SOCIETY OF ACTUARIES
RETIREMENT SECTION

Retirement Section News

ISSUE 97 FEBRUARY 2019

Perspectives From Anna: Evolution of Retirement and Risk-sharing Ideas

By Anna M. Rappaport

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Retirement Section News

Issue 97 • February 2019

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

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

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Publication Schedule

Publication Month: September 2019
Articles Due: May 30, 2019

2019 SECTION LEADERSHIP

Chairperson's Corner

By Deb Tully

I am honored to take on the chairperson role for the Society of Actuaries (SOA) Retirement Section Council, a group of dedicated volunteers committed to giving back to and advancing the role of the retirement actuary. I am stepping into big shoes following our outgoing chairperson, Randy Dziubek, whom I cannot thank enough for his dedication and leadership in this role over the past year. Recently, the council welcomed new members and bid farewell to exiting members, who have given so much in their tenure on the council. We also bid farewell to Andy Peterson as he transitions from his role as senior retirement staff fellow to a new and exciting SOA role as senior director, International. There is not enough time and space in this newsletter to describe how much Andy has contributed to the actuarial profession through his retirement role. I am honored to have had the opportunity to have gotten to know and work with Andy through my involvement with the Retirement Section Council. As we welcome new contributors and council members, we look forward to the contributions they will make and the new perspectives they will bring on projects and initiatives that we take on over the coming years.

As I began to consider the right topic for my first Chairperson's Corner article, I continued to circle back to one central concept: professional volunteerism. The beginning of my actuarial career was admittedly self-focused—diving into client assignments, studying for actuarial exams and advancing within the profession. But somewhere along the way, I gradually started volunteering through the various actuarial professional organizations. Not surprisingly, one volunteer opportunity led to another, and before I knew it, volunteering had become an important part of my actuarial identity.

There is not one single formula for volunteering. There are so many opportunities across all the professional actuarial organizations. If you've never volunteered before, I encourage you to throw your name in the hat to help at a professional meeting or join a project team. If nothing else, you will meet someone new in the profession, and that person may prove to become a close friend and colleague in the future. The people you meet through volunteering may be the gateway to your next professional opportunity or the mentor you've been searching for throughout your career.

And with each new person you meet, you will be exposed to another perspective. Retirement actuaries have many different roles and many different perspectives. We work on private and public plans, small and large plans, at large and small consulting firms, and in-house as plan sponsors. When all these perspectives come together to solve problems for the profession, that is when the good stuff happens. And when you can bring each of those different perspectives back to how you practice as an actuary on a day-to-day basis, you will bring your professional game to a whole new level.

My fellow colleagues of the Retirement Section Council bring a diverse set of perspectives that I wouldn't have been exposed to if I hadn't raised my hand to volunteer when a friend and colleague, Julie Curtis, former Retirement Section chairperson and current SOA board member, tapped me on the shoulder and encouraged me to run for a seat on the council. The thoughtfulness and care in discussions and decision-making that come from the unique perspectives around the table make our profession stronger. This year's council is currently working on several initiatives including, but not limited to:

- Exploring effective communication of defined-benefit plan risk to various stakeholders;
- evaluating the retirement actuary's role in an evolving defined-contribution world; and,
- continued enhancement and availability of tools and resources available to retirement actuaries to allow them to execute their responsibilities more effectively.

We continue to explore new project ideas and are always looking for volunteers to participate in moving these projects forward. I encourage anyone interested in learning more

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about the Retirement Section Council and possible volunteer opportunities to reach out to me or any council member. We will eagerly share our perspectives and find ways for you to contribute.

Had I not started volunteering in the profession, I would not have had the opportunity to get to know and learn from actuaries like Randy, Andy and the entire Retirement Section Council and volunteers supporting the council. Nor would I have had the opportunity to contribute my perspective on initiatives outside of my traditional "day job." So, with my first Chairperson's Corner, I ask you to consider volunteering if you haven't before, or if you already volunteer, consider expanding your role into another volunteer opportunity. You may be surprised by the impact you can have on the profession and the impact it may have on you.

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Perspectives From Anna: Evolution of Retirement and Risk-sharing Ideas

By Anna M. Rappaport

My career has been devoted to working in the financial security system, first in life insurance companies (1958–1976), then in employee benefits consulting (1976–2004), and starting in 2005, independently as a phased retiree doing speaking, writing and research. In the last 15 years, I have been mostly concerned about the individual and the interaction of system components and the way they affect individuals.

For many years, I have been passionate about improving the financial security system, creating better opportunities for older individuals who want to phase into retirement and work on a different basis at older ages, filling gaps in risk protection, and improving retirement security for women. In this column, I have chosen to focus on some big ideas and changes I have encountered in my career, thinking about what they mean today. Over my career, I have seen major steps forward but also changes that are very troubling and mean less risk protection and a less effective retirement system. What I observed in the insurance industry seems very relevant to retirement plans and employee benefits, so I have included experience in both the insurance industry and with employee benefits. My perspective primarily focuses on the U.S.

INSURANCE COMPANY PRODUCTS AND RISK SHARING

When I started working in the life insurance industry, most of the large companies were mutual companies (i.e., owned by the policyholders). The common form of life insurance policy was a participating whole life policy. These policies generally provided coverage for life, had loan provisions, and paid a cash value to people who terminated the policy before death. They had premiums larger than what was expected to be needed to provide the benefits, and the excess of the premiums over the actual cost of insurance was returned to the policyholders in the form of dividends. This form of risk sharing provided a lower cost to the policyholder when investment returns and other actuarial experience results were good, and a higher cost when they were not. Profits were to be shared with the policyholders. Participating group annuities were used to fund pension benefits. Some pension benefits, particularly for smaller plans, were partly funded with individual life insurance policies.

Other insurance companies were stock companies, owned by shareholders. Profits went to the shareholders. Stock companies wrote nonparticipating policies, usually with lower but guaranteed premiums. The risk level and cost to the individual buying the insurance was set by the contract provisions, and the company and its stockholders earned profits and sometimes experienced losses. The stockholders bore the risk of higher-than-expected claim costs or expenses.

While whole (or ordinary) life insurance and annuity contracts were long-term with long-term price commitments, other forms of insurance were priced on a shorter-term basis. Health insurance policies might be priced one year at a time. Long-term care policies were designed for long-term coverage, but the provisions of these policies typically gave the company the right to adjust premiums for a class of policyholders if the experience justified the rate increase. Premium rates, including increases on existing contracts, were subject to the approval of insurance regulators in state insurance departments. So, the risk of long-term costs changing was borne by a class of policyholders, and risks were shared between the company and the policyholders, even if it was not a participating policy. Health risks were shared according to the contract, but the insurers often adjusted premiums annually based on the health care costs of the entire group of policyholders for that coverage.

Specialized policies also provided for partial risk sharing. Variable annuities and universal life insurance contracts were examples of policies that incorporated a sharing of good investment results, limited downside risk, and included a substantial charge for providing this floor. These policies could be sold by stock or mutual companies.

During the last few years of my time in the life insurance industry, I saw a big shift that has continued since then. Many formerly mutual companies were demutualized and became stock (or for-profit) companies with the profits belonging to the shareholders rather than the policyholders. Many companies were also merged or sold to other companies. Blocks of business (such as all the long-term care insurance sold by Company A) were sold or transferred to Company B. There was an overall decline in risk sharing with the policyholder and a big increase in focus on shareholder profits from these products. Purchasers who wanted to do business with a company they trusted often found that they were doing business with someone else along the way, because the policy they had purchased was transferred to another insurance company. Long-term care insurance turned out to be more costly than anticipated, and policyholders often experienced large premium increases.

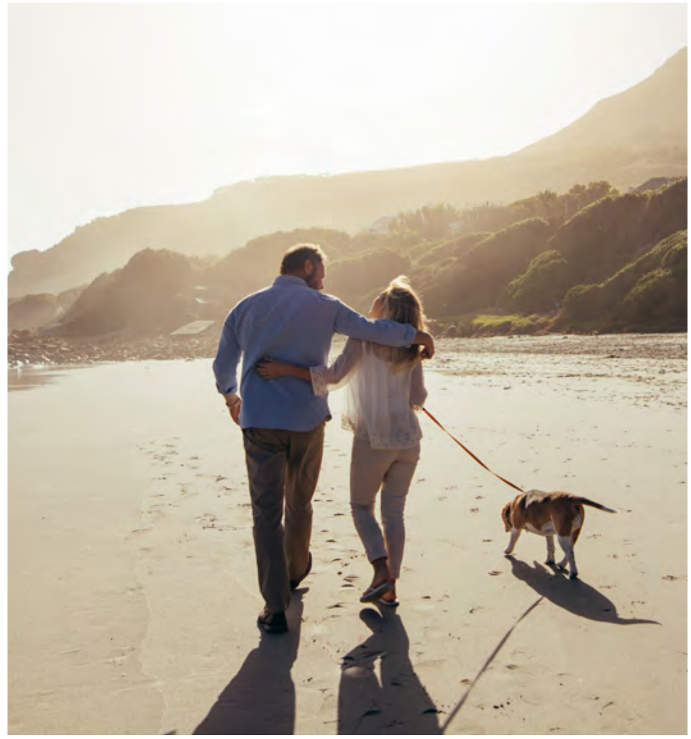
Over the long run, many people who had purchased what they thought would be stable long-term risk protection products found out that these products had become more expensive or did not provide as much coverage as they had expected.

HISTORY OF RETIREMENT IN THE UNITED STATES

For understanding the retirement system, context is important. Before the industrial age, life spans were much shorter, and people worked as long as they could. They often lived near or with extended families, and multigenerational households were common. The family and nearby community were the primary support mechanisms for older people who could no longer work. Families had many children, and people did not live to very old ages. There was no formal government or municipal-based retirement system, but some people accumulated a lot of wealth. Some people did well, but many others did not.

Dora Costa provides us with a history of retirement in the United States, spanning the period 1880 to 1990, focusing primarily on men.[1] Systems to provide economic support during retirement shared risk among employers, the retired individuals and society at large through government programs. Factors that have influenced the history of retirement include longer life spans, the shift from an agricultural to an industrial society, and the development of systems to provide economic support during retirement. Some highlights from the history are as follows:

- The prevalence of retirement among men age 65 and older rose rapidly from about 25 percent at the beginning of the 20th century to more than 80 percent at the end of the 20th century.
- In earlier periods, many more retirees were dependent on children and family and the community. Retirement usually did not occur until people were no longer able to work.
- The nature of retirement changed from a time of withdrawal from all activities to a period of discovery, personal fulfillment and relative independence.
- Retirement expanded from being an opportunity available only to the relatively wealthy and became an option available to many more workers.
- The earliest large-scale old-age pension in the U.S. was the Union Army Pension, payable at age 65 and first available as a pension in 1890.
- Retirement from agricultural roles was much more likely to be gradual than retirement from an industrial job.



- People retired both because of economic incentives that enabled them to retire, such as Social Security, pensions and growing income, and because of factors that drove them out of the labor force, such as poor health and poor job opportunities.

Retirement ages are an important factor in determining how generous benefits are. Age 65 was established as the retirement age in the Union Army Pension Plan. The 1910 Massachusetts Commission on Old Age Pensions defined the old as those aged 65 or older. In 1920, post office letter carriers and clerks became eligible for pensions at age 65. The Commission on Economic Security decided in 1934 that 65 should be the pension age for the Social Security program.[2]

The first private pension plan in the U.S. was founded by American Express in 1875, but the growth in pension plans was slow. Twelve private pension plans existed in 1900. By 1930, 2.7 million employees—about 10 percent of all private wage and salary workers—were covered by retirement plans. The tax incentives included in the Revenue Act of 1942 led to the expansion of pension plans after World War II, so that 41 percent of private-sector wage and salary workers were covered by 1960, and nearly half by the mid-1980s.[3]

In the United States, the Social Security system was put into place in the 1930s, bringing a retirement benefit to most of the working population. Establishment of the Social Security system led to significant increases in retirement and acceptance of age 65 as a common retirement age. Benefits were small initially but significantly increased during the 1950s.[4] The conditions for payment also were liberalized. Initially, Social Security required full withdrawal from the labor force to collect benefits. Later, these restrictions were loosened, first with an earnings test that allowed some earnings while collecting benefits after full retirement age and then ultimately with an elimination of such offsets at full retirement age.

The Social Security early-retirement age of 62 was added later. The normal retirement age of 65 was increased in 1983, with an implementation plan that would slowly move the normal retirement age to 67. The 1983 change was the only legislated change in normal retirement age, and these changes remain in effect today. Further fine-tuning of the system is needed. Projected revenues will not be adequate to pay benefits beginning around 2034. A range of options for correction of the imbalance are available, although few executive or legislative leaders have yet mustered the courage, foresight or support to address this "third rail" challenge.

RISK SHARING IN RETIREMENT PLANS

The risks involved with U.S. Social Security were spread across the entire population, and the system was financed primarily on a pay-as-you-go basis, with a trust fund that was used to smooth out the differences between contributions and benefit payments. The formulas for taxes and the payment of benefits served to distribute benefits between different population segments. Higher-income individuals received lower monthly benefits per dollar of tax paid, because the formula distributed benefits more heavily to lower-income individuals. But since higher-income individuals tend to live longer than lower-income individuals, they receive benefits longer on average. Further analysis is needed to see how these two factors can be reconciled. Benefits are paid to spouses, and single-earner couples receive relatively higher benefits per dollar of tax paid than dual-earner couples.

Employer-sponsored benefit plans were primarily of two types: defined benefit and defined contribution. Defined-benefit (DB) plans provided for a benefit determined by a formula, and contributions were intended to be the actuarially determined amount needed to pay the benefits for life. Defined-contribution (DC) plans provided a benefit determined by the account balance after all contributions and net investment income was accumulated, with participants generally determining how to decumulate their account.

DB plans can be paid for by the employer only (noncontributory plans), or the cost can be shared by the employer and employee (contributory plans). In noncontributory plans, the employer bears the risk, and in contributory plans, the method of setting the contributions determines how the risk is shared. However, in the U.S., most private-sector DB plans are noncontributory. The plan design may also build-in some different risk sharing:

- **Benefits determined based on final average earnings.** Pre-retirement inflation risk is borne by the employer in noncontributory plans.
- **Benefits determined based on career average earnings or flat benefit plans.** Pre-retirement inflation risk is borne by the employee in noncontributory plans, but some plans provide for ad hoc increases in benefits during periods of high inflation, thereby sharing the preretirement and/or postretirement inflation risk.
- **Plans that include automatic cost-of-living increases after retirement.** Post-retirement inflation risk is borne by the employer in noncontributory plans, but such plans were rare in the private sector in the U.S. For plans not providing cost-of-living increases, the retirees bore the inflation risk unless their plan provided for ad hoc increases in benefits, thereby sharing the risk.

In the U.S. private sector and in many other countries, DB plans are in a state of major decline, ad hoc increases are now very rare, and employers and employees are sharing the risk based on the plan design. Public employer plans are much more likely to be contributory and may share risk in different ways. For example, the use of benefit increases tied to inflation may depend on plan experience.

Traditional DB plans were often designed so that employees who worked a full career with an employer would have a benefit that would produce an adequate retirement income when it was added to Social Security. In the U.S., the permitted designs and provisions for such programs were heavily regulated by federal law.

DC plans can include employee savings alone, savings from both the employer and the employee, or employer savings alone. Where the employer contributes, the contribution may be a fixed percentage of pay, a match based on employee contributions, or a contribution based on profits. Contributions can vary with factors such as age and/or length of service. The employee bears all the investment and longevity risks and the risk that benefits will be adequate in the mid- to long-term. Competitive business considerations were often important in the design of programs.

In the 1970s to 1990s, it was common for larger well-established businesses to offer a combination of a DB and a DC plan. The DB plan would be noncontributory, and the employee savings, often with a match, would be invested in the DC plan. The employer shared risk with the employee by assuming the DB plan risk and letting the employee assume the DC risk.

A SHIFTING LANDSCAPE

In the last 20 years, an increasing number of companies have only DC plans or at least only DC plans for new employees.

DB plans were long viewed as attractive, for several reasons:

- DB plans worked very well for long-service employees but not for individuals who were in and out of the labor force or for those who had many different jobs. Employers were focused on their long-service employees.
- DB plans were a good method to reward long service and also enable long-service employees to retire with dignity.
- DB plans were viewed as the most cost-effective way to provide decent retirement benefits to long-service employees.
- Practice and regulations accommodated aggressive investment policies and permitted smoothing of asset values and calculations based on long-term assumptions to give a stable and attractive cost picture.

However, over time, circumstances changed, and major plan sponsors viewed the plans as less desirable. Some of the factors that led to change included the following conditions:

- Life spans were increasing, but retirement ages were rarely adjusted in employer-sponsored plans. As a result, periods of retirement and retirement costs kept growing.
- The thinking about what constitutes good practice in pension funding began to shift. Financial economics moved the thinking from a long-term focus to a shorter-term, more market-driven focus.
- Changes in accounting rules made costs as reflected in profit-and-loss statements less stable.
- Changes in funding rules limited or prohibited contributions to well-funded plans and increased required contributions to plans that were less well funded.
- Regulatory guidance and practice made it clear that a company buying another company with an overfunded plan can terminate the plan and recapture the surplus. Well-funded plans tended to make companies takeover targets.
- Fluctuations in investment markets caused plans that had been well funded to become less than well funded, and large contributions were required at the wrong time for the business.

- Some older, very large companies shrank, leaving them with a lot of retirees relative to their active workers, and sometimes with a relatively old workforce as well. In such a scenario, DB plans become much more expensive.
- DB regulations got more and more complex.
- There was a growing focus by corporate plan sponsors and regulators on including pension risk as an important component of overall corporate risk management.

The bottom line was that, for many businesses, the DB plan was no longer attractive. Companies were freezing plan benefits, terminating plans, or offering different plans to new and existing employees. They were increasingly looking for methods to de-risk their programs.

DC plans were growing, and in companies with generous contributions, long-service employees were doing fine. But overall, DC plans were not a good solution for many workers, and people were seeking new ideas.

LOOKING AT RISK TYPES AND HOW THEY MIGHT BE MANAGED

Retirement involves a wide variety of risks. If we think about DB and DC retirement arrangements, the four biggest risks are investment risk, interest rate risk, inflation risk and longevity risk. Depending on the type of plan, either the plan sponsor or the plan participant bears this risk, or it is shared. Table 1 shows examples of methods for managing each risk applicable to the plan sponsor and the participant.

Table 1
Examples of Methods of Risk Management in Pension Arrangements

Risk	Plan Sponsor Strategies	Individual Participant Strategies
Investment	Move from DB to DC or shared risk design Use investment strategy to reduce risk Transfer to financial institution (e.g., sell liability through risk transfer program) Use liability-driven investments	Choose target date fund Choose investment mix and investments Delegate to investment manager Seek advice Transfer risk to financial institution
Interest rate	Move to DC or shared risk design Pay out lump sums Offer gradual purchase of annuities Use liability-driven investments Use account-based DB design that credits interest based on an index	Consider risk when choosing investments Buy annuity gradually over time Consider duration when buying any bonds
Inflation	Move to DC or shared risk design Use plan design to help allocate risk Invest in assets that help Index or partly index benefits, or provide ad hoc increases	Save more to increase funds Use inflation-indexed bonds (although yields are very low) Purchase annuity including inflation indexing
Longevity	Move to DC or shared risk design Pay out lump sums Index retirement ages Choose DB assumptions that build in mortality improvement Use financial instruments	Use lifetime payout option Spend only investment income Retire later Use long planning horizon Do not withdraw too much from savings (although this only partially manages risk)

A SEARCH FOR NEW IDEAS

In 2006–2010, the Society of Actuaries embarked on Retirement 20/20,[5] a major project to search out new ideas for retirement designs for the future. The project was conducted assuming a regulation-free environment. Several key ideas emerged from that discussion and the situation today with regard to those ideas:

- **The importance of insurance** was discussed extensively. Individuals and society do better when risks are shared and individuals are not left on their own to bear too much risk. Where retirement systems do not provide an appropriate level of insurance, the bottom line is that too many individuals are in trouble, and too much pressure is put on the social safety net and on families.
- **Self-adjusting mechanisms** are design features that adjust benefits and share risk, but a lack of clarity in communication can increase participant uncertainty. Self-adjusting mechanisms added to DB plans can help preserve risk pooling without placing all the risk on a single party (e.g., society, a plan sponsor or an individual). Benefits, contributions or both can be adjusted. Individuals focused on new solutions are often focused on thinking about self-adjusting mechanisms. Some traditional plans include self-adjusting mechanisms, and some new plans have tried to use these ideas.[6]
- **Signals and default features** are important. Both are ways of handling risk and uncertainty. The lessons of behavioral finance have taught us that structured choices can create better outcomes. Participants look to signals sent by the retirement system to tell them when and how much to save, how to invest, when to retire, and how to manage retirement benefits.[7] Auto-enrollment and investment defaults are now well developed, but there remains much to do with defaults for the distribution period. That is an active subject in 2018.
- **The role of the employer** was discussed extensively, and there was clearly interest in alternatives that place less responsibility on the employer. Today in the U.S., there has been discussion for several years about expanding the potential for multiple-employer plans and about offering programs that simplify administration and/or fiduciary responsibility for the employers offering the benefits.[8]

Retirement 20/20 focused on effective **use of the markets** to produce better retirement results. The project recognized the challenges created by informational asymmetry—individuals' lack of knowledge and uncertainty around risks and their inability to manage those risks effectively. Concerns were expressed about how to use markets effectively.

Retirement 20/20 was followed by another project from the actuarial profession. The American Academy of Actuaries had moved thinking about new ideas further with its Retirement for the AGES project. Their website states:

> *Retirement for the AGES provides a framework based on **fundamental principles** by which the Academy will illustrate the strengths and shortcomings of retirement systems and proposals to reform them. It addresses the needs of retirement plan stakeholders in both the private and public sectors. The framework is based upon four key principles with specific elements that can be graded or scored:*
>
> > ***A**lignment – between stakeholders' roles and their competencies.*
> >
> > ***G**overnance – that defines roles, reduces conflicts of interest, manages competing needs, and properly staffs boards.*
> >
> > ***E**fficiency – in maximizing returns and minimizing risks.*
> >
> > ***S**ustainability – of the system; achieved through appropriate cost allocation and protection from extraordinary market gyrations and inflation.*[9]

The academy has graded a few plans according to this framework. That is discussed further in a later section of this article, under the heading "What Works Well: Grading Different Systems."

A search for new retirement program structures also took place in Europe. The United Kingdom's Department for Work and Pensions set forth new and different ideas:

> *Defined Ambition (DA) is a new category of pensions the Department for Work and Pensions (DWP) would like to introduce to complement existing Defined Benefit (DB) and Defined Contribution (DC) pensions. It aims to provide more certainty for individuals than DC and less cost volatility for employers than DB pension schemes. Over time there has been a shift from DB to DC pension schemes. Previously, many individuals were able to rely on a DB pension, guaranteeing them a pension based on their final salary or career average earnings with employers bearing the risks of longevity, investment and inflation. In DC schemes, individuals take on more of the risk as they save in their pension, buying an income product at retirement when the insurer promises an income for life. The Government, along with members of the pension industry, are looking at alternative models of pension saving that do not leave either individuals or employers shouldering the entire risk of pension saving. Defined Ambition proposes three new categories of pensions: Flexible DB, DC Plus, and Collective Defined Contribution (CDCs) schemes.*[10]

All of these ideas share a quest for different methods of risk sharing in order to improve the results for individuals while maintaining an acceptable level of risk for plan sponsors.

LESSONS LEARNED FROM OTHER COUNTRIES

Population aging is a global trend, and there are vast differences in retirement systems and economic and demographic patterns by country. However, a variety of demographic patterns repeat in industrialized and some other nations, and many retirement systems face parallel challenges. Some commonalities exist in the retirement system issues across countries. The annual Melbourne Mercer Global Pension Index study provides a brief summary of retirement systems in 27 countries, evaluating and scoring these systems based on a framework that includes adequacy, sustainability and integrity. I believe that the study and the ratings encourage the development of new ideas.

The 2016 study identifies seven challenges that many countries need to meet:

- Increase state pension age and retirement age to reflect increasing longevity and reduce the cost of pension benefits.
- Promote higher labor force participation at older ages, thereby limiting the continued increase in the period of retirement.
- Encourage or require higher levels of personal savings.
- Increase the coverage of employees and/or self-employed in the private retirement system, recognizing that many individuals will not save for the future without a mandate.
- Reduce pre-retirement leakage of retirement funds.
- Review the indexation of public pensions to preserve the real value of the pension.
- Improve the governance of private plans and increase transparency.

APPLYING NEW IDEAS FOR THE FUTURE

I have been involved in discussing retirement and the future in a variety of settings for many years. While the business community in the United States and probably in other countries as well has been focusing on defined-contribution plans as their preferred solution, I feel strongly that there are other ideas that offer better solutions. My preference is to pool and share risk, offering employees and retirees the benefits of risk pooling while at the same time expecting them to educate themselves and share somewhat more of the risk than in a noncontributory defined-benefit plan.

One idea that has not gotten much attention except in government programs is to index retirement ages or move them up with increased life spans. I explore this idea in my paper presented at the 2014 Living to 100 symposium.[11] Failure to adjust retirement ages has resulted in ever-growing periods of payment for DB plan benefits, and I believe this is one of the

Table 2
Retirement for the AGES Scoring of Several Plans

Plan	Overall	Alignment	Governance	Efficiency	Sustainability
Defined benefit (traditional)	C+	B+	C−	A−	D−
Defined contribution	C	C−	C+	D+	C+
New Brunswick	A−	A−	A−	A−	A
South Dakota	B+	A	B+	A−	B

Source: Data from American Academy of Actuaries, Retirement for the AGES: Building enduring retirement-income systems, *http://www.actuary.org/Retirement-for-the-AGES* (accessed August 2018). Each plan is described and rated, and the rating is explained.

reasons that so many plans have been frozen or terminated. Adjusting to longer life spans is an important part of risk sharing.

In 2014, Andy Peterson and I prepared a paper about risk-sharing alternatives for pension plans[12] for the Pension Research Council. That paper includes two case studies: the shared-risk plan in New Brunswick, Canada, and the Savings Insight Plan offered by Buck Consultants in 2014.

The shared-risk plan in New Brunswick provides (1) a new design that splits benefits between a base benefit and ancillary benefits, (2) protocols to keep the plan's operations on track and (3) a new risk management regulatory framework to ensure compliance with the program.[13] The New Brunswick model weaves together plan design and plan financing; funding levels can trigger benefit adjustments up or down. (That is a concept also used in variable annuities and variable life insurance policies.) The level of funding called for is greater than that provided for by the "best estimate" assumptions, which are required for private plans in the United States. The program calls for funding base benefits with an expected 97.5 percent level of success and ancillary benefits with an expected 75 percent level of success. Triggers for contribution and benefit adjustment are supplied. The program is administered by an independent board of trustees.

These ideas could be applied to a wide range of different benefit formulas. The key points for me are that employees get the benefits of risk pooling while the risk to the plan sponsor is limited, and the impact of severe adverse events is shared. Variations on these ideas are possible and open thinking about new paths for the future. This program is a very strong and creative solution to many of the challenges facing retirement systems in different settings.

The Savings Insight Plan is a defined-contribution plan that provides for calculating the contributions needed to provide an adequate benefit at retirement and provides various means to help the employee achieve a good retirement. The program includes auto-enrollment, auto-increases in contributions, and a modeling tool that enables participants to modify their decisions and customize them. Contribution amounts recommended vary by individual and are substantially higher than default auto-enrollment contributions in many plans. These ideas offer a different type of solution for the challenges facing plan sponsors. Variations on these ideas also are possible.

The American Academy of Actuaries examined the New Brunswick plan as part of its Retirement for the AGES project. It also examined the South Dakota Retirement System, a public-sector employee plan in the United States that includes more provisions for risk sharing than the traditional noncontributory DB plans offered to business employees. The South Dakota plan has a benefit formula linked to final average earnings and adjusts cost-of-living increases based on funded status. The plan is financed by a combination of employer and employee contributions. If funding requirements are not met for three years, the plan board is required to recommend to the governor and the retirement legislative committee that benefits be reduced, contributions be increased or a combination of the two strategies be applied.[14]

WHAT WORKS WELL: GRADING DIFFERENT SYSTEMS

The Melbourne Mercer study grades the retirement systems in 27 countries on adequacy, sustainability and integrity. It focuses heavily on the public systems and the benefits provided to all.

The American Academy of Actuaries, as part of its Retirement for the AGES project, has graded several systems overall and on each of the four major principles. Table 2 provides the grades for a traditional DB plan, a traditional DC plan, the New Brunswick risk-sharing program and the South Dakota state employees' plan.

It should be remembered that all rating systems reflect the perspective of the organization developing them. The traditional DB plan has an overall C+ rating, with its lowest rating in the sustainability category. Sustainability is also a major factor in the Melbourne Mercer study evaluations, and it has been recognized as important in recent years. I do not remember anyone talking

about sustainability more than 15 years ago. The traditional DB plan also receives a low grade for governance.

In contrast, the South Dakota plan, a DB plan with some risk sharing built in, rates better overall and rates the same or better in every category. The New Brunswick risk-sharing program rates well in every category, much better than the traditional DB plan and a little better than the South Dakota plan. In the troublesome area of sustainability, it is rated A, and South Dakota is rated B.

The DC plan is rated C overall, and it rates D+ on efficiency. It should be noted that a dollar of contribution to a DC plan will generally provide less overall benefit to plan participants than a dollar of contribution to a DB plan.

CONCLUSIONS

A wide variety of methods exist for managing retirement savings in order to optimize resources for retirement. Business custom and practice, as well as legal requirements, constrain the possible options in any jurisdiction. Financial resources are a constraint for each organization offering benefits. Risks have been shared in a variety of different ways in retirement systems and in insurance products. Sometimes ideas used in one arena cross over into the other, but at other times, they do not.

As populations are aging in many countries, the need for retirement security is growing. Even so, businesses have been trimming back their support for retirement and moving away from DB plans, which offer risk pooling and risk protection for individuals but are risky to plan sponsors, and toward DC plans that place the vast majority of the risk on the individual. Life spans have increased noticeably, but generally, retirement ages have not kept up, leaving the DB plan sponsor with a more expensive plan that is paying out benefits for longer periods of time.

Many people who have worked in the retirement system are pessimistic, but I believe we can improve the future. We need to do several things:

Adjust retirement ages so that the expected retirement period is a percentage of the life span or a certain period before the expected end of the life span, versus an ever-growing period based on fixed retirement ages.

Search for different methods of sharing risk, moving beyond traditional DB and DC plans. I applaud the innovation in the New Brunswick risk-sharing program. I hope that these ideas can be used more in the future and that others also will seek new ideas.

Continue discussion and innovation in the areas of risk sharing and defined-ambition plans.

When DC is the primary retirement vehicle, include features in the management of the program to focus the participant on what is needed for retirement and on the need for managing the program thoughtfully during the retirement period.

Work with regulators to encourage innovation and provide safe harbors to those who innovate, giving them a time period to test the new ideas and see how well they work.

Improve work options for older employees and enhance phased retirement options.

I hope this perspective will encourage more discussion of these issues and inspire further innovation.

Anna M. Rappaport, FSA, serves as chairperson of the Committee on Post-Retirement Needs and Risks (PRNR) and the Steering Committee for the Aging and Retirement Strategic Research Program. She can be contacted at *anna.rappaport@gmail.com*.

ENDNOTES

1 Dora L. Costa, *The Evolution of Retirement: An American Economic History 1880–1990* (Chicago: University of Chicago Press, 1998).

2 Ibid..

3 Ibid..

4 Ibid..

5 For a variety of reports and articles, see the Society of Actuaries Retirement 20/20 website. The initiative started in 2005, and a series of papers providing model designs for the future were chosen and published in 2010. Then in 2017, there was a new call for models focusing on the public sector. These models include several different risk-sharing ideas, and the papers were released in 2018. *https://retirement2020.soa.org*

6 Note that shared-risk designs have been used in some insurance products. Traditional participating insurance contracts are a form of shared-risk design, as are variable annuities and universal life insurance policies.

7 This is particularly important when the DC plan is the primary or only retirement plan.

8 Various legislative proposals would expand the use of DC multiple-employer plans. The Retirement Enhancement and Savings Act of 2018 had been introduced into Congress as of the time of this writing, and it includes liberalization of multiple-employer plan rules. President Trump in August 2018 signed an executive order instructing the Departments of Labor and Treasury to issue regulations that would expand the availability of multiple-employer plans.

9 American Academy of Actuaries, Retirement for the AGES: Building enduring retirement-income systems, *http://www.actuary.org/Retirement-for-the-AGES*.

10 From Defined ambition: Consumer perspectives, research report no. 866 (U.K. Department for Work and Pensions, June 2014), *https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/323219/rr866-defined-ambition-consumer-perspectives.pdf.*

11 Anna Rappaport, "How well have retirement systems adapted to longer life?," 2014 Living to 100 Monograph (Chicago: Society of Actuaries, 2014), *https://www.soa.org/essays-monographs/2014-living-to-100/*.

12 Anna M. Rappaport and Andrew Peterson, Risk-sharing alternatives for pension plan design: An overview and case studies, PRC WP2014-09 (Pension Research Council, Wharton School, University of Pennsylvania, September 2014), *https://pensionresearchcouncil.wharton.upenn.edu/publications/papers/*.

13 For a discussion and evaluation of this plan, see American Academy of Actuaries, Retirement for the AGES, *http://www.actuary.org/Retirement-for-the-AGES*. For background on the plan, see Rebuilding New Brunswick: The Case for Pension Reform (Government of New Brunswick, February 2013), available at *http://ppforum.ca/sites/default/files/NB_Pension%20Reform% 20Case_EN.pdf*. *http://leg-horizon.gnb.ca/e-repository/monographs/31000000047551/31000000047551.pdf*

14 One of the papers submitted to Retirement 20/20 in response to the request for models used in the public sector was about South Dakota. This paper won a prize in 2018.

Replacement Ratio: The Dinosaur of Retirement Planning

By R. Evan Inglis

Do you need a replacement ratio target? Will it be helpful for you to try to achieve a level of income in retirement that is a certain percentage of your pre-retirement income? The answer is that a replacement ratio might not be that helpful. Over the years, a lot of thinking has been done on the concept of replacement ratios. Along the way, valuable insights helped advance the concept—identification of expenditures that disappear at or near retirement (e.g., costs of commuting, mortgage and providing for kids at home), changes in taxes, and the consideration that some pre-retirement income is saved and not spent.

Still, the concept is of limited help to individuals whose spending needs and desires are often quite different before and during retirement. Replacement ratios are useful for policymakers and plan designers who want to create systems that target the right level of savings and income **in general** or **on average**. However, they are not always useful for individuals. There are several reasons for this, especially in the retirement system as it currently exists in the U.S.:

- With fewer defined-benefit plans, we focus more on spending wealth than a level of income.
- The desired level of retirement expenditure varies by person, without a consistent relationship to pre-retirement spending.
- People adapt spending to circumstances more than plan.
- The timing of retirement often ends up being less planned than forced by circumstances.
- Spending needs change significantly during retirement.

HOW DO PEOPLE PLAN?

The SOA's Retirement Risk Surveys and focus groups have consistently found that people adapt to circumstances more than they follow a plan for retirement.[1] The key question for most people may be "How much can I spend, given my savings?" rather than "When should I retire so that I can spend 80 percent of my pre-retirement income?"

Rules of thumb exist for determining how much savings one needs in order to spend the amount desired. Examples include the 4 percent rule[2] and the feel-free rule (divide your age by 20).[3] If the spending rule doesn't support the desired level of spending, individuals have three choices:

1. Buy guaranteed lifetime income to enable a higher level of spending at a safe level. Variable-annuity solutions can increase the spending levels prescribed by the 4 percent and feel-free rules by up to 3 or 4 percent of savings per year.
2. Do careful planning and financial analysis to enable a significant spend-down of one's savings during retirement. This can increase the level of spending by 1 to 2 percent but is likely to reduce any bequest.
3. If possible, work longer to save more and enable a higher rate of spending.

TYPES OF SPENDING DURING RETIREMENT

Neither replacement ratios nor spending rules get at a key issue for retirement planning, which is that spending priorities change throughout retirement. Table 1 illustrates one way to categorize retirement spending.

Table 1
Retirement Spending Priorities

Spending Need	Description	Priority	Change During Retirement
Sustenance	Food, housing, utilities	Limited flexibility	Increases with inflation
Lifestyle	Travel, leisure, discretionary	Flexible	Leisure activity declines with age
Medical	Long-term care, dental	Unpredictable	Likely to occur late in life
Bequest and gifts	For kids, relatives, charities	Flexible but emotional	Mostly late in life and after death

While the sustenance category has the least flexibility, it may be more flexible than is sometimes presumed. People can change their housing situation and the food they buy. Some may even compromise basic needs in favor of a bequest motive.

The lifestyle category is most adaptable to circumstances and most likely to drop as a retiree gets older. One way to think about providing for this aspect of spending is that a decrease in activity may offset inflation, but eventually expenses are likely to drop off even after inflation.

Medical expenditures are unpredictable, so insurance should be an effective way to handle this need for many retirees.

SPENDING PATTERNS DURING RETIREMENT

That spending tends to drop during retirement has only recently been widely understood and acknowledged. In 2005, Ty Bernicke used the U.S. Bureau of Labor Statistics Consumer Expenditure Survey to show that people aged 75 and older spent significantly less in most areas than people aged 65–74. While Bernicke's study looked at different cohorts of people, whose habits may have differed for reasons other than age, the premise that people spend less as they age has been supported by other studies. It also is confirmed with more recent data. Table 2 shows the type of data Bernicke looked at, sorted by the categories from Table 1, based on BLS data from 2016–17.[4]

> People aged 75 and older spent signigicantly less in most areas than people aged 65–74.

Table 2
Annual Spending in Retirement, by Age Group

	65–74	75+
Sustenance		
Food and alcohol	$ 7,191	$ 5,501
Housing	17,476	14,618
Personal care	714	566
Insurance and pensions	3,975	1,720
Lifestyle		
Apparel and services	1,344	836
Transportation	8,679	5,050
Entertainment	3,085	1,671
Miscellaneous	1,939	1,298
Health Care	6,373	6,222
Cash Contributions	2,180	2,781

Source: Data from Bureau of Labor Statistics, Consumer Expenditure Survey, 2016–17, *https://www.bls.gov/cex/csxgloss.htm.*

Note that all categories of expenditures are significantly lower for the people over 75, with two exceptions. Health care spending remains about the same. "Cash contributions," which includes charitable contributions and gifts to relatives, is actually somewhat higher.

HOW TO PLAN FOR YOURSELF

So, what to do? Once you understand your spending needs and desires and the income you will have from Social Security and other sources, you can get a rough sense of your ability to spend. The 4 percent rule and the "divide your age by 20" rule are good starting points, with dividing your age by 20 being much safer. Keeping in mind that your spending is likely to drop eventually, you may be comfortable spending a bit more. Even so, making provision for long-term care at older ages should always be a consideration.

If you're willing and able (presumably most *Retirement Section News* readers are), you can set up a planning spreadsheet. You may ultimately need to adapt to unanticipated circumstances as so many retirees do, but planning will help in any case. As President Eisenhower used to say, "Plans are worthless, but planning is essential." Or better yet is Mike Tyson's version: "Everyone has a plan, until they get punched in the mouth." Once you get "punched" and are retired for good, you can adapt your plan by buying lifetime income, carefully planning to spend down your assets, or adjusting your spending as many retirees do. ■

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ENDNOTES

1 For example, see introduction of 2015 Risks and Process of Retirement Survey: Retirement Survey Report Key Findings and Issues (Society of Actuaries, 2016), p. 6, available at *https://www.soa.org/research-reports/2015/2015-risk-process-retirement-survey/*.

2 The 4 percent rule says to spend 4 percent of your savings in the first year of retirement and then increase that amount with inflation every year during retirement. This was developed by William Bergen in 1994, based on the probability of wealth lasting during retirement even during market downturns similar to those that had been experienced in the past.

3 The feel-free spending rule is to divide your age by 20 and then feel free to spend that percentage of your wealth. So, for example, at age 70, you could spend 70/20 = 3.5 percent of your wealth. This was developed by the author as a safer approach than the 4 percent rule in response to the expectation in 2018 of lower future returns and the common desire for people to maintain most of their wealth throughout retirement. The level of spending is designed to be slightly higher than real returns but slightly lower than nominal returns on a typical portfolio through most of retirement.

4 Bureau of Labor Statistics, Consumer Expenditure Surveys: Glossary, https://www.bls.gov/cex/csxgloss.htm. Explanations for each category of expenditure can be found starting about halfway down the page.

Retirement Consumption, Risk Perception and Planning Objectives in Canada: An Interview With Mary Hardy

By Anna M. Rappaport

Mary Hardy, FSA, CERA, FIA, Ph.D., is a professor in the Department of Statistics and Actuarial Science, University of Waterloo (Ontario, Canada). She is a frequent speaker at Society of Actuaries (SOA) meetings, and served as vice president of the SOA and editor of the *North American Actuarial Journal*. She is a coauthor of *Actuarial Mathematics for Life Contingent Risk* and the author of *Investment Guarantees.*

A research study conducted by the Department of Statistics and Actuarial Science, University of Waterloo (Ontario, Canada) explored retirement consumption, risk perception, and alternative objective functions and decision-making models in the retirement-planning phase of Canadians' lives. I interviewed Mary Hardy, one of the researchers, to outline the conclusions from that study. The full study can be found at *http://www.cia-ica.ca/docs/default-source/2018/218083e.pdf.*

Anna Rappaport (AR): What motivated you to do this research and what were the underlying goals?

Mary Hardy (MH): For the past few years, Professor David Saunders and I have worked with several talented graduate students on several applied topics on pension design and retirement income draw-down strategies. Dr. Saisai Zhang joined us around four years ago to work on a project on annuitization using fixed and variable payout annuities. As we developed that study, we became increasingly disillusioned with the standard academic approach to annuitization, in which an optimal strategy is determined by maximizing the expected discounted utility, typically assuming a constant relative risk aversion (CRRA) utility function. In almost every case, across hundreds of published academic papers, the result of this exercise indicates that the optimal strategy is full annuitization of pension assets. The disparity of these results with the real-world fact that very few people purchase annuities has been dubbed the "annuity puzzle."

The underlying premise of the annuity puzzle is that maximizing the expected discounted CRRA utility generates results that are both normative (how people should behave) and descriptive (how people do behave), and that there is therefore no explanation for the failure of millions of retirees to purchase annuities. It seemed likely to us that, in fact, discounted CRRA utility may be neither descriptive nor normative, and that individuals who do not purchase annuities may be making rational decisions but based on an objective function that is not (yet) captured by economic models. A survey seemed the best way to determine, at least, whether the annuity puzzle assumptions are descriptive.

So, we designed the survey with some specific quantitative objectives, including:

- Do people make decisions under uncertainty that are consistent with utility maximization? If so, is CRRA the right form for the utility function, and what is the risk aversion coefficient?
- The standard subjective discount factors used in the annuitization literature (denoted by b) lie in the range 0.95 to 0.98 per year; is this truly descriptive of retirees' time preferences?
- What is the maximum price retirees would be willing to pay for a life annuity, given a hypothetical pension pot?
- Do respondents have an accurate idea of their life expectancy? What about the probability of living to extreme old age? This could impact the value placed on the longevity insurance provided by annuities.

In addition, we wanted to explore qualitative issues and concerns that might help us develop better models for decumulation strategies, reflecting rational priorities of retirees, or might indicate areas where there could be substantial benefit from improved public education.

AR: Who were the sponsors?

MH: We were funded by a significant grant from the Canadian Institute of Actuaries, which was matched by the University of Waterloo. Additional costs were funded from individual research grants awarded to David Saunders and me by the Natural Science and Engineering Research Council of Canada (NSERC).

AR: What was your methodology?

MH: We have an excellent Survey Research Centre (SRC) here at the University of Waterloo. They administered the survey and worked with us throughout to ensure that the design was validated and that the questions were consistent. The SRC used a third-party vendor to recruit respondents. The online survey was distributed to Ontario residents between the ages of 50 and 80. The survey ran until there were 1,000 completed questionnaires, with 500 respondents self-identified as "pre-retired" and 500 identified as "retired." The survey was adaptive, meaning that later, questions were dynamically adjusted to reflect respondents' earlier answers with respect to age, retirement status, marital status, sex and wealth category. The response rate was 7.7 percent, which is low compared with the usual panel response rate of 10 to 15 percent, but not surprising, as the survey was longer and more complex than most.

The first part of the survey covered demographic information; in the second part, we elicited respondents' expected/actual level of fixed and liquid assets at retirement, and expected/actual consumption in retirement, with income sources. We asked qualitative questions on retirement income priorities. We explored subjective estimates of longevity. Finally, we determined at what price, if any, the respondent would be willing to purchase units of life annuity income. In the third section, we focused on risk preferences, including qualitative questions on risk attitudes and more complex questions involving choice under uncertainty and time preference, designed to elicit information on relative risk aversion and subjective discount factor.

In the final section, we asked respondents to select between different income options for a hypothetical pension benefit. The first part involved inflation protection, and the second part considered an equity-linked pension, similar to a variable-payout annuity. Over a series of questions, we asked respondents to choose between a level, certain pension (of specified amount) and risky income options, each illustrated by showing 10 possible, equally likely income paths.

AR: What were your most important findings?

MH:

1. Respondents really don't like annuities. When given a hypothetical amount of money available to them at their hypothetical retirement, 84 percent would not pay even half of market price for a life annuity, and most wouldn't buy one at any price. The reasons given included fear of default of the annuity provider (respondents were unaware that annuity income from Canadian insurers is protected in the event of default) and loss of financial security—that is, for the respondents, there is more security in having the assets available instantly than in having them converted to an income stream. Several respondents referred to annuities as a gamble, and some as a "scam."

2. The subjective discount factor elicited from our respondents is very close to 1.0, which is very different from the standard range of assumptions (0.95–0.98) used in the literature, and more rational, too. Suppose a 60-year-old retiree knows for sure that she will live to age 90 (as mortality is handled separately), and suppose for simplicity that there is no inflation. Then using the typical (according to the academic studies) subjective discount factor b = 0.95 means that the retiree values $100 of consumption today as equivalent to $21 (or 0.95^{30}) of consumption at age 90. Note that this is not because of interest accumulation. This is pure consumption; asset returns are managed elsewhere in the calculations. It is very interesting that while the economists are making this bizarre assumption for their "rational agents," in practice the majority of our respondents are making the much more rational assumption that, if they survive, $100 has the same utility at age 90 as it does at age 75 or at age 60.

3. Responses for pre-retirees were consistent with decreasing relative risk aversion rather than CRRA. Retirees were more consistent with CRRA, but the results are not compelling for or against. Generally, risk aversion seemed to increase in retirement, which seems logical.

4. When asked to choose between more or less risky retirement income options, there was some willingness to take downside risk in return for the possibility of high income.

5. Respondents were quite accurate in assessing their life expectancy but significantly underestimated their risk of living to 95 or more, compared with population mortality tables. This could be an issue with respect to dissipation risk, especially with respect to long-term care costs.

AR: Were there any surprises?

MH: Perhaps the biggest surprise for me was the proportion of pre-retirees with no property wealth and little or no savings. This group represented about 10 percent of respondents. I was afraid that this was unrepresentative of the population, but it isn't. There are a lot of Canadians who will be entirely reliant on government benefits and employment income to see them through old age. Even considering those who have some savings or who own property, most have total wealth far below the amount that would make any kind of annuitization worthwhile. For a large proportion of the population, the annuity puzzle is moot.

I was also surprised that so many respondents were willing to choose the risky retirement income stream over the steady one. I expected people to be more concerned about the possibility of low income, but there was a distinct attraction for many respondents to the cases where one or two paths looked really, really good, even where the other paths looked really bad.

AR: Were there any disappointments?

MH: Not really a disappointment, but a regret. I think our survey assumed a level of financial security that is nowhere near reality for a significant minority of the respondents. For example, asking people with little or no assets why they do not use a financial adviser is not necessary or appropriate. It is not surprising that some respondents were alienated by the implicit messaging.

AR: Do you think the findings will hold beyond Canada? Which are likely and which not?

MH: Our respondents were not concerned about health care costs, and there was no concern about the potential for government benefits to "run out." These are likely to be significantly different to U.S. retirees and near-retirement workers, and the impact of greater underlying security for Canadians might also impact risk aversion; a stronger government safety net allows more risk taking by retirees. I would expect our results to be similar to other countries with comparable government-provided health and pension benefits.

AR: Are you thinking about additional work on related topics?

MH: We are still distilling the profusion of data from the survey into a couple of targeted research papers, but analyzing the answers has given us lots of ideas as to how we might change the survey if we get the chance to follow up. And we are committed to working on applied pension topics for the foreseeable future. I think it's the most important area of actuarial and financial research right now. I foresee the results of this work being funneled through to work on designing employer-sponsored risk-sharing pension plans, for example.

AR: Are you familiar with the Society of Actuaries retirement risk research? What do you see as similarities and differences?

MH: Of course, we were influenced by the SOA retirement risk surveys, and they motivated us to examine a "made in Canada" (or at least, made in Ontario) comparison to the U.S. results. The SOA survey is much more comprehensive in ascertaining attitudes, sources of wealth and income, and actual and proposed wealth management strategies. In both surveys, we see an expectation of rising retirement ages. Long-term care costs are a concern in the Ontario survey, particularly for higher-wealth respondents, and this mirrors the results of the SOA survey. We did not ask about concerns over health care costs, and none of our respondents raised this as an issue. Health care is essentially free at point of use in Ontario for seniors (with the exception of some prescription fees, averaging less than $250 per year). In contrast, this is one of the greatest concerns in the SOA survey.

Overall though, the surveys are very different in style and scope, because our predominant motivation was the desire to validate, or not, the fundamental assumptions of the annuitization literature—to assess who, exactly, is being irrational here. Is it the actuaries and financial economists, who continue to tell people that spending all their assets on annuities is optimal? Or is it the people, who may have perfectly valid and rational reasons for not annuitizing. In the end, the answer appears to be that there is rationality and irrationality on both sides, and there's still much work to be done to bridge the gap between theory and practice. ■

Anna M. Rappaport, FSA, serves as chairperson of the Committee on Post-Retirement Needs and Risks (PRNR) and the Steering Committee for the Aging and Retirement Strategic Research Program. She can be contacted at *anna.rappaport@gmail.com*.

CAA Global is a joint venture of the Institute and Faculty of Actuaries (IFoA) and the Society of Actuaries (SOA)

An Interview With Blaine Aikin

By Anna M. Rappaport

Blaine Aikin, CFA, CFP, is an accredited investment fiduciary analyst (AIFA) and a recognized thought leader in the field of financial advice and fiduciary responsibility. He is executive chairman of CEFEX, which assesses and certifies conformity to high standards of conduct by investment advisers, retirement plan sponsors and other organizations to help them mitigate compliance, business and reputational risks. CEFEX certification confers a mark of distinction that signifies fiduciary excellence and trustworthiness.

Over the last 10 years, there has been a growing focus on the importance of retirement advice and controversy over fiduciary responsibility linked to retirement advice. During my time on the ERISA Advisory Council (2010–2012), I learned about Fi360 and the fact that they offer fiduciary education to plan administrators. The application of fiduciary requirements in the retirement space continues to evolve. A new code of ethics will apply to CFP professionals starting in 2019. To get some perspectives on evolving fiduciary requirements, I interviewed Blaine Aikin, executive chairman of Fi360 and CEFEX.

Anna Rappaport (AR): Can you tell us a little about yourself and Fi360?

Blaine Aikin (BA): I serve as executive chairman of Fi360 and CEFEX, which are affiliated organizations. Fi360 educates and equips individual investment fiduciaries. CEFEX certifies organizations that demonstrate that they have engrained fiduciary best practices in the fabric of their operations.

I joined Fi360 and CEFEX in 2005 after more than 20 years in financial services as an investment adviser and corporate executive. Throughout my career, I have endeavored to pursue and promote professionalism in the field of financial advice. I am a Certified Financial Planner [CFP] professional and a Chartered Financial Analyst [CFA]. I also hold the Accredited Investment Fiduciary Analyst [AIFA] designation offered by Fi360.

From 2013 through 2017, I had the privilege of serving on the Certified Financial Planner Board of Standards, and served as board chair in 2017. I currently chair a commission formed by the CFP Board to provide CFP professionals guidance on implementing the new Code of Ethics and Standards of Conduct adopted by the board earlier this year.

Turning now to Fi360, I mentioned at the outset that Fi360 educates and equips investment fiduciaries. Investment fiduciaries are people who are responsible for taking care of other people's money and are held to high ethical and competency standards through law and regulation. Investment advisers and asset managers are our main focus, although we also work with investment stewards—people who are fiduciaries for retirement plans, charitable organizations and trusts—to make sure they understand their high responsibilities and how to fulfill them.

Everything we do as an organization is rooted in our Prudent Investment Practices. We publish handbooks for investment advisers and stewards that present the legally substantiated obligations of investment fiduciaries in the form of a step-by-step process that ensures an investment strategy is being properly developed, implemented and monitored according to both legal obligations and best practices.

Our most visible presence is through the professionals who hold one of our fiduciary designations. There are currently over 11,000 Accredited Investment Fiduciary [AIF] or AIFA designees.

Above all, investors expect the fiduciaries they depend upon to be competent and ethical. In addition to our training, we provide technology and analytics to make sure the knowledge we impart is easy to implement. Collectively, our services are designed to enable fiduciaries to demonstrate that they are worthy of the trust and confidence of the people whose financial well-being depends on their actions.

AR: Why are fiduciary requirements important to individuals getting retirement advice?

BA: When we seek professional advice—medical, legal or financial—we need to know that the advice we receive is trustworthy. The power of a professional's presumed superior knowledge makes us dependent upon them because we are ill equipped to assess whether the advice they offer is sound.

Society has long recognized, for literally thousands of years, that professionals must be accountable to provide objective advice that serves the client's best interests, and that the quality of the advice must be "professional grade." This recognition has given rise to two fundamental fiduciary duties of a professional: loyalty and care. Loyalty means that conflicts of interest must not taint the advice provided. Care requires the advice provider to act with the skill, prudence and diligence expected of a competent professional. It is no coincidence that the word "fiduciary" is derived from the Latin word *fiducia*, meaning trust.

Fiduciary advice differs from sales recommendations. Advice deals with complex matters that require special training; it is provided by a qualified professional to a layperson. Sales transactions are conducted either as directed by a professional (like getting a doctor's prescription filled) or as negotiated by a knowledgeable customer who recognizes that the salesperson and the customer are each acting in their own interests (like when buying a car).

In financial services, it is often hard to distinguish between fiduciary advisers and non-fiduciary salespeople. They often use the same job title, including "adviser." That's why people seeking professional advice need to understand whether the person they are working with is a fiduciary and have confidence that those fiduciaries are able to meet the standard of a professional.

AR: What new developments are there with regard to fiduciary requirements? What is the new code of ethics that will apply to CFP professionals starting in October 2019?

BA: Over the past decade, since the financial crisis of 2008, there have been multiple attempts by federal and state legislators and regulators to expand fiduciary accountability to all those who provide advice to investors. The Department of Labor introduced a fiduciary rule that took effect in April 2017 that would have accomplished that expansion for advice on retirement accounts; however, the rule was successfully challenged in court, and the rule was vacated in June 2018.

Now the Securities and Exchange Commission has proposed a package of rules that would create a new "best interest" standard for brokers providing advice. This set of proposals is controversial, in part because this best-interest standard would stop short of a fiduciary standard, and the fiduciary standard is also considered a best-interest standard. Confusing to say the least!

Frustrated with the lack of decisive action, some states are now pursuing fiduciary accountability for those who provide advice to consumers in their jurisdiction. The result could be a patchwork of regulatory systems for financial advisers.

In March 2018, CFP Board adopted a new Code of Ethics and Standards of Conduct that requires CFP professionals to act as a fiduciary at all times when providing advice. This is in keeping with the organization's mission to "benefit the public by granting the CFP certification and upholding it as the recognized standard of excellence for competent and ethical personal financial planning." The new Code and Standards will become effective on Oct. 1, 2019.

AR: How will they affect average Americans? How can they distinguish whether a source of advice is subject to fiduciary requirements?

BA: Unfortunately, with the demise of the DOL's fiduciary rule and an uncertain future for other federal and state regulatory efforts, the impacts of regulatory initiatives are unpredictable. However, consumer groups and professional organizations like CFP Board and CFA Institute have been vocal in supporting fiduciary legislation and regulation. The public is also becoming more informed about the importance of working with a fiduciary adviser. These developments have placed competitive pressure on financial-service firms to accept and even embrace fiduciary accountability.

For now, consumers should ask anyone they are considering to hire to provide objective financial advice to provide written evidence from their regulatory filings or in their client agreement that they will act in a fiduciary capacity when providing advice. Financial advisers that are CEFEX certified will be able to readily provide this assurance, along with third-party verification of their conformity to fiduciary obligations and best practices.

AR: Can you recommend some basic resources for people who want a basic understanding of fiduciary requirements today?

BA: All retirement plan sponsors should read a publication from the Department of Labor titled *Meeting Your Fiduciary Responsibilities*. It can be downloaded from the DOL's website at *https://www.dol.gov/sites/default/files/ebsa/about-ebsa/our-activities/resource-center/publications/meeting-your-fiduciary-responsibilities.pdf.*

For more complete and specific information about investment fiduciary responsibilities of retirement plan fiduciaries and other stewards, Fi360's Prudent Practices for Investment Stewards handbook can be found on the Fi360 website at *https://www.fi360.com/main/pdf/handbook_steward.pdf.*

Finally, I wrote "Who Is a Fiduciary and What Does a Fiduciary Investment Advisor Do?" (*https://investmentsandwealth.org/getmedia/5cc769cc-016f-43b9-a190-42159f1614ff/IWM17SepOct-WhoIsAFiduciary.pdf*). The article appeared in the September/October 2017 issue of the journal *Investments and Wealth Monitor* by the Investments and Wealth Institute.

Anna M. Rappaport, FSA, serves as chairperson of the Committee on Post-Retirement Needs and Risks (PRNR) and the Steering Committee for the Aging and Retirement Strategic Research Program. She can be contacted at *anna.rappaport@gmail.com*.

MORE ON CEFEX

CEFEX, in partnership with the American Society of Pension Professionals and Actuaries (ASPPA), offers a certification to record keepers and third party administrators (TPAs). This certification provides an independent recognition of a record keeper or administrator's conformity to all practices and criteria within the ASPPA Standard of Practice. The certification implies that the firm can demonstrate adherence to the industry's best practices as defined by ASPPA and that it is positioned to serve fiduciaries such as investment advisers, investment managers and investment stewards (e.g., plan sponsors). For more information, see Centre for Fiduciary Excellence, "Recordkeepers and TPAs," *https://www.cefex.org/asppa/Index.shtml.*

International Pensions Spotlight: Chile

By Josh Bank with Octavio Rojas

This piece is the result of a joint effort begun when Josh Bank recruited Octavio Rojas, a seasoned Venezuelan actuary and one of the speakers in session 85PD of the 2018 Society of Actuaries (SOA) Annual Meeting and Exhibit, for his deep knowledge of national pension schemes in Latin America. Part of Octavio's assignment was to provide an update on the status of Chile's watershed mandatory defined-contribution scheme, installed in 1981. The program was part of Augusto Pinochet's overhaul of that country's economy following the failure of previous government-run programs. The main change Pinochet's program brought about is the requirement of all workers to put 10 percent of their income into private savings accounts.

As the date of the 85PD session (Oct. 26, 2018) approached, there was a lot of buzz about impending changes to the famous national DC plan. Although imitated in one form or another by many other countries in the region and worldwide starting around the year 2000, it was found to be overly simplistic and naive in its conception.

Octavio, through his extensive network of Latin American contacts, learned from a highly placed individual that a major development was imminent, but details were as yet unavailable. Therefore, his talk on the Chilean system was not completely up-to-date, though it was still well received.

Just two days after that session, Chile's president, Sebastián Piñera (son of José Piñera, the minister of labor and social security under Pinochet and presumptive father of the national DC plan), took to the airwaves to present a bill proposing to realign the pension scheme with current economic and demographic reality. Octavio obtained the text of President Piñera's speech, which was published as a press release of the national government. Josh then prepared the following translation. To our knowledge, it is the only (American) English translation of the Chilean president's pension reform bill.

NATIONAL PRESS RELEASE: 28 OCTOBER [2018]—PENSIONS

From His Excellency the President of the Republic, Sebastián Piñera Echenique, announcing Pension Reform Bill.

Dear Fellow Citizens:

The priorities of our administration are the priorities of all Chileans: public security, employment, salaries, health care, education and a new and better deal for our children, our middle class, our regions and our older adults, in such a way that better times will be enjoyed by all Chilean households.

A new and better deal for our older citizens is the objective and the central motivation for this pension reform legislation, which we share with all of our fellow citizens.

This mission becomes all the more important as we account for the fact that our population is aging, because fewer children are born each day, and we need to promote higher birth rates, and because each day we live longer, and we need to improve the quality of life during those additional years of life.

Today in Chile, there are already 3 million elderly adults who, for the first time, outnumber our children and youths under 15 years of age.

And today this third age has ceased to be merely the near future entry point to the other world, and we need to transform it into a new and fruitful stage of our lives, in which our older folks, who perhaps have stopped working but who certainly haven't stopped living, may reap with dignity the seeds that they planted during their earlier years: their children, grandchildren, family, friends, affections and loves.

We know that today's pensions are very low and insufficient to meet the expectations of our older adults. We currently have 2.8 million retirees, of whom 1.5 million have such low pensions that they need to rely on the Solidarity Pillar, through the Basic Solidarity Pension and the Solidarity Pension Allowance. Among those who depend on these bare subsistence-level programs, 62 percent are women.

WHY ARE PENSIONS SO LOW IN CHILE?

There are basically three reasons:

- *First, the mandatory level of retirement savings, at 10 percent of our salaries, is clearly insufficient.*
- *Second, due to unemployment and the lack of economic development, there exist too many and too extensive gaps in pension programs, and salaries are too low.*
- *And third, given the increase in life expectancies, the longer periods of retirement consistently outpace our ability to finance them through our current retirement savings program.*

This emphasizes the great importance of concentrating our efforts with greater energy, to create more and better jobs and to improve salaries and opportunities, and in so doing to improve future retirement pensions.

But also, the importance and urgency to provide a new and better deal for our elderly adults requires us to promote a new culture of respect, dignity, affection and inclusiveness of our elderly in our society. This requires closer relationships with their own families, better health care, better public transportation and better opportunities for work, sports, culture and recreation. Because our older citizens have much to teach us, and we have much to learn from them.

Our retirement system is based on two great Pillars: the Contributory Pillar, through which all workers make monthly contributions that finance their future pensions, and the Solidarity Pillar, to which the state contributes public resources to provide or top off pensions for the most needy and vulnerable groups.

The reform bill that we present today is designed to strengthen both pillars: contributory and solidarity. Its central objective is to improve current and future pensions, but with a special urgency and compassion for the most vulnerable groups, for the middle class, for women and for those who voluntarily extend their working lives. In so doing, it allows all of our elderly adults to overcome and leave behind situations of poverty and vulnerability and to live out their lives with better quality, better security and more dignity.

CHILEAN WOMEN AND MEN

Which are the fundamental pillars of this pension reform?

- **First:** *Raise the retirement savings of workers, through an additional monthly contribution of 4 percent of each worker's salary, which will be financed by their employers. This higher contribution will grow gradually so as not to affect our ability to create new and good jobs. It will over time mean a 40 percent increase in all workers' pensions.*

- ***Second:*** *Strengthen the Solidarity Pillar, which will grow gradually until reaching 40 percent, will evolve from today's 0.8 percent of GDP to 1.12 percent. This requires an increase in public spending to strengthen this Solidarity Pillar, eventually to close to U.S. $1 billion, financed through greater state funding. This strengthened Solidarity Pillar will allow us to immediately improve the Basic Solidarity Pension and the Solidarity Pension subsidy by 10 percent. These will continue growing relative to the retiree's age, up to 50 percent for the Basic Solidarity Pension and more than 70 percent for the Solidarity Pension subsidy.*

- ***Third:*** *In addition, the state will contribute additional resources to finance a new payment to middle-class retirees who contribute more than the minimum, which will increase along with the workers' contributory years.*

- ***Fourth:*** *This additional funding for middle-class retirees will be greater for women, to partially compensate for their lower participation in the workforce and their lower salaries, often due to child rearing or family care.*

- ***Fifth:*** *The state will also make additional payments to those who voluntarily extend their time of employment and defer their retirement age. In fact, an extension of five years in the workplace could increase their pension by more than 40 percent.*

Half of this additional savings from delaying retirement will go toward financing future pensions, and the other half may be freely drawn by such persons once they retire, in accordance with their individual preferences or necessities.

In summary, the strengthening of the Solidarity Pillar and the higher funding by the state will preferentially benefit those who are most vulnerable, the middle class, women, and those who voluntarily extend their working years past the statutory retirement age.

This retirement reform will also add to workers' options, so they may freely choose who will administer this 4 percent increase, through the creation of new institutions, whether for profit or not for profit, as well as affiliates of compensation funds, savings and loan cooperatives, pension savings administrators (AFPs), life insurance companies, etc., which will be permitted to manage these higher pension savings subject to the investment and operations rules that the Superintendent of Pensions will establish.

At the same time, this reform will promote competition in the pension fund administration industry, improving information to workers and quotes for new affiliates, leading to commission discounts based on the size of groups that join a given administrator and their commitment to staying with said administrator, with a single objective: reducing costs, minimizing commissions and improving their pensions.

As we see it, retirement savings belong to the workers, and therefore, they and only they have the right to choose who administers their retirement savings, and how. This right is not only recognized but also respected and strengthened by this pension reform.

This reform will improve pensions as soon as it becomes effective. But given its gradual application, this improvement will grow with time, always favoring, in terms of both priority and speed, retirees with lower pensions, those who are credited with more contributions, those who are older, women, the middle class and those who voluntarily extend their time in the active labor force.

In addition, this pension reform contemplates a Solidarity Insurance, which will be financed by an additional employer-paid payroll tax of 0.2 percent. The insurance will fund an additional pension, indexed to older ages, for elderly adults who are not ambulatory due to severe mental or physical dependency and may require support and special help.

Dear compatriots:

We are convinced that this retirement reform is just, is urgent and necessary, and requires a greater effort, gradual and incremental, from both the employer, who will need to finance an additional 4 percent of covered payroll, and the state, which will need to make a great effort to provide additional resources to the retirement world on the order of U.S. $3.5 billion.

This reform not only will increase pensions for a majority of retirees but also represents an important component of our commitment to a new and better deal for our older adults, which will materialize through policies and initiatives such as Positive Aging and Better Adult. Further, it will afford all of our older adults a silver age that is more integrated, fuller and happier, next to their loved ones.

In this way, in a responsible and sustainable manner vis-à-vis public finances, complementing the reform of the year 2008 and collecting many proposals from different sectors, we are meeting our commitment, our duty to help our older adults to fulfill their dreams, to mitigate their fears, to be able to develop their talents and achieve a third stage of life that is of better quality, with greater security and more dignity. It is fair and wise that we treat our older adults today as we want to be treated ourselves tomorrow.

I make a passionate call to all parliamentarians, both government and opposition, to add to the discussion in a constructive way, but also with a sense of urgency, to this noble and fine mission of improving the quality of life for all of our older adults.

Thank you very much. Have a good night, and may God bless Chile and all Chileans.

*****

Santiago, 28 October 2018
LFS
13:07

Josh Bank, ASA, is a retired international benefits actuary. He is an appointed member of the SOA Retirement Section Council and formerly served on the International Section Council.

Octavio Rojas is an accredited actuary in Caracas, Venezuela. He has a BSc in actuarial science from Universidad Central de Venezuela and studied stochastic methods in Edinburgh, Scotland.

Using Population Data to Understand Retirement Issues

By Francisco Perez-Arce and Steven Siegel

As actuaries study aging and retirement system issues, they serve different stakeholders, including the public, employee benefit plan sponsors, financial-service companies, financial advisers, and policymakers. As part of their work, actuaries regularly conduct a variety of quantitative analyses on the systems they work with and collect data about these systems and the individuals covered in those systems. However, it is often desirable to understand the financial preferences and behaviors of the population at large or a segment of it. The Society of Actuaries, for nearly 20 years, has been producing studies of how the public perceives and understands post-retirement risk. These studies have been valuable to help actuaries learn more about the public's understanding of retirement and how individuals plan for retirement. To further this work, there are opportunities to use existing databases that expand access to information about the public.

Some nationally supported databases allow access to this type of information and enable researchers to do studies using the data. One such database is the Understanding America Study (UAS), which is available for the use of actuaries. The Social Security Administration, National Institute on Aging, and Society of Actuaries supported the creation of a UAS Comprehensive File to make the data more accessible to users. The Comprehensive File is available through the University of Southern California Dornsife Center for Economic Research.

The remainder of this article provides more information about the UAS and the Comprehensive File, including tips for getting started on using it.

MORE DATA IS BETTER

When it comes to data, more is better. The more the social sciences advance, the more we understand how all aspects of one person's life are interrelated. Therefore, empirical researchers often want data that expands to more domains.

The UAS is actively creating an in-depth portrayal of the people in the U.S.—their stories, their daily lives, their preferences and their opinions. The UAS comprises approximately 6,500 respondents representing the entire United States. The study is an Internet Panel, which means that respondents answer our surveys on a computer, tablet or smartphone, wherever they are and whenever they wish to participate. Unlike most internet-based studies, however, the UAS is address based, meaning that respondents are randomly drawn from postal addresses and receive an invitation to participate via the postal service.

The UAS asks about a wide range of topics, including detailed questions on participants' finances, their satisfaction with their life, their knowledge of Social Security rules, their personality traits, their health status and history, and their opinions on current events. The UAS also assesses respondents on domains ranging from their financial literacy to numeracy and understanding of probabilities.

Since the UAS is a panel, it is possible to analyze the trajectories of respondents to see ways that their past affects their present. Several core surveys are repeated biannually, which allows researchers and analysts to track changes in the population.

LEVERAGING NEW TECHNOLOGIES

Introducing technological innovations to the survey realm, the UAS pushes forward to expand our understanding of panel members and, through them, the country. For example, in recent pilot surveys, some respondents agreed to use wearable devices that track particular vitals through the day. Researchers use the data from these devices to answer questions about how people's daily activities affect their health in real time, opening up a window of opportunity for new research and analysis.

The UAS encourages researchers from any institution and the public in general to use the de-identified data. For this, it is important for researchers to be able to navigate the wealth of data provided. Researchers are welcome to explore the many variables contained in the more than 150 (and counting) surveys, each with its own data set. They can browse the content of the surveys right away. To access the data, a user simply registers for an account and then returns a signed data use agreement.

SIMPLER ACCESS TO REACH OUT TO MORE RESEARCHERS AND ANALYSTS

The Comprehensive File is a data set that combines data from the repeated core surveys in the UAS. One click allows registered researchers to download a single data file that contains the variables from the core surveys that are fielded biannually. The Comprehensive File includes variables in the following domains:

- Health, including detailed health status and history questions from the Health and Retirement Study (HRS) surveys
- Employment status and history; income and wealth
- Financial services and decision-making
- Retirement and Social Security, including retirement and pension questions from the HRS, as well as knowledge and access to information about Social Security
- Financial literacy
- Ability, including understanding of probabilities and Numeracy l scores
- Personality scores, using the Big Five inventory
- Satisfaction with life

The Comprehensive File can also help researchers who are considering developing their own surveys. Researchers interested in fielding their own questions to a nationally representative sample can formulate the questions that are unique to their survey and then link their data to the Comprehensive File for the complementary variables they need. This file is uploaded quarterly to include new survey responses and additional measures.

ACCESS FOR ALL WITH A SIMPLE BUT POWERFUL INTERFACE

The Comprehensive File is the source of the UAS data visualization tool. Using it requires no experience with statistical software. It allows the analysis of the data from the Comprehensive File in user-friendly but powerful ways. A user can create graphics that show the distributions of variables for the country as a whole and compare results for different population subgroups broken down by education levels, gender, age and other variables. As further rounds of data are added, users will be able to see how variables have changed across time, possibly broken down by population subgroups. In this way, a user can easily answer questions such as these: How has Social Security knowledge and financial literacy evolved across survey waves? Do women report being happier than men? How has average income changed for Americans with a high school degree? And they can produce pleasing visuals along with the answers.

Readers are encouraged to learn more of these capabilities by exploring these exciting tools at the web pages cited in the endnotes. ■

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ENDNOTES

1 Users can browse the data set at Welcome to the Understanding America Study, Dornslife Center for Economic and Social Research, University of Southern California, *https://uasdata.usc.edu/index.php*.

2 UAS Comprehensive File, Dornslife Center for Economic and Social Research, University of Southern California, *https://uasdata.usc.edu/page/UAS+Comprehensive+Data+File*.

3 Welcome to the Understanding America Study—Data Visualization (UAS Vis) Toolkit, Dornslife Center for Economic and Social Research, University of Southern California, *https://uasvis.usc.edu/*.

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