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CONTEST RESULTS—RENAMING OUR NEWSLETTER!

Faisal Siddiqi, FSA

As you know, last year we conducted a contest to rename the *Pension Section News* (*PSN*). The name has not changed in over 20 years and with a new generation of members joining the Pension Section since the newsletter's inception, it seemed like a good time to consider renaming our newsletter. We received 69 entries. The entries had a lot of variety to them as you might expect. Some of the entries were funny, some were strange, some were stranger, some were anagrams, some were questions, etc. —all of which showed a lot of creativity.

After careful consideration of all the entries, the Pension Section Communication Team narrowed the field to the following finalists:

- *Pension Section News*
- *Pension Perspectives*
- *Retirement Focus*
- *Pension Focus*
- *Pension Vision*

We then asked newsletter readers to vote on these top five entries. Believe it or not, there was a near-tie between *Pension Section News* and *Pension Perspectives*. So we had to have a runoff vote. It felt just like Bush/Gore all over again—the chads, the out-of-country votes, the referral to the judiciary. After the runoff vote results were in, we finally had a winner.

And the winner is…..*PENSION SECTION NEWS*!!!!

Steve Siegel suggested *Pension Perspectives* and he has won first prize in the contest. Second prize went (in another tie!) to Mike Price for submitting *Retirement Focus* and *Pension Vision* and to Ray Berry for submitting *Retirement Focus* (as well) and *Pension Focus*. An honorary mention goes to Bob North for suggesting that we leave the name as is since, as he put it "...the name is an accurate description of what it is…" Thanks, Bob.

What were some of the other entries you ask? Here you go and enjoy:

- *The Golden Egg*
- *Eon Inspections (the anagram referred to earlier of "Pension Section")*
- *Survivor*
- *Gains and Losses*
- *db Noise*
- *Pension Goal Posts*
- *PSION*
- *Pension Muses*
- *Penchant for Pensions!*

65 and Counting

- *Annuity Bee*
- *For Your Benefit*
- *P.S.—What's New?*
- *Pension Pill*

Thanks to everyone who sent in an entry. Steve, Mike, and Ray's prizes are in the mail. Don't forget to keep a list of any great newsletter names you happen to come up with, just in case we decide to hold another "Rename the *PSN*" contest for our newsletter's 40th anniversary.

Faisal Siddiqi, FSA, FCIA, is a consultant with Towers Perrin in Toronto, Ontario. He can be reached at *faisal.siddiqi@towersperrin.com*.

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CHAIRPERSON'S CORNER

Cindy Levering, ASA

What a year it's been! If someone had told me in January that by the end of 2008 in the United States:

- the major stock market indices would have dropped over 40 percent,
- Wachovia, Merrill Lynch, Bear Stearns and Lehman Brothers would all be gone,
- AIG would have to be bailed out by the federal government,
- the female governor of Alaska would be a vice presidential candidate,
- we would have our first African-American president,
- we would be close to losing our domestic automakers,
- oil would be selling for under $40 a barrel,
- the yield on short term Treasuries would be close to zero,
- discount rates would be in excess of 8 percent,
- a New York hedge fund manager would stand accused of running an $50 billion "Ponzi scheme, "
- we would be in the midst of a global recession,
- and the list goes on and on and on…

… I would have thought they were crazy! Yet all this and more dominated the headlines in 2008—the words "historical and unprecedented" are in the news almost daily. Without question, this has been a year of milestones we won't soon forget.

Moral Hazard

The financial and insurance industries often use the phrase "moral hazard." Wikipedia defines this as "the prospect that a party insulated from risk may behave differently from the way it would behave if it were fully exposed to the risk." In this era of bailouts and rescues, this phrase has taken on a new and personal meaning for all of us. If you've been brave enough to check your 401(k) or RRSP balance lately, you may want to ask "Where's my bailout?" I was in Toronto in September and saw an article in *The Globe and Mail* entitled "Bail out the kids? Think twice," relating stories of parents who were considering providing their own mini-bailouts to kids who have made bad decisions, including not only the obvious financial ones but also non-financial ones like getting bad grades. As the parent of a 26-year old with cash flow issues, I can certainly relate to the difficulties of navigating such situations!

Once the bailout process begins, where does it stop? I don't think it was difficult to predict the mortgage meltdown when people were buying houses that they obviously couldn't afford without the help of aggressive loan tactics such as interest only loans or adjustable rate mortgages, and with buyers and lenders both counting on the expectation that real estate prices would continue to increase indefinitely. Likewise the credit crunch comes as no surprise when we consumers are running up huge debt balances and paying exorbitant amounts of interest. What a lot of people didn't realize was the depth and breadth of the problem, which is now having global implications.

Will the retirement system be the next victim? As many of you know, the U.S. pension community has been in Washington, D.C. lobbying for relief from the new funding rules, some of which has already been granted. We all know that the American Social Security and Medicare systems have some serious challenges ahead of them with the baby boom retirements that are beginning to occur. And, the limitations of defined contribution plans are more apparent than ever.

What Is The Pension Section Council Doing and How Can You Help?

The PSC launched the *Retirement 20/20* initiative in late 2005 to explore what could be done to address the decline in the number of defined benefit plans and concerns about the long-term viability of the defined contribution plans that often replace DB plans. It has become increasingly apparent that neither traditional defined benefit plans nor defined contribution plans on their own can meet the economic and demographic needs of employees, employers, society or the financial markets in the 21st Century in North America. The purpose of *Retirement 20/20* is to help to build a new retirement system from the ground up, without constraints related to the realities of current U.S. and Canadian program designs or their regulatory structures. The group of volunteers involved with *Retirement 20/20* is very impressive. It includes academics, public policy professionals, economists, market representatives, as well as actuaries. For example, we had participation from the chief actuaries of both the U.S. and Canadian social insurance systems at our most recent conference.

Our third *Retirement 20/20* conference took place in Washington, D.C. this past November (see Andy Peterson's article). The feedback we received from the conference indicated that now is the time to be moving forward with concrete solutions. One of the important tools to assist us is the Measurement Framework which we introduced at the conference (see also my article in the May 2008 *Pension Section News*—
http://newsletters.soa.org/soap/issues/2008-06-02/2.html). The Framework consists of a color-coded rating system. We're using it to compare and contrast various existing retirement plans as well as any new models that are developed based on the underlying principles identified as part of *Retirement 20/20* initiative and conferences. The Framework also incorporates the effect of moral hazard in its evaluation.

With our eyes firmly focused on moving forward, we're working on several ideas to accelerate the *Retirement 20/20* project during 2009 and 2010. This is where you come in. We need your help (see Marcus Robertson's article)! This is an exciting project in a challenging environment. With new governmental leadership in the United States (and possibly in Canada by the time you read this!), there may be a window of opportunity to get our message out and to motivate real change. We invite you to come be a part of this effort! Let's help make this a positive "historical and unprecedented" time in the retirement world!

Cindy Levering, ASA, EA, is chair of the Pension Section Council for 2009. She is a senior vice president with Aon Consulting, based in Baltimore, Maryland. She can be reached at *cindy_levering@aon.com*.

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RETIREMENT 20/20: A BRIEF HISTORY AND AN UPDATE

Andrew Peterson, FSA

I have been in my role as Staff Fellow, Retirement Systems for the SOA since April of 2008. I like to think of myself as being fairly well-informed and up to date on issues affecting actuaries practicing in the retirement arena. Before joining the SOA, I typically read or at least skimmed most of the pension-related publications from the SOA and other actuarial organizations. I knew that there was this ongoing initiative called *Retirement 20/20*, but I would have been hard-pressed to provide more than a vague description of how the initiative is an attempt to reinvent the retirement system. Based on my anecdotal evidence in talking with friends and colleagues in the profession, I think that my level of understanding was fairly typical.

However, since joining the SOA I've found myself immersed in this initiative. I've found it to be an interesting project but somewhat daunting in its objectives. The primary purpose of this article is to provide a summary of our recent *Retirement 20/20* conference (held in November 2008 in Washington, DC). But to begin, I want to offer some background on how we got to 2008. Let's call it, "*Retirement 20/20* for Dummies."

A Brief History...

Actuaries have been consulting to retirement plan sponsors about significant demographic and economic issues for a number of years. However, often this work involves solving problems "tree by tree" rather than looking at "the forest" as a whole. It was this desire to take a step back and look at the macro picture that led the Pension Section to start the *Retirement 20/20* initiative late in 2005. The fundamental goal of *Retirement 20/20* is to help create a better retirement system.

The discussions that led to the *Retirement 20/20* initiative started as a reaction to the decline of the traditional defined benefit pension plan and moved quickly to the acknowledged shortcomings of our North American retirement systems, in both the defined benefit and defined contribution arenas—shortcomings which have been further accentuated during the current financial crisis. *Retirement 20/20* seeks to find retirement solutions that will meet the economic and demographic needs of the 21st century in North America.

Some have asked where the 20/20 name came from, thinking that it's perhaps referring to a goal of having a new retirement system in place by the year 2020. This is <u>not</u> the case! Instead, the 20/20 title is a reference to perfect 20/20 vision and our desire to bring improved clarity to an uncertain retirement future. Stepping back and looking at the problem with 20/20 vision will allow us to design solutions to directly meet current and future needs.

The goal of creating a better retirement system is ambitious (and some would even say audacious), but we believe that as actuaries who deal with retirement plans every day we are uniquely positioned to lead this discussion. That being said, the strength of this initiative to date has been the involvement of a wide variety of non-actuary retirement professionals from policy experts, to academics, to economists and others. This diverse group has worked with us enthusiastically as we seek to develop the principles and new ideas required for a sustainable retirement system in the 21st century. We are developing ideas that we hope will transcend political biases and ultimately lead to fruitful discussions about improving the retirement system in North America.

The initiative didn't start by looking at specific designs or risk-sharing ideas, but rather with the development of core principles. The process has purposefully avoided the temptation to jump to solutions before laying the appropriate groundwork. Initial discussions in 2006 focused on identifying the key stakeholders and objectives for successful and sustainable retirement systems. In 2007, we focused on the skills of the various stakeholders and how best to align their roles with their skills. In 2008, we began to drill down to understand and evaluate some of the specific mechanisms that have been considered or implemented and that may serve to achieve some of the key objectives identified in 2006 as critical to a sustainable new retirement system.

The 2008 *Retirement 20/20* conference invited experts from North America and beyond (the Netherlands and Spain, to be exact) to present their ideas, their research, and their experiences through papers and panel discussions. Considerable time was also spent over the course of 2008 developing a benchmarking tool which we call the Measurement Framework (described in the May 2008 *Pension Section News* at *http://newsletters.soa.org/soap/issues/2008-06-02/2.html*).

2006 and 2007 Conferences

The 2006 conference was a discussion of needs, risks, and roles related to the following stakeholders: society, individuals, markets, and employers.

The six key themes that came out of the 2006 conference were:

1. Systems should align stakeholders' roles with their skills;
2. Systems should be designed to self-adjust;
3. Systems should consider new norms for work and retirement and the role of the normative retirement age;
4. Systems should be better aligned with markets;
5. Systems should clarify the role of the employer; and
6. Retirement systems will not succeed without improvements in the health and long-term care systems. (*Note that this last theme has purposefully been excluded from subsequent discussions due to its complexity and scope.*)

The seed for the topic of the 2007 conference was found in the first theme from 2006: aligning roles with skills. We set out to identify optimal roles for our various stakeholders. Proper role definition is critical to the system's success. The correct role is one that uses each stakeholder's knowledge and talents optimally. For example, market experts would work in the markets, and employers could focus on their core business. Defining stakeholder roles is a necessary step that must be completed before beginning to design the features of the new retirement system.

The 2007 conference focused on three of the stakeholder groups: society, markets, and employers. Individuals, while very important, were not discussed explicitly. However, they were often referenced in the discussions. Based on the consensus of conference participants, the key roles identified for these stakeholders were as follows:

- Society provides structure to the retirement system through:
  - Helping individuals make the right decisions,
  - Setting some guidelines about what ought to happen, and
  - Providing consumer protection.
- Markets provide structure to support the retirement system by:
  - Facilitating and allowing for groups to approach the markets,
  - Providing proper incentives for agents (who can facilitate the use of groups),
  - Providing standardization among products offered, and
  - Encouraging innovation in hedging and pooling instruments.
- Employers provide structure to the retirement system through:
  - Playing a role as a facilitator of individual savings,
  - Serving as an unbiased educator and trusted advisor, and
  - Participating in various elective employer roles as purchasing agent, distributor of income and guarantor.

The full 2006 and 2007 conference reports can be found at *www.retirement2020.soa.org*.

The 2008 Conference

As mentioned above, we shifted our focus in 2008 to drill down into some of the key objectives or features identified back in 2006 as important for a new retirement system. Our most recent conference, *Defining the Characteristics of the 21st Century Retirement System,* was held in November and covered the following major themes:

- Changing signals,
- Default distribution options,
- Self-adjusting mechanisms, and
- Market hedging opportunities.

An additional theme permeated many of the sessions, as there was considerable discussion from both panelists and attendees about behavioral finance and how the participant decision-making process impacts retirement planning, related choices, and eventual outcomes. Plan member behavior was the topic of our luncheon speaker, Brigitte Madrian, a Harvard professor and economist who has done significant research in this area.

As was the case in 2006 and 2007, the 2008 panelists represented a wide variety of disciplines. There were actuaries, economists, academics, investment advisors, and policy experts. These individuals represented public and private sector employers, as well as government. We were delighted by the international flavor provided through presentations on the Swedish social insurance system, the Dutch collective industry-based plans (explained to us by a Dutch expert), and a behavioral finance experiment (presented by a Spanish academic). Both Canada and the United States were well represented amongst the less exotic panelists. This diversity of both professions and cultures once again proved to be a valuable aspect of the meeting.

Changing Signals

“Signaling” within retirement plans refers to design elements or other factors that direct participants’ behavior. These signals can be specific plan features or external factors such as policy statements or even cultural norms. For example, an early retirement age or an announcement about a new benefit provision can send signals (sometimes unintended) to participants that they should retire at a specific age or take a specific action. At the conference, the discussion of signals focused on the signals that currently exist and how they might be changed to influence participant behavior in a manner that would make a new retirement system work effectively over the long term. There was also discussion of what new signals one might want to imbed, or avoid, in a future system. Much of the dialogue focused on the signals that impact retirement age and people’s expectations with respect to what retirement is, or should be, like.

Presentations and follow-up discussions highlighted points such as:

- In a sustainable retirement system, retirement ages need to increase with increases in longevity. The signals imbedded in social insurance plans, the tax code, and employer- or industry-sponsored tier two plans should communicate this.
- Cultural expectations need to change to promote life-long learning and maximizing productivity in the workforce versus maximizing time spent in retirement leisure. This includes behavioral changes on the part of workers, the employers who need to employ older workers, and the governments that create policies and regulations.
- Expectations about the retirement period are often misleading. The focus in the media is often on leisure and relaxation (e.g., golf and cruises) rather than income security or age-related risks (such as the death of a spouse or a long-term illness).
- These expectations, coupled with the inherent difficulties most individuals have in making decisions related to long-term and uncertain outcomes, can result in suboptimal decision-making. Most retired individuals don’t buy annuities. They may retire before their retirement savings are sufficient for an adequate lifetime retirement income. They may spend too much of their savings in the initial retirement years, without an appreciation of their own life expectancy or the potential cost of care in their advanced years. Or, they may spend too little.
- Options within a plan need to be framed well, with good defaults that facilitate the action that people want or know they need to take. Choices must be presented in a simple, straightforward manner so as not to overwhelm and create “decision paralysis.”
- Much more needs to be done to improve the financial literacy and analytic skills of the general public, although even when financially literate, people often make decisions on an emotional basis.
- Encouraging follow-through even on an important matter can be a challenge due to the overwhelming power of inertia, as proven by research in behavioral economics.
- Due to the above two issues, signals may not always work as intended or expected. For example, the existence of generous

early retirement provisions signals that early retirement is acceptable and perhaps even desirable and this signal can be stronger than the signal given to the same plan participants by stating a normal retirement age.

- The terminology we use may need to change to match the signals we want to send. For example, “normal retirement age” implies an expectation that everyone should retire at one specific age. Unless this is what we want, perhaps we shouldn’t use the term.

Default Distribution Options

The default distribution options are important signals imbedded in retirement plans. Much of the discussion around this topic centered on annuitizing retirement assets: why it should or shouldn’t be done, why it doesn’t happen more, and what can be done to encourage it. As at the 2007 conference, there was general consensus that at least a certain level of annuitization is valuable and should be encouraged or mandated (this latter point was a subject of significant debate) to help individuals avoid outliving their retirement assets. Of course, whether or not people annuitize is often a function of the signals they get (both internal and external to the plan). Ideas and signals for encouraging more annuitization include:

- Develop government incentives, such as favorable tax policies, that encourage use of annuities,
- Create better and more portable annuity options in DC plans with retirement savings objectives,
- Frame the annuity decision differently and make annuitization the default option,
- Focus on the long-term nature of retirement and on longevity risk when offering retirement-related education,
- Encourage the development of better alternative annuity products and strategies (e.g., annuitization in stages, different refund options for perceived “premature” death, etc.).

Self-adjusting Mechanisms

The importance of self-adjusting mechanisms in retirement plans was another key theme of the 2006 conference. These are plan features that adjust “automatically” in response to changes in economic and/or demographic conditions that cause financial imbalance. Examples of self-adjusting mechanisms are social insurance systems that adjust retirement benefits based on longevity for particular age cohorts (as is done in Sweden) or defined benefit retirement plans that base cost of living improvements on plan funding ratios. A key aspect of these self-adjusting mechanisms is that they are based on pre-determined rules, which generally eliminate the need for human intervention at the time when adjustment is needed. They can allow a plan to remain viable as demographic and economic changes occur and ensure that problems are fixed before they evolve into a crisis situation.

Self-adjusting mechanisms have the advantage of allowing stakeholders to develop a set of rules that allow for risk-sharing and that take a long-term perspective, and to do so away from the emotion that may occur if changes are needed in the midst of a crisis. However, depending on the governance of the plan or system, there is also a “moral hazard” risk that the mechanism can be overturned (particularly in a financial downturn). The idea of self-adjusting systems can seem great conceptually, but the reality of what it means for individuals can result in overriding actions by the governing group. For example, one participant told the story of how a decrease in benefits to participants was overridden the first time the self-adjusting mechanism actually prescribed such a decrease. The success of these systems is generally a function of good governance, good communication, and the resolve to manage the system for the long term by allowing the adjustments built into the system to occur.

Two different retirement systems were highlighted to illustrate different self-adjusting mechanisms. The Dutch retirement system and in particular their industry-wide pension funds are often viewed as a model for other systems. These plans cover all employees who work in a particular industry (somewhat analogous to North American multi-employer pension plans) and in combination with employer-provided plans cover nearly 100 percent of the Dutch workforce. These plans typically provide a traditional career average pay benefit formula, but incorporate self-adjusting mechanisms that can change the contributions made by employees and employers, the post-retirement indexation of benefits for retirees, the asset allocation, the amount of accrued benefits, and even the retirement age. These different provisions are changed based on the funding ratios (assets to liabilities) and are viewed as a model because risk is shared between employees and employers and across generations. Also, the fact that these plans are industry-wide allows them to operate with significant economies of scale and very low transaction costs.

There are some criticisms leveled at the Dutch plans in terms of the true extent of the inter-generational equity and the sustainability of the self-adjusting mechanisms, particularly in a financial downturn as currently being experienced. But overall, there are many lessons to be learned from the Dutch with respect to their system's design.

Another plan with some self-adjusting mechanisms is the Ontario Teachers' Pension Plan which covers all teachers in the province of Ontario (278,000 members, $108.5 billion in assets at Dec. 31, 2007). This system is frequently praised for its strong governance features and recently implemented a self-adjusting mechanism where benefit indexing is conditional on certain financial criteria. This conditional indexing was implemented after extensive surveying of their membership that indicated a willingness to make concessions on indexing provisions but not on other features like their early retirement "rule of 85." The plan amendment was successfully negotiated in part because it incorporates a risk-sharing (or cost-sharing) mechanism. If the teachers fail to get the "normal" indexation, then the funding bodies must contribute more to the plan.

Common themes in both of these case studies are the importance of good governance, the sharing of risk among various stakeholders, and a general understanding and communication of the risk and the details of the self-adjusting mechanism to participants. In discussions, the need for participants to fully understand the self-adjusting mechanism was questioned, but there was agreement that it is helpful for participants to at least understand that risk-sharing is occurring. Also, it was acknowledged that self-adjusting mechanisms are not the end-all solution and may require intervention in extreme financial situations. Thus, self-adjusting mechanisms don't guarantee financial sustainability. And, while they don't exempt a plan from the need for good governance and sound decision-making practices, they can nevertheless be an important feature in our future retirement system.

Market Hedging Opportunities

The final theme of the 2008 conference was the role of markets in providing product solutions that will be needed for new retirement systems. A key question is whether the appropriate "raw" tools exist within the markets to deal with the challenges of longevity and inflation risk. Much discussion focused on the fundamental characteristics and effectiveness of markets, particularly in light of the current financial crisis, in developing products that can hedge retirement-related risks.

The markets are generally the best place to create efficient prices for particular risks, but only to the extent that there is sufficient liquidity. So, for example, creating a product to trade mortality or longevity risk would only be effective if there is sufficient market demand from enough participants on both the "long" and "short" side of the trade. Questions were raised about whether government intervention is needed to create new products as happened with the TIPS market (inflation bonds) in the United States a decade ago. Ultimately it becomes a "chicken and egg" argument about whether you generate supply or demand first, with discussion leaning toward institutions creating products or systems that create demand first—with supply following.

An additional key topic of discussion was that of informational asymmetry. A good example of this is in the retail annuity marketplace. There, informational asymmetry exists because the buyers of products lack information or knowledge as compared to the seller. The role of education was seen as limited. One argument was made that if the information asymmetry is structural, it may require public choice (through defaults, mandates, or strong framing) to correct the problem.

The role of markets in hedging retirement risks and providing good product solutions will be an ongoing discussion area within the *Retirement 20/20* initiative, particularly as the markets adjust and evolve in the aftermath of the current financial crisis.

What's Next?

Now that we're three years into the *Retirement 20/20* project, where do we go from here? We've gathered a lot of input on the skills of stakeholders, and the optimal objectives and characteristics for a new retirement system. We believe that we've developed a sound foundation. Now, the focus needs to shift to developing blueprints of what a new retirement system might look like. With the change in the United States presidential administration and the ongoing financial crisis creating challenges for retirement plans on both sides of the Canada/U.S. border, the time is ripe for new ideas.

While we'd like to come up with a perfect solution that would be the panacea of retirement plans, we recognize that this is not a realistic expectation. Our plans for 2009 include consolidating and documenting the work done to date, as well as accelerating our efforts to evaluate existing plans and potential new designs using the Measurement Framework. The Pension Section Council expects to finalize its detailed plan for the coming year around the time this newsletter is distributed. More details will be forthcoming and we anticipate many volunteer opportunities. As stated, the goal of creating a better retirement system is an ambitious one for our profession, but we believe it's an important one worth pursuing.

Special Note: If you would like to learn more about this initiative, please review the *Retirement 20/20* Web site for more information (*www.retirement2020.soa.org*). If you're interested in volunteering on this initiative, please contact any Pension Section Council member, Andrew Peterson (*apeterson@soa.org*) or Emily Kessler (*ekessler@soa.org*) at the SOA. If you'd like to have someone do a *Retirement 20/20* presentation at your employer or to your actuarial club, contact Ann Gineo (*agineo@sibson.com*).

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WE WANT YOU!

Marcus Robertson, FSA

Just as the U.S. Army implores recruits to "be all that they can be," the Pension Section Council needs your help to ensure that the Pension Section is all that it can be.

The PSC provides two basic services to section members. First, it facilitates continuing education and the development of the practice of retirement actuaries. Second, it provides opportunities for members to develop, present and exchange ideas. In order to provide these services, the Section Council relies heavily on member volunteers and SOA Staff, including Andrew Peterson (Staff Fellow, Retirement Systems).

Member volunteers are active on several fronts, through the work of the Pension Section's Research, Continuing Education, and Communications teams as well as in other section-supported roles. The three core teams work to support the profession and section members by sponsoring research that is relevant to today's (and tomorrow's) practitioners, by ensuring that there are substantial continuing education opportunities for section members, and by communicating these efforts to section members.

Section members who volunteer benefit from their efforts by staying at the forefront of the actuarial profession, while developing relationships with actuaries from other firms and geographical areas and improving their own skills (communications, organization, leadership, project management, etc.). In addition, serving on the section's teams provides an introduction to PSC initiatives and often serves as a stepping stone to election to the PSC and other SOA leadership positions. Also, volunteer activities may count towards satisfying your continuing professional development requirements—depending of course on the specific nature of the activities.

So, what do the three core teams do?

The Research Team

- Identifies and oversees research projects of interest to retirement systems actuaries and other interested professionals,
- Develops and issues Requests for Proposals and/or Calls for Papers,
- Ensures that appropriate oversight mechanisms are in place so that research projects are completed on time and on schedule, that scope is managed appropriately, and that they provide the anticipated member value, and
- Supports section initiatives such as *Retirement 20/20*

In addition, the Research team is always looking for actuaries interested in joining a Project Oversight Group (POG) for a specific fixed-duration research project. The POGs work with the researcher, offer direction, feedback and peer review, and eventually give their approval that the research has been completed satisfactorily.

For more information or to sign up, contact Ian Genno at *ian.genno@towersperrin.com* or 416.960.7420.

The Continuing Education Team

- Designs, plans, and implements continuing education events (meeting sessions, symposia, seminars, webcasts),
- Identifies and works with partnering organizations, recruits speakers for sessions, and
- Develops promotional materials to serve the educational needs of pension professionals

The team strives to ensure that the educational needs of the profession are met, by "filling the gaps" left by other organizations. For more information or to volunteer, contact Andy Peterson at *apeterson@soa.org* or 847.706.3591.

The Communications Team

- Plans and develops content, recruits authors and reviewers, and coordinates production of two publications: the Pension Section News (three issues per year) and the Pension Forum (generally one issue per year),
- Manages the content of the Pension Section pages of the SOA Web site and the *Retirement 20/20* Web site, and
- Identifies pension-related content that may be appropriate for other SOA publications, including the SOA News Today e-newsletter, the Actuary, and the North American Actuarial Journal

The Communications Team determines what needs to be communicated to section members and how best to deliver that information. For more information or to sign up, contact Josh Bank at *josh.bank@hewitt.com* or 646.434.2907.

There are other Pension Section groups that focus on Post-Retirement Needs and Risks (Anna Rappaport, Chair, *anna@annarappaport.com*), Pension Finance (Andy Peterson, *apeterson@soa.org*), and Social Security (Sam Gutterman, Chair, *sam.gutterman@us.pwc.com*). If you think you may be interested in one of these groups, don't hesitate to contact the Chair for more information on current initiatives.

In case you're concerned that volunteering within the Pension Section will eat up all of your spare time, you should remember that you alone control the time and effort you expend on volunteer activities. The teams function effectively because team members step up when they are able, and allow others to carry the weight when professional or personal commitments must take priority.

That being said, most groups meet by conference call (one hour) once per month. At the discretion of each team, there may be one or two face-to-face meetings per year. These are usually one-day meetings held in a major U.S. or Canadian business center convenient to the majority of team members. Team members generally serve three years, unless they become Chair. Terms for the Chair are no longer than two years.

For those who would like to become involved but want a shorter-term commitment, contact me at *mrobertson@re-a.com*. I will be compiling a list of individuals interested in helping out with Project Oversight Groups (generally a six to nine month commitment), *Retirement 20/20* special projects (often a one-year commitment), support to the Section's Liaison to the Education Committee (helping to research and/or develop pension-related syllabus material), etc. We'll do our best to match you to a suitable opportunity within a reasonable timeframe. I can also help if you'd like to join one of the three core teams but aren't sure which one to pick.

Take some time to explore the Pension Section pages of the SOA Web site at *http://www.soa.org/professional-interests/pension/pen-pension-detail.aspx?s=12*, and decide where you want to participate.

Make sure the Pension Section is all that it can be!

Marcus Robertson, FSA, FCIA, is co-vice chair of the Pension Section Council for 2009. He is a consulting actuary based in Oakville, Ontario and can be reached at *mrobertson@re-a.com*.

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SELECTING MORTALITY TABLES: A CREDIBILITY APPROACH

Gavin Benjamin, FSA

In today's environment, the assumptions selected by pension actuaries are coming under increased scrutiny. It is becoming more and more common for actuaries to be asked to provide justification for all of their assumptions, including the demographic assumptions, to various stakeholders such as regulators.

Actuaries typically look to actual plan experience when setting demographic assumptions such as withdrawal and retirement rates. They have, however, been reluctant to reflect actual plan experience when setting mortality rates, usually because they feel that their plan is not large enough to provide a credible amount of experience data. At the same time, there has been growing concern that the mortality table and projection scale (UP1994 and projection scale AA) in common use in Canada (the country in which I practice) may be inadequate for some Canadian pension plans. Due to this concern, I began to wonder whether there was a practical way to quantify how much experience data is needed in order to reflect a plan's own experience in the development of the mortality assumption. In order to answer this question, I turned to credibility theory, a subject that pension actuaries study as part of the actuarial exam syllabus but rarely use in practice.

The resulting article is available on the SOA Web site at *http://www.soa.org/files/pdf/research-2008-benjamin.pdf*. The article outlines a practical approach for setting mortality rates using credibility theory. It includes formulas that can easily be applied to determine how much credibility to assign to the results of a mortality experience study. It also suggests an approach for rating standard tables up or down to reflect the experience of the pension plan being valued.

I welcome your comments and suggestions regarding the contents of the article. Please contact me directly at the e-mail address below. Or, letters to the *Pension Section News* editor are also welcome.

Gavin Benjamin, FSA, FCIA, is a principal with Towers Perrin in Toronto, Ontario. He is chair of the Pension Section Retirement Plans Experience Committee. He can be reached at *gavin.benjamin@towersperrin.com*.

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WHAT IS THE COST OF A PENSION PLAN?

Eric Friedman, FSA

Editor's Note: The views expressed in this article are those of the author and do not reflect those of the author's employer or the Society of Actuaries.

What is the cost of a pension plan? It seems like a simple question that any pension actuary should be able to answer. But, if you ask five actuaries, you might get 10 answers. The actuarial profession has failed to satisfactorily answer this question, and this is not something we can ignore. In the past, we've seen others such as accountants and legislators—groups with much less expertise in pensions—define pension cost for us. That rarely results in well-constructed outcomes, but we're typically left with no choice but to follow the rules they set. Today we are facing another pivotal situation, as liability measurement for public pension plans is becoming more hotly debated in the United States. Both the public and the actuarial profession will suffer if we cannot address this issue in a practical and meaningful way. In this article, I'll explore the nuances of potential answers to the question "What is the cost of a pension plan?" My goal is to present pros and cons of different definitions of pension cost, rather than suggest a single answer, in order to challenge common beliefs and give readers food for thought.

Method 1: Accounting Expense

Some say that the cost of a pension plan is the accounting expense, effectively deferring to the judgment of the FASB, CICA, IASB, or whatever accounting standards body is in place. Do accountants understand pensions so well that they are in a better position than actuaries to define their costs? Although accounting expense is a meaningful number because of its impact on sponsors' financial statements, using accounting expense as a measure of pension cost falls apart for so many reasons—not the least of which is that several accounting standards bodies have lambasted their own rules, but haven't yet completed the process of changing them. For example, the FASB's Nov. 10, 2005 Board Meeting Handout mentioned a problems with this definition of cost include the treatment of the expected return on assets—without adjustment for risk—as guaranteed, as well as the amortization of gains and losses over periods entirely different from when they occurred. There are many other problems with accounting cost that do not need to be described in detail in this article, as the accounting standards bodies that are currently in the process of reforming their rules have already provided comprehensive self-critiques.[1] These issues have caused accounting costs to be rejected by the users of accounting statements—exactly those for whom they're intended.

Method 2: Financial Economic Cost

Some people say that financial economics gives good insight into the cost of pension plans. These people often assert that pension benefits are similar to debt-like liabilities of the sponsor, and should be measured using market-based yields on bonds with similar characteristics to the expected pension benefit streams. The unfunded/(overfunded) obligation as of the snapshot date is viewed as a debt/(asset) of the sponsor, and Normal Cost represents the cost attributable to service in a particular period, to be treated similar to employee wages in a labor cost model. Any investment experience is considered to be the result of investment bets, and is categorized separately from the cost of the new benefits promised.

This method suffers from the fact that most pension benefits are neither traded in deep, liquid markets nor exactly the same as any traded bonds—pension benefits are typically subject to longevity, turnover, and retirement rates that few bonds include. Proponents of this method typically agree that these issues represent imperfections in the model, but also believe that these issues are not large enough to warrant broad rejection of the financial economic framework—that would be like throwing out the baby with the bathwater, they contend. But with all these assumptions, many people have criticized this method as being too theoretical.

Method 3: Cash Contributions (Take 1: Simple Version)

There is nothing theoretical about the amounts on the checks that plan sponsors write to their plans, so many people believe that the cost of pension plans is best measured by cash contributions. This method certainly has obvious appeal, but there are challenges to applying it effectively.

For example, suppose a sponsor of an underfunded plan decides to issue bonds in order to make a large contribution to the plan. Is that contribution truly the plan “cost” for the period, or is it better described as issuing one debt (explicit bond debt) to pay down another (the underfunded pension plan)? Alternatively, suppose a sponsor of an overfunded plan takes a contribution holiday while the participants continue to accrue benefits, eroding the overfunded status of the plan. Is the plan truly “free” in that period? Although cash contributions are certainly an important thing to understand, clearly measuring the short- or medium-term cost of a pension plan based on contributions has deficiencies.

Method 4: Cash Contributions (Take 2: Advanced Version)

What about using the long-term contributions as a method for understanding the long-term costs of a pension plan? It sounds good, but there are challenges with this too. For starters, the future contributions are not known. Some people embrace this, asserting that pension costs are unknown, and the way to understand them is to do a Monte Carlo (aka “stochastic”) simulation of future contributions to show the range of possible contributions. I have done Monte Carlo simulation analyses for many plan sponsors, and I believe that they provide a lot of useful information. Plan costs are uncertain, and that should be acknowledged and measured. However, when used in isolation as the only method for understanding pension costs, Monte Carlo simulation methods are incomplete. I will explain.

Although Monte Carlo simulation presents a range of possible outcomes, it doesn’t provide a single “expected” cost level for discounted contributions. Some people have criticized the exercise of determining a single value of the pension cost (regardless of the assumptions and methods used) as irrelevant because it is “pricing” the pension plan as of a point-in-time measurement date, whereas most plan sponsors have as primary objectives the long-term funding of the plan and investing of its assets.[2] I agree that the long-term funding and investing of plan assets is important and I agree that there is an element of “pricing” in this exercise, but I also believe pricing is vital.

For an example of why pricing is relevant, let’s consider an employer trying to understand its labor costs—certainly an important thing for employers to understand. Employee salaries are easy to compute, but pension benefits will be paid for with an uncertain amount of contributions. Using a probability-weighted average (or median) level of contributions from a Monte Carlo simulation hides the risk in the pension plan, which has an implicit cost. So for the employer to truly understand its labor cost, it must price the pension plan on a risk-adjusted basis.

For another example of why pricing is important, let’s consider a governmental entity with a pension plan for its employees. If the plan is underfunded, I believe that is similar to the sponsor incurring an implicit debt. Further, I believe that the level of government debt is important information that taxpayers and politicians should know as they develop public policy. So “pricing” of pension costs is important, although certainly not the only important aspect of pension plan management.

How can we measure the implicit level of debt associated with this underfunded pension plan, given that the level of contributions necessary to satisfy that implicit debt is unknown?

Let’s start simple, looking at using a Monte Carlo simulation and calculating the probability-weighted average of the contributions in each year of the simulation. This is a simple calculation, but the results can be misleading for two major reasons:

- First, averaging the contributions masks the uncertainty of the contributions. Ask just about any plan sponsor, and they will tell you that they’d rather have certain contributions than uncertain ones, all else being equal, which illustrates that uncertainty has an implicit (though difficult to measure) cost. Averaging the contributions in each year hides that cost.
- Second, contribution spikes tend to occur when market performance and the economy are suffering. For most plan sponsors, this means contributing when they can least afford to do so. Again, this has an implicit (though difficult to measure) cost. Again, probability-weighted averages hide that cost.

Since we have established that a simple probability-weighted average of the future contributions doesn’t fully value their risk, now we will explore what could be done if the sponsor asks a harder question: What is the *risk-adjusted*, probability-weighted expected value of future contributions? In essence, the sponsor wants to know the risk-adjusted price of the plan.

Method 5: Cash Contributions (Take 3: Really Advanced Version)

Now we seek to risk-adjust the discounted future contributions. In calculating a present value of future contributions, can the discount rate be used to incorporate the risk adjustment? This question could be asked for a simple deterministic contribution projection, or it could be a further advancement applied to the prior method that uses probability-weighted expected contributions from a Monte Carlo simulation, attempting to incorporate a fair adjustment for risk. There are many different choices for the discount rate, but each has its own set of problems:

- Risk free rate: It is only appropriate for discounting risk-free cash flows, and we've already established that pension contribution levels are very uncertain.
- Sponsor's borrowing rate: Similar to the risk free rate, it is only appropriate for payments with timing, seniority, certainty, and other terms specific to the borrowing facility—pension contributions in a particular year have so much uncertainty that this is not appropriate.
- Sponsor's cost of capital: Like the two prior options, this has the flaw that the pension contributions do not have the same risk and return prospects as other uses of the sponsor's capital.
- The expected return on plan assets (unadjusted for risk): This is the worst of the bunch because it creates multiple layers of hiding risk: asset allocations with higher risk and higher expected returns will produce lower expected future contributions, and those contributions would be discounted at a higher rate. So if the goal is to create a reasonable method for computing the risk-adjusted present value of future contributions, this method fails miserably.

Certainly this isn't an exhaustive list of all possible ways to risk-adjust the results of a Monte Carlo simulation. There are too many possible methods to detail, but they tend to have very similar problems. Simplistic methods for using contributions to measure pension costs are both flawed and impractical, and the actuarial profession must move beyond such methods.

Can we find a mathematical mechanism to adjust for the risk? Maybe, but the challenge is to make sure that it is not arbitrarily chosen. That is, how would we know that the mechanism adjusts for the "fair" value of the risk—not too much and not too little? For example, using the mean contribution level, adjusted by some mathematical factor based on the standard deviation of contributions could be such a mechanism. But the mathematical factor would be based on what someone "felt" was an appropriate risk adjustment. Is an arbitrarily chosen mechanism more dangerous than no mechanism at all if the risk adjustment gives a false sense of comfort?

Moving Forward

With so many pitfalls, where does this leave us in our question about using contributions as a measure of the long-term cost of a pension plan?

Although I think that measuring plan costs based on contribution levels is not necessarily wrong—in many situations it is the most conceptually appealing method—it is important to realize that this method has a tremendous number of nuances and traps, making it an actuarial minefield.

There are many other ways to measure plan costs—readers may already be thinking of some! While this article doesn't advocate for one particular solution, I will suggest some principles that a robust cost-measurement system should incorporate:

- Pricing of pension costs is important in understanding the funded status and the labor costs.
- Pricing must not be based on median or average costs levels. Risk must be incorporated.
- Risk adjustments must be based on an objective methodology with economic substance, as arbitrary mathematical adjustments are whimsical.

Conclusion

This article originally noted that many people like using contributions as a measure of plan costs because of practical appeal. But now that we've seen how many potential problems there are for measuring plan costs based on contributions, maybe this method isn't so practical after all. The actuarial profession must either address these issues when using contributions as the basis for a measure of plan costs or revert to a different method for answering the simple question: "What is the cost of a pension plan?"

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NOTES

[1] One good example of the self-critique is the handout to the FASB meeting handout "Accounting for Pensions and Postretirment Benefits other than Pensions" on Nov. 10, 2005, which is posted online at *http://www.fasb.org/board_handouts/11-10-05.pdf*.

[2] I have seen the criticism of "pricing" in several places, and I will cite one as an example: Mindlin, Dimitry. "Windmill Fighters in Potemkin Villages." *Contingencies*. January/February 2007.

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