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Society of Actuaries

# Pension Section News

## Excerpts from the PBGC Actuarial Valuation Report—2003

by Joan M. Weiss

*Editor's Note: The 2003 Annual Report of the PBGC and the complete 2003 Actuarial Valuation Report, including additional actuarial data tables, are available upon request from Loretta Berg at the PBGC, (202)326-4040 or* berg.loretta@pbgc.gov.

The 2003 annual report of the Pension Benefit Guaranty Corporation (PBGC) contains a summary of the results of the September 30, 2003 actuarial valuation. The purpose of this separate Actuarial Valuation Report is to provide greater detail concerning the valuation of future benefits than is presented in PBGC's annual report.

### Overview

The PBGC calculated and validated the present value of future benefits (PVFB) for both single employer and multi-employer programs and of non-recoverable financial assistance under the multi-employer program. For the single employer program, the liability as of September 30, 2003 consisted of:

- $39.72 billion for the 3,277 terminated plans
- $9.69 billion for the 78 probable terminations

Liabilities for "probable terminations" reflected reasonable estimates of the losses for plans that are likely to terminate in future years. These estimated losses were based on conditions that existed as of PBGC's fiscal year-end. It is likely that one or more events subsequent to PBGC's fiscal year-end will occur, confirming the fact of the loss. In addition, the liability for reasonably possible terminations has been calculated and is discussed in Note 7 to the financial statements on page 33 of PBGC's 2003 Annual Report. A discussion of PBGC's potential claims and net financial condition over the next 10 years is presented on pages 10 through 12 of that report. For the multi-employer program, the liability as of September 30, 2003 consisted of:

- $3 million for 10 pension plans that terminated before passage of the Multi-Employer Pension Plan Amendments Act (MPPAA) of which the PBGC is trustee.
- $1,250 million for probable and estimable post-MPPAA losses caused by financial assistance to 62 multi-employer pension plans that were, or expected to become, insolvent.

### Actuarial Assumptions, Methods, and Procedures

The PBGC continues to review the actuarial assumptions used in the valuation to ensure that they remain consistent with current market conditions in the insurance industry and with PBGC's experience. The actuarial assumptions that are used in both the single-employer and multi-employer valuations are presented in the table on page 5. Assumptions concerning data that were not available are discussed in the data section of this report.

As in previous valuations, the select and ultimate interest rates used to value PBGC liabilities were

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## Articles Needed for the *News*

Your participation is needed and welcomed. All articles will include a byline to give you full credit for your effort. *News* is pleased to publish articles in a second language if a translation is provided by the author. For those of you interested in working on the *News*, several associate editors are needed to handle various specialty areas such as meetings, seminars, symposia, continuing education meetings, teleconferences and cassettes (audio and video) for enrolled actuaries, new pension study notes, new research and studies by Society committees, etc. If you would like to submit an article or be an associate editor, please call Arthur Assantes, editor, at (860) 521-8400.

As in the past, full papers will be published in *The Pension Forum* format, but now only on an ad hoc basis.

### Preferred Format

In order to efficiently handle articles, please use the following format when submitting articles:

Please e-mail your articles as attachments in either MS Word (.doc) or Simple Text (.txt) files. We are able to convert most PC-compatible software packages. Headlines are typed upper and lower case. Please use a 10 point Times New Roman font for the body text. Carriage returns are put in only at the end of paragraphs. The right-hand margin is not justified.

If you must submit articles in another manner, please call Erica Barraca, (847) 706-3549, at the Society of Actuaries for assistance.

Please send a hard copy of the article to:

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Thank you for your help.

# Chairperson's Corner

by Ian Genno

*Ian Genno, FSA, FCIA, is a principal with Towers Perrin in Toronto. He can be reached at* Ian.Genno@TowersPerrin.com.

The Pension Section of the Society of Actuaries is a group of nearly 4,000 FSAs and ASAs who are collectively engaged in what is arguably some of the most interesting and challenging work facing actuaries today—addressing the income and security needs of current and future retirees. In an environment where increasingly complex regulations, volatile investment markets, low interest rates, increased job mobility, lack of understanding among pension plan members and litigation are prompting some employers and plan members to re-examine the value and viability of pension plans, retirement practitioners are called upon to help plan sponsors, plan members, legislators and regulators understand the issues and make informed decisions that will directly affect the future financial well-being of millions of people.

Faced with such exciting challenges, it is important for our professional organizations (the SOA, CIA, AAA, etc.) to benefit from the input and participation of our members. For the SOA, broad participation by retirement practitioners will help ensure that we collectively benefit from the ideas and talents of our members and that the diverse perspectives of all our members are heard.

Retirement practitioners can participate in and contribute to the SOA in many ways:

- You can volunteer to join a committee or task force. If you have a particular area of interest and want to work collaboratively with others who share your interest, this is one of the most effective ways to network with peers and leverage your efforts.

- You can help get messages out—both within the SOA and to a broader audience. Writing articles, research papers and letters to the editor, and speaking at conferences, are all important ways to ensure that diverse viewpoints are presented to other actuaries and to the public.

- You can suggest ideas. We all have ideas, but don't always have the time to act on every one of them. By passing good ideas along to the right people within the SOA, we can help make things happen. Suggestions for research initiatives, professional development ideas, contrarian opinions, etc., are all valuable.

- You can help develop the next generation of retirement actuaries. In the long term, a profession is only as vibrant as the newest members joining it. Participating in your employer's university recruiting process, writing study notes, joining an E&E committee, serving as a PD advisor to Fellowship candidates, helping run the FAC and serving as a mentor to younger colleagues are important ways to contribute to the profession as a whole—as well as to specific individuals, who can benefit tremendously from your experience.

- You can debate issues with your peers. There are many avenues for raising questions and debating different perspectives—n-house actuaries' meetings, local actuarial clubs, SOA meetings and letters to the editor in professional publications or the broader press. Vibrant debate promotes intellectual curiosity and a healthy environment for new views to emerge.

- You can vote in the SOA elections. Around the time that this edition of the *Pension Section News* will be published, the final 2004 SOA ballot will be out. Last year, only 30.4 percent of members in the Retirement Systems Practice Area voted for SOA leadership positions (i.e., president-elect, board, etc.). With retirement practitioners making up only a minority of the overall SOA membership, it is important that we each take a few minutes during the next several weeks to read about the candidates standing for election and vote for the best qualified people to represent the interests of all practice areas and to lead our profession. With so many important issues facing our profession and so many well qualified candidates offering to volunteer their talent and energy if elected, voter participation should really be two to three times its current level.

In today's environment more than ever, retirement practitioners can benefit from membership in a professional organization that remains proactive, vibrant and diverse. Each of us can contribute to that in a meaningful way. Let's each give something back to the profession that has served us all so well. ◆

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derived by using an assumed underlying mortality basis and current annuity purchase prices. The interest rates so determined for the 2003 valuation were 4.40 percent for the first 20 years after the valuation date and 4.50 percent thereafter. These interest rates are dependent upon the PBGC's mortality assumption, which changed from FY 2002 to FY 2003 (see page 5).

Beginning with the FY 1997 valuation, the mortality assumptions were updated by adopting the recommendations from a study by an independent consulting firm. This study recommended that when conducting valuations for its financial statements, the PBGC use the male and female 1994 Group Annuity Mortality Static Table (with margins), set forward two years, for healthy males and females. The study also recommended that continuing mortality improvements be taken into account by using Projection Scale AA, also set forward two years, to project these tables a fixed number of years. At each valuation date, the fixed number of years will be determined as the sum of the elapsed time from the date of the table (1994) to the valuation date, plus the period of time from the valuation date to the average date of payment of future benefits (the duration). This is an approximation to a fully projected table. The mortality table used for healthy lives in the 2003 valuation is the 1994 Group Annuity Mortality Static Table (with margins), set forward two years, projected 18 years to 2012 using Scale AA. The 18 years recognizes the nine years from the 1994 to 2003 plus the nine-year duration of the 9/30/02 liabilities. The 2002 assumption incorporated a 16-year projection, determined as the sum of the eight years from 1994 to 2002 and the eight-year duration of the 9/30/01 liabilities.

Beginning with the FY 1997 valuation, the mortality assumptions were updated by adopting the recommendations from a study by an independent consulting firm.

The model used to determine the reserve for future administrative expenses was changed in FY 2000 based on a study by an independent consultant. There was no change in the assumptions for retirement ages.

The Small Plan Average Recovery Ratio (SPARR) assumptions as shown in the table on page 5 were updated to reflect the actual SPARR calculated for FY 2001 (4.94 percent). The SPARRs for subsequent years are assumed to equal the FY 2001 SPARR.

We note a major change in calculation procedure for FY 2003. For the single employer probable plans, we projected assets from the asset date to the valuation date using market based monthly indices rather than the plan actuary's interest rate for funding purposes. We continued our ongoing efforts to improve the quality of the seriatim data and, as in other years, made various changes to improve the accuracy, speed, security and auditability of the calculations and to integrate with the evolving PBGC computer environment.

## Statement of Actuarial Opinion

This valuation has been prepared in accordance with generally accepted actuarial principles and practices and, to the best of my knowledge, fairly reflects the actuarial present value of the corporation's liabilities for the single-employer and multi-employer plan insurance programs as of September 30, 2003.

In preparing this valuation, I have relied upon information provided to me regarding plan provisions, plan participants, plan assets and other matters.

In my opinion, (1) the techniques and methodology used for valuing these liabilities are generally accepted within the actuarial profession; (2) the assumptions used are appropriate for the purposes of this statement and are individually my best estimate of expected future experience discounted using current settlement rates from insurance companies; and (3) the resulting total liability represents my best estimates of anticipated experience under these programs. ◆

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## ACTUARIAL ASSUMPTIONS

| | Previous Valuation as of 9/30/03 | Current Valuation as of 9/30/02 |
|---|---|---|
| Interest Rate | Select and Ultimate<br>• 4.40% for 20 years.<br>• 4.50% thereafter. | Select and Ultimate<br>• 5.70% for 25 years.<br>• 4.75% thereafter. |
| Mortality<br>• Healthy Lives | • 1994 Group Annuity Mortality Static Table (with margins), set forward two years, projected 18 years to 2012 using Scale AA. | • 1994 Group Annuity Mortality Static Table (with margins), set forward two years, projected 16 years to 2010 using using Scale AA. |
| • Disabled Lives Not Receiving Social Security<br>• Disabled Lives Receiving Social Security | • Healthy Lives Table set forward three years.<br>• Social Security disability table as described in subpart B of PBGC Regulations on Allocation of Assets in Single-Employer Plans for persons up to age 64, adjusted to parallel the table for disabled lives not receiving Social Security benefits for ages above 64. | Same<br>Same |
| SPARR | Calculated SPARR for fiscal years for which it has been calculated. The most recent calculated SPARR is assumed for years for which the calculation is not yet completed<br>(most recent SPARR: FY 2001 =4.94%). | Calculated SPARR for fiscal years for which it has been calculated. The most recent calculated SPARR is assumed for years for which the calculation is not yet completed<br>(most recent SPARR: FY 2000=4.58%). |
| Retirement Ages | (a) Earliest possible for shutdown companies.<br>(b) Expected retirement age (XRA) tables from 29 CFR 4044 for ongoing companies.<br>(c) Participants past XRA are assumed to be in pay status.<br>(d) Unlocated participants past normal retirement age (NRA) are phased out over three years to reflect lower likelihood of payment. | Same |
| Expenses | All terminated plans and single-employer probable terminations; 1.18% of the liability for benefits plus additional reserves for cases where plan asset determinations, participant database audits, and actuarial valuations were not completed. | Same |

# Funding Under the **Canada Pension Plan**

by J. Bruce MacDonald

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*This article is based on a presentation made to the Actuarial Society of Greater New York on June 16th, 2003, and updated with material released by the Canada Pension Plan Investment Board subsequently.*

The Canada Pension Plan (CPP), the earnings-related contributory component of Canada's social security retirement program has always differed from that in the United States in several ways. Its funding method had been much closer to pay-go than that for OASDI, with a target of a buffer fund of two years' benefits. Contributions had been increasing for many years, and the actuarial reports, which projected results until 2100, had always indicated there would be future increases in contributions. The investments had largely been in non-marketable provincial government bonds, unlike OASDI where the trust fund investments were in non-marketable federal bonds. Changes in the investment policy made in 1998 have introduced further differences in the funding and investment policies.

### Changes in the CPP in 1998

What is being described is the funding under the Canada Pension Plan (CPP). I am not describing that under the Québec Pension Plan (QPP), which is separate from but similar to the CPP. The QPP has always invested in equities; neither I am discussing funding under the Old Age Security plan, or the Guaranteed Income Supplement and Spouses' Pension Allowance. These plans are funded on a pay-go basis and are income-tested, the first at a rather high level.

At January 1, 1998 there were a number of benefit changes, mostly slight reductions, to both the CPP and QPP. I described these in articles in *Pension News* in 1997 and will not repeat a description here. The contribution rates under both the CPP and QPP were scheduled to increase more rapidly than had been planned; the rate had been 6.0 percent (combined employer and employee) in 1997. It was now to reach a maximum of 9.9 percent in 2003, and remain level thereafter. The buffer fund target was to increase from two to five years of anticipated benefits. In addition there were to be changes in the investment policy for the CPP.

Formerly the fund had been mostly invested in non-marketable provincial government bonds earning the same rate as a federal bond of the same duration, a somewhat subsidized rate. This contrasts with the investments under OASDI in the USA, which are all in federal bonds. The fund was now to be invested in a manner similar to that for private pension funds, and managed at arm's length from the government. There was to be the same foreign content rule as for private plans, which is currently 30 percent of the book value. Domestic equity investments were to be selected passively, mirroring broad market indices. The aim was to be a real rate of return of 3.8 percent per annum.

The Chief Actuary for the CPP indicated that the contribution rate should be stable at 9.9 percent and would not have to increase beyond this level as contributions and investment income from the buffer fund should be enough to pay benefits; projections for the CPP are made to the year 2100. His actuarial report was reviewed by three well-known actuaries, chosen from a short list prepared by the

Canadian Institute of Actuaries. They endorsed the Chief Actuary's overall conclusion; subsequent actuarial reports have been similarly reviewed and endorsed.

There was little or no objection from either the public or the media to the benefit changes or the increase in contributions. There had been much expressed concern that that the CPP was not sustainable in its present form, and contributions had been increasing annually for many years. In fact all actuarial reports on the CPP had forecast contribution increases. There were also no objections form the provinces to the change in the investment policy as in recent years virtually all contributions had been needed to pay benefits and there had been little available for investment in provincial bonds.

## Creation of the Canada Pension Plan Investment Board

An Act of Parliament established the Canada Pension Plan Investment Board as a federal crown corporation in December 1997. Its mandate is to invest in the best interests of CPP contributors and beneficiaries and to maximize long-term investment returns without undue risk of loss, taking into account the factors that may affect the funding of the CPP and its ability to meet its financial obligations. The CPPIB is independent of the CPP and is at arm's length from both the federal and provincial governments. The Act, the by-laws of the CPPIB and its governance regulations can only be altered with the support of the federal government and two-thirds of the participating provinces, which are all provinces except Québec, representing two-thirds of the Canadian population.

The role of the government is:

- To appoint directors.
- To review legislation and regulations every three years as part of its overall review of the CPP.
- To initiate a special examination of financial and management controls, information systems, and management practices at least every six years.

Quarterly financial statements and the annual reports are sent to all finance ministers, and the annual report is tabled in the House of Commons each year. Directors of the CPPIB were appointed in October 1998 and held their first meeting the following month. They began receiving funds for investment in March 1999. These were invested in stock index funds. The management team was put in place during 2000 and 2001, and in 2001 they entered the private equity market.

Although the mandate originally was to invest in a passive manner, and initially the portfolio of Canadian equities mirrored the Toronto Stock Exchange (TSE) index, the CPPIB reached the conclusion that Nortel was too great a part of the portfolio; as a result they reduced their holding of Nortel. They still sustained substantial investment losses when Nortel crashed, but not as great as if they had continued to mirror the TSE index.

Proxy voting guidelines were established.
Consideration was given to social or ethical investments. As a result a Social Investment Policy was established that considers as eligible investments:

- Securities of issuers engaged in a business that is lawful in Canada.
- Securities of issuers in any country with which Canada maintains normal financial, trade and investment relations.

Investments will not be accepted nor rejected on non-investment criteria.

The aim of the CPPIB is to be small and cost effective. The team is to be experienced, and there are expected to be fewer than forty employees. Senior executives develop investment and operating strategies, and then access and leverage external expertise. Investment and administrative expenses for the year ending March 31, 2002 were nine basis points, or $.09 per $100 of invested assets. The public is kept informed by public meetings every two years in each participating province. Information and important development are posted on the CPPIB's Web site, which contains much information, and covered in news releases. The Web site is *www.cppib.ca.*

The CPPIB expects to be managing $150 billion by 2013. (All figures in this article are in Canadian dollars.) Maximizing returns means assuming risk to earn higher returns. The fund must be fairly compensated for risks taken.

## Investment Policy of the CPPIB

Historically CPP funds were lent to the provinces (and the federal government if the provinces did not want them) in the form of non-marketable twenty-year bonds. Since 1997 each province has the option

(continued on page 8)

to roll over maturing bonds for a further twenty years at the then current market rate. Bonds not rolled over are transferred to the CPPIB if the proceeds are not needed to pay current benefits. By 2033 all such bonds will have matured.

The decision was made to invest in equities as historically they had produced superior returns compared with most other asset classes. (Gold and Bader are now challenging whether equities are a suitable investment for defined benefit plans, but I do not propose to go into this.) The target asset mix was set as follows:

- 85 percent in public equity markets
- 10 percent in private equity
- 5 percent real estate and infrastructure projects.

Public equity markets include:

- Derivatives such as options, futures, forwards, and swaps
- Treasury bills and other money market instruments
- Exchange traded funds
- Bonds, both nominal and real return.

Private equity includes:

- Start-up and early stage companies
- Established companies entering a new growth phase or requiring a new business plan or a change in management to achieve superior performance
- Energy and natural resources: electric power generation and distribution projects, mineral ore deposits, timberlands and oil and gas properties.

Real estate and infrastructure projects include:

- Office, industrial, retail and residential properties and development projects, including land
- Bridges, highways, tunnels and ferries
- Fibre-optic cable, telecommunications towers and satellites
- Schools and hospitals.

The target mix by geographical area is:

- 70 percent Canada
- 15 percent United States
- 15 percent non North America.

## CPP Assets

The fiscal year end for the CPP is March 31. Results for the year ending March 31, 2004 are scheduled to be released on May 19, 2004. At December 31, 2003, the CPPIB held the following assests in millions of Candian dollars:

| Category | Amount |
|---|---|
| Public Equities (24.0 percent non-Canadian) | $28,450 |
| Private Equities | $1,690 |
| Real Return Assets | $69 |
| Money Market Securities | $235 |
| Total | $30,945 |

As of the same date, the federal Department of Finance held the following assets, which essentially were investments from the days before the establishment of the CPPIB, again in millions of Canadian dollars:

| Category | Amount |
|---|---|
| Federal Government Bonds | $4,108 |
| Provincial Government Bonds<br>(46.0 percent from Ontario) | $25,685 |
| Cash | $5,543 |
| **Total** | **$35,336** |

Thus the total assets for the CPP were $66,281 million, i.e somewhat over $66 billion. Details of the assets are available are on the Web site. The CPPIB has been investing exclusively in equities because of the large bond portfolio already held by the Department of Finance. At some time in the future we can expect the CPPBI to start investing in fixed income securities.

## CPP Investment Targets and Returns

The CPPIB set as a target for the return on equities to be that on real-return bonds, which are available in Canada, plus a premium of 1.6 percent to compensate for risk. At the end of 2002 real-return bonds yielded 3.7 percent so the target long-term rate of return on equities was then 5.3 percent per annum. The most recent actuarial report on the CPP, which was that as of December 31, 2000, assumed that the equity portfolio would earn a 4.65 percent real rate of return, assuming 4.5 percent on Canadian equities and 5.0 percent on foreign equities, with a 30 percent investment in foreign equities.

The composite benchmark for the CPP fund aggregates three market indices weighted by the allocation to equities:

- S&P/TSE Composite Index, which represents almost 90 percent of Canadian based companies
- S&P 500 Index for large U.S. companies
- MSCI EAFE Index for large companies in Europe, Australasia and the Far East.

Private equities are expected to earn 300 basis points more than these market indices.

Table 1 compares the portfolio return on equities and real estate with the benchmark return for the 12 months ending March 31, the year-end for the CPPIB. Figures in parentheses are negative.

For the nine months ending in December 2003 the portfolio return was 26.0 percent compared with a benchmark return of 28.6 percent. The return on the portfolio has exceeded the benchmark return in all years except that ending in March 31st, 2003, and in the first nine months of the current year.

Table 2 gives the return on fixed income securities and on the consolidated assets, again for years ending on March 31. Again figures in parentheses are negative.

For the nine-month period ending December 2003, the return on the fixed income securities has been 6.1 percent while that on the consolidated assets was 13.9 percent.

The return on the consolidated assets has been affected as the percentage held by the Department of Finance, invested in bonds and cash, has reduced from 86.0 percent in 2001 to 53.4 percent in 2003 as the amount invested in equities by the CPPIB has increased. The return on consolidated assets has exceeded that assumed in the actuarial report except in the year ending in 2003.

At March 31, 2003 there had been accumulated losses of the order of $4.2 billion, but they had switched to a gain of 5.8 billion by December 31, 2003 because of good returns on equities in the nine months. It is too soon to say whether the losses incurred will impair the financial health of the CPP, resulting in contributions in excess of 9.9 percent. There has been remarkably little concern expressed in the media about them, although they have been reported. The media seems to be concentrating on funding shortfalls in private pension plans. It will be interesting to see whether there will be a turn against equity investments in the CPP, and whether social security in the United States will follow the Canadian lead. ◆

### Table 1

| Year | Portfolio Return | Bookmark Return |
|---|---|---|
| 1999 | 5.0% | 4.7% |
| 2000 | 40.1% | 39.3% |
| 2001 | (9.4%) | (17.8%) |
| 2002 | 3.4% | 2.4% |
| 2003 | (21.1%) | (20.3%) |

### Table 2

| Year | Fixed Income | Consolidated Assets |
|---|---|---|
| 2001 | 9.9% | 7.0% |
| 2002 | 5.0% | 5.7% |
| 2003 | 8.4% | (1.5%) |

# www.soa.org **Has a New Look**

by Emily Kessler

The SOA recently launched its newly redesigned Web site. The new site was designed to provide enhanced features and functionality, including improved navigation, printer-friendly pages, a new job link with Monster.com and improved search functions, including the ability to do site-wide searches, quick searches of the membership directory and online library searches.

However, as with any redesign, your favorite bookmarks may not be working. Here's where you can find some of the more commonly used items from the Pension Section Web site and other on-line SOA resources:

Pension Section home page is at *http://www.soa.org/ccm/content/?categoryID=341001.*

Both the investment statistics for pension actuaries and Citibank yield curve are on the same page: *http://www.soa.org/ccm/content/areas-of-practice/special-interest-sections/pension/pension-resources-bibliographies/.* For the investment statistics, click on the first line – Investment Statistics for Actuaries. For the Citibank yield curve, go down a few more lines to click on Pension Discount Curve and Liability Index.

Recent editions of the *Pension Section News* and *Pension Forum* are found on the publications page *http://www.soa.org/ccm/content/areas-of-practice/special-interest-sections/pension/pension-publications/.*

The Web site has also been reorganized to separate SOA produced research by topic of interest. Topics of interest to retirement practitioners have their own pages, including:

General:*http://www.soa.org/ccm/content/?category ID =317001.*
Research:*http://www.soa.org/ccm/content/?category ID=332001.*
Experience Studies: *http://www.soa.org/ccm/content/?categoryID=325003.*
Monographs: *http://www.soa.org/ccm/content/re search-publications/library-publications/monographs/retirement-systems-monographs/.*
Meetings/seminars: *http://www.soa.org/ccm/content/?categoryID=313008.*

The Committee on Post-Retirement Needs & Risks has a page with all their surveys, the risk chart, short reports and other information you might find useful as you're talking with plan sponsors, designing plans, etc. That can be found at *http://www.soa.org/ccm/content/areas-of-practice/special-interest-sections/areas-of-expertise/post-retirement/.*

If you have any comments or questions on the newly designed Web site, or still can't find what you're looking for, send a note to *comments@soa.org.* ◆

# Managing Retirement **Assets Symposium**

by Emily Kessler

Emily Kessler , FSA is a SOA staff fellow in retirement systems. She can be reached at ekessler@soa.org,

The SOA held the Managing Retirement Assets Symposium on March 31 – April 2, 2004 in Las Vegas, Nev. in conjunction with the SOA/LIMRA/LOMA Pension and Annuity Conferences. The symposium was put together by the SOA's Committee on Post-Retirement Needs and Risks under the direction of Anna Rappaport and was supported by 16 cooperating organizations. Papers were presented on a wide range of topics from approaches to dealing with retirement assets, including advanced-life deferred annuities, pooling risk through group self-annuitization, securitization of mortality risks for insurers through secondary markets, purchase of insured annuities for defined benefit plans, mandatory annuitization in defined contribution plans, assessing long-term care risks and options and the role of home equity in long-term care financing and optimal distribution strategies.

Papers from the symposium are currently being put into a monograph. Watch this space for further details on the publication of the monograph. In the meantime, if you're dying to find out more, contact Emily Kessler at *ekessler@soa.org* or (847)706-3530. ◆

# 2003 Risks & Process of **Retirement Survey**

by Emily K. Kessler

The Society of Actuaries has published a new survey, *2003 Risks and Process of Retirement Survey*. This telephone survey of Americans ages 45 to 80 was conducted by Mathew Greenwald & Associates, Inc., and the Employee Benefit Research Institute (EBRI) on behalf of the SOA. The study had three goals:

- Evaluate Americans' awareness of potential financial risks.
- Determine how this awareness impacts the management of their finances with respect to retirement.
- Learn how Americans are managing the process of leaving the workforce.

The survey was partly designed as a follow-up to the *2001 Risks of Retirement Survey*; some of the same questions were asked and new ones, particularly on phased retirement, were included.

Three hundred three retiree responses and 301 pre-retiree responses were included, for a margin of error (at the 95th percent confidence level) of +/-5.6 percent. In the survey, pre-retirees are defined as individuals over age 45 who say they are not yet retired. The retiree group is defined as individuals under age of 80 who say they have retired from their primary occupation.

### Pre-retirees are more worried about financial and health-care risks than retirees than they were in 2001.

When comparing results between 2001 and 2003, pre-retirees are much more concerned about inflation, maintaining one's standard of living, and paying for health-care costs in 2003 than in 2001. Pre-retirees are also markedly more worried about inflation, health care and having sufficient income than are retirees. Retirees' level of concern was approximately the same in 2003 as in 2001(Figure 1).

### Retirees have incomplete strategies for coping with risk.

Retirees and pre-retirees were asked a series of questions about how they coped with risk, particularly financial risk. They were asked if four statements describing different financial risk strategies described them *very well, somewhat well, not too well* or *not at all well.* For both retirees and pre-retirees, the strategy describing reduced spending was picked as the primary strategy for managing financial risk. The strategy describing using investing in stocks to grow savings was less popular with retirees than the prior survey, possibly because of negative market performance. The two strategies describing the purchase of long-term care insurance and annuities were not cited as often, although the number of pre-retirees citing the purchase of long-term care insurance as a strategy describing them *very* or *somewhat well* increased significantly from 2001 to 2003 (Figure 2 on page 12).

Even though retirees and pre-retirees believe the purchase of long-term care insurance is a good strategy, not many of them have actually done it.

(continued on page 12)

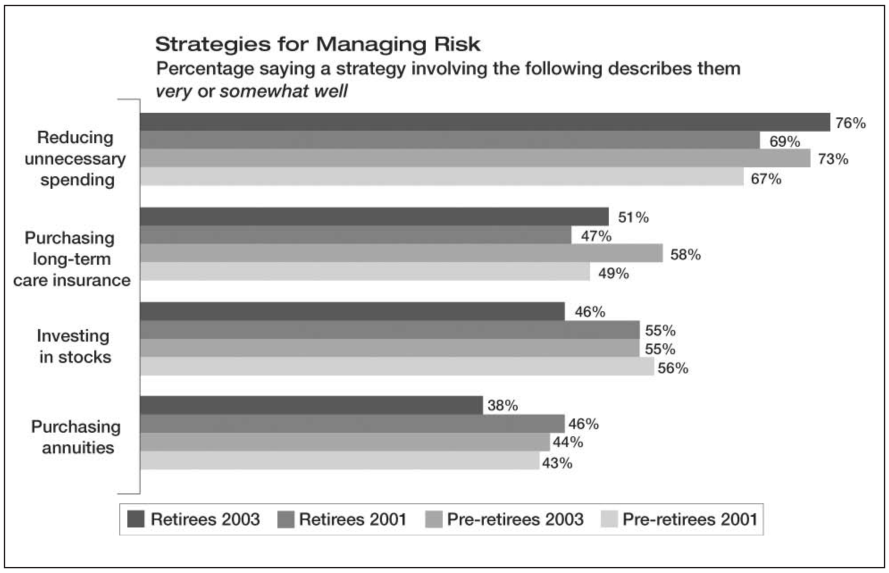
**Even though retirees and pre-retirees believe the purchase of long-term care insurance is a good strategy, not many of them have actually done it.**

Figure 1

| Percentage responding they were "very concerned" or somewhat concerned" about ... (selected responses shown) | Retirees | | Pre-retirees | |
|---|---|---|---|---|
| | 2003 | 2001 | 2003 | 2001 |
| Keeping the value of savings and investments up with inflation | 57% | 55% | 71% | 55% |
| Having enough money to pay for good health care | 46% | 43% | 79% | 58% |
| Having enough money to pay for a long stay in a nursing home or a long period of nursing care at home[1] | 47% | 48%/48% | 55% | 57%/52% |
| Maintaining a reasonable standard of living | 46% | 46% | 61% | 55% |
| If married, maintaining their spouse's standard of living after their death, if they should die first | 44% | 43% | 57% | 41% |

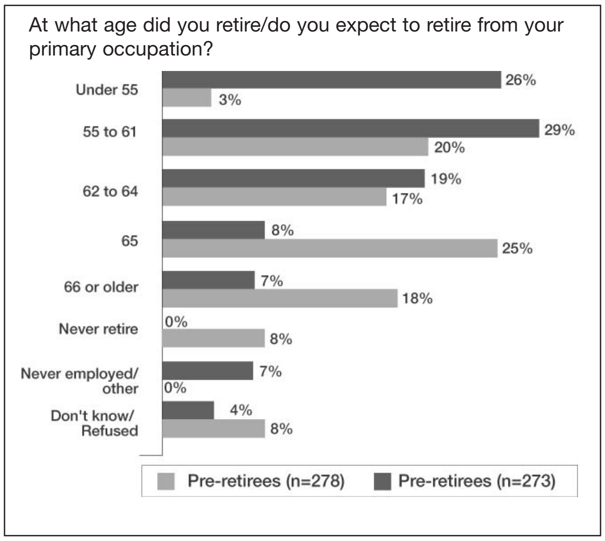
[1] In 2001, two separate questions were asked regarding nursing care at home and in a nursing home.

Figure 2



Strategies for Managing Risk
Percentage saying a strategy involving the following describes them *very* or *somewhat well*

Figure 3



At what age did you retire/do you expect to retire from your primary occupation?

When asked what specifically they had done to protect themselves financially against needing extended nursing care, only 17 percent of pre-retirees and retirees cited that they had purchased long-term care insurance. Not surprisingly, retirees and pre-retirees who said a strategy statement describing the purchase of long-term care insurance described them very or somewhat well were more likely to purchase long-term care insurance (31 percent of retirees and 28 percent of pre-retirees, compared to 1percent of retirees and 2 percent of pre-retirees who said such a strategy described them not too or not at all well.) Another commonly cited strategy to pay for long-term care was saving (9 percent of retirees and 6 percent of pre-retirees). About 11 percent of retirees and 10 percent of pre-retirees said they had purchased health insurance or looked into purchasing health insurance, which might indicate confusion between long-term care and health insurance products.

Seventeen percent of retirees and 11 percent of pre-retirees thought there was nothing they could do to protect themselves. Thirty-three percent of retirees and 45 percent of pre-retirees said they'd done nothing to prepare. For both retirees and pre-retirees, the likelihood of saying there is nothing they can do increased in relationship to the respondents' household income, household wealth, education and health status.

Similarly, when asked specifically what they were doing to protect themselves against outliving their assets, retirees and pre-retirees fell back on the strategy of reducing spending and saving. Cutting back on spending was a primary strategy for both groups (28 percent of retirees, 25 percent of pre-retirees). Both groups, but particularly pre-retirees, cited increasing savings (8 percent of retirees, 18 percent of pre-retirees) and investing in stocks/stock mutual funds (8 percent of retirees, 17 percent of pre-retirees) were primary strategies. Pre-retirees were likely to indicate). Only 3 percent of retirees and 4 percent of pre-retirees cited the purchase of insurance, and 2 percent of retirees and 3 percent of pre-retirees cited the purchase of annuities.

Fewer retirees and pre-retirees had done nothing or felt there was nothing they could do to prevent outliving their assets. Only 18 percent of retirees and 14 percent of pre-retirees said they had done nothing, and 14 percent of retirees and 11 percent of pre-retirees said there was nothing they could do. Retirees over age 70, with less than $25,000 in household income or less than $25,000 in household wealth were more likely to believe there was nothing they could do. Among pre-retirees, those with household wealth under $25,000 were more likely to believe there was nothing they could do to prevent outliving their assets.

**Phased retirement already exists informally and is likely to continue.**

When asked "which statement comes closest to describing how you retire from your primary occupation," 28 percent of retirees indicated that they had phased into retirement, either by continuing to work for pay part-time or periodically (16 percent), gradually reducing the number of hours worked before stopping completely (7 percent) or continuing to work for pay full-time after retirement (5 percent). Among the 67 retirees surveyed who indicated they phased into retirement, 33 percent worked for a different company, 32 percent worked for the same company at the same job, 25 percent became self-employed and 8 percent worked for the same company but at a different job. Most of these retirees continued to work on a regular basis (52 percent). Only 25 percent worked on a project or as needed basis, 10 percent served as a consultant and 6 percent worked seasonally.

Pre-retirees have much greater expectations of phasing into retirement. Only 41 percent of pre-retirees (versus 71 percent of retirees) plan to stop working all at once. Fifty-seven percent of pre-retirees plan on phasing into retirement, either by continuing to work for pay part-time or periodically (32 percent), gradually reducing the number of hours worked before stopping completely (16 percent) or continuing to work for pay full-time after retirement (9 percent).

**Pre-retirees say they'll retire later, but may be ignoring some harsh realities.**

In a surprising reverse of trend, the pre-retirees surveyed indicated they planned to retire at later ages than the surveyed retirees indicated they had retired. Fifty-one percent of pre-retirees indicate they'll retire at age 65 or later while only 15 percent of retirees actually experienced retiring at age 65 or later (Figure 3, page 13).

Pre-retirees may be ignoring some harsh realities of retirement. When asked what event or situation would occur that would lead pre-retirees to retire at a certain age, 57 percent of them indicated that they would retire at the time of their choosing, such as when they started to receive a pension (18 percent), had enough money to retire (19 percent) or stopped work completely (20 percent). However, when retirees were asked a similar question, only 37 percent listed similar reasons (22 percent stopped working completely, 10 percent started receiving a pension and 5 percent had enough money). Forty percent of retirees indicated that other factors beyond their control caused them to retire, including a health problem or disability (19 percent), the company closed down (11 percent) they were forced into early retirement (5 percent) or a family member had a health problem (5 percent).

More details on the survey can be found on the SOA Web site. The Committee on Post-Retirement Needs and Risks has also prepared two short reports highlighting the results of this survey and the Retirement Preferences Survey (see January 2003 *Pension Section News* for more detail). The short reports are titled "Process of Retirement – Key Findings and Issues" and "Risks of Retirement – Key Findings and Issues." All the information can be found on the SOA Web site on the new PRNR page at *http://www.soa.org/ccm/content/areas-of-practice/special-interest-sections/areas-of-expertise/post-retirement/*. Questions should be addressed to Emily Kessler, staff fellow, Retirement Systems at the Society of Actuaries at *ekessler@soa.org* or (847)706-3530. The survey will also be featured at the 2004 Anaheim Spring Meeting (Session 108PD). ◆

# Considerations for **Discount Rate Selection**

by Arthur L. Conat

Working for an accounting firm, I find late fall and early winter are the peak times during which actuaries at our firm begin to receive calls regarding the selection of a discount rate. These calls often question us regarding the range of discount rates that the auditors would accept. Beacause of the significance of pension expense and related balance sheet disclosure, many clients ask actuaries to help them develop a budget for next year's pension cost well before year-end disclosure. Clients will often seek an actuary's opinion regarding their view of acceptable discount rates. In our current environment, one can anticipate a need to demonstrate the appropriateness of a weighted average discount rate caused by pressure from the users of financial statements. This emphasizes the need for actuaries to understand various approaches to establishing a discount rate, including the use of the yield curve.

## Guidance within FAS 87 and FAS 106

When Statement of Financial Accounting Standards No. 87 (FAS 87) was released, many pension actuaries were concerned that they needed to regularly gather information regarding the "…rates implicit in the current prices of annuity contracts that could be used to effect the settlement of the obligation."[1] Although it was possible to get information regarding annuity quotes, it wasn't very easy. Fortunately another approach to the development of discount rates for FAS 87 calculations was offered. Employers were allowed to look to the "rates of return on high-quality fixed income investments currently available and expected to be available during the period to maturity of the pension benefits.[2]" Paragraphs 195 through 201 of FAS 87 provide insight into the Financial Accounting Standards Board's (FASB's) thought process toward setting discount rates at that time.

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At that time, rates on such investments were still somewhat high, which allowed employers to establish liabilities similar to the ones they were accustomed to seeing in the funding valuations for their plans. Thus, companies may not have pursued the highest available discount rate when first adopting FAS 87. Figure 1 provides a table comparing a few benchmark rates in December 1987, December 1993 and December 2003.

The approach to setting discount rates became clearer in 1990 with the issuance of the Statement of Financial Accounting Standards No. 106 (FAS 106). Employers did not have a significant market to which they could turn to "settle" postretirement benefit liabilities. An approach, outlined in paragraph 186 of FAS 106, identifies the objective of setting a discount rate as being to establish a liability equivalent to an amount that if invested in high-quality fixed income securities would match the benefit payment stream. And, if the maturity dates of the fixed income securities do not extend to the end of the benefit payment stream, rates should be extrapolated from the *yield curve*. A rate developed by this process is called a defeasance rate.

**Figure 1**

| Benchmark Rate | December 1987 | December 1993 | December 2003 |
|---|---|---|---|
| 30-Year Treasury Rate (monthly average) | 9.12% | 6.25% | 5.07%[3] |
| PBGV Vested Liability Rate | 7.16% | 4.97% | 5.12% |
| PBGC Immediate Rate for Lump Sum Payments | 8.25% | 4.25% | 3.25% |
| Moody's AAA (last day of the month) | 10.06% | 7.00% | 5.63% |
| Moody's AA (last day of the month) | 10.26% | 7.21% | 6.01% |

[1] Statement of Financial Accounting Standards No. 87, paragraph 44

[2] Ibid

[3] As developed by the IRS as a substitute for actual issues of 30-year Treasuries

Paragraph 187 of FAS 106 reinforced the use of a defeasance rate for pension plans by indicating that the process for setting discount rates for pension plans and other postretirement benefit plans should be the same. This approach clarified for some the use of the term "effectively settled" from the term "settled" as the former does not include an insurer's risk premium, but rather only the time value of money. While the process is required to be the same, the process may develop a different discount rate for a pension plan than a postretirement benefit plan, even if the covered population is identical.

### Enter the EITF

The FASB's Emerging Issues Task Force or (EITF) was established in 1984 to assist the FASB with identifying and resolving problems or concerns related to financial reporting that stemmed from the implementation of FASB's pronouncements. A member of the FASB has always chaired the EITF. The Task Force is comprised of voting members from accounting firms and industry and has two non-voting observers; one is from the U.S. Securities and Exchange Commission (SEC) and the other from the Accounting Standards Executive Committee (AcSEC). The meetings of the EITF have on occasion been used as a forum for the SEC to make announcements.

By 1993, interest rates had dropped approximately 300 basis points from 1987, when larger companies adopted FAS 87. There was a concern on the part of the SEC that many companies had not followed the spirit of the published guidance in selecting discount rates. On September 22, 1993, Walter P. Schuetze, chief accountant of the SEC, wrote to Timothy S. Lucas, chairman of the EITF, of the intention of the SEC Observer to make an announcement at an EITF meeting on the following day. The announcement declared the SEC's expectation that since rates had declined so precipitously from the prior year (approximately 100 basis points) that discount rates should also drop in step with the economy. The SEC Observer reminded industry of the guidance in paragraph 186 of FAS 106 and further identified that the SEC viewed a high-quality fixed income debt security as one that received one of the two highest ratings from a recognized ratings agency (e.g. Moody's AA or higher).

The EITF released the SEC Observer's comments on September 23, 1993 regarding the selection of discount rates as EITF Topic D-36. On January 11, 1994, James R. Boatsman, a Professional Accounting Fellow and professor at Arizona State University spoke at an AICPA conference on the topic of discount rates. Mr. Boatsman identified the use of the bootstrap method as a means by which one can transform yields to maturity of coupon instruments to comparable yields on zero coupon instruments. In his speech he also identified the problems of using instruments that contained call features; as such features could distort the shape of the yield curve if not handled properly.

Later in 1994, Solomon Brothers (now Citigroup) introduced the Solomon Brothers Pension Discount Curve and Liability Index. This tool was established as a means by which organizations can comply with FASB's and the SEC's guidance on the establishment of a discount rate. These have been available on the Society of Actuaries Web site since 1994, when they were established.

### Evolving Practice

At year-end 1993, many companies engaged actuarial firms to assist with the analysis of bond yields and the establishment of a yield curve to select a discount rate in accordance with the pronouncements. As companies produced their analyses, many actuaries noticed an emerging pattern. The weighted average rate from a defeasance approach produced a rate closely related to the AA Average Corporate Bond Rate published by Moody's Investor Service ("Moody's AA Bond Rate") on the same date of the analysis for a large percentage of companies. Looking at a large number of analyses, the defeasance rate approach averaged a rate of 25 basis points higher than Moody's AA Bond Rate.

Many pension plans cover a group of participants that is relatively stable. The duration of the liabilities for any plan with a stable population would not be expected to change significantly over time, and thus the benchmark of the Moody's AA Bond Rate became the basis for many organizations as a reflection of the rate at which pension benefits could be effectively settled.

**Many pension plans cover a group of participants that is relatively stable.**

### Today's Climate

The collapse of Enron and its auditor Arthur Andersen set the tone for an intensified scrutiny of company practices as they relate to financial reporting. Section 404 of the Sarbanes-Oxley Act established a requirement that public accounting firms test the internal controls of public companies

(continued on page 19)

# Pension Section Council
# **Summary of Activities**

The Pension Section Council met in Coral Gables, Fla. on January 16, 2004. The council also had meetings via conference calls in October and December 2003, as well as February 2004. Following is a summary of the current activities of the Pension Section Council:

- **Research Projects**

  Projects which the Pension Section is currently supporting:
  - A voluntary annuitization project by Moshe Milevsky, which will examine financial issues faced by individuals when they convert lump sum retirement savings balances into ongoing income streams and will provide a software tool that actuaries can use to assess these issues.
  - A project on pre-retirement influences by Linda Smith-Brothers, which will examine the various items that influence an employee's decision to retire.
  - A retirement preferences paper was published in February, and the last issue of the *Pension Section News* contained a synopsis of the paper. The Council is currently reviewing ideas and proposals for further research projects; please contact one of the members if you would like to offer any suggestions for projects to pursue.

- **Pension Forum**

  Three *Pension Forums* are planned for 2004:
  - One will consist of a selection of papers that were presented at the 2003 Vancouver symposium on the application of financial economics to pension plans.
  - Another forum will focus on the yield curve, including one paper on how yield curves are developed and two papers discussing how yield curves may be used in valuing pension liabilities.
  - The third forum will center around Frank Todisco's paper on ASOP 27 and include additional papers regarding in response to Todisco's paper.

- **Spring SOA Meeting in Anaheim/ Seminars**

  The Council is sponsoring 15 sessions at the spring meeting. There will be a jointly sponsored reception during the meeting for the Pension and Health Sections' attendees.

  The Council is also exploring potential topics and timing for future pension-related seminars in 2004/5.

- **Pension Basics Course**

  In response to feedback from a variety of employers, indicating that the course did not play a role in meeting their training needs that could not be met by other available training materials, the Council decided to remove the course from the SOA Web site.

- **Statistics for Employee Benefits Actuaries**

  The statistics have been posted to a separate password protected Web site that is available only to Pension Section Members. Please contact Lois Chinnock at *lchinnock@soa.org* if you are a member and have lost the link and/or password.

- **Retirement Information Web site**

  The Council is exploring the feasibility of developing and supporting a Web site that would provide understandable information to the general public and issues relating to retirement income delivery and security. Information that may be provided would include education regarding the various

(continued on page 17)

**Figure 1**

| | | |
|---|---|---|
| Assets of December 31, 2003 | | $146,000 |
| Anticipated Income | | $113,000 |
| Anticipated Expenses | | |
| | Ongoing Expenses | $40,000 |
| | Ongoing Services to Members | $66,000 |
| | Special Research Projects | $33,000 |
| Expected Assets of December 31, 2004 | | $120,000 |

# Single Life versus Joint and Survivor Pension Payment Options: **How do Married Retirees Choose?**

by Richard W. Johnson

*Richard W. Johnson . Ph.d., is a senior research associate at the Urban Institute in Washington, D.C. He can be reached at rjohnson@ui.urban.org.*

A recent Urban Institute study sponsored by the Pension Section and the Actuarial Foundation examines the election of joint and survivor annuities by married adults. Using data from the Health and Retirement Study, a federally funded survey of older Americans, the research measured the share of married retirees with pension annuities who forego survivor protection and examined the factors influencing their decisions. It also measured the share of retirees whose decisions to forego survivor protection can be justified by its high costs or low benefits, such as the presence of other types of financial protection for the spouse, poor health of the spouse and low income.

The findings largely confirmed with nationally representative data what many actuaries already know from professional experience. Overall, 28 percent of married men and 69 percent of married women opt for single life annuities instead of joint and survivor annuities. Although this choice may jeopardize their spouses' economic security if they become widowed, most married retirees appear to make their pension payout decisions by rationally balancing the costs and benefits of each type of annuity. For example, the authors found that retirees are more likely to reject survivor protection when they have limited pension wealth, they expect to outlive their spouses, their spouses have access to alternative sources of survivor protection and their relationships with their spouses are weak. Only 7 percent of married men and 3 percent of married women reject spousal survivor protection without evidence of potentially compelling reasons. The full report is available on the SOA Web site *(http://www.soa.org/research/single_life.html)*. ◆

**Pension Section Council Summary of Activities• from page 16**

approaches to providing retirement income, the various risks inherent with making decisions about retirement including the time value of money, risk of outliving assets, etc.

- **SOA Governance**
  Several members of the council are participating in ongoing discussions within the Society regarding the governance review and the future organizational structure that will most efficiently meet members' needs.

- **Budget**
  The 2004 budget of the Pension Section is shown in Figure 1 on page 16.

  - The target goal of the Pension Section Council is to reach a level where accumulated assets equal approximately 50 percent of annual income. Consequently, we are exploring additional opportunities to support research and services to members that uphold the guiding principles of the Pension Section Council, keeping in mind the results of the SOA members' survey and feedback from Pension Section members. ◆

Happy Birthday Lois

Lois Chinnock's birthday is celebrated at a meeting of the Pension Section Council in New York.

# 2003 SOA Pension Plan **Turnover Study**

by Emily Kessler

The SOA announces the publication of the 2003 SOA Pension Plan Turnover Study. The study has resulted in the creation of new turnover (termination and retirement) tables for the actuarial valuation of pension plans. The study details the analysis of the data and methods used to develop the tables.

**The study has resulted in the creation of new turnover (termination and retirement) tables for the actuarial valuation of pension plans.**

Key findings from the study include:

- Confirmation that shape of the termination curve is convex rather than concave. This is consistent with other more recent studies of turnover experience but different from the T-tables, which were based on practical experience and intuition.
- Termination rates are highly correlated with both age and service, but vary more by service in the early years.
- Termination rates are slightly higher for females than males at ages 25-55, but this study showed a much smaller difference than in prior studies.

A summary report providing guidance on usage and interpretation of the tables includes five core tables pulled from the full study:

- The Basic Age Table – This table is based on all the data that were not rejected for the study. It includes information for different types of pay (hourly, salaried), employment (union, non-union), plan (final average, career average, flat benefit, hybrid), industry, etc. It shows both termination and retirement rates. Rates are determined by age. Note that while retirement rates are shown in this table, they may be more difficult to apply directly as they represent experience from plans with different early retirement provisions and early retirement subsidies.
- The Basic Service Table – In this table, termination rates are determined by year of service. As for the Basic Age Table, this table is based on all the data that were not rejected for the study and includes information for different types of pay, employment, plan, industry, etc.
- The Select & Ultimate Table – This table shows rates of termination for four service categories by age: Service under two years, Service of two to four years, Service of five to nine years, or Service of 10 years and over. This table is based on all the data that were not rejected for the study and includes information for different types of pay, employment, plan, industry, etc.
- Small (1000 lives or less) Plan Age Table – This table is based on the data for plans with less than 1,000 active participants (68 plans and 82,000 life years). Termination rates are somewhat higher than in the Basic Age Table, and more so at the younger ages. Rates are determined by age.
- Small (1000 lives or less) Plan Service Table – Similar to the Small (1000 lives or less) Plan Age Table, but termination rates are determined by year of service. This table is also based plans with less than 1,000 active participants (68 plans and 82,000 life years). Termination rates are somewhat higher than in the basic service table, until about 20 years of service.

The study was completed by Jed Frees, of the University of Wisconsin and overseen by the SOA's Non-Mortality Decrement Task Force, chaired by Kelley McKeating. Evan Inglis and the Task Force wrote the companion summary report to the full study. In addition, a previously released report describing the database used to create the tables can be referenced for further information on the underlying characteristics of the data. The full report, the summary report and the report describing the database are available at *http://www.soa.org/ ccm/content/research-publications/research-projects/2003-soa-pension/*. Any questions on the study, please contact Steve Siegel at *ssiegel@soa.org* (847) 706-3578 or Emily Kessler at *ekessler@soa.org* (847) 706-3530. ◆

that become the basis for their financial reporting. Equity investments have suffered significant losses and the yields on fixed-income debt instruments have continued to decline.

The issues that comprise the basis for Moody's AA Bond Rate have also changed. The percentage of all issues of at least AA quality has dropped significantly since 1993. Many AA rated bonds have call features that can affect the duration of the bonds. Additionally, the spread between short-term and long-term bonds has widened in the past few years. Thus, the timing of the benefit payments now has a greater impact on the establishment of a discount rate.

### Education Session with the SEC and FASB

On July 14, 2003, an education session was held with the SEC, FASB and representatives from many public accounting and other firms. The session focused on the development of the assumptions used in companies' financial reporting and disclosures. It was an opportunity for all parties to discuss the state of current practice and for the SEC and the FASB to express their viewpoints on the effectiveness of current practice.

The discussion uncovered that some SEC registrants did not maintain adequate documentation for their selection of various assumptions and that the initial explanations for choice of assumptions were many times inadequate. A theme that emerged from the education session was a need for greater documentation of the approach used by employers to select assumptions. The use of Moody's AA Bond Rate as a basis for the selection of the discount rate was specifically explored.

The SEC and FASB were particularly interested in the common practice for the selection of discount rates. They focused on a representation that there were a significant number of companies that were not performing an analysis like the one outlined in EITF Topic D-36. An opinion was offered that a weighted average rate could not be justified without discounting the benefit payment stream to identify the effect of the current market.

The theme of greater documentation is echoed in Section 404 of the Sarbanes-Oxley Act. The assumptions used in the disclosure of pension plans are the employer's assumptions. The rules surrounding the testing of internal controls of SEC registrants are still evolving; many believe that the controls surrounding the selection of the assumptions used in such disclosures will be included in such testing. As such, employers may ask their actuaries to assist them with the construction of the procedures they will follow to regularly select the assumptions used in their financial reporting.

### Upcoming Considerations

The use of a yield curve is gaining popularity as a means to discount a benefit stream. Its use is grounded in the theory that it better replicates all of the underlying components of interest for a variety of payment streams. There does not seem to be a consistent approach to the construction of a yield curve amongst actuaries and other financial professionals. As with other approaches to demonstrating the appropriateness of a discount rate, support for the use of a yield curve should be provided to identify that its construction fulfills the requirements of FAS 87 and FAS 106.

In December 2003, the FASB released Statement of Financial Accounting Standards No. 132 (revised 2003) referred to as ("FAS 132(R)"). FAS 132(R) requires that companies disclose each of the first five fiscal years of anticipated benefit payments immediately following the date of the disclosure and the aggregate total of anticipated benefit payments for the five fiscal years following thereafter. One of the reasons cited for the change was to allow users of financial statements to better understand the time horizon over which benefit payments were made compared to the maturities of the plan's assets.

Users of financial statements want to understand pension accounting better. Many do not understand the levels of cost or liabilities and the manner in which they change from year-to-year. The more that we can do as actuaries to improve the level of transparency of pension accounting, the greater service we are providing to the readers of the financial statements. ◆

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