PENSION SECTION NEWS

NUMBER 40 JUNE 1999

Make Them Laugh!

Chairperson's Corner

by Amy S. Timmons

I'd like to keep my head down and just continue working, but I have a column to write. What to do, what to do, what to do. So many (and yet so few) ideas are revolving in my thoughts—ethics, cash balance plans, Society of Actuaries elections, new opportunities for actuaries, education of pension actuaries, the new exam syllabus… All topics I could spout great wisdom on. (Yeah, right).

Yet I turn to humans a topic that we, as actuaries, seem to be sorely in need of, given the recent articles slamming us on cash balance plans. I also could use a little lightening up, given that I live in Colorado with its recent tragedy. Since I never could remember a joke or its punch line, old ones are as funny to me as new ones. So stop me if you've heard this one... ..

Question:

How many actuaries does it take to screw in a light bulb?

(continued on page 3, column 1)

Excerpts from the PBGC Actuarial Valuation Report—1998 Fiscal Year

Editor's Note: The 1998 Annual Report of the PBGC and the complete 1998 Actuarial Valuation Report, including additional actuarial data tables, are available from Loretta Berg at the PBGC, (202) 326-4040, upon request.

The 1998 Annual Report of the Pension Benefit Guaranty Corporation (PBGC) contains a summary of the results of the September 30, 1998, actuarial valuation. The purpose of this separate Actuarial Valuation Report is to provide greater detail on 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 the 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, 1998, consisted of:

- $10.90 billion for the 2,655 plans that have terminated
- $3.31 billion for 26 probable terminations

Liabilities for "probable terminations" reflected reasonable estimates of the losses for plans that are likely to terminate in a future year. 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 9 to the financial statements on page 37 of PBGC's 1998 Annual Report. A discussion of PBGC's potential claims and net financial condition over the next ten years is presented on pages 11-13 of that report.

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In This Issue

PENSION SECTION NEWS
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This newsletter is free to Section members.
A subscription is $15.00 for nonmembers.
Current-year issues are available from the
Communications Department and are on the
SOA website (*www.soa.org*).
Back issues of Section newsletters have been
placed in the Society library.
Photocopies of back issues may be requested for a
nominal fee.

IACA Meeting in Year 2000 Slated for Hershey, PA

The next biennial meeting of the International Association of Consulting Actuaries will take place June 4 - 8, 2000, at the Hotel Hershey in Hershey, Pennsylvania. The picturesque home of the famous chocolate factory was selected by the U.S. delegation, headed by Ron Walker (IACA chairman), Dudley Funnell (secretary-treasurer), and council members Jay Jaffe, Martha Moeller, and Conrad Siegel. The last two meetings were held in Gleneagles, Scotland, and Cape Town, South Africa.

This will be Hershey's first actuarial meeting, and the IACA could not have chosen better. Located amid the rolling farmland of Derry Township, Hershey is an easy day's drive for a significant percentage of all actuaries (U.S. and Canadian). The world-famous Hotel Hershey, which overlooks the chocolate factory, is an ideal meeting place. There are five local golf courses, one of which, as well as the hotel tennis courts, is a short walk away. Within an hour's drive are Gettysburg, Amish country, and the beautiful state capitol at Harrisburg. There is also extensive discount outlet shopping nearby—an especially attractive proposition, since Pennsylvania has no sales tax on clothing.

Most important, of course, is the professional program, which will be invaluable to insurance and benefit consultants and forensic, or expert witness, actuaries. With the globalization of business, even small-firm actuaries must increasingly become aware of the developing international accounting rules affecting pension and insurance matters. The IACA meeting is the perfect venue for adding to one's knowledge base. And because social events will be priced separately from the professional meetings, attendance need not be costly.

Joining the IACA is inexpensive as well. Dues are now only US $25 per year, reduced from US $55. Actuaries from the United States must have three years' consulting experience, as well as Fellowship in the Society of Actuaries, the Casualty Actuary Society, the British Institute or Scottish Faculty, or the Conference of Consulting Actuaries. And if, as expected, IACA affiliates with the International Actuarial Association, any IAA member may become an IACA member simply by paying the $25 annual dues.

Joining is easy. Write to Dudley Funnell for an application at:

Dudley Funnell
IACA Secretary-Treasurer
1421 Strada D'Argento
Venice, Florida 34292
USA

Phone: (941) 485-1922
Fax: (941) 486-1191
E-mail *funnell@home.com*

And mark June 4 - 8, 2000, on your calendars!

Chairperson's Column

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Answer:

How many did it take last year? The year before that?

Three actuaries are target shooting. The first misses long, the second misses short. The third actuary jumps up and yells, "Bulls eye!"

Actuaries are flexible, they are either right, or can prove it to be so.

She was only an actuary's daughter…but she knew her surrender value.

Two people are flying in a hot air balloon and realize they are lost. They see a person on the ground, so they yell to him, "Can you tell us where we're at? We're lost." The person on the ground replies, "You're in a hot air balloon, about 200 feet off the ground." One of the people in the balloon replies to the person on the ground, "You must be an actuary. You gave us information that is accurate, but completely useless."

Question:

What is the difference between an introverted actuary and an extroverted actuary?

Answer:

An introverted actuary stares at his own feet during a conversation, while an extroverted one stares at the other person's feet. (A personal favorite of a client of mine).

Actuaries are people who skipped the first six grades of school when all the other kids were learning short words.

An actuary is someone who'd rather be completely wrong than approximately right.

An actuary is a person who passes as an expert on the basis of a prolific ability to produce an infinite variety of incomprehensive figures calculated with micrometric precision from the vaguest of assumptions based on debatable evidence from inconclusive data derived by persons of questionable reliability for the sole purpose of confusing an already hopelessly befuddled group of persons who never read the statistics anyway. (WHEW!)

Question:

What did God say when he created actuaries?

Answer:

Go figure! And they took it literally.

A consulting actuary is a person who, when asked what time it is, tells you how to build a watch.

Old actuaries never die, they just get broken down by age and sex.

There are three kinds of actuaries. Those who can count and those who can't.

An actuary is someone who expects everyone to be dead on time.

Question:

How much is 2 plus 2?

Answers:

Marketing vice president: "22," Accountant: "4," Mathematician: "I can demonstrate it equals 4 with the following proof," Actuary: "What do you want it to equal?"

Question:

What's the difference between a lotto player and an actuary?

Answer:

A lotto player will sometimes get the numbers correct.

You can take all the actuaries in the world and put them end to end, and they still won't reach agreement.

Watching an actuary give a speech is a little like watching a dog play checkers. He can't do it very well, but it's kind of interesting to watch him try.

An actuary is a person who immediately sees the difficult way of doing something.

An actuary is a person who never makes a little mistake.

Give an actuary an inch and she'll measure it.

You can always tell an actuary, but not much.

An actuary is a place where they bury dead actors.

An actuary is a person who uses highly precise methods to go from unwarranted assumptions to foregone conclusions.

An actuary designed a new coverage "Senility Insurance." She expected low claims because, "if you remember that you have a policy, it is proof that you are not senile."

A long one, but good one: Driving to a meeting, a motorist was taking a short cut along a narrow road through the mountains of England. His Jaguar slowed almost to a halt behind a large flock of sheep. "I shall be late now," he thought. Then he recalled his promise to his wife that he would buy a present for their young son's birthday at a store in the town he was now bypassing. He also thought of the height of the grass in his backyard, and he called out to the shepherd, "I say, if I can tell you inside one minute exactly how many sheep you have in your flock, would you give me one of them?" The shepherd smiled to himself. "All right then," he said. The motorist got out his calculator, pushed some buttons, and before the minute was up announced, "Six hundred and eighty-five." The shepherd was amazed. "You've done it!" he exclaimed. The motorist took hold of the smallest animal he could see and pushed it into his car. Just then, the shepherd asked him, "If I can guess your profession, would you give the animal back to me?" "Yes, okay, that's fair. Why not? You can have half a minute," replied the motorist. Back came the instant reply, "You're an actuary." Open-mouthed, the actuary gasped, "How did you guess?" The shepherd answered, "Easy. You took the dog."

OK, most of these you have probably heard at least once but they should have still made you smile. After all, if we can't laugh at ourselves…. My thanks (and apologies) to everyone who answered my call for jokes. Contrary to popular belief, actuaries do have a sense of humor and some make it a hobby to collect actuarial jokes. Sure made it an easy column for me to write. Now back to work because people worry when actuaries smile too much.

Amy S. Timmons, FSA, is consulting actuary at The Segal Company in Englewood, CO, and Chairperson of the Pension Section.

Excerpts from the PBGC Actuarial Valuation Report—1998 Fiscal Year

continued from page 1

For the multi-employer program, the liability as of September 30, 1998, consisted of:

- $6 million for 10 pension plans that terminated before passage of the Multi-Employer Pension Plan Amendments Act (MPPAA) and of which the corporation is trustee.
- $389 million for probable and estimable post-MPPAA losses due to financial assistance to 48 multi-employer pension plans that were, or were 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 derived by using an assumed underlying mortality basis and current annuity purchase prices. The interest rates so determined for the 1998 valuation were 5.70% for the fist 25 years after the valuation date and 5.50% thereafter. For the 1997 valuation, the interest rates were 6.20% the first 25 years and 5.50% thereafter. These interest rates are dependent upon PBGC's mortality assumption. However, this mortality remained unchanged from FY 1997 to FY 1998. (see next paragraph).

For 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 Tables (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. Thus, the mortality table used for healthy lives in the 1998 valuation is the 1994 Group Annuity Mortality Static Table (with margins), set forward two years, projected 12 years to 2006 using Scale AA. (Unchanged from FY 1997). The 12 years recognizes the 4 years from 1994 to 1998 plus the eight year duration of the 9/30/97 liabilities. The 1997 assumption also incorporated a 12 year projection, determined as the sum of the three years from 1994 to 1997, and the nine year duration of the 9/30/96 liabilities. Additional data was collected in FY 1998 and the model reviewed. Since the results of incorporating the new data into the model would not yield significantly different overall results, the formula remained unchanged for the FY 1998 valuation.

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 SPARRs calculated for FY 1994 (7.04%) and for FY 1995 (7.22%). The SPARRs for subsequent years are assumed to equal the FY 1995 SPARR.

Efforts continued into 1998 to improve the quality of the seriatim data. In addition, changes were made to improve the quality of the seriatim data. In addition, changes were made to improve the accuracy, speed, and auditability of the calculations as well as to integrate with the evolving PBGC computer environment. Special achievements in FY 1998 included extensive testing to insure Year 2000 compatibility and the implementation of a more efficient database system.

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, 1998.

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 estimate of anticipated experience under these programs.

Joan M. Weiss, FSA
Chief Valuation Actuary
Pension Benefit Guaranty Corporation
Washington, D.C.
April 5, 1999

ACTUARIAL ASSUMPTIONS

	Current Valuation as of 9/30/98	Previous Valuation as of 9/30/98
Interest Rate	Select and Ultimate • 6.2% for 25 years • 5.5% thereafter	Select and Ultimate • 5.7% for 25 years • 5.75% thereafter
Mortality • Healthy Lives	• 1994 Group Annuity Mortality Static Table (with margins), set forward two years, projected 12 years to 2006 using Scale AA	Same (but see discussion)
• Disabled Lives Not Receiving Social Security	• Healthy Lives Table set forward three years	
• Disabled Lives Receiving Social Security	• 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.	
SPARR	Actual SPARR for fiscal years for which it has been calculated. The most recent actual SPARR is assumed for years for which the calculation is not yet completed (most recent SPARR: FY 1993 = 7.44%). See Table 2B for values.	Actual SPARR for fiscal years for which it has been calculated. The most recent actual SPARR is assumed for years for which the calculation is not yet completed (most recent SPARR: FY 1995 = 7.22%). See Table 2B for values.
Retirement Ages	Same	(a) Earliest possible for shutdown companies. (b) Expected retirement age (XRA) tables from 29 CFR 4044 for ongoing companies (c) Participants past XRA are assumed to be in pay status. (d) Unlocated participants past normal retirement age (NRA) are phased out over three years to reflect lower liklihood of payment.
Expenses	All terminated plans and single-employer probable terminations: 1.30% of the liability for benefits plus additional reserves as shown in Table 2C for cases where plan asset determinations, participant database audits, and actuarial valuations were not complete.	Same

Social Security Paper Notice

There is presently a great deal of debate about approaches to the financing of Social Security benefits. The Committee on Social Security-Retirement and Disability Income has written a paper, "Social Security, Productivity, and Demographics," intended for actuaries to focus their attention on the fundamental economic reality that the capacity of any social security system is ultimately determined by the output of the nation's economy.

The paper appeared in the "Perspectives" column of the April 1999 edition of *The North American Actuarial Journal*, (Volume 3, Number 2).

Pension Section Council Meeting—Monday, October 5, 1998, at Boston Marriott Long Wharf Hotel, Boston

Attendees:

Daniel Arnold
Bruce Cadenhead
Colin England
Adrien LaBombarde
Lindsay Malkiewich
Martha Moeller
Sylvia Pozezanac
Lee Trad
Amy Viener
Carolyn Zimmerman
Judy Anderson
and Lois Chinnock (SOA staff)

1. Welcome

2. Additional Items for Agenda Seminars

3. Approval of Minutes, July 13, 1998 meeting

The minutes of the July 13, 1998 meeting were approved.

4. Election of Officers

The following officers were elected:
Chair - Amy Timmons
Vice-Chair - Colin England
Treasurer - Lindsay Malkiewich
Secretary - Sylvia Pozezanac

5. Membership Survey Results

A brief overview of the membership survey results was given. Adrien LaBombarde is to write an article summarizing survey responses for the *Pension Section* Newsletter. Responses will also be posted on the SOA Website —Adrien LaBombarde and Lois Chinnock to look into.

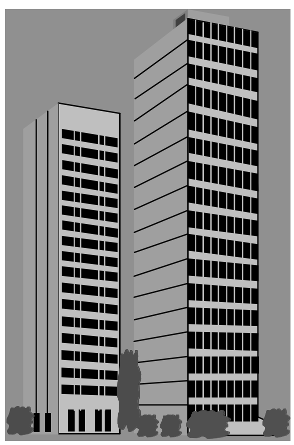
A suggestion was made that a list of pension study notes also be published in the *Pension Section* newsletter. Concerns were expressed that this would be a long list. Judy Anderson will compile a list.

6. Retirement Systems Practice Advancement Committee—Report

This group includes the chair of the Pension Section Council and liaisons from the Academy and CIA. The chair of each Retirement Systems Committee is automatically a member.

Carol Zimmerman attended the meeting. Some of the high points discussed were gap analysis, and new skills needed and the need for seminars/classes regarding the new exam structure. Kevin Shand is coordinating these new classes; a question was posed as to whether someone on the Pension Section Council would be interested in getting involved.

Seminars - A question was posed as to whether the Pension Section would be interested in sponsoring a seminar. The Section would not have to bear the financial risk. A discussion ensued regarding holding these as a teleconference. A comment was made that a one-day seminar costs as much as the three-day spring meeting, so 50 people attending would break even. A further comment was made that seminars could be more cost effective if they were easily repeated: CD-ROM, video, detailed notes.



Joint Board Exams - The EA exams are being restructured; the SOA exams are also being changed. Currently, the SOA offsets EA-1B (cost methods). The SOA would like the Joint Board to offset EA-1A (theory of interest/life contingencies) but it may be difficult to convince the Joint Board. The SOA will continue sponsoring EA exams even though they give no SOA credits. A question was posed as to what would help to convince the Joint Board to give the offset: proposed response, a letter from employers.

7. Retirement Systems Practice Area Update

The area is interested in encouraging better communication between groups. Neil Parmenter would like Section support for the SOA annual meeting in the fall of 1999 in San Francisco; the SOA 50th anni-versary. He needs help developing the program and getting speakers. A comment was made that some time ago, the Pension Section had decided not to get involved in the fall SOA annual meeting. The Section will volunteer to repeat some of the spring 1999 meeting sessions.

8. 1999 Spring Meeting—Sessions Topics

The 1999 Spring Meeting will be held in Seattle June 16 to 18. There will be three tracks. The Pension Section must plan for/organize 16 to 18 sessions.

Practice Area suggestions:

1. GATT mortality study - Lindsay Malkiewich to draft description
2. ASB update - Lindsay Malkiewich
3. Asset valuation method - Lee Trad & Judy Anderson
4. Social Security (2 sessions) - Judy Anderson
5. Retirement Needs Framework (2 sessions) - Colin England

Seminar

6. Plan design (6 sessions) - Bruce Cadenhead & Martha Moeller
   I. Introduction
      a. Changing Environment
      b. Retirement Needs
      c. Competition
      d. DC vs. DB vs. CB
   II. Actuarial and legal considerations
   III. Employer perspectives
   IV. Employee perspectives
   V. Case Study
   VI. Compare/Contrast
      a. U.S.
      b. Canada
      c. Other(s)

Other General Sessions

- Update of Regulations - Adrien LaBombarde
- Changes in Benefits Accounting Rules: U.S., Canada, IAS - Lee Trad
- Ethics - Lee Trad
- Surplus Management:
  i) case studies
  ii) US vs. Canada - Carol Zimmerman
- Information Resources for Pension Actuary - Adrien LaBombarde & Judy Anderson
- Section 415 issues - Amy Viener
- Special-interest dinners - It was suggested that this did not really work in Hawaii and therefore a question was posed as to whether we wanted to hold one at the 1999 spring meeting. It was decided that no such dinner would be held by the Pension Section.
- Reception - At the Hawaii meeting, a reception was held on Tuesday night jointly with the Health Section. If we wanted to again hold a reception at the spring 1999 meeting the choices would be:
  - Luncheon - Thursday
  - Breakfast - Thursday or Friday
  - Reception - Thursday

It was decided that the Pension Section would hold a 4-6pm activity on Thursday or a luncheon on Thursday.

9. Publications - Pension Section Newsletter, Forum, 50th anniversary SOA

Daniel Arnold gave a brief overview of publication guidelines. The Section publishes the newsletter and *Pension Forum*. Also, we publish annually highlights of the PBGC, trustee reports featuring actuarial assumptions. The next issue of the newsletter will have a "Study Note Corner" and the last page is always education. There are also associate editors for special issues in Spanish and French.

The newsletter basically publishes the material that is sent in by individuals, provided such material is sent in by an actuary. Nothing special is being done from the Pension Section Council regarding the SOA's 50th Anniversary. Daniel Arnold was informed of the upcoming articles regarding the membership survey results and the list of pension study notes. The next issue of the newsletter is the October one while the following one will be the December issue.

10. 1999 Spring Meeting—Drafting session descriptions

11. Treasurer's Report

The Section's financial statements were presented by Martha Moeller. The estimated year-end 1998 results indicate a cash fund balance of $51,000. However, certain elements will likely change and the year-end balance could actually be 60,000 to $65,000.

12. Pension Boot Camp—(CD-ROM)

This will be a program to train entry-level actuaries. The final program will likely be a CD-ROM. Three people requested material regarding the request for proposal. At least one proposal has been received.

13. Research/Funding

Current projects for which the Section has/will provide funding: Canadian mortality ($3,320), multivariate mortality study ($10,000) and retirement needs framework ($2,500).

14. New Business—Next Meeting

The next meeting of the Pension Section Council will be Monday, January 11, 1999, in New York; the following meeting will be March 14, 1999 in Washington.

15. Adjournment

Respectfully submitted,
Sylvia Pozezanac

Conference Awards Announcements

The Conference Planning Committee for the Retirement Needs Framework Call for Papers and Conference, held December 10-11 in Orlando, Florida, is pleased to announce the prizes awarded:

- First Prize: Eric Stallard for his paper on "Projecting Acute & Long-Term Care Expenditures."
- Honorable Mention: Bruce Jones for his paper on "Financial Modeling Needs." Moshe Milevsky and Chris Robinson for their paper on "Ruin Probabilities, Asian Options and Life Annuities."
- Special Recognition: Robert L. Brown for his paper on "Phased Retirement."

Raymond Murphy for his paper on "Modeling Retiree Investment Risk." John Piggott and Suzanne Doyle for their paper on "Annuity Payout Options."

The Planning Committee would like to thank all participants for submitting papers. The conference, and all contributions to it, will give actuaries and other professionals a more comprehensive understanding of the complex issues related to retirement needs. A monograph with the papers and discussions will be available later this year. If you have any questions, contact Cathy Cimo *ccimo@soa.org*.

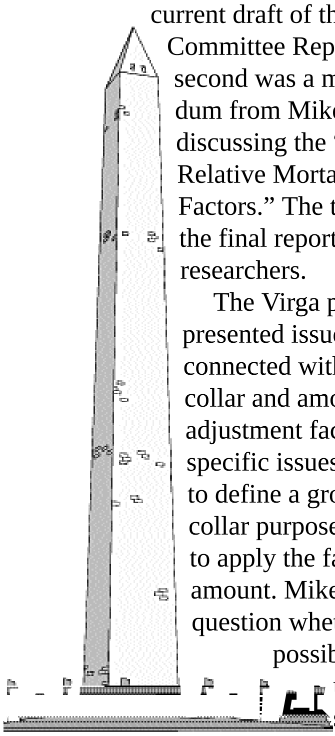
Retirement Plans Experience Committee— Minutes of November 12, 1998, Meeting in Washington, D.C.

Attendees: Mike Virga
Kevin Binder
John Kalnberg
Ed Hustead
Diane Storm
Vince Amoroso
Bart Prien
Greg Schlappich
Lindsay Malkiewich
Tom Edwalds

Absent: Julie Pope

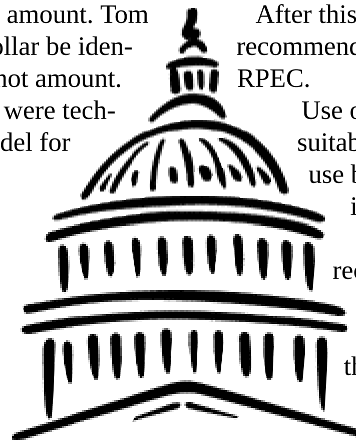
Observers: Larry Pinzur
Judy Anderson
Dave Gustafson

The committee had been provided with three papers for review. One was the current draft of the Committee Report. The second was a memorandum from Mike Virga discussing the "Uses of Relative Mortality Factors." The third was the final report from the researchers.



The Virga paper presented issues connected with using collar and amount adjustment factors. The specific issues were how to define a group for collar purposes and how to apply the factors for amount. Mike stated "I question whether it is possible to come up with a simple, practical, non-controversial method of adjusting mortality based on amount of annuity, even though it is clear that mortality does depend strongly on amount."

The chair called for a motion on how to conclude Chapter 5 on the differences in mortality by collar and amount. Tom Edwalds proposed that collar be identified as a difference but not amount. His reason was that there were technical problems with a model for amount.



Judy Anderson and Vince Amoroso agreed with Tom's proposal.

Ed Hustead disagreed on the basis that we found significant differences in both and should report on those differences.

Some of the participants argued that amount should not be used because (1) the amount category for an individual could vary over time, (2) it would be difficult for an actuary to determine which variation of the amount adjustment to use for a particular plan and (3) we had no analysis to support the use of amount for employees.

Dave Gustafson stated that, in his opinion, if the committee were to find two factors to be suitable for adjustment but could only come up with a way to use one, then the government would not use the one adjustment factor.

The arguments raised by other members for recommending consideration of both measures were that (1) since both collar and amount clearly showed predictive differences, it would not be reasonable to suggest only one measure as an indicator of differences in mortality and (2) amount variations predict even greater mortality fluctuations than collar differences. These members noted that the researchers agreed that both collar and amount were predictors of significant differences in mortality but the researchers were "led to conclude that there is not enough pattern in the data to allow for a single model that can be used on a day-to-day basis by a working actuary."

After this discussion, the following recommendation was adopted by the RPEC.

Use of either collar or amount is suitable but actuaries should not use both because they are not independent.

Six members voted for the recommendation, one opposed, and one abstained.

Another major issue was the use of the approximation method from Appendix G of the UP-94 paper. Mike Virga will examine the data and statement to see if we can strengthen the case for use of that approximation method.

Members will provide additional comments by November 23. Tom Edwalds will incorporate these in a final draft to be distributed to RPEC members by mid-December. Unless there are significant problems with that draft, it will be provided to the Committee on Retire-ment Systems Research for initial reaction.

The next, and probably final, meeting of the committee will be on January 20, 1999, at Kevin Binder's office in Washington to review the final draft of the paper. The committee plans to send the final report forward in February 1999. This should allow sufficient time for an Exposure Draft to be distributed to actuaries in the fall of 1999.

Respectfully Submitted,
Edwin Hustead
2/2/99

Pension Section Council Meeting Minutes from Friday, January 29, 1999, at the Segal Company, New York

Attendees: Bruce Cadenhead, Colin England, Adrien LaBombarde, Sylvia Pozezanac, Lee Trad, Amy Timmons and Lois Chinnock (SOA Staff) and Ethan Kra (SOA Board Member)

Welcome/Additional Items for Agenda
No additional items.

Approval of Minutes, October 5, 1998 Meeting
The minutes of the meeting were approved with one minor change.

Membership Survey Review
General discussion of membership survey results. Some key points of responses:

- Several comments made that there should be more Canadian content in the publications.
- Membership expects the Pension Section Council (91% of respondents) to have input on exam syllabus.

Several questions were raised for consideration. Should the Pension Section Council get more involved in the examination process? How would the Section Council accomplish this, taking into consideration that this is the responsibility of the Education and Examination committee? How would the Section Council get involved early enough in the process?

Amy Timmons suggested an article in the newsletter outlining the coming changes to the Enrolled Actuary examination process and where members can comment. Bruce Cadenhead will look into this.

A similar article should be written to communicate the changes to the SOA syllabus and provide information as to where members can provide their comments. Amy Timmons will contact the SOA to write an article regarding the transition process. Sylvia Pozezanac will contact the CIA to obtain similar information regarding the new and transition requirements. The various publications were also briefly discussed.

It was agreed that survey responses must be appropriately addressed. Ethan Kra discussed with the Pension Section Council what various councils have wanted to accomplish over the years, and asked what the present council wished to accomplish over the coming year. The priorities for the current council are to address education issues, to be aware of membership expectations, and to provide training for new actuaries.

Treasurer's Report
The treasurer's report was presented by Lois Chinnock, in the absence of Lindsay Malkiewich.

Third quarter 1998 expenses bring the Section's expenses for year-to-date 1998 to $51,997. Fourth quarter 1998 expenses are estimated to be $21,800; this is only a preliminary figure.

Expenses paid for in December 1998 include $2,500 that the Section had committed to the Retirement Needs Framework Conference. With respect to this conference, Judy Anderson felt that it was successful and will likely be break-even from a financial standpoint. There will be monograph of the conference material. Lois Chinnock will get the number of attendees.

It was commented that the *Pension Forum,* which is published once or twice per year is quite a big expense: $4,200 for printing and $4,900 for postage.

Ethan Kra commented that the Section should expect SOA administrative charges to increase.

It is expected that the Pension Section fund balance should be approximately $70,000 as of December 31, 1998.

Proposal for Pension Basics Course
Two proposals were received for this project. There was also an inquiry by a third person. The strongest proposal was received from Adrien LaBombarde and Milliman & Robertson, Inc.

Adrien LaBombarde is a Pension Section Council member. A discussion ensued regarding any potential conflict that Adrien may have as a council member and as a contractor. The council saw benefits to this.

Colin England expressed concerns regarding the following:
(a) Adrien LaBombarde is almost entirely involved in research and is no longer practicing as much; and
(b) The preliminary outline appears very legally oriented.

Colin England will look at providing Adrien LaBombarde copies of material used in the PBCG training he is involved with. All Section members should ask their own firm if they would share some training material with the Pension Section.

Amy Timmons proposed that we approve the proposal by Adrien LaBombarde and Milliman & Robertson. Collin England seconded. A vote was taken and the proposal was approved.

The key dates outlined in the original proposal were revised as the first one had now passed. They are now:

- Outline submitted: March 1, 1999
- Penultimate draft submitted: June 1, 1999
- Final draft submitted: September 1, 1999

The work product during development will be on a private Web site for Pension Section Council members to look at and review.

Discussed possible distribution of product and possible pricing. This is to be reviewed at a later date.

Seminars
"Lost Art of Estimation," two seminars; New York and Chicago. It was commented that the Pension Section Council had approved a $10,000 investment for this seminar.

(continued on page 10, column 1)

Pension Section Council Meeting Minutes, January 29, 1999

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Brochures will be mailed in early February. The two sessions will be held at the end of March.

Some concerns expressed regarding the approval process for this seminar.

The last Investment Boot Camp was done in September 1996. The Investment Boot Camp 2 has never been done.

Amy Timmons could not recall whether the September 1996 seminar was financially successful.

More information is needed in order for the Pension Section Council to make a decision on whether to proceed with this seminar. Section will be provided with agenda, financial summary and evaluations of the September 1996 seminar.

Pension Publications

- Next newsletter should be published around February 9, 1999.

A suggestion was made that the newsletter be mailed electronically instead of on paper. Lois Chinnock to look into what would administratively be required to do this.

It was commented that the Practice Area's minutes are published in the newsletter at no charge.

Pension Forum went out in October 1998. There is no regular schedule as is the case for the newsletter. A suggestion was made as to perhaps the mailing of *Forum* could coincide with another mailing to reduce postage charges.

Employee Benefits Statistics due out in April 1999. Judy Anderson is missing certain tables. Adrien LaBombarde to provide assistance.

Research/Funding Requests

A funding proposal for the Indexing of the SOA library was made to all Section chairpersons. Curtis Huntington is spearheading this.

Amy Timmons believes that this project will benefit the membership; indexing is very valuable to do searches.

Amy Timmons proposed that we tentatively allocate $2,500 to this project. This was approved. The Section may possibly provide further funds; another vote will be taken at the March meeting.

A filmmaker is proposing to do a video documentary on the history of ERISA and is requesting funding. This proposal had previously been turned down by the Pension Section Council.

Due to other budget priorities, the Section will decline funding.

"GATT Mortality Study - Update"

The draft report is completed. Lindsay Malkiewich will bring it at the March meeting.

Macro demographic study for the 12 different models—Joe Anderson is preparing the report.

Judy Anderson needs the Pension Section Council's support to help collect information for the research call for papers.

Spring Meeting Update

The Spring meeting booklet is being mailed around March 1.

The recruiting efforts are going well; ¾ of the sessions are completely recruited.

The Pension Section will be co-sponsoring a reception that will consist of desserts served from 8:30 pm - 9:30 pm. The cost will be shared one-third Pension Section and two-thirds Health and Welfare Section.

Meeting of Council of Section Chairperson

Amy Timmons attended. She reported that different sections are facing different issues. A few of the topics discussed were:

- Coordination of meetings of actuarial organizations—Is there a possibility to achieve better coordination, both in terms of times and content, of meetings of actuarial organizations?
- 50th SOA Anniversary Meeting—San Francisco, October 17 -20, 1999. The SOA will be preparing a monograph. The Pension Section has submitted a few articles to be included in the SOA's but will not be preparing its own monograph.

E&E Update

Course 8—Sample examination is close to completion.

Practice Area Update

The Joint Board is considering giving credit for EAI-A for SOA credits.

Actuarial asset method research sessions will be held at the spring and annual meetings.

Committee Reports

None to report.

New Business/Next Meeting

- No new business to report.
- Next Meeting - Sunday, March 14, 1999: Breakfast 8:00 a.m.
  Meeting 8:30 a.m.
  Wardman Park Marriott
- Items to discuss:
  - First draft of CD-ROM
  - Revisit funding of SOA Library Indexing
  - Revisit Investment Boot Camp 2

Adjournment

Respectfully submitted,
Sylvia Pozezanac F.S.A., F.C.I.A.

IACA Meets, Reduces Dues 55%

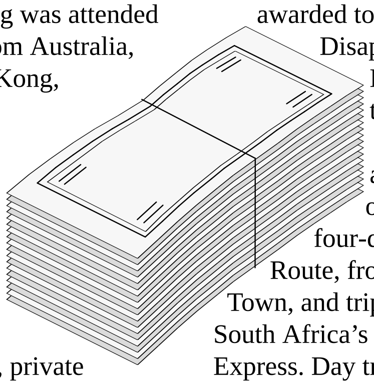
At the April 1998 biennial meeting of the International Association of Consulting Actuaries in Cape Town, South Africa, the organization's committee—its governing board—agreed to reduce annual IACA dues 55%, from US $55 (or its non-US-currency equivalent) to US $25. The reduction reflects the financial health of the IACA treasury, and is designed to encourage more consulting actuaries to join the IACA and participate in its conferences.

The committee also approved the next biennial meeting, to be held June 4 - 8, 2000, in Hershey, Pennsylvania.

The Cape Town meeting was attended by consulting actuaries from Australia, Canada, China and Hong Kong, Germany, India, Mexico, Netherlands, Philippines, South Africa, United Kingdom, United States, and Zimbabwe. National reports from each location covered the current status of government, finances, social insurance, pensions, private insurance, and the actuarial profession.

Professional papers were presented on the following subjects:

- Forensic litigation testimony in the UK and Ireland
- Trends in actuarial software
- The death of Confederation Life
- The actuary's role in certifying U.S. life insurance marketplace standards
- A survey of FAS 87 assumptions
- The role of the state in pensions
- Assumptions in local government pension plans
- Utility theory in defined contribution investment selection
- The new international accounting standards for pension plans.



The £500 prize for the best paper was awarded to "Avoiding Disappointment in Investment Manager Selection," by the UK's Roger Urwin.

The social calendar was as full as the professional one. Events included a four-day trip along the Garden Route, from Port Elizabeth to Cape Town, and trips on the "Blue Train," South Africa's equivalent of the Orient Express. Day trips to the Cape of Good Hope and Robben Island (site of Nelson Mandela's 17-year prison ordeal) were equally absorbing. And many of the conferees used the occasion of a visit to southern Africa to view game drives in Botswana, Kruger Park, and Kenya, and to admire Zimbabwe's Victoria Falls.

Back at the meeting, Ron Walker of the U.S., was elected chairman; Rudd Sprenkels, of The Netherlands was elected vice chairman in charge of arranging the 2002 meeting in Europe. Dudley Funnell of the U.S., continues as secretary-treasurer. Newly elected representatives from the U.S. include Jay M. Jaffe, an insurance consultant, and Martha Moeller, a pension consultant. Conrad Siegel, a health and pensions specialist, continues as a U.S. representative.

Papers to Note

by Judy Anderson

Deficits have been projected for the U.S. Social Security system in the near future, largely as a result of changing demographics. Policymakers and the news media, have been highlighting a variety of remedies, including radical changes in the structure of the system and investment of social security funds. The book *Prospects for Social Security Reform* contains papers discussing potential policy issues, methods to assess the status of the system and practical considerations in reforming the current system. The papers, 18 in total, cover a wide spectrum of topics: from a new perspective on a money's-worth analysis to stochastic simulation for policy decisions; from the opinions of the public to the effects on employers that sponsor pension plans. The book is edited by Olivia Mitchell, Robert Myers and Howard Young, and published by the Pension Research Council, University of Pennsylvania Press, 800-445-9880 or *http://prc. wharton.upenn.edu/prc/ prc.html.*

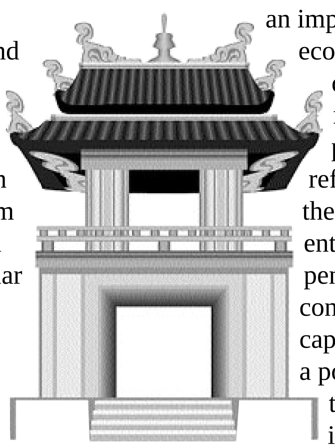
Pension Reform in China

by Yves Guerard, Shu Yen Liu and Bruce Moore

Editor's Note: This article is a reprint of February 1999 article in International Section News.

China is a large, diverse, developing country with a very high rate of economic growth. Its record of reform and development over the last two decades has been one of the best—if not the best —in the world. Since the beginning of the market-based reforms in 1978, China has enjoyed strong economic growth, averaging 12% for the five-year period ending in 1995, slowing recently to about 8%.

China, however, faces a number of serious issues in its development. The rapid growth has widened the rift between rich and poor. Issues related to the effect of the rapid aging of the Chinese society on pensions and health care are a high priority of the government. Almost unique among the low-income countries, China has an extensive social security system for its urban workers, a system which is facing problems similar to those faced by the high-income countries.



With two decades of pro-natalist policies in the Mao era followed by two decades of "one-child" policy, China's demographic profile is particularly distorted. The baby boomers of the 1950s and 1960s will join the pool of pensioners in 2010-2020 precisely when the labor force growth, and thus the growth in pension contributions, will be slowing down dramatically as a result of the one-child policy. The percentage of population 65 and older will double by 2025, reaching about 12%, only marginally lower than the same percentage for the United States, Canada and other developed countries. Thus China will have an old-age problem similar to the developed countries, while it will still be a middle-income country without the resources of a developed country.

On top of this demographic burden, China has a challenge to reform state-owned enterprises, which is linked with its pension system. State enterprise reform is a national priority, but implementing it requires a social safety net for employees whose pensions had been provided by the state-owned enterprises.

The Chinese government recognized this need, and in July 1997 mandated the introduction of a new unified pension system. In 1998, the government combined the Ministry of Labor with other parts of the government concerned with pensions to form a new Ministry of Labor and Social Security (MOLSS), with the clear mandate to implement the new social insurance system.

Pension reform will contribute in an important way to overall economic reform. First, by delinking enterprise management from pension provisions, these reforms will help accelerate the reform of state-owned enterprises (SOEs). Second, pension reform will contribute to development of capital markets and provide a pool of long-term savings that can help finance infrastructural development. Third, these reforms would contribute to social and political stability by providing financial security to current pensioners and those close to retirement, many of whom are facing hardships and uncertainties about the future.

China Pension System Benefits, Contributions and Pooling—Current State

By late 1998, substantial progress had been made in implementing the new pension system. Some adjustments or clarifications to State Council Document 26 had been made in this process of implementation. Basic decisions on covered workers, contribution and benefit levels, transition rules and pooling of funds have been reached. Progress in these areas is described in more detail below.

Covered Workforce

Prior to the new reforms, only urban workers of state-owned enterprises were covered. The reforms brought workers of private and collective enterprises, other than agricultural workers, into the system. Thus, the expansion in coverage applied to 1995 data would increase the number of covered employed persons from about 110 million to over 300 million.

Benefits Overview

Employees of state-owned enterprises were already covered under existing fairly generous benefit programs. Before 1998, pension benefits were about 75% of final salary. After retirement, the pension is generally indexed in accordance with increases in average wages although some plans will use inflation. Benefits are not subject to income tax, and are not subject to income or means testing.

New benefits rules will apply under the new pension program for retirees after the transition date. The new pension system features:

- A new three-component pension approach
- An extension of the coverage to other than urban SOE employees
- The transfer of the pension assets and liabilities from the enterprises to the new provincial social pools

The main components of the new system are described below.

Pillar I Defined Benefits

Pillar I provides a defined benefit component generally set at 20% of the average wage for the last calendar year for each province. This benefit is indexed to average wage increases, by virtue of the benefit formula. These benefits are only paid if the worker has contributed for at least 15 years.

Benefits are payable at age 60 for

Table 1

Total Population	1995	1996
Urban Areas	351.7	359.5
Rural Areas	859.5	864.4
Total	***1211.2***	***1223.9***

Total Number of Employed	1995	1996
Urban Areas	190.9	198.1
Rural Areas	488.5	490.3
Total	***679.4***	***688.4***

Number of Employed	1995	1996
Urban Areas		
State Owned Units	112.6	112.4
Urban Collective Owned Units	31.5	30.0
Other Types of Ownership	8.9	9.7
Private Enterprises	4.9	6.2
Individuals	15.6	17.1
Not Categorized	17.4	22.7
Rural Areas		
Township and Village Enterprises	128.6	135.1
Private Enterprises	4.7	5.5
Individuals	30.5	33.1
Not Categorized	324.7	316.6

(Source: China Statistical Yearbook, 1997, in millions)

men, at age 55 for women who held management positions and at age 50 for other women. Benefits will not vary based on marital status or dependents. After death of the retired employee, there are no death benefits to spouses or dependents. Early retirement is only permitted in special instances authorized by the government policy.

Employer contributions to fund these benefits plus the transition benefits (see Table 2 on page 12) generally start at a rate of 13% of wages in 1998, increasing by 1% every two years to reach 17% in 2006. Contributions are paid into, and benefits are paid from, the provincial social pools.

Individual Account Benefits

Individual account benefits are based on mandatory individual account accumulations representing a portion of the contributions from the enterprise attributed to the employee's individual notional account plus a percentage of wages contributed by the employees. Combined contribution rates are currently equal to 11% of wages, 7% from employer contributions and 4% from employee contributions. In the future, the employer rate of contribution will decrease by 1% and the employee rate will increase by 1% every two years until the ultimate level of 3% from employer and 8% from employee is reached in 2006.

Interest is credited on the accounts at the bank rate of interest, which in recent years has represented a real rate of return close to zero.

Account balances are annuitized at retirement by simply dividing the accumulated value of the individual account, including accrued interest, by 120. This factor does not vary by age at retirement or marital or dependency status. Benefits are guaranteed for life, with a 10-year certain period (but there is no other spousal or dependent benefits beyond that 10 years). The benefits are indexed for wage inflation. After the accounts are exhausted, benefits are paid from the provincial social pool.

Account balances are not available prior to retirement in the case of disability, unemployment, other hardship, or any other reasons except death. Nor are the accounts available to be borrowed, or pledged as collateral for loans. In the event of death, individual benefits and accumulated interest are paid to the beneficiaries. Accumulated employer contributions are transferred at death to the provincial social pool.

Supplementary Pensions

Benefits under the prior programs will only partially be replaced by Pillar I defined benefits and the individual account benefits, even after time has allowed the account balances to accumulate. Consequently, supplementary pensions will be made available on a commercial basis for those who wish to supplement the pension income arising from mandatory contributions. These supplementary pensions will be voluntary; they may be provided through employer-based or individually purchased programs.

Transition Benefits

For employees earning pension rights under the old system and current retirees, a transition plan is necessary to ensure adequate benefits and fairness. Those currently retired will receive the same benefits that are currently being paid to them, with future indexation for wage increases, drawn from the provincial social pool. Employees who were working under the old system and who reach retirement under the new pension system will receive the full benefits of the new system plus an additional transition benefit, the formula for which varies by province.

As an example, one province provides 2% of salary per year of service up to 20 years, plus 1% of salary for each additional year up to a maximum of 35%, for each year of service prior to 1998. These percentages are applied to the weighted indexed earnings for 1992-1997, and the benefit is indexed for future wage increases.

In some cases, employees covered under the prior special industry plans for 11 industries had somewhat more

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Pension Reform in China

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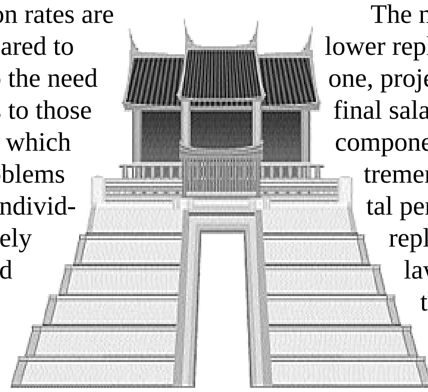
generous benefits. In those cases, the benefit levels (and sometimes also contribution rates) will be graded from those higher levels into these new provincial plan levels over a few years.

Pooling

All provinces are expected to move to provincial pooling of contributions and benefits by 1999. The previously separate special industry plans have had their separate provincial asset pools added to the SOE pension funds. Contributions are paid into these pools, and benefits paid from them at the local level. The enterprises have no legal liability for benefits, beyond paying their contributions. There are some provisions for transfers to provinces where current contributions cannot cover benefit obligations.

Issues Still to be Addressed

While the broad framework for pension reforms has been determined, there are still a number of issues to address, including the difficult problem of the current unfunded liabilities. For several provinces or municipalities, the mandated employer contribution rates are not enough to meet the needs of pensioners. For the newly covered sectors such as township and village enterprises, employer contribution rates are relatively high compared to their benefits (due to the need to fund the liabilities to those previously covered), which may create some problems in compliance. The individual accounts are largely notional accounts and the pension system may face problems when the payments become due on these accounts.



The contribution and benefit levels in general do not reflect rigorous actuarial analysis, and much further testing must be done. The impact of the benefit scheme and of the transition plans on various sectors of the society must be further evaluated.

The system also requires a lot of details for implemention—new legislation, regulations and regulatory processes, and administrative and management information systems. Along with this, a massive amount of training to adapt to the new system is needed.

The new system provides much lower replacement rates than the old one, projected to be around 50% of final salary for the mandatory components combined. There is a tremendous need for supplemental pension plans to raise the replacement ratios. The new law provides for introducing those, but the system for doing that needs to be defined from scratch. Given the high savings rates in China, the potential long-term market there is huge.

Finally, capital market reform will need to be continued to provide investment returns that can make these benefit and contribution levels balance. Earlier World Bank studies suggested that a real return of 0% would fall far short, while a real return of 3% would likely suffice. The growth of supplemental pensions could fuel the growth of capital markets. In addition, some government officials advocate that the mandatory individual accounts eventually be moved to privately managed employer-based plans, which could add tremendously to the growth of private capital markets.

Table 2

	Employer Contribution to Social Pool	Employer Contribution to Individual Accounts	Individual Contributions	**TOTAL**
1998	13%	7%	4%	24%
2000	14%	6%	5%	25%
2002	15%	5%	6%	26%
2004	16%	4%	7%	27%
2006	17%	3%	8%	28%

(Source: China Statistical Yearbook, 1997, in millions)

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Is the New CPI Different? Implications for Pension Plans

by Todd Rutley

Editor's Note: This article is a reprint of a March 1999 article in Risks & Rewards, the Investment Section newsletter.

Changes to the CPI calculation methodology used by the Department of Labor have reduced the measured CPI rate by an estimated 0.7% over the 1995-99 period and other changes are being considered that could further reduce the CPI. The cumulative impact of these changes will reduce the CPI in the year 2000 by up to 1% relative to the pre-1995 methodology. Changes to the CPI methodology raise the following questions:

- Does the CPI accurately measure inflation?
- Will the change in methodology affect the economy?
- Will wage increases continue to track the CPI as they have in the past or will they exceed the new CPI as employees realize that the new CPI does not reflect their cost of living?
- Will bond yields be affected by the change in inflation methodology?
- Do CPI changes reduce the usefulness of "real" return numbers calculated by subtracting the CPI from nominal return data?
- Should Nominal Returns be used in investment analysis, rather than Real Returns?

Does the CPI Accurately Measure Inflation?

The December 1995 report of the United States Senate Finance Committee's Commission on the Consumer Price Index (the Boskin Commission) stated that the U.S. CPI was an upwardly biased measure of the cost of living that most likely exaggerated inflation by 1.1 percentage points a year. The conclusion of the Boskin Commission has been supported by numerous other studies, including those by Federal Reserve Board Economists (see references). The old CPI methodology was faulted for many reasons including:

- ***Substitution bias.*** Fixed CPI consumption weights measure average prices not volume-weighted selling prices. This assumes that consumer demand is price-inelastic (i.e. it does not change when apples fall in price and oranges rise in price). This is important in an era of constant sales that makes the "real" price difficult to determine (this applies to food, retail, hotel, airlines, gasoline and other prices that change frequently).
- ***New product bias.*** Fixed CPI consumption weights are slow to adapt to changing consumption patterns which ignore new products and product substitutes (e.g., PCs and VCRs were not in the index until 1987).
- ***Quality change bias.*** The prior CPI methodology does not consistently reflect the difference between simple price increases and quality improvements. This is difficult to measure.
- ***Outlet bias.*** The fixed CPI methodology does not quickly account for the consumer benefit resulting from changes in distribution channels.

For the reasons cited above, it was clear that the CPI overstated inflation in 1995. The degree of upward bias estimated by the Boskin report will be largely eliminated by the changes that are scheduled to take effect by the year 2000. Although the stated objective of the methodology change is to reduce the bias in the CPI measurement, it may make inflation even harder to estimate. Rapidly changing prices and distribution channels could result in very wide price dispersion for the same product over a short period of time.

Summary of Recent CPI Index Methodological Changes

1/1/1998—Updating of CPI basket to 1993-95 consumption patterns and decision to update more frequently in the future than in the past.

1/1/1998—Updating of CPI component classifications to reduce substitution bias.
1/1/1999—Adoption of geometric mean calculation to reduce substitution bias.

The result of the recent and planned changes to the CPI is that the pre-1995 and post-2000 CPI series will not be based on the same methodology. Therefore, historical inflation and real return data may not be comparable to future inflation and real return data. This has serious implications for investors interested in real returns.

The Effect on the Economy

The Consumer Price Index is used to adjust Social Security benefits and to adjust the income brackets for the U.S. income tax. Changes in the methodology could have a significant effect on government income and expense. A methodology change that reduces the calculated CPI will reduce future increases in Social Security benefits and reduce future bracket increases for tax calculations. Both effects will either increase the federal budget surplus or reduce any budget deficit, compared to no change in CPI methodology. A higher budget surplus would likely result in reduced government borrowing and lower government bond yields. These effects could significantly impact a broad spectrum of the public: Social Security beneficiaries, taxpayers, and investors.

The CPI and Wages

Aggregate wage inflation generally exceeds CPI inflation by a small increment that is attributed to productivity increase. This real wage increase is typically estimated at about 0.50%. This is based on the average relationship over the 1950-97 period. Chart 1 on page 7 of February 1999 of *Risks & Rewards* shows this relationship over the 1981-1996 period for the private sector labor force.

The historical relationship between the CPI and wage increases suggests that wages typically track the CPI fairly closely. However, this relationship may weaken in the future for several

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Is the New CPI Different? Implications for Pension Plans

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reasons. First, CPI changes caused by methodological changes will reduce the measured rate of inflation and the average employee's acceptance of this measure. That is, employees and unions may have come to accept the CPI as a benchmark measure for pay increases because it had a built-in real wage increase due to the price measurement bias. Second, the relative importance of the CPI mismeasurement is high now that inflation is only about 1.5%-2.0% (i.e., the mismeasurement may account for 1/3 of reported inflation). Third, the labor force is becoming increasing "bi-polar" as the gap between high and low wage workers increases due to changes in productivity. As a result, high skill workers may have average wage increases far higher than the rate for low skill workers. All of these factors suggest that the reliability of the CPI as a benchmark for wage increases may diminish.

The Impact of CPI Changes on Bond Yields

The long-term impact of CPI changes on bond yields is unclear. On one hand, the increase in government budget surplus will tend to reduce government bond yields. On the other hand, it is uncertain whether investors' inflationary expectations will change and, if so, whether bond yields would decline more than justified by changes in the budget surplus alone. For example, if the federal government suddenly announced that, starting tomorrow, the official CPI calculation would be arbitrarily reduced 1%, it is unlikely that government bond yields would immediately drop 1%. Investors would presumably realize that an arbitrary change in the measurement of inflation would not truly affect their personal purchasing power and would not reduce their required yield for government bonds. If the methodology change were gradual and not perceived to be arbitrary, investors might adopt new inflationary expectations and reduce their required yield.

With respect to the suggested methodology change, the government is introducing the change on a low-key, gradual basis, and there have been no published suggestions that the change is arbitrary. Therefore, the expectation is that the methodology change will act to reduce government bond yields over the long-term.

The Impact of CPI Changes on Real Investment Returns

The current changes in the CPI methodology may increase prospective real returns, depending on how capital markets react. For example, if interest rates do not decrease in line with lower calculated CPI, real stock and bond returns will be higher. Conversely, if real bond yields decline, this may lead to a decline in the required return on equity and higher equity valuation ratios (this appears to have happened over the last two years in the equity market).

The current revisions to the CPI indicate that historical inflation has been overstated with the result that both real returns and real economic growth over the last 25 years of relatively high inflation have been understated. This has important implications for investors because it reduces the reliability of historical data.

Are Nominal Returns a Better Measure of Investment Performance than "Real" Returns?

The relevance and accuracy of real investment return calculations depend both on the selection of an appropriate measure of inflation and also on an accurate calculation of inflation. The analysis above indicates that the CPI is an inaccurate measure of consumer price inflation, which suggests that it is also an inaccurate adjustment measure to determine the real return on investment capital. This indicates that the CPI should be compared with other measures of inflation, including the GDP price deflator and the producer price index, in order to evaluate whether one of these measures would be a better measure of inflation for investment purposes.

The current changes to the CPI indicate that the CPI is not a consistent price measure over time and that pre-1995 and post-1995 real return comparisons for either investments or economic growth may be invalid. For these reasons, nominal returns appear to be a better measure of future investment performance than real returns using the consumer price index.

Todd Rutley, CFA, is an investment consultant at Towers Perrin in Philadelphia, PA.

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SOA Asset Valuation Method Survey Results

by Jim Paterson & Larry Pinzur

In 1998, the Society's Committee of Retirement Systems Research conducted a survey of asset valuation methods used in valuations of defined benefit plans. For this purpose, asset valuation methods were classified into four groups and nine specific methods, as follows:

- Fair market value (1 method)
- Discounted cash flow (1 method)
- Book value (3 methods: cost, amortized, contract)
- Smoothed value (4 methods: blend of cost and market, write-up, deferred recognition, average market).

Pension actuaries who are members of the Society were surveyed and asked to provide details on the asset valuation methods used on each pension plan they valued, and some details about the plan, its investment mix and other related information. Approximately 6,000 questionnaires were mailed out and responses for a total of 9,983 plans were returned. Out of those responses, 9,670 were determined to be complete and consistent enough to be included in the study. This total included 9,026 U.S. plans (about 13% of all U.S. plans), 612 Canadian plans (about 9% of all Canadian plans), and 32 other plans.

The following table summarizes the relative frequency of asset valuation methods for the four categories listed above, shown separately by country and size of plan. 'Small" plans are defined to be those with less than 100 participants. The percentages shown indicate relative frequency for all plans in the respective columns. For example, 65.3% of all small plans in the United States use fair market value.

The survey found that fair market value is the most frequently used method, especially for smaller plans (smaller by both participant count and assets). Discounted cash flow is very rarely used in either country.

Book value methods are used considerably more frequently in the United States than in Canada. In the United States, this category is dominated by contract value, a method that is not used at all in Canada. In both countries, cost value is used more frequently with government plans than with other plans.

Smoothed value methods account for 17% of plans in the U.S. and 25% of plans in Canada. Among the smoothed methods, write-up is the most frequently

Asset Valuation Method Relative Frequency

	U.S.		Canada	
	Small Plans	**Large Plans**	**Small Plans**	**Large Plans**
Number of Responses[1]	5,799	3,168	274	311
Asset Valuation Group				
Fair Market Value	65.3%	48.6%	90.5%	47.3%
Discounted Cash Flow	0.0%	0.1%	0.0%	0.3%
Book Value	27.8%	13.9%	1.1%	4.5%
Smoothed Value	6.9%	36.4%	8.0%	42.1%
Other (including combination of methods)	0.1%	1.0%	0.4%	5.8%

¹ Excludes 59 U.S. plan responses and 27 Canadian plan responses that failed to indicate the number of participants covered.

(continued on page 18, column 1)

SOA Asset Valuation Method Survey Results

continued from page 17

used in the United States, and deferred recognition is the most frequently used in Canada. Some other findings related to smoothed value methods include:

- Five years is the most common smoothing period in both countries.
- Most U.S. plans use a corridor of 80% to 120% of fair market value; most Canadian plans use no corridor.
- Most U.S. plans using the write-up method use a write-up rate equal to the rate used to discount the liabilities, and make an adjustment to the preliminary value equal to a fixed percentage of the difference between fair market value and the preliminary value.
- In both countries, a majority of plans using the deferred recognition and average market value methods base the smoothing on either all investment experience in excess of an assumed rate or all realized and unrealized capital gains.
- The deferred recognition method is used more by pay-related plans than non-pay-related plans in the United States and less by pay-related plans than nonpay-related plans in Canada.
- In both the United States and Canada, collectively bargained plans use smoothed methods more frequently (and fair market value less frequently) than non-bargained plans.
- In the United States, most new asset methods are adopted on a prospective basis, whereas in Canada, prior asset experience (usually including up to five years' worth) is typically reflected.
- During the period from 1988 through 1996, plan assets were "marked to market" sparingly in the United States (a low of 0.3% of all plans in 1989 to a high of 2.6% of all plans in 1996) and very rarely in Canada.

This survey represents the first phase of a two-phase research project. The objectives of the second phase are to fine-tune the classification system presented in this study, compare and contrast key characteristics of the various asset valuation methods, and assess each asset valuation method's effectiveness in achieving particular financial objectives.

The report is available on *www.soa.org*, the Society of Actuaries website. It is also available from the Society of Actuaries Book Department for $10. Contact Beverly Haynes; (847) 706-3590; *bhaynes @soa.org.*

The phase two call for papers is also available, online at *www.soa.org.* Jim Paterson is at Paterson Pension Management Inc. in North Vancouver, B.C. Larry Pinzur is a principal at Hewitt Associates LLC at Bridgewater, N.J., and Chair of the Committee on Retirement Systems Research. You can also contact Cathy Cimo at the Society office: (847) 706-3587; *ccimo@soa.org.*

A Paper to Note

by Marilyn Oliver

Anyone interested in methods of projecting mortality improvement will find the book *Mortality on the Move* by B. Benjamin and A.S. Soliman interesting and useful. It starts with a brief analysis of historic patterns and causes of mortality improvement in the UK and the outlook for the future. The remainder of the book explores various methods of deriving rates of mortality improvement from past experience—including the logarithmic, logic, and cause of death methods and methods involving the projection of the parameters of curves fitted to historical mortality data. Each method is explained clearly, then used to derive a 1981 mortality table based on historic experience. The book finishes with a comparison of the results of the projections with observed 1981 mortality rates and by deriving 2001 mortality tables using each of the projection methods.

Mortality on the Move, ISBN Number: 0 952 0098 0 3, may be ordered directly from the Actuarial Education Service, Napier House, 4 Worcester Street, Oxford, OX1 2AW.

Marilyn Oliver is principal at Oliver Consulting in Sausalito, Calif.

Web Discussions

The following section represents the wide range of information available on the SOA Website (www.soa.org) available 24 hours a day, 7 days a week. It was located online in the Discussion Forum Section. The messages printed in this newsletter are from actuaries sharing tips and information.

There are several topics under Pension Section, which currently includes conversations between members regarding various issues. Here's a list of topics found on the site, which currently includes Active threads from the last 14 days ending June 8, 1999:

- Social Security and Ferraris
  (4 messages)
- Crediting Rates for Cash Balance Plans
  (9 messages)
- Cash Balance Plans - Normal Retirement
  (1 message)
- Cash Balance Plans - Funding Methods
  (12 messages)
- Judge's Decision
  (5 messages)
- Defined Benefit pensions in large companies
  (14 messages)
- Contributory plans
  (17 messages)
- Social Security
  (1 message)
- New Roundtables on Social Security Issues
  (1 message)

Articles Needed for the *News*

Your help and participation are 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 a 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 committee, and so on. If you would like to submit an article or be an Associate Editor, please call Dan Arnold, 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.

***News* is published quarterly as follows:**

Publication Date	**Submission Deadline**
February	January 10
June	May 10
September	August 10
December	November 10

Preferred Format

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

Mail both a diskette and a hard copy of your article. We are able to convert most PC-compatible software packages. Headlines are typed upper and lower case. Carriage returns are put in only at the end of paragraphs. The right-hand margin is not justified.

If this is not clear or you must submit in another manner, please call Joe Adduci, 847-706-3548, at the Society of Actuaries for help.

Please send original hard of article and diskette to:

Joe Adduci
Society of Actuaries
475 N. Martingale Road
Suite 800
Schaumburg, IL 60173-2226
e-mail: jadduci@soa.org

Please send a copy of article (hard copy only) to:

Daniel M. Arnold, FSA
Hooker & Holcombe, Inc.
65 LaSalle Road
West Hartford, CT 06107
Phone: 860-521-8400; Fax: 860-521-3742
E-mail: *danarnold@csi.com*

Thank you for your help.

May 1 Announcements

...Joint Board for the Enrollment of Actuaries

May 1, 1999

At this time the Joint Board is still receiving inquiries from a number of actuaries who have not yet received their notices of re-enrollment. They have asked how they are to sign the Schedule B (and other government forms requiring an enrolled actuary's signature) that will be dated May 1, 1999 or later.

The Board today restated its position that an enrolled actuary currently having a "96-" prefix to his/her enrollment number is not permitted to use the "99-" prefix until such time as the notice of re-enrollment has actually been received. The use of the "96-" prefix is currently permitted up to April 30, 1999. By this announcement an enrolled actuary may use the "96-" prefix after April 30, 1999, for an additional three-month period, provided he/she has satisfied the requirements for re-enrollment including (1) having earned the required continuing professional education credits, (2) having filed the application for re-enrollment, and (3) having paid the re-enrollment fee.

Service Centers of the Internal Revenue Service have agreed to accept any of the forms mentioned in the first paragraph that are signed by an enrolled actuary using the "96-" prefix, provided the signature date is not later than July 31, 1999.

Paulette Tino, Chairman
Joint Board for the Enrollment of Actuaries

v v v

May 1, 1999

The Board today announced revised rules relative to the waiver of Segment A of its basic (EA-1) examination to be given in 2000 and its sequel, the EA-1 examination to be given in 2001 and thereafter.

The Board stated that beginning in 2000 it would grant waiver of this examination to any person who has received credit from the Society of Actuaries for examinations 2 and 3 of the Society's new examination program which will be initiated in 2000.

The Board also clarified its position regarding the waiver of this examination on account of completed academic work. The Board stated that a waiver would be granted to any person who had (i) received a bachelor's degree from an accredited institution, and (ii) completed the Board's required courses through a combination of undergraduate and graduate education, provided that the graduate credits were obtained as part of a degree program even if the applicant for waiver did not actually receive a degree.

Paulette Tino, Chairman
Joint Board for the Enrollment of Actuaries

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Academy of Actuary Release

May 6, 1999

Give Employees Meaningful Information When Pensions Are Changed to Cash Balance Plans, Says Actuary

WASHINGTON, D.C.—Employees should be given meaningful information about their pension plans when employers switch from one type of plan to another, Ron Gebhardtsbauer of the American Academy of Actuaries stated today.

Some employers are converting traditional defined benefit plans to cash balance plans, which typically allow younger workers to take a larger benefit with them when changing jobs. However, some older employees could see reduced future benefits, often without understanding the significance of the reduction. Congress is considering legislation to require disclosure of the financial impact whenever a traditional pension plan is converted to a cash balance plan.

Certain basic principles should underlie disclosure rules, according to Gebhardtsbauer. “Information for employees should be clear and understandable,” he said. “The financial impact of pension changes should be explained, and employees should know if a change is expected to reduce their future benefits.”

Finding the right method for disclosure is key. “Two methods could be describing the changes to affected employees or calculating benefits for a hypothetical group of affected employees,” said Gebhardtsbauer. “In either case, employees could ask for more examples or be provided relevant information about their specific situation.”

Disclosure rules should protect all employees, not just those in cash balance plans. “Future benefit reductions can also result from conversion to defined contribution and 401(k) plans, so it is unfair to single out cash balance plans for disclosure rules,” said Gebhardtsbauer. “If disclosure is required only for cash balance conversions, employers will have incentive to switch to defined contribution plans or 401(k) arrangements.”

“In addition, employers may avoid disclosure by terminating all pension plans and starting up a new arrangement several months later,” Gebhardtsbauer continued. “Thus, comparisons may need to be required for all future reductions, no matter the type of plan or if the start-up of the new plan is delayed.” Gebhardtsbauer made his comments in testimony to the Department of Labor ERISA Advisory Council.

The American Academy of Actuaries is the nonpartisan public policy organization for the U.S. actuarial profession. The Academy provides independent analysis to elected officials and regulators, maintains professional standards for all actuaries, and communicates the value of actuarial work to the media and public.

SOA Continuing Eduction

by Barb Choyke

The 1999 annual meeting is being held in San Francisco October 17-20, 1999. It is the 50th Anniversary Celebration for the Society of Actuaries and in addition to picking up 540 core/ noncore minutes or at least 10 hours of EA credit, you can enjoy pension topics in the historical, "hot topics" or executive tracks. There are some special pension topics you might want to consider as well such as "Reopening the Great Debate: ERISA"; a three part session.

Since this is the first year in the EA enrollment cycle, now is an excellent time to catch up on tracking your credit. Please feel free to use the worksheet in this mailing, or download it from the SOA Web site: *www.soa.org.* Whatever you use, do remember to keep outlines/ handouts and brochures in a file marked 1999-2001 EA CE.

Here is a listing of the Pension topics that will be offered at the 50th Anniversary Annual Meeting.

Monday, October 18

10:30 - 12:00 pm #9 PD
Two Score and Ten Years of Pensions (90 min NC)

10:30 - 12:00 pm #10 PD
What's It Worth To You? (Asset Valuation Methods) (90 min C)

2:00 - 3:30 pm #39 PD
Dial 10-10-GATT for Pension Plan Mortality (90 min C)

Tuesday, October 19

8:00 - 9:30 am #63 PD
Actuarial Expert Testimony (90 min NC)

8:00 - 9:30 am #64 D
Reopening the Great Debate: ERISA Plan Design (90 min NC)

10:00 - 11:30 am #84 PD Social Security - Then and Now (90 min NC)

10:00 - 11:30 am #85 D
Reopening the Great Debate: ERISA Plan Design (90 min NC)

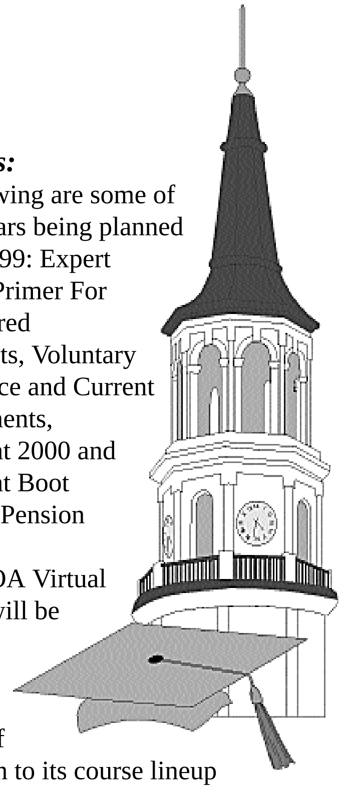
2:00 - 3:30 pm #107 PD
Multi-employer Pension Plan Topics (90 min C)

2:00 - 3:30 pm #108 D
Reopening the Great Debate: ERISA Plan Design (90 min NC)

Wednesday, October 20

8:00 - 9:30 am #132
PD Cash Balance Plans (90 min C/NC)

8:00 - 9:30 am #133 PD
Public Pension Plan Focus
(90 min NC)



Seminars:

The following are some of the seminars being planned for fall 1999: Expert Witness, Primer For Newly Hired Consultants, Voluntary Compliance and Current Developments, Retirement 2000 and Investment Boot Camp for Pension Actuaries.

The SOA Virtual Campus will be adding Hybrid Plans and The Art of Estimation to its course lineup with several other topics to follow.

For a detailed look at the CE programs, please see the SOA Web site under seminars located at *www.soa.org* or call the CE department at (847) 706-3516 or (847) 706-3545.

An Enrolled Actuaries CE Form
SAMPLE

Name of Program	# of Minutes	Core / NonCore	Date	Location

Speakers and Fees

Announced for 50th Anniversary Celebration

by Cecilia Green, SOA Director of Integrated Communication

Plan now to attend this special meeting, October 17-20, 1999, at the San Francisco Marriott, downtown at 55 Fourth Street. Call now to reserve your room for what is sure to be a sell out: 415/896-1600.

The outstanding program includes:

- Keynote speakers William J. Bennett, Ph.D. and Gov. Mario Cuomo, UNICEF Deputy Executive Director Stephen Lewis, and Gen. H. Norman Schwarzkopf
- Outstanding speakers in a full range of continuing education sessions
- 50th Anniversary Gala Dinner (black tie optional) with legendary entertainer Tony Bennett

Registration fees are:

- Members of actuarial organizations worldwide:
  $800 for early bird registration (before 9/17/99)
  $850 for late registration
- Nonmembers:
  $950 for early bird registration
  $1,000 for late registration
- Retired members of actuarial organizations worldwide:
  $250 for early bird or late registration
- Guests/spouses:
  $150 for early bird or late registration
  Includes 3 continental breakfasts, opening and closing general sessions, Exhibit Hall, Monday evening reception, Gala dinner

These events are being supported by our eight Platinum 50th Anniversary Sponsors:

- Equitable Life
- Ernst & Young LLP
- LAI Worldwide
- Lincoln Financial Group
- William M. Mercer
- Milliman & Robertson, Inc.
- Swiss Re Life & Health
- Towers Perrin
- Plus 41 other Gold, Silver, and Bronze sponsors.

Visit *www.soa.org* for more information on the 50th Anniversary Celebration.

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