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Procedures for Submission

Authors should submit their papers in Word format to the editor of the *Pension Forum,* Arthur J. Assantes, at *PSN.Editor@Pensionedge.com*. Text should be left-justified and in 12-point font. Formatting should be kept to a minimum. Headings and subheadings should follow the style of the current Pension Forum (e.g., headlines are typed upper and lower case). All articles will include a byline (name, with title and employer, if you wish) to give you full credit for your effort. The Pension Section Communication Team will make the final determination as to which papers are suitable for publication. Information concerning the make-up of this committee can be found at *http://www.soa.org/professional-interests/section-committees/pension-committees/pen-sect-com-team.aspx.*

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FORUM

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Editor's Introduction

Welcome to the 2008 *Pension Forum*, our first since 2005.

For this issue, we decided to present our readers with a representative selection of papers from the Re-Envisioning Retirement in the 21st Century Symposium that was held in May 2006.

We begin with an article by Steve Siegel that outlines the context and content of the symposium and that first appeared in the September 2006 issue of *Pension Section News*. The article is followed by three papers from the symposium, along with discussions of those papers.

An online monograph, where you will find all of the papers presented at the symposium, can be accessed at *http://www.soa.org/news-and-publications/publications/other-publications/monographs/pub-2006-re-envisioning-retirement-in-the-21st-century-symposium.aspx.*

We welcome your comments and feedback concerning *The Pension Forum* or any other pension-related topic.

Arthur J. Assantes
Editor, *Pension Section News/The Pension Forum*
PSN.Editor@Pensionedge.com

Re-Envisioning Retirement Symposium: A Forum for Creative Visions of the Future

By Steven Siegel, SOA Research Actuary

Viewers of the recent PBS FRONTLINE documentary "Can You Afford to Retire?" can be forgiven for feeling an urge to rush to their local physician in need of a prescription for an anti-depressant. And, hopefully, if they were over 65 and living in the United States, they would have either signed up for Medicare Part D, which had its strict enrollment deadline a day before the show's airing, or had some other coverage for the continuously improving, but increasingly expensive prescription drugs available. The bleak picture presented by the FRONTLINE documentary and the highly publicized Medicare Part D administrative challenges encountered earlier this year reinforce the view held by many of the fragmented state of financial security in retirement in the United States. Whether or not you agree with the documentary's characterizations and conclusions, I am willing to venture that most of us would agree that there is room for improvement in the status quo—not only in the United States, but across North America as well.

Using this view of the status quo as a launching point, an SOA working group, originally formed to explore potential efforts related to phased retirement, decided to issue a call for papers that not only dealt with phased retirement, but a broader view of new visions for the future. The group, led by Rob Brown, officially issued the call for papers entitled "Re-Envisioning Work and Retirement in the 21st Century" in April 2005. The goal of the group and the call for papers was to hold an eventual symposium that would provide a forum for attendees to interact and discuss the future with little or no preconceived notions. The group was not disappointed—12 worthy papers were submitted in response to the call for papers and provided the content basis for a symposium.

The Re-Envisioning Retirement in the 21st Century Symposium was held in Washington, D.C., on May 3–4, 2006. Over 50 attendees representing a diverse range of organizations gathered to hear presentations, network and discuss the papers and other ideas. For the benefit of those unable to attend, the following is a brief session-by-session synopsis.

Session 1: Evolving Retirement Risks

This session set the tone for the symposium with Anna Rappaport providing context for the current state of retirement risks along with her visions on potential future scenarios and their implications. Much of Rappaport's perspective was built upon recent SOA research efforts. Beverly Orth and William Hallmark then presented ideas for new retirement plan designs envisioned for the 21st century. A motivating factor for the designs they presented was the growing trend away from DB plans. To counter this, Orth and Hallmark proposed, as one approach, a multi-employer DB plan that small employers, which previously found DB plans too complicated, may embrace. Valerie Paganelli provided insightful commentary on the papers including her view that further phased retirement be encouraged. She also posed an interesting idea of a "retirement pyramid" modeled on the well-known food pyramid for educational purposes.

Session 2: Improving Models for Sharing of Risk

Louis Doray opened this session with the actuarial implications of phased retirement scenarios in terms of an employer's normal cost and employees' retirement benefits. Doray's presentation included an explanation for how cost methodology could be adjusted to accommodate such changes. Richard MacMinn presented results from his paper that investigated the effect of select birth cohorts on the pricing of mortality-based securities, such as survivor bonds, life annuities and portfolios of life annuities. He concluded that the cohort effect can potentially be hedged with survivor bonds, which can become a mortality improvement risk management tool for life annuity markets.

The session closed with Carol Sears' commentary on the papers, including the observation that actuaries need to help educate workers on the new risks they face.

Session 3: Improving Models for Saving for Retirement

William Leslie led off this session with his views on how a retirement income program could provide the basis for better retirement savings in the 21st century. The program he proposed is based on software that Leslie developed as part of an SOA research project. The software, which is available on the SOA Web site, provides an illustration of the risk/reward trade-off of transferring longevity, investment and inflation risks. Mark Iwry and David John then co-presented their proposal for an automatic IRA intended to make saving easier, more convenient and consistently accomplished. Their proposal would feature direct payroll deductions into a low cost, diversified individual retirement account for those employees that currently do not have access to this type of saving. Rob Brown provided stimulating commentary on both of the papers and some observations from the Canadian landscape.

Session 4: Beyond the Horizon

Session 4 provided some of the more forward-thinking perspectives of the symposium. Chiu-Cheng Chang began with an observation of the evolving knowledge-based economy and its global impact for this century. Using this increasingly common economy characteristic as a framework, Chang proposed a prototype social security system called the National Provident Fund that would be fully portable and reciprocal across national boundaries. Bing Chen then discussed how an intragenerational funding approach might spread risks from those older persons who live longer to those who do not live as long and from those who are healthier to those who are less healthy. Using the United States and New Zealand as illustrations, Chen envisions intragenerational funding as a supplement, rather than a replacement of existing intergenerational programs. Kevin Binder, the discussant for the session, gave his views on how concepts from the papers might be incorporated for a practicing actuary's benefit.

Session 5: Social Balance

Jon Forman and Adam Carasso began this session with their thoughts on how a Mandatory Universal Pension System (a.k.a. MUPS) could fill the gap between what current retirement systems provide and that needed for future financial retirement security. In the long run, they estimate that a MUPS could replace an additional 14 percent final wages, over and above Social Security benefits. Gopi Shah then presented a paper she co-authored with John Shoven and Sita Slavov that explores the disincentives for working longer—even though life expectancy has increased—that are inherent in the current U.S.

Social Security system. She presented some alternative approaches that would help to counteract these disincentives, while maintaining benefit neutrality. Emily Kessler commented on both of the papers, noting that they exposed weaknesses in the system, while posing practical questions on each of the proposals.

Session 6: First Steps Toward Tomorrow

The final session of the symposium featured Carol Sears and Scott Miller presenting their vision of a new kind of plan, called the Retirement Income Security Plan (RISP). Essentially, a RISP would be a companion, catastrophic-coverage-only plan featuring an annuity payable for life with a benefit schedule that increases as the annuitant ages. Donald Fuerst then presented Mercer's proposal for a new concept in pension benefit design called a Retirement Shares Plan (RSP). From an underlying theoretical perspective, the RSP transfers investment risk and return to the plan participants while retaining and pooling the longevity risks. Fundamentally, it would be similar to a career accumulation plan where the value of retirement shares is dependent on the investment performance of the plan's assets. Anne Button served as the discussant for this session, commenting upon the papers and tying them into the Pension Section's Retirement 20/20 effort.

Lunch Sessions

Highlights of the symposium also included two lunch sessions featuring Henry Eickleberg of General Dynamics explaining his views from an employer perspective on where DB plans, and retirement in general, are headed; and Rob Brown and Emily Kessler discussing results of a survey given to attendees on the first day of the symposium. The survey included questions on what roles employers and the government should play in retirement plans and potential plan changes.

Monograph

An online monograph with the papers presented at the symposium, along with discussant comments, has been produced and is available at *http://www.soa.org/news-and-publications/publications/other-publications/monographs/pub-2006-re-envisioning-retirement-in-the-21st-century-symposium.aspx*. We would encourage you to review the monograph and read papers of interest to you. We hope this stimulates you to think creatively about the future of retirement.

Acknowledgments

Special thanks to Rob Brown for chairing this effort, and members of the Project Oversight group who also willingly volunteered to be discussants for the sessions: Kevin Binder, Anne Button, Valerie Paganelli and Carol Sears. Thanks also to SOA staff, Emily Kessler, Steve Siegel, Sue Martz and Dana Luboyeski for their contributions.

Conclusion

The Pension Section is committed to playing a role as a leader in re-envisioning retirement through this and its *Retirement 20/20* effort. We hope you'll learn more by visiting the *Retirement 20/20* Web site at *www.retirement2020.soa.org* and the Pension Section Web site. We welcome your ideas for helping us move forward with this goal. Please feel free to contact any Pension Section Council member or SOA staff with your thoughts.

The Future of Retirement: An Exploration and Comparison of Different Scenarios

By Anna Rappaport, FSA, MAAA, with assistance from Monica Dragut, ASA

Abstract

As the population is living longer, periods of retirement have been lengthening. At the same time, more people are leaving the workforce gradually rather than in one step. The Society of Actuaries has explored how people are leaving and issues related to the process of retirement. This paper builds on the work done by the Society of Actuaries in the Risks and Process of Retirement Surveys and other work. In the paper, the author explores the context for retirement in the future, sets forth alternative scenarios for retirement and considers the public policy, individual and family implications of these scenarios. The paper considers the perspectives of the individual, the employer sponsoring retirement plans, and of society as a whole. The paper represents the point of view of the author. It builds on research and data from a variety of sources and combines this information with intuition. This paper looks at the issues from a U.S. perspective, but many of the same issues can be found in other countries, and the concepts can be used to think through the challenges in different settings.

Outline

This paper looks at different ways to define retirement as part of the life cycle and focuses on reinventing retirement to create a better future. The paper provides scenarios for the future of retirement and expresses the opinions of the author. The paper is organized as follows:

- *Retirement: A historical perspective:* This section provides a brief history of retirement and a perspective about retirement today.
- *The scenarios:* This section builds four scenarios and compares them, linking them to demographics, retirement, work patterns, pension plan structures and economics.
- *Recommendations for institutional support:* This section provides a wish list for decision makers in key stakeholder organizations.
- *Context:* This section provides the research findings that, together with intuition, led the author to building the scenarios. It starts with the "puzzle about working longer," which can be viewed as a synthesis of this information.
- *The future: Where do we go from here?* A conclusion is presented, and the author's opinions are summarized. The author presents opinions about the maximum age to which people are likely to work, about the desirability of later and phased retirement, about the potential for future labor shortages and about the dangers of planning to never retire.

1. Retirement: A Historical Perspective

Life spans are increasing. Longer life spans, the aging of baby boom cohorts and lower fertility rates are combining to produce populations that will be much older on average than ever before. In many countries, there are more people at traditional retirement ages, and periods of retirement are growing. The relative lifetime balance between work and leisure has shifted, and retirement is expected to put increasing strains on many economies. Government-sponsored programs are a problem for taxpayers and raise questions of resource allocation to different types of programs. This big demographic picture

is common to industrialized countries. Within the United States, employer-sponsored programs can be a problem for the sponsoring organizations, and high legacy costs are a threat to old well-established businesses as they compete against new companies. There are uncertainties about the balance of labor supply and demand, and there are predictions of worker shortages in some occupations.

In the history of mankind, retirement is a relatively new social pattern, as is the allocation of time to leisure in the form of vacation and days off. Prior to the development of the industrialized society, people worked as long as they could and did what they could. They got little leisure. The family and workplace were not as separate as they have become in the last century. During the 20th century, as the economy shifted to an industrialized and then service economy, people moved long distances, and work and family were no longer linked. Formalized retirement systems became widespread in many countries, as did provisions for vacation and days off. The expectation under these systems was that people would leave the paid labor force between the late 50s and age 65 or a little later, depending on country and specific employment. Final average pay plans were particularly designed for people to work for a long time in one organization and work full-time until they then retired to no work. The interaction between longer life spans and traditional retirement ages led to longer periods of retirement.

During the same time that retirement systems evolved and matured, the role of women and the structure of families changed. Women very often work outside of the home today, but they still do the larger share of caregiving. The traditional idea was that retirement systems would cover a worker and dependent family members, but today, as living together without marriage and divorce have become more common, people move in and out of family relationships. The benefits based on the traditional definitions of family do not work for everyone. For example, a divorced older woman may not have much in the way of resources for retirement, depending on her personal work history and how pension and other assets were split at divorce. Today, retirement at usual retirement ages will lead to very long periods of retirement. In a few cases, some people may be retired more years than they worked.

As industrial society and retirement systems evolved, so did the expectation of a life cycle pattern with three major phases. New patterns have been emerging. One such pattern is a four-phase life cycle, with a period between full-time work and full-time retirement, often referred to as "the third age." This term refers to a period when people are involved and engaged in major activities, often working, but making a variety of life choices. Another pattern has been called the "cyclical life plan." Under this plan, periods of work and leisure are interspersed over a longer period. Academic employment, with its provisions for sabbaticals, is a very formalized version of the cyclical life plan.

Both the third age and phased retirement are discussed later in the paper. Phased retirement is a reduced commitment to work before full retirement, and it can involve a change in schedule, place of work or duties, or a combination of these. There is no standard definition of phased retirement, but some people would require that it include a partial payment of pension benefits and/or access to retirement resources. This author uses a more inclusive definition of phased retirement and would not require that it include partial payment of benefits.

2. Scenarios for the Future of Retirement

This section explores four scenarios:

I. Continuation of present trends: retirement is generally accepted as part of the life cycle.
II. Increase in retirement ages.
III. End of retirement.
IV. Move to new patterns of retirement: much later total retirement, but introduction of a third age where people work at a reduced level with more choices before total retirement.

As we look at these scenarios, we need to remember that they are opinions operating in the context of increasing life spans and are built on a combination of intuition and interpretation of research findings. Some experts are calling for a different term to replace "retirement," but it appears to the author that it is unlikely that any consensus will be reached around a new term. While these scenarios have been built to fit the situation in the United States, issues surrounding retirement ages and the third age are applicable in many settings. The same types of scenarios can be considered in other industrialized countries linking to their demographics, laws, retirement systems and family structures.

Scenario I:
Continuation of Present Trends: Retirement is generally an accepted part of the life cycle

Under this scenario, many people will have access to regular retirement income, and the expectation is that between ages 60–67 most people will leave the full-time paid labor force, and often they will leave all employment.

There is a substantial difference in individual circumstances with regard to access to pension benefits. People with long-term employment in major firms and/or government employment are likely to have good resources for retirement, including their Social Security, and to do well in retirement. The situation is much more mixed with regard to people who had many different jobs or who worked primarily for smaller firms. People without substantial attachment to the paid labor force are unlikely to have retirement benefits, although they could have family assets.

People seeking work during retirement have different experiences with regard to their ability to find work. Professionals are most likely to find work based on contacts from former employment and professional associations, and are quite likely to be able to find contract work. Retailers often use part-time and/or older workers, and firms such as Home Depot are known for their hiring of older workers. Many older persons seeking employment have difficulty finding work.

Scenario II: Increase in Retirement Ages

Under this scenario, there would be a significant increase in retirement ages. Retirement may be defined as it is now, or it might be defined to include much more phased retirement and different patterns of work and activity. As in Scenario I, there are substantial differences in individual circumstances with regard to retirement resources and employability. This scenario will create problems for people in very strenuous jobs who wear out early and are unable to do jobs later.

Scenario III: End of Retirement

Under this scenario, many people will need to continue working, and there will be no (or very inadequate) formal systems for retirement income. When people become disabled, they will usually stop working. Hopefully, disability benefit plans will be extended to higher ages. For some people, families will be available to help them out. While this scenario seems politically impossible, some commentators talk about people working much longer, and baby boomers not retiring. They seem to be promoting such a scenario.

People with adequate personal assets will have the choice to stop working, but those without will not, or they may find a bleak existence. People with larger families are more likely to be able to live with family members and to have help from them. Widows are particularly likely to have problems in old age.

This scenario could well lead to an increase in fertility rates in the long run as adult members of society would recognize the importance of children in helping to care for them as they get older. This scenario will likely lead to conflict between generations as members of society fight over allocation of governmental resources, and will probably lead to more demands on government and a focus on increased programs for the poor.

Scenario IV:
Move to New Patterns of Retirement: Much later total retirement, but introduction of a third age where people work at a reduced level with more choices before total retirement

This scenario builds on Scenario II and takes it much further. As in Scenarios I and II, there are substantial differences in individual circumstances with regard to retirement resources and employability. This scenario redefines patterns of work in a later period of work stage and introduces more work options and phased retirement. It introduces the concept of the third age and anticipates that new careers and different activity patterns will be used widely.

This scenario will work much better for some jobs than for others.

Exhibits

The Exhibits that follow compare various aspects and consequences of the four scenarios.

Comparison of Scenarios: Demographics

	I - Continue Preset Trends	II - Increase Retirement Ages	III - End of Retirement	IV-Move to New Retirement Patterns
Impact on retirement ages	Small increases	Major increases	Retirement no longer common pattern	Retirement is more multi-step with complete retirement at later ages
Role of family in retirement	Families are an economic unit, and retirement benefits provide for both parts of the couple Members of a couple help care for each other when they need help Unmarried people are more likely to need to buy help in the marketplace	Similar to present situation	Greatly increased, families will need to step in when people are no longer able to work as retirement income systems will not exist	Similar to present situation
Special issues for unmarried and childless people	Need more money as family help is much less likely to be available	Need more money as family help is much less likely to be available	Very vulnerable in this scenario	Need more money as family help is much less likely to be available
Groups that might have special problems			Groups in physically demanding jobs	
Pressure on fertility rates			Likely to encourage increases in fertility as families recognize the importance of children to help care for parents	
Link to increase in life spans		Can track changes in their life spans		Can index and link to increases in life spans, would need to link to new definition of retirement

Comparison of Scenarios: Implications for Pension Plans

	I - Continue Present Trends	II - Increase Retirement Ages	III - End of Retirement	IV - Move to New Retirement Patterns
Adjustments needed to defined benefit (DB) plans–phased retirement	Enable phased retirement with ability to make payments during work to phased retirees, requires regulatory changes	Same as with present trends	Plans likely to phase out	Same as with present trends
Adjustments needed to DB plans–retirement ages	Enable higher normal retirement ages up to 67, requires regulatory changes Note that Social Security and private plan retirement ages are currently out of synch	Enable normal retirement ages to 70, requires regulatory changes		Enable normal retirement ages to 70, requires regulatory changes
Relevance of final average pay plans	Fit well for long service people only	Same		Probably a poor fit, and new designs needed
Usefulness of cash balance and career average designs	Good, but inflation protection is a concern	Same		Same
Special provisions needed in defined contribution (DC) plans	Useful to have ability to make in-service distributions during retirement age range, at least for partial retirement	Same		Same
Impact on amount of benefit needed at retirement	Monthly income does not change, but if work and retirement function side by side, a period of partial payment is desirable Value is lower if benefits start later	Monthly income does not change, but if work and retirement function side by side, a period of partial payment is desirable Value is lower if benefits start later		Monthly income does not change, but if work and retirement function side by side, a period of partial payment is desirable Value is lower if benefits start later

Comparison of Scenarios: The Work and Retirement Experience

	I - Continue Present Trends	II - Increase Retirement Ages	III - End of Retirement	IV - Move to New Retirement Patterns
Labor force participation at ages over 70	Minimal	Somewhat greater than present	Very substantial	Somewhat greater than at present
How people leave the labor force	Retirement, death or disability	Retirement, death or disability	Death or disability	Retirement, death or disability
Need for development of alternative work options	Moderate	Much greater than at present	Much greater than at present–people will prefer reduced work after some point	Much greater than at present, depends on how scenario is developed
Relationship to disability programs	As at present	Would probably need to extend benefits to higher age	Disability programs would be much more important	Would need to adjust disability benefits
Likely work alternatives in marketplace	Part-time, part-year, project work, telecommuting, some special project work	Part-time, part-year, project work, telecommuting, some special project work	Part-time, part-year, project work, telecommuting, some special project work; likely to see great demand for flexible jobs options as people try to work at much older ages	Part-time, part-year, project work, telecommuting, some special project work

Comparison of Scenarios: Economics: Earnings and Retirement Income

	I - Continue Present Trends	II - Increase Retirement Ages	III - End of Retirement	IV - Move to New Retirement Patterns
Economic role of retirement systems	Enable people to leave paid labor force, often when they choose to, and often when they could continue to work	Same idea but at a later age	Would not apply	Depends on system
Role of benefit systems in work and retirement choices	For people with good benefits, major role Health care availability prior to Medicare eligibility is key issue; employer provided health care for retirees enables retirement and the lack of it is a barrier to retirement Health care access is important in defining feasible options	Same	Not applicable	Same
Impact of defined contribution plans	Provide assets for retirement, but people likely to retire at higher ages wtih only DC plans	Provide assets for retirement, but people likely to retire at higher ages wtih only DC plans	Not applicable	Provide assets for retirement, but people likely to retire at higher ages with only DC plans

Comparison of Scenarios: The National Picture

	I - Continue Present Trends	II - Increase Retirement Ages	III - End of Retirement	IV - Move to New Retirement Patterns
Impact on possible worker shortage		Tends to decrease worker shortage	Significantly more older workers will become available	More older workers will be available, but many prefer alternative work options
Impact on likely supply of workers	If present participation rates continue by age, labor force growth will slow	Will increase supply modestly	Will increase supply much more	Will increase supply, but impact depends on scenario development
Social Security role	Serves as a base layer of retirement protection for the working population and their families; also provides survivor and disability benefits	Serves as base layer of retirement protection for the working population and their families; also provides survivor and disability benefits; retirement benefit payable later, and disability increases in importance	No more general Social Security program to provide retirement benefits Might be a general disability and survivor benefit program but that is unclear	Serves as base layer of retirement protection for the working population and their families; also provides survivor and disability benefits
Social safety net role	Supplements Social Security and Medicare for those who are very poor and do not have access to family help	Supplements Social Security and Medicare for those who are very poor and do not have access to family help	Grows much more important	Supplements Social Security and Medicare for those who are very poor and do not have access to family help

The author's preference is for Scenario IV: "Move to new patterns of retirement" as her choice for the future, with eligibility for full benefits under public systems indexed to increases in longevity starting from age 67, and with employers fully allowed to pay benefits under employer systems while people continue to work after age 62, with that age indexed in parallel with the full benefit retirement age under public systems.

Scenario III: "The end of retirement" is viewed as very unfortunate, and it is the author's opinion that this would lead to many more poor women in old age and an undesirable greater dispersion in wealth.

3. Recommendations for Institutional Support

The following is the author's wish list for institutional support including public policy and employer support that would facilitate Scenario IV or an evolution from the current system as provided in Scenario II. This type of support is very desirable under Scenarios I, II or IV, but would not be consistent with Scenario III, the end of retirement. Under Scenario III, the retirement system would wither away, but that is a very undesirable result. This wish list is not endorsed by or included in the agenda of any organization. It is a personal statement about the path to a desirable future.

- Policy acceptance of the importance of an organized retirement system and its value to society. Without such a system, there would be many more poor people in old age, and a great deal more stress on society. Disabled individuals would be severely disadvantaged unless there was good coverage for them.

- Build integrated retirement policy including cash, medical and long-term care elements, and use it to facilitate good policy. The benefits are interrelated and should be dealt with in a unified way.

- Innovation is important; support it, but don't get rid of the basics. It is important to accommodate new ideas and support emerging designs, but at the same time to remember system goals and support what has worked well previously.

- Remember the widows and divorced women. Women alone are most likely to be poor and need protection. One person needs about 75 percent of what a couple needs! Families can be important in caring for family members, but those who spend their lives caregiving also need retirement benefits. It also needs to be remembered that not everyone has a family in retirement.

- Support defined benefit (DB) plans. DB plans remain the most efficient way to provide regular income to longer-service employees. They are important to retirees today, and in spite of the rhetoric to the contrary, turnover patterns have not changed that much over time.

- Maintain Social Security as a system that pays out regular retirement income. For many people, this is the only retirement income guaranteed for life, and this will be true for a greater percentage of the population in the future.

- Facilitate work options and work later in life. Under the emerging patterns of retirement and all of the scenarios, this is very important.

- Facilitate phased retirement. Part of later retirement and part of the idea of working in retirement are to have systems that support phased retirement, allowing people to use retirement resources for part of their support as they continue to work on a partial basis.

- Encourage full retirement at later ages. This is called for under some of the scenarios, and is important as we adjust to longer life spans. At the same time, this requires a balanced approach and a focus on how to handle disability and demanding jobs. Adjust to improving life spans on a gradual basis.

- Facilitate auto-pilot DC plans. Auto-pilot DC plans are those that work well without employee decisions. They would include auto-enrollment, good methods of handling investment mix and, ideally, good distribution options.

- Support and encourage regular income with survivor benefits as a distribution option in DC plans. As DC plans have become important, regular income remains very important.

- Make life simpler for plan sponsors. Many of the problems of the last few years are rooted in complexity and uncertainty.

- Try to improve financial literacy, and remember the diversity of the people who need the messages. Offer education to increase personal savings but recognize the realities. There is ample evidence that many Americans are not positioned to make good retirement decisions. No amount of education can completely solve this, but let's do our best.

- Provide health care access for all. If private individual insurance markets are central to this, use a method of risk adjustment so that individual insurance markets can function. If there are no such private markets, make sure that public programs are available to cover people who do not have employer coverage.

4. Context for the Future of Retirement

In this section, important groundwork is laid for the scenarios by looking at forces that drive the emerging retirement scene and by looking at work and retirement in different ways. This section draws heavily on studies of how people work and on other research. It starts with a synthesis of what follows presented in the puzzles about working longer. The following topics are covered:

Synthesis: Bringing together Different Perspectives: The "Puzzle About Working Longer"

Demographics

- Mortality and Life Spans
- Morbidity and Health Expectancy
- Changes in Physical Status and the Need for Help
- New Ways to Think about the Life Cycle: The "Third Age"

The Work and Retirement Experience

- What People Want
- Patterns of Work after Retirement
- Older Workers Have More Problems Securing Work
- Leaving the Labor Force at Earlier Ages
- Innovative Practices to Support Working Later in Life

Economics: Earnings and Retirement Income

- Sources of Income for Older Americans and Earnings of Employed Older Americans
- The Evolution of Retirement Benefit Systems
- Understanding of Risk

The National Picture

- Labor Force Projections
- Social Security and Retirement Ages
- Public Policy and Working Longer

4.1 Synthesis: Bringing Together Different Perspectives: The "Puzzle about Working Longer"

A number of factors come together to create unanswered questions about how long people will work and what they often say. Key points are:

- More than seven in 10 workers say they expect to retire gradually or work as part of their retirement. While many people want to work in retirement, they may be seeking different job options and working conditions other than regular full-time work.

- About four in 10 retire earlier than planned.

- Of people aged 50–61 who are not in the labor force, many more are disabled than retired.

- Typical workers say they expect to retire at 65 but are more likely to retire at 62 (Center for Retirement Research, Data Profile #4, April 5, 2004).

- More people say they plan to work in retirement than actually do work in retirement.

- When people work in retirement, retirement takes on a different meaning, and it can be viewed as reinventing oneself.

- Some people (13 percent in the 2005 Risk and Process of Retirement Study) say they do not plan to retire, but realistically few people will want to continue working beyond age 75. Of those who want to work, many may not be able to. Many people will have more than 10 years of life beyond that point.

- Periods of retirement have lengthened dramatically over the last 50 years. Many experts feel that raising retirement ages so that periods of retirement track longer life spans is very appropriate.

- Today's longer periods of retirement are creating financial problems and challenges in both government and private sector pension plans. Later retirement could go a long way to solve these problems, and at the same time it also reduces the sufficient amount of savings to get to an adequate retirement income. Savings need to last over fewer years, and they have longer to earn investment income before they are used for retirement.

- With the baby boom cohort reaching traditional retirement ages, the balance between people ages 15–64 and over 65 will shift dramatically. With no change in retirement ages, fewer people will support more people.

- The growth of the labor force will slow unless something changes (for example, there might be more immigration, or people might continue working longer). It is unclear whether there will be general labor force shortages and how severe they might be. Some occupations seem certain to be in very short supply. Early examples are nurses and nuclear engineers.

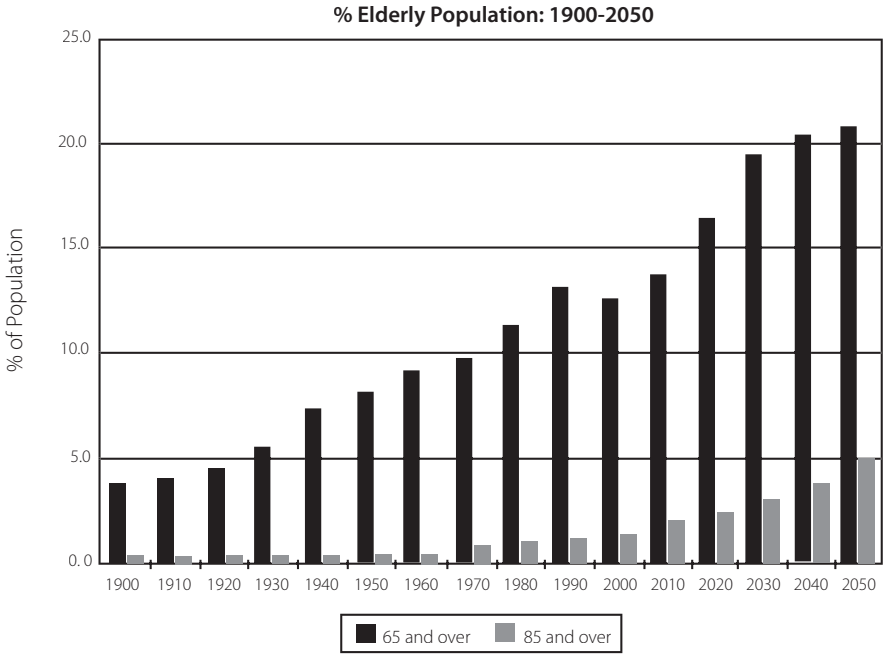
- If people work longer and retire later, more people are likely to be disabled before they retire. In addition, some people will be in jobs with heavy lifting and other physical demands, and they will burn out before retirement age. Later retirement is not feasible for everyone.

While longer average work life is certainly a possibility for the future, it remains to be seen whether those who can and want to work longer will have access to jobs that enable them to do so. It also remains to be seen whether public policy will accommodate better options. The scenarios presented earlier are designed to help us think through good options for the future and what will be needed to make them work.

4.2 Demographics

This section provides information about key demographic variables and preferences that drive the environment for retirement in the future and provides rationale for Scenarios II and IV. Increasing life spans, including health status at higher ages, are important in this regard. On average, people are staying healthy to higher ages, but many still experience periods of frailty later and need assistance and ultimately long-term care. The information on life spans and on disability shows us how dangerous Scenario III would be. The concept of the third age, an important part of Scenario IV, is introduced. The third age is a period of changed engagement somewhere between full-time work and major career commitment and total retirement.

4.2.1 Demographics: Mortality and Life Spans



Source: Older Americans 2004: Key Indicators of Well-Being (Federal Interagency Forum on Aging-Related Statistics)

The percentage of the elderly population over the last century has grown dramatically, and further growth is projected for the next 50 years. Growth in the proportion of elderly is due to a combination of increasing life spans and changing fertility patterns. Life expectancy at birth and at ages 65 and 85has increased as follows:

Life Expectancy at Birth, ages 65 and 85

	1900	1920	1940	1960	1980	1990	2000	2001
Birth	49.2	56.4	63.6	69.9	73.9	75.4	77	77.2
At age 65	11.9	12.5	12.8	14.4	16.5	17.3	18	18.1
At age 85	4	4.2	4.3	4.6	6	6.2	6.4	6.5

Source: Older Americans 2004: Key Indicators of Well-Being (Federal Interagency Forum on Aging-Related Statistics)

There is uncertainty with regard to future improvements in mortality. Experts disagree about the prospects for future improvement, with most expecting some continued improvement and some expecting dramatic improvement. An increase in life expectancy at age 65 of one year per decade seems quite plausible. The following data shows the chances that a couple both age 65 will survive to various ages based on current mortality, mortality projected for 20 years and for 40 years. The projection is on a very simplified basis. We have assumed that the 1983 mortality table could be set back one year for each decade.

Probability of Survival from Age 65 to 80, 90 and 100*

	Female 65	Male 65	Both Survive	Either Survive
Current–1983 Mortality Projected 20 years				
survive to 80	0.8005	0.6368	0.5097	0.9275
survive to 90	0.4452	0.2341	0.1042	0.5751
survive to 100	0.0882	0.0248	0.0022	0.1108
Projection to 2025–1983 Mortality Projected 40 years				
survive to 80	0.8405	0.6937	0.5831	0.9511
survive to 90	0.5210	0.3021	0.1574	0.6657
survive to 100	0.1406	0.0439	0.0062	0.1783
Projection to 2045–1983 Mortality Projected 60 years				
survive to 80	0.8726	0.7434	0.6488	0.9673
survive to 90	0.5936	0.3751	0.2227	0.7460
survive to 100	0.2043	0.0720	0.0147	0.2616

** Calculations based on the GAM 83 sex distinct table*

The simplified calculations indicate that, by 2045, more than one in four couples will have one partner survive to age 100. Nearly all today (more than nine in 10) have at least one partner survive to age 80. We can expect for the future:

- Continued reductions in mortality rates and increases in life spans, although we do not know how rapid they will be
- Women will still live longer, although the differences in life span by sex may narrow
- Long periods of widowhood as has been the rule for past decades
- Good health for many during later life, but for a significant number of people, some period of ill health and frailty at the end of life
- Many people needing assistance during part of their later life.

4.2.2 Demographics: Morbidity and Health Expectancy

Not only has life span increased dramatically, but health expectancy has also improved in the past century. Public health programs, improved economic status and improvements in medical knowledge and practice have prolonged the healthy life, allowing active engagement until later in life. This enables more people who want to stay actively engaged for more years to delay retirement by either continuing the same work, starting in a new field or pursuing other interests. Some older persons prefer not to continue to work. For them, continued good health enables them to enjoy active leisure activities in retirement. For people who are working to meet financial needs, good health allows employment, even in physically demanding jobs.

4.2.3 Demographics: Changes in Physical Status and the Need for Help

The changes in physical status and the need for help can have a major impact on one's retirement, especially if it is unexpected and unplanned for. When retirees do not have employer-sponsored coverage for post-retirement medical services, it is very difficult and costly to get any coverage until Medicare eligibility. After Medicare eligibility, nearly all Americans are eligible for Medicare, and supplemental coverage is also generally available.

The SOA Retirement Risk Survey (2005) provides insight into how the public views different types of risks. Retirees are most concerned about not being able to pay for good health care, about long-term care costs and inflation, and less concerned that they might exhaust savings and be left only with Social Security.

The need for long-term care increases sharply with increasing age. The Feb. 22, 2006 *Wall Street Journal*, in a story "Long Term Planning: How to Protect Against the High Cost of Nursing Homes," provides some key data. The *WSJ* says that a projected 11 percent of 65-year-old-men and 28 percent of 65-year-old women will end up needing more than five years of care at home or in a facility. They say that 37 percent of all 65-year-olds will need some care in a nursing home or assisted living facility. They also state that 8 percent of claimants with long-term care policies with three-year limits will exhaust their benefits. Without appropriate financing, the cost of care can easily deplete retirement savings for most people. Future concerns about long-term care relate to financing, affordability and also having access to facilities and caregivers. In the long run, there is likely to be a shortage of qualified staff, due to the interaction of demographic factors, wages and the relative attractiveness of these jobs.

4.2.4 Demographics: New Ways to Think about the Life Cycle: The "Third Age"

As people are living longer, and as more of them are reaching traditional retirement ages, new ideas about work and retirement have emerged. One way to summarize them is to think of the life cycle as including a "third age." The author is not aware of a specific fixed age definition for the "third age" but rather would think about it as a period defined by shifting priorities and different bases for making choices. The "third age" can be viewed as a period between the traditional full-time employment career-building period and full-time retirement and leisure. Individuals combine work, volunteerism and leisure in different ways during this period. There is no institutional norm at present, and maybe none will emerge.

There are a variety of resources for people to use as they think about what might work for them. Many people just invent their own directions. Some of the resources can be found at various Web sites:

- Chicago Life Opportunities Initiative (*www.cloi.org*)—this site lists many references and resources and includes a questionnaire, *Mapping Your Future,* that addresses five categories of planning: health, work and leisure, finances, housing and relationships. The questionnaire provides a good overview of things to think about.

- Civic Ventures (*www.civicventures.org)*—this is a national organization, and it includes quite a lot of resources as well as tools for people.

- Third Employment Age Network (*www.taen.org.uk*)—provides insight into parallel issues in the United Kingdom.

• AGE: The European Older People's Platform (*www.age-platform.org*)—organization looking at population aging issues in the European Union.

4.3 The Work and Retirement Experience

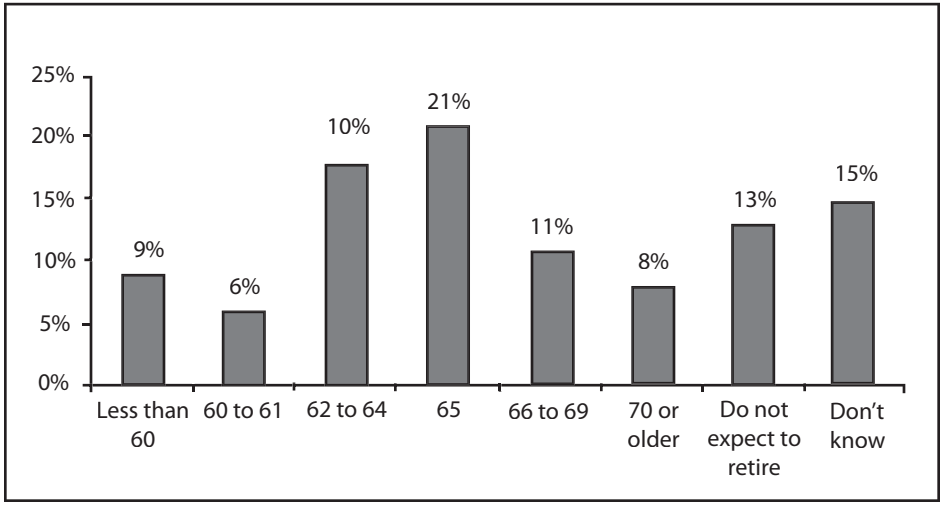
This section leads us to Scenario IV by providing information about what people say they want, based on public attitude surveys and other research, and information on how people are actually phasing out of full-time work and working in retirement. This information focuses on schedule, type of work and duties. The section also includes data about the prevalence of disability within the group of people leaving the workforce early. It concludes with information about innovative work practices.

4.3.1 The Work and Retirement Experience: What People Want

Various attitude studies and focus groups provide perspective on what people say they want in retirement. Some key questions are: When do people want to retire? How often do people retire before they want to retire? Do people want to work in retirement? When people say they want to work in retirement, what does that mean?

The *2005 Risks and Process of Retirement Survey* shows that more than half of pre-retirees expect to retire from their primary occupation at 65 or before. The percent of people indicating that they will never retire increased from 4 percent in the 2001 survey up to 8 percent in 2003 and 13 percent in 2005.

Expected Retirement Age



When people say that they do not expect to retire, that creates a potentially dangerous situation. Over the years, more than three in 10 people have retired earlier than planned and not by choice. Not planning to retire means that it is not necessary to save for retirement and provides a rationale for not saving or protecting against the risks expected in old age.

AARP research provides insights into the type of work people are interested in and the type of retirement plans they are considering. AARP's study, *Staying Ahead of the Curve 2003: The AARP Working in Retirement Study* looked at workers aged 50–70. Of this group, 68 percent said that they expected to work in retirement. Of the 68 percent, the vast majority indicated that they expected to work part-time. The respondents' intentions were as follows:

Work part-time doing the same type of work you do now	24%
Work part-time doing something different	22%
Start your own business doing same type of work you do now	5%
Start your own business doing something different	5%
Work full-time doing the same type of work	5%
Work full-time doing something different	2%
Other and don't know	5%
Total	68%

We know from other sources that people do not always do what they say they plan to. However, many do work in retirement, and this is likely to increase.

4.3.2 The Work and Retirement Experience: Patterns of Work after Retirement

The Society of Actuaries' series of studies on Risks and Process of Retirement provide insights into public knowledge about post-retirement risk and into how people retire. They provide evidence with regard to gradual retirement. Of the respondents who say that they are retired, nearly 40 percent worked for pay during the last year. Data from 2003 and 2005 is as follows:

Work Experience During Prior Year Among Retirees Providing Retirement Age Percentage with Various Work Experiences 2003 Results 2005 Results

	2003 Results	**2005 Results**
Not worked for pay	59%	60%
Worked full-time	10%	15%
Part-time	15%	13%
Full-time or part-time part year	13%	12%
Don't know	3%	1%
Number in this category	242	274

Source: 2003 and 2005 Risks and Process of Retirement Surveys

Those who gradually reduced the amount they worked report different patterns of work.

Work Experience of Those Who Gradually Reduced Work Percentage with Various Work Experiences

	2003 Results	2005 Results
	Who They Worked For	**Who They Worked For**
Worked for a Different Company	33%	40%
Worked for the Same Company at the Same Job	32%	31%
Became Self Employed	25%	27%
Worked for the Same Company at a Different Job	8%	*
	Schedules of Work	**Schedules of Work**
Worked on a Regular Basis	52%	65%
Worked on Project or As-Needed Basis	25%	25%
Served as a Consultant	10%	7%
Worked Seasonally	6%	10%
Number who Participated in Phased Retirement	67	81

* *Question changed a little between 2003 and 2005.*
Source: *2003 and 2005 Risks and Process of Retirement Surveys*

One way of thinking about the transition into retirement and the third age is to think about reinventing one's life. One definition can be found in a book providing advice to people as they plan for later in life: "To rewire is to reroute personal energy that was spent on full-time work into deeply satisfying, personally customized work activities (full-time, part-time, flex-time, phased, sabbatical, seasonal, paid, personal and/or volunteer) that transform your next act into the most fulfilling time of your life" (*Don't Retire, Rewire,* by Jeri Sedlar and Rick Miners, Alpha, 2003, page xiii).

4.3.3 The Work and Retirement Experience: Older Workers Have More Problems Securing Work

More older persons might work, but some of them have difficulty securing work. A new study of the hiring process concludes: "The evidence presented paints a picture of age discrimination against older workers in labor markets. The demand for labor from older workers is smaller than that from younger workers. Simply encouraging older workers to reenter the labor force will not guarantee that they will be able to find jobs in a timely manner, if at all" (***Source:*** Joanna N. Lahey, Issue Brief from Center for Retirement Research at Boston College, July 2005, Number 33, page 6, *Do Older Workers Face Discrimination?*). The study explores a number of possible reasons why employers prefer younger workers but does not reach definite conclusions. Rather it states that more work is needed. Two issues discussed in some depth include fear of age discrimination litigation and higher benefit costs for older workers. It is contended that discrimination in hiring is harder to demonstrate than discrimination after

hiring, and that hiring is less likely where there are more stringent non-discrimination laws. Studies of displaced workers indicate that older displaced workers are less likely to have found work than younger displaced workers, and they are more likely to leave the labor force.

Employment Status in January 2004 of Workers Displaced in 2001–2003, by Age

Age Range	% Employed	% Unemployed	% Not in the Labor Force
20-24	65	20	15
25-54	69	20	12
55-59	63	22	14
60-64	42	29	29
65 and over	24	13	63
Total	65	20	15

Source: Linda Levine, Congressional Research Service, Aug. 29, 2005, page CRS-5, *Older Displaced Workers in the Context of an Aging and Slowly Growing Population.* Data based on CRS calculations from the 2004 Displaced Worker Supplement to the *Current Population Survey*

The CRS study concludes: "The lower employment rate of older displaced workers compared to either younger workers or to non-displaced workers appears related to the restricted opportunities that older job seekers typically encounter." The study also cites an analysis of the 1992–1998 *Health and Retirement Study (HRS)* that indicates that displacement is a key predictor of involuntary withdrawal from the labor force.

4.3.4 The Work and Retirement Experience: Leaving the Labor Force at Earlier Ages

The Congressional Budget Office (CBO) has looked at the early exit of some Baby Boomers from the Labor Force. (***Source:*** CBO, November 2004, *Disability and Retirement: The Early Exit of the Baby Boomers from the Labor Force*). The CBO has examined the Survey of Income and Program Participation (SIPP) database to look at people who were aged 50–61 and not participating in the labor force in 2001. Status was based on self-reporting, and people were classified as retired or disabled. Some of their key findings included:

- Men and women not in the labor force because of disability generally had much lower income, higher poverty rates and fewer assets than those who were retired.

- Of the total population aged 50–61, 14 percent of men and 24 percent of women were reported as not being in the labor force at any time during the year. Of the men in the study, 32 percent were retired, 64 percent were disabled and 4 percent reported the reason for not being in the labor force as other. Among the women, 26 percent were retired, 40 percent were disabled and 34 percent reported as other the reason for not being in the labor force.

- Men not working at all at ages 50–61 were twice as likely to be disabled as retired. Women were 167 percent as likely to be disabled as retired. Of the total population aged 50–61, 9 percent of men and 10 percent of women were reported as disabled. Of the total, 4 percent of men and 6 percent of women reported themselves as retired and did not work at all during the year. The study provides no information about what percentage may have reported themselves as retired but who also worked during the year. (Other studies show considerable numbers of people who say they are retired and report work.) People who reported themselves as other generally indicated that they were caring for others or were not interested in working.

- About 73 percent of retired men and 35 percent of retired women received income from their own DB pension.

- About 80 percent of the men and women who reported themselves as disabled received Social Security disability benefits and/or were in a family that received Supplemental Security Income program payments.

The following table summarizes the income and assets of Americans aged 50–61 in 2001 who were not in the labor force during the year, and compares the income and assets to amounts for those who were in the labor force.

	Retired	Disabled	Not in Labor Force for Other Reason	Total for Population Not in Labor Force	Population in Labor Force During 2001
Men					
Percentage of Total				14%	86%
Percentage of Not in Labor Force	32%	54%	4%	100%	
Median Annual Family Income	$30,000	$20,000	*	$23,000	$62,000
Mean Net Worth	$231,000	$19,000	*	$61,000	$148,000
Percentage Who Were Poor	15%	24%	*	21%	3%
Women					
Percentage of Total				24%	76%
Percentage of Not in Labor Force	26%	40%	34%	100%	
Median Annual Family Income	$34,000	$19,000	$43,000	$30,000	$54,000
Mean Net Worth	$218,000	$14,000	$120,000	$82,000	$132,000
Percentage Who Were Poor	15%	40%	26%	29%	8%

Source: CBO, November, 2004, page 3, *Disability and Retirement: The Early Exit of the Baby Boomers from the Labor Force*

About four in 10 Americans retire earlier than they had planned. EBRI's *Retirement Confidence Study* is an annual study that looks at a sample of retirees. That study indicates that over a period of several years, the results were about the same. Involuntary retirement is often driven by job loss and/or disability. Family health problems can also make continued work very difficult.

4.3.5 The Work and Retirement Experience: Innovative Practices to Support Working Later in Life

Some employers focus on offering good opportunities to mature workers and seek them out. AARP has a program to provide awards to companies that do a good job of offering programs to support older worker employment. A research report, *Staying Ahead of the Curve 2004: Employer Best Practices for Mature Workers,* analyzes the practices of winners of the AARP award from 2002, 2003 and 2004. This report focuses on programs that support, enhance and create new work and career opportunities, on programs that provide added value to mature employees and on extras. Phased retirement and flexibility are featured in the report. Flexibility in jobs is described as flexibility in schedule, place of work and duties. Other practices that are featured include support for caregivers, mentoring and retiree benefits.

AARP also has partnerships with a number of companies that have been designated as Featured Employers. These companies have a commitment to hiring older workers. The Featured Employers as of Nov. 29, 2005 include retailers, financial services companies, health care organizations, temporary employment services, communications companies, car rental companies, security services and others. Retailers include Home Depot, CVS, Walgreens and Borders. Temporary services include Adecco, Kelly Services and Manpower. Communications companies include Cingular Wireless, Verizon and Comcast. Health companies include Johns Hopkins Medicine, Universal Health Care and Quest Diagnostics. Other organizations include Cendant Car Rental Group—Avis/Budget, Allied Barton and Pitney Bowes, Inc.

4.4 Economics: Earnings and Retirement Income

This section includes information on the income of older Americans and the importance of earnings in different age groups. By showing how many people are in different age groups, it shows how we might be moving toward Scenarios II and IV today. It provides some background on retirement systems, offers current perspectives on understanding of risk by individuals and demonstrates the practical limits of good results from too much individual responsibility. It also discusses labor force projections and the uncertainty surrounding them.

4.4.1 Economics: Earnings and Retirement Income: Sources of Income for Older Americans and Earnings of Employed Older Americans

Americans are combining earnings and retirement income sources and making individual choices about work and retirement. They combine earnings with support from other sources in various combinations by age. The following table shows the percentage of people by age with income from various sources. Fewer work at older ages, but earnings are significant for those who do work even at ages over 80. The second table shows the percentage with earnings, together with mean and median earnings for those

who had earnings. The author believes that a substantial number of people can be expected to work into their early 70s, but that after 75, the number of people working will be small. Work after age 75 should be viewed as more of an exception than the rule.

Percentage of Older Americans with Various Sources of Income, 2004

Age Group	Social Security	Private Pensions or Annuities	Public Pensions	Earnings from Current Work	Income from Assets
55-64	17.7%	9.4%	6.3%	66.5%	58.3%
65-69	83.1%	20.7%	11.5%	32.6%	57.2%
70-79	89.6%	24.5%	11.9%	16.2%	56.2%
80+	91.2%	26.1%	11.4%	5.1%	54.5%
Median Amount –Age 65+	$10,399	$6,720	$15,600	$15,000	$952

Source: Debra Whitman and Patrick Purcell, CRS Report for Congress, dated Nov. 7, 2005, Table 1, page CRS-4, *Topics in Aging: Income and Poverty Among Older Americans in 2004*, developed from the CRS analysis of the March 2005 *Current Population Survey*.

Percentage of Older Americans with Various Sources of Income, 2004, and Mean and Median Amount

Age Group	% with Earnings	Mean Annual Earnings	Median Annual Earnings
55-64	66.5%	$44,673	$32,000
65-69	32.6%	32,792	19,428
70-79	16.2%	27,256	12,000
80+	5.1%	21,101	10,000

4.4.2 Economics: Earnings and Retirement Income: The Evolution of Retirement Benefit Systems

The retirement benefit system in the United States is a combination of Social Security, employer-sponsored retirement benefit plans and personal savings.

The number of retirement plans in private industry has grown as follows:

	1975	1990	1999
Defined benefit*	103,346	113,062	49,895
Defined contribution**	207,748	599,245	683,100
Total	311,094	712,307	732,995
*Cash balance included in DB	N/A	N/A	1,324
** 401(k) included in DC	N/A	97,614	335,121

*Note that where multiple plans are present, participants are counted in each plan.
Source: Facts from EBRI, April 2005, *The U.S. Retirement Income System*.

The number of total participants (in millions) in private industry plans is as follows;

	1975	1990	1999
Defined benefit	33.0	38.8	41.4
Defined contribution	11.5	38.1	60.4
Total*	44.5	76.9	101.8

* Note that where multiple plans are present, particpants are counted in each plan

It should be noted that while the total number of DB participants has continued to grow, the number of active participants has not. Active plan participants were 26.8 million in 1975 and 22.6 million in 1999.

After a period of growth and liberalization, DB plans have been subject to cutbacks and restructuring. Most baby boomers with long service in organizations with DB plans will have a secure retirement, but not always what they expected. Market forces are leading to plan freezes and terminations, often a few years before Boomers expect to retire. The design of many traditional plans is such that much of the benefit is earned in the last few years before retirement, so many baby boomer families will get lower benefits than they once expected, forcing them to work longer or have a lower standard of living.

While DC plans are growing, successful outcomes rely on individuals to make good decisions, and they rely on market outcomes. Some plans are heavily invested in company stock, and in a few companies, these stocks have had major losses. Some baby boomer families with long service covered by 401(k) and other DC plans have very good balances. Others have not been in plans long enough, or they have been hit by poor investment experience.

The major trends and issues that affect retirement benefit systems today are as follows:

- Decline of the DB pension system and a reduced role by employers in providing benefits for retirement. Plans are frequently being frozen or changed. Some baby boomers will be included in groups that are grandfathered into old plans, but many will not. Early baby boomers are much more likely to be grandfathered than late baby boomers. Generations after the baby boomers are unlikely to be grandfathered when plans are changed.

- Growth of the DC pension system with increasing reliance on stock and bond market performance for retirement security. Many plan sponsors have reduced their commitment to providing retirement benefits. Depending on the timing of the shift, many baby boomers are caught in the middle, with not enough time and discipline to save in the newer DC plans. Younger employees will have more time to save.

- Concerns about the financial stability of Social Security benefits and the form and level of benefits together with calls for reform and system restructure. Social Security issues create uncertainty for all future generations of retirees.

- Public attitudes and knowledge that do not encourage very much saving for retirement. This has been resulting in lower savings for many Americans. Many women are also vulnerable because of inadequate focus on spousal rights.

• DB plans are threatened by the interaction of several different forces:

• Contributions required of private sector DB plans have been subject to very large increases and big fluctuations due to the interaction of economic issues and legal requirements.

• Increasing levels of litigation are a major threat to the pension system.

• Litigation and legal uncertainties have served to put innovative new plan designs virtually on hold.

• Bankruptcies leading to plan terminations and partial loss of benefits. Federal pension insurance covers only part of the benefits.

4.4.3 Economics: Earnings and Retirement Income: Understanding of Risk

The accumulated research to date would indicate that there are major gaps in the understanding of risk, and that in spite of the shift to individual responsibility in retirement programs, this is not changing much. 401(k) plans have been in existence for more than 20 years, and employers have been working to educate people about plan investments and saving for retirement. While there is evidence that education helps some people, there is also evidence that many people are not interested in education, and it has little influence on them.

An emerging body of knowledge provides new insights into how people understand and deal with risk and uncertainty. That body of knowledge should be considered together with the surveys and research presented in this report. An overview of behavioral finance as it applies to pensions can be found in Olivia Mitchell and Stephen Utkus, *Pension Design and Structure: New Lessons from Behavioral Finance*, Oxford, 2004. In his paper, Gary Selnow (page 45) discusses some of the factors that make retirement savings difficult. He tells us to remember that:

• The payoff for behavioral change is quite uncertain.

• Workers do not easily buy the idea of payoffs in the distant future.

• The promise of pleasure tomorrow means pain today.

• The wrong decision yields instant gains.

• There is no immediate tangible reward for saving now.

• The savings decision can be postponed without immediate penalty.

• There are no specific functional deadlines for action.

Gary Selnow studies how people make decisions and brings us a perspective different from that of the people who have worked extensively with pension plans.

We can bring together the findings of behavioral finance and what participants have told us in focus groups sponsored by the Society of Actuaries. Some key points to remember are that:

- Long-term thinking is foreign to many people.

- Some people make decisions about retirement on a very intuitive basis without much quantitative analysis of needs and resources.

- Many Americans do not have good skills in mathematics and do not understand compound interest. That makes it very challenging to understand long-term savings and the impact of inflation.

- Personal experiences can be much more powerful than statistics and probabilities in influencing how people act and think.

4.5 The National Picture

In this section, we discuss labor force projections and the uncertainty that surrounds the issue of possible future labor shortages. This leads to my opinion that there is a great deal of uncertainty and a puzzle surrounding the future employment of older persons, particularly those within the 65–75 age group. That puzzle was discussed earlier in the paper. This section also includes information about how Social Security serves to influence retirement patterns and a section on public policy and retirement patterns. This section reinforces the importance of having a retirement system that works for people who do not make good decisions on their own.

4.5.1 The National Picture: Labor Force Projections

The Department of Labor projections for the years 2002–2012 (***Source:*** Michael W. Horrigan, Monthly Labor Review, February 2004, *Employment Projections* to 2012) show that the labor force grew by 1.6 percent per year from 1950-2000. Growth is expected to slow to 1.1 percent per year from 2000 to 2010, or 0.6 percent if the entire 2000-2050 period is reviewed. The projections assume a labor market that clears; i.e., supply adjusts to meet demand. An economist with service in the labor department commented in discussions about these topics that it was amazing how many people entered the labor force or increased work schedules when there was increased demand for labor.

Some experts have predicted substantial shortages. For example, Edward E. Potter, president of the Employee Policy Foundation, in an Oct. 11, 2001 letter to John Boehner, chairman, Committee on Education and Labor, U.S. House of Representatives, stated: "Shortages in a wide range of occupations that are evident today provide a glimpse of greater shortages to come. Current trends point to chronic shortages across the entire spectrum of the occupations and industries, but most especially in those that offer the greatest potential for economic growth and rising incomes over the next 30 years. Over the next 30 years, the labor force needed to maintain current per capita growth in the standard of living will increase to nearly 200 million, but current growth of the working age population, productivity growth trends and current labor force participation rates point to an available labor force of only 165 million. The shortage may reach a total of 35 million workers—21 percent more than the available labor force in 2031."

In contrast, Peter Cappelli, professor of management and director of Wharton's Center for Human Resources, did a study that is reported as "debunking the myth" in Knowledge at Wharton (published

Aug. 27, 2003). Cappelli says that predictions of a labor shortage are false, and gives the following reasons:

- Even though the baby-bust group is 16 percent smaller than the baby boom group, not every subgroup is smaller. For example, more people are enrolling in college after the time of the baby boom. Higher percentages choosing college educations have offset the fact that the next cohort is smaller.

- The predictions are based on the unrealistic idea that baby boomers will retire at age 65. Cappelli predicts that many boomers will work past age 65, although they may change the work they do.

- Individual companies do not usually reflect the demographic profile of the United States. Companies' profiles reflect their own histories, and the periods of time when they were growing and changing.

- Few companies target hiring to specific age groups, and companies adapt their hiring to the age groups that are available.

- The economy has always grown faster than the labor force, due to productivity growth. The U.S. economy is about eight times the size it was at the end of World War II and the labor force is about twice the size. Labor force growth is not necessary for the economy to grow.

- Demographic changes are slow and predictable, giving the economy time to adjust to them.

- Slow growth in the labor force will constrain economic growth only if there is full employment.

- The labor force will continue to grow, although more slowly.

However, Cappelli also recognizes that there could again be a tight labor market, and that companies could be challenged to find the right employees.

Shortages in specific occupations or locations are a different issue. It seems quite likely that at a minimum there will be shortages of key health care professionals. There may also be shortages in specific geographic areas and occupations.

Immigration is an important factor in potential growth of the labor force. From 1994 to 2004, the native born labor force in the United States grew by 7 percent, while the foreign born labor force grew by 66 percent. The following table summarizes the U.S. Labor Force by nativity: ***Source***: CBO, November 2005, pg. 3, *The Role of Immigrants in the U.S. Labor Market.*

	Number in U.S. Labor Force–1994 (millions)	**Number in U.S. Labor Force–2004 (millions)**	**Percentage Change 1994-2004**
Native Born	118.1	126.0	7%
Foreign Born	12.9	21.4	66%
Total	131.1	147.4	12%

Source: CBO, November 2005, pg.3, *The Role of Immigrants in the U.S. Labor Market.*

The Congressional Budget Office (CBO) concludes that when immigration is considered together with the aging of the baby boom, foreign born workers are likely to continue to increase as a percentage of the total labor force.

There are a number of uncertainties with regard to future labor demand and supply including:

- The impact of immigration. Immigration increases labor supply and is estimated by the Department of Labor at 1.1 million persons per year from 2000-2005, forecasted at 900,000 from 2006-2010 and 1.3 million from 2012- 2012.

- The impact of outsourcing to offshore locations. In the last few years, outsourcing has grown with much greater outsourcing of functions such as programming, call center management, customer service, accounting, etc. Manufacturing has long been done offshore.

- The extent to which older Americans will work. This depends on people being able and available to work and there being suitable jobs available to them.

- The strength of the economy.

It is the conclusion of the author that in the absence of significant increases in participation rates and/or immigration, labor force growth will slow significantly from the last 50 years. At the same time, there are many moving parts. More older Americans are likely to be available for work if there are good opportunities for them. It is the author's view that one cannot conclude that there will be a general labor shortage or to what extent there will be spot shortages. This will depend on the ability of the system to adjust as needs emerge.

4.5.2 The National Picture: Social Security and Retirement Ages

Social Security benefits are available at age 62 on a reduced basis, and full benefits are available at an age that is gradually increasing from 65 to 67. Benefits after the full benefit or normal retirement age continue to increase for later retirement, reflecting the shorter period of payment. It is widely believed that the use of age 65 as a normal retirement age in Social Security has had a major influence on the private retirement system. However, when the age 65 requirement was amended, this did not lead to changes in the private retirement system. This is complicated by the fact that ERISA and related pension regulation has not been modified to reflect the changing Social Security retirement age.

An individual who is claiming Social Security prior to normal retirement age will have benefits reduced if earnings exceed the earnings test limit, $12,480 in 2006.

The Social Security full-benefit retirement age is increasing gradually because of legislation passed by Congress in 1983. Traditionally, the full benefit age was 65, and early retirement benefits were first available at age 62, with a permanent reduction to 80 percent of the full benefit amount. In 2005, the full benefit age is 65 and six months for people born in 1940, and it will gradually rise to 67 for those born in 1960 or later. Early retirement benefits will continue to be available at age 62, but they will be reduced more. When the full-benefit age reaches 67, benefits taken at age 62 will be reduced to 70 percent of the full benefit and benefits first taken at age 65 will be reduced to 86.7 percent of the full benefit.

There is a financial adjustment for delayed retirement. An individual reaching the full-benefit age in 2005 (65 years and six months) receives an additional 6 percent benefit for each year he or she delays collecting benefits. If he or she delays taking benefits until age 70, the benefit will be 31 percent higher because of that delay. The maximum retirement benefit for someone who waits until age 70 to collect benefits is $2,252 a month in 2005. This delayed retirement credit will rise to 8 percent a year for workers born in 1943 or later.

The availability of Social Security benefits is a major factor in retirement decisions. Most people claim Social Security before they reach the age for full benefits. Of people who started getting retired worker benefits in 2003, three out of four (75 percent) received benefits that are reduced for early retirement. About half (51 percent) were age 62 when they first received benefits. Many experts encourage Americans to claim benefits early. The analysis of the decision is often incomplete in that it may not consider spouse benefits.

The average monthly benefits in January 2005 were:

$ 955 for retired workers
$ 1,574 for retired couples
$ 920 for widows or widowers over the age of 60
$ 895 for disabled workers
$ 1,497 for a disabled worker, spouse and one or more children
$ 1,979 a month for a widowed mother and two children

The maximum Social Security benefit for a worker retiring at the 2005 full retirement age (age 65 and 6 months) is $1,939 a month.

Source of statistics on Social Security: National Academy of Social Insurance Web site.

4.5.3 The National Picture: Public Policy and Working Longer

National policy in the United States is mixed with regard to encouraging people to work longer. The elimination of the Social Security earnings test encourages people to work longer, but the availability of benefits at 62 encourages them to retire earlier.

DB plans are not permitted to offer partial or full in-service distributions prior to normal retirement age as defined in the plan. This has served as a barrier to employer phased retirement offerings. When benefits are liberal, employees are likely to retire early. They may go on to other work or, in some cases, be rehired by their former employers. But employers rehiring retirees face legal uncertainties. It is important that provisions for rehiring retirees and allowing partial pension payments to early retirees be modernized to support and encourage phased retirement.

In general, policy is not very favorable to DB plans sponsored by private sector employers. This has been one of several factors encouraging employers to freeze or terminate these plans. The decline in DB plans may serve to encourage people to work longer as they will have fewer resources for retirement.

5. The Future: Where Do We Go from Here?

5.1 Factors We Can Manage or Influence and Those We Can't

As we move into the future, many of the conditions that influence retirement patterns of the future are in a state of flux and they are interacting.

Further increases in life span seem very likely. As individuals, we can make decisions that will influence our personal health and likely life span. On a community level, we can do the same by improving sanitation, making immunization available to all, helping the uninsured secure health care, etc. It is important that we both recognize the impact of these forces and work to create as a positive influence.

As a society, we can decide to what extent we want to support retirement and what arrangements we want to offer and encourage.

5.2 Conclusions

We are at a crossroads in the evolution of retirement and the management of retirement benefits. Systems to support organized retirement have grown and prospered over the last 50 years, but today their future is uncertain. This paper sets forth ideas to help build and maintain a strong retirement system for the future and provides opinions and insights from the author. Some important opinions and insights are key to moving ahead to build the right scenario for our society:

It is very unclear whether general labor shortages will emerge. Neither individuals nor institutions should rely on expectations of future labor shortages as a way to create employment opportunities for older workers and to supplement retirement income. *The author's opinion is that spot shortages are very likely, but future general shortages are uncertain.*

Working longer will be important to many Americans, but individuals should not plan on the basis of that being an option available to them. Individuals who want to work longer need to be prepared on a contingency basis for labor force exit or partial exit relatively early due to disability, family needs or lack of an available job. *The author's opinion is that individuals should position themselves for work options, but at the same time build resources in case they have no reasonable options.*

Planning to "never retire" and using that as a basis for not building resources is a dangerous idea. For people who live to higher ages, a majority are unlikely to want, and in many cases to be able, to work to very high ages. People need to have assets enabling some choice of retirement or at least major scaling down. The author's opinion is that age 75 or earlier is the practical limit of work for most people.

The public is not prepared to handle individual responsibility well, and education can solve at best less than half of that problem. *The author's opinion is that retirement systems that work well without individual decisions are critical to having a society with a reasonable level of security in old age.*

Demographics and economics as well as the desire for personal involvement in productive activities point to the desirability of later retirement and phased retirement. Disability and poor health point to the need to recognize that for about 10 percent of people, this is not a feasible reality. *The author's*

opinion is that enabling phased retirement, increasing general retirement ages and maintaining strong disability systems is very good policy and good for all parties. All three are needed to work together, or they will not turn out well. The author's preference is for Scenario IV: "Move to new patterns of retirement" as her choice for the future, with the age at eligibility for full benefits under public systems indexed to increases in longevity starting from age 67, and with employers fully allowed to pay benefits under employer systems while people continue to work after age 62, with that age indexed in parallel with the full benefit retirement age under public systems.

Comments on "The Future of Retirement: An Exploration and Comparison of Different Scenarios"

By Zenaida Samaniego, FSA, MAAA

The paper takes a look at trends in retirement patterns in light of changing demographics and economics, and the impact of such trends on policy decisions about employment and retirement. The author synthesizes and makes use of the following four future possible scenarios to analyze policy implications: 1) present trends continue; 2) significantly later retirement ages than at present; 3) later retirement ages but with a gradual phase-in to full retirement; and 4) no retirement. In doing so, the author provides important insights into demographic and economic influences, particularly the future outlook for employment-based benefits in the United States. In particular, the author does a good job in presenting both sides of the debate on labor market "shortages" due to the aging baby boom population.

The paper could benefit from further clarification by the author in the following areas:

1. It would appear that the "no retirement" scenario would essentially take us back to the past, i.e., before industrialization, when people kept on working until they simply couldn't, and no formalized retirement systems existed. It would be interesting if this scenario could be framed in terms of the differences that would exist today from the framework of yore. For example, it would be difficult to imagine a return to the traditional role of family, which the author cites as necessary under this scenario. Furthermore, the potential impact on low fertility rates is questionable. Also, how would the anticipated phase-out of plans compare to pre-industrialization days when DB/DC plans did not even exist? Lastly, the author might consider whether longevity improvements might be influenced by the lack of or elimination of leisure at retirement, which in turn could lead to changes in formalized retirement schemes, for example.

2. It would appear that the four scenarios could apply to different groups of individuals, rather than definitive trends that would serve to provide mutually exclusive policy alternatives applying to all Americans; i.e., one could argue that it is not a one-size-fits-all for the U.S. system. Thus, depending on total retirement wealth and income, different individuals will choose to retire later or not at all. For example, workers with low income or who never saved adequately for retirement would continue working until they can retire, maybe never.

3. The paper refers to the "third age" when discussing phased, gradual or new patterns of retirement. It also describes the current expectation of a life cycle pattern with three major phases. Perhaps the author could articulate which are the three major phases, in light of what the reviewer believes the starting point of the paper is—i.e. the two periods of pre- and post-retirement.

Comments on "The Future of Retirement: An Exploration and Comparison of Different Scenarios"

By Rob Brown, FSA, FCIA, ACAS

Introduction

This paper was first presented at the Re-Envisioning Retirement in the 21st Century Conference, May 2006.

Re-Envisioning Retirement is part of a Society of Actuaries' initiative called Retirement 20/20, whereby the SOA hopes to present to society a new set of pension paradigms designed for the realities of the 21st century workplace and economy. Participants are invited to ignore existing pension structures and to attempt to build a new pension system starting from an absolutely blank slate.

It is in this perspective that Anna Rappaport presented her paper. While the paper is written with a U.S. perspective, many of the issues can be found in other countries.

As Rappaport indicates, periods of retirement are lengthening, as we all live longer but expect to retire earlier. Given the shifting demographics and some weakening of the economy, we may have reached our limit in terms of early retirement. Further, employers are abandoning DB pension (only 40 percent of workers with pensions in the United States have DB plans) in favor of defined contribution (DC) arrangements, under which virtually all of the pension risks (investment risk, longevity risk) are borne by the worker with no risk-sharing.

Rappaport also points out that pensions are of even greater importance to women who are entering the labor force in ever greater numbers (as an aside, in Canada, pension coverage for women is now equal to pension coverage for men). As one example, Rappaport states that divorce can be an extremely serious risk for many women, often being the number one cause of their living in poverty in retirement. This is important since there is no private sector insurance that can be purchased to cover the economic impact resulting from divorce. So we turn to pensions for at least a partial solution.

The paper introduces four alternative scenarios for future retirement:

I. Continuation of present trends—retirement is generally accepted part of the life cycle

II. Increase in retirement ages

III. End of retirement

IV. Move to new patterns of retirement — much later total retirement, but introduction of a "third age" where people work at a reduced level with more choices before total retirement.

A continuation of present trends may cause difficulties for those who have a more fragile attachment to the labor force (although trends in job tenure do not indicate a sharp drift in this direction). The paper

states that many older persons seeking employment have difficulty finding work. It is interesting that the Canadian literature in this regard states that older workers are often the problem. They see themselves as unemployable because of outdated skills and often do not approach potential employers. Rappaport states that one reason why employers prefer younger workers in the United States is a fear of age discrimination litigation. One would expect such a litigation fear to be much smaller in Canada.

Scenario I also implies that families may be called upon for a greater level of support, and the private sector may have to design products to fulfill this need of economic security for those without families.

The paper points out that a significant increase in the retirement age (Scenario II) will create problems for people in very strenuous jobs. I must admit, I see very few truly strenuous jobs out there today. With mechanization and robots, the heavy lifting is not being done by humans. And, if it were (e.g., firefighters), surely we can find worthy employment for these individuals that does not require full physical capabilities (e.g., building inspectors). Further, actuary Eric Stallard's many analyses of patterns of disability continue to show that healthy life expectancy has moved upward in step with general life expectancy. We can find no statistical evidence to support an increased period of life in a disabled state.

Under Scenario III, the end-to-retirement scenario, social security retirement benefits would not be available to retirement age individuals. However, if we just "end" retirement, we should expect to see a commensurate rise in disability income claims. We need to remember that many families of the smaller "baby bust" era may have no children or very few children who can be fully supportive because of geographic separation. Again, divorce and widowhood exacerbate these problems.

Rappaport suggests that such a retirement scenario might actually lead to higher fertility rates. I cannot agree. In my opinion, families are not motivated to have children so as to guarantee future care. Besides, at 2.05 babies per woman, the United States already has the highest fertility rate of any economically advanced country. I do agree with Rappaport, however, that this could lead to demands for more government programs for the poor.

The scenario which Rappaport prefers, Scenario IV, would result in later total retirement but with a new "third age" where people will be able to work less and work flexibly as they phase into full retirement. During this "third age," individuals would combine work, volunteerism and leisure as they desire. This phased, but later retirement, may be a virtual necessity if we face labor shortages in the future (Rappaport sees this in certain sectors of the workforce, but not necessarily overall).

Into all of these scenarios are woven the looming costs of medical care and long-term care. This is especially true in an environment where employers are removing post-retirement medical care coverage. This is much less of an issue in Canada where the government-sponsored medical care system covers a higher percentage of catastrophic costs.

Except for Scenario III (an end to retirement), we will continue to have need of organized retirement systems. Rappaport contends that such systems should be fully integrated with medical and long-term care elements. This would be of smaller importance if society did not leave so much of the latter two risks for the individual to bear (i.e., the United States versus almost all other economically developed nations). Again, Rappaport stresses the added precariousness of widows and divorced women, especially those with small or no families.

Rappaport contends that the DB pension model should be preferred but with special provisions for phased retirement and full retirement at later ages. If we decide to use DC plans, they should have auto-enrollment and life-cycle investing with low management expense ratios.

With regard to phased retirement, it is interesting to note that, in October 2007, the federal government of Canada introduced amendments to the tax laws that would encourage phased retirement. In particular, workers could collect up to 60 percent of their accrued DB pension while, at the same time, continuing to accrue additional pensionable service in the same plan. This is not tied to a reduction in work time or in salary. (As an aside, one hopes that this does not encourage fewer working hours than would have occurred without the new legislation.) In the United States, DB plans are not permitted to offer partial or full in-service distributions prior to the normal retirement age as defined in the plan. This creates a barrier to phased retirement.

In a later portion of the paper, Rappaport points out that, by 2045, more than one in four couples can expect to have one partner survive to age 100. She again worries about lengthening periods of widowhood, but if the gap between male and female life expectancy continues to narrow, maybe this statistic (long periods in widowhood) will also improve.

She also says that planning not to retire is dangerous. It implies a mind-set that believes that saving for retirement is not necessary. However, more than three in 10 people have retired earlier than planned and not by choice. She concludes that individuals should position themselves for work options, but at the same time build resources in case these options disappear (e.g., disability, unemployment or family needs).

Rappaport also concludes: "Retirement systems that work well without individual decisions are critical to having a society with a reasonable level of security in old age."

Overall, this is a paper that is based on careful and broad research. The conclusions are not revolutionary, but rather evolutionary. They certainly provide food for thought in formulating pensions for the 21st century.

In closing, it is worth noting that the author, Anna Rappaport, is a living example of her preferred retirement scenario. While financially able to fully retire, Rappaport continues to work hard as a consultant and researcher and produce papers such as this one that provide a true service to our Society and to society in general.

Author's Response to Comments by Zenaida Samaniego and Rob Brown
by Anna Rappaport

I wish to thank the commenting authors for their thoughtful responses and good ideas.

I would like to further pursue one of the ideas. Zenaida Samaniego asked if the "end of retirement" scenario would be like returning to the pre-industrial era. I believe that it would not be the same. While in both cases, people would work as long as they could, the environment would be very different because:

- People are living to much older ages today.

- Many people are living in places different from the place where they grew up; whereas in the past many more people lived in the communities where they were raised.

- In the pre-industrial era, it was much more likely that there were a relatively large number of family members nearby.

- Divorce is much more common today.

Overall, the communities in which people live today are very different from those in pre-industrial times, and there will be many more, older people who do not have a local family and support system where they live.

New Retirement Plan Designs for the 21st Century

By Beverly Orth, J.D., FSA and William R. Hallmark, ASA, EA, MAAA

Abstract

The trend away from defined benefit (DB) pension plans to defined contribution (DC) plans has caused a significant shifting of investment and longevity risks from employers to employees. In addition, small employers have never embraced DB plans, due to their complexity and high administrative costs. As a result, most future retirees will have no DB plan and will bear significant investment and longevity risks through their DC plan benefits.

Currently, U.S. tax legislation militates against the sharing of these risks and encourages either employers or participants to bear both risks. While it may be argued whether employees or employers are better positioned to bear the investment risk, there are advantages to be gained by pooling longevity risk. Longevity risk is very predictable for large groups, but is a significant, unpredictable risk for individual retirees.

We present some ideas for new retirement plan designs that share one or both of these risks. These ideas are inspired by considerations of who may be better positioned to bear the risks and rewards, and a desire for more flexibility in how these risks are shared between employers and employees. As noted above, we think it makes sense to pool longevity risk. We also think investment risk may be more appropriately borne by higher income employees or employees who have a solid retirement foundation. Some of our ideas are possible under current tax legislation, while others would require relatively minor legislative changes. We also propose a multiemployer DB approach that small employers may find attractive.

1. Introduction

Congress added Section 401(k) to the Internal Revenue Code (IRC) in 1978, with little fanfare or notice. But that year may mark the beginning of the trend away from DB pension plans to DC plans. A more mobile workforce has embraced the portability of DC plan benefits, while employers view the liabilities associated with DB plans as too large and too volatile.

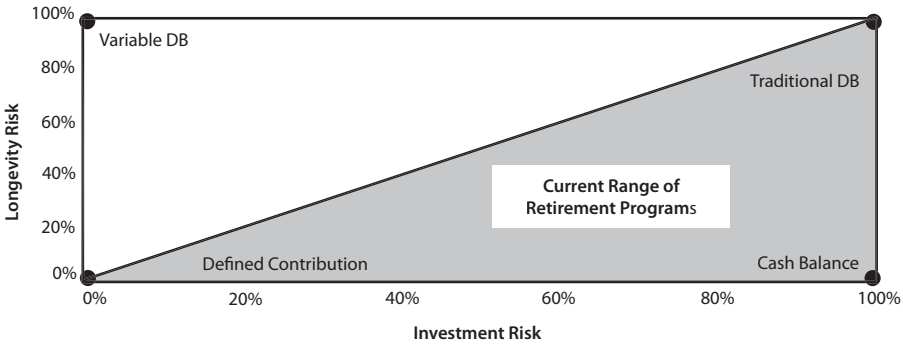
An aging workforce, declining interest rates and poor investment returns of the early 21st century have convinced many employers to terminate or freeze their DB plans. This reaction is not limited to companies in financially troubled industries. Continuing a trend that began in 1980, IBM recently announced the freezing of its DB plan. This announcement may signal the beginning of the end of the traditional DB plan as we know it today.

Small employers, in particular, see no advantage to maintaining a DB plan. Such plans are much more complex, both to administer and to communicate to employees. The administrative cost, on a per capita basis, can be much higher for a small DB plan than for a small DC plan. In addition, it is difficult for small employers to bear the longevity and investment risks in a DB plan. The swings in required annual employer contributions can be overwhelming for a small company with limited cash resources.

The result is that, currently, only 44 percent of the U.S. workforce is covered by a DB plan.[1] In the private sector, DB plan coverage is only 20 percent.[2] These percentages can be expected to shrink rapidly over the next decade, leaving most workers with no DB plan other than Social Security. Even the continued status of Social Security as a DB plan is not guaranteed.

What is troubling about this shift to a DC-dominated environment? Employees now bear the burden of risks that are difficult to manage as individuals. Both the longevity and investment risks are borne by the employer in a DB plan and both are shifted to the employee in a DC plan. Employers who terminate or freeze their DB plans are aware of this shift, but employees are largely ignorant of it. Investment risk gained some attention during the Enron debacle. Longevity risk, however, is a difficult concept for most workers to grasp. It probably won't be appreciated fully until retirees with primarily DC plan benefits begin outliving their retirement savings and are forced to rely almost entirely on governmental benefits like Social Security.

Percentage of Risk Retained by Plan Sponsor



As shown in the chart above, traditional retirement programs place both types of risk on either the employer or the employee. By varying the relative weights of DB and DC plans, an employer can vary risk-sharing anywhere along the line between traditional DB and DC plans. If 50 percent of the investment risk is shared, then 50 percent of the longevity risk is shared. Cash balance plans allow employers to shift the longevity risk to employees without shifting the investment risk, opening up combinations in the lower triangle of the graph above. The upper triangle, however, has been largely unexplored.

This concentration of risk is primarily a quirk of history, reinforced by our tax code. If employers design their plans in accordance with the tax code rules, they and their employees receive generous tax benefits. But the current demarcation between DB and DC plans in the tax code no longer functions well. The most common hybrid design, the cash balance plan, shifts the longevity risk to employees (assuming they elect the lump sum option) without shifting the investment risk. Can we design plans in which these risks are shared and in which the decisions of sharing investment and longevity risks are independent? Yes, a number of approaches are possible. Would new legislation be necessary to permit these approaches? Yes, for some approaches; but others can be adopted under current legislation.

[1.] Craig Copeland, "Retirement Plan Participation and Retirees' Perception of Their Standard of Living," EBRI Issue Brief No. 289, January 2006.

[2.] Jordan Pfuntner, "Percent of Private Industry Workers Participating in Retirement Plans, Selected Periods, 1990–2003," U.S. Department of Labor, Bureau of Labor Statistics, July 28, 2004.

Designing retirement plans that appeal to small employers is another challenge. Outside of sole proprietors and family businesses, DB plans have never been popular in this segment. Can we design a DB plan with simple, low-cost administration and with reduced cost volatility that would attract small employers? With appropriate enabling legislation, we present one idea for a type of multiemployer DB plan that streamlines plan administration and allows risk pooling among unrelated employers.

Our paper outlines several retirement plan designs in which investment and longevity risks are shared between the employer and employees, including an alternative that would vary the proportion of risk shared based on income level. We also present a portability approach for DB plans. And, finally, we outline a multiemployer DB solution for small employers.

2. Cash Balance Design with Shared Investment Risk

A cash balance plan design is essentially a DB plan that is dressed up to look like a DC plan. It is easier to communicate to employees and, at least initially, appeared to receive greater appreciation from many employees than a traditional DB plan. By offering a lump sum at retirement, cash balance plans transferred the longevity risk from the employer to employees. However, depending on the interest crediting index, most, if not all, investment risk was retained by the employer. The interest crediting index has been confined to a few options due to issues related to current accrual rules and to regulations on lump sum benefit cashouts in DB plans. Ignoring these restrictions, cash balance plans could offer interest credits tied to a passive index (e.g., 50 percent S&P 500 plus 50 percent Lehman Aggregate). Employees could be offered a selection of different interest crediting indices, including some fixed interest crediting indices (e.g., 5 percent). Employers would still retain the investment risk, but could choose to match the employee-selected investments either wholly or in part, thereby reducing or eliminating the employer's investment risk. In fact, if no fixed interest option is offered and the employer chooses to completely match the employees' investment choices, the design essentially becomes a DC plan design. If, however, the employer believes the employees are investing too conservatively, a common observation of many DC plans, the employer could elect to invest more aggressively. Much like current cash balance plans, this approach would reduce the employer's cost, if the employer achieves better investment returns than employees' elections would produce.

We are aware of a couple of plans designed in this way that have been challenged in court. The challenges focus on the accrual and lump sum cashout rules mentioned above. We do not intend to comment on the legal issues in those cases, but believe from a public policy perspective that this type of design has value.

3. DB/DC Hybrid Design with Shared Investment Risk

This hybrid plan design would provide a DB benefit on compensation up to a predetermined level (e.g., 70 percent of the Social Security wage base). For compensation above that level, the employer would provide a DC benefit. Legislative changes would be necessary to permit this design because current laws would not allow a DC plan to ignore compensation below a set level. This approach, however, contemplates a single plan with both DB and DC elements, so that in the aggregate no compensation is excluded.

This hybrid design provides longevity and investment risk protection for low and middle-income employees, while high-income employees bear investment risk only on the DC accounts. By indexing

the compensation level at which the DC benefit begins, workers are automatically protected against pre-retirement inflation risk if the plan provides a benefit based on final average pay.

Upon retirement, the DB and DC portions would be combined into one annuitized benefit. As with traditional DB plans, the employer would bear the investment and longevity risks on the annuities. Alternatively, the plan could allow the DC portion to be cashed out or rolled over at termination of employment. While this option would reduce the participant's investment and longevity risk protection, only higher-paid participants who are better positioned to bear the risks would have a DC portion with the cashout option.

Instead of transferring both the investment and longevity risks to employees for benefits on pay above a certain level, it may be more desirable to transfer just the investment risk. For a relatively large group, the longevity risk is very predictable while it is very unpredictable for the individual. Under this approach, the plan would provide a traditional defined benefit on pay up to a specified level (e.g., 70 percent of the Social Security wage base) and a variable defined benefit on pay above that level. In the variable DB plan, investment performance is passed through to the participant by affecting the benefit level. Benefit units are earned much like a traditional career average pension plan. The value of those units, however, depends on investment performance, with the unit value increasing when investment performance exceeds a "hurdle rate" and decreasing when it falls short of the "hurdle rate." Upon retirement, the traditional DB portion of the plan would pay a fixed annuity and the variable DB portion would pay a variable annuity continuing the sharing of investment risk. To allow the participant to manage the investment risk, the variable portion of the plan could permit participant selection of the investments on which the variable benefit is based, like Mercer's Retirement Shares Plan.

Alternatively, instead of a variable DB plan or a DC plan, a cash balance plan could be used for the benefit on pay exceeding the specified threshold. Under this approach, the longevity risk for the cash balance benefit would be transferred to the participant, and the investment risk would remain with the plan sponsor.

4. DC Design with Shared Investment Risk

This DC plan design would look much like a traditional profit-sharing plan. However, the investment risk would be shared. The employer would bear the investment risk on the participants' DC plan accounts up to a predetermined level, with investment risks and rewards shared with employees above that level.

Let's assume the employer guarantees an "n" percent annual rate of return. If the actual rate of return exceeded "n" percent, the participant accounts would be credited with "n" percent plus half of the excess over "n" percent. The difference between the actual rate and the credited rate would be allocated to an employer reserve account within the plan, to be used to wholly or partially satisfy the guarantee in future years when returns are less than "n" percent. If the reserve account is not sufficient to fund the guaranteed amount, the employer would contribute the amount necessary to satisfy the guarantee.

The guarantee level must be determined in the context of the employer's investment allocation decision. If the employer desires to make the guarantee feature cost-neutral, then the guarantee level must be set below the expected mean return of the investment portfolio, because the returns exceeding the guarantee level are shared with the participants.

In order for the employer to meet the guarantee requirements, it would exercise full control over investment of plan assets. In most cases, investment direction would be through the use of professional investment managers.

Through rollovers to an individual retirement account (IRA) or another employer plan, or through cashouts of small balances, the DC accounts would be portable for employees who terminate before retirement. However, terminated employees who cash out or who roll their accounts would lose the employer's investment and longevity risk guarantees.

Prohibiting cashouts of larger balances protects the plan from adverse selection, which would increase the employer's longevity risk. Larger balances would be annuitized, thereby protecting retirees from outliving their retirement savings. The annuities could be purchased by the plan from an insurance company. Alternatively, the employer could bear all of the longevity risk. The employer essentially would replace the insurer and contribute more to the plan if retirees live longer than expected. Or the longevity risk could be shared by the employer and the retirees through a reduction in the annuitized benefits if extreme departures from expected mortality occur.

The employer contribution allocations to satisfy the investment guarantee would be based on participants' account balances and not on compensation levels. Accordingly, the allocation formula would not satisfy any of the "safe harbors" in the current tax laws for demonstrating that it does not discriminate in favor of highly compensated employees (HCEs). Under current law, such allocations would have to be tested to show that they are nondiscriminatory. If they would be discriminatory, then allocations to HCEs would need to be reduced to a nondiscriminatory level in order to maintain the plan's tax-qualified status.

A change in the current laws governing nondiscriminatory contributions would be needed to avoid such testing requirements. Additionally, the maintenance of an employer reserve account within the plan does not fit within the current legal framework for DC plans and would probably require a legislative change.

5. Portability Approach for DB Plans

One of the issues raised against DB plans is the lack of portability. As the workforce has become more mobile, the traditional DB plan design that rewards long-service employees has become less attractive. Currently, employers can offer terminating employees a lump sum benefit that can be rolled into an IRA or another employer plan. However, the lifetime benefit characteristics are lost if the benefit is transferred. To retain those characteristics, either the benefit must be maintained in the existing plan or an annuity must be purchased.

To accommodate a more mobile workforce, direct DB plan to DB plan transfers could be managed without altering the cost or risk characteristics of either the transferring plan or the accepting plan. To accomplish this transfer, the transferring plan would transfer assets equal in value to the current liability attributable to the participant. The accepting plan would calculate a service credit under that plan's benefit formula such that the value of the assets transferred equals the projected unit credit (PUC) accrued liability attributable to the new participant. The PUC accrued liability would be calculated using the interest and mortality assumptions used in the transferring plan's current liability calculation.

Depending on the types of DB formulas in the transferring and accepting plans, the participant might experience a reduction in their accrued benefit to facilitate this transfer. However, the participant would retain the leveraging of future salary increases on prior service if the accepting plan has a final average pay formula. This type of plan-to-plan transfer is relatively straightforward for variable DB plans with the same "hurdle rate." In this situation, the benefit units in one variable plan can be transferred to the other plan with no adjustment. In a variable DB plan, liabilities can always be valued using the "hurdle rate" as the discount rate because investment performance above or below the "hurdle rate" is passed through to the benefit. If the plans have different "hurdle rates," an adjustment to the benefit credits would need to be made based on the present values computed at each "hurdle rate."

6. DB Solutions for Small Employers

Small employers could be encouraged to enter the DB plan arena if plan administration were simple and inexpensive, and if contribution volatility were substantially reduced. Our solution would be a multiemployer DB plan sponsored by an investment or consulting firm, which would handle all plan administration and management of plan assets.

For simplicity, and to reduce administration costs, the plan would offer a very basic benefit design, e.g., a percentage of final average pay times years of service or a career average formula. Each participating employer would select the percentage that would apply to its employees, and would also select among a choice of vesting schedules. Eligible compensation definitions would be limited to one of the IRC Section 414(s) safe harbors. Or the sponsoring firm may further limit choice of eligible compensation to make administration easier.

We contemplate a multiemployer plan approach so that the employers could pool their investment and longevity risks. Pooling reduces the contribution volatility for the employers, giving them the benefit of large plan experience. Under current law, multiemployer plans must be maintained pursuant to one or more collective bargaining agreements, so legislative changes would be needed to permit unrelated employers to pool these risks without union involvement.

The sponsoring company would obtain a determination letter demonstrating the plan's qualified status from the Internal Revenue Service (IRS). Adopting employers would file an abbreviated registration form with the IRS. Thereafter, the sponsoring company would prepare and file the necessary IRS, Department of Labor (DOL) and Pension Benefit Guaranty Corporation (PBGC) disclosures, thereby relieving employers of these tasks.

The sponsoring company would administer the plan, invest and manage the assets, prepare the necessary government filings, calculate and pay benefits and perform all necessary nondiscrimination tests. It would also calculate cost and liability disclosures for the employers' financial statements. Employers would contract with the sponsoring company to join the plan and receive these services, and would be able to terminate the contract and move to another sponsoring company or switch to self-administration. Contract termination would be in accordance with the contract terms, which could include limitations on termination (e.g., only at least three years following initiation). Withdrawal liability for employers who terminate their contracts would be determined similarly to current rules for multiemployer plans.

To attract employers as customers, sponsoring companies could offer continuation administration as an option. For a higher annual administration charge during the term of the contract, the sponsoring company would continue to administer the plan (with no further benefit accruals) for an employer who experiences bankruptcy. The contract would provide for continuation administration only for bankruptcies that occur after a substantial number of years following contract initiation.

7. Conclusion

The ideas we present in this paper represent just a few of the approaches that are possible for sharing investment and longevity risks between employers and employees. These ideas are not radical departures from current plan designs, but most require minor legislative changes to occur. Congress has been slow to permit more flexible plan designs, and the IRS has been unwilling to encourage departures from the legislatively approved standards. Some of the restrictions can be attributed to the discontinuity between rules designed for traditional DB and DC plans. Faced with the decline of the traditional DB plan and the legal uncertainty of cash balance plans, perhaps Congress will be ready to entertain some new solutions that better fit the needs of employers, the workforce and taxpayers.

Comments on "New Retirement Plan Designs for the 21st Century"

By Jerry Mingione, FSA, EA, FCA, MAAA

Traditional final pay-based defined benefit (DB) plans provide a fairly complete transfer of financial risks to employers. But as retirement program designs have evolved in recent years, there has been a significant shift of financial risk back to employees. This trend brings new concerns about the welfare of employees retiring in the future—not just about the adequacy of the funds that they will accumulate at retirement but also about retirees' ability to effectively apportion those accumulated funds over their retirement years.

In their article, "New Retirement Designs for the 21st Century," Orth and Hallmark present a comprehensive view of the risks involved in retirement financing—investment, inflation and longevity—and review possible approaches that would allow for a more effective sharing of these risks between employers and employees.

Today's most typical design trend entails employers replacing traditional DB plans with defined contribution (DC) plans, thereby leaving retirees fully exposed to the full array of financial risks. The situation with account-based DB plans (e.g., cash balance plans) is somewhat less extreme, as employers typically continue to shoulder at least a portion of investment and inflation risks. But, under predominant plan designs, neither DC nor account-based DB plans address longevity risks in any way.

Diversifiable vs. Non-Diversifiable Risks

Investment risks can be removed only in part through the employer's management of the portfolio in an aggregated way. In theory at least, an individual employee can achieve almost full efficiency on his own by effectively diversifying the investments for his individual account, given that an effective array of investment options are made available. Of course, an employer investing for the retirement program in aggregate has a longer time frame for investment than does any individual employee, which provides at least some advantage to the employer in terms of portfolio management.

Inflation risks are not diversifiable, in the sense that essentially the same risk applies for groups as for individuals. However, the employer may be viewed as being in at least a marginally better position to bear this risk, in the sense that increases in product prices might create the revenues necessary to address the increasing financial requirements of retirees.

As the authors point out, longevity risks differ in an essential way from both investment and inflation risks, in the sense that the bulk of this risk is diversifiable. While large groups may be exposed to broad demographic mortality trends, pooling of experience within the group removes the effect of the diverse mortality experience that applies to individual retirees. Simply stated, longevity risk applies to a much greater extent to individuals than to groups.

Individuals left to their own devices in retirement planning must plan for the "worst case" scenario (in a financial sense anyway), i.e., living for the longest possible time. A retiree would seem to have two choices for prudently addressing longevity risks: (1) the purchase of an annuity (which essentially

implies risk-free/low return investing), or (2) continuing with a diversified asset strategy and restricting retirement spending to a very small portion of the invested assets, e.g., 4 percent (thus increasing the probability that capital funds will be preserved regardless of emerging capital market experience).

Defining a Range of Alternative Plan Designs

The recent evolution of retirement plan design has entailed considerable focus on the issue of which party bears the investment risk. The authors similarly provide a range of alternatives that continue on this well-trodden path. However, they provide substantial added value in that they also define alternative plan designs that better facilitate the handling of longevity risk.

Employees may in fact prefer to determine their own investment policy and (rightly or wrongly) feel able to take the risks related to those decisions. On the other hand, it would seem that no rational employee would choose to be exposed to longevity risk. Given that employers could readily diversify away most of this risk via a pooled approach, it is unfortunate that emerging plan designs have employers essentially removing themselves from any role in protecting their employees from longevity risk.

Given the objective—a more effective sharing of financial risks—what do each of the proposals presented by the authors actually accomplish? Let's go through them and see:

1. Cash Balance Design with Shared Investment Risk
As defined, this design would straddle the line between typical cash balance and DC plan attributes, allowing employees to elect account indexing formulas that reflect a broad range of investment approaches. Such a plan essentially mimics a DC approach as far as employees are concerned, while having some potential structural advantages for employers. As the authors note, a handful of plans with these types of features already exist (although their regulatory status remains uncertain).

2. DB/DC Hybrid Design with Shared Investment Risk
This design would allow employers to provide benefits having characteristics of both traditional DB and DC approaches within the same plan. As the authors define the option, the latter type of benefit would apply to compensation above a certain level—based on the presumption that only higher-paid employees are capable of bearing the entailed financial risks.

The most creative aspect of this design is the alternative that is presented whereby the DC portion of the benefit is defined in such a way that only the investment risk is passed on to employees, while longevity risk is borne by the employer. This is facilitated by means of a variable defined benefit, with actual investment results being matched against a "hurdle rate" each year (and accrual amounts adjusted based on the comparative results).

This more flexible hybrid framework could facilitate a more effective model for employers, allowing them to determine which risks to absorb and which to pass on to retirees. Of course, not all employers would agree that this flexibility should be applied only with regard to their higher-paid employees.

3. DC Design with Shared Investment Risk
This design is intended to facilitate the same flexible sharing of investment risk within DC plans as defined for account-based DB plans under the first option described above. However, providing this

type of risk-sharing within a DC vehicle would require much more substantial structural change, with the employer needing to exert control over plan investments and create a reserve account.

While the complexity of DB plans might cause employers to prefer DC approaches, this particular DC approach brings much of that complexity regardless. Thus, it would appear that this type of risk-sharing would be more effectively addressed from a DB platform.

4. Portability Approach for DB Plans
The authors define a proposal that would allow employees switching employers during the course of their career to continue accumulating a final-pay benefit, thus providing an element of inflation protection that they would otherwise forego.

However, as the authors define things, employers would remain financially responsible only for an accrued benefit value (which they term current liability). This benefit would then be converted—in this case, effectively reduced—to an equivalent service credit based upon a projected unit credit calculation.

Unfortunately, however, there is no way to effectively provide a final pay benefit without adding to the financial commitment of either the transferring or accepting employer—something the authors are not proposing to do. This implies that the added cost of providing such a benefit is addressed via a reduction in the transferring participant's accrual.

This leaves the participants in the odd position of gambling their benefit dollars based upon the timing of their ultimate termination. Those leaving employment early would generally lose benefits, while those staying at their new employer for a longer-than-expected period would gain. While this does reshuffle things a bit, it hardly seems the ideal solution to the portability issue under traditional pension plans.

Conclusion

The authors provide considerable value by evaluating the range of retirement financial risks and retirement design structures, and through their commentary about the risks that are most prudent for each party to take. They also provide some "outside the box" thinking in terms of alternative program designs that might represent more effective risk-sharing models.

In fact, not all of the alternative retirement program designs options that they present seem to be direct hits in terms of the added value that they would bring to employees, especially when viewed in light of the costs and complexities that would be entailed for sponsoring employers. Nonetheless, the design framework that the authors have defined might allow others to further refine these models, and thereby advance the effectiveness of current retirement program design.

Comments on "New Retirement Plan Designs for the 21st Century"

By Valerie Paganelli, FSA, MAAA, EA

I very much enjoyed reading this paper, was intrigued with many of the authors' ideas and thoroughly compliment the authors on their submission. The discussion I offer is intentionally disjointed in order to cover several different thoughts this paper provoked. The thoughts presented do not necessarily or consistently represent my own views but hopefully contribute to further collaborative debate.

This paper is framed strictly from an employer's perspective and the impact the authors' ideas may have on the way an employer may chose to provide retirement benefits. While this focus is good for purposes of presenting the authors' ideas, a plan sponsor is influenced by many factors in its design of a retirement program, and the intricacies of investment and longevity risks can get lost amidst other organizational pressures such as business viability, competition and financial pressures. While I agree that the investment and longevity risks associated with retirement benefits can be very serious, most employers today require more substantive measures of either the potential fiscal impact of these risks on business operations or the implications they have for employees, or both. These considerations, combined with some fundamental definitions of income adequacy and retirement duration, will aid employers in determining their desired level of risk-sharing, if any. The bleakest outcome would be if an employer chose not to do anything to mitigate risk on behalf of any of its employees!

For the last several decades, employers have listened to a constant drumbeat of criticism from the financial media and experts about the administrative complexity, contribution volatility, high costs and lack of employee appreciation of defined benefit (DB) plans. To mitigate these perceived operational risks, many employers have opted to replace their DB plans with defined contribution (DC) plans. Employers have encouraged employees—with the aid of an employer match—to save their money in a 401(k) and that, with wise investment choices, they will experience a comfortable, secure retirement. In so stealthily, albeit responsibly, shifting the investment risk to the individual, I challenge whether there was much, if any, thought given to the simultaneous shifting of longevity risk to individual employees. Given these significant risks have already been shifted to individual employees, it would seem next to impossible, without proper pressure or incentives, to get employers to recall any longevity risk. Ironically, the pressure to do just that may be emerging as a result of some unpredictable retirement patterns most organizations are experiencing with their aging employees.

How many employers today can articulate an "employee exit strategy" that fits business operations (even for the short term)? And how is that strategy supported by an underlying retirement benefits program? Would an unraveling of tax-effected demarcation of risks between DB and DC plans unleash the opportunity to resolve this elusive and now primarily "random" employee migration? Although there may be a rational approach to assessing and allocating risks, I think it is becoming more and more difficult for even the most mindful employer to accept any of it. If the tax code were being written today, one would hope there would be ample flexibility and meaningful incentives for plan designs that avail employers of the best features of both DB and DC plans and creative ways to allocate and manage risk. Given we don't have the luxury of starting from scratch, the long-standing mind-set of the IRS in the arena of retirement would likely prevail and any tax advantages to incent the employer would likely be diluted in favor of protecting the participant from undue dependence on government resources

when their working years are done (and rightly so). Trouble is, focusing on the tax code would not be enough; accounting standards would also need to be changed.

What if employers had to record the expected present value of future DC payments on the balance sheet? Tell me, how does an employer consider the cost of everyone contributing to his or her own accumulation of wealth via the DC plan (potentially maximizing any employer matching contribution), only to discover there aren't enough funds available at the desired (unrealistic) retirement age? How best can employers host a program that generates timely and orderly workforce exits from the organization and that fits with the overlying business management perspective without simultaneously cringing at the potential cost of this directive?

Most experts agree that longevity risk is best mitigated via pooling; however, the same can be said for investment risk, as proven by the enhanced investment returns experienced by institutional investors versus the average individual investor. In theory, both longevity and investment risk may be absorbed satisfactorily by individuals above a certain wealth threshold. However, if an employee's wealth is the right criteria for the allocation of risk, then an employer program that uses compensation as a proxy may not be satisfactory for all employees. Perhaps a different way to slice the allocation of these risks is via age: allocating investment and longevity risks to the employees while they are part of a younger cohort (longer risk horizon), and, if the employees have demonstrated certain thresholds of investment participation and success, subsequently shifting risk to the employer in stages via the required setting aside of contingent reserves that accumulate lifetime income guarantees from the employer as the employee ages. After so much emphasis and communication on employee "ownership" of the investment decisions in the DC plan, I would envision a shared investment responsibility with the employer, even when guaranteed income is in place. There may then emerge particular investment funds that a participant can select (or must select for certain safety-net income levels) that internalize the underlying process of an age-related risk shifting, whether an employee is moving in or out of the workforce or simply changing jobs.

A track to consider is also the opportunity for employers to underwrite the contingent reserves by individual as opposed to an entire employee population. In general, insurance companies have the opportunity to directly assess individual risk and charge a higher premium in certain high-risk categories rather than to have all individuals share the extra cost of the higher risk. A plan sponsor of a pure DB program is essentially acting as an insurer of the pooled longevity risk. Yet unlike an insurance company, due to ERISA and IRS nondiscrimination rules, a plan sponsor is not able to underwrite individual risk profiles as part of taking on the pooled longevity risk.

The authors note that employees are generally unaware of the shift of longevity and investment risks from the employer balance sheets to their bank accounts. Employee-based solutions (incorporating DB plan features such as life annuity payouts, death benefits, etc. in a DC plan) seem to be the hot topic of conversation among plan sponsors. The likely outcomes of such solutions are additional confusion and cost and more ambivalence. What any actuary can observe is that this endeavor is simply an inefficient way to provide a DB plan!

I do believe any ignorance is due to the lack of "advertising" of DB plans. Employees often aren't aware they have one, don't understand or appreciate it if they do know about it, or don't know how much to miss it when it goes away. Similarly, voluntary elections to participate in DC plans don't come easily

without relevant communications and a building of understanding–maybe it isn't the longevity risks or the investment risks that are the challenge; maybe it is the risk of ambivalence?

Many will challenge whether the distribution of investment risk and longevity risk carries a convenient 1:1 ratio as depicted in the article's symmetrical graphical representation. There are unique dimensions to both these risks based on the underlying investments supporting the liabilities, the investment patterns of individuals and plan sponsors and the morbidity and mortality risks of each individual. I do not believe these risks balance out evenly. I would love to see an econometric model that investigates the more precise relationship between these risks.

The authors suggest that small employers never embraced DB plans due to administration and complexity. The authors also mention the volatility of contributions as an issue. There may be advocates (myself included) that believe the contribution volatility can be managed fairly tightly so as to avoid large swings and surprises. The DC approach may not alleviate the strain on limited cash resources for some companies. The discussion on pooling risks among small employers could generate a healthy debate. This would be a good thing! As part of the debate, it would be worthwhile to test the hypothesis that pooling does in fact reduce the contribution volatility. A closer study at a cohort of multiemployer plans may yield the necessary insight. Another risk worth mentioning is organizational risk. The long-term nature of retirement benefits highlights the need for organizational sustainability in order for employers to deliver on their promises (a big issue for many plan participants). Consider the issues multiemployer plans face today regarding underfunded obligations. In addition to legislative changes to permit unrelated employers to pool without regard to Taft-Hartley status, there would also need to be clear fiduciary oversight requirements. It's not likely there will be a legitimate emergence of neutral, third-party vendors and administrators who would shoulder the responsibility of the "sponsoring organization" without significant expense margins. How employers would be liable if they defaulted on their contributions and compromised the overall plan presents a regulatory tight-rope walk. The Pension Benefit Guaranty Corporation would likely enter the debate requiring a significant amount of protection of the plan liabilities. At a minimum, business financial viability thresholds would need to be established, demonstrated and maintained in order to participate. And, underneath it all, it's doubtful there would be much stomach for a basic design that is tied to final average pay as the authors suggest. All that said, I'd advocate for more discussion for this cadre of employers.

Regarding establishing an approach to transfer DB obligations from employer to employer in order to facilitate portability, I give a hearty thumbs down (and yes, this is my direct opinion). If we are hoping to breathe life into our DB plan system, adding complexity, confusion and fertile ground for litigation is not the right approach. This opening of money flow would entail additional funding measures, accounting issues, employee concerns and administrative monitoring that far outweigh the advantages of any portability features. The outline the authors provide, while stimulating for discussion, does not go far enough. Opportunities within the DB system that provide for portability would require a national regulatory start-from-scratch framework.

In closing, one of my overriding reactions to this article was: Risk has a viable upside potential too. Risk does not strictly imply "badness." As actuaries, we are often more accustomed to calling positive risk a "reward." Overall, I appreciate the approaches the authors present and the fact they do not require substantive or radical departures from current plan structures. This is realistic as we are not likely to easily garner radical legislative changes. Adjusting current designs through modest changes may be most

realistic, although admittedly anticlimactic. However, I heavily question whether minor legislative changes would move employers to re-embrace DB plans. While advocating for change that brings about more flexibility, we can only create meaningful programs within the confines of the current system by helping to eliminate employer misconceptions of the unquestioned blessings of DC plans and the presumed horrors of DB plans.

The rub is, in order for Congress to entertain new solutions, they need a compelling political problem. We need to rally around ground-swelling issues like, "adequacy of retirement income so people don't become more heavily dependent on government resources" or the "significant loss of competitive advantage by major U.S. organizations." This may require the flexibility to accumulate retirement net worth via the programs the authors mention as well as through expectations of working until later ages and phasing into retirement. Unless employers and/or taxpayers and/or workers rise up and stand with the groundswell, Congress won't see the problem that is brewing and the resultant downward spiral of dependence we are generating via the decline of employer-provided programs.

I would like to thank the authors for their article and for the continued fodder for creative debate.

Author's Response to Comments by Jerry Mingione and Valerie Paganelli
by Beverly J. Orth and William R. Hallmark

From a public policy perspective, there is an interest in enabling and encouraging retirement plans that provide lifetime retirement income. If retirees outlive their retirement income, they may require some form of public assistance. Because retirement plans are part of the employment compensation arrangement, the designs must offer an efficiency advantage in order to be of interest to employers, employees or Congress.

Efficiency comes in a variety of forms, but one form is the allocation and mitigation of risk. Our paper attempts to explore the efficient allocation of various risks and suggests some retirement plan designs that allow such risk allocation. We recognize that the most efficient allocation of investment and longevity risks may be different for different organizations and for different employees. Consequently, there should be a range of options available.

We fully recognize that the legal structures necessary for these designs are not sufficient to make the designs popular. However, we do not subscribe to Ms. Paganelli's cynical views of tax policy and accounting standards. The reason that efficient retirement plan designs are not currently adopted is more likely the result of what employees and employers currently value.

For example, Mr. Mingione declares, "it would seem that no rational employee would choose to be exposed to longevity risk." Yet, they do. In a recent union negotiation in which we were involved, the employer proposed a variable annuity plan in order to pool the longevity risk. The union's preferences were, first, a traditional DB plan and, second, a DC plan. They were not interested in a variable DB plan and considered it significantly less attractive than a DC plan. They placed no value on the pooling of longevity risk and extreme value on avoiding investment risk.

Employers have come to understand the risks posed by a retirement plan to their organization. If employees do not understand the risks they face in retirement, those risks are not likely to be mitigated by their preferred retirement plan. However, if employees and employers both understand how they are each affected by these risks, we believe retirement plans will reflect a more efficient allocation of investment and longevity risks.

Not surprisingly, both reviewers had some reservations about our proposed design that placed more investment risk on employees with higher incomes. We agree that such a design is contrary to a core principle of equality that is reflected in current law. However, lower income employees cannot afford to take as much risk as higher income employees can, and the current trend towards DC plans forces many employees to take on risks they cannot afford. Ms. Paganelli worries that our solution would discourage low-income employees from saving for retirement. It should be noted that the DC portion of this proposed plan does not contain an incentive to save, and there is no disincentive for low-income employees to save.

Ms. Paganelli wondered whether the relationship between investment risk and longevity risk is really a 1:1 ratio as our graph seems to depict. Our graph was not intended to suggest any kind of quantitative relationship between the two types of risk. Rather, we meant for the graph to serve as a qualitative way of dividing the retirement plan space based on the proportion of these two risk types retained by the plan sponsor. We would guess that a quantitative relationship would vary by individual, depending on their own perceptions of the risks.

Ms. Paganelli also indicated that she believed small employers who sponsored DB plans could manage their contribution volatility. In our original paper, we didn't make it clear that much of this volatility stems from demographic risks that are much more predictable for large employers. The idea of creating some sort of cost-sharing pool for these employers is akin to moving them from a self-insured arrangement to an insured arrangement while also securing certain economies of scale. We agree, however, that there are difficulties in ensuring that equity is preserved between employers and moral hazard is avoided.

While attempting to explore alternative retirement plan designs with efficient risk allocations, we agree with Mr. Mingione that not all of the proposed designs are "direct hits." We do hope, however, that the framework illustrated is useful for others in developing other retirement plan designs and, as Ms. Paganelli suggests, provides "continued fodder for creative debate."

Averting the Retirement Income Crisis

By Carol R. Sears, FSPA, MAAA, FCA, CPC, EA and Scott D. Miller, FSPA, MAAA, FCA, CPC, EA

Abstract

An actuarial train wreck is fast approaching. When the dearth of employer-sponsored defined benefit (DB) pension plans and inadequate retirement savings collide with the improving life expectancies of the nation's future retiree generation, this catastrophe will occur.

Without visionary planning, we foresee a time in which much of the elderly population will be out of income options and devoid of income protection insurance.

There are no current initiatives, legislative or otherwise, which we believe address the real problem. Rather than being proactive, legislators seem to be focusing their efforts reacting to retirement income problems by applying partial fixes to the increasingly unpopular traditional DB pension plan and the severely underfunded Social Security system. These fixes do not address the looming problem of future retirees not having sufficient income to support themselves during their expanded longevity. Pension actuaries and other pension professionals need to focus on this pertinent issue. They need to use their combined intellect and experience in order to build the best forward-thinking retirement program possible

1. Retirement Today and Beyond

Retirement has traditionally been viewed as a cliff transition from working one day to not working the next. However, as life expectancy continues to improve, the ability to work longer, at least part-time, will improve at a similar rate. A recent MetLife study of retirement aged workers "reveals that retirement is no longer defined by a specific date, but rather a desired state of being." Already a significant and growing percentage of individuals over the age of 65 continue to work. According to the Society of Actuaries' "Phased Retirement and Planning for the Unexpected 2005 Risks and Process of Retirement Survey Report—April 2006" (SOA Survey), more than 40 percent of current retirees already perform some work after retirement. This report also concludes, "Based on today's experience, it seems reasonable to expect that in the future a significant percentage of older Americans, such as those aged 70–75, will do some paid work, but for many of them it will be part-time or part-year or both. After age 75, paid work will probably remain relatively rare at least in the near future."

Poor retirement savings rates in our country, coupled with the demise of traditional DB pension plans, is forecasted to result in retirement income that is dismally inadequate to maintain living standards after complete work stoppage at customary retirement ages. According to the Bureau of Economic Analysis, U.S. Department of Commerce, personal savings rates have fallen to levels not seen since the Great Depression.

Traditional retirement plans are being frozen or are being terminated because:

- Most employees don't appreciate the value of DB pension plans, and offer little resistance to plan terminations or the ceasing of future benefit accrual.

- FASB 87, 88, 132 and 158 costs and balance sheet effects are too unpredictable and their effects too

draconian. Existing FASB rules often adversely impact the ability to efficiently manage business costs.

- Ever-increasing longevity has made providing full benefits for individuals starting at age 65 for their remaining lifetimes too expensive.

- Post-retirement accrual rules make it financially unattractive for companies to retain workers beyond age 65 in traditional DB pension plans because additional accruals at high ages significantly impact FASB and real costs in a negative and immediate way. Post-retirement accrual rules create a strong disincentive for employers to allow older employees to remain part of their workforce, at a time when these individuals are becoming more and more interested in continuing to work on a gradually diminishing basis. This disincentive is illogical because these valuable older workers often are healthy enough to continue working, want to continue working at least part-time and can't afford to cease working at traditional ages. In addition, due to a shrinking available workforce, employers have a need to retain these trained, committed and productive employees.

As the SOA Survey and other research have shown, retirees and their employers will need, want and would be better served by having a transition period from full work to full retirement. To accommodate this change, our culture needs to develop retirement income delivery systems that don't have to pick up full income needs until full work cessation. This diminishing need for full financial support during the transition period can be recognized in the retirement program design and make it feasible for an employer to help provide for long-term retirement benefits that are essential after the individual is no longer working.

With the creation of these creative benefit programs to provide tiered retirement income, retirement savings plans would not have to last a lifetime. Savings programs goals can be finite and determinable. Retirees could be relieved of significant fears and stress associated with worrying about the adequacy of their retirement savings that exist today, and they could be more comfortable about prudently spending down their savings in retirement.

2. A Perspective

Just as we do for health, life and disability, it is time to treat longevity as an insurable event. What does this mean? Insurance is, in its most basic form, a pool of money accumulated to pay benefits only to the premium payers who suffer the fundamental risk (e.g., sickness, death, disability). Generally, people choose to insure life-contingent risks that would throw their lifestyle into immediate financial crisis. Those financial outflows that can be predicted and/or sustained by current financial income and savings do not need to be insured. Ideally, savings should cover all predictable expenses. It is the unpredictable/catastrophic expenses that need to be insured.

Purchasing individual insurance policies is generally more expensive and less efficient than buying policies as a group. Employer-sponsored benefit programs have worked well as vehicles to offer this pooled insurance coverage for our working population by offering group health, life and disability insurance. A worker's true level of compensation is usually considered to be a combination of wages, contributions to retirement and other savings programs and other employer-paid benefit expenses (such as insurance). While workers expect that they will receive each dollar of an employer's contributions to benefit programs such as 401(k) plans, through deposits into their accounts, workers accept that dollars spent on insurance programs are returned only to the people who have the applicable benefit

claim. For example, even though the employer may pay $10,000 in health insurance premiums for an employee, if that employee only has $2,000 of medical expenses, that is all they will receive—the remaining $8,000 stays in the insurance pool to pay the insured benefits of others. In contrast to wages and savings programs, the average worker understands that insurance program expenses are not person-specific and knows not to expect a dollar-for-dollar personal benefit for premiums, whether fully paid by the employer or shared by employer and employee.

In mathematical terms, benefit programs are supposed to be exclusive subsets of the universe of major life-contingent risks. Their elements of intersection should be minimal. Because no one person or family experiences all forms of risk, no one enjoys all forms of benefits. But everyone receives the benefits they need because of the risks they experience. Some receive more than their proportionate share of the health care insurance risk pool because they're sicker than predicted. Others receive more than their proportionate share of the life insurance risk pool because they die earlier than expected. And still others survive and receive more than their proportionate share of the longevity insurance pool.

3. Redefining Retirement

Today's ERISA requirements, accounting rules and tax laws do not accommodate the type of DB program that could adjust benefits during gradual "retirement.". For example, required Normal Retirement Dates and post Normal Retirement Date benefit accrual rules force benefits to be available in full sooner and for longer periods than may be desirable. As a result, employers are choosing to avoid providing any life-contingent benefit.

According to the April 2006 American Academy of Actuaries Issue Brief, "Longevity and Retirement Policy: Modernizing America's Retirement Programs to Keep Pace with Longevity," "...For employers with traditional defined benefit pension plans, the higher costs associated with increases in longevity may have resulted in a redefining of retirement age as a gradual process that can occur over a number of years, instead of a one-time, all-or-nothing event. Although gradual retirement has benefited employers and employees alike, current laws and regulations present significant obstacles." We suggest that laws and regulations need to be modified to accommodate a new essential benefits program that will cover the risk that a person could outlive retirement savings. This program would pay a stream of gradually increasing life-contingent annuity benefits and intentionally defer full monthly benefits until other income, such as wages, are unlikely. Protecting the risk of outliving income resources in old-age is emerging as equal in importance to covering other traditional catastrophic life-contingent risks such as medical care, death and disability.

Our concept is similar to the growing trend in health care. Many health care programs combine saving for the predictable with insuring the unpredictable and catastrophic. Health Savings Accounts (HSAs) for day-to-day and predictable medical costs, used in connection with high-deductible health plans for catastrophic medical costs, can achieve the actuarial efficiencies for which they were created. Retirement programs should follow this lead by using 401(k) or other account balance accumulation type plans as the savings accounts for expected or desired retirement expenses, while a new type of employer-sponsored program could offer financial protection against the unpredictable event of living too long, which might cause current savings programs to be inadequate.

In addition, the program we envision may optionally cover permitted temporary retirement type breaks from the workforce before retirement. According to Hilary Chura in the April 22, 2006 *The New York Times* article titled "Sabbaticals Aren't Just for Academics Anymore," Rose Stanley, benefits manager at WorldatWork, a professional association for compensation, benefits and work-life practitioners, is quoted as saying that "since time has become the new currency, employees value days off as much or more than dollars." As valued employees anticipate extended working careers, accommodating a valuable time-off benefit may become a crucial retention tool. An innovative retirement program could also act as a pre-funded vehicle for important sabbaticals by providing temporary retirement benefits. This concept is a cultural change that requires the design of an affordable employer based program that provides benefits in a time of crisis, such as allowing for periods when there is a need to take care of sick or elderly family members. These forms of temporary retirement may be an important part of our proposed retirement program of the future.

4. Retirement Program of the Future

It is our opinion that no single type of plan can cover the emerging types of retirement income needs and risks. We suggest that, where possible, employers sponsor a multi-plan retirement program to meet their employees' retirement income needs.

At a minimum, all employers should be strongly encouraged to sponsor a new kind of plan, the Retirement Income Security Plan (RISP), in addition to whatever 401(k) and/or defined benefit pension plans fit their unique business goals. The RISP is intended to provide reasonable, affordable and essential income needs-only protection to those who may otherwise outlive their income due to their longevity.

Savings plans are an equally important type of plan in the retirement program of tomorrow. Employers need to also sponsor 401(k) plans, in order to provide employees with a vehicle to take responsibility for their own retirement income, by encouraging them to save personally. In addition, the discretionary component of 401(k) plans allows employers to add to employee's retirement savings. New 401(k) rules enacted through the Pension Protection Act of 2006 (PPA 2006) should also help to accomplish these improved savings objectives.

Employers should also be encouraged to adopt and sponsor traditional or hybrid supplemental DB pension plans. Supplemental DB plans could provide additional life-contingent or lump sum benefits, without having to carry the full responsibility of providing adequate income for the entire life of the retiree.

It must be remembered that savings, while hugely important, are not crisis protection. Jonathon Clements' May 21, 2006 article in the *Wall Street Journal* sadly points out that "Retirement is a time to kick back, relax and wonder whether you will outlive your savings. This, I regret, is a real danger. Spending down a portfolio in retirement is a wildly tricky exercise." Adequate savings, accompanied by an RISP, and traditional or hybrid DB pension plans where possible, could remove want and terror out of old age by allowing retirees to maintain their living standards with peace of mind.

5. What Do RISPs Look Like?

RISPs are not intended to replace current qualified retirement plans. Rather they're to be companion, catastrophic-coverage-only plans. Features we suggest include:

- **Benefits:**
  - A formula of 0.5 percent, 1 percent, 1.5 percent or 2 percent of final average compensation times years of service.
  - Years of service including up to five years prior to effective date.
  - Average compensation calculated as an average over at least five consecutive years, but may be any number of years including career average.
  - The form of benefit provided under the RISP will be an annuity payable for the life of the participant, with 50 percent of the benefit continuing to the surviving spouse, if married at benefit commencement.
  - No optional benefit payments, even if actuarially equivalent, would be offered. What is "actuarially equivalent" at benefit commencement is not so at benefit cessation. The RISP should deliver the benefit in later life for which it is intended and only that benefit. Actuarial anti-selection should not be a factor.
  - All benefit payments commence at age 65, regardless of employment status. We recommend age 65 instead of a higher age because, as pointed out in the SOA Survey, this is an age at which most people do expect to at least start altering their work lifestyle.
  - Benefits payable in gradually increasing increments; 25 percent of the full benefit formula from ages 65 through 67, 50 percent from ages 68 through 71, 75 percent from ages 72 through 74, and 100 percent starting at age 75.
  - RISP annuity benefits calculated as of the earlier of termination of employment or age 65, with no additional accruals or actuarial equivalence adjustments after 65. At each of the subsequent tiered benefit increase ages (68, 72, 75), the plan could optionally allow the annuity benefit to increase for cost of living only (e.g., consistent with how Social Security benefits have increased over the same period).
  - Pre-retirement death benefit is the minimum Qualified Pre-Retirement Survivor Annuity (utilizing existing Qualified Pre-Retirement Survivor Annuity rules).
  - No early retirement subsidies or options available.
  - No subsidized disability benefits provided.
  - The plan sponsor may reduce, increase or freeze future benefit accruals, depending upon their business needs.
  - Plan eligibility rules follow existing minimum statutory rules.
  - Controlled groups may sponsor a single RISP.
- **Mid-career benefit payouts:**
  - These payouts would be available for a limited period of time.
  - These payouts might occur for such work-cessation occasions as a pressing family care need.
  - These mid-career payouts might be permitted once every 'x' number of years, or perhaps only a certain number of times prior to retirement benefit commencement. The participant would not be permitted to work for other employers during these periods.
- **Funding/FASB:**
  - Assumptions:

- Interest rate assumptions must equal the yield curve rate or other prescribed rate (e.g., as prescribed by PPA 2006)
- Choice of all other actuarial valuation assumptions (e.g., pre-retirement turnover, disability, mortality, cost of living, mid-career benefit, marital status probabilities) are to be chosen at the discretion of the plan's Enrolled Actuary, based upon the best estimate of future experience.

- The minimum and maximum funding requirements of PPA 2006 apply. Recommended funding levels that fall between the minimum and maximum would be developed by the Enrolled Actuary using whatever funding method best fits the participant group and benefit stream expectations in the actuary's professional opinion. For example, each tier of annuity benefit could be funded for separately, that is:
  - 25 percent of the full annuity benefit due to commence at age 65 will be funded from entry age to age 65.
  - An additional 25 percent of the full annuity benefit (with assumed cost of living increase, if applicable) which commences at age 68 will be funded from entry age to age 68.
  - The same will occur for the 25 percent benefit increases (with assumed cost of living increases, if applicable) at ages 72 and 75.
- Mid-career benefits would be funded actuarially, in the same way ancillary benefits have historically been funded.
- FASB disclosures are based upon PPA 2006 Funding Targets and FASB net periodic pension costs equal actual PPA 2006 minimum contribution obligations. That is, the Enrolled Actuary's funding actuarial valuation for PPA 2006 compliance purposes matches the FASB disclosures and amounts.

6. What Needs To Change?

Changes for RISP include:

- Legislative changes other than for funding:
  - IRC Section 415 maximum benefit limits need to be set especially for these plans and not allowed to impact the benefits in any other employer-sponsored plan.
  - Top heavy rules should not be applicable to RISPs since every participant, whether or not a Key Employee, is covered by the same benefit as a percentage of compensation.
  - IRC Sections 401(a)(26), 410(b) and 401(a)(4) (minimum participation, minimum coverage and nondiscrimination rules) will not apply to RISPs because their objectives are reached via plan design requirements for RISPs.
  - Post-retirement accrual rules need to be eliminated for RISPs.
  - Automatic rollover rules are not applicable since there are no lump sum distributions.
  - Since benefit distributions automatically commence at age 65, there is no need for IRC Section 401(a)(9) minimum benefit distribution requirements.

- Non-legislative changes:
  - FASB rules need to amended to reflect new actuarial funding standards as required for RISPs
  - Annuity products need to be offered to accommodate these plans

7. The Final Question

Why would an employer add the RISP to their retirement program package? Employers need to face the danger that much of their aging work force may choose to retire while their services are still needed. As reported in the July 19, 2006 article on *CNNMoney.com* "How To Plug Your Company's Brain Drain," "By the end of the decade, … 40% of the workforce will be eligible to retire. And even though surveys show that 70% to 80% of executives at big companies are concerned about the coming brain drain, fewer than 20% have begun to do anything about it." Maybe the lack of action by the executives is driven by the lack of reasonable and affordable options? RISP might be the answer.

The three R's of wage and benefit programs never change: Recruit, Retain and Reward. The RISP helps to support this. As employees begin to understand that survival beyond one's means is a distinct probability, they'll be attracted to employers who offer this type of benefits program. Retention and appreciation would improve. The RISP plan design, along with vastly more predictable funding requirements and appropriate FASB rules, will make these types of plans much more attractive than today's quickly disappearing qualified DB pension programs.

It is time to redefine retirement. The social crisis that will occur if our society contains a large percentage of non-working elderly people who have spent down their retirement savings can be averted. Let the pension industry be leaders in this area, and let's build a better and more secure U.S. private retirement program.

Comments on "Averting the Retirement Income Crisis"

By Barry Kozak, MAAA, MSPA, EA

I enjoyed reading the article, and appreciate how Carol Sears and Scott Miller propose to change the current thinking about retirement, in general, and how employers should consider and adopt retirement benefit plans that take into account longer life expectancies and the risk of outliving retirement assets. They are advocating an "RISP" as an additional benefit for employees. Under their proposal, an RISP would provide an annuity-only benefit, starting at age 65, regardless of employment status, and increasing at strategic ages (25 percent of benefit from 65 to 67, 50 percent of benefit from ages 68 to 71, 75 percent from 72 to 74, and then 100 percent of benefit thereafter, terminating at death). If the participant is married at commencement date, then the annuity would need to satisfy the Qualified Joint and Survivor rules under current law. The article suggests legislative changes to encourage these benefit promises (such as amendments to IRC Sections 415 and 411, and specific exclusions from IRC Sections 416, 401(a)(26), 410(b) and 401(a)(9), and changes in FASB reporting). The design and purpose of an RISP benefit is laudable, and I believe that it can be structured into a defined benefit plan under the current rules, although such suggested statutory amendments would better support the RISP.

However, my concern is that their RISP idea, while potentially useful, might be better framed as an insurance program rather than as a retirement program. As described below, retirement benefits generally represent a tangible portion of wages that are owed to employees who forfeit current salary for deferred compensation, and insurance represents a peace of mind (or safety net) that compensates them if (and only if) a catastrophic event happens. RISPs would be attractive to employees "fearful" of outliving the account balance accrued at retirement from the employer's existing defined contribution plan or defined benefit plan that allows lump sum distributions.

Compensation

In order to attract, retain and reward employees, the employer needs to offer a total compensation package comparable to its competitors in the labor market. Retirement plans represent pecuniary pay as part of the complete compensation package—instead of paying an employee $1 today for her services today, the employer will determine the present value of $1 and pay her that present value today in the form of a contribution into a qualified retirement plan. It will mature and will be paid when she has retired. If the employer uses a defined benefit annuity-only plan to deliver the retirement benefits, and if its calculation of the true present value is understated, then the employer will have underfunded the plan; whereas, if the employer delivers the benefits through a defined contribution plan or through a lump sum distribution from a defined benefit plan, and if the calculated present value is understated, then the employee will have a lower account balance than expected.

Understanding retirement benefits in the context of a component of the total compensation package is crucial to my criticism. This view was expressed by Sears and Miller, and was around long before there was an ERISA or even a formalized Internal Revenue Code. For example, Albert DeRoode starts his article titled "Pensions as Wages" [1] with:

[1] The American Economic Review, Vol. 3, No. 2, 287–295. June 1913.

> The growing demand on the part of employees for pensions is really a demand for higher wages, using the expression wages in its broad sense, as the return for which the employee gets from his labor. A pension is as much a part of an employee's real wages as are conditions of labor, guarantee of steady employment, board and lodging (where they are included), medical attention, half pay in the case of sickness, and other features not included in the actual money wages received. Theoretically, the simplest way of dealing with labor would be the payment of a money wage, requiring the employee to provide for the hazards of employment and his old age. While here and there an employee does this, by and large the mass of employees do not.

Given that retirement income represents an appropriate and tangible portion of the employee's total compensation package, then the first level of risk, which the participant's generally have no control over, is how the employer chooses to fund and deliver the retirement benefits (i.e., through a defined benefit plan or a defined contribution plan). As the retirement plan is just a formalized method of converting deferred compensation into an expected present value, the employer should be maximizing each employee's actual and perceived compensation in retirement (obviously within its current and projected budgetary constraints). Just like underestimating the value of current salary, where disgruntled "capable" employees will migrate elsewhere where their skills can earn a higher wage and where disgruntled "incapable" employees remain but shirk in their duties, the risk is on the employer if it underestimates the present value of retirement benefits.

Longevity Risk

The article properly defines and discusses longevity risk, but longevity risk is, in my opinion, not a separate issue since it is already incorporated into the methods of allowable distributions from qualified defined benefit or defined contribution plans (i.e., as an annuity or a single lump sum distribution).

- If retirement benefits are paid as an annuity (the normal form under a traditional defined benefit plan), then there is no longevity risk on the part of the employee, and proper funding is wholly borne by the employer and the plan's actuary. Those retirees that are "lucky" will live longer than their life expectancy and, because they will receive benefits until the day they die, the extra benefit payments will cause an actuarial loss in the plan. On the other hand, those retirees that are "unlucky" will die earlier than expected and, because they will receive fewer benefits than expected, the balance of unpaid benefit distributions will cause an actuarial gain in the plan. Thus, the employer, through the plan's actuary, bears the risk of underestimating substantial benefit levels based on compensation and service, and the associated present values (either through life expectancies, rates of return, ages and elections made at retirement, or any other assumptions).

- If retirement benefits are paid as a single lump sum (the traditional form under a defined contribution plan, although offered as an option in far too many defined benefit plans and statutory hybrid plans), then there is no longevity risk on the part of the employer, and it is wholly borne by the employee (assuming that the appropriate parties made rational and prudent investment decisions over the retirement assets). Those retirees that are "unlucky" will live longer than their life expectancy and, because they will most likely outlive their accumulated accounts as of retirement, they will personally bear the risk of not having other sources of income during the remainder of their lives. On the other hand, those retirees that are "lucky" will die earlier than

expected and, if there is any unused portion of the accumulated account as of retirement, then the balance can be passed through a bequest upon their deaths. Thus, the employer has no longevity risk for the retirees, either individually or collectively.

I am purposely being dramatic with the use of the terms "lucky" and "unlucky"—but it supports my argument. In their article, Sears and Miller are proposing that an RISP is an additional benefit paid to the retirees, funded by the employer and delivered through an additional retirement plan (or through the same defined benefit plan, potentially with a bifurcated formula). However, if the primary retirement benefits are promised through a traditional defined benefit plan as an annuity for life, and are promised at a level that provides adequate retirement income for the whole of retirement, whether four short months or 40 long years, then no participant of the plan will in any way need to worry about longevity risk. As the benefits are being funded, the plan's actuarial assumptions should be adjusted from time to time to reflect true expectancies and contingencies. If the defined benefit plan cannot pay substantial benefits, then the employer should reassess how salary is divided between current pay and deferred compensation, and how deferred compensation is being discounted.

Insurance

The RISP idea, in my opinion, therefore represents a form of insurance that protects the employees against longevity risk if they participate in a defined contribution plan or a defined benefit plan that allows a lump sum distribution. The premiums should either come from the employees themselves, or can be paid by the employer as an additional employee benefit (like other forms of insurance, but not as a form of retirement benefit). The RISP will then be available to the "unlucky" cashed-out retirees who are still alive after their life expectancy expires but who have spent down their account balances.

Going back to the total compensation package for a moment, although premiums for such things as health, life, disability and workers' compensation are dollars that if not used to purchase premiums would be available to compensate employees with higher salaries or more robust retirement benefits, most employees view insurance premiums differently than retirement benefits. Inherently, situations that are insured represent events that are generally undesirable, and most employees generally don't count the dollars spent on insurance premiums as part of their compensation; rather, they look at the benefits contingent on the event happening as a valuable buffer from catastrophe. Retirement benefits, on the other hand, represent a promise of being paid in the future for services performed today.

Therefore, an RISP as described in the article could be better expressed as an insurance product that, in the event that the employer's retirement benefits, when aggregated with Social Security and personal savings, are not adequate for a retiree that lives beyond his or her life expectancy, then the insurance benefit can kick in. However, to keep it in terms of insurance rather than an additional retirement benefit, it should be tied in to the poverty level, or some other objective metric, rather than an individual's compensation or years of service as an employee. As with all insurance, however, the moral hazard arises as individuals with such insurance coverage can affirmatively or carelessly overspend other assets knowing that if they live a long and healthy life, they will have another source of income.

Conclusion

If the employer sponsors a traditional defined benefit plan that pays annuities, then there is no longevity risk borne by the employees, and any excessive actuarial losses from too many people outliving their life expectancies is a function of better mortality than expected on the part of the actuary. I am an enrolled actuary (as are the authors) and defend our profession, but the article even starts with the warning that "[a]n actuarial train wreck is fast approaching." I take this to mean that the actuaries of defined benefit plans are being too liberal in their assumptions (albeit because of penalty taxes associated with assets that revert to the employer) and are erring on the side of underfunding the plans rather than overfunding them.

If an employer sponsors a defined contribution plan, then it is most likely doing so to control annual contribution costs. If an employer sponsors a defined benefit plan that allows lump sums, then it is most likely doing so because the employees place a value on the option of receiving a single lump sum. The employer costs for funding RISPs, either through contributions to a trust separate from the qualified plan or as premiums to an insurer, would likely be less expensive than converting a defined contribution plan into a defined benefit plan providing an RISP or in eliminating the lump sum option in the existing defined benefit plan. This solution would need legislative changes to allow the economic benefit of the RISP to be excluded from the participants' gross income and to be deductible by the employer if it is not considered a normal and reasonable business deduction.

The RISPs as outlined in the article would likely be better appreciated by employees based on a pure insurance concept rather than a retirement concept. They will receive whatever retirement benefits are promised and delivered through the qualified plan, which will usually be based on their compensation and service, and if they are lucky and live beyond their life expectancy, then they will additionally receive an annuity stream tied into the poverty level, without any reference to actual wages or service.

Comments on "Averting the Retirement Income Crisis"

By André Choquet, FSA, FCIA

Carol Sears and Scott Miller are to be congratulated for their thought-provoking article and for suggesting a product that could help some people plan for a longer than expected lifetime.

Catastrophic Coverage

The parallel with the catastrophic coverage under group health insurance is almost convincing. The authors claim that just as there are products to cover fundamental risks of sickness, death and disability, so should there be products to cover the risk of living too long. While the link is a clever one, there are aspects of longevity risk that differentiate it from the other risks. Although most people would prefer avoiding sickness, death and disability, "living for a long time" ought to be a desirable event in the eyes of many as long as they are happy and healthy most of the time. If not, one could always willfully choose his or her time of death by taking one's life. It is easy to define death, sickness or disability but "living too long" is more subjective. Is it defined by age, by health or by level of happiness? And what process would be used to make the call?

Sponsorship of RISPs

The authors say: "At a minimum, all employers should be strongly encouraged to sponsor a new kind of plan, the Retirement Income Security Plan (RISP), in addition to whatever 401(k) and/or defined benefit pension plans fit their unique business goals." It is difficult to imagine, after the mass termination of DB plans in the United States, how employers would jump on the opportunity to add more FAS liabilities on their balance sheet not to mention incur more mortality, investment and inflation risks by sponsoring an RISP. The duration of these RISP liabilities will be longer than regular DB plan liabilities. This implies a difficulty in finding matching investment vehicles, which may leave employers with no choice but to take on more investment risks by investing in equity, hedge funds or private placements.

Bearer of Risk

The employer is not necessarily the entity that should bear the risk of individuals living too long. The government (or taxpayers), the retirees themselves and their immediate family could also be included in the list of possible risk bearers. While it is true that companies may face labor force shortages in the future, there are ways they can attract needed labor without having to care for their workforce who could live well into advanced ages not seen before because of future miracles of medicine. Part-time workers or outsourcing to other countries are two examples. There is another risk that North American companies will face in the future, beside labor force shortages, and it is the risk of not being competitive relative to their foreign counterparts because of heavy pension and post-retirement benefits burden.

In some countries, the "risk" of living too long is borne by governments (through direct social security payments or tax policy) or by the retirees' families (by welcoming their aging parents in their homes). The authors often talk about the immediate risk that retirees face of outliving income resources in old-age. It is difficult to imagine that Social Security is about to run out of money. In Canada, the Chief Actuary regularly performs an actuarial valuation of the Canada Pension Plan that shows solvency

until well into 2075. There are also studies of expenditures by retirees after retirement that show that the traditional replacement ratio of 70 percent so often hailed as the ideal target in the past could be overstated in the older ages.[1] I am mindful of the fact that there are differences between Canadian and U.S. health care that would require further study by country but nevertheless, a product like the RISP would need to be integrated with Social Security and reflect the pattern of retiree expenditures after retirement.

Phased Retirement

I agree with the authors that allowing workers more flexibility during the years between pre-retirement to full retirement is a great way to bridge the gap between the employer's need for knowledgeable and experienced workers and the workers' desire to continue working on their own flexible schedule. In Canada, the federal government has announced in its last budget amendments to the Income Tax Act to allow phased retirement. The federal Office of Superintendent of Financial Institutions has also announced changes to its legislation to allow changes to the Pension Benefits Standards Act. Phased retirement rules in essence allow someone to take a pension early, continue to work and accrue pension at the same time. It doesn't however protect against the risk of running out of money.

Anti-selection

Those who know something about their future will tend to select against the plan sponsor raising the cost of providing these plans. Those who know they will not live a long time will avoid this benefit, unless it is mandatory. It is the last employer in an employee's career that will be left with the responsibility of funding for this benefit for the employee. An interesting article in the April 7, 2008 New Yorker magazine, "Mine Is Longer Than Yours" (*http://www.newyorker.com/reporting/2008/04/07/080407fa_fact_kinsley*) describes the not-so-distant future when baby boomers will "compete" to try to extend their lifetime as much as possible. How should employers and the federal government react to this social behavior? It goes against the basic principles of insurance to offer protection to a group of people against a risk when the risk is clearly not evenly distributed among all members of the group.

Conclusion

In conclusion, I think the RISP is conceptually a good idea but it is not a product for an entire workforce because the so-called "risk" cannot be easily defined and is simply not a risk (in the negative sense of the word) for most people. Maybe it could be offered by employers to employees on an optional basis. Employers should probably focus their efforts on influencing government to sensibly change current rules to allow phased retirement and to design hybrid plans that genuinely share risk and rewards between employees and employers. It might be better to pool risks and have the RISP offered on an industry-wide basis where several companies would fund for the benefits of all employees of participating employers.

[1.] See Malcolm Hamilton's Letter to the Editor, October 2007 CIA bulletin *http://www.actuaries.ca/members/publications/2007/207093e.html#4.*

Author's Response to Comments by Barry Kozak and André Choquet
by Carol R. Sears and Scott D. Miller

We thank André Choquet and Barry Kozak for offering ideas that further develop the RISP concept we present. Both believe that the RISP concept could be an important planning and benefit tool for the future, and we, of course, agree.

André presented pros and cons of the RISP concept. A main con was offering an RISP as a single employer plan. André believes that that the "risk" is not easily defined and leaves the single employer too exposed. The "law of large numbers" would apply in this scenario and spread risk and mitigate single employer exposure. We agree that such a platform would be better. Such platforms are not customary and to get from the current employer-based plan world to a pooled or governmental plan world is too big a jump all at once. We believe that the changes to current law and accounting standards suggested would make the RISP more viable, cost-effective and useful than any traditional defined benefit plan. If RISPs are embraced by single employers, they would naturally develop into a more efficient environment such as the more ideal pooled platform as a result.

Barry promotes RISPs but believes that work culture in the United States would understand the benefit better as an insurance product. There is probably merit to that belief. Providing the benefit through an insurance product would be nearly or exactly like providing it via a pooled program as suggested by André. If the insurance industry would be incented to work with pension actuaries to develop and promote the product, that would be a great way to deliver this important financial tool. Again, we believe that the changes to current law and accounting standards suggested would make the RISP more viable, cost-effective and useful than any traditional defined benefit plan. If RISPs are embraced by single employers, they would naturally develop into a more efficient environment such as the more ideal insurance-based pooled platform as a result.

Barry made a point in his conclusion that we wish to comment upon. He asserts that the reason "an actuarial train wreck is fast approaching" is that pension actuaries have been too liberal in assumption setting. That is not our belief at all. We believe that the approaching "actuarial train wreck" can be attributed to many things, including: increased longevity, lower retirement benefits being provided by employers, employees not saving sufficient amounts for retirement, etc. The demise of the traditional defined benefit plan (which historically offered employees at least some protection against longevity risk) can be traced to a significant degree to government and accounting interference with proper and professional pension actuarial funding and assumptions setting. The changes we suggest to support the RISP remove these hindrances to a large extent. Thus, the plan can be funded actuarially much more soundly and comfortably than the defined benefit plans of today.