The Actuarial Review

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From the President

Revising the Rules

by Mavis A. Walters

At its May meeting, the Board of Directors unanimously voted to send revised Rules of Procedure for Disciplinary Action, as well as the proposed Constitution and Bylaw changes that will be necessary to implement the new procedures, to the membership for review.

You should have received the mailing, which contains these changes from the CAS Office, in July. I hope you have taken the time to review them. These proposals were developed by a special task force of present and former board members including four past presidents of the CAS. The Board of Directors appointed the task force to review the CAS process after a discipline case revealed that the current procedures lack specific guidelines and direction in certain aspects. That is not to say, however, that our current process for disciplining CAS members who have breached provisions of the CAS Code of Professional Conduct is not legally sufficient and defensible. Rather, it became apparent that the process could be enhanced by adding more specific details to the procedures, and by making other changes to the process for the benefit of all concerned.

The CAS Bylaws provide that complaints concerning alleged violations of the Code of Professional Conduct are

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CAS and SOA To Sponsor New Joint Exams 3 and 4

by Kevin B. Thompson

The Casualty Actuarial Society and Society of the Actuaries have agreed to joint sponsorship of new Exams 3 (Actuarial Models) and 4 (Actuarial Modeling), beginning in May 2000. Joint sponsorship was approved by the board of each society and will mean that the education of actuaries in the United States and Canada will be the same for the subjects covered by the first four exams under the new exam structure.

The approval of joint sponsorship was the outgrowth of a meeting convened by the presidents and presidents-elect of both societies in January 1998. This meeting was held to reevaluate the potential for joint sponsorship in light of favorable developments since the new exam structure was announced. During the meeting, both societies agreed to create a joint task force to recommend a common syllabus for Exams 3 and 4. Harry Panjer, president of the Canadian Institute of Actuaries, was asked to serve as chairperson of the task force and the CAS and SOA each appointed two members.

The task force issued its report and recommendations in March 1998. These recommendations were reviewed by the appropriate education committees, senior leadership and ultimately the board of each society. Working with the recommendations of the task force, a larger group developed the actual syllabus for the joint exams. This group, co-chaired by Nancy Braithwaite (CAS) and Jim Miles (SOA) issued its report in June. This report was placed on the CAS Web Site and is available from the CAS Office for those

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CAS Board Approves Proposal for Affiliate Membership

by Mary Frances Miller

The Board of Directors approved a proposal to provide for a nonvoting membership class ("Affiliate") at its May meeting. Affiliate membership would be extended to actuaries who are members of other actuarial organizations and who practice in the general insurance field. If approved by a vote of the membership, this new class of membership will be used to serve qualified actuaries who have established their qualifications to practice in the property/casualty field and wish to partici-

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Inside This Issue:

Editorial

An Acquisition

C. K. Stan Khury

This year we witnessed two significant announcements indicating that the trend toward consolidation among financial institutions is alive and well—and indeed may be accelerating: the intended merger between Citibank and Travelers and the acquisition of General Re by Berkshire Hathaway. In this column we shall focus on the General Re and Berkshire Hathaway transaction.

Before continuing, we cannot help but note the most excellent feeling inherent in seeing one of our members, Ron Ferguson, on national television, along with Warren Buffett, explaining the merits of the deal to the financial media. This is truly a moment to which the profession can point with a great deal of pride. It certainly reaffirms in very real terms the unbounded potential of an actuarial career.

> **"This transaction adds capacity to the reinsurance market place. Does the inevitable conclusion follow that this force will serve as an element contributing to softness in the pricing of reinsurance?"**

These stories are two of the more prominent links in a long chain of events that constitute the consolidation of the financial services industry. One can only wonder where all of this is going. One possible ultimate outcome is perhaps a dozen or so gigantic financial institutions serving the entire world economy. While this may be something that is just beyond our ability to imagine, the inexorable march we have witnessed in the past twenty years or so is continuing without abatement and is strongly suggestive of a "final" outcome along the lines noted above.

In the case of the General Re transaction, it is an *acquisition* by Berkshire Hathaway. Thus, General Re is going to be able to retain its identity and conceivably could be resold at some future date. Thus, it is not a pure consolidation step. However, when one examines the statements of the two principals to the transaction, there is a type of consolidation going on. According to Buffett and Ferguson, the principal synergy resides in General Re bringing a great deal of liquidity to Berkshire Hathaway while Berkshire Hathaway's financial muscle will make General Re financially stronger and thus enable it to do more of what it is already very good at doing. And thus the whole is greater than the sum of the parts.

From the General Re side of this transaction, an interesting question arises naturally with respect to the effect of the combination on reinsurance markets. This transaction adds capacity to the reinsurance marketplace. Does the inevitable conclusion follow that this force will serve as an element contributing to softness in the pricing of reinsurance? If so, then the return that General Re can expect on its normal risk-bearing operations will be depressed somewhat, all other things remaining equal. It will be interesting to see how this issue plays out in the next several years.

From the Berkshire Hathaway side of this transaction, the equity of the Berkshire Hathaway stockholders will be subjected to some additional risk if and when a portion of such equity is brought directly into the risk-bearing operations of General Re. Technically this suggests that the stockholders of Berkshire Hathaway

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Global Warming: Just a Lot of Hot Air?

by Fred Kilbourne

Editor's note: In "Point/Counter Point" (boxed below), Donald Bashline and Fred Kilbourne discuss the following article, which is reprinted with permission from The Actuarial Update, *March 1998, Volume 26, Number 3.*

Last January in signing the Kyoto Protocol to the 1992 Climate Change Treaty, the United States government agreed to reduce greenhouse emissions over the next dozen years to 7 percent below 1990 levels. This represents a one-third reduction in projected levels of emissions by the time the oldest baby boomers become eligible for Medicare. Estimates of the economic cost of such a significant cut in energy production vary widely, but most believe that over $100 billion will be lost annually to the U.S. economy. Is such drastic action justified to spare our grandchildren from the nightmare of global warming? Or is there a political agenda that underlies these internationally imposed restrictions on our economic life?

In the spirit of our profession, which teaches that the work of science is to substitute facts for appearances and demonstrations for impressions, including misimpressions fomented to promote a political agenda, I have sought and found a great deal of information about global warming, some nuggets of which can fairly be described as facts. Here's a sampling for

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Point/Counter Point

Take Note of Global Warming

by Donald Bashline

In his 1983 Presidential Address, Fred Kilbourne defined actuaries as "financial futurists," and called us "experts in evaluating the current and long-term financial implications of programs involving uncertain future events." But his article "Global Warming: Just a Lot of Hot Air" (*Actuarial Update*, March 1998) ironically gives actuaries an object lesson in how not to evaluate the uncertain future event of global warming.

"The consequences of continued warming could be severe: warmer ocean water expands to raise sea levels; weather extremes become more common; food and water supplies are affected."

What is everyone worried about? Atmospheric concentrations of carbon dioxide (CO_2) have increased 30 percent from pre-industrial levels. CO_2 and other "greenhouse gases" help trap heat in the atmosphere. The observed increase in greenhouse gases has been accompanied by warmer temperatures: eight of the nine warmest years on record (accurate records have been kept for more than one hundred years) occurred in the

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Global Gasses

By Fred Kilbourne

Don Bashline's entertaining "Take Note of Global Warming" pits the 1998 Fred Kilbourne against my own 1983 forerunner in ostensible support of Bashline's conclusion that conventional wisdom about global warming is wise. He also refers to my reference to Fred Seitz, a past president of the National Academy of Sciences, who said about a global warming report, "I have never witnessed a more disturbing corruption of the peer-review process." Understandably, Bashline did not refer to my unnoted reliance on Fred Singer, first Director of the U.S. Weather Satellite Service and former Director of the Center for Atmospheric and Space Physics at the University of Maryland, who said of the greenhouse theory of global warming that "the evidence is neither settled (as Tim Wirth said), nor com-

"Even as freedom must be defended or it will be lost, so must those who call ourselves scientists resist attacks on the scientific method, or resign ourselves to a return to the Dark Ages."

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Ethics at Issue

Dear Editor:

This is in response to the article, "The Ethical Issues Forum: The Case of The Adequate Rate." I would have to side with the state insurance regulator on this one.

According to the *Statement of Principles Regarding P/C Insurance Ratemaking*, "A rate provides for all costs...." That rate has an expected profit margin associated with it. There are many types of dividend plans, but if my general understanding of a dividend is correct, a dividend is a return of premium due to profits in excess of the expected profit margin. Any rate that provides for dividend payments is a rate that provides for excessive profits.

From the policyholder's standpoint, it does not make sense to raise premiums for the sole purpose of returning a portion of premium in the form of dividends. The only one who can benefit from this practice is the insurance broker/agent who gets a higher commission based on a higher premium. -- *Brian Turner*

Dear Editor:

Here are some thoughts on this Quarter's Ethical Issues Forum, The Case of the "Adequate Rate."

Both parties have valid points. To resolve the issue, one question needs to be addressed:

Does the voluntary implementation of a dividend program result in a net economic gain or loss to Adequate Insurance Company's policyholders?

Net Gain=Premium(without Dividend Expense) - Premium(with Dividend Expense) + PV(E[Dividends])

Where E is the Expected Value Operator and PV is the Present Value Operator, the discount rate used for the Present Value should be the Market Rate of Return, since that is the opportunity cost to the policyholder.

If there is a net gain, the company makes the following statements:

- We are voluntarily implementing a new Dividend program.
- We are going to charge the policyholder more money.
- There will be a net economic gain to the policyholders.
- Our long-run competitive position will improve (due to net economic gain to policyholders).
- Our agents will get more commission dollars on every policy.

If there is a net loss (negative net gain):

- We are voluntarily implementing a new Dividend program.
- We are going to charge the policyholder more money.
- There will be a net economic loss to the policyholders.
- Our long-run competitive position will deteriorate (due to net economic loss to policyholders).
- Our agents will get more commission dollars on every policy.

I contend that the statement "Our rates are NOT excessive" is consistent with those statements made under "net gain" and not consistent with those under "net loss." Is there an actuary who would disagree with me? If so, I'd like to hear support for that position.
Dave Schofield ■

Joint Exams

From page 1

without Internet access.

The joint sponsorship of the first four exams allows students to defer the need to make a critical career decision regarding the CAS or SOA exams until a time when most will have completed their undergraduate education and be in a better position to make an informed choice. It also results in the more efficient use of volunteer resources rather than each society separately developing exams that cover essentially the same topics. The volunteer resources freed up by jointly sponsoring these exams can be applied by the CAS to developing those other exams that deal with subjects that are specific to the education of casualty actuaries. ■

Clarion Call Paper Program "Reserved" for '98 CLRS

The Committee on Reserves has received an excellent response to its 1998 Call for Papers, entitled "Best Estimates for Reserves." Eleven papers have been accepted in the program, which will be presented at five sessions at the 1998 Casualty Loss Reserve Seminar in Philadelphia on September 28-29. The call explores the issues that actuaries face in recommending the "best" estimate to book. The diversity in the papers submitted reflects a lack of consensus concerning the selection of a best estimate. The first session will specifically cover accounting and actuarial issues that arise in selecting the best estimate. Another session will explore the cognitive issues that affect the quality of the actuary's reserve estimate. The three remaining sessions will offer technical approaches to estimating the variability in loss reserves and selecting the best estimate. These papers include the application of utility theory, regression, and simulation techniques.

All the call papers will be included in the CAS *Forum*, Fall 1998 edition, which will be distributed in late August. A $1,000 prize will be awarded at the Casualty Loss Reserve Seminar to the best paper submitted in response to the call. ■

Random Sampler

Expanding Actuarial Horizons

by Steven G. Lehmann

The CAS has traditionally focused on the needs of North American actuaries practicing in "traditional" roles—ratemaking and reserving for insurers, reinsurers and self-insured entities. I would like to encourage all of us to take a broader view.

I believe we should broaden our vision of casualty actuarial work both geographically and into new areas of application.

Geographically, we are seeing a globalization of all areas of commerce, including financial services. Already in 1998, we have seen the mergers of many world-wide insurance and financial institutions including Commercial Union/General Accident, Berkshire Hathaway/General Re, Coopers & Lybrand/Price Waterhouse, Travelers/Citibank and BAT/Zurich mergers. Many U.S. companies are considering expansion into new countries. More and more U.S. and Canadian actuaries are being given opportunities to work in London, Zurich, Hong Kong, and other parts of the world. We now have three CAS affiliates outside of North America, with the most recent being Casualty Actuaries of Europe. In 1997, we administered CAS exams in 22 sites outside of North America. The CAS leadership has recognized this trend and has initiated efforts to increase the visibility of the CAS internationally. We need to continue these efforts, both to better serve our members working in other countries and to build recognition of the CAS in other countries as a major player in the field of general insurance. This will lead to increased opportunities for casualty actuaries in the future.

"The CAS is strong and growing. What better time to expand our actuarial horizons?"

At the CAS leadership meeting in March, a principal focus of the meeting, in addition to international issues, was nontraditional areas of actuarial practice. What do we mean by "nontraditional" areas? While it is difficult to define these areas precisely, some examples include actuaries working as brokers or risk managers, actuaries pricing guarantees and future contracts, and actuaries performing a broad range of applications in the financial and investment areas. In other words, actuaries quantifying future contingent events of all shapes and sizes.

I think we should be developing these nontraditional areas now, while we're strong and growing, rather than wait until we see the market for casualty actuaries declining. The leadership meeting produced many suggestions and innovative ideas, which I would categorize in two areas:

- We need to provide better service to our members who are currently working in non-traditional areas.
- We need to investigate whether to expand our basic and continuing education to facilitate entry into these nontraditional areas.

There was also discussion of interviewing employers in these areas to find out what their needs are and what new areas are emerging.

As a result of these discussions, the CAS Executive Council has appointed a new Task Force on Nontraditional Practice Areas. Your thoughts and ideas on this subject would be appreciated.

The CAS is strong and growing. What better time to expand our actuarial horizons? ■

Editorial

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can look to a greater return on their equity because of the additional risk inherent in this deployment of the asset. Will they be able to realize this added return? This question is more pressing in light of the "pricing softness" issue that is brought out above. Once again, it will be interesting to see how this aspect plays out in the next several years.

Lest we be misunderstood, this commentary is not a criticism of the proposed acquisition. The remarkable track records of General Re and Berkshire Hathaway speak for themselves. What we are pointing out are some interesting aspects of this transaction that will take a number of years to play out completely.

And, beyond all of this, Ferguson and Buffett have pointed out a number of other aspects of synergy that are expected to be realized out of this transaction, including some significant tax advantages.

Finally, while there is a significant consolidation of the financial resources of General Re and Berkshire Hathaway, we are told that the identity, the brand, and the business apparatus of General Re is going to be preserved, thus making this one of the more interesting steps in the consolidation of the financial services industry: a consolidation of the *powers* of two institutions without eliminating the infrastructure or identity of either. Definitely a promising variation on the theme of consolidation. ■

Global Warming

From page 3

your consideration.

Whether the globe is warming or cooling depends on your time frame. The earth's crust offers tangible evidence of a cooling trend over billions of years. Nearer at hand, we are now in an inter-glacial warm period that began about 11,000 years ago. Even closer to our time, the "Little Ice Age" that began in 1450 lasted about four centuries, until the mid-19th century when Sir Henry Bessemer devised a process to turn iron into steel by transforming coal into greenhouse gases. (Keep in mind that coincidence does not necessarily denote causation.) Now the plot thickens.

There is a general agreement among scientists that our atmosphere has warmed about 1° F since 1850. However, no such agreement exists as to whether any of that warming has occurred over the past half century. Satellite data available over the past two decades show a cooling trend at a rate of about 1° F per century. Surface measurements over the same period show a warming trend at a rate of about 2° F per century, but they do not take account of the "urban heat island effect" (measurements are taken disproportionately near hot human centers). Global circulation models predict greater warming, but these models perform poorly in validation tests based on past experience. So what is an actuary to make of this somewhat noisy data in trying to understand the future of global warming? Well, here's a suggested range of reasonable actuarial opinions based on these facts: the 21st century may be expected to experience global warming of perhaps 2° F, or global cooling of perhaps 1° F, but we probably need more information to make any estimate at all.

What about greenhouse gases, particularly carbon dioxide (CO_2)? To what extent, if any, are they attributable to human activity and responsible for global warming? Here are some facts: Greenhouse warming has been with us for billions of years; without it, the earth's surface temperatures would be about 60° F colder than currently. CO_2 levels 200 million years ago were more than five times as high as they were 150 years ago, and the current rate of increase is about 60 percent per century. Furthermore, there is no serious dispute that much of this increase is due to fossil fuel combustion by humans. Note, however, that the worldwide combustion rate has increased greatly over recent decades, a period during which global warming is hardly a proven fact. Thus, greenhouse gases, yes; global warming, maybe; connection between the two, dubious.

In 1996, the United Nations Intergovernmental Panel on Climate Change (IPCC) published a report that concluded "the balance of evidence suggests that there is discernible human influence on global climate." This report was widely hailed by the international environmental lobby and helped shape the discussions that led to the Kyoto Protocol.

But the scientific community was less impressed. Commenting last year on the IPCC report, Dr. Fred Seitz, past president of the National Academy of Sciences, said, "I have never witnessed a more disturbing corruption of the peer-review process." Changes made to the report once it left the hands of its scientific authors, he said, were intended "to deceive policy makers and the public into believing that the scientific evidence shows human activities are causing global warming." Support for this view comes from a comparison of the final IPCC report with the draft prepared by IPCC scientists. Not only is the "discernible human influence" statement not in the draft report, but the following statements by the scientific team were deleted in the final report: "...no study to date has positively attributed all or part of [significant climate] change to anthropogenic human-induced) causes. Nor has any study quantified the magnitude of a greenhouse-gas effect...an issue that is of primary relevance to policy makers." "None of the studies cited...has shown clear evidence that we can attribute the observed [climate] changes to the specific causes of increases in greenhouse gases."

My conclusion is that global warming is far more a matter of politics than of climate. Further evidence comes from the words of a leading advocate of international intervention. In 1990, Tim Wirth, then Democratic senator from Colorado, said, "We've got to ride the global warming issue. Even if the theory of global warming is wrong, we will be doing the right thing in terms of economic and environmental policy." In 1996, U.S. Under Secretary of State Wirth welcomed the IPCC report as plausible scientific cover for his "do-the-right thing" political agenda. "The science calls on us to take urgent action," he said. "Human-induced climate change, if allowed to continue unabated, could have profound consequences for the economy and the quality of life for future generations." Wirth has since taken the job of administering media magnate Ted Turner's billion-dollar grant to the U.N.

Even if global warming occurs, it may very well have positive rather than negative results for mankind; historically, this has been the case. If needed, alternate methods of reducing atmospheric CO_2, such as planting trees, may be effective at a small fraction of the economic cost of emission control. Over the past several decades, media-induced "scientific" scares have proved to be essentially wrong with regard to acid rain, alar, asbestos, cranberries, cyclamates, dioxin, global cooling (the apocalypse du jour two decades ago), high-voltage power lines, irradiated foods, nuclear power plants, radon, saccharin, and more.

In Stalin's Soviet Union, where science was subordinate to the state, the bizarre theories of the dictator's favorite geneticist, Trofim Lysenko, crowded out real scientific inquiry: After all, the doctrine of the New Socialist Man needed support from a theory of inheritance of acquired characteristics, even if research results had to be...well, adjusted a bit. Stalin, Lysenko, and the USSR are all dead, but pseudoscience in the service of politics lives on. How else to explain the international rush to reorder our economies to solve a problem that may well not exist? ■

Bashline
From page 3

1980s and early 1990s. The consequences of continued warming could be severe: warmer ocean water expands to raise sea levels; weather extremes become more common; food and water supplies are affected.

But long-term predictions of large-scale climate changes are complex and uncertain. The consensus reached by the Intergovernmental Panel on Climate Change (IPCC), set up by the United Nations to study the issue, acknowledges that incomplete understanding of the processes of climate change "means that we cannot rule out surprises." The economic and environmental costs of global warming could be cataclysmic or relatively benign. The range of possible responses is wide. Who will decide what is to be done?

Here is where the 1983 Fred, well ahead of his time, would have the actuary exercise her expertise and begin her evaluation of this uncertain event. The 1998 Fred, alas, does no such thing. Instead, he compares scientists concerned about global warming to (I am not making this up) Stalin's "favorite geneticist," and with only the testimony of Dr. Fred Seitz, Chairman of the Board of the George C. Marshall Institute, a think tank funded by the far right Scaife Foundation, purports to show that "the scientific community" was unimpressed by the IPCC's conclusions.

Fred's conclusion is that "global warming is far more a matter of politics than of climate and pseudoscience in the service of politics." In fact, it is Fred and not the IPCC who has fallen into the political trap. The American Right's pathological fear of the U.N. and "international intervention" are threatening to obstruct the scientist's and the actuary's ability to work on one of the most important problems of our time.

Actuaries have begun to work with computer climate models for property insurance. These hurricane and earthquake models are still relatively crude, and their predictive value is questionable, but actuaries rely on them as accurate enough to make very precise estimates of insurance rates. With much more at stake, the actuarial profession must not let politics shut it out of participation in the ongoing evaluation of the proper response to global warming. As Fred so aptly put it at the end of his presidential address: "We can do much, and we make a difference. The children need us." Fred, you were right in 1983—Let's get to work!

Editor's note: For readers who are interested in learning more about global warming, Donald Bashline suggests Global Warming: The Complete Briefing, *by John Houghton, and* Risk vs. Risk: Tradeoffs in Protecting Health and the Environment, *edited by John D. Graham and Jonathan Baert Wiener.*

Kilbourne
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pelling (as Bill Clinton said) nor even convincing." But Don missed the obvious conclusion forced on the observer by the foregoing: people named Fred are vision-impaired! We just can't see the regal raiments of the emperor. In our allegiance to the scientific method, we blindly persist in our skepticism, in our compulsion to substitute facts for appearances and demonstrations for impressions.

Some years ago (even earlier than 1983), I delivered an actuarial report to a client, confident that I had not only done the actuarial work properly but that I had also expressed the results suitably for a lay audience. I was chagrined when I was thanked, paid, and told that my actuarial prose was to be rewritten by a professional writer who would make it "suitable for a lay audience." My chagrin turned to a darker emotion when I read the professionally written report, which told a very difference story from the one I had unearthed.

That darker emotion is familiar to members of the Intergovernmental Panel on Climate Change who have been told over and over, as you, Don, and I have, that their 1995 report concluded that "the balance of evidence suggests that there is a discernible human influence on global climate." The fact is that the quote is not from their 1995 report, but rather from a 1996 supposed-rewrite delivered to the media as a "Summary for Policymakers." The quote itself is neither to be found in nor supported by the 1995 report, which did include a number of pertinent and contrary conclusions that didn't make it into the Summary for Policymakers.

Even as freedom must be defended or it will be lost, so must those who call ourselves scientists resist attacks on the scientific method, or resign ourselves and humanity to the Dark Ages. Trofim Lysenko may be dead, but Timothy Wirth lives on. You may recall, it was Wirth who said "We've got to ride the global warming issue. Even if the theory of global warming is wrong, we will be doing the right thing in terms of economic and environmental policy," and "Let me make clear the U.S. view: The science calls upon us to take urgent action." That siren call you hear, Tim and Don, may be supremely melodic (though it grates for those of us who prefer freedom). It conceivably may even be the right thing (though I'd welcome a debate on that subject). But it isn't science.

Editor's note: Fred Kilbourne recommends Hot Talk, Cold Science by Fred Singer, and "Hot Air," National Review, *August 17, 1998, by Jonathan H. Adler, for those interested in learning more about global warming.*

CAS Continuing Education Calendar

September 28-29
CAS/AAA/CCA Casualty Loss Reserve Seminar, Philadelphia Marriott, Philadelphia, Pennsylvania

October 22-23
Seminar on Catastrophe Issues, Hotel Inter-Continental, New Orleans, Louisiana

November 8-11
1998 Annual Meeting, Sheraton Centre Toronto, Hotel and Towers Toronto, Ontario

Actuaries Abroad

Happy 150th Birthday to the Institute of Actuaries! Let the festivities begin!

by Kendra Felisky-Watson

Well, actually the celebrations started with the International Congress of Actuaries meeting in June in Birmingham. Almost a thousand actuaries attended from 60 countries ranging from Argentina to Zimbabwe. Unfortunately, only about 50 general insurance actuaries attended, but the CAS was ably represented by Mavis Walters and Steven Lehmann. A special treat was a concert by the City of Birmingham Symphony Orchestra, which played a fanfare called "Certum ex Incertis" (the Institute's motto) written especially for the Institute by Judith Weir. Another highlight of the Congress was the morning presentation at which representatives from different countries gave a history of the actuarial profession in their respective countries. Unfortunately, the weather was a bit wet during the conference. Many attendees and guests appreciated the free Tillinghast umbrellas.

The International Congress also premiered an actuarial exhibition, assembled by the Institute of Actuaries, which is now in residence at Staple Inn. The exhibition covers the history of the Institute from 1848, the founding members, the development of actuarial science over the years, and the four main practice areas of actuaries in the U.K.: mortality, pensions, investments and general insurance (the newest area). In addition, there is an interactive PC computer "game" where you can pretend to be the appointed actuary of a life insurance company, declare bonuses, and see if the company goes insolvent.

A wide variety of other celebrations took place throughout July, including a large garden party in nearby Grey's Inn and another party to celebrate the 75th anniversary of their first female qualified actuary.

Estimating Reinsurance Bad Debt

An interesting paper has been written discussing how to estimate a reinsurance bad debt provision for Lloyd's syndicates. For year-end 1998, all actuarial opinions on syndicates required by Lloyd's (not the U.S. Trust Fund opinions) must include consideration by the signing actuary of the provision for reinsurance bad debt. This paper presents both a theoretical and a practical approach. The theoretical approach assumes that all the data, time and money to perform a perfect analysis is available. The practical approach takes into account the more likely situation of insufficient data, short time scales, and limited resources. The theoretical approach makes for very interesting reading; however, many feel that the practical approach still could be more simplified. The paper very sensibly presents an approach, not a prescribed methodology, so that the actual process can be modified for the materiality of the estimated reserves.

Realistic Disaster Scenarios

Continuing on the Lloyd's theme, this is the third year Lloyd's has required syndicates to present ten Realistic Disaster Scenarios (RDSs) in their annual business plans submitted to Lloyd's. These RDSs are a standard measure that enables syndicates to be compared to each other and also with global market data. They also enable consideration of the impact of disaster on reinsurers and how exposure to a given event could aggregate. The need for these RDSs was brought about by the LMX spiral, which only had all the risk concentrated back into few syndicates.

CAE Meets

The first meeting of the newest CAS affiliate Casualty Actuaries in Europe took place in Zurich in April. About 35 actuaries attended, including CAS members, Institute of Actuaries members, Swiss actuarial students, and others in the industry. The topics presented included a discussion of catastrophic insurance risk which has been transferred to the capital market. The next meeting will take place in conjunction with the joint General Insurance Study Group and ASTIN conference in Glasgow.

This first-ever joint GISG/ASTIN conference will take place October 7-10 and is open to any general insurance actuary. While the ASTIN part of the conference means that many technically challenging papers will be presented, the GISG part of the conference means that interesting practical discussions will occur as well as a thorough examination of the Glasgow whisky trail!

A Final Note

The first joint CAS and Institute of Actuaries one-day conference in London will take place next June. It will cover topics that are of joint concern to CAS members and Institute members who either work in the London Market or have a connection with the London Market. CAS members in Europe will also find it interesting. While the date is not set yet, you might want to book your Wimbledon tickets now!

Nonactuarial Pursuits of Casualty Actuaries

Other Cultures

by Brian D. Haney

As actuaries, we may sometimes feel estranged from the main culture, especially in the insurance world. Let's face facts, the majority of non-actuaries a) don't know what IBNR stands for, b) don't care, and c) can't correctly pronounce "Bornheutter." We are a culture unto ourselves!

Given that we are basically foreigners in our own land, consider how it would be for an actuary, in addition to working full time and having family commitments, to head an organization that supports and facilitates the adoption of children from a foreign country. Dealing with bureaucrats in both the U.S. and Viet Nam and the red tape that always accompanies them is a great challenge...and one of us took it on.

One of our fellow CAS members is the president of the Chicago chapter of the Families with Children from Vietnam, an organization that provides support to people with adopted Vietnamese children and to those families considering adoption. Our mystery member and four other families formed the Chicago chapter and the national organization in December 1996, just before adopting a Vietnamese child herself. She called on everyone she knew in the international adoption community and started to develop a list of names. From these contacts, she gleaned as much information as she could about adoption practices and procedures in Viet Nam. By January 1997, 14 families made up the Chicago chapter. New chapters in other areas soon sprouted up as well.

As president, she counsels families interested in adoption, provides background information and support to people in the adoption process, and organizes social events. She says that her role as president is somewhat like her work as an actuary because both involve a great deal of communication. It differs, however, because hardly any math skills are needed.

Obstacles

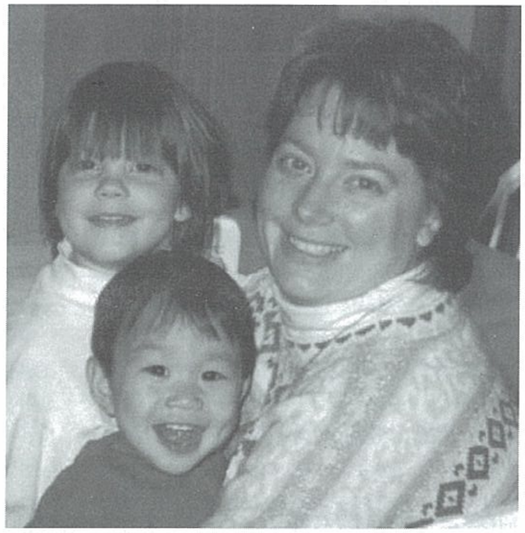
For our member, the road to adoption was filled with a lot of obstacles and governmental red tape. In one Catch-22 scenario, the U.S. Immigration and Naturalization Service (INS) required our member to obtain certain documents before she could leave for Viet Nam. The catch was that she couldn't possibly get the required information unless she went to Viet Nam. Only after hounding the INS for an intensive day did she get the agency to give her a break on this point. In addition to the red tape, dealing with foreign governments was doubly frustrating because of the communication gap.

Another obstacle was the tremendous amount of paperwork. In one case, our member had to get papers notarized, have the notary's status validated by a state official, and then have the state official's status validated by yet another official further up on the chain of command. Another odd requirement was having to sign papers in blue ink only.

On to Viet Nam

After months of paperwork and obstacles, our member and her husband Daniel were finally ready to go to Viet Nam to get their son. She was in Viet Nam for 19 days in order to process the adoption. Her husband stayed there with her for a week to make sure all was going well and that the baby was healthy. He then returned to the U.S. to get back to their two daughters, 12-year-old Sarah and 5-year-old Hannah.

Our member first met her son, Zachary Daniel Chien, on her second day in Viet Nam. Zach looked to be about six-months-old (the adoption agency didn't know his exact date of birth), healthy, and happy. On first seeing her son, she was happy and amazed. "[It's like] a really happy dream...you hope you're not going to wake up soon," she said.


Photos courtesy of K. Ward.

Our mystery member with her children Hannah, five, and Zach, two.

Completing a Family

Now 22-months-old, Zach likes to jump and climb and he especially likes getting into things that he's not supposed to. When Zach first came to live with his new family, his younger sister experienced the pangs of sibling jealousy. Today, however, the two play together quite well. Older sister Sarah also enjoys babysitting her little brother and the money she earns doing it.

Our mystery member's term as chapter president runs until the end of this year. While she has found her involvement in the organization extremely fulfilling, she doesn't know if she will seek another term next year. It's a lot of work and she has her family and job to keep her busy. Still, it's quite likely that she will still play a role in helping other people achieve what she has achieved.

The national organization is still growing and the Chicago chapter is perhaps the biggest and most active of the chapters. If you want to know more about the Families with Children from Vietnam, or the adoption process, check out their web site at www.tcbs.com/fcv or ask **Kim Ward** in person, the next time you see her—when you do, don't forget to congratulate her on passing part 10 and becoming an FCAS.

P.S. By the way, it's BORN-HEATER.

CAS Members To Hold Annual Meeting North of the Border

by Andrew E. Kudera

The 1998 CAS Annual Meeting will be held November 8-11 at Sheraton Centre Toronto Hotel and Towers in Toronto, Ontario. Toronto is Canada's largest city and features a spellbinding skyline. The city itself is Victorian with a glassy postmodern downtown.

Toronto's CN Tower and Skydome.

Photos courtesy of Tourism Toronto.

The featured speaker is Alan J. Parisee, an authority on leadership in changing times. Mr. Parisee has been a guest lecturer at Stanford and Wharton, and is the author of numerous articles and four technical books. His ideas have been quoted in *The Wall Street Journal, Business Week, Barron's,* and *Executive Excellence.* He is currently writing a book on the paradoxes of our time.

There will be four general sessions. Monday's general session, "Dynamic Capital Adequacy Testing," will explore the evolution of financial evaluation in Canada from its beginnings in the life area to its current applicability in the property and casualty arena. It will also discuss financial reporting issues such as earmarked surplus and the fair value of liabilities. Wednesday's general session, "Globalization," will discuss how the insurance industry is adapting to the changes that are precipitated by an increasingly global economy. Perspectives will be presented by several senior insurance and reinsurance executives and a regulator.

Two other general sessions will be presented concurrently on Tuesday. "Integrating Financial and Insurance Products," will discuss the increasing use of the combination of financial and insurance products by organizations to effectively manage their exposure to loss. This session will also discuss the challenges and opportunities faced by those organizations that provide these products. "The Actuary and Insurance Fraud," will discuss recent trends and improvements in technology in combating fraud. It will also discuss how insurance companies are using these improvements to reduce fraud.

Eaton Centre.

Some of the concurrent sessions currently planned include "Canadian Catastrophes," "Can We Talk," "Electronic Commerce," and "Mergers and Acquisitions: A Case Study." Attendees will also be able to participate in sessions on "Actuarial Supply and Demand," "Financial Guaranty Products," "Securitization of Non-Catastrophic Risks," and "Year 2000 Issues." Other concurrent sessions will look at the current events in the automobile and workers compensation markets. As usual, attendees will have the opportunity to discuss issues with the CAS Board of Directors.

The winner of the Charles A. Hachmeister Prize will be announced and attendees will have the opportunity to attend a session that discusses the winning paper. Attendees will also have the opportunity to participate in several sessions that cover the newly accepted *Proceedings* papers.

On Tuesday evening members and guests are invited to a reception and dinner at the Royal Ontario Museum, which is noted for its large collection of dinosaurs. The entire museum will be open for tours during the evening.

More detailed information for the 1998 Annual Meeting, including the preliminary program and registration information, will be mailed in September.■

CAS Online Courses Offered in October 1998

Working with Committee on Online Services, the CAS Committee on Continuing Education is offering the first CAS Online Course, Financial Risk Management for Insurers, to be held October 2-19, 1998. A limited number of actuaries will be able to enroll in this course, which can be completed entirely over the Internet. Participants will be able to obtain lecture notes, engage in class discussions, obtain and submit assignments, and take the class exams electronically. The work can be done whenever it is convenient for the student—there is no need to adhere to a particular class schedule. Visit the Continuing Education Section of the CAS Web Site at http://www.casact.org/coneduc/coneduc.htm for more information.■

Historic Moment For Casualty Actuaries

by Manuel Almagro and Tom Ghezzi

February 1998 was a historic month for casualty actuaries: the U.S. Supreme Court decided the case of *Atlantic Mutual Insurance Co. vs. Commissioner of Internal Revenue* after having received expert witness testimony from four members of the CAS. **Irene Bass, James MacGinnitie, Ray Nichols**, and **Ruth Salzmann** each provided an opinion on the meaning of the phrase "reserve strengthening."

The case involved a law suit filed by Atlantic Mutual against the Commissioner of Internal Revenue in regard to the application of the Tax Reform Act of 1986 (TRA 1986). The TRA 1986 included provisions for the "forgiveness" of the amount of discount underlying the 1986 loss and loss expense reserves. In other words, although the calendar year 1987 losses and LAE that were used to determine taxable income were calculated using the discounted value of year-end 1987 outstanding losses and LAE minus the discounted value of year-end 1986 outstanding losses and LAE, the industry did not have to discount the year-end 1986 outstanding losses and LAE for the purposes of determining the calendar year 1986 taxable income—the amount of this discount was "forgiven." This "forgiveness" was known as one of the "fresh start" provisions. However, any "reserve strengthening" during 1986 it would not be subject to the fresh start provision.

The expert witness testimony focused on the meaning of "reserve strengthening," which was not defined in TRA 1986 but was defined in the IRS regulations both in words as well as through arithmetic examples. This case reached the U.S. Supreme Court on appeal by Atlantic Mutual after the Tax Court decision, which had originally accepted the insurer's definition, was reversed on appeal by the IRS to the U. S. Court of Appeals for the Third Circuit. The written testimony of the four CAS members, which was reviewed by the Court, had previously been presented to the lower courts.

The Supreme Court found that the term "reserve strengthening" was ambiguous, not having been defined in the legislative history or by industry use. Therefore, the Court ruled that the IRS had the right to define the term as it did.

Testifying for the IRS, Ray Nichols defined "reserve strengthening" as the difference between calendar year incurred losses and accident year incurred losses. In other words, if incurred losses for calendar year 1986 exceeded incurred losses for accident year 1986, then the difference represented reserve strengthening during 1986. This definition was consistent with that used by the IRS, which was ultimately upheld by the Court.

Ruth Salzmann, also testifying as an expert for the IRS, defined "reserve strengthening" as she had in her 1984 textbook, "Estimated Liabilities For Loss and Loss Expense," as any increase in the actual reserve redundancy (or decrease in the actual reserve deficiency) from the beginning of the year to the end of the year. In other words, if the actual redundancy at year-end 1986 exceeded the actual redundancy at year-end 1985, then the difference represented reserve strengthening during 1986. She also pointed out that the amount of any actual redundancy could not be known with complete accuracy until all the losses had been paid.

Irene Bass, providing testimony on behalf of Atlantic Mutual, defined "reserve strengthening" as follows: "With respect to reporting reserves in the Annual Statement, reserve strengthening is said to have occurred if there is a one-time (or, at least, unusual and non-periodic), significant change in the assumptions and/or methodologies used to compute the reserves which results in a material change to the relative level of adequacy of the total reserve inventory."

Jim MacGinnitie was not available for comment, but the *Actuarial Review* understands that his testimony was consistent with the theoretical definition provided by Irene Bass, while expanding her work to include the specific situation of Atlantic Mutual.

The four expert witnesses involved in the case included three past presidents of the Casualty Actuarial Society—Irene Bass, Jim MacGinnitie and Ruth Salzmann—as well as an actuary with government sector experience, Ray Nichols. The *Actuarial Review* is not aware of any other court case involving testimony by any other CAS member that has reached the U.S. Supreme Court.■

Journal To Sponsor Actuarial Education Contest

The *Journal of Actuarial Practice*'s annual contest encourages the submission of papers geared to enhancing the education and/or training of actuaries. Submitted papers may be on *any* subject related to actuarial science or insurance and do not have to contain original ideas. Papers must not be unnecessarily mathematical and technical papers must be neither abstract nor esoteric. Instead they must be readable and clearly have a practical application to actuarial science or insurance. Priority will be given to those papers intended to educate (newer) actuaries on the methodologies, techniques, or ideas used in current actuarial practice. Prize amounts are 1st Prize—$1,000; 2nd Prize—$500; and 3rd Prize—$250.

To enter, mail, fax, or E-mail an abstract (200 words or less) of the proposed paper by **September 15, 1998** to the address below. **Five (5) copies of the completed paper must be received by November 15, 1998.** Winners will be announced by July 15, 1999. All communications must be directed to: Colin M. Ramsay, Editor, *Journal of Actuarial Practice,* PO Box 22098, Lincoln, Nebraska 68542-2098, USA; Phone: (402) 421-8149; Fax: (402) 421-9190; E-mail: ABSALOM1@1X.NETCOM.COM.■

COOS Launches New E-mail Initiatives

The CAS Committee on Online Services (COOS) has recently readied a Membership E-mail List for CAS members and E-mail Study Groups for those preparing for Fall 1998 examinations.

Membership E-mail List

On July 2, 1998, all CAS members with an E-mail address on file with the CAS Office (1,710 of 3,007 total members) received an E-mail message announcing the new CAS Membership E-mail List. This list will distribute CAS Office mailings, such as announcements and notices, to members via E-mail. Based on response to the initial E-mail announcement, COOS believes that some CAS members will prefer receiving CAS announcements electronically.

This new E-mail List service differs from CASNET, which is an E-mail discussion list allowing list subscribers to send messages. Only messages originating from the CAS Office can be distributed through the membership E-mail List.

While the system is being tested, members will receive both hard copy mailings and E-mail. Soon, members will be able to choose the method they prefer to receive CAS notices and announcements. As with the paper-based mailing list, CAS members have the option of being removed from the

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From the President

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to be referred to the appropriate investigatory body: the Actuarial Board for Counseling and Discipline (ABCD) or, in Canada, the Canadian Institute of Actuaries (CIA). The CAS discipline process begins only when a recommendation for discipline has been received from one of these two organizations.

The new procedures, while preserving all the elements of due process (a statement of the charges, the opportunity to respond, and an impartial decision-maker), make it clear that formal legal rules of evidence will not be imposed. The role of legal counsel both to the CAS and to the actuary is defined and limited to providing advice to the client and to articulating appropriate legal principles.

Experience in both the CAS and with other actuarial organizations has shown that a professional dialogue between the actuary who is the subject of the complaint and the discipline committee members is very important to achieve a full and proper understanding of the circumstances in each case. Unfortunately, in some instances the lawyers have so dominated the proceedings that achieving final resolution has become very difficult. The proposed changes should remedy this without depriving the actuary of any of his or her legal rights.

The new procedures also make clear what should be considered by the Discipline Committee in reaching its decision; that is, the intent of the actuary, the willfulness of the conduct, the harm caused, and/or any prejudicial material errors in procedure by the investigating body.

Upon the advice of outside legal counsel and after extensive deliberation by the Board of Directors, the new procedures reflect some significant changes in the appeals process. First, rather than an appeal being heard by the entire Board of Directors, it will be heard by a subset of the Board. When an appeal is filed, the president will designate five Board members without a conflict of interest in the particular case, and the actuary who filed the appeal will select three of those members to serve on the Appeals Panel.

Second, grounds for overturning the original decision are now specifically limited to three instances: (1) where the decision was clearly erroneous, (2) a prejudicial failure to conform to the rules of procedure that led to an unwarranted result, or (3) where the disciplinary action imposed was clearly inconsistent with the violation that occurred.

Third, the appeal will be based entirely on the written record with no appearance by the actuary or legal counsel. Of course, the actuary's written submission arguing why the Discipline Committee Panel's decision should be overturned will be a part of the written record.

These changes to the appeals process are a distinct improvement. Under the current procedure an appeal to the Board of Directors has been, in effect, a new trial, permitting the actuary a third opportunity to present the same arguments but before an entirely different group of actuaries. (The first instance being the hearing before the investigatory body; the second, the hearing before the CAS Discipline Committee). Besides being cumbersome and expensive for the actuary and the profession, this may not lead to the most appropriate, nor proper decision.

I believe that the new procedures are an enormous improvement over the current process. Thankfully, the CAS has not had many disciplinary cases thus far but, as we grow larger and our practice becomes more diverse and complex, we must be prepared to deal with the possibility of more in the future.

I hope all CAS members have reviewed the proposed changes, but if not, it is still not too late to do so before the Board of Directors considers any changes based on member comments. You can send your comments to either the CAS Office or E-mail them to me. I am very interested in hearing from you on this very important subject. ■

Committee Seeks Authors To Revise *Foundations* Textbook

The CAS *Textbook* Rewriting Committee seeks authors to rewrite the *Foundations of Casualty Actuarial Science* (*FCAS*). Now in its third edition, the *FCAS* or *Textbook* was first published in 1990. The committee's objective for the 4th edition is to have the *Textbook* written on a more introductory level than the previous editions. Prospective authors should be familiar with corresponding chapters in the current *Textbook*. Authors should outline how they would meet the goals of their chapter of interest, keeping in mind that the new *Textbook* is to be targeted toward those of a college level and to those taking entry-level actuarial examinations.

Proposals are due by **September 15, 1998** to the CAS Office, either by E-mail (esmith@casact.org) or fax (703/276-3108). The committee will select chapter author(s) by October 15, 1998, chapter outlines will then be due from the selected author(s) by January 1, 1999, first drafts by June 1, 1999, reviews thereof by appropriate CAS committees should be complete by September 1, 1999, and final versions are then due by December 1, 1999. With this schedule, a completed *Textbook* should be available by June 1, 2000. Proposals, outlines, drafts, and final versions will be reviewed by the Continuing Education, Examination, and *Syllabus* Committees, and possibly other committees as work on the *Textbook* progresses.

Following are brief descriptions of *Textbook* chapter objectives and suggested revisions for the new edition. See the CAS Web Site at http://www.casact.org/research/textnote.htm for more complete descriptions.

Chapter 1—Introduction

The current chapter emphasizes developments in credibility theory primarily. Adding material on ratemaking, reserving, classification, dynamic financial analysis, and new fields being explored by actuaries would enhance the chapter's value.

Chapter 2—Risk Theory (new chapter for 4th edition)

The committee wants a more thorough treatment of risk theory in this new chapter. Prospective authors should refer to the partial treatment of risk theory in the current *Textbook*'s Chapter 9.

- Define risk, discuss insurance vs. gambling, and compare and contrast risk transfer and elimination.
- Treat risk transfer mechanisms, the social benefits of insurance, and other topics specific to the property-casualty environment; explain how these concepts are handled in traditional insurance, self insurance, and insurance pools, groups, and other risk financing mechanisms.
- Cover risk transfer and risk reduction from the standpoint of the insurance buyer, both consumer and business.
- Cover reinsurance and possibly treat excess insurance attachment points from the standpoint of the insurer.
- Present theory and illustrate with examples.

Chapter 3—Ratemaking

The existing Chapter 2 will not be rewritten but used as is in the revised *Textbook*.

Chapter 4—Individual Risk Rating

The underlying concepts covered in this chapter are explained clearly, and need very little, if any, rewriting. The committee suggests eliminating the overlap with current Chapter 2 in the terminology section and updating references and some of the examples to reflect current rating plans.

Chapter 5—Loss Reserving

Suggestions include moving the "Actuarial Model" to the end of the chapter after the reserving techniques are presented (the mathematical level is beyond the rest of the chapter), simplifying and standardizing definitions, and updating the numerous date references.

Chapter 6—Risk Classification

- Expand the "Measures of Efficiency" section to more fully explain the issue and demonstrate the calculations in more detail.
- Revise the examples of estimating class relativities to better coordinate with the examples in the current Ratemaking chapter.

Chapter 7—Reinsurance

The committee suggests rewriting the chapter taking a more basic approach but retaining some of the more advanced examples so that mathematically talented students might see the potential for using higher-level mathematics in casualty actuarial science.

Chapter 8—Credibility

The universal recommendation is to start from scratch and develop a chapter that introduces the basics of credibility theory to actuarial students.

Chapter 9—Investment Issues in Property-Liability Insurance

An extensive rewrite is recommended de-emphasizing older material and including more recent material on investment income in pricing. In addition to addressing new types of investments and updating graphs and charts, the new chapter should discuss asset-liability matching more fully to reflect increased actuarial emphasis on this subject in the last decade.

Chapter 10—Special Issues

The committee has decided to remove risk theory entirely from this chapter (see description for Chapter 2).

- Address risk-based capital requirements and surplus notes and other means of raising capital.
- Develop more in-depth treatment of planning and forecasting.
- Update data sources.
- Treat securitization of catastrophe risk in general, and, in particular, quasi-governmental responses such as wind pools, catastrophe funds, and catastrophe modeling. ■

New Fellows and Associates

New Fellows: Row 1: Thomas G. Hess, Marie-Josee Huard, David Molyneux, Elizabeth B. DePaolo, Christina Link, Michael J. Steward II. **Row 2**: Man-Gyu Hur, Vinay Nadkarni, **Mavis A. Walters**, Steven T. Harr, Daniel F. Henke. **Row 3**: Andre L'Esperance, John S. Peters, William Peter, Steven W. Larson. **New Fellows not pictured**: Michael K. Curry, Michael K. McCutchan, Thomas S. McIntyre, and Michael D. Price.

New Associates: Row 1: Kevin M. Bingham, Dean A. Westpfahl, Nathan A. Schwartz, Tammi B. Dulberger, Kyle J. Vrieze, Timothy A. Davis, Nancy S. Allen, Melissa K. Higgins. **Row 2**: Allen S. Lynch, Jr., Christopher W. Cooney, Benoit St-Aubin, Turgay F. Turnacioglu, **Mavis A. Walters**, Jason M. Nonis, Carl X. Ashbrenner Alan Burns, Steven G. Searle. **Row 3**: Brian A. Evans, Alastair Shore, Nancy K. DeGelleke, Wanchin W. Chou, Brad E. Rigotty, Leslie A. Vernon. **Row 4**: Timothy J. Friers, Bernard H. Gilden, Francois R. Dumontet, Kendall P. Williams, Thomas J. Chisholm.

New Associates: Row 1: Glen A. Leibowitz, Linda Yang, Gary F. Scherer, John E. Noble, Sara P. Drexler, Aviva Shneider, Jennifer A. Moseley, Beth S.Tropp. **Row 2**: Manuel Alberto T. Leal, Brian H. Deephouse, Thomas J. White, Phillip W. Banet, **Mavis A. Walters**, Jean-Francois Ouellet, Pierre Parenteau, John N. Levy, Emmanuil Bardis. **Row 3**: Matthew J. Wasta, Kimberly R. Rosen, Wendy L. Artecona, Jennifer A. McCurry, Jonathan S. Curlee, David J. Gronski, Daniel E. Greer, Craig A. Levitz. **Row 4**: Loren R. Danielson, Jeremy P. Pecora, Christopher R. Heim, Craig V. Avitabile, Stephen J. McAnena.

Honored at '98 Spring Meeting

New Associates: Row 1: Daniel Cyrus Greer, Eric C. Hassel, Kathryn A. Owsiany, Karrie L. Swanson, Gina S. Binder, Michael B. Delvaux. **Row 2**: Karen D. Derstine, Richard A. Rosengarten, Ethan Mowry, **Mavis A. Walters**, Tina T. Huynh, Corine Nutting, Dennis H. Lawton. **Row 3**: Lynn K. Wehmueller, Glenda O. Tennis, Mauricio Freyre, James D. Kunce, Mark Kelly Edmunds, Matthew R. Sondag. **Row 4**: Seth A. Ruff, Sanjay Godhwani, Hayden Burrus, James C. Sandor, Scott Werfel.

New Associates: Row 1: Michael W. Barlow, Nathan W. Root, Rachel R. Tallarini, David P. Moore, Chad A. Henemyer, David S. Atkinson. **Row 2**: Rebecca L. Roever, Susan E. Innes, Varsha A. Tantri, **Mavis A. Walters**, Kris D. Troyer, Seth W. Myers. **Row 3**: Glen-Roberts Pitruzzello, Claudine H. Kazanecki, Vanessa C. Whitlam-Jones, M. Charles Parsons, Christopher D. Randall. **New Associates not pictured:** Mustafa Bin Ahmad, James D. Buntine, Stephen C. Fiete, Sarah J. Fore, Kelly Martin Kingston, Carl Lambert, Hugues Laquerre, David Leblanc-Simard, Bradley R. LeBlond, Shiu-Shiung Lin, Victoria S. Lusk, Mark Z. McGill III, Jarow G. Myers, Kari A. Nicholson, Richard M. Pilotte, Hany Rifai, Karen L. Rivara, Brian C. Ryder, Meyer Shields, Joy M. Suh, Laura L. Thorne, Christopher B. Wei, and Yoke Wai Wong.

Web Site News

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Membership E-mail List. To be removed from the list or to add your E-mail address to the distribution list, contact Mike Boa at mboa@casact.org.

E-mail Study Groups

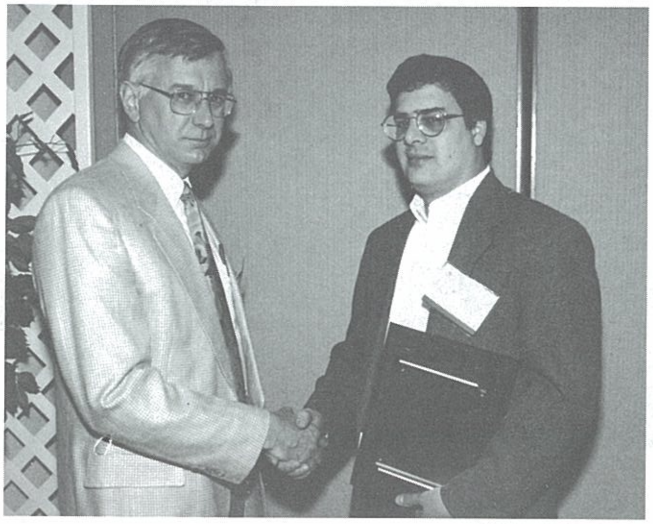
E-mail Study Groups have been expanded to include an E-mail list for all Fall 1998 Exams (Parts 3B, 4A, 4B, 5A, 5B, 7, and 9). Heavy utilization of the pilot program for the Spring 1998 Exams prompted COOS to make the E-mail Study Groups available for all exam parts.

"We initially had anticipated that these forums would be used most heavily by higher level exam takers. The actual activity suggests that the opposite might be true," said Israel Krakowski, COOS Chairperson. "Given how useful the forums appear to have been, we decided to extend the benefit to the larger population of exam takers," Krakowski continued. "We will continue to monitor the various forums."

All messages sent through the E-mail Study Groups have been archived on a Web page within the CAS Web Site, which allows those late in joining the study groups to peruse the discussion topics.

COOS encourages experienced actuaries to join the E-mail Study Groups as mentors for those currently preparing for exams. Several individuals who teach exam preparation seminars have already agreed to participate and monitor the study group postings. To join an E-mail Study Group, visit the Students' Corner on the CAS Web Site at http://www.casact.org/students/studygroups.htm. ■

Stein Receives Michelbacher Prize



John J. Kollar (left) and Richard Stein (right).

Richard Stein won the 1998 Michelbacher Prize for his paper, "The Actuary As Product Manager In a Dynamic Product Analysis Environment." **John J. Kollar**, Chairperson of the Michelbacher Prize Committee, presented the award to Stein at the business session of the 1998 CAS Spring Meeting, held May 18.

This Michelbacher Prize commemorates the work of Gustav F. Michelbacher and is awarded to the author of the best paper submitted in response to a call for discussion papers whenever the program is conducted by the Casualty Actuarial Society. Papers are judged by a specially appointed committee on the basis of originality, research, readability, completeness, and other factors. Recipients need not be members of the Casualty Actuarial Society. The amount of the Michelbacher Prize is currently $1,000.

Stein's paper can be found in the CAS Web Site's download library at http://www.casact.org/library/library.htm#pricing or in the 1998 *Discussion Paper Program.*■

Faculty Position Available

The University of Illinois at Urbana-Champaign invites applications for a full-time faculty position in Actuarial Science to commence August 21, 1999 or 2000. The person selected will be expected to teach graduate and advanced undergraduate students, and to pursue professional activity through research and professional committee work. Candidate must also have the potential to assume direction of the Actuarial Program after several years. The position involves increased responsibilities in advising and placing students; maintaining relations with alumni, insurance companies, and consulting firms; and program fundraising. Salary and teaching load are competitive. Contact the University at the address below for more information on requirements.

All applicants should send a letter of application with a CV and publication list, plus the names and addresses of three references, to: Philippe Tondeur, Chair, Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 West Green Street, Urbana, IL 61801; Phone (217) 333-3352; E-mail search@math.uiuc.edu. Applications received by December 1, 1998, will receive full consideration. Applications from women and minority candidates are especially encouraged. AA/EOE.

Affiliate Membership

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pate as active, but limited CAS members, without becoming Associates or Fellows of the CAS, Members of the American Academy or Fellows of the Canadian Institute of Actuaries.

The proposal for an Affiliate Membership class was developed to address the CAS Strategic Plan item that calls for "establishing a type of non-voting, correspondent membership or affiliation that recognizes the training, experience, and interests of actuaries practicing casualty work solely outside of the U.S. and Canada." The final proposal prepared by the Education Policy Committee and adopted by the Board is broader than called for by the Strategic Plan, in that it addresses all qualified actuaries practicing in the casualty area without regard to geography. Following are some basic questions that outline the logic behind the proposal.

Who will be eligible for Affiliate Membership, and how will they participate in the CAS?

Affiliate Membership is for those who have attained the highest actuarial designation of an organization that is a member of the IAA and who practice in the property/casualty or general insurance fields. Affiliate Members will pay the same dues ($270) as Associates or Fellows. They will receive literature, get notices, and may attend meetings. Affiliates will be able to participate in all programs and committees with the exception of the Board and Admissions Committees. Granting Affiliate Membership will not bestow CAS professional status, but it will recognize that the candidate has been granted professional status as an actuary by another actuarial society and practices in the casualty field.

Does the CAS need a new membership class?

There is a global thrust to most social, political, and economic endeavors that tends to melt borders and require professional people to perform in a more general and international way. CAS members are subject to these

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Ethical Issues Forum: The Case of the High Return

Editor's Note: This article is part of a series written by members of the CAS Committee on Professionalism Education (COPE) and the Actuarial Board of Counseling and Discipline (ABCD). The opinions expressed by readers and authors are for discussion purposes only and should not be used to prejudge the disposition of any actual case or modify published professional standards as they may apply in real-life situations.

Volatile Insurance Company (Volatile) is a monoline, single-state insurer that only writes specialty commercial automobile liability policies with high limits. This specialty program is comprised of log trucks and long haul trucking. The public service commission (PSC) requires these vehicles to carry liability insurance with a minimum limit of $1 million. Volatile does not purchase reinsurance for this program. The total volume of insurance industry log trucks and long haul trucking business in this state is $10 million.

Volatile is filing for a 57 percent rate increase with the state insurance department on their $3 million book of business. Volatile has calculated their profit and contingency provision by subtracting investment income from an overall cost of capital. The cost of capital used in the filing is 25 percent. As stated in the filing by Volatile's actuary: "Since Volatile is unaware of any other insurance company in our unique situation, it was necessary to use my 30 years of actuarial/insurance company operations and professional judgment to select the overall cost of capital in this case."

The prior Volatile filing, which underlies the current rates, was based on a 12 percent cost of capital assumption. This prior filing was completed by Volatile's vice president of marketing prior to the establishment of the company's actuarial department.

The state insurance commissioner has disapproved the rate filing on the grounds that the 25 percent cost of capital is considerably higher than the overall insurance industry's return on equity of approximately 12 percent.

Point

Volatile disagrees with the decision, with the assertion that their book of business is more volatile than the insurance industry in aggregate and as a result needs to achieve a higher return to attract investors. Volatile contends that this increased volatility is a result of the small volume of specialty vehicles in the state and the high limits required by the PSC.

> **"The nature of Volatile's book of business (high severity, limited diversification) clearly subjects its surplus to more significant risk of loss than its average counterparts."**

Several sections of ASOP #30, *Treatment of Profit and Contingency Provisions in Property/Casualty Insurance Ratemaking,* have been called into question by Volatile's actions. Section 3.1, "Estimating the Cost of Capital and the Underwriting Profit Provision," states that "insurance rates should provide for all expected costs, including an appropriate cost of capital associated with the specific risk transfer." Further, under Section 3.2, "Basis for Cost of Capital Estimates," states, "In estimating the cost of capital, the actuary should consider the relationship between risk and return." Finally, Section 3.4, "Parameters of the Risk Transfer," requires the actuary to "recognize that the cost of capital associated with an individual risk transfer may vary, based on the specific parameters of the transfer."

The nature of Volatile's book of business (high severity, limited diversification) clearly subjects its surplus to more significant risk of loss than its average counterparts. While the Insurance Commissioner's target may prove reasonable over the long-term for the industry in aggregate, capital investment decisions require recognition of the specific risk and return relationships afforded by each opportunity. The capital marketplace will generally require a "premium" to offset the potential impairment to Volatile's surplus and their investment.

Further, true rate of return regulation is better served by competitive market pressures.

Counterpoint

The 57 percent rate increase, which is primarily a result of the increase in the cost of capital assumption from 12 percent to 25 percent, could have a potentially severe impact on the commercial trucking business in this state. The result could reasonably expect to drive a number of commercial trucking companies out of business (along with the associated jobs) or at least result in a number of operations leaving the state. Due to the economic issues, a change of this magnitude should, at a minimum, be incorporated into the ratemaking process over a number of years.

In addition, the 25 percent cost of capital assumption has not been justified in this filing. ASOP #30 requires that "the actuary should consider the relationship between risk and return." This issue was not directly addressed in this filing. The professional judgment of the actuary alone does not provide sufficient justification for the selected cost of capital. While ASOP #30 does not endorse any particular meth-

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Affiliate Membership
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changing demands as are the clients and employers they serve. This implies a need for established actuaries to engage at a professional level in new jurisdictions without passing another lengthy series of exams. The new membership class is in line with similar conventions that are in place around the world. For example, the Institute of Actuaries in the U.K. has an affiliate program with 151 members. While it seems that the demand for affiliate membership will come from actuaries practicing outside the U.S. and Canada, it is interesting to note that 54 (or one-third) of the current 151 Affiliates of the Institute of Actuaries are residents of the U.K. North American enterprises, including those that need property/casualty actuarial services, are globalizing and the CAS needs to be structured so that it can respond to the needs of prospective as well as current members and audiences. Affiliate Membership is a tool that will help open channels abroad and facilitate the free flow of these services to wherever they are needed.

How would it affect practice rights?

There needs to be a clear understanding of what happens if an "Affiliate" practices in the U.S. or Canada. There would be no automatically enhanced status. The CAS Code of Conduct requires that members practice only when qualified to do so and refers to AAA and CIA qualification standards to determine eligibility to practice. Since the Code would apply to Affiliate Members, acceptance of Affiliate Membership places a requirement on the actuary to adhere to U.S. or Canadian qualification standards.

How does this new membership class apply to members of the Society of Actuaries?

Fellows of the Society of Actuaries who practice in casualty insurance would be eligible to apply for Affiliate status. Currently, the American Academy and the Canadian Institute of Actuaries permit these actuaries to practice in the casualty field if they are qualified to do so. Affiliate membership in the CAS would not affect the actuary's qualification to practice, but would encourage participation in CAS activities, including continuing education and membership in technical committees.

Would it dilute professional capabilities?

There is a legitimate concern that use of the Affiliate Membership could dilute the professional capabilities of CAS members and compromise the esteem currently attached to our initials. Letting in unqualified affiliates would dilute the expertise of the CAS membership and how we are perceived by the public. Affiliate Membership does not imply a complete CAS skill set or practice rights. It merely allows the CAS to give some level of recognition to those who have achieved the highest general insurance actuarial qualification outside the U.S. or Canada. Generally speaking, the qualifications required for Affiliate Membership should be consistent with those contemplated for foreign practice under NAFTA. Essentially, a person would have to be the equivalent of a Fellow in his or her own country in order to apply.

Would it enhance professional capabilities?

Casualty actuaries who trained outside the U.S. and Canada can bring unique insight to our profession. The Affiliate Membership option will encourage them to bring this value-added knowledge to the CAS membership and receive recognition from their U.S. and Canadian peers for doing so. It is desirable for all actuaries doing property/casualty work to be affiliated with the CAS. This is particularly true for work being done in the U.S. or Canada. Affiliation increases awareness of state-of-the-art techniques and motivation to adhere to the CAS Code of Conduct and Actuarial Standards Board and Canadian Institute of Actuaries Standards of Practice.

How will the program be administered?

The proposal recommends that the Board of Directors adopt an application form that incorporates sponsorship by an FCAS, including a letter of recommendation from the sponsoring Fellow, evidence of attaining the highest actuarial designation of an organization that is a member of the IAA, and evidence of significant practice in the property/casualty field.

Fellowship and Associateship will retain a special place in the CAS. Only Fellows can vote and Associateship is required for members to append CAS initials to their names. Board members and officers must be Fellows.

Other actuarial societies provide ways to recognize qualifications other than their own. As we go forward, the CAS must do as good a job of recognition as it does in the technical arena. The Affiliate Membership accomplishes that for the CAS without compromising the value of the ACAS and FCAS designations.■

Forum Authors Omitted

The Summer 1998 *Forum*, including the DFA Call Papers, inadvertently omitted two co-authors from a published paper. The paper entitled, "Applications of Resampling Methods in Dynamic Financial Analysis," should have listed Dr. Richard Derrig and Grzegorz Rempala as co-authors with Krzysztof M. Ostaszewski. The CAS regrets the error.■

Correction

In the article "Regional Affiliate Formed in Europe" (*Actuarial Review,* May 1998), the address for the Secretary-Treasurer of the Casualty Actuaries of Europe (CAE) was incorrect.

The address should be: Alessandrea C. Handley, CAE Secretary-Treasurer, AIG Europe, 120 Fenchurch Street, London, EC3M 5BP, United Kingdom; phone 011-171-280-8950; fax 011-171-280-3665.■

Ethical Issues Forum

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ods, Appendix 1 recognizes three models used in current practice (that is, Comparable Earnings Model, Discounted Cash Flow Model and Risk Premium Model). When using these or other models, the Actuary needs to

"...there are several ways that Volatile could reduce their risk...."

follow the documentation requirements in ASOP #9, *Documentation and Disclosure in Property and Casualty Insurance Ratemaking, Loss Reserving, and Valuations.*

In addition to justification of cost of capital under their current situation, there are several ways that Volatile could reduce their risk; reinsurance is one way. ASOP #30, section 3.2, "Basis for Cost of Capital Estimates," states:

> "In estimating the cost of capital, the actuary should consider the relationship between risk and return. The methods used for estimating the cost of capital should reflect the risks involved in the risk transfer under consideration. These risks may include insurance, investment, inflation, and regulatory risks, as well as diversification, debt structure, leverage, reinsurance, market structure...."

Volatile should be asked to reasess their cost of capital given a reduction in volatility that could be achieved through a reasonable reinsurance program. Insureds should not be required to pay artificially high premiums if the company decides to retain abnormally high levels of risk.■

Brainstorms

Modeling Payout Patterns

by David Sommer and Stephen Philbrick

For reserving actuaries, a long-standing challenge seems to be more insistent these days. There is an increasing level of interest in developing a range around our estimates of future liabilities, rather than just a best estimate. And while using the range of results from multiple methods provides an answer to this request, it doesn't really address the real question—"How confident are we that future liabilities won't exceed a given level?" Further, with the increasing awareness of DFA, variability in the payment pattern has become an issue of interest as well. We would like over the next few articles to discuss some of the challenges we've found in developing algorithms to address these issues. Our approach has been to abandon the search for the theoretically perfect approach and find some practical alternatives that, while addressing some issues adequately, have shortcomings that are acceptable. As a result, the focus will be towards simulation approaches, rather than analytic solutions.

"How confident are we that future liabilities won't exceed a given level?"

For this discussion, let's take the case of simulating a payment pattern. One problem when modeling payout patterns is ensuring that the resulting ultimate paid amounts match the incurred amounts. When simulating losses, it is common to simulate the ultimate losses for a particular year in one step. If we then randomly simulate the dollars paid in subsequent calendar periods in the obvious way, we have to deal with the fact that the simulated paid losses won't necessarily add up to the original incurred pick. Solutions such as rescaling are not particularly appealing. We wanted to find a method that would address this in a "cleaner" way.

There is another problem when simulating payout amounts—does it make sense to simulate successive evaluation points (columns) independently? The reason that this question is important is that the answer affects how variability is measured. If we are looking at a column of losses and notice a particularly small value, we will generally have one of the following two thoughts: 1) losses are going to be more than usual next period to play catch-up, or 2) losses are going to be less than usual because this is a good year. While uncertain of the sign, we generally feel there is some correlation between columns. Given the ambiguity of our thoughts, the prospect of measuring this, much less modeling it, is daunting.

The approach that we suggest is appealing for two reasons. First, it avoids this problem, second, it has some intuitive basis.

In paying claims, adjusters not only look at how much they paid previously, but also at how much they have outstanding. As such, rather than analyzing columns of the triangle as percentage growth of cumulative payments over previous payments, we restate the triangle as incremental payments as a percentage of outstanding loss. Testing shows that this approach leads to columns that are more independent.

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It's a Puzzlement

Scrambled Addition

by John P. Robertson

Chris Yaure writes, "Recently I attempted to copy part of a spreadsheet into a text document. Unfortunately, the word processor converted all of the digits into letters. This is what I saw:

```
      C A S U A L . T Y
+   A C T U A R I . A L
-----------------------
    S O C I E T Y
```

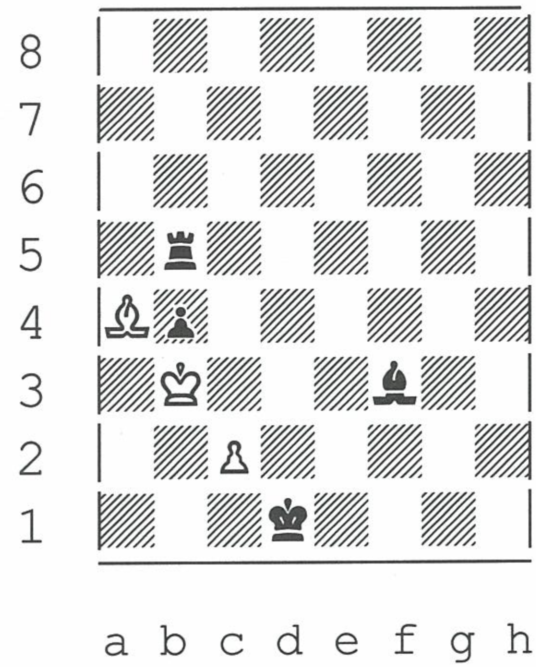
I was surprised to discover that each letter had replaced the same numeral each time the letter appeared. Upon reviewing the documents further, I realized that the original numbers had contained no zeros, and that each numeral from 1 to 9 was represented by at least one letter (two numerals were represented by two different letters). Finally, one of the pairs of letters that replaced the same numeral is A and Y." Can you unscramble Chris' computation?

Replace the King

This was a difficult problem. For those of you who were stumped, here is the solution. We will give moves in algebraic notation. Squares are referred to by a letter-number combination, such as c5. The letter gives the file (column) with the leftmost file as a, through to the rightmost as h. The bottom rank (row) is 1, and the top rank is 8. Thus the lower left corner is a1, and the top right corner is h8.

Start with pieces as shown in the diagram (the black bishop could be anywhere along the a8-h1 diagonal, except at d5). It is black's turn to move. This is a position that could be reached with legal play. Note the addition of two pawns; they will be the key to the solution.

Moves proceed as follows: black moves the bishop to d5, putting the white king in check. White moves its pawn to c4, blocking the check. Black takes the white pawn en passant by moving its pawn to c3. This puts the white king in double check, both from the bishop and the rook. White takes the black pawn on c3 with the king. Thus the white king should be replaced on c3, and it is black's move. A process of elimination can be used to show that this is the only solution.



Solutions were submitted by Jeff Dvinoff, Madelyn Faggella, Steve Fallon, Moshe Goldberg, John Herder, Aaron Newhoff, Charles Petrizzi, Bill Saffran, Dave Schofield, Gregory Scruton, **Dave Skurnick**, Joe Theisen, and (jointly) **Jeff Subeck** and A. P. Garcia.■

In Memoriam

Emil J. Strug
(FCAS 1970)
March 14,1998

Herbert E. Wittick
(FCAS 1931)
date of death unknown

Paul E. Singer
(ACAS 1963)
March 21, 1998

Brainstorms

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In defining outstanding loss, we prefer to include IBNR. While the claims people don't know the amount of the IBNR, they are affected by incoming claims. But more importantly:

- It puts rows and columns on a consistent basis.
- It guarantees that the cumulative paid will eventually reach 100 percent, and
- It keeps the cell values between zero and one, which can be modeled easily, for example, using a Beta distribution.

We now can calculate moments for each column and estimate the parameters of whichever distribution we choose to use. We can then simulate the percentage to be paid during each period and apply it to the estimated ultimate losses to determine the variation in future payments due to timing risk.

In summary, modeling payments, not as a function of paid-to-date, or exposures, but instead as a ratio of remaining outstanding:

- reduces the problem of independence
- resolves the problem of matching ultimate paid to incurred, and
- seems intuitively reasonable.

Any thoughts?■