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Welcome to the inaugural issue of the Retirement Income Industry Association® and the *Retirement Management Journal's*® (*RMJ*®) new publication initiative, *Between the Issues* or *BTI*.

BTI is designed to provide readers with ongoing exposure to the latest thinking and research about retirement-income management from leading experts – in between the *RMJ*'s regular publishing schedule.

This addition to the regular *RMJ* publishing schedule comes about due to the number of quality papers submitted – there's just not enough room in the regular issues! The *RMJ* editorial team will electronically publish, as frequently as monthly based on the level and nature of the papers received, a *BTI* paper that seeks to expand the body of retirement-planning knowledge and advance the Retirement Management Analyst® (RMA®) curriculum. The *BTI* paper will be posted in the member section of RIIA website and members are allowed to distribute the *BTI* paper freely and without restriction to their constituents, their advisers, their colleagues and the like.

In addition, we encourage members and non-members to contribute papers for consideration by the *RMJ*'s editorial governance board. Submission guidelines for the *RMJ* and *BTI* can be found on RIIA's website. And we should note that firms interested in sponsoring issues of *BTI* can email staff@riia-usa.org for more information.

In this inaugural issue, you'll read "The Longevity Insurance Concept" by Mark Shemtob, ASA, CFP®, RMA®, and owner of Abar Retirement Plan Services, LLC. And as you read this paper, you'll come to understand and perhaps even appreciate the core nature of RIIA: That being, its continuous desire to advance – not just reiterate – the body of retirement-planning knowledge.

One other important note about this paper as it pertains to the RMA: The paper fits under the section of the curriculum referred to as the RMA Toolbox or chapters 5 and 6 of "The Retirement Management Analyst (RMA) Designation: Curriculum Book for RMA Candidates," which is available on Amazon.com. The topic best falls under the "Product Selections" category.

We hope you enjoy the inaugural issue of *BTI*. We appreciate your support of the *RMJ* and now *BTI* and, as always, send complaints, compliments and suggestions to: editor@RetirementManagementJournal.org.

The View Across the Silos®



Between the ISSUES

The Retirement Management Journal®, a publication of the Retirement Income Industry Association, is devoted exclusively to retirement-income planning and management.



The Longevity Insurance Concept

By MARK SHEMTOB, ASA, CFP®, RMA®



CLIENT DIAGNOSTIC KITSM



RETIREMENT ALLOCATIONSSM



RMA TOOLBOXSM



PRACTICE MANAGEMENTSM

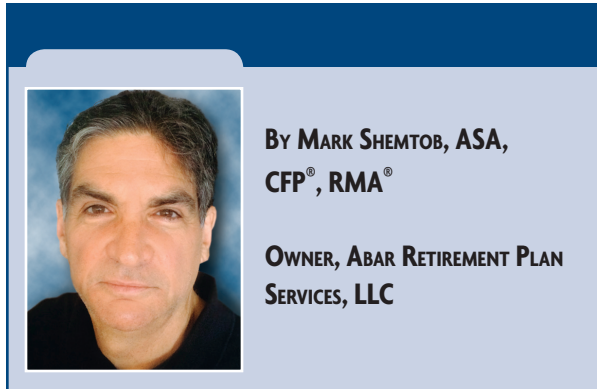
Product Selection



RIIA® provides the space, discussions, communications, research, education, and standards that derive from its unique perspective – the View Across the Silos® – to help investors, distributors, and manufacturers in the financial industry transition from Investment Accumulation to Retirement Management and Income Protection.

The Longevity Insurance Concept

BY MARK SHEMTOB, ASA, CFP®, RMA®



Executive Summary

Retirement planning has become more complicated over the last several decades for many already publicized reasons. Under the defined contribution plan model, a lump sum is accumulated and expected to last for an indeterminable period that could reach 30 or more years. There is a significant challenge for many Americans to accumulate sufficient assets to fund such a potentially long retirement lifespan.

One solution to mitigating this longevity challenge is to approach retirement financing in two phases. The first phase commences from the expected retirement age (currently 65) and ends at the expected retiree mortality age (assumed to be age 85 for purposes of this paper). This is followed by the phase spanning from such later age to death. The initial phase would be funded through Social Security and the accumulated retirement nest egg. The later phase, for those that survive, would be funded through Social Security and a program based on this paper's subject – the Longevity Insurance Concept (LIC).

The LIC program as outlined in this paper is only hypothetical. Many alternative approaches could

be designed to satisfy the structure of looking at retirement security in two phases as outlined above. The program described in this paper employs, for the most part, an individual equity structure funded by wage earners. It is designed to fulfill the needs of future retiring generations since it requires an accumulation period; however, a flexibility feature would allow older Americans to take partial advantage of the program.

Behavioral economics illustrates that most individuals do not act in their best interest when making financial decisions for which benefits cannot readily be appreciated. Consequently, the LIC program may need to be mandatory. To ascertain the attitudes of the population with respect to the issue of financing old age poverty a survey was performed with results included at the end of this paper.

Introduction and Background Insurance

The concept of insurance is centuries¹ old and heavily utilized by all developed nations. We insure our lives, valuable properties, pets, and even, in some cases, household appliances. The main goal of insurance is to limit the negative financial consequences of a “loss.” By limiting such losses we hope to make our lives and the lives of those we care about less stressful.

It is common to think of insurance as a means of protection against an event that we hope will not occur such as premature death, a health crisis or the destruction of our home. Collecting on an insurance policy happens after something “bad” occurs. We are unlikely to consider insurance to protect us from

something that we hope to happen; for example living to a ripe old age (extended longevity). The idea that one might consider buying insurance designed primarily to pay upon attainment of extended life is foreign. Nevertheless, there is a significant risk that our retirement savings will not outlast our longevity. This could leave us destitute, dependent on others or on society. This paper describes the outline for a proposed program designed to deliver universal “longevity insurance.”

Government’s Role

The debate over the role of government, especially as it relates to financial matters, brings out passion in almost all taxpayers. Some Americans believe it is the government’s responsibility to take care of those members of society who are less fortunate through wealth redistribution. Other Americans are of the opinion that the government’s role should be to encourage or mandate sound financial behavioral practices by its citizens, ultimately limiting the population that will require government assistance and what has come to be known as entitlement programs. Still others feel it is not the job of government to be involved in this matter at all. There is no universal agreement in this area.

What is nearly universal is that we do not like to see our fellow citizens suffer for reasons beyond their control. Those citizens that support safety nets through wealth redistribution hope the use of those nets can be limited. This can be achieved if individuals exhibit sound financial behavior. This is easiest when the ultimate positive benefit of that behavior is apparent and can be easily envisioned. For a young breadwinner with a family, the purchase of life insurance is an easy decision to make. For a middle-aged individual, the need to accumulate funds for retirement is usually an obvious choice. But what happens when the benefit of sound behavior is so far off that it is nowhere on the radar screen? In those cases it may be incumbent upon government to mandate programs. However, those programs need to be affordable and transparent in order for the public to accept them.

This requires a better understanding of the risk of inaction as well as an understanding of the most cost efficient way to reduce this risk. As is the case with most financial risk, early planning and action often makes the cost more affordable.

Changes in Retirement Programs

The retirement planning landscape has changed dramatically over the last several decades. The most publicized change is the demise of the traditional defined benefit plan and replacement with defined contribution (i.e. 401(k)) plans.² This change has placed the responsibility of financing longevity risk upon the individual. In addition, the improvement in life expectancies³ has increased the cost of retirement. Much has been written about these two issues and thus it is unnecessary to discuss them further in this paper. A contributing factor that needs to be considered lies in the prevalence of the annuity puzzle⁴ which infers that individuals have little willingness to use their nest eggs to insure lifetime income. This will be addressed later in this paper.

Many retirees will encounter a very significant financial challenge associated with living beyond their life expectancy. The ability to accumulate sufficient assets to last 30 or more years is well beyond the capability of most individuals relying on the 401(k) model and personal savings (in addition to Social Security). To enhance the prospect that future retirees will not encounter a period of poverty should they outlive their retirement savings, it is critical to consider programs designed specifically with this risk in mind.

Current Options

One approach that retirees could take to protect themselves from the financial risk of extended longevity is to purchase, from an insurance company, a fixed-income life annuity using their retirement nest egg. However, it has been established that individuals are often reluctant to annuitize regardless of the fact that it may be in their best financial interest. Reasons are plentiful but the primary concerns for many are reluctance to lose

control over their nest eggs and an unwillingness to “forfeit” one’s accumulated savings upon premature death. This nest egg is considered wealth accumulation and for many is not suitable for insurance. What is not actually needed for retirement they see as earmarked for an inheritance. Though some fixed-income annuities offer cash refund options to beneficiaries upon early death, the cost of these features erode the advantages of their use.

As a result of this reluctance to use traditional lifetime income annuities, the financial services industry has created other products that are designed to provide some income insurance for those living beyond expectations without all the negative attributes of fixed-income life annuities. Among such products are deferred income annuities (DIAs) that are often referred to as “longevity insurance.” These annuities are usually purchased at retirement age but pay no benefit until a much later age, such as 85, to those that survive to that age. These are far less expensive than non-deferred fixed-income annuity products. The LIC is modeled on these benefits. Though these individual DIAs are available, they have not managed to capture much market share. They are still poorly understood and very expensive relative to the actuarial value of the benefit being provided (as a result of marketing costs and the need for the insurer to hedge against unfavorable mortality experience). More recently, DIAs are being sold that have shorter waiting periods before benefits commence (and are sold prior to age 65). However, due to this shortened period and younger age, the benefit-to-cost ratio is at a much lower level than when significantly longer periods are used. This is the result of less mortality among purchasers. Other products available are guaranteed minimum withdrawal benefits GMWBs and stand-alone living benefits SALBs. These are essentially insurance products that guarantee a minimum lifetime benefit will be paid from a specified portfolio (often a deferred variable annuity) regardless of the underlying investment performance or longevity of the insured. These

products have gained some market acceptance, but have also met resistance on account of high cost, challenging pricing issues faced by insurers, limitations on the permitted underlying investment portfolio and limitations on access to funds from the portfolio beyond a certain level.

A New Idea

Planning for retirement in two distinct phases is the basis for the LIC. The first phase starts from actual retirement (or transition to part time work) lasting until the age that the retiring population is expected to live to, which currently is approximately age 85. The later phase would span from age 85 to death. The initial phase would be primarily funded through Social Security, part-time employment (for some) and individual savings, including employer-sponsored 401(k) (or other employer-defined contribution plans) and IRA rollovers. The later phase would be primarily funded through Social Security and a LIC-based program.

For the LIC to be accepted it must be communicated from the outset as dedicated to insuring against old age poverty risk. Individuals need to appreciate that this removes some of the pressure on the retirement nest egg. Ideally the LIC should be thought of as insurance and not as savings.

As noted earlier, the vast majority of individuals lack an appreciation for the risk of old age poverty until they are much older and the cost to mitigate it is substantial. Based on many television commercials, retirement is presented as a long vacation full of fun and adventure. We are not exposed to a vision of poverty stricken retirees in their 80s and older who have exhausted their savings and are relying exclusively on Social Security to get by, or are digging into the funds that they had hoped to leave as a legacy. Any hope of enhancing the realities of this risk may require that a less rosy picture of late retirement be presented for those fortunate enough to surpass the life expectancies. We see this type of approach with commercials for life insurance that show a young family after the premature death of a

breadwinner and the financial challenges they will face if there is insufficient life insurance coverage in force. Whether such an approach, which relies on elements of fear, is appropriate or will be successful is worth discussion.

LIC Cannot Stand Alone

The value of an LIC-inspired program is completely dependent on individuals being able to finance their own retirement (with the aid of Social Security and employer-sponsored retirement plans) up until the age at which the longevity benefit commences. The disadvantages to the retiree of the 401(k) plan model (other than the shifting of the longevity risk) lie in the transfer of investment risk to the individual. Both of these disadvantages are clearly visible on the policy radar screen. Significant, though not sufficient, advancements have been achieved to date in this area. 401(k)-type plans are now permitted to use automatic contribution provisions which effectively have employees participating in plans unless they affirmatively elect otherwise. Qualified Default Investment Arrangements (QDIAs) provide that contributions are invested (where participants do not make elections) into investment options that are more suitable for retirement accumulations. New Department of Labor regulations require greater disclosures on the fees associated with 401(k) plans. There are currently other ideas and proposals that would expand access to retirement programs for those workers who are not currently covered. It is critical that these initiatives continue so that access to quality retirement programs becomes near universal. Ultimately the value of the 401(k) plan model would be vastly enhanced if there was a manageable target for the accumulation of funds. This can be achieved by limiting the retirement period that needs to be supported by these accumulations. Thus, the LIC.

An LIC Hypothetical Program

To better understand the LIC, a hypothetical program is illustrated below. Such a program must address several key factors. Should it be a mandatory program, it would have to be clearly

affordable. In addition, it would need to be seen as fair and transparent. If there will be choice for participants, it should not be complex. The cost of administration would need to be low. Finally, the federal government should not be required to assume any significant additional liabilities.

Funding

One percent (1%) of before-tax wages would be withheld from an individual's salary subject to a maximum of \$500 per year (additional amounts would be permitted, but not required). A provision would also exist that would allow separate funding for a non-working spouse or domestic partner from the wages of the working spouse/partner. The \$500 threshold would be increased annually based on increases in average wages. All wages withheld would be invested in a low expense fund that would be a broad mix of many different stocks and bonds (index funds).

Pre-Retirement Death Benefits

Any individual who dies prior to age 65 would have the full amount of the accumulated funds paid to his or her named beneficiary. This provision should ease the concern that funds will be forfeited upon death prior to retirement. Approximately 93% of 25-year-olds will survive to age 65.⁵

Retirement Choices

For those who survive to age 65, the individual would choose to purchase a "longevity insurance benefit" (approved and guaranteed by the federal government) or receive the accumulated funds in a lump sum, minus a 25% withdrawal fee that would be retained and reinvested into the remaining pool of lives. The lump-sum option would exist for individuals who feel they have limited or no need for longevity protection (more than sufficient retirement funds, or in extremely poor health, for example). A third option would be to split the funds between the lump sum and the annuity benefit.

Between ages 65 and 85 no withdrawal options or death benefits would be available. Though this seems harsh it is a critical component of what

drives the high benefit-to-cost proposition of this program. The fact that approximately 50% of this population will not survive this period allows for a significantly larger benefit for those that do.⁶

The Longevity Insurance Benefit

This insurance would require that a benefit be payable only if the individual survives to age 85 and would be payable as a monthly benefit for the remainder of his or her life. The insurance would be based on the principals of risk pooling, i.e. funds not paid on account of those that die early are used to increase benefits for those that reach 85 and collect benefits. In addition, the withdrawal fees noted earlier would be fully used to increase the benefits for those that elect to have the longevity insurance purchased.

Administration

If possible, the program could be overseen by the Social Security Administration (SSA). The SSA is best positioned to oversee this program based on the systems it already has in place. The program costs would be funded through the investment funds. The use of financial organizations including mutual-fund companies and insurers could also be utilized where appropriate.

Financial Projections

The following represent the assumptions used for the projections as presented in the following:

- Increase in wages: 3.5%⁷
- Inflation rate: 2.5%⁸
- Investment return during accumulation period (net of expenses): 7.5%⁹
- Net discount rate for annuity purchase: 4.75%¹⁰
- Mortality: 2013 Applicable Table¹¹

Figure 1, on the next page, is based upon the assumptions as outlined above, a retirement age of 65 and \$10,000 per year of initial before-tax wages subject to a 1% contribution rate. The replacement factor provides an analysis of the ultimate longevity benefit as a percentage of final compensation (adjusted for inflation).

The results in Figure 1 demonstrate the significant

potential benefit value with just 1% of wages contributed, if participation commences at age 35 or younger. At age 40 or older, higher contribution levels would be recommended, however beyond age 55, the funding might become prohibitive for many wage earners.

The results as noted are based on static mortality tables and thus the actual replacement factors will likely be overstated should we continue having improvements in longevity.

Results of Survey

Suffice it to say that the American public's reaction to such a program is a critical factor in determining whether such a program should be given any consideration. With that in mind, a survey was conducted. The presentation used in the survey can be found in Appendix A.

The survey described the challenges facing retirees and provided a brief description of the program as outlined in this paper. This was followed by six statements seeking responses ranging from 'Strongly Agree' to 'Strongly Disagree.' The statements were as follows:

- I am concerned about living beyond my life expectancy and running out of money.
- Government should provide a safety net (financed by income taxes) for those that live beyond age 85 and only have Social Security to rely on.
- It is the sole responsibility of the individual to financially prepare for the possibility of living beyond their life expectancy.
- It should be the role of government to encourage individuals to take responsibility for their financial needs throughout their lifetimes.
- It is appropriate for government to require, through mandatory contribution programs, that individuals take responsibility for their financial needs in old age.
- A program such as the one described is worth being considered seriously.

FIGURE 1: INCOME REPLACEMENT AT AGE 85

Age	Amount Accumulated at 65	Projected Longevity Benefit at 85	\$10,000 Initial Compensation Valued at 85	Replacement Factor
25	\$35,212	\$31,099	\$43,998	70.68%
30	\$23,088	\$20,391	\$38,888	52.44%
35	\$14,870	\$13,133	\$34,371	38.21%
40	\$9,337	\$8,246	\$30,379	27.15%
45	\$5,645	\$4,986	\$26,851	18.57%
50	\$3,208	\$2,833	\$23,732	11.94%
55	\$1,626	\$1,436	\$20,976	6.85%
60	\$619	\$547	\$18,539	2.95%

Responses based on those ages 30 to 60 are as follows in Figures 2 through 7 (beginning on next page); 562 responses were collected.

Not surprisingly the survey results indicated a strong concern for outliving retirement savings.

Respondents supported both a belief that income taxes should be used to assist those in old age as well as a belief that individuals should take responsibility for their own financial needs. Though this demonstrates somewhat opposing positions it is not surprising. Americans believe in both personal responsibility as well as helping those in need. The survey results indicate that there is support for government encouraging responsible individual behavior, but less support for mandating it. However, when presented with the hypothetical mandatory program only 22% were outright opposed to any serious consideration. It is likely that a program as outlined in this study would receive broad support if initiated on a voluntary basis. It is far from clear however, as to whether it would be sufficiently utilized without strong incentives.

Conclusion

One should not interpret this paper as advocating for the actual program as outlined. The goal of this paper is to present the approach to obtaining financial retirement security as two phased and describing a strictly hypothetical program outline for the second phase so as to better address the general concept being advocated. Many key issues were not addressed in this paper with respect to any possible program. These include whether such a program could possibly succeed on a voluntary basis. And should a program ever seriously be considered there would be many complex issues to resolve including but not limited to taxation of benefits, use of insurance (annuity) products that are actuarially-priced based on demographic grouping, whether it is appropriate to allow otherwise healthy individuals to leave the program at retirement that may likely face financial longevity risk, whether there might be regulatory issues associated with the pooling of withdrawal fees, management of the funds to avoid precipitous drops in value as individuals approach retirement age, the administrative challenges of such a program

and the potential unintended consequences of the development of a large investment fund holding publically-traded securities.

There may continue to be nostalgia for traditional defined benefit plans for years to come, with the hope that employers will once again be willing to assume longevity risk for their employees. There will continue to be employees covered by traditional defined benefit plans, though it is likely they will be the exception and not the rule. Traditional defined benefit plans work best with workers that seldom change jobs. This phenomenon appears to have become less prevalent in the last several decades. Many hope that retirees will get over the “annuity puzzle” quandary and use insurance company products to guarantee lifetime income. It is unlikely

that we should count on either to occur. The winds are certainly not blowing in that direction. It is time for new ideas that make sense economically and socially. It is true that the American people are not readily receptive to being told what to do by their government when it comes to money matters. However, the evidence shows that programs such as Social Security and Unemployment Insurance are very popular and, of course, fulfill a critical social need. We may need to finally accept that the 401(k) employer-sponsored retirement plan is here to stay. Among its largest weaknesses is its inability to provide guaranteed lifetime income for an unpredictable longevity. By acknowledging this reality and working to overcome this liability through innovative solutions we can best serve the needs of individuals and society at large. ■

FIGURE 2: SURVEY QUESTION 1

I am concerned about living beyond my life expectancy and running out of money.		
Answer Options	Response Percent	Response Count
Strongly Agree	38.3%	215
Mildly Agree	35.2%	198
Neutral	13.0%	73
Mildly Disagree	9.1%	51
Stongly Disagree	4.4%	25
Answered Question		562

FIGURE 3: SURVEY QUESTION 2

Government should provide a safety net (financed by income taxes) for those that live beyond age 85 and only have Social Security to rely on.

Answer Options	Response Percent	Response Count
Strongly Agree	34.0%	191
Mildly Agree	24.4%	137
Neutral	18.3%	103
Mildly Disagree	11.6%	65
Stongly Disagree	11.7%	66
Answered Question		562

FIGURE 4: SURVEY QUESTION 3

It is the sole responsibility of the individual to financially prepare for the possibility of living beyond their life expectancy.

Answer Options	Response Percent	Response Count
Strongly Agree	24.4%	137
Mildly Agree	35.9%	202
Neutral	15.1%	85
Mildly Disagree	16.2%	91
Stongly Disagree	8.4%	47
Answered Question		562

FIGURE 5: SURVEY QUESTION 4

It should be the role of government to encourage individuals to take responsibility for their financial needs throughout their lifetimes.

Answer Options	Response Percent	Response Count
Strongly Agree	23.7%	133
Mildly Agree	33.8%	190
Neutral	19.2%	108
Mildly Disagree	13.5%	76
Stongly Disagree	9.8%	55
Answered Question		562

FIGURE 6: SURVEY QUESTION 5

It is appropriate for government to require through mandatory contribution programs that individuals take responsibility for their financial needs in old age.

Answer Options	Response Percent	Response Count
Strongly Agree	13.3%	75
Mildly Agree	30.4%	171
Neutral	19.9%	112
Mildly Disagree	18.7%	105
Stongly Disagree	17.6%	99
Answered Question		562

FIGURE 7: SURVEY QUESTION 6

6.) A program such as the one described is worth being seriously considered.

Answer Options	Response Percent	Response Count
Strongly Agree	21.4%	120
Mildly Agree	34.9%	196
Neutral	21.7%	122
Mildly Disagree	10.0%	56
Stongly Disagree	12.1%	68
Answered Question		562

Appendix 1

Retirement Security Survey

Planning for retirement has become very complicated. Few Americans can rely upon their employers to provide them with a pension for life. Many of us are living longer than our parents did. While Social Security provides a valuable benefit, for many Americans it is not enough. Some can save enough money on their own or through their employer's 401(k) plan to afford a comfortable retirement for up to 20 years, but more than half of all retirees will live longer than 20 years. Some may live a decade, or greater, longer. Once our savings are spent all that will be left for many Americans is Social Security.

To help protect Americans from poverty in old age new types of programs are needed. It is important to determine attitudes among the American public in order to know the likelihood of a program getting support. Below is a very brief description of an outline for an old age insurance program. Please read the summary and respond to the questions below.

One percent (1%) of wages would be automatically withheld from an employee's salary subject to a maximum of \$500 per year (additional amounts would be permitted but not required). All withheld wages will be invested in a low expense fund that would be a broad mix of many different stocks and bonds (index funds). Any individual who dies prior to age 65 will have the full accumulated amount

paid to his or her chosen beneficiary. Those that survive to age 65 may choose to either have the accumulated funds paid in a lump sum (minus a 25% withdrawal fee) or be used to purchase a "longevity insurance policy" (approved and guaranteed by the federal government). This insurance would only be payable if the individual survives to age 85 and would be paid monthly for the remainder of his or her life. The insurance would be based on the principals of risk pooling. Under this principal the funds not paid for those that die early are used to increase benefits for those that reach 85 and collect benefits. In addition, the withdrawal fees would be fully used to increase the benefits for those that elect to purchase the longevity insurance. The program would likely be administered by the Social Security Administration.

This program's contributions should not be viewed as taxes but as savings for future insurance. It should be noted that very significant old age monthly benefits can be generated for those participating at early ages. This is due to the long investment period and the extra benefits earned from those subject to the withdrawal fees and the use of risk pooling. This in combination with Social Security would protect the vast majority of super elders from poverty. Even those that enter the program in their late thirties or early forties will receive a meaningful benefit. However it would be wise for those entering the program at later ages to have more than 1% of their wages withheld.



Footnotes:

- 1 History of Insurance; Records show initially used in 2nd millennia BC; First U.S. company established in 1732
- 2 In 1980, 84% of workers in medium and larger plans covered by DB plan and in 2010 only 30% covered. Small plans decreased from 35% to 14% coverage
- 3 In 1935, life expectancy for 65-year-old male was 13 years and 65-year-old female was 15 years. Current life expectancies are 19 and 21 respectively in 2013
- 4 Annuity puzzle: Term used by economists to describe phenomenon where individuals when asked prefer lifetime income over lump sums but when given the option overwhelmingly elect the lump sum
- 5 93% survivorship: Based on 2013 IRS Applicable Mortality Table IRS
- 6 2013 IRS Applicable Mortality Table
- 7 Based on 20-year average increased in National Average Wages (1993-2012) (data from Social Security Administration website)
- 8 Based on 20-year average Cost of Living Adjustments (1993-2012) granted under the Social Security program (data from Social Security Administration website)
- 9 Based on average 20-year return achieved by the Vanguard Balanced Index Fund (1993-2012) less 50 basis points expense estimate
- 10 Based on 20-year average 30-year Treasury rates (1993-2012); though insurers will not go out this long they can pick up additional yield from using investment grade corporate bonds. Reduced by 50 basis points expense estimate
- 11 Published by the Internal Revenue Service; 2013 Unisex table used in calculations of pension funding and benefits