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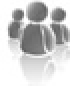

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Faisal Siddiqi gives an update from the Pension Section Communications Committee as we say thank you and bid farewell to some hard working team members. Full article >>

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Fall is upon us. Find out what the Pension Section did on its summer vacation. Full article >>

A VIEW FROM THE SOA'S STAFF FELLOW FOR RETIREMENT

By Andrew Peterson

This issue's view is focused on research. Kevin Binder, chair of the Pension Section Research Team, shares a summary of two recently completed projects that are now posted on the SOA website.
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ADDRESSING POST-RETIREMENT RISKS

By Anna Rappaport

For the past 15 years, Anna and the Committee on Post-Retirement Needs and Risks (CPRNR) have been working to address post–retirement risk issues. In this article, she combines her personal perspectives about the work with a report about some of CPRNR's recent and current work.
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DISPARITIES FOR WOMEN AND MINORITIES IN RETIREMENT SECURITY

By Anna M. Rappaport and Mary Nell Billings

There are substantial differences in retirement savings and benefit levels between men and women and by ethnic group. Anna and Mary focus on the disparities for women and minorities in retirement security with emphasis on issues that may be of particular interest to actuaries. Full article >>

EXPANDING THE CPP: MORE COMPLEX THAN AT FIRST GLANCE

By Robert L. Brown

In this Op–Ed, Rob Brown presents two ways that the Canadian Pension Plan could be expanded to provide larger benefits. Full article >>

WHAT DO YOU CALL A GLASS THAT IS 60–85% FULL?

By Jack VanDerhei

Jack VanDerhei discusses the impact automatic enrollment (AE) in 401(k) programs has on plan participants. Full article >>

WHY THE DESIGN OF MATURING DEFINED BENEFIT PLANS NEEDS RETHINKING

By Theo Kocken

This article explains why and how maturing defined benefit pension plans become increasingly unstable if they maintain asset mix policies that embody material mismatch risk between plan assets and liabilities. Full article >>

THE GASB'S PRINCIPLES-DRIVEN PENSION STANDARD

By James Rizzo with assistance and review from Paul Angelo

James Rizzo reviews the proposed new accounting standards for pensions. Full article >>

SOA RELEASES NEW LIVING TO 100 SYMPOSIUM MONOGRAPH

Papers presented at the 2011 Living to 100 Symposium are now in an online monograph at LivingTo100.soa.org. Full article >>

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NOTE FROM THE EDITOR

By Faisal Siddiqi

We hope you will enjoy the current issue of the *Pension Section News*. The articles in this issue deal with many diverse and topical retirement topics such as defined contribution plan auto-enrolment, retirement security for women and minorities, Canada Pension Plan changes, maturing defined benefit plans, and current research initiatives of the Pension Section. As usual, if you have an interest in writing an article for the *Pension Section News* or you know of an article that you think the members of the Pension Section would enjoy reading, please let me know. We would happy to include it in the next edition coming out in January 2012.

You may note that Josh Bank is not the editor of this issue. During the summer, Josh decided to move on from the actuarial profession and is beginning a career in teaching. Those of us on the Pension Section's Communication Team will miss Josh's good humor and leadership. He spent many years as a member of our team, as the chair, and also as the editor of the Pension Section News and he made the team fun to be a part of. Good luck Josh!

The Communications Team just completed our annual planning meeting. Our new chair will be Eric Fréden and I will be stepping down. Eric has been on our team for many years and he will provide great leadership going forward. In addition, Ray Berry will take over as editor of the *PSN*. In terms of our plans for next year, we are looking forward to producing three issues of the *Pension Section News*, quarterly updates through the Pension Section Update, an issue of the *Pension Forum*, using our LinkedIn Site, and we will be planning another Pension Section Survey to gather feedback from the membership.

I'd like to thank all the authors who contributed articles for this issue and those authors who gave permission to re-print their articles. Last but not

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least, a big thank you to members of the Communication Team for your work these past 12 months. Our members are as follows:

- Eric Fréden, Chair
- Ray Berry, Editor of the *Pension Section News*
- Art Conat, Editor of the *Pension Forum*
- Faisal Siddiqi, Pension Section Update
- Art Assantes, Editorial Advisor
- Robert Maciejewski, Editorial Reviewer for *PSN*
- Andrew Peterson, SOA Retirement Staff Fellow
- Sue Martz, SOA Staff

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CHAIRPERSON'S CORNER

By Eric Keener

"Summertime, and the living is easy" goes the Gershwin lullaby from Porgy and Bess. Writing this column two months into the school vacation season, I can't help thinking that Gershwin didn't have two children under the age of ten running around the house when he wrote that. He probably wasn't trying to explain funding balance elections or mortality projection assumptions to a client or analyzing the latest round of market volatility, either. Parenting and actuarial challenges aside, though, I do enjoy the summer and I'm amazed at how quickly it passes by.

As I suspect many other people do, I have an abiding sense of nostalgia about summers gone by—visions of long days spent laughing and playing in the sun with friends, swimming at the beach or local swimming hole, quietly reading a book under a shady tree, or sipping lemonade on the porch. Now I know, of course, that at least some of this nostalgia is false. I'm not Tom Sawyer, after all, and I've never met Becky Thatcher or Huckleberry Finn. But I do know that life seems to keep getting busier and busier for many of us, and that it's important for us to take some time to slow down and enjoy our surroundings and the people we care about.

Despite the busyness of modern life, I hope all of you were able to find some time this summer to enjoy family, friends, and the sunshine and warm weather. The leaves are turning and will be flying before you know it!

COUNCIL ACTIVITIES

So what's been keeping the Pension Section Council busy for the past few months? Quite a number of things! I won't mention all of them in the interest of brevity, but I'd like to spend a few moments highlighting some of the key ones.

First, we continue to develop a plan for organizing and promoting the

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retirement research produced by the SOA so that practitioners can utilize it in their day-to-day work. In connection with this project, we're planning to create an on-line library for research on mortality issues. With the recent revisions to ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations, actuaries need to think about possible future mortality improvement trends and how those trends should affect the mortality assumptions used for pension valuations.

We may also need to change how we think about mortality improvement assumptions—for example, should assumed future mortality improvements simply be a function of age as with Scale AA, or are there cohort (i.e., year of birth) effects to consider? We hope that the on-line library mentioned above and the work being done by the Retirement Plans Experience Committee to compare recent mortality experience to RP-2000 and Scale AA can help answer questions like this.

We've also been supporting the SOA's Rapid Retirement Research Initiative, which is well underway and approaching publication of its first set of results on the "wall" of pension contributions faced by plan sponsors in the aftermath of the 2008 financial crisis. The SOA and the American Academy of Actuaries anticipate holding a Capitol Hill briefing to coincide with the publication of results. It's been exciting for the council to be a part of this initiative, and to see how the SOA can lead the profession in producing timely, data-driven research to inform the policy community about retirement-related issues.

As a final example, a group of council members has been hard at work developing a plan termination symposium that will be presented at the 2011 SOA Annual Meeting in Chicago. We believe that there is a need for education on this topic as it is anticipated to be a growing area of practice for actuaries in the future. The symposium will cover a variety of topics, from investment strategy and annuity pricing to administrative issues and filing requirements, and it promises to be quite interesting and informative.

We'll keep you up-to-date on these and other council activities in future editions of the *Pension Section News* and Pension Section Update, and on the Pension Section LinkedIn group.

2011 SOA BOARD AND SECTION ELECTIONS

The results of the 2011 SOA Board and Section elections are now in. I hope you all took the opportunity to vote and express your views on who should lead our organization. This year's election presented a number of well-qualified board candidates with retirement backgrounds, including our new president–elect Tonya B. Manning (one-time chairperson and former board partner of the Pension Section). Congratulations Tonya! We also had six strong candidates running for three seats on the Pension Section

council:

- Asa Waterman
- Azita Bassiji
- Claudia Baxter
- David Driscoll
- Kevin Binder
- Philip McCaulay

I'd like to thank each of these candidates for their willingness to support and lead the Pension Section. Our three new elected council members for 2012 are Azita Bassiji, Claudia Baxter, and David Driscoll. I join the rest of the council in extending our congratulations. We look forward to working with you!

Eric Keener, FSA, MAAA, EA, FCA is chairperson of the Pension Section Council for 2011. He is a principal with Aon Hewitt in Norwalk, Conn. He can be reached at eric.keener@aonhewitt.com.

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A VIEW FROM THE SOA'S STAFF FELLOW FOR RETIREMENT

By Andrew Peterson

As mentioned by Eric Keener in this issue's "Chairperson's Column," one of the priorities of the Pension Section Council this year is to do a better job of promoting research projects to our membership as they are completed. In that spirit, I'm turning over the rest of this column to Kevin Binder, chair of the Pension Section Research Team, who wrote the following summary of two recently completed projects that are now posted on the SOA website.

RESEARCH AND REALITY—A LITERATURE REVIEW ON DRAWING DOWN RETIREMENT FINANCIAL SAVINGS

The first paper is on the topic of drawing down retirement savings and was written by a team of researchers from University of Waterloo. The paper is a literature search, so while it is organized by the authors and reads like a paper written by the authors, it is really a summary of work on the topic by many authors. There are footnotes throughout the paper with sources if the reader would like more information. The paper is divided into three sections.

1. **How do retirees draw down their financial savings:** Do employees prefer a lump sum or an annuity? Not surprisingly, most participants prefer a lump sum, and most do not have a thought-out systematic process for drawing down the funds. This approach increases the risk of outliving retirement savings if the drawdown level is too high, or conversely, living at an unnecessarily sparse living standard if the drawdown level is too low.

2. **How could retirees draw down their financial savings:** This section of the paper has an exhaustive summary of available types of annuity products. It discusses the advantages of annuities and their shortcomings. Some of the shortcomings (e.g., lack of inflation protection) can be addressed through product design,

other shortcomings (e.g., high price, bequest motivation) are discussed as well.

In addition to annuities, the paper also discusses a number of self-managed drawdown strategies. For example, a simple drawdown plan would be to withdraw 5 percent of the account each year. The self managed strategies, are divided into fixed and variable strategies.

Finally, this section of the paper discusses hybrid strategies, combinations of annuities and self-managed drawdown strategies.

3. **How should seniors draw down their financial savings?** This section of the paper summarizes several optimization models that have been constructed to attempt to determine the drawdown. For example, there have been several papers written on how to minimize the probability of lifetime ruin. This section of the paper also discusses dynamic micro simulation modeling that has been developed to answer this question as well as the pros and cons of some level of mandatory annuities and ways to encourage annuities.

   I think the biggest value of this paper for a pension actuary is that it discusses the need for annuities (to some degree) for an effective drawdown strategy and why, despite the need, annuities are rarely used. Hopefully actuaries can play a role in encouraging the increasing use of annuities in drawdown.

EMBEDDED OPTIONS IN PENSION PLANS

The second paper is on pension plan embedded options. It is part I of a larger project on the topic. The paper is by PricewaterhouseCoopers LLC (PWC). This paper,

1. Defines embedded options

2. Catalogues the embedded options found in pension plans

3. Surveys embedded options prevalence and how they are valued

Part II of the study will provide a first step towards developing methods that can be used to value embedded options.

So what are embedded options in the pension context? While it is difficult to provide a succinct definition in the pension context, the paper provides examples of plan features that may have zero value if a single point estimate of the economic factor underpinning the plan feature is used, but

intuitively have value. For example, which is more valuable, a cash balance plan that uses the S&P 500 index as a crediting index with a principal guarantee or the same plan without the guarantee? Clearly the principal guarantee has value. However, if a point estimate (e.g., 7 percent) is used for the S&P 500 return the principal guarantee plan feature will have no value.

PWC found that over half (56 percent) of private sector plans have embedded options. They also found that most actuaries use a best estimate single assumption to value the embedded option. So it would seem that in many cases the embedded options are not being valued. It is important for practicing actuaries to read the paper to ascertain if their plans have embedded options and to be thinking about how they might better account for their value. Sophisticated option-pricing techniques exist in other disciplines but appear not to have been adopted in any meaningful fashion in pension valuation practices. Hopefully part II of the paper will suggest methods to value these options in a more rigorous fashion.

CONCLUSION

Thanks to Kevin for writing these summaries; both reports are relevant to the current work of pension actuaries. I encourage actuaries to review them and in particular consider how you might contribute further to the intellectual capital development in these areas. Feel free to suggest or propose a follow-up study, both of these projects developed directly from section member suggestions. Ideas can be submitted to Kevin or me .

Andrew Peterson, FSA, EA, MAAA is staff fellow – retirement systems at the Society of Actuaries headquarters in Schaumburg, Ill. He can be reached at apeterson@soa.org.

Kevin Binder, FSA, EA is a consulting actuary with Bolton Partners, Inc. in Baltimore, MD. He currently chairs the Pension Section Research Team and in that role is also a member of the Pension Section Council. He can be reached at KBinder@boltonpartners.com.

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ADDRESSING POST-RETIREMENT RISKS

By Anna M. Rappaport

The Committee on Post–Retirement Needs and Risks (CPRNR) has been working to address post–retirement risk issues for about 15 years. I have been involved with this work for the entire period. This column will bring together my personal perspectives about the work with a report about some of our recent and current work.

While our work includes a number of different studies, there are some overall themes that are repeatedly reinforced. Reports and work from the committee are mentioned in this discussion. All of these reports can be found on the CPRNR website. Some of the themes that seem very important to me are:

- There are significant gaps in personal planning and knowledge about the post–retirement period. This does not seem to change very much over time even though there have been very substantial changes in the structure of retirement programs, with many fewer people accruing benefits in traditional defined benefit (DB) plans today than 15 years ago.

- On the surface, education sounds like the best way to address these knowledge gaps. But in reality, we have found that education alone is not enough. Unless people are motivated, education may improve knowledge, but there is often no resulting action. Defined contribution (DC) programs are increasingly being structured with defaults and automatic features so that people who do not act are enrolled, saving, and investing.

- The structure of personal plans in the distribution period was not a topic often heard about 15 years ago, but it is getting a lot of attention today as the wave of Baby Boomers retire. This is a major focus of the Call for Papers looking at the changing

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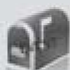
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retirement landscape. These papers have been submitted, and they will be published in an on-line monograph this year. Some of them will also be presented at the 2011 SOA annual meeting. On Wednesday, October 19, there will be a three session mini-seminar highlighting several of the papers.

- Many people do not plan for a long enough post-retirement period. This was addressed in the 2009 Post–Retirement Risk Survey and in the report *Key Findings and Issues–Personal Planning and the Process of Risk Management*. Some do not plan at all. It appears that many people do not think through the consequences of needing to replace a paycheck over many years.

- Middle class Americans (those in the 25 percent to 85 percent by wealth) ages 55–64 have about 70 percent of their assets (not including the value of Social Security and DB pensions) in non–financial assets. For most of them, this means their house is worth a great deal more than their financial savings for retirement. The study, *Segmenting the Middle Market*, executed by Milliman for the SOA develops this information. Phase 1 develops the segments and Phase 2 focuses on planning profiles and possible solutions for the identified profiles. These findings leave open some major questions: Should people save more for retirement and invest less in their houses? How do you evaluate this question? When do people tap into home equity for retirement? What methods are there for doing this? The CPRNR sponsored a Call for Papers to look at the link between housing and retirement, and those papers are published in an on–line monograph on the SOA website.

- Social Security is an extremely important component of the financial security package for most Americans. It is almost the entire package for those at lower incomes, and plays a major role for middle income Americans. In contrast, it is a small part of the picture for most senior decision makers. Americans generally underestimate the importance and value of their Social Security benefits before they reach retirement age. This misperception is one of several common misperceptions, believed by people who are planning for retirement. Our report, *Public Misperceptions about Retirement Security*, is several years old, but the issues have not declined in importance.

- The risks people face are numerous, complex and interacting. Experts do not agree about the best ways to manage them. There are financial products that address some but not all of the risks, but most are focused on one risk or, at best, a combination of two or three risks. *Managing Post–Retirement Risks* provides an

identification and discussion of the risks and approaches to managing them. The third edition of *Managing Post–Retirement Risks* will be published later this year.

- The system as it exists today requires individuals to make a number of decisions as they move into and plan for retirement. Retirement planning software enables individuals to do financial projections and build a plan. But such software may be primarily focused on pre–retirement saving and investments and it often does not deal with some of the most important post–retirement planning issues for Middle Americans. *Segmenting the Middle Market* looks at segments of Middle Americans and helps to identify the key issues. Two studies of retirement planning software offer an examination of how well a sample of such systems address common post–retirement risk issues. Both studies found significant gaps in the analysis offered to the user, and while the studies are several years apart, many of the gaps found in the first study had not been addressed in the second.

- After determining that the software left many gaps, and that people need to make decisions in areas where there are trade-offs and choices, in addition to misunderstandings, the CPRNR decided to undertake a project focused on decisions related to retirement. A series of 11 decision briefs is currently under development, and they will be published electronically. The decision briefs are focused on helping people identify the key issues and trade–offs related to the issues. They provide generic information on approaches to managing the risk or handling the decision, and considerations. While they do not identify specific approaches, the topics will include when to retire, when to claim social security, housing, long-term care, and others. Watch for these briefs later this year.

THE POST–RETIREMENT RISK SURVEY SERIES

The major on-going study of the CPRNR is a biannual survey of the American public to learn about their views on post-retirement risks. Retirement Risk Surveys have been conducted in 2001, 2003, 2005, 2007, and 2009. The risk surveys are an SOA sponsored project working with Mathew Greenwald & Associates and EBRI. The 2011 survey is currently underway. Each survey combines some repeated questions that form a baseline, and areas of emphasis which will be reported in specific issues based on shorter reports. The three areas of emphasis for 2011 are work and retirement (including unemployment and phased retirement), longevity, and the impact of the economic conditions on planning (aftermath of the financial crisis). Each of these three topics builds on work done earlier. The 2005 reports included a report on longevity and one on

phased retirement and planning for the unexpected. The 2009 survey series included a look at the economic downturn and how it had affected the respondents. This is being revisited in 2011 because the events were too recent at the time of the 2009 survey. Work in retirement is being revisited because there is so much recognition of its importance and much may have changed, but we really do not know. Longevity is being revisited because there seems to be growing interest in the topic, there are mayor gaps in knowledge, and it is central to what actuaries do. The survey results will be presented at the 2011 SOA annual meeting.

Some of the most troubling past findings are that people plan for too short a time, many people do not understand the financial impact on the survivor of the death of the first spouse, and do not understand the consequences and implications of working longer.

The studies, which include retirees and pre–retirees (age 45 and older), have repeatedly shown that the retirees retired much earlier than the pre-retirees expect to retire (retirement in this context is defined as retirement from your primary occupation). Other studies (such as the EBRI Retirement Confidence study) indicate that more than four in ten retirees retired before planned. Loss of job, poor health, and family members needing care are major reasons for retiring before planned. We have also asked people if they expect to work during retirement and the majority do. Our impression is that more people say they intend to work during retirement than actually do. This issue will be explored in more depth in the 2011 survey.

NEW PROJECTS IN 2011

Each year in its planning process, the committee identifies some areas to develop into possible projects. Some of these ideas become projects but others do not. Generally, we have done better at identifying the problems and where the public stands on them, than on solutions that work. Part of the difficulty is that experts do not agree on solutions for Middle Americans, and many potential solutions involve trade-offs and/or cost more money than is available. The ideas being explored in 2011 are solutions for the middle market, and understanding how and why people run out of money. *Segmenting the Middle Market, Part II* was research that offered a first step to such solutions, but more work needs to be done. The 2011 risk survey is well underway.

Another new project is a comparison of U.S. and Canadian data. The Canadian Institute of Actuaries did a risk survey using a questionnaire largely similar to the SOA *2009 Retirement Risk Survey*. A group from the United States and Canada is working to compare the results and environment, and then publish a report.

We have completed several projects to understand how people are investing retirement assets, e.g., what has happened with lump sums in DC plans. In 2007–2009, the SOA did reports in a joint project with LIMRA and INFRE on how individuals with significant 401(k) assets had chosen to invest them. The first report was titled *Will Assets Last a Lifetime?*, and the 2009 report was titled *What a Difference a Year Makes*. The same survey panel was used for both studies. We are going back to do a third round, using the same survey panel as the first two, and the abbreviated questionnaire from the second round. Prior to the surveys, the basic ideas were tested in focus groups, *Spending and Investing in Retirement–Is there a Strategy?* The report from these focus groups includes quotes from participants that help bring the issues alive.

OTHER SOA GROUPS ARE USING THIS WORK

Other SOA groups are also building on the work of the CPRNR. A research project *Implications of the Perceptions of Post Retirement Risk for the Life Insurance Industry: Inside Track Marketing Opportunity, But Requiring Focused Retooling* builds on our work and brings it to financial services industry specialists, but with much more work included that is focused on the needs of that industry.

APPROACHES THAT ARE USED FOR OUR WORK

The CPRNR projects include surveys of the public, focus groups, research projects conducted by an outside researcher, papers written by a group of volunteers working together, and responses to paper calls. Some projects start with a literature search. All are multi-disciplinary. Many projects involve partners, which can be outside organizations, or other SOA groups. Volunteers–both actuaries and many other professionals–are vital to our work. SOA staff is vital as well, and several staff members support us as needed, depending on the project. By having several different approaches, the CPRNR can choose the one best suited to each project. Many thanks are due to the wonderful volunteers who devote a great deal of time and energy to our projects and to the SOA staff who support us.

USING OUR WORK AND SPREADING THE MESSAGE

Findings of this research are on the SOA website and are presented at SOA meetings, in SOA webcasts and in other venues. Findings have been included in many newspaper and magazine articles, and they are sometimes included in papers. The CPRNR is very fortunate to have been included with the groups whose work has been identified for highlighting in press releases and media efforts. We work with the American Academy of Actuaries to bring the relevant messages to policymakers. Members are encouraged to use highlights or specific issues in their client work and in presentations. We believe our findings and research are helpful to

financial service organizations, sponsors of employee benefit plans, individuals planning their own lives, and to the public in trying to understand the key issues. There is a single sheet handout, *Summary Handout of Recent Retirement Research*, on the website that provides very short summaries of some of the key work of the CPRNR. This sheet is available to be used as a handout at meetings for people who are speaking. On issues covered in previous presentations, the SOA may be able to assist with materials for presenting findings.

ABOUT THE AUTHOR

Anna Rappaport is an actuary. After retiring from a career as a pensio n consultant with Mercer, she started Anna Rappaport Consulting. She chairs the Society of Actuaries Committee on Post-Retirement Needs and Risks. She is a past-president of the Society of Actuaries.

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DISPARITIES FOR WOMEN AND MINORITIES IN RETIREMENT SECURITY

By Anna M. Rappaport and Mary Nell Billings

This article focuses on disparities for women and minorities in retirement security with emphasis on issues that may be of particular interest to actuaries. The 2010 ERISA Advisory Council (council) studied disparities for women and minorities as it relates to retirement savings. This article draws on the authors' experience, the work on the council, and also references the Society of Actuaries Living to 100 and Retirement 20/20 projects. It reflects the personal views and perspectives of the authors. The views of the authors do not represent the views of the ERISA Advisory Council. Both of the authors served on the council in 2010, both were authors of papers for Living to 100, and both were participants in Retirement 20/20.

INTRODUCTION

There are major challenges facing the retirement system in the United States and many different ways to view the challenges. In addition to major questions about system structure and who will provide benefits, there are substantial differences in retirement savings and benefit levels between men and women and by ethnic group. The work of the council offers insights into the levels of disparities, their causes, and some of the related challenges. The report can be found at http://www.dol.gov/ebsa/publications/main.html#section16d.

The council's project focused on identification of the causes of the existing discrepancies with regard to retirement readiness for women and minorities and determining what actions the secretary of labor could take to mitigate these discrepancies. The council's study focused on:

- Identifying existing disparities for women and minorities in retirement savings

- Identifying possible causes
- Identifying the stakeholders who can influence possible remedies
- The role of the Department of Labor in addressing the issues and in influencing key stakeholders
- Identifying additional educational opportunities for plan sponsors, service providers, and individuals that would decrease existing disparities
- Benefit plan designs that positively impact these groups
- Guidance to plan sponsors regarding the collection and utilization of data by race and gender to help identify problem areas
- The appropriateness of costs to the plan and potential liability for the plan sponsors to facilitate such collection and utilization of plan data

Other projects that consider related issues and take different perspectives include Living to 100 which focuses on the implications of long life and Retirement 20/20 which looks at future structures for the retirement system. Neither of these projects is specifically focused on disparities, but the issues discussed are interwoven with the issues uncovered in the disparities study.

WHAT ARE THE CHALLENGES

In general, the council found that disparities do exist and are due to a number of factors. Many minority workers are employed in industry segments that traditionally do not offer retirement plans—such as non-union construction, services, and daycare. For many women, moving in and out of the work force to care for children and other family members reduces their overall earning capability and the ability to build their "human Investments" in the job market, often leading to fewer promotional opportunities and lower paying jobs. Breaks in service and lower average salaries often result in much lower benefit accruals. Employment choices, including part-time work and the types of jobs women choose, are added contributors to the disparities. Less access, uneven workforce participation patterns, job choice, and lower wages combined often lead to lower account balances. The burden of lower account balances is greater for women because of their longer life spans and the need to finance more years in retirement. Minority women tend to have even lower retirement incomes than white women and many older women of all races rely solely on Social Security benefits.

The decline of the defined benefit system has negatively impacted many lower income individuals, regardless of race or gender. Leakage from the existing retirement system compounds the issue of low balances for those having no or inadequate emergency reserves, creating a need to draw on accumulated retirement assets. This lack of financial preparedness results in a large portion of the American population relying on Social Security as the primary or sole source of retirement income.

There are many far reaching policy issues that need attention that go well beyond the scope of the work undertaken by the Council. The council report stated that its recommendations anticipate these underlying issues, and root causes will not be resolved in the near term. Actuaries may wish to consider what they can do to help address some of these issues, as individuals, as a profession, and as advisors to their clients.

WHAT ARE THE SOLUTIONS

Enhancing retirement security for any group may depend on a combination of individual action, employer action, policy changes, efforts by financial services organizations, and action by government bodies. The efforts of these groups interact and except for governmental programs, the systems to provide retirement security are voluntary. Witnesses testifying at the council presented a wide range of ideas to the council. The authors suggest that actuaries may wish to study the summaries of individual testimony and the testimony. The council's recommendations to the Department of Labor were in four areas—public outreach and education, encouragement with respect to certain plan designs viewed as helpful in reducing disparities, encouraging better data bases, and addressing family related issues. The recommendations on outreach include:

- focus on Summary Plan Descriptions
- recognition of the importance of using Spanish language translations for some groups
- recognition of the importance of starting financial education in school
- targeted education to various groups about the implications on benefit security of death and divorce
- outreach to business on the importance of offering retirement plans

The recommendations on access to plans focus on encouraging designs and plan structures that reduce disparities, focusing on break-in-service rules, and thinking about new models. The council also asked for guidance about targeted communications provided to specific groups. The

recommendations with regard to family issues focused on clarifying rules with regard to the delivery of information to spouses. The recommendations with regard to data focused on facilitating and encouraging the development of data bases and providing guidance about whether plan funds could be used to develop such data. The council report documents the recommendations and the rationale supporting them, as well as providing summaries of the testimony it received. The discussion of the recommendations links them to testimony. Note that there was an article in the last *Pension Section News* by Elizabeth Wells on the family issues and challenges related to them.

A significant factor in the existing disparities relates to employment patterns—both types of employment and years in the workforce. There are limits as to what can be done within the retirement system to address disparities due to different employment patterns.

Other groups have provided more far ranging recommendations about retirement security. For example, WISER has prepared a blueprint for women's retirement security. This is another source on policy recommendations to improve retirement security for women. These issues should be considered in the context of a growing national debate about what retirement means and who should provide retirement security and how. Actuaries are encouraged to participate in that debate. The Society of Actuaries Retirement 20/20 project offers many other ideas for addressing broader challenges in the retirement system. That debate goes far beyond the work of the council, but often the issues raised in the council report are not considered during the discussions. The authors recommend utilizing the council report as a valuable perspective.

BASIC FINDINGS FROM THE COUNCIL STUDY

Data from a study by Ariel Investments and Hewitt on 401(k) Saving & Investing Behaviors by Race and Ethnicity shows the results for a group of large plans:

Group	Part Rate	Cont Rate	% with Equity Investments	% with Loans	% Using Hardship Withdrawals	401(k) Balance for Employees Earning $30,000–$59,999
African-American	66%	6.0%	66%	39%	7.8%	$21,224
Asian	76%	9.4%	73%	16%	2.0%	$32,590
Hispanic	65%	6.3%	70%	29%	3.4%	$22,017
White	77%	7.9%	72%	21%	2.1%	$35,551

The Ariel study is based on 57 large 401(k) plans with 3 million participants. This study shows that disparities exist for people participating in large plans. On a population basis disparities are greater, and the council report explores this issue. As it studied the data and testimony, the

council found that:

- Significant disparities exist for women and racial minorities.
- After age 65, older women alone are much more likely to be poor than married women, and women of color are much more likely to be poor than white women. Divorced women and widows have special issues.
- For about four out of 10 women alone, Social Security is their only source of retirement income. Generally, working women receive a lower benefit from Social Security based on their work records due to lower wages or uneven work patterns.
- The council heard different results about whether there are disparities related to ethnicity once you control for income. Ariel/Hewitt and the Urban Institute studies demonstrate that even after controlling for income, disparities remained. The Center for Retirement Research study suggests disparities based on race are no longer a determinant factor once you control for many other variables. Regardless, there are significant disparities in retirement preparedness.
- More Blacks are out of the labor force at ages 55–64 than the other groups in part due to higher rates of disability.
- Most of the studies referenced in the testimony did not address Asian Americans. However, the issues this segment of the population face were documented in the testimony and a study by Prudential. This group of workers tend to be employed in small family-owned businesses where the responsibility to save for retirement falls directly to the worker. Many individuals in this group were aware of the need to save and had very high goals in retirement. Yet, worker savings behaviors were generally insufficient to attain the high goals they set for themselves regarding retirement preparedness.
- Native Americans have both high rates of unemployment, much higher than other groups, and higher rates of poverty. They are least likely to be employed where there is an employer-sponsored plan except for governmental employment. This group has special issues that are beyond the scope of the council work.

BENEFIT LEVEL/PLAN ISSUES

- Differences in benefits are consistent with differences in employment histories, incomes, and types of employment. The

study did not identify any discrimination in the structure of plans, but it did identify opportunities to reduce disparities by looking at the employment patterns and plan designs.

- Many individuals have not accumulated sufficient funds for emergencies. Many Americans live paycheck-to-paycheck. For many, the 401(k) plan also serves as an emergency fund. Changing loan repayment options or allowing repayment of hardship distributions could prove to be helpful in enhancing retirement security.

- Modifications can be made to plan designs to produce very good results for women and minorities. Testimony from McDonald's Corporation demonstrated this. While McDonald's did eliminate automatic enrollment for a broader cross section of its workforce, it did redesign the 401(k) plan and re-implement automatic features for managers. McDonald's found that these plan changes have made a positive difference in the turnover rate and retirement security for their workers among all ethnic groups. This case study shows how one employer was able to analyze its workforce, identify a problem, design a solution and show that the solution addressed the problem.

INSIGHTS

- Trusted sources of information/advice and peer groups can be important. Trusted sources vary community by community and group by group. Particularly for minorities, trusted sources may not be what we would expect, according to information provided by the Women's Institute for a Secure Retirement (WISER).

- Culturally appropriate communication is important. Information should come from a trusted source. For people with longer-term employment in organizations they trust, the employer is an excellent trusted source. However, for many Blacks, Hispanics and women, the employer may not be a trusted source. In those cases, the community may be a resource in locating trusted sources which can vary by group. If there is a union or professional association (e.g., nurses), it can be a trusted source. For actuaries working with plan sponsors and providers of services to plans, this is an important insight.

- There is generally an inadequate understanding of the financial products relating to product solutions and retirement income. This is a key insight.

- While ERISA offers protection for pension benefits upon divorce,

some plans do not have ERISA protection and different requirements may apply. Many attorneys are not knowledgeable about pensions and pension rights and therefore spouses are not always treated equitably.

RELATED ISSUES: UNBANKED AND UNDERBANKED

Many people are unbanked or underbanked and have additional challenges to adequately participate in the retirement savings system. The council was informed that being unbanked was more common for Hispanics, American Indians, and Native American groups. Actuaries supporting benefit plans should consider the implication of this type of employee population.

DATA AND ISSUES SURROUNDING DATA

To be able to document the disparities and monitor any progress, the availability of data is very important. Securing data can be a major challenge in studying disparities. In some cases, if data is available, it can be embarrassing. Actuaries working with plan sponsors who are seeking to address these issues will want data to understand the issues, identify the problems specifically, and measure progress. Benefit plan data does not normally include ethnicity, and insurers are prohibited from discriminating and may not have such data, but employers normally have such data about their workforces. Data sets that include a sample of the total population are helpful in identifying that there are issues, but not enough to measure progress within plans or the success of specific features in those plans in terms of improving retirement preparedness of women and minorities. They include information about the unemployed and those without access to plans and offer a different and important perspective.

The council focused on the importance of data in identifying issues, measuring the problem and measuring progress in addressing an issue. It also discussed the cost to collect data, and plan sponsor concerns and challenges related to data which could be embarrassing or used against an organization.

DIFFERENCES IN LIFE SPAN AND MORTALITY PATTERNS

An area of significant disparity not included in the council work is the difference in life spans. Women live longer than men, and if they retire at the same ages, their money will need to last more years. This is very well known among actuaries and most mortality tables include data by sex. Whites in the United States live longer than blacks, and this is documented in population mortality tables but not usually in pension insurance company mortality data. Mortality also varies by socio-economic

status. Mortality differs by ethnic group as well. The differences in mortality by ethnic group were discussed at the 2011 Living to 100. Jay Olshanksy talked about the MacArthur Foundation studies of aging in America and the importance of differences in life spans by ethnicity. Concerns about differences in life span by ethnicity are often mentioned in debates about Social Security.

WITNESSES AND THE WORK OF THE ADVISORY COUNCIL

Witnesses are a key part of the work of the council. The council members assigned to work on a specific topic after defining the scope statement identify the types of information needed to understand the issues and hear ideas from various perspectives. The testimony is very important to the work of the council. Written testimony is part of the public record and copies are posted on the website while the project is active. Summaries for each witness are included in the council report of the topic and full copies of testimony can be obtained from the council. For this topic, witnesses included:

- Representatives of Hispanic, Native American, and Black communities, as well as Women's Institute for a Secured Retirement (WISER), an organization that has worked with women on retirement security issues
- McDonald's Corporation that provided insight from the perspective of an employer who has taken steps to address some of these issues
- Representatives from organizations that have conducted extensive research focused on disparities, including Ariel Investments and its partner, Hewitt Associates, the Urban Institute, and Prudential
- A representative of the Ford Foundation who presented research and insight on how the Foundation has addressed the challenges of reducing disparities for women and minorities in the area of retirement security

Actuaries may be particularly interested in the testimony of Ariel Investments, Hewitt Associates, Urban Institute, Ford Foundation, WISER, and McDonald's. The testimony and the report are full of data and ideas, many of which were not supported by the council and therefore, they are not reflected in the council's recommendations. They offer a valuable resource to understand how different stakeholders are thinking about some of these issues. Highlights from one witness summary in the council report are included here. The authors hope that this will encourage readers to look at the council's report and more of the witness summaries.

Barbara J. Hogg, FSA, principal and senior retirement consultant, Hewitt Associates LLC was the only actuary among the witnesses on this topic. She reviewed results of a recent study entitled: *Retirement Income Adequacy at Large Companies: The Real Deal 2010*. Here is an excerpt from the report section summarizing her testimony and including several ideas about 401(k) plan design:

Key findings of that study were reviewed:

- *Employees contributing to their plan over a full working career are on track to have retirement resources of 13.3 times pay at retirement age, 15% short of their retirement needs of 15.7 times pay*
- *The shortfall grows to 32% when including all employees (both those who are contributing and those who are not contributing).*

Ms. Hogg noted that only about 18% of workers included in this study, again, primarily representing workers of large employers, were on track to achieve the goal of meeting their retirement needs. The 2.4 times pay shortfall varied by gender–3.1 times pay for women, 1.8 times pay for men. Adding to the disparity, Ms. Hogg noted that women are more likely to earn less, live longer, save less, invest less aggressively, as well as have an increased likelihood of leakage due to breaks in service for care giving purposes.

Ms. Hogg also recommended changes in loans, including:

- *Making loans portable*
- *Extending the "cure period" for loans upon involuntary termination*
- *Encouraging plan sponsors to allow loan repayment after termination*

Ms. Hogg also recommended changes to withdrawals, specifically:

- *Allowing participants to re-contribute hardship withdrawals to their accounts*
- *Modifications in hardship withdrawal availability*
- *Restrictions on the availability of other in-service withdrawals*

CONCLUSIONS

Disparities for women and minorities add additional dimensions to the

many challenges facing the retirement landscape. In the face of other challenges, many of these issues are largely not considered. We hope that many actuaries will take an active role to improve the retirement system in America and will emphasize these important issues. The authors thank the council for addressing these issues, making recommendations to address disparities, and providing a valuable set of information to help others who wish to address these challenges.

ABOUT THE AUTHORS

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OP-ED

EXPANDING THE CPP: MORE COMPLEX THAN AT FIRST GLANCE

By Robert L. Brown

Had I suggested just 15 years ago that we should expand the Canada Pension Plan (CPP) to provide larger benefits on a broader range of wages, I would have been laughed out of town. Pre 1998, the CPP was seen as leaning against death's door. Young Canadians were told not to expect ANY benefits from the CPP when they retired.

However, because of the significant reforms of 1998, the CPP is now healthy for as far as the eye cannot see (the same is not true for the Quebec Pension Plan (QPP), but that is another story). It is so healthy, in fact, that many observers are suggesting that it should be expanded to provide larger benefits.

This could be done in two ways (or a combination thereof). Currently Canadians contribute 9.9 percent percent of wages (split between the worker and the employer) to the CPP on wages over $3500 and up to $48,300 (in 2011: called the Year's Maximum Pensionable Earnings). Benefits accrue at the rate of 25 percent percent of the adjusted (indexed to the Average Wage) average of recorded employment earnings over roughly a forty year period. So, one way to expand the CPP would be to raise the 25 percent percent benefit rate. Another would be to raise the Year's Maximum Pensionable Earnings (the YMPE). Or both.

Sounds pretty straightforward. But it isn't.

Prior to 1996, the contributions Canadians made to the CPP were not large enough to cover the benefits being accrued. In fact, out of today's 9.9 percent contribution rate, a full 4 percent goes to covering past legacy costs (the previous unfunded liability). Thus, it would be possible, if we started a fully-funded CPP today, to do so at a contribution rate of about

5.9 percent. However, if we wish to expand the 25 percent benefit rate only for retirement benefits, and we do not increase any of the ancillary benefits (orphan's, disability, death, etc.) we could fund a new benefit tier with a contribution rate of no more than 5 percent.

This sounds good at first glance, but, in fact, it creates a series of complications. For example, let's say we wish to move from a 25 percent benefit rate to 50 percent. This would require a 14.9 percent contribution up to the YMPE. Double the benefits for 50 percent more cost. Sounds like a good deal.

But think about poorer workers. Having paid a 14.9 percent contribution rate over 40 years, they will now receive a 50 percent CPP benefit when they retire. But this is immediately deducted from their Guaranteed Income Supplement (GIS) at a 50 percent clawback rate and, depending on their province of residency, they could lose another 50 percent from their provincial benefits (e.g., Ontario Guaranteed Annual Income System (GAINS)) for a total 100 percent clawback. That means a 50 percent increase in contributions but no net gain in disposable income from government sources. How many workers would vote for that?

To avoid the impact of the GIS clawback, we could exempt a portion of employment earnings (say up to $30,000 a year) from contributions and benefit accrual. Or, maybe we should leave the benefit ratio at 25 percent but increase the YMPE.

Again, the value of the ancillary benefits is important to this analysis. If, as assumed above, we don't increase ancillary benefits at all, and accepting the current CPP funding formula, then the required contributions would be 9.9 percent up to the YMPE and 5 percent above it. Again, what politician would want to try to win votes with a new system in which poorer workers have a 9.9 percent contribution rate for their first tier benefits and higher income workers only pay 5 percent for their second tier of benefits? This would be a hard sell.

Finally, under any proposal that uses an expanded CPP, the new benefits will not be fully available for 40 years. Until then, only a fraction (t/40) would accrue.

At the end of the day, it takes at least seven provinces with at least 2/3 of the Canadian population to amend the CPP. This includes Quebec. This is not an easy task as can be seen today. To date, the provinces have not seen a proposal for an increased CPP that meets with their approval.

Once one understands the issues more fully, one can see why.

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WHAT DO YOU CALL A GLASS THAT IS 60-85% FULL?

By Jack VanDerhei

Editor's note: This article is reprinted with permission from the Employee Benefit Research Institute blog, EBRI.org. The original blog post can be found here.

In the July 7 *Wall Street Journal*, the headline of an article assessing the Pension Protection Act of 2006 (PPA) provision that encourages automatic enrollment (AE) in 401(k) plans suggests that it is actually reducing savings for some people. What it failed to mention is that it's increasing savings for many more–especially the lowest-income 401(k) participants.

EBRI has been publishing studies on the likely impact of AE for six years. In a joint 2005 study with ICI, [1] we looked at the potential change in 401(k)/IRA[2] accumulations as a result of changing the traditional voluntary enrollment (VE) 401(k) plans to AE plans. Although we had the advantage of using a database of tens of millions of 401(k) participants going back in some cases to 1996, we were limited in knowing how workers would react to AE provisions, and thus simulated the likely response using the results of academic studies.[3]What we found was that the overall expected improvement in retirement accumulations—especially for the lower-income quartiles—were nothing less than spectacular.

However, one point that had already been made clear in the academic literature, and was corroborated by our simulation results, was that some workers placed in a 401(k) AE plan (without automatic escalation provisions–more on that later) would continue to contribute at the *default contribution rate* that the plan sponsor had chosen (typically in the range of 3 percent of compensation). Given that many workers who chose to participate in a VE plan would start contributing at a 6 percent rate (largely in response to the matching contribution incentive provided by the employer), some workers in AE plans were likely contributing at a lower

rate than they would have had they been working for a plan sponsor offering a VE 401(k) plan AND had chosen to participate.

This anchoring effect can be seen by looking at the top-income quartile in the 2005 results, where the median replacement rate for the top-income quartile decreased by 4 percentage points for the scenario with a 3 percent contribution rate and default investments in a money market fund (Figure 1 of the July 2005 *Issue Brief*). However, from a public policy standpoint, it would appear that this was more than offset by the increase in participation for the lower-income quartiles due to auto-enrollment, resulting in substantial increases in their retirement accumulations (for the same scenario as mentioned above, the third-income quartile's median replacement rate increased 2 percentage points, the second-income quartile increased 7 percentage points, and the lowest-income quartile increased 14 percentage points).

A year after this study was released, Congress passed the PPA, which eased some of the administrative barriers to providing AE and for the first time setting up safe harbor provisions for automatic escalation. Although it was too soon to know how plan sponsors would react to this new legislation, EBRI published a study in 2007[4] that showed how automatic escalation would make the AE results even more favorable under a number of different scenarios for both plan sponsor and worker behavior.

In 2008, EBRI included all the new PPA provisions in a study[5]that compared potential accumulations under AE and VE for several different age groups. Again, we found certain (high-income) groups that were likely to do better under VE than AE, but overall, the AE results dominated (see Figures 6 and 7 of the June 2008 *Issue Brief* for details).

By 2009, many of the 401(k) sponsors who previously had VE plans had shifted to AE plans and EBRI was able to track the changes in plan provisions for hundreds of the largest 401(k) plans. This information was used in an April 2010 *EBRI Issue Brief* to show, once again, the significant impact of moving to AE plans (for those currently ages 25–29, the difference in the median accumulations would be approximately 2.39 times final salary in an AE plan relative to a VE plan).

Later in 2010, EBRI and DCIIA[6] teamed up to do an analysis that focused not on a comparison of VE and AE, but rather how to improve plan design and worker education to optimize the results under AE plans with automatic escalation of contributions. While it is difficult to determine the correct "target" for retirement savings, we tried to demonstrate what, by most financial planning standards, appears to be quite generous: an 80 percent REAL income replacement rate in retirement when 401(k) accumulations are combined with Social Security. We demonstrated that if

only the most pessimistic combination of plan design and worker behavioral assumptions were used in the AE plans studied, only 45.7 percent of the lowest-income quartile would obtain this threshold,[7] and given the way in which Social Security benefits are designed, an even lower percentage of the highest-income quartile (27 percent) would reach the 80 percent threshold.

However, the entire point of the analysis was to determine how valuable the proper choice of plan design and worker education can be. The study found that with the all-optimistic assumptions, the percentage of lowest-income quartile workers achieving the 80 percent threshold increased to 79.2 percent, and that of the highest-income quartile workers increased to 64 percent.

The Wall Street Journal article reported only the most pessimistic set of assumptions and did not cite any of the other 15 combinations of assumptions reported in the study. The article reported only results under the threshold of a real replacement rate of 80 percent. Figure 5 of the November 2010 *EBRI Issue Brief* shows that even decreasing the threshold to a 70 percent real replacement rate would increase the percentage of "successful" retirement events by 19 percentage points for the lowest-income quartile and 12 percentage points for the highest-income quartile.

The other statistic attributed to EBRI dealt with the percentage of AE-eligible workers who would be expected to have larger tenure-specific worker contribution rates had they been VE-eligible instead. The simulation results we provided showed that approximately 60 percent of the AE-eligible workers would immediately be better off in an AE plan than in a VE plan, and that over time (as automatic escalation provisions took effect for some of the workers) that number would increase to 85 percent.

The *Wall Street Journal* did not report the positive impact of auto-enrollment 401(k) plans on many workers who began to participate due to AE. As with any change, some people will not have the desired results; but if the focus of auto-enrollment is to increase participation among lower-income participants (and, as a result, their retirement financial preparedness), objective analysis suggests auto-enrollment does obtain that goal.

ENDNOTES

[1] Holden, S., VanDerhei, J., "The Influence of Automatic Enrollment, Catch-Up, and IRA Contributions on 401(k) Accumulations at Retirement" (Employee Benefit Research Institute and Investment Company Institute, 2005).

[2]IRA rollovers that originated from 401(k) plans are included in the projected accumulations.

[3]Choi, James J., David Laibson, Brigitte C. Madrian, and Andrew Metrick, "Saving For Retirement on the Path of Least Resistance," originally prepared for Tax Policy and the Economy 2001, updated draft: July 19, 2004; and "For Better or For Worse: Default Effects and 401(k) Savings Behavior," Pension Research Council Working Paper, PRC WP 2002-2 (Philadelphia, PA: Pension Research Council, The Wharton School, University of Pennsylvania, November 9, 2001).

[4]VanDerhei, J., "The Expected Impact of Automatic Escalation of 401(k) Contributions on Retirement Income," *EBRI Notes* no. 9 (Employee Benefit Research Institute, September 2007): 1?8.

[5] VanDerhei, J., Copeland, C., "The Impact of PPA on Retirement Income for 401(k) Participants," *EBRI Issue Brief*, no. 318 (Employee Benefit Research Institute, June 2008).

[6]VanDerhei, Jack and Lori Lucas, "The Impact of Auto-enrollment and Automatic Contribution Escalation on Retirement Income Adequacy," *EBRI Issue Brief*, no. 349 (Employee Benefit Research Institute, November 2010).

[7]Results are limited to employees currently ages 25–29 and assumed to have 31–40 years of eligibility.

See also:

VanDerhei, J. "The Impact of Automatic Enrollment in 401(k) Plans on Future Retirement Accumulations: A Simulation Study Based on Plan Design Modifications of Large Plan Sponsors". *EBRI Issue Brief*, no. 341 (Employee Benefit Research Institute, April 2010).

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WHY THE DESIGN OF MATURING DEFINED BENEFIT PLANS NEEDS RETHINKING

By Theo Kocken

Editor's note: This article was originally published in Volume 4 – Issue 1 of the Rotman International Journal of Pension Management. *It is reprinted here with permission.*

This article explains why and how maturing defined benefit pension plans become increasingly unstable if they maintain asset mix policies that embody material mismatch risk between plan assets and liabilities. An important feature of maturing defined benefit plans is that net positive cash flows (i.e. contributions exceed benefit payments) eventually turn negative as more money flows out of the plan to pay benefits to a rising number of retirees. Examples in the article demonstrate the implications of this new reality for funding ratio instability in defined benefit plans. A consequence is that the design of defined benefit plans needs rethinking. On the one hand, traditional features such as benefit security and inflation protection remain important plan features. On the other, new elements such as pension contract fairness and completeness, as well as fair-value valuation disciplines for plan assets and liabilities must also become part of plan design.

THE EVOLUTION OF THE DUTCH PENSION SYSTEM

In the 1980s and 1990s the Dutch pension system operated as a typical defined benefit system based on final pay, with annual indexation during retirement.[1] Plan sponsors absorbed almost all risks and pension contributions were used as the main control mechanism. In many cases, the sponsors providing the guarantee also benefitted from contribution holidays. In the early years of the 2000s after the tech bubble burst, the Netherlands decided to weaken the defined part of the pension benefits from fully inflation indexed to more conditional promises. Specifically, the system made indexation conditional on the funding health of the plan. As a result, some of the pension risks began to be absorbed by plan

beneficiaries.

In some cases, corporate pension plans consisting largely of entitlements to retirees have grown larger than the corporations funding them in the past. As a result, corporate employers as full guarantors of these large liabilities gradually became less attractive and less viable propositions. This receding riskabsorption capacity of employers has occurred around the western world, but was recognized early in the Netherlands after the first crisis of the new century in 2001–2003. If the employer is not fully guaranteeing the pensions, what remains is effectively a mutual insurance company, with beneficiaries sharing risk among themselves.

The conditional indexation feature also avoided unfair riskabsorption by younger generations. This problem now seems unavoidable for many closed defined benefit plans around the world, and also for still-open pension plans such as the pension plans for public employees in the United States, many of which are heading towards asset depletion in the next 10–20 years (Rauh 2009, 2010). The Dutch modifications received much praise from the rest of the world for the intergenerational fairness resulting from their adjustments. However, persistent longevity increases, two financial crises, and continued interest rate declines, have resulted in deterioration of the funding status of even the Dutch plans. Although still hovering around a 100% funded status in nominal terms, it has become clear that the conditionality of the benefits may have to go well beyond indexation.

A NEW THREAT: PLAN MATURATION

If two financial crises in one decade and a material increase in life expectancy were not enough of a threat to defined benefit pension plans, most plans are now also entering the net outflow phase, with benefit payments exceeding new contributions. This has serious implications for the current defined benefit pension contracts in force in western countries such as the United States, Canada, the United Kingdom, Switzerland, and the Netherlands. For decades, pension funds received more money from new contributions than they needed to spend on benefit payments. But in the upcoming decade this process will be reversing itself, if this has not already occurred.

Each pension fund will inevitably enter the second phase – the net outflow or decumulation phase. This happens when the membership of the plan matures and the number of retirees is high in comparison with the number of active employees. In the net outflow phase under most current defined benefit contracts pensioners still receive 100% of their benefits, even if the fund is in deficit. After continued full payment of these benefits, the funding ratio sinks a little deeper and a decreasing amount of capital is left for the remaining stakeholders (Kocken, 2010). Indeed, even if a plan is currently

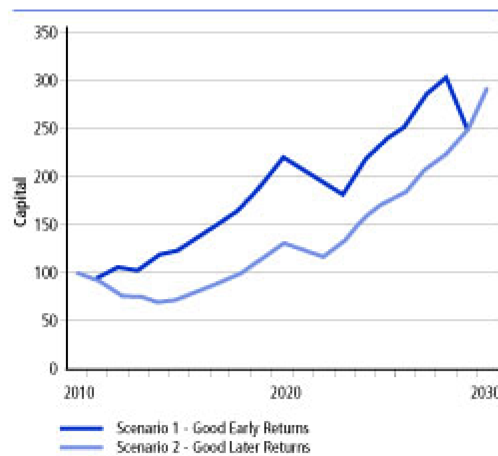
100% funded and is about to earn high average but volatile returns on investments over the next 20 years, it still runs a substantial risk of getting into trouble.

ILLUSTRATIONS WITH TWO RETURN SCENARIOS

In order to show how fragile mature funds really are, consider the following illustrations.We start with two similar scenario of 20–year returns that we apply to a pension plan with a starting nominal funding ratio of 100%. In both return scenarios, the expected arithmetic return on risky investments is 8%. The risky investments make up 50% of the pension fund and the other half is in bonds yielding 4% that match the liabilities. The two risky return series are relatively straight-forward and quite similar.

Specifically, the returns as well as the volatility over the 20-year period are identical, and are based on the actual MSCI global equity index.[2] However, while the first series represents exactly what happened during the period 1990–2009, in the second series four returns have been swapped around. Specifically, the order of the 1991 and 2008 returns were swapped, as were those of 1993 and 2002. In Figure 1, the actual return series is called Scenario 1 – Good Early Returns; the series with the swapped returns is Scenario 2 – Good Later Returns. Figure 1 simply plots the path a $100 fund takes with the two return series. Ultimately, the two different return paths have no effect on the final result as in both scenarios the investment nearly triples over 20 years.

Figure 1: Capital Values in the Two 20-Year Investment Scenarios



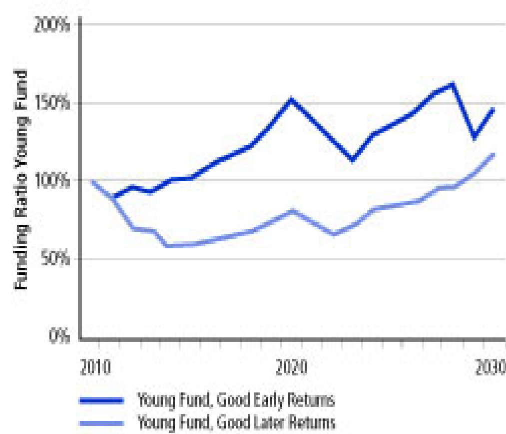
Source: Cardano (2010)

However, the story changes dramatically when we study the financial impact of the two return series on a young plan (i.e. with demographics typical for the years 1960–1980) and on a more mature plan (i.e. with demographics typical for the years 2010–2030).

FINANCIAL IMPACTS ON THE YOUNG AND MATURE PLANS

Figure 2 tracks the funding ratio of the young plan. This plan has a liability-duration of 28 years with its peak in payments 39 years from now, and with 33% of the value of the liabilities paid in the first 20 years. Note that the funding ratio pattern tracks the pattern of the asset–only indexes displayed in Figure 1, but with lower growth since the liabilities also rise in line with the discount rate. Although the plan is overfunded at the end of the period in both return scenarios, differences do arise after 20 years because this young plan also makes payments during these 20 years. For simplicity, no inflow of contributions is modeled in this example. Inflow of contributions would have stabilized the funding ratio even more and revealed two more converging paths.

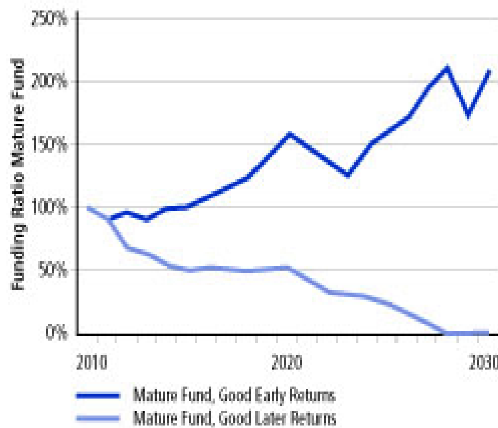
Figure 2: Young Plan Funding Ratios in the Two 20-Year Investment Scenarios



Source: Cardano (2010)

Figure 3 tracks the funding ratio of the mature plan. This plan has a liability-duration of 13 years with its peak in payments 8 years from now and with 78% of the value of the liabilities paid in the first 20 years. These cash flow projections are realistic for many mature funds that exist today. Even taking into account new contributions, the net outflow is representative for money defined benefit plans between now and 10 years from now. Note that the mature plan picture is radically different, with a growing divergence between Scenarios 1 and 2.

Figure 3: Mature Plan Funding Ratios in the Two 20-Year Investment Scenarios



Source: Cardano (2010)

Under Scenario 1 with good returns in the initial phase and shocks somewhat later, the funding ratio rises and this effect is reinforced by liability–reducing benefit payments. The result is that an increasing amount of capital remains, to the delight of the declining group of beneficiaries left in the pension fund. Under Scenario 2 there are serious setbacks at the start and the funding ratio rapidly plummets to a level from which it can no longer recover. Even prolonged periods of very high returns as seen in the 1990s are not enough to save the fund from depletion. By 2027 the plan's coffers are completely empty, despite having had a funding ratio of 100% in 2010. The boxed text provides an intuitive numerical example to illustrate how a plan's maturity and investment policy can combine to deplete plan assets.

A NUMERICAL EXAMPLE OF THE SINKING EFFECT OF OUTFLOW

When a pension fund with a funding ratio of F(%) makes a positive payment p (net outflow of money), its new funding ratio is (F-p)/(100–p). If F < 100, the new funding ratio will be lower than the initial one. When F > 100 and p is positive, the funding ratio will actually grow because the payment being made extinguishes an equal amount of liability. If p is negative (positive net inflow), the system stabilizes around 100. A funding ratio exceeding 100 will decrease due to a negative p, a situation with a deficit will increase the ratio in the direction of 100. Assume a fund starts in an underfunded situation and makes a benefit payment. In order to revert to the initial funding ratio F, either the assets have to grow or the entitlements have to be cut. The size of the liability cut depends on the size of the payment and the initial funding ratio. The absolute cut in liabilities required is p x (1– 100 / F).

EXAMPLE

When the assets are worth 60% of the liabilities, a payment of 5% of the liabilities causes both sides of the balance sheet to drop. This has a lowering effect on the funding ratio. It sinks to 55/95 = 57.9%. In order to return to a funding ratio of 60%, the liabilities would have to be cut with 5 x (1 – 100 / 60) = 3.3%, from 95 to 91.7. In the alternative, an excess return on top of the discount rate of 60%/57.9%-1=3.6% is required. This is the excess return on the total assets needed not to sink further. And with a 50% risky asset mix, this requires 7.2% expected risk premium on the risky assets. This is much higher than historical risk premiums and even then, recovery is not there.

FROM AD HOC ADJUSTMENTS TO SUSTAINABLE REDESIGN

The prior illustration demonstrated that two defined benefit plans with the same returns over 20 years and nominal guarantees for retired members can produce radically different outcomes. The implication is that asset depletion is a risk that mature plans should take very seriously. This means redesign should be a priority for pension plans facing this risk.

The unsustainable situation of a maturing defined benefit pension fund structure was recognized long before the credit crisis (e.g., Ambachtsheer, 2006; Kocken, 2006; Teulings and De Vries, 2006; Broeders, 2008). However, the crisis did add to the perception of immediacy and emergency in the Netherlands.[3] Early in 2010, two committees – the Goudswaard Committee and the Frijns Committee – evaluated the impact of the crisis on Dutch pension funds and advised how to change pension contracts to cope with future challenges such as net outflow, longevity shocks and persistently low funding ratios.[4]

The consensus in the Netherlands is that collective risk-sharing should continue in some form and not be replaced by an individual saving system. The perception is that pension design with a collective risk-sharing element produces not only a pension system with low operating costs but also provides opportunities to share inter-generational risk that smoothes shocks (e.g. longevity and inflation risks) to retirees' pension income. Such risk-sharing products are not available in the financial markets.

Below are five criteria that should be integrated into any serious pension redesign project:

- The degree of completeness of a contract.
- The future fairness of contributions in the short- and long-term.

- A certain minimum level of security for pension income.
- Risk-sharing.
- Inflation-indexed pension during retirement.
- All five are examined in turn below.

CONTRACT COMPLETENESS

Contract completeness can be defined as the extent to which the entitlements to beneficiaries under all situations of asset growth, interest rate development and longevity development are allocated explicitly to individuals. In its most extreme form, the sum of the individual entitlements equals the wealth available in the system. This is also called a closed contract since the complete allocation of wealth ensures no deficit allocation to stakeholders outside the current pension plan. A high degree of completeness avoids uncertainty. Completeness can also go hand-in-hand with risk-sharing solidarity, provided that at each point in time it is clear what the end result of risk sharing is for a person's individual position.

Current defined benefit plans suffer from contract incompleteness regarding plan surpluses and deficits. A deficit implies the losses incurred are not fully assumed by the current generation. The plan incorporates the possibility of carrying the losses forward to future generations. New members could start off with a debt burden as soon as they enter the pension fund. This is not insurance solidarity; instead, it resembles implicit taxation in a non-governmental vehicle. Although this system can work in the case of a stable or growing perpetual inflow of new participants, this inflow is actually very unpredictable and in fact declining for mature plans. As illustrated in Figure 3, in maturing pension plans incompleteness can easily lead to complete asset depletion.

Incompleteness has the potential to create tension between generations and social unrest in cases of real problems and serious disputes. This actually happened in the Netherlands in 2010, with much unrest about who absorbs what part (and when, in what form) of deficits. Retirees fear large and acute cuts in their current income. Active workers fear there will be no assets left for them when a plan is in serious deficit and continues to pay full benefits to retirees. During the net outflow phase, plan instability grows and the leverage between young and old will create more uncertainty about the allocation of asset shortfalls. In general, the higher the degree of net outflow the contract should aim to be more complete.

Finally, lack of contract completeness could obstruct labor mobility. For

example, a plan participant may not want to give up on the long-term benefits of a large pension plan surplus that cannot be taken to a new employer at departure.

CONTRACT FAIRNESS

Ex-ante fair contracts imply that all contributions have an expectation of pay-out equal to the amount of contribution plus the expected return.[5] In more formal terms, the risk-neutral market value of future entitlements including all embedded risk-sharing options at the moment of paying contributions equals the value of those contributions. Many defined benefit plans fail this fairness test today as young workers pay full contributions while at the same time retirees will receive full benefits in an underfunded situation. This is not insurancerelated mutual solidarity that is based on ex-post wealth distribution due to risk-sharing. Instead, it is ex-ante wealth distribution.[6] In the long run, this erodes sustainability when the ratio of retirees to actives increases and the unfairness gets leveraged to unprecedented levels. Fair contracts strongly support market mobility and avoid age discrimination.[7]

Some observers believe unfair contributions are sustainable on a single period basis, as long as the intention is to make them fair over a lifetime horizon. One such example is the average contribution (doorsnee premie in Dutch) that implies a fixed percentage of salary every year provides a fixed amount of salary-related pension entitlement, ignoring the time value of money. A plan member pays too much in his early career and too little during the years before retirement. However, contributions are fair over a career at a single employer that stretches from ages 25 to 65. However, in view of the increasing number of job changes over a lifetime and switches between working for an employer and self employment that most people experience, the concept of lifetime fair prices may become less and less relevant.

PENSION SECURITY

People place a high value on certainty, particularly as applied to their retirement income. The fact is that we cannot continue to offer generous, fully-guaranteed pensions costing 30%-40% of pay. However, some minimum pension guarantee with an uncertain soft amount on top raises comfort levels significantly. Recent polls in the Netherlands (www.pensioenkijker.nl, November 2010) reveal that three times more people prefer a lower pension with high certainty than those who prefer a higher expected pension with a lot of uncertainty.

The results of the De Nederlansche Bank Household Survey (DNB, 2010) strongly supported the preference for certainty. A majority of employees want to pay 2% to 5% additional contribution themselves on top of what

they already pay, if this money provides higher certainty. A higher pension or retaining the retirement date at 65 years of age was of less importance to the respondents. These responses are consistent with behavioral finance studies on risk-tolerance that reveal people are more risk-adverse and less reluctant to gamble when it comes to their lifetime income or retirement income than when smaller amounts are involved (Pan & Statman, 2009).[8]

Securing a certain part in pension entitlements fits this need for a minimum life income security. However, a substantial unsecured part of the pension could be considered in a pension fund system because risk-taking in investments with an expected risk premium allows for a higher expected pension that can be used to index the secured part. Based on this argument, some claim no guarantees are needed at all, despite the indicated strong desire from survey respondents. Admittedly, some risk taking is needed to provide adequate inflation protection. The implication is that combining unsecured soft, and secured hard nominal pension entitlements can serve both criteria (see Potters, 2011).

TARGET INCOME REPLACEMENT, RISK-SHARING AND INFLATION-INDEXATION

People get used to their salary level over their working life and adjust their consumption to this level, so-called habit formation. After they retire, their level of required monthly income usually falls but some relationship to salary during their working life is still desired. This used to be a link to final salary in the past, but in the last decade this link switched to career average salary in the Netherlands. This link between salary and pension income provides a more robust outcome at retirement age, as there is an implicit correlation between how fluctuations in inflation will impact both average career income and average contributions.

Lifecycle defined contribution contracts based on individual accounts are complete and ex-ante fair, but lack risk-sharing between participants.[9] Risk-sharing products can be bought by individuals in financial markets. However, in the absence of relevant markets factoring in domestic price or wage inflation or longevity hedging possibilities, risk-sharing within the plan may be a better solution by providing retirees with smoothed pension payments over their decumulation stage in a reasonably predictable manner.[10] This risk-sharing between actives and retired beneficiaries only works if enough active workers are available in the pension fund with sufficient soft entitlements compared to the risk in the retirement contracts that has to be absorbed. In many mature pension funds, this capacity will be limited.

Ideally, pensions are inflation-indexed. Nominal pensions invite money illusion. Especially during persevering inflation spikes, the purchasing

power of nominal pensions is materially eroded. However there is a lack of capital market instruments offering protection against country-specific price or wage inflation.

Other pension plan design factors could be considered. Pension adequacy and cost are considered in the design process, but they act more as constraints framed by the past cost levels and pension promises. The need for transparency speaks for itself.[11] Transparency is likely to correlate well with the completeness criteria, as does the facilitation of labor mobility.

TOWARDS A NEW GENERATION OF PENSION PLANS

An important message of this article is that as defined benefit plans continue to mature in the decades ahead, contract completeness becomes increasingly significant. However, fairness, a minimum level of security, risk-sharing and inflation-indexation are important design criteria too. All five criteria should be considered in the pension redesign processes currently underway in the Netherlands and elsewhere. The question now is in what mix and in what form.

Pension contracts can take many forms, but two structural trade-offs are critical: individual versus collective entitlements, and hard guarantees versus soft benefit targets. Collective entitlements can be either positive-only, related to an unallocated buffer of money on top of allocated individual pension entitlements; or, they can also take on negative values where the sum of all individual entitlements is higher than the assets available. Similarly, individual entitlements can be either hard guarantees, soft targets based on normal economic scenarios, or some mix of the two. So the distinguishing design blocks are hard individual entitlements, soft individual entitlements, soft positive collective entitlements and soft negative collective entitlements.

These four building blocks can create multiple pension system design variants. The challenge is to choose the mix of the four blocks that best balances pension plan participant needs and economic realities.

ENDNOTES

1. The author would like to thank David Blake, Malcolm Hamilton, David Knox, Theo Nijman, Joeri Potters and Bart Oldenkamp for their useful comments.

2. In the two scenarios, a return on the risk-free bonds of 4% is assumed for simplicity, although due to the same discounting in liabilities as in the (maturity matching) bonds, only the risk premium on the risky assets (in this case equity) and not the yield on the

bonds is relevant for the development of the funding ratio.

3. Other countries are also contemplating improvements in the pension system e.g. Independent Public Service Pensions Commission UK (2010).

4. This paper concentrates on adjustments in the pension contract. Of course, other solutions to reduce risks in the defined benefit contracts could come from improvements in hedge products, such as domestic inflation products or longevity-linked products. There is a logical role for the governments in defined benefit countries to issue these kinds of products linked to their own debt programme – see Blake (2010) and Bodie (2009). This is outside the scope of this paper.

5. Expected pay-out includes all embedded options i.e. payments conditional to health of the fund, life expectation etc.

6. Further thoughts on the relationship between completeness and fair conditions: Complete contracts are not necessarily fair contracts. Fair contracts are always complete. Complete contracts need not be ex-ante fair. Every proprietary claim under all scenarios can be well described, but the end result may be shifting money – in market value terms – from one group to the other. However, if contracts are fair they need to be complete. If parts are incomplete, it is not known who gets what amount in the incomplete situations. It is therefore impossible to say if the contract has an ex-ante fair price.

7. The concept of age discrimination is very unclear in Dutch law. Economic unfair, off-market pricing in defined benefit regimes (not in defined contribution regimes) both in terms of contributions and embedded options are from a legal perspective perceived as age-fair. See Nijman et al. (2006).

8. The author's research found for example, that a 50-50 chance of an increase in lifetime income of 50% is only acceptable if the downside of the bet is 12.5%.

9. The risk-sharing contracts in this paper can also be defined contribution contracts, if they are collective risk-sharing defined contribution programs with accumulating and decumulating generations sharing risks between them.

10. Risk absorption can be achieved in many ways, e.g. via reduction of soft entitlements, change in retirement age, change in contributions, etc. The latter two only apply risk absorption to

actives. The exact form of risk-sharing is not further elaborated in this paper.

11. To some, transparency is not considered an evident merit and creates unnecessary panic. Although lack of transparency certainly delays the panic, it may actually escalate the ultimate consequences of not being transparent in the first place, as is already apparent in the form of reduced trust in the defined benefit pension system around the western world.

REFERENCES

Ambachtsheer, K. (2007). *The Pension Revolution*. A Solution to the Pension Crisis,Wiley Finance, ISBN 978-0-470-08723-7.

Blake, D., Boardman, T., and Cairns, A. (2010). Sharing Longevity Risk: Why Governments Should Issue Longevity Bonds. Discussion Paper PI 1002. Pensions Institute. Available at: http://www.pensions-institute.org/workingpapers/wp1002.pdf

Bodie, Z. (2009). Tips for Holland. Inflation-Linked Bonds, Transparency and the Public Interest. *Netspar NEA* paper 22.

Bodie, Z. and Prast, H. (2010). Rational Pension Products for Irrational People. *Discussion Paper*.

Broeders, D., Eijffinger, S.C.W., and Houben, A. (2008). *Frontiers in Pension Finance*, Edward Elgar Publishing, Inc. ISBN 978 1 84720 660.

De Nederlandsche Bank. (2010). Pension Scheme Members' Preferences. Available at http://www.dnb.nl/en/news-and-publications/news-andarchive/nieuws-2010/dnb243711.jsp

Frijns, J.M.G., Nijssen, J.A., and Scholtens, L.J.R. (2010). Report of the Committee Investment Strategy and Risk Management. (Beleggingsbeleid en Risicobeheer).

Goudswaard, K.P., Beetsma, R.M.W.J., Nijman, Th.E., and Schnabel, P. (2010). Report of the Committee Sustainability Supplementary Pension Contracts. (Toekomstbestendigheid Aanvullende Pensioenregelingen).

Independent Public Service Pensions Commission, United Kingdom. (2010). Interim Report. October 7.

Kocken, T.P. (2006). Curious Contracts: *Pension Fund Redesign for the Future*, UTN Publishers, ISBN-10: 9072194780.

Kocken, T.P. and Potters, J. (2010). Sinking Giants, *Life & Pensions*, May 2010.

Nijman, T., Hari, N. and Koijen, R. (2006). The Determinants of the Money's Worth of Participation in Collective Pension Schemes. *Netspar NEA Discussion Paper 2006 – 027*. November 29.

Pan, C. and Statman, M. (2009). Beyond Risk Tolerance: Overconfidence, Regret, Personality, and Other Investor Characteristics. *Working Paper*, September 30 2009.

Potters, J., Oldenkamp, B., and Kocken, T. (2011). Hard and Real, Can ItWork in the Netherlands? *Cardano Working Paper*.

Rauh, J. (2009). Are State Public Pensions Sustainable? Kellogg School of Management/NBERWorking Paper.

Rauh, J. (2010). The Day of Reckoning For State Pension Plans. (2010). *Working Paper*, March. Available at: http://kelloggfinance.wordpress.com/2010/03/22/the-day-of-reckoning-forstatepension-plans/

Teulings, C.N. and Vries, C.G. de (2006). General Accounting, Solidarity and Pension Losses. *Economist*, 154 (1), 63-83.

Thaler, H. T. and Sunstein, C.R. (2008). Nudge. Yale University Press.

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THE GASB'S PRINCIPLES-DRIVEN PENSION STANDARD

By James Rizzo with assistance and review from Paul Angelo

In June the Governmental Accounting Standards Board (GASB) issued two exposure drafts of new accounting standards for pensions. These proposed standards embody a new paradigm for governmental pension accounting—a dramatic shift from current standards. Before describing the basis for the GASB's new accounting standards, a little organizational background may be helpful.

The Financial Accounting Foundation (FAF) is an independent organization with the endorsement of the Securities and Exchange Commission and has responsibility for the oversight, administration and finances of both the Financial Accounting Standards Board (FASB) and the Governmental Accounting Standards Board (GASB). The FASB is the designated organization for establishing standards for private sector accounting and financial reporting, while the GASB serves the same role for the public sector. Because of the inherent differences between the private and public sector environments, each organization issues its own respective rules for "Generally Accepted Accounting Principles" (GAAP) as applicable to their respective environments. This is the reason we have private sector GAAP and public sector GAAP. For further background on this issue, we recommend the White Paper prepared by the GASB, Why Governmental Accounting and Financial Reporting is–and Should Be–Different.

The GASB has developed a conceptual framework for governmental accounting much like the FASB has for the private sector. The GASB's "Concept Statements" guide it in developing sound and consistent accounting principles as it sets standards for governmental accounting and financial reporting. The standards must be relevant in, and keep pace with, a dynamic government environment that continues to evolve. The GASB has a policy of periodically reexamining existing standards to evaluate their effectiveness and determine whether improvements are warranted.

Sometimes this means minor changes and other times it means a major overhaul as the GASB has determined is the case currently for pension standards. We note that the current GASB Statements No. 27 and 25 setting forth governmental GAAP for employers and plans respectively were issued in November 1994, prior to the GASB's development of their Concept Statements as well as substantial reevaluation of cost measurement issues for private sector plans.

Accordingly, the GASB has embarked on what will turn out to be, when completed next June, a six-and-a-half-year project to revamp governmental GAAP accounting and financial reporting standards for pensions. It chose not to make the changes in a piecemeal fashion, in phases, but rather to undertake the reexamination all in one project from the ground up (measurement, recognition and disclosure) for both single employer plans and multiple employer public sector plans.

In their own terms, the GASB's stated purpose is to improve governmental accounting and financial reporting and to reexamine the effectiveness of existing government accounting standards for the various users and uses of government financial statements; more specifically, to improve the usefulness of information for making decisions regarding employer-governments and contributing nonemployer-governments. This project affects financial statements prepared with an economic resources measurement focus (i.e., full accrual accounting); note that governments also prepare two other types of financial statements unaffected by this pension project–near-term measurement focus (also known as governmental funds accounting) and budgeting.

Following is a brief timeline of the deliberative process for the GASB's review of governmental pension accounting:

- January 2006–The GASB added pensions to its research agenda, culminating in a major research paper on governmental pension accounting.
- April 2008–The GASB officially added pensions to its project agenda.
- March 2009–The GASB issued an Invitation to Comment. This document embodied an expression of the various current schools of thought on pension valuation issues and was part of the GASB's due diligence process to solicit comments from the public community of users, preparers and auditors so that all interested parties had an opportunity to weigh-in at an early stage in the standards development.

June 2010–The GASB issued Preliminary Views, which set forth the GASB's then-current thinking about its views on a new pension standard. This document was the culmination of a fundamental reconsideration of the nature of governmental pensions and the principles that should drive the GASB's direction on the topic.

- July 2011–The GASB issued two exposure drafts and a plain language supplement, with one exposure draft governing the financial statements of employers (and nonemployer contributing entities) and the other governing financial statements of pension plans themselves. Both are proposed to be effective for periods beginning after June 15, 2012 for certain large single employer plans and their employers and June 15, 2013 for all others. They can be found on the Documents for Public Comment page of the GASB's website.

- June 2012–The scheduled date for the adoption of two new standards amending Statements No. 27 and 25.

The GASB has been driven by certain concepts and principles that have led it to the standards outlined in the two exposure drafts. These concepts and principles derive from its Concepts Statements, the economic transactions at play and the nature of the governmental environment. References below to the Summary and paragraph numbers, as well citations of the relevant Concept Statements, are taken from the exposure draft amending Statement No. 27.

Objectives. The objectives of financial reporting are accountability, decision-usefulness and interperiod equity. Concepts Statement 1 as invoked in paragraph 124.

Accounting, not funding. The GASB chose to establish standards for accounting and financial reporting, and not to establish standards for financing, funding or regulating plans. Quite simply, the GASB does not establish funding standards for governments to follow. As the GASB's own text states very clearly, nothing in the GASB's accounting standards require employers to contribute any given amounts to the plans. In other words, the proposed standards will not require larger pension contributions (or smaller), as has been implied in certain press reports and commentaries. This flows from the fundamental purpose of the GASB – to set accounting and financial reporting standards. Government pension funding polices are set by some combination of the plan's governing body, the employer and the elected officials, not by the GASB. Paragraph 128.

Long-term nature of governments. Government longevity leads to accounting standards that avoid employing measurement approaches that

seek to answer questions about whether governments will continue to exist, but rather seek to provide insights into their sustainability and their cost of services. Paragraph 126.

Cost of services. The determination of the cost of services, or allocation of resources to government programs, lies at the heart of governmental accounting. Providing useful information concerning the cost of services is essential to the objectives of financial reporting, including that of helping financial report users assess the degree to which interperiod equity has been achieved. Concepts Statements 1 and 4 and paragraph 126.

Nature of the employer's obligation. In developing the current Statement No. 27, the GASB viewed the employer's liability as one arising from its obligation to fund the plan. The proposed amendments recognize that the employer's ultimate obligation is to the employee; but they also recognize the three-part relationship among the employer, the employee and the plan. Paragraph 122.

Consistency and comparability. The current Statement No. 27 accommodates a wide range of practices in determining the liabilities and expense associated with pension plans, any one of six actuarial cost methods may be used to develop the pension expense recognized and the liability disclosed and such methods can be changed from one year to the next. Different amortization methods may be used to determine the pension expense, and the amortization periods may range from one year to thirty. This has impaired the financial statement users' ability to compare different governments or even to compare the same government to itself over time. For the new accounting standard, the GASB decided to require the use of only one designated cost method and amortization approach for allocating the cost of services to years of employment. This is intended to enhance the consistency and comparability of financial statements without creating a false or forced comparability that might result from not reflecting the substantive differences in the underlying transactions and measurements. Summary and Concepts Statement 1. Employee-employer compensation exchange. The employer's ultimate obligation to the employee arises by virtue of the voluntary exchange transaction between the employee and employer. The pension promise is a form of compensation due the employee in exchange for services rendered. Paragraph 122 and 127.

Long-term nature of employment relationships. Recognizing the long-term nature of employment relationships is viewed as consistent with the long-term nature of governments and their plans. A simple review of current U.S. public sector retirement systems (their size, longevity and number of current and expected future retirees and beneficiaries) leads to a recognition of the long-term employment relationship between employers

and plan members. The GASB was informed in its interpretation of the accounting notion of cost of services by the long-term nature both of employment relationships and of governments and their plans. Specifically, a measurement approach whose allocation method was intended to assign costs as a level percent of pay over the expected future employment exchange between the individual employee and the employer would best represent the GASB's notion of cost of services and interperiod equity.

Measurement approach. While the concept of measurement approaches (formerly known as measurement attributes) has been around for many years, the GASB is current working on a Concept Statement on Recognition of Elements of Financial Statements and Measurement Approaches. Concurrent with this Concepts Statement development, the GASB was deliberating the measurement approach for the total pension liability. After researching and understanding the attributes of all the primary actuarial cost methods, the GASB decided that the entry age normal cost method best reflected the cost of services model over time given the long-term nature of the employment relationships and the long-term nature of governments and their plans. Paragraph 204.

Cost to taxpayers. Again, the cost of services to taxpayers lies at the heart of government accounting. In selecting a measurement approach, the GASB rejected the market based measures of liability in favor of one that better reflects the expected long-term cost to taxpayers for fulfilling the pension obligation over time (also known as an expected fulfillment value). The investment earnings of the pension fund over time have a direct reducing effect on the cost of services to taxpayers. The GASB chose to reflect this effect of the pension fund by adopting a discount rate based on a reasonable forward-looking long-term expected rate of return of the pension portfolio, at least to the extent that there are long-term investable assets are expected to be available to pay benefits for current plan members. To the extent there are benefits for which such assets are not expected to be so available, the discount rate for those benefits will reflect a long-term high-quality municipal bond index yield on the reporting date. A single equivalent discount rate is then to be used for all liability-related calculations. Paragraph 122.

Additional transparency. To create additional transparency the GASB has decided to include a measure of the pension liability on the face of the financial statement. Under the current Statement No. 27 such a measure of liability is found in the Notes and the Required Supplementary Information (RSI) sections of the financial statement, while the basic financial statements present as a liability only the cumulative shortfall (if any) in meeting a funding obligation. Under the exposure draft the liability section of the basic financial statements would present a measure of the

full amount of the current net pension liability. This means that a new, much larger and more volatile liability will appear on government employer's financial statements. Summary and paragraph 145 et seq. GASB exposure drafts are sometimes described in terms of setting a fence post in concrete. At the time the exposure draft is issued, the concrete is beginning to set, with some latitude still remaining for adjustments. Occasionally, the GASB has stepped back and re-issued a second exposure draft when they changed course on a major point. But short of that, there may still be some room for changes to certain aspects of the exposure drafts. Comments can be submitted to the GASB (to the Director of Research and Technical Activities – Project 34-E at director@gasb.org. The deadline for comments has been extended to October 14, 2011.

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SOCIETY OF ACTUARIES

PENSION SECTION *NEWS*

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SOA Releases NEW Living to 100 Symposium

SOA RELEASES NEW LIVING TO 100 SYMPOSIUM MONOGRAPH

Papers presented at the 2011 Living to 100 Symposium are now in an online monograph at LivingTo100.soa.org. Find papers and transcripts from the 2011 symposium covering topics including mortality modeling, measurement and trends, obesity and other factors that may affect mortality, mortality compression, predictors of exceptional longevity, slowing the aging process and implications of increasing aging populations. The transcripts of panel discussions and keynote presentations are also available in the monograph. Look for the fifth Living to 100 Symposium's call for papers coming soon!

Monograph

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