



SOCIETY OF ACTUARIES

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## Research papers for Fellowship credit

by Rich Lambert

**T**he Education and Examination Research Paper Committee recently awarded 30 Fellowship credits to Daniel Dufresne for his paper, "Some Aspects of FASB Statement 87." This is the eighth such paper approved for Fellowship credit under this FEM (Future Education Methods) program.

The paper's abstract states: The goal of the proposed research is to study some of the implications of FASB Statement 87 on (defined benefit) pension plan expense. Two particular aspects will be looked at: 1) the effects of the variability of the discount rate and 2) the "corridor" approach to gains and losses amortization. The subject will be studied mathematically and with the help of computer simulations.

Copies of Dufresne's paper are on file in the Society library.

The committee thanks Arnold Shapiro and Eric Lofgren who refereed this paper and acknowledges Lucien Pouliot, who served as Dufresne's supervisor and provided the committee with reviews.

Students interested in the Research Paper program should consult Appendix 2 of the Fellowship catalog. Applications for Research Papers can be obtained from the Society of Actuaries office.

Richard Lambert is vice president and associate actuary at Prudential Insurance Company of America and the Chairperson of the Research Paper Committee.

### Fractals video available

"Dynamics of Change," the videotape produced for the SOA 1992 Washington, D.C., annual meeting is now available. The video modules show how fractals and chaos theory could become scientific tools for the actuarial profession. To order, mail a \$20 check to Society of Actuaries, Books Department, P.O. Box 95668, Chicago, IL 60694. Canadian orders must include 7% GST. Orders from outside North America must include a 50% surcharge.

## The consulting response to the '90s

by James R. Thompson

**A**ctuarial consulting is entering a new and challenging era in the 1990s. Because consulting serves the life and health insurance industry, that industry's trends should be examined.

### Downsizing

Actuarial employment has been shrinking. Layoffs (or the corporate euphemism — downsizing) of experienced employees, combined with increasing numbers of entry-level people, contribute to the discouraging employment situation. Many layoffs in the insurance industry and other industries are due to corporate mergers and to management's cost-cutting measures as corporations pay attention to the "bottom line." National statistics show this is a white-collar recession.

Actuaries who cannot enter a consulting environment and who cannot find traditional actuarial jobs will have to find employment in a related industry or in another capacity within the industry. A common trend is to bifurcate the actuarial function into the valuation and product areas, placing the product actuary in the marketing area and the valuation actuary in the financial area. Often the actuary becomes a subordinate person, but many actuaries are marketing officers and chief financial officers.

If layoffs have been efficient, no extra work is generated for the consulting community. If companies have over-estimated their downsizing, the consulting community can gain.

### Computers

Computer developments, especially personal computers (PCs), have affected the old employment hierarchy. Previously, an actuarial manager delegated much of the "number crunching" to the actuarial students working their way up the examination ladder, ultimately hoping to be managers themselves. This situation still exists to some extent.

The expanded memory capacity, faster speed of PCs, and the increasingly sophisticated commercially

available software packages, however, enable a smaller professional staff to accomplish both the project management and the "number crunching." An actuarial staff properly trained in PCs can accomplish more than before. Thus, some of the downsizing may be efficient and permanent.

### Outsourcing

It is useful to compare the health and life insurance industry with national trends in other industries. Layoffs and mergers have occurred in many industries. Outsourcing, or using temporaries or consultants, is increasing. Agencies arranging for temporary employment are growing in numbers. In some industries, like the automotive industry, outsourcing has been around for a long time, known as "subcontracting." Outsourcing can mean contracting with consultants or actually hiring them on a temporary basis to come into a company to do the work.

### Consultants and flexibility

Companies must be flexible to adapt to the '90s. Consultants have always had one strength — their flexibility. By handling problems for many companies, they can provide insights and help others without the long learning curve that an internal staff has when it "reinvents the wheel."

Consultants spend much of their time learning about new developments, so they can anticipate their clients' needs. This is in line with the Society's continuing education goals and with national trends in continuing education in other professions. Consultants can profit from the continuing education efforts and quickly convert their knowledge into action.

Because of the emphasis on software in solving problems, some consultants specialize in the production of software; others specialize in its use. Some do both. Software helps with the complex problems we have had to face — cash flow testing, corporate projections, FASB 97.

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# RESEARCH CORNER

- ▶ The Society has released the Credit Risk Study's preliminary results for private placement bonds, and more detailed analyses are being prepared. Preliminary results for commercial mortgages will be available soon. Seminars on the Credit Risk Study are planned for April 13 in San Diego, May 5 in Boston, and June 16 in Quebec.
- ▶ The Universal Life persistency study has begun with a recent organizational and planning meeting with cosponsor Life Insurance Marketing and Research Association.
- ▶ The Catastrophic Claims Data Base Project has attracted several data contributors and is in the final stages of selecting a research team. A monograph on the possible application of fuzzy set logic to actuarial science is now available from SOA Books and Publications, 708-706-3526.
- ▶ The Actuarial Education and Research Fund is holding its annual individual grants competition.
- ▶ The 28th Actuarial Research Conference is August 19-21, 1993, at the University of Wisconsin - Madison in honor of Professor James C. Hickman.

## Consulting cont'd

management in scoping out assignments, consultants learn to look at the big picture, instead of just the actuarial or technical implications of corporate decision-making. A good consultant must be familiar with broad industry trends beyond the actuarial aspects.

We are in a postindustrial society. This means more emphasis on management information. Corporations selectively using the expertise of the consulting community to adapt to the trends and consultants able to provide services to them will prosper.

James R. Thompson is actuary and consultant, Central Actuarial Associates.

## RBC cont'd

earlier efforts by various companies and a few insurance departments, introduces these new features:

- Size gradations for the bond portfolio and for insurance risks
- A concentration risk factor that doubles the required capital for the 10 largest assets
- Mortgage loan default experience factors
- Use of a covariance term to recognize that asset default and interest rate risk are generally independent of the pricing risk
- Lowered risk factors for companies that issue an unqualified actuarial opinion incorporating cash flow testing

## Formula defines minimum capital

The new formula will become effective with the filing of the 1993 annual statement. It will define the minimum capital for companies to operate. It is meant to replace existing statutes that have a fixed dollar minimum capital amount such as \$2 million.

Each year, a company's actual surplus, increased by 50% of the dividend liability, any voluntary investment reserves, and the asset valuation reserve, will be compared with the risk based capital produced by the formula. Based on this comparison, a company may be subject to regulatory action. Such action may range from being required to file a five-year recovery plan to a full-scale examination and, if surplus is entirely inadequate, to mandatory control by the insurance department.

Some companies may adopt a more complicated or a simpler target surplus formula than the NAIC's. The NAIC formula was never meant to be a target formula. It was designed to identify weakly capitalized companies and requires only a threshold level of capital, the level below which regulatory action is mandated. Most companies will want to operate with much more capital than this. The NAIC formula does not address the nuances of each company, and the interest rate risk is only properly addressed by cash flow testing.

## Effect on companies

Most companies have found that their capital is substantially more than is required by this formula. Some weakly capitalized companies have already begun to respond to the new

RBC standards by strengthening their balance sheets through additional paid-in surplus, increased reinsurance, selling noncore businesses, and bond trading to higher-rated securities.

Some companies may decrease their common stock and mortgage loan portfolios. Consolidation by merger, acquisition, and demutualization also is a possible reaction to these standards.

A less obvious reaction might be to reduce surplus because a board of directors believes the formula indicates the company has too much surplus and is not producing the desired returns on equity.

It is hoped the long-term effect is for companies to increasingly emphasize profitability, the only viable way to remain strong after shorter-term actions have been taken. Without long-term profitability, our industry will continue to struggle. Companies also should give risk management increased emphasis and focus on the risks they can afford.

## Possible negatives

Some adverse consequences of the new law may occur. The press may misuse the formula and publish company rankings. This would be unfortunate, because the NAIC formula is not meant to rank various well-capitalized companies, but to discover weakly capitalized companies. The press may comment about the relative strength or weakness of the formula or its components. An important point to remember is that the new law prohibits companies and agents from advertising or publicly announcing any RBC results, including their own.

A few companies likely will be closed, which is good in the end. The public eventually will believe that we have more effective regulation and companies have become stronger financially because of the RBC law.

Although some have expressed concern that certain "high priced" investments might dry up, this is very unlikely. Most companies have very ample surplus and will not be concerned about the RBC formula.

The new RBC standards should help regulators perform their job of financial surveillance better, improve the image of the industry, and help each of us manage our companies better.

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