: Innovations in Planning Strategies, Financial Products and Employee Benefit Plan Structure**

*By Andrea Sellars and Steven Siegel*

**19 We Can Build Better Retirement Products, But Will Anyone Buy Them?**

*By Joseph A. Tomlinson*

**23 Workers and Retirees Could Pool Risk With Tontine Annuities, Tontine Pensions and Survivor Funds**

*Jonathan Barry Forman*

**27 U.S. Multiemployer Pension Plan Stress Metrics: Previous Benefit Cost and Previous Benefit Cost Ratio**

*By Lisa Schilling and Patrick Wiese*

**30 What Were They Thinking? 2017 Risk and Process of Retirement Survey**

*By Cynthia Levering*

**33 A Workable Approach to Lifetime Income in Defined Contribution Plans**

*Interview with Kevin T. Hanney*

We Can  
Build Better  
Retirement  
Products, But  
Will Anyone  
Buy Them?

**By Joseph A. Tomlinson**

**Page 19**

# Retirement Section News

## Issue Number 95 • May 2018

Published three times a year by the Retirement Section of the Society of Actuaries.

475 N. Martingale Road, Suite 600  
Schaumburg, Ill 60173-2226  
Phone: 847-706-3500 Fax: 847-706-3599  
[www.soa.org](http://www.soa.org)

This newsletter is free to section members. Current issues are available on the SOA website ([www.soa.org](http://www.soa.org)).

To join the section, SOA members and non-members can locate a membership form on the Retirement Section webpage at <https://www.soa.org/retirement/>

This publication is provided for informational and educational purposes only. Neither the Society of Actuaries nor the respective authors' employers make any endorsement, representation or guarantee with regard to any content, and disclaim any liability in connection with the use or misuse of any information provided herein. This publication should not be construed as professional or financial advice. Statements of fact and opinions expressed herein are those of the individual authors and are not necessarily those of the Society of Actuaries or the respective authors' employers.

Copyright © 2018 Society of Actuaries.  
All rights reserved.

### Publication Schedule

Publication Month: September 2018  
Articles Due: June 1, 2018

## 2018 SECTION LEADERSHIP

### Officers

Randall Dziubek, ASA, EA, MAAA, Chairperson  
Deborah Tully, FSA, MAAA, EA, FCA, Vice Chairperson  
John Eng, FSA, EA, and Mathieu Laurendeau, FSA, FCIA, Secretary  
Ruth Schau, FSA, EA, FCA, Treasurer

### Council Members

Laurie Alook, FSA, FCIA  
James D. Anderson, FSA, MAAA, EA  
Bonnie Mudd Twohig, FSA, MAAA, EA  
Nathan Zahm, FSA  
Brett Dutton, FSA, EA, FCA, Appointed Member  
David R. Cantor, ASA, EA, Appointed Member  
Faisal Siddiqi, FSA, FCIA, Appointed Member

### Newsletter Editor

Mathieu Laurendeau, FSA, FCIA  
[mathieu.laurendeau@aon.com](mailto:mathieu.laurendeau@aon.com)

### Program Committee Coordinators

Brett Dutton, FSA, EA, FCA  
2018 SOA Annual Meeting & Exhibit Coordinator

### SOA Staff

Andy Peterson, FSA, EA, MAAA, Staff Partner  
[apeterson@soa.org](mailto:apeterson@soa.org)

Jane Lesch, Section Specialist  
[jlesch@soa.org](mailto:jlesch@soa.org)

Julia Anderson Bauer, Publications Manager  
[jandersonbauer@soa.org](mailto:jandersonbauer@soa.org)

Kathryn Baker, Staff Editor  
[kbaker@soa.org](mailto:kbaker@soa.org)

Julissa Sweeney, Graphic Designer  
[jsweeney@soa.org](mailto:jsweeney@soa.org)

# Chairperson's Corner

By Randall Dziubek

**D**uring my career as a retirement actuary a lot has changed in the U.S. with respect to retirement plans. The biggest changes have taken place in the private sector arena where traditional defined benefit (DB) plans are in extreme decline in favor of defined contribution plans (DC). In the public sector, a few sponsors have transitioned to DC plans, but the majority continue to provide DB plans. While many of these public plans have implemented some type of cut back in benefit levels, they have retained the traditional DB structure.

While stark differences currently exist between private and public sector retirement plans, it is understandable why things have evolved this way. The reasons have seemingly little to do with the desires or needs of the plan members. Although it could be argued that a traditional DB plan is a better fit for a government worker who perhaps is more likely to work a full career in

their job. While a DC plan may be superior for employees that change jobs periodically which is perhaps more prevalent in the private sector.

The decline of DB plans in the private sector is more likely the result of stricter funding rules, PBGC premiums, and a relatively easier path to freezing or terminating DB plans than in the public sector where, among other things, legal restrictions and member pressures make it more difficult.

So how well are public sector DB plans serving their members, plan sponsors, tax payers and society? These questions are endlessly debated in the media and at kitchen tables around the country.

I certainly have personal opinions on these questions as I'm sure you do as well. As an actuary practicing in the public sector and currently serving the California Public Employees Retirement System, I believe CalPERS actuaries and public sector actuaries around the country have made significant strides in improving the financial soundness of these public plans. Furthermore, I believe we will continue to find new and innovative ways to extend those improvements in the future.

That said, there are many challenges facing these plans today that lead some to question whether they can survive in their



current form or whether they will cause severe financial hardships for the employers and tax payers who support them.

While there are differing opinions as to the severity of the situation, even within our own profession, I think everyone would agree that continuing to search for ways to improve the delivery of retirement benefits in the public sector—and elsewhere—is a worthwhile endeavor.

The Society of Actuaries Retirement Section Council issued a Call for Models last year asking for submissions that provide real world solutions, in full recognition of the public plan environment, to enhance the security of promised benefits and result in more sustainable benefit plans.

The four prize winning papers all provide outstanding ideas that I'm sure will generate much discussion and interest within the actuarial community. Some of the topics found within these papers include:

- Whether public sector DB plans should use a risk-free discount rate to determine funding requirements;
- Ways to improve the viability of a DB plan with a fixed employer contribution rate;
- A DC arrangement that could effectively replace existing DB plans in the public sector;
- A tool for measuring the effectiveness of a retirement plan design; and
- How to use benefit adjustments and variable member contributions to reduce contribution volatility within a DB plan.

Two of the prize-winning papers discussed features recently implemented in existing state systems. Many of us will be watching with interest to see if they continue to perform as well as the plan sponsors and actuaries expect them to.

In addition to the prize-winning papers, other papers submitted will be published by the SOA. I strongly encourage you to read

these papers. I know many of you practice solely in the private sector space, however I believe many of the ideas presented in these papers can be applied there as well. I think you will find that each of these also contain innovative ideas that are worth consideration.

The SOA and the Retirement Section Council have invested considerable effort in exploring ways to improve retirement from both the member and plan sponsor perspectives. Two recent projects that are great examples of this are:

- Value of Longevity Pooling
- Retirement Adequacy in the United States: Should we be concerned?

You can find information on these projects on the Retirement Section webpage.

Finally, given the prevalence of DC type plans in today's world, the Retirement Section Council recently created a project oversight group (POG) to discuss and evaluate education and research opportunities with respect to such plans. Possible outcomes of this POG are future webcasts, podcasts, and/or research papers. However, another strong possibility is the creation of a subsection within the retirement section that focusses specifically on DC issues. Such a subsection could be used to host regular dialogues among willing section members with interests in this area. This would not only bring together thought leaders in this area but also provide younger section members an opportunity to grow their knowledge and skills as well as add their talents to the mix.

If you have feedback regarding any of the projects mentioned above or have suggestions for future projects, I would love to hear from you. ■



Randall J. Dziubek, ASA, is deputy chief actuary of valuation services at CALPERS. He can be reached at [randall.dziubek@calpers.ca.gov](mailto:randall.dziubek@calpers.ca.gov).



# A View from the SOA's Staff Fellow for Retirement

By Andrew Peterson

It's been nearly four years since the SOA released the RP-2014 mortality tables and MP-2014 mortality improvement scales. That was a significant development for pension actuaries working in the U.S., given the length of time that had transpired since the release of the RP-2000 tables. The dedicated volunteers who serve on the Retirement Plans Experience Committee (RPEC) along with SOA staff support have continued their hard work on mortality in the retirement space to be able to provide a consistent schedule of mortality studies and updates. I'd like to use this column to provide an update and outlook of what to expect in the remainder of 2018 and into 2019. *Note that this update is current as of early March and of course the timing is subject to change, but hopefully will be helpful for planning purposes.*

## PUBLIC PENSION PLAN MORTALITY STUDY

RPEC has been working on a public plan mortality study for several years now and the end is in sight. As I write this, the data analysis and multivariate analysis are complete, tables for specific subgroups are being developed and an exposure report is being drafted. The exposure draft is being targeted for release in late summer or early fall 2018 with a final report estimated to be released by the end of 2018.

At this point, RPEC plans to publish distinct tables for the following specific public sector job categories: teachers, public safety, and general employees. They also intend to publish tables by income (above- vs. below-median) within each of those job categories where sufficient data is available. This is being done because income level was shown to be the most significant predictor of mortality experience in the multivariate analysis.

Tables will not be published by geographic region as that was not shown to be a reliable predictor of mortality experience in the multivariate analysis because other factors (income level, job category distribution, etc.) may have been responsible for explaining differences in mortality between geographic regions. Furthermore, there is a concern that the data for some regions

might be concentrated in a couple specific states and/or urban areas, casting doubt over whether the data truly reflects mortality patterns for an entire region.

Look for announcements and a likely webcast when the exposure draft is released.

## PRIVATE PENSION PLAN MORTALITY STUDY

Believe it or not, the successor to RP-2014 is also in the works and moving along commendably. The SOA has a general goal of providing mortality table updates on approximately a 5-year cycle, assuming we can continue to collect the data as needed. For this project, multivariate analysis is currently being performed on the data and RPEC expects that barring unforeseen circumstances, the database has been finalized. An exposure draft is tentatively scheduled to be published in spring 2019 with a final report anticipated in late October 2019.

Currently, the data being used for this study is a bit larger than the final RP-2014 database and it includes multiemployer pension plan data. The non-multiemployer data is comparable in size to RP-2014, although the database overall is notably smaller than that for the public plan study referenced above. Fortunately, due to the hard work of the submitters and RPEC, a relatively small portion of the data has been rejected compared to the RP-2014 study.

For the multivariate analysis, RPEC will be looking at all predictive factors that were looked at in the RP-2014 analysis, such as income quartiles and collar type. Geography will not be considered, as it was determined that reliable geographic information could not be collected. There is also analysis investigating whether people who had a lump sum option either prior to or at retirement have statistically different mortality. Additionally, since industry codes were collected, it may be possible that, at least for some subset of codes, those could also be evaluated as significant predictors for mortality differences.

RPEC has also been considering what naming convention to use for both the upcoming public and private plan tables. The committee wishes to publish rates as of the central data year without improvement adjustments, but this will create an anomalous situation in which both tables would be labeled with a year that is actually earlier than the previous "RP-2014" tables

The SOA has significant work going on in the pension mortality space.



(which had a midpoint of 2006, but were improved to 2014 using the MP-2014 scale). The committee also wants to clearly distinguish between public and private plan tables in the names. This is still a work in progress and suggestions are welcome.

### Mortality Improvement Updates

Finally, as has happened annually since MP-2014 was published, RPEC expects to publish Scale MP-2018 in late October. The relevant mortality rates are currently being collected, which includes the Social Security rates that are released in connection with the Trustees Report.

There will be three blocks of new data underlying Scale MP-2018:

- For 2014: Rates come directly from the 2018 Social Security Trustees Report, which is expected in Q2.

- For 2015: The Trustees Report will include rates for 2015, but between when the Trustee Report comes out and when the MP scale is released, the SOA may obtain updated information from the Centers for Medicare and Medicaid Services (CMS). If available, the 2015 rates will likely be adjusted to reflect that updated information.
- For 2016: An SSA-style approach is used to estimate rates for 2016 using data available from the CDC, Medicare and the Census Bureau.

At this point, RPEC does not anticipate changing the MP-2018 parameters from those used to develop MP-2017. There is a tool on the SOA website that permits users to change the parameters and the same type of tool will be available for MP-2018. RPEC is continuing to look at approaches that may smooth out the year-over-year volatility and is trying to anticipate the impact those approaches might have on the other metrics that are being used to evaluate mortality improvement models.

### CONCLUSION

So as can be seen, the SOA has significant work going on in the pension mortality space. We view this as an important way that we serve both our members and the public by providing up-to-date tables and projection scales for actuaries to consider using in promoting the benefit security of pension plan participants.

A special thanks to the volunteers on RPEC for the many hours they spend on these projects. It is, in my view, one of the more labor intensive areas of volunteer service at the SOA. If you have questions about any of this information, feel free to contact Patrick Nolan, SOA experience studies actuary who supports RPEC at [pnolan@soa.org](mailto:pnolan@soa.org). I'm also happy to take any general questions, but I'd like to make it clear that all the work is being done by RPEC volunteers and our SOA research staff who support RPEC. ■



Andrew Peterson, FSA, EA, MAAA, is senior staff fellow—Retirement Systems at the Society of Actuaries. He can be reached at [apeterson@soa.org](mailto:apeterson@soa.org).

# Perspectives from Anna Reboot, Rewire or Retire? Personal Perspectives on Phased Retirement and Managing Life Paths at Age 60 and Beyond

By Anna M. Rappaport

*This “Perspectives” column was motivated by a combination of my own experience, conversations with many people about finding their next steps, and participating in some round tables. It updates my column published in 2013.*

**M**any boomers in their 50s, 60s, and 70s are faced with making important decisions about their next steps, sometimes by choice and sometimes not. Some are seeking a new conventional job opportunity, some are seeking a new active life but with a different script, and some are seeking traditional retirement. My experience with professional and business people is that most of them are seeking a meaningful set of activities, but what that means is very different person by person.

Since retiring from Mercer at the end of 2004, I have been an active phased retiree. Over the last 20 years, I have given a lot of thought to phased retirement and making it work. Many people have focused on managing income and assets. This article focuses on a different aspect of managing retirement: managing life beyond money—it assumes that financial management is under control and that there are adequate financial resources. My personal path has included some contract work, writing and speaking, not-for-profit board service, and a lot of professional volunteer work, plus spending time trying to build my art and painting skills. I have also counseled a number of others about their own paths. This article is a combination of my own experience and what I have learned from others. It is an update and expansion of a “Perspectives” column first published in 2013. I have shared that column with many people and have had very good responses to it.

## LIFE PATHS FOR PROFESSIONAL PEOPLE IN THEIR 50s AND 60s

I recently attended a roundtable of senior women who discussed the issues around rebooting and rewiring and another

roundtable of actuaries focused on how to transition to their next step. Based on these discussions, my experience, and Society of Actuaries’ research,<sup>1</sup> some observations jump out at me:

- While there are well-established ideas about career planning in general, the ideas about next steps for people at this life stage are much less developed. People feel like they are writing their own scripts without guidance.
- Some people reach traditional retirement ages unsure about when to retire and with no idea about what they will do when they retire.
- Some people decide to move to next steps without any well thought out financial analysis of the implications of entering retirement.
- One cannot be on vacation all of the time. Vacation is a break from what we normally do. People who retire with the idea of an endless vacation are likely to be disappointed or bored within a year or two, if not sooner.
- There is a huge variation in the financial situation of people at this point. Some have the resources to make choices without being concerned about how much money they will earn in the next few years, whereas others are concerned about continued income and need at least a defined level of earnings if they are to maintain their preferred lifestyle.

People feel like they are writing their own scripts without guidance.

### A Diversity of Directions and Ideas

People have very different ideas of what they would like to do. New directions are often referred to as bridge jobs and encore careers. Ideas include:

- Most want to do some purposeful activity, and some get to the point of transition with a good idea of what to do, but others need to find their next steps after the transition. Those who transition to a purposeful activity after full-time work may then transition more easily to total retirement a few years later.
- Some would like to continue working at traditional jobs well into their 70s and some after age 80. Judges, members of congress, and entrepreneurs tend to work to high ages.



- Others would like to leave traditional full-time roles early, and build an independent new role. Corporate employees are much more likely to leave early (and this is often not entirely a voluntary decision).
- Some people are interested in volunteer and not-for-profit roles, working or volunteering in areas that are meaningful to them.
- Some senior people seek roles on boards, with a mix of corporate and not-for-profit organizations.
- Some people are interested in consulting, possibly at reduced levels of effort.
- Some are seriously interested in music or art, maybe in combination with some of the other roles.
- People in senior roles often want a period of professional activity of their choosing before totally leaving such roles. In a recent discussion with people who had switched roles a few years ago, some are ready for total retirement and others are thinking about timing. Others never totally leave their professional roots.

### Building and Maintaining a Life Portfolio

From my perspective, each of us should have a “life portfolio” as well as a financial portfolio. Just as the financial portfolio requires focus, diversification and management, so does the life portfolio. However, the strategies that make sense for the life portfolio are very individual, and there are few established tracks

for defining and managing a life portfolio. Some observations about my own decisions regarding life portfolio are as follows:

- I view myself as a phased retiree. I have stayed very active professionally and hope to continue to do so.
- I seek consulting assignments consistent with my interests.
- Volunteering in areas that I view as important is a good way to give back while at the same time doing something that I enjoy.
- Research, writing and speaking are all a big part of what I do.
- I am also an artist and have worked to balance my actuarial and retirement system focus with my art.
- I place a high value on family commitments and do not get involved in projects that will create difficulty with other priorities. This is a choice that someone with a regular job often can't make.
- I work regularly to maintain and expand my contacts.
- I only do projects that are of interest to me, and which I can do mostly on my own without the need for additional staff. I may partner with others and have others help me.
- Advisory group roles can fit particularly well into what I want to do.
- I am creative, and seek to apply this creativity in both professional work and art. In my art, I have focused on several areas of innovation. My website describes what I have been doing and it has been important to me to have a website. I talk more about my website later in the article.
- I want to feel that what I do has value.

As we age, we may become limited in what we can do. Ideally, the life portfolio has some flexibility to adjust to limitations. I think it is important to include some elements in a life portfolio that can be continued even if one is physically limited or significantly involved in caring for others. That will mean that a physical limitation or care giving responsibilities will not require one to give up one's entire portfolio.

Some people will work on building a life portfolio long before they retire, and others will not start until after they have retired. My view is that it is better to start on this before retirement and to have some pieces of a life portfolio in place, or ready to be put in place quickly. A friend who is now doing significant volunteer



work for the Society of Actuaries observed that getting elected to the Pension Section Council two years before retirement opened up a new world to her, and helped her build her portfolio. While I strongly support thinking ahead and building a portfolio over time, it is also important to maintain flexibility and not get committed to too much.

### **Building a Brand and Using It**

It is important to define what you want to do and to be selective. Think about what you want to be identified with and what you want people to ask you to do. Many people today are aware of the need to build a brand earlier in life, and to use it to manage a career. That need does not go away for a phased retiree. In fact, since there are no well-formed expectations about what a phased retiree might do and how such a person fits in, the need tends to intensify.

For people who have held senior or visible roles, there is a choice between being known as “me, today,” “me, former chief actuary of XYZ” or “me, former president of the Society of Actuaries.” In a recent discussion with senior women, preferences were different about wanting to be identified based on a prior role, or just based on yourself. I have chosen primarily to be “me, today,” but the former roles are in my bio, as they do help explain and lend credibility to my “me, today” brand.

It is important to define what you want to do and be selective.

I participated in a panel on Women’s Leadership several years ago and I commented that it is also important to remember that appearance is a part of branding. Women particularly can be remembered because of what they know or because of how they look or both. My view is that it is desirable to dress and maintain an appearance that supports one’s professional goals, and is not a distraction. As a phased retiree, I feel I have more freedom to make personally appealing choices with regard to jewelry, colors, etc. However, if my goal was to get appointed to corporate boards—a goal held by many phased retirees—then it would be extremely important to dress that part and maintain an image that would make people comfortable with me in that role.

Part of using your brand is communicating it. After retiring from Mercer at the end of 2004, I established Anna Rappaport Consulting in 2005. Once I did this, I developed a brochure and shared it with many people to let them know what I was doing. Regardless of whether one has a paper brochure, I think it is important to have a focused and brief statement about who you are and what your goals are. I also developed a website and this is discussed below.

### **Use of Technology**

Technology has been critical to my life portfolio choices. The professional work I do can be largely done from any location online and by telephone. Access to a good computer, printer and remote conferencing applications is key. One of the things I no longer have is tech support from my employer. I still need support and it has been invaluable to find a local person who can come to my house and help when I have a problem or need something set up. An early step in making retirement work can include upgrading technology, including telephones, internet service, computers, printers and software.

An important part of telling my story has been to have a website. My website was first developed in 2005 and it has been periodically updated. The development work also helped me to define my story better. For those interested, the website is [www.annarappaport.com](http://www.annarappaport.com).

I have spoken to other phased retirees who do not have websites and who feel that they do not need them. I felt that I needed a website if I was to be a credible speaker, etc. Even if someone knows me, I feel that they need the website if they want to tell their boss about me with credibility. I do not believe the website attracts people to me, but it is a reference point for people who hear my name. The question of when one needs a personal website would be a worthwhile discussion topic.

There has been a great deal of discussion recently about the use of technology and social media. LinkedIn has been very valuable to me in locating people I have lost touch with. Overall, this is an area where I still have a lot to learn, and my use of social media is somewhat limited. I have tried posting ideas and questions to various group sites on LinkedIn to see if we could get discussions started, without much luck to date. I have to decide how much effort I will put into building new skills. However, I have spent a lot of effort building my website. Another good discussion topic would be the best balance of the use of resources between building websites and the ever expanding universe of social media.

Others thinking about this may be interested to know that I used professional help both in formulating the story and in implementing the website, and for me, that help was critical. This exercise forced me to think about what I want to do and what I do not want to do. It also encouraged me to identify good examples of my work and decide which to show to others. As the website evolved, I grouped all of the presentations into the three topic areas where I am most active. I selected a few slides to show how ideas are presented in the slides.

### **Securing Opportunities**

Opportunities can be found in many areas—think about the life portfolio. One never knows what opportunities will come



along. Opportunities most often happen because of seeds that have been planted along the way. As a phased retiree, I have learned that there are many pro-bono roles available, that they can be very gratifying and that people appreciate good work. It is much more challenging to get paid consulting work, and more difficult than most people think it will be. For any individual, I believe there is also an issue of deciding what one is professionally qualified to do and can manage independently, compared to what one wants to do. This answer will differ for each individual. I encourage people to be realistic as they think about these opportunities, trade-offs and constraints.

My strategies for keeping my story in front of people include expanding and maintaining contacts, participating in committees, in-person meetings, updating my website, moderate use of social media, and update letters as described below. I keep up with people and when I am traveling, I try to connect with people beyond the meeting I am attending. On a number of occasions, I have organized a Dutch treat dinner with a small group. The dinners have been a great success. I also attend a few industry meetings.

My update letters help me remind people that I am still professionally active and what my interests are. Every year or two I have sent out a paper letter to more than 200 contacts updating them on what I have been doing. While this seems very old fashioned, I get many compliments on the letters. Because few people do this today, I think the letters stand out and help people to remember that I am available and professionally active.

### **Measuring Life Portfolio Success**

As a phased retiree, my life is very focused on meeting my personal goals. A simple way of deciding if things are working out is

to periodically (at least once a year), think about what I've been doing. If you are doing things that you are happy about, and proud of, then I would call that a success. On the other hand, if you do not have a story about accomplishments that you feel are worthwhile, then it may be time to rethink your goals and strategies.

Sometimes we get derailed from doing what we want to do because of the care and support needs of family members. From my perspective, that is also important. Part of my life portfolio is the ability to change priorities when family and personal circumstances change.

### **Other Observations**

I have tried to avoid overhead so that I am not under pressure to earn a minimum consulting income just to support basic overhead and my volunteer activities.

I do not have employees or an outside office. However, some support is essential to me. That includes a local tech support person who comes to the house, website support, someone who can help with editing and making Powerpoint presentations look nice, and peers who are available to review articles. Family members, friends and industry colleagues have been essential to my solutions to these challenges.

Time management is entirely different than while one is working, but remains very important. Time management during retirement requires new skills, discipline, the ability to set priorities, and insight into when it is best to say no. With regular employment, one usually has a defined structure to the week. As a retiree involved in different activities, every day may be

different, and there are still commitments that require adhering to schedules. One has many options about what to do and can get many requests for help—it is important to be able to prioritize. It is also important to be able to decide how much time to spend on a project before moving on to the next.

I balance my focus on actuarial and retirement issues with an interest in art. There are many areas where one can find a very different interest. One of my friends who is an animal lover balances her interest in retirement issues with volunteering for PAWS Chicago.<sup>2</sup> She has been able to use the skills from her working career in several ways. She does training, helps provide computer support, and helps match cats to families. The training uses her consulting and presentation skills, the computer support uses and builds on her technical and financial skills, and the matching builds on the skills she had in working with clients and in supervising employees. The skills that actuaries have through their working careers can be valuable in many different settings.

It is valuable to have flexibility in our schedules, so that as we meet new people and encounter different ideas that sound interesting, we have time to test them out and see if they appeal. One of the advantages of being retired is that we can experiment with going down different roads and seeing what we might find.

Retirement is a time of transition. At that point we move away from established long-time obligations to a period of new activities and new freedoms. We have many choices and challenges as we build our own portfolios.

We might need skills in order to work longer, pursue our passions, realize our goals and do the tasks in our life portfolio. If we are serious in pursuing passions and longer work, we should be realistic about building those skills and should be willing to invest time, effort and money in doing so.

I hope this article will be of interest to those who are trying to design their own life portfolio and make phased retirement work for them. This would be a good discussion topic for the Retirement Section LinkedIn site.

### CONCLUDING ADVICE FROM ANNA

I have some tips to share that are drawn from my own experience, discussions with others, including the round tables with senior women and actuaries, and the Society of Actuaries' research.

- Start by understanding your financial situation, and make sure that you have the resources to pursue the path you are interested in. If you need more money before leaving conventional work, try to work longer. Don't forget about

replacing your health care benefits (especially if you are not yet eligible for Medicare).

- The right answers for you are personal. It is important to find your passions and choose activities that create value based on your personal sense of value. Take some time to find your direction, and be prepared to make adjustments over time.
- When you become independent, you can focus on pleasing yourself and not just others, and you have your own voice. For some people, having your own voice is very important.
- Keep your spending at a level that lets you make choices. Before spending significant amounts of money, ask the question: What value will this add to my life? A major expenditure may mean limiting your options to reboot or to move to a more interesting, but less lucrative role.
- If your long-term employer offers flexible work options, check them out. Some employers are willing to negotiate arrangements that work well for people, and some bring back retirees to do occasional work after retirement. Most people build their own paths—but you should not assume there are no options at a long-term employer without doing some checking first.
- Establish your brand and be prepared to communicate it. Do you prefer to be “me, now” or “me, former chief actuary of XYZ”? I chose “me, now.” People I have talked with go both ways, but more are in the “me, now” camp.
- Think longer term. You may live to 95 or 100, or more. Some activities are sustainable for a few years only, but others can last longer. I personally like the idea of having a “portfolio of activities,” some of which can be sustained even if you have limitations.
- It is challenging to learn to manage your time when leaving the structure of a job. Work on your time management skills.
- Pay attention to the details. You will need to function without the support structure you were formerly used to. If you are going to do paid consulting, there are practical issues to deal with including technology, how to get work peer reviewed, contracting, intellectual property rights, the possibility of professional liability if something goes wrong, and more.
- Some things require a lot of vitality. Do them now while you can. You never know when limitations are coming.

## RESOURCES

Often rebooting means the individual is scaling down somewhat and choosing some form of phased retirement. Sadly, institutional support for new job options is scarce. The GAO did a new study in 2017, *Older Workers: Phased Retirement Programs, although Uncommon, Provide Flexibility for Workers and Employers*, Report-17-536.<sup>3</sup> The GAO interviewed both employers and experts, and found little formal phased retirement. They present evidence that many people are working as part of retirement, creating their own phased retirement. In 2006, the Pension Protection Act enabled phased retirement but employers have not changed their approach much since then.

For people who are going to do paid consulting on their own, engagement letters and business management issues can be complex to deal with. The article *Engagement Letters to Help Run Your Practice Well*,<sup>4</sup> authored by Lauren Bloom and Anna Rappaport, and published in the *Independent Consultant* newsletter from the Society of Actuaries in 2007 lays out some of the issues you may need to think about.

The SOA Committee on Post-Retirement Needs and Risks has resources to help people think about retirement. It recently developed two new publications, *Retirement Health and Happiness* and *Retirement Planning from Start to Finish*,<sup>5</sup> which were jointly sponsored with Financial Finesse. These are the first two in a series of publications designed to help improve retirement literacy. They provide information for people nearing retirement and retirees on aspects of retirement planning that go beyond money.

The SOA supported the Stanford Center of Longevity Sightlines project.<sup>6</sup> This project examines what is needed for a long and successful retirement. It focuses on three domains of importance: financial resources, health and social engagement. The ideas presented in this project support the need for adopting strategies similar to those in *Retirement Health and Happiness*.

The SOA Committee on Post-Retirement Needs and Risks also has developed a set of 12 decision briefs<sup>7</sup> to help individuals make a range of decisions as they near and enter retirement. One of these briefs is about the timing of retirement.

There are a number of organizations specializing in helping retirees find or develop opportunities. RetirementJobs.com, Your Encore<sup>8</sup> and Encore<sup>9</sup> each offer different approaches to the challenges at hand. None of them target actuaries, but the ideas may be of interest.

In addition to existing contacts, you may wish to make new ones tailored to this life stage and your interests. There are a variety of organizations to help people find their next steps, connect to other seniors, or pursue a special interest. The Village Movement

is a set of organizations designed to connect seniors to resources and to each other in their own location. Skyline Village<sup>10</sup> in Chicago is an example of such a group. The Transition Network<sup>11</sup> is a national group for women transitioning into their next steps. It has 14 chapters. I was also very happy to connect to the Chicago Urban Sketchers, an artist group with common interests.

There are a number of educational opportunities specifically designed for seniors. The Osher Lifelong Learning Institutes<sup>12</sup> (OLLI) are operated at more than 120 campuses in the United States. Skyline Village helped me realize that there were several good educational opportunities and other resources within a few miles of my Chicago home. There is an OLLI at a local university. The University of Chicago operates the Graham School. A large local church has a Center for Lifelong Learning.<sup>13</sup> I came to realize that there were good nearby opportunities if I just looked around. Friends in Boston and Washington, D.C. have told me the same thing about their communities. In addition to the local classes, there are also many online classes. In-person classes are probably better for most people, but I found that often in-person classes don't fit my schedule and other obligations, so online classes have a place. With my interests in art, Sketchbook Skool<sup>14</sup> is great for me. It has offered me some very interesting opportunities that were not available locally, and I can do them on my own time. ■



Anna Rappaport, FSA, serves as chairperson of the Committee on Post-Retirement Needs and Risks. She is a past President of the SOA and a globally recognized expert on both financial and non-financial aspects of retirement.

## ENDNOTES

- 1 <https://www.soa.org/research-reports/2013/The-Decision-to-Retire-and-Post-Retirement-Financial-Strategies--A-Report-on-Eight-Focus-Groups/>
- 2 PAWS Chicago is a champion for animals—rehabilitating injured and orphaned cats and dogs, providing shelter and adoptions for them, and educating people to make a better world for animals and people.
- 3 <https://www.gao.gov/products/GAO-17-536>
- 4 <https://www.soa.org/library/newsletters/the-independent-consultant/2007/april/eng2007april.aspx>
- 5 <https://www.soa.org/research-reports/2017/2017-retirement-literacy/>
- 6 <http://longevity.stanford.edu/the-sightlines-project/>
- 7 <https://www.soa.org/research-reports/2012/research-managing-retirement-decisions/>
- 8 <https://www.yourencore.com/>
- 9 <https://encore.org/>
- 10 <http://www.skylinevillagechicago.org/>
- 11 <https://www.thetransitionnetwork.org/>
- 12 <https://www.osherfoundation.org/index.php?olli>
- 13 <http://www.fourthchurch.org/cll/>
- 14 <https://sketchbookskool.com/>





# ACTUARIAL CPD TRACKER

Easily Track Your CPD Credits  
From Your Mobile Device

- Track multiple CPD standards
- Download data to Excel
- Load credits from SOA orders
- Catalog of PD offerings
- Login with your SOA account
- International-friendly



Start tracking today at [SOA.org/CPDTracker](http://SOA.org/CPDTracker)

# Integrating Home Equity and Retirement Savings Through the “Rule of 30”

By Peter Neuwirth, Barry H. Sacks and Stephen R. Sacks

In a recent SOA White Paper<sup>1</sup>, Wade Pfau, Joe Tomlinson and Steve Vernon presented a wide-ranging review of the many retirement income generators (RIGs) presently available to retirees. Included among the RIGs considered were the obvious and most prevalent ones, i.e., defined contribution plans (most commonly the 401(k) account and rollover IRA), and the less obvious (but equally prevalent) one, home equity. Because 401(k) accounts and IRAs are generally invested in portfolios of securities, they will simply be referred to as “portfolios.”

In a recently published paper in the *Journal of Financial Planning*<sup>2</sup>, we presented the results of some research expanding upon earlier work that takes advantage of a symbiotic relationship between those two RIGs. The symbiosis is that home equity, accessed by means of a reverse mortgage credit line, can be used to offset the adverse sequence of investment returns incurred by portfolios that are being drawn upon. This use of home equity, referred to as a “coordinated strategy,” results in greater inflation-adjusted cash flow to the retiree throughout a 30-year retirement than that provided by the conventional strategy. The conventional strategy is to draw from the portfolio alone, and then to establish and draw upon the reverse mortgage as a “last resort” only if and when the portfolio is exhausted or close to exhaustion.

## THE RETIREES CONSIDERED

The use of home equity to enhance retirement income is an emerging topic in the financial planning arena. The concept was first formally introduced in the *Journal of Financial Planning* in 2012.<sup>3</sup> That paper, as well as a number of other papers presented since that time, examined model retirees whose ratios of home values to the value of their portfolios were, with surprising consistency, equal to 1:2 (i.e., 0.5). A couple of them suggested expanding the research to retirees with different ratios, but did not include any analysis of such expansion. We picked up that suggestion, and our paper summarized the analysis on an expansion of the range of retirees.

Drawing on the table of median amounts of home equity and retirement savings for various categories of retirees (or near-retirees) described in the SOA white paper, we considered four representative retirees; these retirees had ratios of home value to portfolio value at the endpoints of a range of ratios between 0.5 and 2.0. The values of their respective retirement income resources (meaning home value plus initial portfolio value) are set out in Table 1.

## CASH FLOW SURVIVAL

Consistent with much of the recent literature, the primary economic concern we considered is cash flow survival throughout a 30-year retirement. Accordingly, the analysis focused on this concern. In this context, cash flow survival was defined as a 90 percent or greater probability of inflation-adjusted (constant purchasing power) cash flow throughout a 30-year retirement.

## SUMMARY OF KEY FINDINGS

1. **Dollar amount of annual distribution resulting in cash flow survival constant for a wide range of ratios.** For any given amount of total retirement income resources, the *dollar amount* of initial withdrawal that resulted in cash flow survival was *constant* across a wide range of ratios of initial home value to initial portfolio value. That dollar amount was determined

Table 1  
Table of Retirees: Their RIGs and Draw Amounts

	Home/Portfolio/Total	Draw under 3.2 Percent Rule	Draw under “Rule of 38”	Draw as Percent of Portfolio	Approximate Probability of 30-Year Cash Flow Survival
<b>Retiree No. 1</b>	\$400k/\$800k/\$1200k	\$25,600	\$31,600	3.95 percent	90 percent
<b>Retiree No. 2</b>	\$800k/\$400k/\$1200k	\$12,800	\$28,400	7.10 percent	90 percent
<b>Retiree No. 3</b>	\$150k/\$300k/\$450k	\$9,600	\$11,850	3.95 percent	90 percent
<b>Retiree No. 4</b>	\$300k/\$150k/\$450k	\$4,800	\$11,850	7.89 percent	90 percent

**Note:** Initial draw amounts that result in an approximately 90 percent probability of 30-year constant purchasing power cash flow survival when the Coordinated Strategy is used, with current investment return projections (as set out in Appendix B). (For Retiree No. 2, the rule of 38 only takes account of home value up to the HECM limit of \$679,650.)

as a fraction of the retirees' total retirement income resources. The fraction is described in Key Finding 3. This finding resulted when the coordinated strategy was used for the withdrawals, but not when the last resort strategy was used.

2. **Initial distribution as a fraction of total retirement income resources resulting in cash flow survival constant for wide range of total resources.** Across a broad range of amounts of total retirement income resources, the applicable fraction was constant. In other words, in addition to the **range of ratios** described above, the fraction described below applies to a broad **range of amounts** of total retirement income resources.
3. **The specific value of the fraction referred to in Key Finding 1 and 2 is a function of investment return projections and HUD rules on mortgage insurance premiums (MIPs) and principal limit factors (PLFs).** The relevant fraction is a function of the projected investment returns used in the Monte Carlo simulation as well as the MIPs charged by HUD and the PLFs prescribed by HUD. If the investment return projection figures used are consistent with historical averages and the reverse mortgage parameters are those in effect through Sept. 2017, the fraction turns out to be 1/30. Accordingly, the finding is termed the "Rule of 30." If more recent (and more conservative) projections of investment returns are used and current MIPs and PLFs are used (HUD changed these rates effective Oct. 2, 2017), the fraction turns out to be 1/38. However, it is important to note that investment return assumptions are also reflected in the more traditional measure of the "safe withdrawal rate" (e.g., with the more conservative investment assumptions noted above, the so-called "4% Rule" becomes a "3.2% Rule").

Graphic representations of these results are shown in the recent *JFP* paper.

## THE ANALYSIS

The analytic technique was similar to that described by Sacks and Sacks: A spreadsheet model, using Monte Carlo simulation for the investment returns and inflation, was run for each of the four representative retirees. For each retiree, two worksheets were run simultaneously. The two worksheets were identical in all respects (including the investment performance of the portfolio, the rate of inflation, and the amount drawn by the retiree) *except* for the strategy used to determine whether the retirement income was withdrawn from the portfolio and/or from the reverse mortgage credit line. In other words, in one of the two worksheets the coordinated strategy was used, and in the other one the last resort strategy was used.

The spreadsheet model used the following input parameters: (1) initial value of the portfolio; (2) initial value of the retiree's

The dollar amount of annual distribution resulting in cash flow survival is constant for a wide range of ratios.

home; and (3) initial withdrawal rate. The output was a graph of cash flow survival probabilities as a function of number of years in retirement.

The portfolio in all cases was a 60/40 portfolio comprised of the indices of each asset class comprising the equity portion and the fixed income portion of the portfolio. The proportion of each asset class in the portfolio is specified in Appendix A. Each index is assumed to have a normal distribution. The assumed means and standard deviations of the returns of those indices are also specified in Appendix A.

For each set of initial portfolio value and initial home value, initial withdrawal rates were tried, until a rate was found that yielded a 90 percent probability of inflation-adjusted cash flow survival throughout a 30-year retirement. That initial withdrawal rate, as a fraction of the retiree's total retirement income resources, turned out to be equal to 1/38, across a range of ratios of initial home values to initial portfolio values (from 0.5 to 2.0) and across a range to total values of retirement income resources (from \$450,000 to \$1,200,000).

## LIMITATIONS AND CAVEATS

The key findings described earlier are empirical observations; they are not mathematically determinable in closed form. Although these findings have been tested and validated for ratios of home value to initial portfolio value ranging from 0.5 to 2.0, it is not clear what the results would be for lower or higher ratios; that is, where there is little or no retirement savings portfolio or accumulated home equity. The findings presented are unlikely to have any application to a retiree whose total retirement income resources substantially exceed the HECM limit of \$679,650 (e.g., by a factor of 5 or more).

The Monte Carlo simulations employed in the analyses presented are by nature stochastic. That is, each year's investment performance and inflation amount are treated as entirely independent of the previous year's parameters. Other approaches exist that suggest that financial processes are subject to homeostasis, a reversion to the mean, often resulting from government intervention—such as the Federal Reserve changing interest rates to bring down inflation.

The analyses and results reported assumed that the expected interest rates, and therefore the PLFs of the HECM credit

lines would remain constant. The expected rates are currently near the low ends of their ranges, so the PLFs, and therefore the amounts available from reverse mortgage credit lines, are near the high ends of their ranges. If the expected rates increase, the amounts available will decrease, and the effectiveness of the strategies considered will also decrease.

Finally, there has been no consideration in this paper of possible changes in the law or regulations governing reverse mortgages.

### IMPLICATIONS FOR PLANNERS

The results presented have great significance for baby boomer retirees who have limited total resources and/or have a disproportionate amount of their wealth in the value of their home.

A simple Rule of 30 (currently a Rule of 38) can be used by a broad range of retirees to help determine how much retirement income their total retirement income resources can provide, with a small probability of outliving those resources. The availability of this rule can potentially make retirement income planning more straightforward for a large number of individuals currently considering their future retirement income needs.

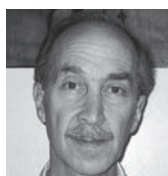
In addition, the non-recourse feature of the HECM is significant over the long term (20-plus years into retirement). As a result, establishing a HECM line of credit as early as possible can provide many retirees—particularly those who are house-rich and cash-poor—with a significantly higher retirement income than a later establishment of the credit line, while reducing the probability of exhausting his or her assets. ■



Pete Neuwirth, FSA, FCA, retired in 2016 from Willis Towers Watson and is now a free-lance author/consultant focusing on holistic approaches to financial wellness. He can be reached at [peteneuwirth@gmail.com](mailto:peteneuwirth@gmail.com).



Barry H. Sacks, Ph.D., JD, is a practicing tax attorney specializing in pension law. His current focus is on optimizing retirees' withdrawals from defined contribution plans. He can be reached at [bsacks360@gmail.com](mailto:bsacks360@gmail.com).



Stephen R. Sacks, Ph.D., is professor emeritus of economics, University of Connecticut. He consults on various economic issues, often using spreadsheet-based analysis. He can be reached at [sacks44@earthlink.net](mailto:sacks44@earthlink.net).

### ENDNOTES

- 1 “Optimizing Retirement Income Solutions in Defined Contribution Retirement Plans” (subtitled “A Framework for Building Retirement Income Portfolios.”) Online at: <https://www.soa.org/.../research-2016-optimizing-retirement-income-framework-building-retiremen-income-portfolios>. May 1, 2016.
- 2 Neuwirth, Peter, Barry H. Sacks and Stephen R. Sacks. “Integrating Home Equity and Retirement Savings through the Rule of 30.” *Journal of Financial Planning* 10 (10): 52-62.
- 3 Sacks, Barry H., and Stephen R. Sacks. 2012. “Reversing the Conventional Wisdom: Using Home Equity to Supplement Retirement Income.” *Journal of Financial Planning* 25 (2): 43-52.

## APPENDIX A

Composition of Portfolio and Projected Values of Geometric Means and standard deviations of the rates of return of each asset class (based on current conservative estimates) used in the Monte Carlo simulations.

Asset Class	Percentage in Portfolio	Geometric Mean	Standard Deviation
<b>S&amp;P 500</b>	40%	7.00%	20.00%
<b>U.S. Small Stock (Ibbotson)</b>	10%	7.70%	22.00%
<b>MSCI EAFE</b>	10%	8.65%	22.50%
<b>Lehman Bros. Long Term Govt./Cred Bond</b>	10%	3.30%	12.00%
<b>Lehman Bros. Int. Term Govt./Cred Bond</b>	15%	3.50%	6.50%
<b>U.S. 1-yr. Treasury</b>	15%	3.30%	2.00%
<b>Interest (incl. 1.8% LIBOR, plus 2.50% margin plus .5% MIP)</b>		3.8%	1.0%
<b>U.S. Inflation</b>		2.0%	1.5%
<b>Home value appreciation</b>		2.0%	(assumed constant)



# 2018 Call For Essays: Securing Future Retirements: Innovations in Planning Strategies, Financial Products and Employee Benefit Plan Structure

By Andrea Sellars and Steven Siegel

The Society of Actuaries' (SOA) Committee on Post-Retirement Needs and Risks, issued its third annual call for essays in September 2017. Previous essay collections published in 2016 and 2017 explored the diverse risks encountered in retirement and developments in the financial wellness arena.

The motivation for this latest call for essays was to complement the work from the previous essay collections with specific focus on perspectives for securing future retirements. As part of this, the objectives include identifying potential solutions and new innovations that are being developed to assist workers and retirees to better prepare for retirement. This focus and related topics for this latest call for essays was the culmination of discussions held by the same review group involved in the 2016 and 2017 collections. The committee is fortunate to benefit from the input of its diverse membership that includes actuaries, consultants, attorneys, plan sponsors, academics, financial planners, government officials, and other experts.

This year's response to the call was greater than prior years and 13 authors submitted 18 excellent essays. The essays cover four primary areas of interest:

1. Better individual planning in (or leading up to) retirement;
2. Financial planning advice, products and services;
3. Employer strategies for assisting employees/retirees; and
4. Econometric and/or policy-focused solutions.



John Cutler and Andrea Sellars chaired the review group that developed the topics for the essays and overall objective. A panel of judges did the final, blinded review of the essays for publication and awards. The judges selected five essays for awards with \$2,000 awarded per author. Consideration was given to creativity, originality and the extent to which an idea could contribute to the further development of solutions. The winning essays will be published in this and upcoming issues of the *Retirement Section News* with the full collection planned for publication on the SOA website in May 2018.

The winning essays include the following:

- Jonathan Forman, “Workers & retirees Could Pool Risk with Tontine Annuities, Tontine Pensions, and Survivor Funds”
- Joe Tomlinson, “We Can Build Better Retirement Products: But Will Anyone Buy Them?”
- John Turner, Jill Fisch and Marion Laboure, “Automated Advice”
- John Cutler, “An Enhanced Social Security Annuity”
- Tim Driver and Anna Rappaport, “Working Longer to Improve Retirement Security: Improving Public Policy”

The judging panel also selected a series of three essays for honorable mention that were ineligible for awards. These three essays were written by Steven Vernon and expand on prior research sponsored by the SOA with Stanford University:

- “A Smart Way to Develop Retirement Income Strategies”
- “Smart Decisions Older Workers Can Make for Retirement”
- “Smart Steps Employers Can Take to Help Older Workers Transition into Retirement”

The primary source for the essays can be found in the following research report available on the SOA website: *Optimizing Retirement Income by Integrating Retirement Plans, IRAs, and Home Equity: A Framework for Evaluating Retirement Income Decisions.*<sup>1</sup>

### NEXT STEPS

Selected essays will be presented at the 2018 SOA Annual Meeting & Exhibit.

As in previous years, we hope the publication of these essays will further knowledge and stimulate discussion as well as promote future efforts in this area. Plans are underway for next year’s call for essays and thoughts for future topics are always welcome.

Finally, our appreciation and congratulations again go out to all of our authors who have contributed to another successful year! ■



Steve Siegel, ASA, MAAA, is a research actuary at the Society of Actuaries. He can be reached at [ssiegel@soa.org](mailto:ssiegel@soa.org).



Andrea Sellars, FSA, MAAA, is a retired actuary in Norcross, Ga. She can be reached at [atsellars@gmail.com](mailto:atsellars@gmail.com).

### ENDNOTES

- <sup>1</sup> <https://www.soa.org/research-reports/2017/2017-optimize-retire-income-plans-iras-equity/>



## Listen at Your Own Risk

The SOA’s new podcast series explores thought-provoking, forward-thinking topics across the spectrum of risk and actuarial practice. Listen as host Andy Ferris, FSA, FCA, MAAA, leads his guests through lively discussions on the latest actuarial trends and challenges.

Listen  
at your  
own risk



Visit [SOA.org/Listen](https://www.soa.org/Listen) to  
start listening.



# Interview with Joe Tomlinson



Joe Tomlinson, FSA, MAAA, CFP®

---

## Tell us a little about yourself.

I'm both an actuary and a financial planner and my specialty is research about building sustainable retirements. I'm semi-retired, but finding so many interesting things to work on that I'm in my office a lot. I've been involved with the Committee on Post-Retirement Needs and Risks for over 10 years. I was the head of the Project Oversight Group (POG) on the project to create Retirement Decision Briefs. I've been involved with Steve Vernon and Wade Pfau on two joint projects with the SOA and the Stanford Center for Longevity about Optimizing Retirement Income, and we are starting a third. I've also been

head of a POG on a project about quantitative evaluation for various retirement plan structures.

## What interested you in this call for essays?

I had some ideas that have been kicking around in my head about needed retirement products and this provided an opportunity to write about these ideas.

## Did anything surprise you as you did this work?

What surprised me was when I started thinking about the barriers—how it's not that hard to come up with good ideas for retirement products, but the big challenge becomes how to get such products delivered to the people who can use them and how to help those people understand the value that the products offer for improving retirement outcomes.

## If there is one key point you want your reader to take away from your essay, what would that be?

I guess the key point is that we can indeed build retirement products that better meet the needs than what is being offered today.

## Who do you think might be interested, and what would be needed to move your idea forward? What obstacles would you foresee?

There are companies like Vanguard who are trying to move beyond investments and into more full service financial planning. I would like to see them begin to offer the products I have recommended directly or use their market clout to get insurers to offer the products that require an insurance company. The principal obstacle I see is that it's not easy to get the attention of key players at big companies. I'm hoping that SOA publication of these essays will get through to people who can implement these ideas. ■

# We Can Build Better Retirement Products, But Will Anyone Buy Them?

By Joseph A. Tomlinson

*Editor's Note: These articles are part of the Securing Future Retirements essay collection.*

Those planning for retirement face an overwhelming array of choices of investment and insurance products. What they actually need are fewer and simpler products that better meet retirement-planning needs. There's a dilemma, however, because the products that best meet consumer needs are not necessarily the ones desired by the distribution intermediaries (e.g., investment companies, insurers, financial salespeople).

This is a two-part essay in which I'll first describe three products I believe are well suited to meet retirement needs. Then I'll address the distribution barriers such products will face and whether there might be a way to overcome these obstacles.

## SOCIAL SECURITY DELAY PRODUCT

In the past few years there has been considerable financial planning research highlighting the importance of optimizing the claiming strategy for Social Security benefits. For reasonably healthy individuals, this typically involves delaying the commencement of benefits to age 70, and for couples involves somewhat more complicated coordination strategies. For example, the high earner in a couple may delay to 70, and the other member of the couple may start worker benefits earlier. Much has been written on the subject, and a comprehensive treatment can be found in "Maximizing Social Security Retirement Benefits," by Mary Beth Franklin.<sup>1</sup> There are also a number of software products that can be utilized to recommend optimal claiming strategies, an example being "Social Security Solutions" developed by William Meyer and Baylor professor William Reichenstein.<sup>2</sup>

What is missing is an investment product that could be used to implement the optimization. Here's an example of how such a product could work:

Let's say a 66-year-old individual with \$750,000 in a 401(k) wants to retire immediately but delay Social Security claiming

to age 70. Further, we'll assume her age-66 benefit would be \$24,000 per year and delayed claiming would increase this benefit by 32% to an annual \$31,680. Where the product idea comes in is that an investment company could offer a ladder of Treasury Inflation Protected Securities (TIPS) at age 66 that would provide inflation-adjusted income beginning immediately that would transition into inflation-adjusted Social Security income at age 70. Rather than recommending the individual delay Social Security until age 70 and somehow use retirement withdrawals from savings in the meantime, this product would provide an enhanced inflation-adjusted income stream immediately.

This would be straightforward for an individual. For couples, the software utilized for recommending coordinated strategies that might start benefits at different times could be enhanced to design the complementing TIPS investment strategy. This would build an inflation-adjusted mix of a TIPS ladder and Social Security benefits to provide a smooth inflation-adjusted income stream beginning at retirement.

For our example of a 66-year-old individual, the product funding would work in this way. Yields after inflation on short-term TIPS were close to zero as of late October 2017, so the individual would need to set aside roughly four times the age-70 Social Security of \$31,680 (approximately \$127,000) to fund the TIPS ladder. This would generate an income stream of \$31,680 that would increase with inflation each year. The first four years would come from the TIPS ladder and the remaining payments would be the Social Security benefits enhanced by the credits for delayed claiming. This product's major advantage is that it makes Social Security optimization much easier to manage and, therefore, more appealing.

## IMPROVED INFLATION-ADJUSTED SPIA

An inflation-adjusted single premium immediate annuity (SPIA) pays a lifetime income with annual inflation increases and, therefore, is a natural add-on to Social Security. Continuing our previous example, let's assume the individual has estimated her retirement budget for basic living expenses at \$45,000 per year, increasing with inflation. She'll receive \$31,680 by utilizing the Social Security delay product but will require an additional inflation-adjusted \$13,320 to match her basic living expenses.

Based on rates from the pricing service CANNEX as of October 2017, it would cost about \$298,000 to purchase an inflation-adjusted SPIA paying an initial \$13,320 per year in monthly installments. The total cost for the Social Security delay product and the SPIA would be about \$425,000 for this example, leaving \$325,000 in liquid funds. The individual would have the peace of mind of having lifetime income to cover basic living expenses plus additional funds for discretionary spending.



Although the product structure of the inflation-adjusted SPIA is a natural fit for generating retirement income, the product pricing could be improved. We can gain some pricing insights by comparing inflation-adjusted SPIAs to SPIAs that offer fixed percentage increases in payouts each year. Expected future inflation, based on the difference between yields on regular Treasury bonds and TIPS, is about 1.9% as of October 2017. Again, based on CANNEX pricing, we could construct a SPIA that provides annual increases of 1.9%. The cost of such a SPIA to produce an initial \$13,320 of annual income increasing at 1.9% per year would be \$260,156, about \$38,000 less than the cost of a SPIA with adjustments for actual inflation. However, this product would carry the risk of not keeping up with inflation if price changes were to average more than 1.9%.

There could be a way to have both better pricing and full inflation protection. Insurers could set up an investment segment to support inflation-adjusted SPIAs by investing in their usual fixed income investments without inflation adjustments and executing swap transactions that would involve substituting TIPS for regular Treasury bonds. The effect would be to create synthetic inflation-adjusted bonds with the same credit spreads insurers achieve on their regular fixed-income investing. A conversation with an investment professional familiar with such swaps indicated the swap cost would be about 2% of the SPIA price, so in the example, the \$260,156 price would be raised to about \$265,000. This would still represent a price reduction of 11% compared to current pricing, while offering the same guarantees, and freeing up an additional \$33,000 for discretionary spending.

## LIFE CARE ANNUITY

Dealing with the potential need for long-term care is perhaps the most vexing issue retirees face. The potential costs are substantial, but insurers have had a difficult time providing products that effectively address the needs. However, SPIA products could be enhanced to at least partially mitigate the risk.

About a dozen years ago, economist Mark Warshawsky proposed the Life Care Annuity.<sup>3</sup> This would be a standard SPIA but would pay an additional pop-up monthly income if the annuitant needed LTC as defined by claim criteria (e.g., at least 90 days lacking two or more activities of daily living or suffering significant cognitive impairment). The pop-up income could be set to double or triple the basic SPIA payouts, and the product could be offered with minimal underwriting because of the close correlation between potential LTC need and diminished longevity.

I did a rough pricing of a three-times pop-up for this example that would increase the annual SPIA payments from \$13,320 annually to \$39,960 (both with inflation increases) when there was an LTC claim. Total income to cover essential expenses would increase from an annual \$45,000 to \$71,640. This would

likely not be enough to provide full LTC coverage but could make a substantial contribution before tapping other funds or relying on LTC insurance.

I estimated the present value of the projected LTC payments to be about 8% of the SPIA price. If we added some margin for risk and profit, the cost might be similar to the 11% benefit shown earlier for the enhanced SPIA. It might well be feasible to build a product that would be competitive with today's inflation-adjusted SPIA pricing and provide the significant addition of an LTC pop-up benefit.

## OBSTACLES

The biggest challenge in getting these types of products to the public will likely not be in product development but in distribution. If all those planning for retirement were actuaries and economists, we might expect products like these to be instantly popular. However, we are dealing with entities that recent Nobel laureate Richard Thaler refers to as “humans” as opposed to “econs,” and behavioral economics has taught us that people often don't make the most sensible financial choices.

Since all three of these products incorporate guaranteed lifetime income, what is known as the “annuity puzzle” comes into play. Briefly stated, economic theory based on rational choice would expect retirees to annuitize much more of their wealth than they do in practice. Consider that annual SPIA sales in the U.S. run about \$10 billion annually, and this amount has remained at that level for many years. A very rough calculation based on the number of retiring Americans, and assuming “rational” annuitization, would place the expected sales at 50 to 100 times this amount.

One possible response to these product ideas might be, “Nice try, but it's clear from past experience people won't want these products.” Behavioral economics has reared its head.

But there is another lesson we can learn from behavioral economics, which is that the way people respond to choices is heavily influenced by the way choices are framed. Related to annuitization, economist Jeffrey Brown, who has done considerable research on annuities, has led studies using surveys of individuals to demonstrate that annuitization holds much more appeal when presented in a “consumption” framework rather than as an “investment.”<sup>4</sup> Other survey research led by economist John Beshears has demonstrated that framing SPIAs in terms of total lifetime income tilts choices heavily in favor of inflation-adjusted SPIAs over level-pay versions.<sup>5</sup> This result contrasts sharply with actual sales where level-pay SPIAs dominate. So we should not necessarily accept the lack of appeal for SPIAs as inevitable.

My personal view is that the annuity puzzle is more a reflection of the aversion of those responsible for selling or distributing

the products than buyer aversion and that attempts by economists to explain the puzzle have focused too much on consumers and not enough on the intermediaries. When it comes to annuities, most people buy what they are sold; the corollary is that they don't buy what they aren't sold. For the particular products ideas I have presented, we need to focus on distribution barriers and how they might be overcome.

Here are brief comments on distribution channel barriers:

- **Investment companies such as Vanguard, Fidelity Investments or Charles Schwab** typically have a bias against products that reduce assets under management, characteristic of both Social Security delay and SPIA purchase.
- **Retail financial professionals including insurance agents and stock brokers** generally prefer more complex products with sales pizzazz like variable annuities and indexed annuities, or active investment solutions that generate more broker income.
- **Financial planners** tend to rely purely on strategies involving systematic withdrawals from savings rather than utilizing annuities.
- **Employers and plan sponsors**, with a few exceptions, are concerned with any offerings that could create legal liability or add complexity to a basic 401(k) approach.
- **The United States' strong bias against government programs that compete with or supplant private market activities** prevents implementation of pension plans such as the UK's National Employment Savings Trust (NEST) retirement system.
- **Robo-advisers like Betterment or Personal Capital** have so far focused on accumulation rather than retirement and lack the financial resources to build strong name recognition through advertising and promotion.
- **Direct distribution**, through a do-it-yourself approach, should be feasible with simplified product choices; however, it will be difficult to overcome the pervasive belief that financial stuff is too complicated for DIY.

Is there any hope? The obstacles are certainly daunting.

I can foresee several possible ways to break through the challenges. One would be if a major, well-recognized investment

company made a strategic decision to shed its investment bias and adopt a broader focus to incorporate products like those discussed previously. (There are, indeed, major investment companies that offer annuities—a first step—but these companies heavily favor investment solutions.)

Another possibility would be an entrepreneurial venture to build a major company focused exclusively on retirement. This would likely require support from a player with considerable financial resources, for example, a foundation associated with a prominent name like Buffett, Bloomberg or Gates.

Under either approach, the basic idea would be to greatly simplify things for people planning for retirement and to offer both products and planning services. This would be getting away from all the complexity and confusion of today's services, the bulk of which provides no real value. A simplified menu of products and options, including the products highlighted, would mean advice could be delivered much more efficiently and less expensively than today.

Sometimes things that should happen simply take a long time. Index funds offer an example from the investment world. These funds were introduced over 40 years ago, supported by numerous studies in the ensuing years demonstrating their performance advantage. However, it has only been in the past few years that indexing has really caught on with the general public. Success with better products for retirement planning may require not only good ideas and lots of effort but also lots of patience. ■



Joseph A. Tomlinson, FSA, MAAA, CFP®, is a principal at Tomlinson Financial Planning, LLC, in Maine. He can be reached at [joet1349@gmail.com](mailto:joet1349@gmail.com).

#### ENDNOTES

- 1 Mary Beth Franklin, *Maximizing Social Security Retirement Benefits* (Detroit: Crain Communications Inc., 2017).
- 2 <http://www.socialsecuritysolutions.com/index.php>.
- 3 Mark J. Warshawsky, "The Life Care Annuity," in *The Future of Life-Cycle Saving and Investing*, 2nd ed., eds. Zvi Bodie, Dennis McLeavey and Laurence B. Siegel (Charlottesville, VA: The CFA Institute, 2008).
- 4 Jeffrey R. Brown, Jeffrey R. Kling, Sendhil Mullainathan and Marian V. Wrobel, "Framing Lifetime Income" (National Bureau of Economic Research working paper no. w19063, May 2013), <http://www.nber.org/papers/w19063>.
- 5 John Beshears, James J. Choi, David Laibson, Brigitte C. Madrain and Stephen P. Zeldes, "What Makes Annuitization More Appealing?" (NBER working paper no. 18575, June 2013), <http://www.nber.org/papers/w18575>.

# Interview with Jonathan Forman



Jonathan Forman, J.D.

---

## Tell us a little about yourself.

I'm the Alfred P. Murrah Professor of Law at the University of Oklahoma. I teach courses on tax and pension law. I've also written dozens of scholarly articles on pension policy as well as numerous op-eds and columns for the public. I was a member of the Board of Trustees of the Oklahoma Public Employees Retirement System (OPERS) from 2003 through 2011, and prior to entering academia, it was my privilege to serve in all three branches of the federal government, including as Tax Counsel to the late Senator Daniel Patrick Moynihan (D-NY).

## What interested you in this call for essays?

I thought this would be a great audience for my work on pension design and pension policy, and I wanted to summarize my research on tontine retirement products in a nontechnical way.

## Did anything surprise you as you did this work?

Not really. There was a little bit of updating, but there was not much new material here as this article is a synthesis of several of my recent works.

## If there is one key point you want your reader to take away from your essay, what would that be?

The survivor principle—that the share of each, at death, is enjoyed by the survivors—can be used to design a variety of low-cost retirement products including tontine annuities, tontine pensions, and survivor funds.

## Who do you think might be interested, and what would be needed to move your idea forward? What obstacles would you foresee?

Tontine annuities and tontine pensions will be of interest to any employers who care about providing retirement income security for their employees but who want to avoid the risks associated with having a traditional pension. Also, because tontine retirement products are always fully funded, I believe that underfunded state and local government pension plans should be especially interested in them. Older investors should be especially interested in the relatively high rates of return that they could get with survivor funds.

The fees associated with tontine retirement products should be quite low, as tontines could be managed by low-cost mutual funds and brokerage houses, and no money would need to be set aside for insurance agent commissions or for insurance company reserves, risk-taking, and profits.

To be sure, there are obstacles. In particular, new tontine retirement products would have to jump through a number of regulatory hoops before these products could be brought to market, and financial-sector companies are remarkably conservative about bringing new products to market.

There may also be some political hurdles. Certainly, the current insurance, actuarial, and other retirement businesses do not want to lose their share of the business to the mutual fund industry or to upstart tontine companies. Also, some employees and employee groups might be concerned that tontine retirement products tend to shift investment and longevity from employers to employees. While tontine retirement products are always fully funded, some employees may prefer the employer guarantees that come with traditional defined benefit plans, even if many of those plans are currently underfunded. ■

# Workers and Retirees Could Pool Risk With Tontine Annuities, Tontine Pensions and Survivor Funds

Jonathan Barry Forman

*Editor's Note: These articles are part of the Securing Future Retirees essay collection.*

**T**ontines are investment vehicles that combine features of an annuity and a lottery. In a simple tontine, a group of investors pools their money to buy a portfolio of investments, and, as investors die, their shares are forfeited, often with the entire fund going to the last survivor. Over the years, this last-survivor-takes-all approach has made for some great fiction. For example, in an episode of the popular television series “M\*A\*S\*H,” Col. Sherman T. Potter, as the last survivor of his World War I unit, got to open the bottle of cognac he and his fellow doughboys brought back from France (and share it with his Korean War pals).

Of course, the survivor principle—that the share of each, at death, is enjoyed by the survivors—can be used to design a variety of financial products which would benefit multiple survivors, not just the last survivor. For example, as more fully explained later, the survivor principle could be used to create a variety of retirement products including tontine annuities, tontine pensions and survivor funds.<sup>1</sup>

## THE HISTORY OF TONTINES AND SIMILAR FINANCIAL PRODUCTS

Tontines are named after Lorenzo de Tonti, the 17th-century Italian banker who came up with the idea.<sup>2</sup> Historically, governments issued tontines instead of regular bonds. In those tontines, the government would keep the tontine investors' contributions but make high annual dividend payments to the tontine, with those payments being divided among the surviving investors. When the last survivor died, the government had no further debt obligation. For example, in 1693, the English government issued a tontine as a way to raise 1 million British pounds to help pay for its war against France. At a time when the regular bond

interest rate was capped at 6%, King William's 1693 tontine, as it is known, entitled the surviving investors to share in 10% dividend payments to the tontine for the first seven years and to 7% dividend payments thereafter. While government tontines played an important role in government finances for several centuries, they have since largely disappeared.<sup>3</sup>

After the U.S. Civil War ended in 1865, tontines emerged as a popular investment for individuals in the United States, but they fell out of favor at the beginning of the 20th century.<sup>4</sup> The problem was not with the tontine form but with embezzlement and fraud by the holders of the funds. Investigations of the insurance industry in New York led to the enactment of legislation in 1906 that all but banned tontines.

## CURRENT RETIREMENT PROGRAMS AND PRODUCTS IN THE UNITED STATES

Social Security, annuities, defined benefit pension plans and even defined contribution pension plans have largely filled the lifetime income gap left by the demise of tontines in the United States.

### Social Security

The United States established its Social Security program in 1935.<sup>5</sup> Elderly Americans can generally count on Social Security benefits to cover at least a portion of their retirement income needs. For example, in January 2018, Social Security paid retirement benefits to more than 42.6 million retired workers; the average monthly benefit paid to a retired worker was \$1,406.91.<sup>6</sup>

### Annuities

Like tontines, lifetime annuities offer a way to incorporate survivorship principles into a financial product. For example, for a 65-year-old man who purchased a \$100,000 immediate fixed (lifetime) annuity without inflation protection on Dec. 1, 2016, the annual payment would be about \$6,300.<sup>7</sup> The market for annuities is well developed in the U.S., but the penetration rate is fairly low—annuities represented just 8% of retirement assets in 2016.<sup>8</sup> When given the choice, people rarely choose to buy annuities.<sup>9</sup>

### Pension Plans

The United States has a “voluntary” private pension system, and employers can decide whether and how to provide pension benefits for employees.<sup>10</sup> In March 2017, just 66% of U.S. private-sector workers had access to pension plans; only 50% participated.<sup>11</sup> Pension plans generally fall into two broad categories based on the nature of the benefits provided: defined benefit plans and defined contribution plans.

### Defined Benefit Plans

The default benefit for defined benefit plans is a retirement income stream in the form of a lifetime annuity.<sup>12</sup> For example, a



plan might provide that a worker's annual retirement benefit ( $B$ ) is equal to 2% times the number of years of service ( $yos$ ) times final average compensation ( $fac$ ) ( $B = 2\% \times yos \times fac$ ). Under that formula, a worker who retired after 30 years of service with final average compensation of \$50,000 would receive a pension of \$30,000 a year for life ( $\$30,000 = 2\% \times 30 yos \times \$50,000 fac$ ).

Defined benefit pension plans operate a lot like tontines, as contributions are pooled, and lifetime pensions are paid to those who survive until retirement and then for as long as they live in retirement. However, over the past few decades, there has been a major shift from traditional defined benefit plans to defined contribution plans.<sup>13</sup>

### **Defined Contribution Plans**

Unlike defined benefit plans, defined contribution plans usually make lump-sum or periodic distributions. Rather than having participants pool their investments, each defined contribution plan participant has an individual account, and, at retirement, she typically takes a lump-sum distribution rather than a lifetime pension. Moreover, when she dies, the balance in her account goes to her designated beneficiaries rather than to bolster the lifetime pensions of surviving plan participants. To be sure, defined contribution plans can offer annuities; however, relatively few plans do, and, in any event, relatively few participants elect those annuity options.<sup>14</sup>

## **NEW POSSIBILITIES FOR TONTINES**

With the decline of defined benefit plans, new lifetime income products are needed to take their place.<sup>15</sup> In particular, this section explains how tontine annuities, tontine pensions and survivor funds could be used to provide reliable pension-like income.

### **Tontine Annuities**

In a simple tontine, members contribute equally to buy a portfolio of investments that is awarded entirely to the last surviving member. Alternatively, each time a member of a tontine pool dies, her account balance could be divided among the surviving members of the pool. This latter type of tontine could be used to develop new financial products that would provide reliable pension-like income.

For example, in a "tontine annuity," the mortality gains that would arise as members of the pool die would not be divided among the survivors immediately. Instead, the mortality gains would be allocated to the individual accounts of the survivors. If a pool member is alive at the end of the month, she would be paid the accrued mortality gains in her account as a monthly "mortality-gain distribution." On the other hand, if she is not alive at the end of the month, she would receive nothing, as the balance in her account, including any mortality gains accrued

earlier in that month, would have been distributed to the accounts of the surviving members when she died.

In addition to receiving a monthly mortality-gain distribution, each survivor would also receive a portion of her original contribution at the end of each month she is alive. The resulting tontine annuities could be designed to have monthly benefits that are level throughout retirement (like an immediate, level-payment annuity) or, alternatively, that increase gradually throughout retirement (like an immediate, inflation-adjusted annuity).

In theory, a tontine annuity could be managed by a discount broker, and no money would have to be set aside for insurance agent commissions or for insurance company reserves, risk-taking or profits. All in all, with such low fees, the benefits from a tontine annuity would closely approximate those of an actuarially fair annuity.

Moreover, unlike traditional tontines, tontine annuities could solicit new investors to replace those members who have died. Structured in this way, a tontine annuity could operate in perpetuity.

### **Tontine Pensions**

While tontine annuities would be attractive investments in their own right, they are likely to be as underutilized as traditional retail annuities. Individual investors generally underestimate their life expectancies, and they shy away from lifetime annuities. That is where tontine pensions could be especially beneficial.

For example, an employer who wanted to provide a lifetime retirement income for its employees might set up a defined-contribution-style "tontine pension," only instead of investing the employer contributions in stocks and bonds, the employer would invest in a tontine annuity for its employees. Each year, the employer could make contributions of, say, 10% of its employees' salaries. Those contributions would be invested in a tontine annuity and allocated to the individual tontine pension accounts of the participants. At retirement, the balance in each participant's tontine pension account would be paid out to her in the same manner as if she had purchased her very own tontine annuity with the employer contributions made on her behalf.

In effect, a tontine pension would be like a defined contribution plan that only pays benefits in the form of a lifetime annuity. Rather than getting lump-sum or periodic distributions, participants in this plan could only get benefits based on the survivor principle. That is, the employer contributions for each participant and the investment earnings on those contributions would be held in the tontine pension and monthly tontine-pension distributions for life would be the only distributions retirees could ever receive.

## Survivor Funds

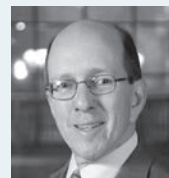
Survivor funds would work like short-term tontines. Basically, survivor funds would be short-term investment funds that would favor investors who live until the end of the fund's term over those who die before then. For example, imagine that 10 65-year-old male participants each invest \$8,000 in a pool that buys 10-year Treasury bonds. At the current Treasury interest rate, that \$80,000 investment would return about \$100,000 in 10 years, and each participant (or his heirs) would get \$10,000, reflecting a pitiful 2.3% yield. But what if we instead divided that \$100,000 only among the participants who survived 10 years to reach age 75? Say eight of our 10 participants lived to 75. With a survivor fund, those eight survivors would divide the \$100,000, and the two participants who died would get nothing. In short, each survivor would get \$12,500 on his \$8,000 investment—and that works out to be a 4.6% return, double the meager 2.3% return on the underlying zero-coupon bond.<sup>16</sup>

Survivor funds would be attractive investments because the survivors would get a greater return on their investments, while the decedents, for obvious reasons, would not care. And even if no other investors died during the term of the fund, the survivors

would never get less than the return on the underlying investment. Administrative fees would be low, and the returns for survivors would be high; that would deliver exactly what today's retirees want.

## CONCLUSION

Tontines were popular in the United States in the latter part of the 19th century, but they have since disappeared. To a certain extent, lifetime annuities and traditional defined benefit pension plans took the place of tontines. Unfortunately, traditional pensions have also all but disappeared, and annuities have never really been very popular. At the same time, with increasing longevity, there is an even greater need for low-cost lifetime income products, and I believe that new low-cost, tontine-style products will soon find popularity where high-premium retail annuities have not. ■



Jonathan Barry Forman, J.D., is the Alfred P. Murrah Professor of Law at the University of Oklahoma College of Law. He can be reached at [jforman@ou.edu](mailto:jforman@ou.edu).

## ENDNOTES

- 1 See Michael J. Sabin, "Fair Tontine Annuity" (March 26, 2010), <http://ssrn.com/abstract=1579932>; Jonathan Barry Forman and Michael J. Sabin, "Tontine Pensions," *University of Pennsylvania Law Review* 163, no. 3 (2015): 757–831; and Jonathan Barry Forman and Michael J. Sabin, "Survivor Funds" *Pace Law Review* 37, no. 1 (Fall 2016): 204–91.
- 2 See, e.g., Moshe Milevsky, *King William's Tontine: Why the Retirement Annuity of the Future Should Resemble its Past* (New York, NY: Cambridge University Press, 2015).
- 3 Robert W. Cooper, *An Historical Analysis of the Tontine Principle* (S.S. Huebner Foundation Monograph Series, no. 1, Homewood, IL: Richard D. Irwin, 1972).
- 4 Kent McKeever, "A Short History of Tontines," *Fordham Journal of Corporate & Financial Law* 15, no. 2 (2009): 491–521.
- 5 Social Security Act of 1935, Pub. L. No. 74-271.
- 6 Social Security Administration, "Monthly Statistical Snapshot, January 2018," released February 2018, [https://www.ssa.gov/policy/docs/quickfacts/stat\\_snapshot/2018-01.pdf](https://www.ssa.gov/policy/docs/quickfacts/stat_snapshot/2018-01.pdf).
- 7 Immediate Annuities, "Table 5. Single Life Annuities," *Annuity Shopper Buyer's Guide* 32, no. 1 (January 2017): 17, <https://www.immediateannuities.com/annuity-shopper/as-archive.html> (\$6,300 per year = 12 × an average payment of \$525 per month).
- 8 At the end of 2016, there were \$2.4 trillion in annuities out of a total of \$28.9 trillion in household retirement assets, or approximately 8% (0.0807 = \$2.3995 trillion/\$28.9834 trillion). Board of Governors of the Federal Reserve System, *Financial Accounts of the United States: Flow of Funds, Balance Sheets, and Integrated Macroeconomic Accounts: Second Quarter 2017* (Sept. 21, 2017): table L.117, <https://www.federalreserve.gov/releases/z1/20170921/z1.pdf>.
- 9 See, e.g., Shlomo Benartzi, Alessandro Previtero and Richard H. Thaler, "Annuity Puzzles," *Journal of Economic Perspectives* 25, no. 4 (Fall 2011): 143–64.
- 10 See, e.g., Jonathan Barry Forman and George A. "Sandy" Mackenzie, "The Cost of 'Choice' in a Voluntary Pension System," in *2013 New York University Review of Employee Benefits & Executive Compensation*, ed. Alvin D. Lurie (New York: LexisNexis Matthew Bender, 2013): 6-1–6-55.
- 11 U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in the United States—March 2017," news release no. USDL-17-1013, July 21, 2017: 6, table 1, <http://www.bls.gov/news.release/pdf/ebs2.pdf>.
- 12 Defined benefit plans are generally required to provide "definitely determinable benefits . . . over a period of years, usually for life after retirement." 26 Code of Federal Regulations § 1.401-1(b)(1).
- 13 See, e.g., Staff of the Joint Committee on Taxation, "Present Law and Background Relating to Tax-Favored Retirement Saving and Certain Related Legislative Proposals," JCX-3-16 (Jan. 26, 2016): 54–57, [https://www.jct.gov/publications.html?func=download&id=4865&chk=4865&no\\_html=1at](https://www.jct.gov/publications.html?func=download&id=4865&chk=4865&no_html=1at).
- 14 In 2010, for example, just 18% of private industry workers in defined contribution plans had annuities available to them. U.S. Department of Labor, Bureau of Labor Statistics, "National Compensation Survey: Health and Retirement Plan Provisions in Private Industry in the United States, 2010," Bulletin No. 2770 (August 2011): table 21, <http://www.bls.gov/ncs/ebs/detailedprovisions/2010/ebb10047.pdf>.
- 15 To be sure, defined contribution plan sponsors could be encouraged to offer more annuity options and encourage plan participants to elect those options. See, e.g., Jonathan Barry Forman, "Removing the Legal Impediments to Offering Lifetime Annuities in Pension Plans," *Connecticut Insurance Law Journal*, 22, no. 1 (2016): 31–141.
- 16 Moreover, the returns could be even higher if the survivor fund invests in stocks instead of bonds. For example, if our hypothetical survivor fund had instead invested in a Standard & Poor's 500 index fund that earned, say, 7%, the survivors would get 9.4%. If that S&P 500 index fund earned 10%, the survivors would get 12.5%.

# U.S. Multiemployer Pension Plan Stress Metrics: Previous Benefit Cost and Previous Benefit Cost Ratio

By Lisa Schilling and Patrick Wiese

**M**ultiemployer pension plans (MEPP) in the U.S. generally cover private-sector union employees. For various reasons beyond the scope of this article, some multiemployer plans have large unfunded liabilities. In addition, most multiemployer plans have declining numbers of active participants.

This combination of dynamics is rather precarious, especially because of the way that contributions are determined. In short, contribution schedules are negotiated and agreed upon as an amount per unit of active participants' work, and they are negotiated and agreed upon for several years at a time.

To measure the financial stress that these dynamics impose on plans, the SOA developed two metrics: Previous Benefit Cost (PBC) and Previous Benefit Cost Ratio (PBCR).

A plan's PBC is the annualized cost of funding the unfunded liability over 15 years in level dollar amounts per active participant. The PBC determines unfunded liabilities by comparing unit credit liabilities with the market value of assets.

A plan's PBCR is the percentage that is the plan's PBC relative to the total annual cost of funding the plan, including current benefit accruals and administrative expenses (See figure 1).

Using Form 5500 data as of Nov. 14, 2017, our most recent study looks at these metrics results for 1999–2015 plan years, as well as preliminary results for 2016, based on a partial year of reporting.

Data for 2015 includes 1,221 plans covering roughly 9.7 million participants and roughly 205,000 contributing employers.<sup>1</sup>

## FUNDED STATUS

As a group, multiemployer pension plans carry significant unfunded liabilities regardless of how they are measured. Figure 2 shows that when using the actuarial methods and discount rates reported for minimum funding purposes, aggregate unfunded liabilities increased from about \$129 billion for 2014 to about \$133 billion for 2015. Most plans continued to have an unfunded liability on a funding basis.

Unfunded Current Liabilities, which are computed with legally prescribed discount rates that are generally lower than funding discount rates, increased slightly, from \$496 billion in 2014 to \$535 billion in 2015. Almost all plans had an unfunded liability

Figure 1  
PBC and PBCR Illustration

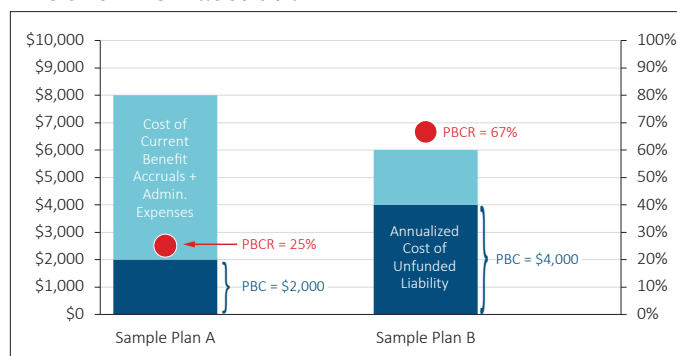


Figure 2  
Aggregate Liabilities and Funded Status

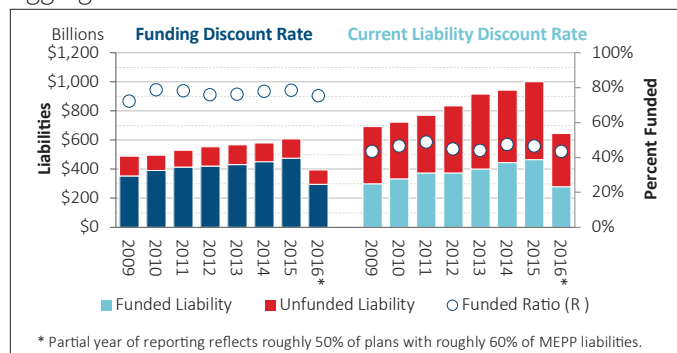
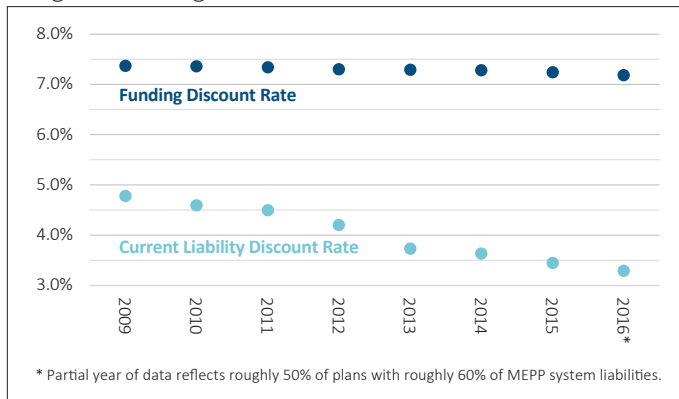


Figure 3  
Weighted Average Discount Rates



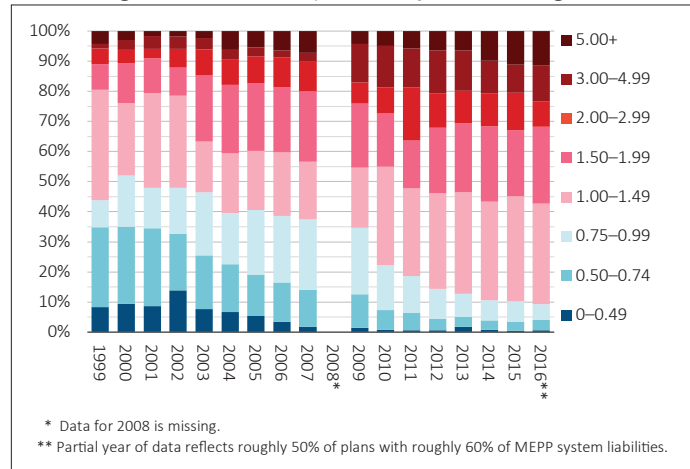
on a Current Liability basis. Refer to Figure 3 for a comparison of discount rates for funding purposes and Current Liability.

### DEPENDENCY RATIO

As previously mentioned, multiemployer plan contributions are typically a product of the number of active participants working and the pre-negotiated contribution rate. Therefore, if all other things are equal, plans with a greater number of inactive participants relative to active participants—a higher dependency ratio—will feel greater pressure to increase contribution rates.

Figure 4 shows that since 1999, inactive participants have outnumbered active participants, and the proportion of inactive participants steadily increased. In 1999, about 1 out of 10 participants was in a plan with a dependency ratio of 2.0 or greater, and 5.5 out of 10 were in plans with a dependency ratio of 1.0 or more. By 2015, 3 out of 10 participants were in plans with a dependency ratio of 2.0 or greater, and 9 out of 10 were in plans with a dependency ratio of 1.0 or more. Further, by 2015, one out of 10 participants was in a plan with a dependency ratio of 5.0 or more.

Figure 4  
Dependency Ratio  
Percentage of Plans In Dependency Ratio Ranges



and 5.5 out of 10 were in plans with a dependency ratio of 1.0 or more. By 2015, 3 out of 10 participants were in plans with a dependency ratio of 2.0 or greater, and 9 out of 10 were in plans with a dependency ratio of 1.0 or more. Further, by 2015, one out of 10 participants was in a plan with a dependency ratio of 5.0 or more.

### PBC DISTRIBUTION

Figure 5 shows the percentage of plans whose PBCs fall within given ranges. The distribution is weighted by participants in order to better represent the system as a whole. In general, PBCs have increased significantly since 1999.

Figure 5  
Distribution of Plans by PBC Ranges  
Percentage of Participants in Plans with PBC in Each Range

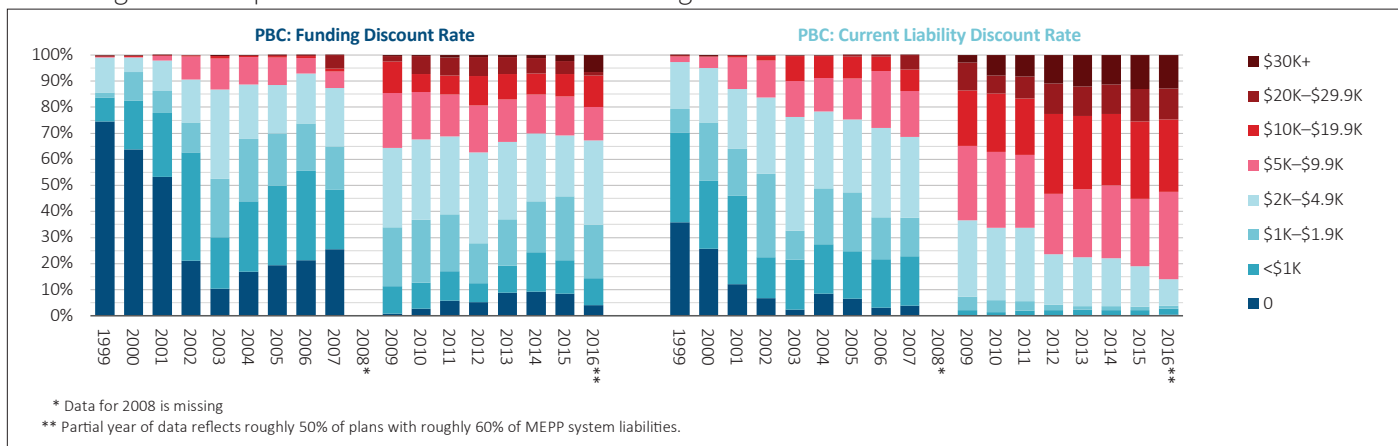
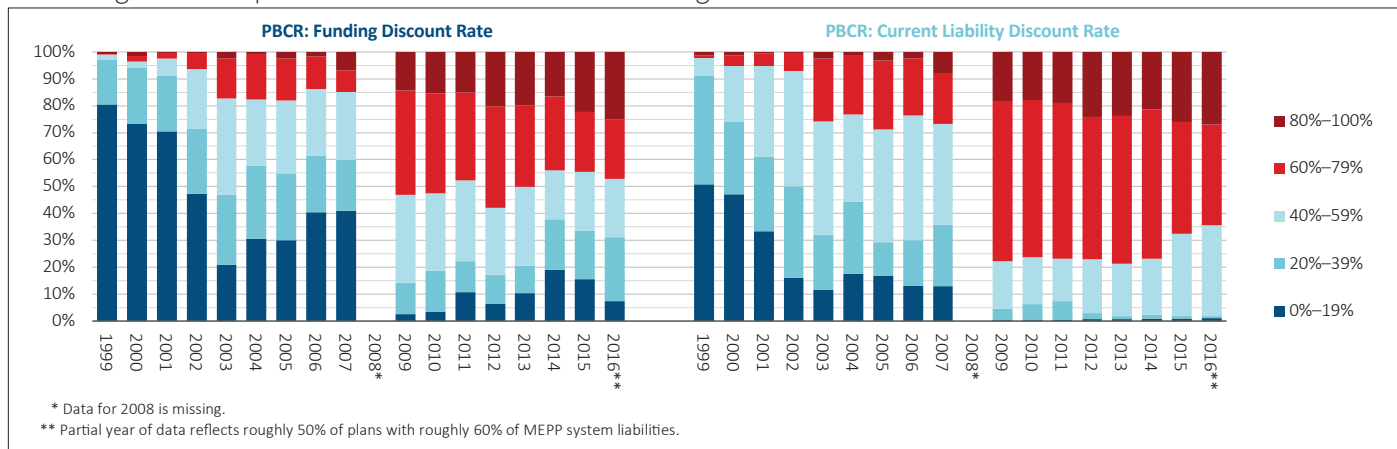




Figure 6  
Distribution of Plans by PBCR Ranges  
Percentage of Participants in Plans with PBCR in Each Range



When using the funding discount rate, the percentage of plans in the higher PBC ranges has held fairly constant since 2009, although the percentage of plans in the highest PBC range has increased during the last couple of years. In other words, the plans with higher stress levels have found little relief, and stress levels are increasing among the most stressed plans. While the number of plans among the least stressed has been growing, it remains small.

When using the Current Liability discount rate, the percentage of plans with the highest PBCs has slowly increased, while the percentage of plans with lowest PBCs has steadily fallen. Current Liability PBCs have generally increased primarily because Current Liability discount rates steadily fell while funding discount rates stayed the same or fell only slightly. Refer to Figure 3 for the average discount rates during this period.

### PBCR DISTRIBUTION

Figure 6 shows PBCR distributions across all plans, weighted by the number of participants. Since 2009, annualized costs of unfunded liabilities outweigh the cost of current participants' benefit accruals for over half of plans.

When using funding discount rates, since 2009, the percentage of plans with PBCRs of 60% or more has generally decreased very slightly, but relief has been limited. However, the percentage of plans at the lowest stress levels increased, indicating that some of the least stressed plans have been able to further reduce their stress levels.

Using the lower Current Liability discount rates, since 2009 the percentage of plans at higher stress levels has fallen slightly. However, the percentage of plans with PBCRs in the least stress level is almost nonexistent because almost all plans have an unfunded Current Liability.

### COMPLETE REPORT

The SOA's complete research report on PBC and PBCR, which includes descriptions of data and methods, is available at <https://www.soa.org/research-reports/2016/2016-multi-pension-plan-stress-metrics/>. ■



Lisa Schilling, FSA, EA, FCA, MAAA, is a retirement research actuary at the Society of Actuaries. She can be reached at [lschilling@soa.org](mailto:lschilling@soa.org).



Patrick Wiese, ASA, is lead modeling researcher at the Society of Actuaries. He can be reached at [pwiese@soa.org](mailto:pwiese@soa.org).

### ENDNOTES

- 1 Many participants have earned benefits under more than one multiemployer plan, and many employers contribute to more than one of these plans. This study reflects the sum of reported counts reported for each plan.

# What Were They Thinking? 2017 Risk and Process of Retirement Survey

By Cynthia Levering

For more than 16 years, the Society of Actuaries Committee on Post-Retirement Needs & Risks has focused on improving retirement outcomes. The 2017 Risks and Process of Retirement Survey (the survey) is the ninth biennial study of public perceptions related to post-retirement risks. The committee has also produced three focus group reports exploring the actual experiences of retirees to add a “voice” to the survey results.

This article presents some highlights of the findings from the survey which include a combination of some repeated questions and special areas of emphasis. New areas of emphasis in 2017 are financial wellness, housing decisions, and long-term care planning and caregiving. Because the 2013, 2015 and 2017 surveys included changes in methodology from the prior surveys (see sidebar), direct year-by-year comparisons of survey results should be considered carefully.

## SURVEY FINDINGS AND COMMENTARY

The hierarchy of concerns found in this survey and the strategies for risk management are similar to those found in previous iterations, although the order changes. There is a general consistency in what respondents say is most important and in how they manage risk.

### Risks Viewed as Most Important

The retirement risk that most concerns both retirees and pre-retirees is inflation (77 percent of pre-retirees and 57 percent of retirees are very or somewhat concerned). Rounding out the top three concerns is long-term care (73 percent and 59 percent) and having enough money to pay for adequate health care (75 percent and 53 percent). Approximately two-thirds of pre-retirees and half of retirees also express concern about the possibility of depleting their savings (70 percent and 52 percent) and maintaining a reasonable standard of living for the rest of their life (66 percent and 52 percent).

This series of post-retirement risk surveys has consistently found that the top three concerns are inflation, paying for health care costs, and paying for long-term care. Significant changes

in economic conditions appear to generate only a temporary change in levels of concern, if any at all. In addition, pre-retirees consistently express more concern than retirees. It is interesting to note that the levels of concern in 2017 were generally higher than in 2013 and 2015 among both retirees and pre-retirees.

**Keeping results in perspective:** *Even though there are many risks that Americans face and deal with on their own in retirement, many people are not too concerned about some of them. For example, less than half of both retirees and pre-retirees are worried about the risk of fraud or a scam. However, scams can be devastating (since this survey was conducted before the Equifax data breach was publicized, it will be interesting to see if this changes in the future). There are also significant differences in level of concern by income. Not surprisingly, lower income retirees and pre-retirees generally show a higher level of concern.*

### Managing Risks

As in previous iterations of the survey, both pre-retirees and retirees tend to focus on strategies of saving and spending to manage the risks associated with retirement. A significant percentage of pre-retirees (89 percent) and retirees (82 percent) report they have already eliminated or plan to eliminate all of their consumer debt. Almost nine in 10 pre-retirees (86 percent) and seven in 10 retirees (70 percent) say they already have saved or plan to save as much as they can, while slightly lower percentages (75 percent of pre-retirees and 63 percent of retirees) have already cut back or plan to cut back on spending. It is interesting to note that while pre-retirees expect their spending to decrease, most retirees report they end up spending about the same amount in retirement as they did before.

Pre-retirees and retirees are much less likely to turn to risk pooling strategies to manage retirement risks (other than health insurance). Less than half of pre-retirees (42 percent) and two in 10 retirees (20 percent) indicate they plan to or have already postponed taking Social Security. Only one-third of pre-retirees and one-quarter of retirees report buying (or expecting to buy) an annuity or choosing an annuity option from an employer plan. There is relatively low interest in financial products for risk management except for health insurance (including Medicare supplements).

Despite feeling currently financially secure, pre-retirees have little confidence in their retirement preparations. Half say their financial planning and savings are behind schedule, including one in five (21 percent) who consider themselves to be behind by a lot. Roughly three in 10 have given little or no thought to whether or not their savings will be sufficient to cover their retirement expenses (31 percent) or even the type of lifestyle they want in retirement (28 percent). Few have given a “great deal” of thought to retirement assets and investments. Just 28 percent of pre-retirees have given a great deal of thought to how long their assets will last in retirement, and just one in six (16 percent) have seriously considered how they should invest their assets during retirement.

## USING THE SURVEY AND FOCUS GROUP INFORMATION

The complete survey report can be found at

<https://www.soa.org/research-reports/2018/retirement-risk-survey/>

Special reports focusing on the areas of emphasis will be released throughout 2018 and will also be made available on the website.

The focus group reports can be found at

<https://www.soa.org/research-reports/2013/The-Decision-to-Retire-and-Post-Retirement-Financial-Strategies--A-Report-on-Eight-Focus-Groups/>

<https://www.soa.org/research-reports/2016/2016-post-retirement-experience-15-years/>

<https://www.soa.org/resources/research-reports/2017/2017-post-retire-exp-85-years-old/>

Presentations of survey and focus group results were made at the 2017 SOA Annual Meeting & Exhibit. Presentation materials containing these results and other committee work can also be found on the SOA website. Actuaries are encouraged to share key results with clients and are welcome to use results in their presentations with proper documentation of the origin of the material used.

The results demonstrate that many members of the public need help in managing the post-retirement period, and show the value of employers offering support in that regard. They also demonstrate the need for more planning and better use of planning tools. (They do not demonstrate whether planning tools are adequate to handle the post-retirement period.) The results may help advisors and financial service companies identify some opportunities.

**Keeping results in perspective:** *Many people do not have enough financial assets at time of retirement and during retirement to effectively use risk pooling strategies such as annuities. An emergency fund is a first priority. Focus group results indicate that many resource-constrained retirees prefer to hold on to assets, making them available as an emergency fund. They try not to spend down their assets and generally limit their withdrawals to the Required Minimum Distribution amounts at age 70.5 and later. Some focus groups participants even expressed that they didn't like having to take these distributions. This may be an area for future public policy discussions, especially as life expectancies continue to increase. Retirees also appear to be surprisingly resilient in their ability to absorb and adapt to shocks.*

## Overall Results

Overall, there is much consistency in the results of this work, and there are some main conclusions that continue to emerge:

- Pre-retiree expectations often do not line up well with the actual experiences of retirees. This is especially true with regard to retirement age and the expectation of working in retirement. The median age at which people actually retired was 60 compared to the median age of 65 when pre-retirees said they want to retire. In addition, while working longer can be an important strategy, many more people say they want to do this than actually do.
- Inflation, health care and long-term care consistently are among the risks retirees and pre-retirees are most concerned about. There are several risks, like fraud or scams, which seem like they should be important but both pre-retirees and retirees show minimal concern about them.
- Pre-retirees are generally more concerned about most risks than retirees.
- Reducing spending is the top risk management strategy among those surveyed, followed by increasing savings and paying off debt. The use of risk protection products (other than health insurance) is not very common.
- There are major gaps in retirement planning and relatively short planning horizons are common. Planning horizons for both retirees and pre-retirees are consistently only about 10 years which is inadequate to cover the period of retirement. Almost three in 10 report they have not thought about their planning horizon (28 percent of pre-retirees and 29 percent of retirees) and one in 10 state they do not plan ahead (10 percent of pre-retirees and 11 percent of retirees).
- Longer-term retirees appear to be managing well and are remarkably resilient, demonstrating the ability to absorb and adapt to most shocks. This may indicate the need for future research about traditional measures of retirement adequacy. On the other hand, this may change as future retirees rely less on income from defined benefit plans.
- An increasing number of both pre-retirees and retirees report that at least one of their parents experienced a debilitating illness or disability in retirement, or that their parent lost the ability to manage his or her own finances.

## FINANCIAL WELLNESS

There is a growing recognition that people who can't manage month-to-month expenses may not be able to plan for retirement effectively, so more employers are providing retirement education as part of their broader financial wellness focus. 2017

was the first time the risk survey focused on financial wellness. Key findings include:

- A significant proportion of pre-retirees have mortgage debt (55 percent), credit card debt (46 percent), and a personal loan or car loan (44 percent). While debt can be a problem for families of all ages, it seems to be a problem for fewer retirees than pre-retirees. Many retirees are frugal and tend to reduce both debt and expenses during retirement.
- It is clear that the majority of Americans do not do comprehensive long-term planning, but it is unclear how much difficulty this causes. Most do not plan for financial shocks, and many people are vulnerable to problems created by such shocks. The shocks that seem particularly likely to create major problems are a major long-term care event, divorce in retirement and children who need ongoing and repeated help.
- Many people do not have basic financial planning documents in place.

### Housing Decisions

Most people prefer to stay in their homes throughout retirement, but many suffer from limitations later in life which make it impossible. There are major decisions that must be made with regard to housing and mortgages, and housing is the largest expense for most retirees. Most people prefer not to use home equity to fund retirement, but for those individuals without significant financial assets, their home value is often their largest asset:

- In the survey, only 37 percent of pre-retirees indicated that they would be willing to use their home value to help fund retirement.
- While reverse mortgages have gotten more attention lately and offer a way to use home values, they are very unpopular with survey respondents.
- Access to health care and low maintenance are valued attributes of housing.

It is very likely that the interaction of housing and retirement will get increased attention in the future.

### Long-Term Care Planning and Caregiving

Long-term care is a huge issue for many people not only in terms of general knowledge but also preparation. Only about 10 percent have long-term care insurance, and most households will have major problems if there is an event requiring a long period of paid long-term care. Many people have served as caregivers for other family members or will be asked to do so. The survey indicated:

- People vastly overestimate the extent to which Medicare and health insurance cover long-term care.

- People seem to overestimate their ability to pay for long-term care.
- There is a big problem of failure to plan for long-term care.
- Employees who are providing caregiving could use some support.

**Keeping results in perspective:** *Many people are reaching retirement age today without adequate preparation for what faces them. There are two different paths for dealing with this—help people make better decisions and be better prepared, or structure systems to be less dependent on individual decisions. It seems unlikely that there will be much improvement in decision making, so default options and plans that work without individual action (like so-called “auto features”) continue to be very important. Defined contribution plan sponsors should also consider adding features, such as lifetime income options, to help individuals plan for the post-retirement as well as the pre-retirement period.*

### RESEARCHER AND METHODOLOGY

This survey, as well as the eight prior surveys, was conducted on the SOA's behalf by Mathew Greenwald and Associates, Inc. The 2013, 2015 and 2017 surveys were conducted online while the prior six surveys were conducted by telephone. The most recent survey was preceded by a series of focus groups and interviews in both the U.S. and Canada, which probed longer-term retirees and their caregivers on their actual experiences compared to their original expectations.

As part of the 2017 survey, 2,055 adults ages 45 to 80 (1,025 retirees and 1,030 pre-retirees) were surveyed in June 2017. An additional 203 responses were collected from retired widows. Individuals were selected for participation using Research Now's nationwide online consumer panel. Two cautions are needed in working with the 2013, 2015 and 2017 results: although some of the questions are very similar to prior questions, comparisons of direct numerical results should be avoided as the methodology affects responses somewhat, and samples are not random with online surveys.

Survey responses from current retirees and those not yet retired (referred to in these reports as “pre-retirees”) are analyzed separately. No effort has been made to oversample individuals with high levels of assets and do not provide specific insights concerning high-net-worth individuals. The sample data are weighted by age, sex, education, and household income to match targets obtained from the March 2016 Current Population Survey (CPS). This study includes pre-retirees and retirees at all income levels. ■



Cynthia Levering, ASA, MAAA, is a retired actuary in Baltimore. She can be reached at [leveringcindy@comcast.net](mailto:leveringcindy@comcast.net).



# A Workable Approach to Lifetime Income in Defined Contribution Plans

Interview with Kevin T. Hanney

**P**lanning for retirement requires accumulating adequate funds to finance retirement and figuring out how to use those funds during retirement. Defined contribution plans are often used for retirement, but most of them do not include provisions to help employees receive benefits as lifetime income. United Technologies Corporation (UTC) has embedded a lifetime income approach in their retirement program and many employees and retirees are benefitting from it. Kevin Hanney, senior director, pension investments at UTC spoke about their defined contribution plan and its default option, the Lifetime Income Strategy, at the 2017 SOA Annual Meeting & Exhibit. *Retirement Section News* has asked him to share some thoughts with you.

## Can you describe how employees buy and are paid lifetime income from your defined contribution plan?

Historically, UTC offered retirement benefits to our U.S.-based employees through a traditional defined benefit plan and a supplemental defined contribution plan. However, the defined benefit plan was closed to new entrants after 2009. Consequently, our defined contribution plan became the primary retirement benefit offered to new hires, and the Lifetime Income Strategy is now the qualified default investment alternative (QDIA) that we offer to those who are automatically enrolled in the plan.

(I should note that it's also available to everyone else in the plan . . . including me!)

The Lifetime Income Strategy is extremely simple to use once you are in it, regardless of whether you are automatically enrolled or you make a conscious decision to direct some or all of your savings into it. In fact, we intentionally designed it so the only decisions that people need to make are 1) when to “activate” their lifetime income, and 2) whether or not they will take a single or joint-life benefit if they are married. Everyone in

the Lifetime Income Strategy is eligible to activate their lifetime income any time after they reach age 60 and leave employment with UTC, but it's their decision as to when they do so.

For most people, it makes sense to activate when they want to start drawing the guaranteed income from the plan that they acquired through the Lifetime Income Strategy. The activation process is so simple that all we require is a single, short form to be completed by each participant (and their spouse, if married). Everything else is done for them:

1. A professional investment advisor acting as an ERISA 3(38) fiduciary is responsible for managing a traditional, investment-only portfolio for each participant in the early years.
2. The same advisor is responsible for determining the timing and shape of the asset allocation glide path as they shift away from the pure investment strategy into a portfolio that holds variable annuity contracts backed by three very well-known and highly rated insurance companies.
3. The insurance companies guarantee that each person in the Lifetime Income Strategy may withdraw a minimum amount of annual retirement income from the balance in their variable annuities while the rest of their assets in the variable annuities remain invested in a diversified investment fund of passive investment strategies focused on long-term growth.
4. The insurance companies compete for allocations of new guarantees through a monthly competitive bidding process conducted by UTC with the assistance of our guarantee administrator.
5. Each dollar directed to the variable annuities by the investment advisor prior to activation increases the minimum amount of annual income that they guarantee.
6. Gains in the investment fund within the variable annuities will also increase the minimum amount of guaranteed annual income on each participant's birthday if the balance in the investment fund exceeds its previous highest birthday value. Investment losses in the funds do NOT reduce the guaranteed annual income amount.
7. The information included on the activation form confirms the age of the participant, and their spouse if they are married, and whether they are electing a single- or joint-life income benefit.
8. This information is used by our guarantee administrator to crystalize any applicable early or deferred retirement factors along with any adjustments that apply to joint-life benefits.

All of this is overseen by an ERISA 3(38) fiduciary, and is designed to manage the risks and complexity of accumulating retirement assets and converting them into a reliable source of secure and stable lifetime income.

A crucial aspect of the Lifetime Income Strategy is that people always have the freedom and flexibility to take their money out, even after they activate their guaranteed income benefits. It doesn't matter if they choose to do something else with their retirement savings because they think something better comes along, or if they are forced to take an unexpected withdrawal because a financial emergency comes up and this is the only way they can meet their urgent needs. They always retain the right to change their minds and they are not subject to back-end or surrender charges for any early or excess withdrawals.

Don't get me wrong. This might be a very expensive decision, because the combined value of the benefits available through the Lifetime Income Strategy can be quite substantial. So, we encourage people to explore all of their options before making that choice. However, sometimes it can make sense to forgo, or "forfeit," some or all of the guaranteed income, especially if there's a big change in personal circumstances. The bottom line is that they can simply pull out some or all of the balance in their investment fund at market value through an in-plan transfer or an outright withdrawal if their needs change.

**At the SOA Annual Meeting, you mentioned that the SOA provided some ideas that helped you in designing the Lifetime Income Strategy. Can you elaborate on that?**

We cast a very wide net looking for good ideas in the early stages of our development effort, and one of the logical places that we looked was within the actuarial community. I can remember trolling through the SOA website at all hours of the day and night, searching through presentations from past conferences and finding papers that inspired us to look beyond conventional approaches to retirement income. A lot of that influenced the ultimate design of the Lifetime Income Strategy.

However, the one of most innovative aspects of our design came from a concept published by a large and very well-known actuarial firm. It's called a "multiple lead carrier aggregation" platform. Ironically, we first heard about this approach through the investment advisor we work with today, and the idea became reality due in large part to our combined investment of time and resources. However, it all started with an actuary.

**I understand that UTC buys the annuities from three financial service companies, and changes the mix monthly. Why three, and how is this working out?**

Well, the "multiple lead carrier aggregation" platform concept is explicitly designed to facilitate working with more than one insurance carrier at a time as a source of insured retirement benefits. The form of benefits can change from one program to the next or even change over time within the same program. However, at its heart, it streamlines the recordkeeping and administration of the guarantees embedded in our variable annuity contracts and functions as a book of record for our service providers. It is also the mechanism that ties everything together operationally.

... we first heard about this approach through the investment advisor we work with today ... However, it all started with an actuary.

It was important to UTC that our design incorporated a secure and reliable source of retirement income. There was always a sense that insurance of one form or another would be critical to provide the security and certainty that people need to retire on their own terms. We also have a long history of working with insurance companies through our stable value fund. Selecting annuity providers for the Lifetime Income Strategy was not as much of a stretch as you might think.

However, it was important to demonstrate to ourselves and anyone else that might ever ask about it that we went through a thorough and prudent process to select and monitor our service providers. So, we worked with our external partners to conduct an anonymous RFP and availed ourselves of as much information as we could gather; including financial strength ratings, credit analyses, statutory filings and just about anything else we could find. We also had extensive negotiations with all of our service providers, including the insurers that we ultimately selected to back the variable annuities and income guarantees.

It was an exhaustive process, but manageable and one where the value of choosing the right service providers clearly showed through.

Day to day, working with three insurance companies has been very successful. Each one has a unique view and we learn something every time we interact. It preserves a healthy degree of competition as well as sustainability in that we are not beholden to them and they are not bound to us. We can all grow and improve without stifling each other.

**How many employees are currently buying future income and how many are receiving income from the Lifetime Income Strategy?**

Well, you have to remember that we only launched in June of 2012 and most of our enrollment efforts have been focused on new employees so far. However, as of Jan. 31, 2018, over 30,000 people have invested more than \$1.1 billion in the Lifetime Income Strategy. Out of that, over 12,500 people have more than \$500 million allocated to the variable annuities backed by our three insurance carriers and those numbers are growing literally every day.

Only a very small percentage of people in the Lifetime Income Strategy have reached retirement age, separated from service at UTC and activated their income benefits. That's an area we are focused on today and we are expecting to see a very positive impact as more and more people reach this milestone. I hope to join them one day myself.

**What have you heard from employees and retirees about the Lifetime Income Strategy?**

People have told me they really appreciate the security and peace of mind they get from the Lifetime Income Strategy. I think it comes down to knowing their money will keep working for them after they retire and they don't have to worry that their income might decline due to investment losses. Perhaps even more importantly, they don't have to worry that it might run out due to extreme market events or longevity.

**What have you heard from management?**

I'm pretty sure that I'm part of management, so everything has been great (laughs).

Well, if what you mean is "What have we heard from the top of our organization?" then I can only say that we are very fortunate to have leadership that truly understands pension management and the financial impact it can have on an organization in today's environment. This project was already underway years before anything was ever discussed in relation to closing the defined benefit plan and staff was ready when we got the nod to say the defined contribution plan was moving to primetime.

That being said, UTC is built on a culture of continuous improvement. It's not in our nature to be satisfied with the status quo. I'm not sure that we will ever stop moving forward.

**What would you say to an employee benefit manager who says "I would like to offer an income option in my plan, but**

**I think it will be too complicated to manage"? Would you encourage her to use an income option?**

I think income-based solutions are an excellent option for most plans as long as the plan sponsor has access to qualified, professional management, either through internal or external resources. I'm seeing a lot of development in the latter and it won't surprise me if you see more external service providers taking responsibility for program design and provider selection within income-based solutions. UTC has its own way of doing things, but that does NOT mean it's the only way.

**The benefit manager responds to you that she is concerned about her ability to sell the option to management. Do you have any pointers for her?**

I would ask the manager, "Why does your management offer a retirement plan in the first place?" Then ask, "What do they expect it to achieve for their employees, and by extension, their organization?" If the plan is not designed to specifically address those objectives, then it is not likely to achieve them.

The reality is that all retirement plans involve risks and costs for the organizations that sponsor them and the people they serve. It's important to acknowledge this and work to reduce or eliminate uncompensated risks for all parties concerned. We don't have to achieve perfection to make things better.

**You have lived with day-to-day management of this arrangement for several years. Would you recommend it to medium sized employers? If not, what would need to change before you would recommend it to medium sized employees?**

A mid-sized employer could oversee and maintain the design that UTC has in place today as long as they have access to external service providers in the same way that UTC does. In fact, we've seen the offerings of our service providers develop to the point where they will take on virtually all of the functions that UTC manages internally. The employer still has a duty to monitor, select and replace those service providers, but that is no different than the duty they have today with their existing programs.

**What else would you like to tell us?**

Keep coming up with great ideas . . . we ain't done, yet. ■



Kevin T. Hanney, CFA, is senior director, Pension Investments, for United Technologies Corporation (UTC). His leadership, advocacy, and innovation leading to lifetime income in defined contribution plans has been widely recognized.



# SOCIETY OF ACTUARIES®

475 N. Martingale Road, Suite 600  
Schaumburg, Illinois 60173  
p: 847.706.3500 f: 847.706.3599  
w: [www.soa.org](http://www.soa.org)

NONPROFIT  
ORGANIZATION  
U.S. POSTAGE  
PAID  
SAINT JOSEPH, MI  
PERMIT NO. 263

