The Actuarial Review

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From the President

A Primer on CAS Governance

by Mary Frances Miller

The recent mega insolvencies and corporate scandals have turned the public's attention to what constitutes good corporate governance. Companies that place too much power in the hands of a single individual or a small group face dominance risk—an operational risk that Jeremy Goford (president of the U.K. Institute of Actuaries) characterizes as one of the greatest threats to an enterprise's long-term stability. Dominance risk played a major role in the insolvency of HIH, the largest personal lines carrier in Australia. A few "entrepreneurial" personalities with grandiose expansion ideas were able to bet the company's surplus on their pet projects largely because there was no voice of restraint.

What is the CAS's exposure to dominance risk? I have chatted with CAS members about this issue on several occasions, only to discover that a substantial portion of our membership is a bit hazy on just who has what authority in the CAS leadership. So I am devoting this column to a primer on the CAS governance process, along with an invitation to become more familiar with the process by sitting in on CAS Board meetings.

→ page 14

Board To Implement Joint Task Force Recommendations on Preliminary Examinations

ARLINGTON, Va.—At its March 8, 2004 meeting, the CAS Board of Directors approved the proposal of the Joint CAS/SOA Task Force on Preliminary Education (www.casact.org/admissions/reports/CASPeProposal.pdf), with two modifications. The joint task force was charged with preparing a final recommendation and an implementation plan with respect to educational processes for both the CAS and SOA (including areas of joint activity) for the subjects covered by current Exams 1-4.

The board received a number of questions and comments from members and candidates about the task force recommendations and took these comments into

→ page 6

IASB Issues International Financial Reporting Standard For Insurance Contracts

IAA Will Develop International Actuarial Standards of Practice

The International Accounting Standards Board (IASB) issued International Financial Reporting Standard 4 Insurance Contracts (IFRS 4) on March 31, 2004 after seven years of study. The IASB is publishing IFRS 4 as three separate book-

→ page 6

Membership Survey Shows High Satisfaction

Last year, CAS members were asked to complete the 2003 CAS Membership Survey, and the response rate was incredible. More than 52 percent of the membership (1,934 members) submitted a completed questionnaire. (For comparison purposes, 32 percent of the membership responded in 1998 and 41 percent responded in 1993.) Before the Membership Survey Task Force even had a chance to analyze the responses to survey questions, one message was loud and clear—CAS members are strongly interested in the future direction of the organization.

The Membership Survey Task Force has completed its report and is pleased to share the survey results

→ page 17

Inside This Issue:

In My Opinion

Between a Rock and a Hard Place

by Paul E. Lacko

On March 14, *The New York Times* published a report under the headline "Democrats Demand Inquiry Into Charge by Medicare Officer." The report alleges that "the Bush administration threatened to fire a top Medicare official," Richard S. Foster, the chief actuary of the Medicare program, "if he gave data to Congress showing the high costs of hotly contested Medicare legislation."

An editorial in *The New York Times* two days later noted that "Mr. Foster privately cautioned that [the Medicare changes'] cost could amount to as much as $600 billion, while the White House stuck publicly to the Congressional Budget Office figure of $400 billion over 10 years."

I subscribe to *The Wall Street Journal*, but not *The New York Times*, so the first report I saw was on page four of the March 18 *Wall Street Journal*. This article shows an exchange of memos. Mr. Foster's memo to Tom Scully says, "I have a personal and professional responsibility" to respond to three requests from members of Congress for specific estimates with relevance to the proposed legislation. The reply, from Mr. Scully's top assistant rather than Tom Scully himself, tells Mr. Foster, "Tom Scully was very explicit—do not share information on #2 and #3 with anyone else until Tom Scully explicitly talks with you—authorizing the release of information. The consequences for insubordination are very severe. Please call me if you have any questions regarding this instruction."

"Foster's silence led to the passage of the Medicare legislation—by one vote."

The article does not say if Mr. Scully "explicitly" talked with Mr. Foster. The article does not say what estimates, if any, Mr. Foster sent over to Congress. But it appears that Congress was surprised to find out how high Mr. Foster's estimates were, and more than a little upset to find out after the legislation had already been passed into law.

According to the newspaper reports, Mr. Foster is scheduled to sit before Congress on Wednesday, March 24, to present his annual report about the Medicare system. For you, Mr. Foster's report to Congress is already old news. I write this column for *The Actuarial Review* about six weeks before you read it. This time lag makes it difficult to reflect on current events in this column. Either I have too little information on which to base an opinion, or the issues are resolved or forgotten before you read the column.

My hunch is that some Democrats in Congress, and probably some Republicans, will treat Mr. Foster respectfully. They will welcome Mr. Foster as a "good guy" who has brought to light evidence that the Bush administration intentionally withheld important information from Congress and the American public. They will commend Mr. Foster for coming forward in a manner that was clearly judicious, reasonable, and ethical given the circumstances.

Other Democrats and Republicans may be less kind, especially some who voted in favor of the legislation. Mr. Foster's silence led to the passage of the Medicare legislation—by one vote. If members of Congress had been aware that Mr. Foster's

→ page 8

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2004 CLRS Set For Las Vegas

by Susan Pino, Chairperson, Joint Committee for the Casualty Loss Reserve Seminar

The 2004 Casualty Loss Reserve Seminar (CLRS) will be held at the Mirage Hotel in Las Vegas on September 13-14 and will offer actuaries, analysts, accountants, regulators, and other interested parties an opportunity to learn more about loss reserves in today's fast-changing environment. A Limited Attendance Seminar (LAS) on Asset Liability Management and Principles of Finance will immediately follow on September 14-15.

This year's seminar also provides a unique opportunity to learn about the activities of the membership in response to recent concerns by our various constituents. Learn what we are doing as a profession to improve the actuarial work product, including the Statement of Actuarial Opinion, share your own views and concerns regarding recent discussion and critiques of the reserving process, and participate in a number of interactive sessions.

The 2004 CLRS will offer over fifty sessions covering a variety of topics and tracks, including reinsurance reserving, accounting topics, emerging issues, reserving techniques, reserve opinion and other regulatory issues, and other areas specific to individual lines of business.

The LAS is an opportunity for attendees to become acquainted with both basic and advanced topics in the areas of finance and financial risk management and their applications to the pricing and analysis of property/casualty insurance.

Don't miss this opportunity to participate in these seminars and enjoy the city of Las Vegas. For more information on sessions and registration, visit the CAS Web Site at www.casact.org/coneduc/clrs/2004. ■

Boston to Host 2004 Reinsurance Seminar

by Jean DeSantis, Chairperson, Joint Program Committee For Reinsurance Seminars

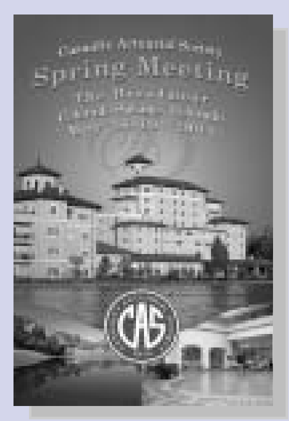
The Boston Marriott Copley Place in Boston, Massachusetts, will host the 2004 CAS Reinsurance Seminar, June 6-8. A welcome reception will kick off the seminar on Sunday evening with general sessions and concurrent sessions on Monday and Tuesday. There will be a buffet dinner on Monday night.

One of the general sessions will include a discussion from the perspective of the new millennium reinsurers and how their strategies may differ from or be similar to those of the 1990's. In the second general session, a panel of actuaries will discuss how their roles and relationships in the workplace and industry have an impact on the success of their company, the industry, and on the credibility of the actuarial profession. Concurrent sessions will include technical sessions on advanced experience and exposure rating, property catastrophe modeling of small- and medium-sized events, and parameter uncertainty. Business segments addressed will include directors and officers, medical malpractice, umbrella, and international issues. Other concurrent session topics include accounting issues, reinsurance contract wording, behavioral economics, and career planning. Also, the Reinsurance Research Committee will moderate a research corner discussion and the paper awarded the 2004 Ronald Ferguson award will be presented.

More information on the seminar has been mailed to members and is also available on the CAS Web Site. ■

Spring Meeting Spots Still Available

There's still time to register for the 2004 CAS Spring Meeting at The Broadmoor in Colorado Springs, CO this May.



Go to www.casact.org/coneduc/spring/2004 to register online. ■

Proceedings: Yea or Nay?

Dear Editor:

In February's *Actuarial Review*, **Clive Keatinge** tenders our willingness to cease publication of the *Proceedings*. In his view, [it does] not support the CAS's pursuit of the Centennial Goals. I see no conflict there; in fact I am more inclined to the view that the *Proceedings* reinforce these goals. Clive asserts that few actuaries outside the U.S. read the *PCAS*. I imagine that just about as many actuaries outside of the U.S. who want to, read the *PCAS*. They are online; there are no barriers. Lastly, he claims that the *Proceedings* are not timely in today's fast-paced world. Perhaps they are not. However, the CAS has plenty of timely, responsive venues for its members to get their reactions, comments, and input on important current issues.

Clive suggests two alternatives to the *Proceedings—The North American Actuarial Journal* and the creation of a worldwide journal. In my view, either (or both) would actually dilute the intent of the first Centennial Goal, which focuses specifically on casualty actuaries and casualty actuarial science.

The *Proceedings* keep us focused on our art and science.

Ed Shoop, FCAS

Clive Keatinge responds:

The problem with the *Proceedings* is not one of access; it is indeed easily accessible. The problem is that too few outside the CAS are interested in access.

The *Proceedings* is our only refereed publication, and unrefereed publications such as the *Forum* and the *Discussion Paper Program* are not a substitute. Most of our current literature is now unrefereed and thus unreliable. If we expect to attain the stature required by the CAS Centennial Goal, we must address this.

As I stated in my article, the worldwide journal I suggest would indeed focus on casualty actuarial science. *The North American Actuarial Journal* would be an appropriate venue for papers of interest to a wider audience than just casualty actuaries.

Fortunately, the problems with our publications have not gone unnoticed. I encourage *AR* readers to read the report of the CAS Task Force on Publications when it is released.

A Good Thing

Dear Editor:

Regarding the rating agencies' articles about actuaries, I shared **Paul Lacko's** initial reaction of outrage ("In My Opinion," *The Actuarial Review*, February 2004), and I agree that our leadership dealt with it swiftly and appropriately. I am writing to share my view (now that the outrage has passed and I can think clearly) that this is actually a good thing for the actuarial profession.

First off, the evidence would not support the charges, so they should not harm the profession. For example, reserve deterioration, by itself, does not imply unethical actuaries, or that the profession does not do enough to advance the science. As others have pointed out, the people who have made these accusations don't seem to have any idea who members of our profession are: highly mathematical insurance experts who have dedicated their careers to advancing the body of knowledge of casualty actuarial science.

What the articles really say is how critical the work of actuaries is and has become. The insurance industry spends a lot of money on actuarial work and these articles would support spending even more. The financial condition of an insurance enterprise has a high degree of uncertainty compared to other industries (it is more dependant on future contingent events). That is precisely why actuaries are needed in the industry. Even with the best possible actuarial work, we cannot eliminate this uncertainty. As you said, no forecaster can guarantee a right answer. As a profession, we should not get defensive when these charges are brought because we know that they cannot be supported. Rather, we should use it as an opportunity to explain how complex the issues are, how much judgment and uncertainty is involved, and all the advances that top experts in the field have been making. The sentiments in the articles can actually lead to increasing the importance placed on our analyses.

Just as good actuarial work is critical to success, bad actuarial work can kill a company. That statement is not critical of the profession, but rather justification for the high positions and incomes demanded by many of our members. When we defend ourselves to unfounded charges, we need to be careful not to damage the profession's reputation by implying that actuaries are not important enough to do any harm.

In this country, people are free to charge us with whatever they want. But, upon reviewing the evidence, I am confident the public would conclude that actuaries are highly ethical professionals devoted to constantly improving the process and doing the best possible work. I, for one, am glad I work in a profession that not only is so important that it is scrutinized when the industry has problems, but also requires a great deal of judgment. While initially upsetting, the rating agencies' articles may lead to an increased reliance placed on

→ page 5

Let Us Hear From You

The Actuarial Review welcomes letters and story ideas from our readers. Please specify what department you intend for your item—letters to the editor, or proposed news items, Brainstorms, It's Puzzlement, etc. Here's how to reach us:

Letters and Ideas for *The Actuarial Review*
E-mail: AR@casact.org
Fax: (703) 276-3108
Mail: CAS, 1100 N. Glebe Road, Suite 600, Arlington, VA 22201. ■

Statistical Ties

by Charles L. McClenahan

As we once again enter the election season we will undoubtedly hear the pundits refer to any poll where the difference is within the margin of error as a "statistical tie." This is, of course, just another example of the modern American education system—the math is wrong, but nobody's self-esteem is injured.

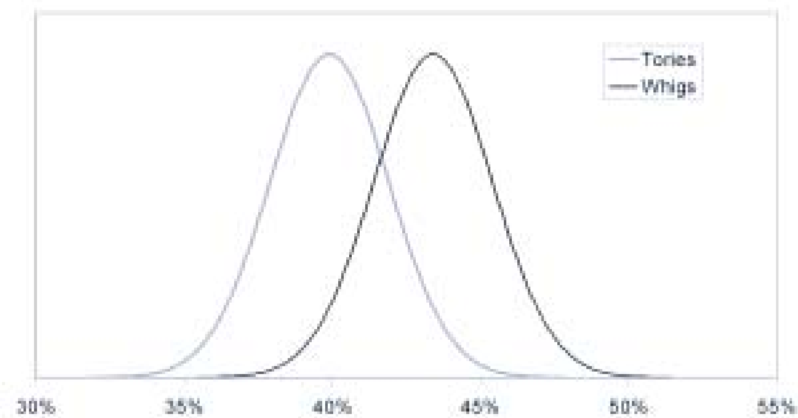
While this fallacy is somewhat reminiscent of the story of the two actuaries hunting rabbit, it has some appeal to us Cub fans (Red Sox too, I suppose). I mean, given a seven-game sample….

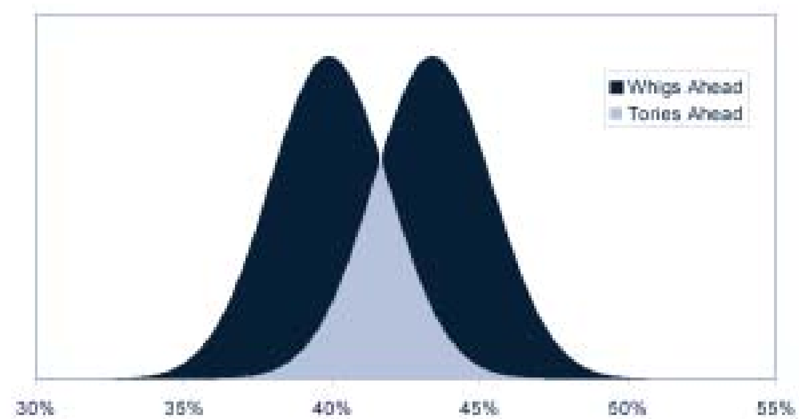
But before we gloat too much over this obvious lack of understanding of the mathematical world's basic nature, let us look at how we, as supposedly learned practitioners, apply what we know (ASOP No. 36):

Determination of Reasonable Provision—When the stated reserve amount is within the actuary's range of reasonable reserve estimates, the actuary should issue a statement of actuarial opinion that the stated reserve amount makes a reasonable provision for the liabilities associated with the specified reserves.

Range of Reasonable Reserve Estimates—The actuary may determine a range of reasonable reserve estimates that reflects the uncertainties associated with analyzing the reserves. A range of reasonable estimates is a range of estimates that could be produced by appropriate actuarial methods or alternative sets of assumptions that the actuary judges to be reasonable.

Aaron Levenstein said, "Statistics are like bikinis. What they reveal is suggestive, but what they conceal is vital." Yet the statistics themselves are neither modest nor immodest. Any concealment that exists is the result of ignorance, misinterpretation, or both. A four percent difference with a four percent margin of error means there could be a tie, not that there is a tie. A reserve at the low end of the range of reasonable estimates means the reserve could be reasonable, not that it is reasonable. When the pundit reports the result as a "statistical tie," or the appointed actuary opines that the low-end reserve is "reasonable," it is not the statistical process that is hiding the truth. ■





From the Readers

From page 4

actuarial work. This is a good thing for the profession.
Michael Dubin, FCAS

What Next?

Dear Editor:

In her "From the President" column (*The Actuarial Review*, February 2004) **Mary Frances Miller** asks, "where is our research on how to anticipate and reflect changing economic conditions in pricing and reserving?"

Well, you don't need a whole lot of research for that. All you need to do is some low-level sensitivity testing of your process. I suspect most (if not all) thorough and responsible actuaries do this now. However, having done it, the issue is, "what do I do next?" One of the problems is that there is no adequate, accepted public venue for the disclosure of these results.

Let's say you're somehow able to determine that your estimate reflects an underlying, overall, embedded average (I know there's a problem here) rate of change of x%. So you plug in (X +/- 1)%, and re-run. Similarly for (X +/- 2)%. You get a good idea what a one percent change is worth, real fast. Then

→ page 16

AAA Comments on Foster

Barbara Lautzenheiser, president of American Academy of Actuaries, issued the letter below in response to the situation involving Richard S. Foster, the U.S. government's chief analyst of Medicare costs (see "In My Opinion," page 2). The letter was published in the April issue of *The Actuarial Update*.

AMERICAN ACADEMY of ACTUARIES

March 26, 2004

Dear Colleagues,

As many of you are aware, Richard Foster, the chief actuary for the Centers for Medicare and Medicaid Services, a former member of the Academy's Board of Directors, and a respected member of the profession, has been in the news regarding his role in the passage of the Medicare prescription drug bill.

According to recent news reports, Mr. Foster's job was threatened last summer because he wanted to respond to a request from Congress for an actuarial analysis of a draft of the bill. His cost estimate was approximately $150 billion more than the $395 billion calculated by the Congressional Budget Office (CBO). The bill was passed in November using the CBO estimate, which by law is the only official estimate Congress can use. When the Bush administration submitted its FY 2005 budget proposal in February, the estimated cost for the Medicare prescription drug program was $534 billion, virtually the same as Mr. Foster's earlier estimate.

As this letter goes to print, the Academy has not made an official public statement in response to the news reports. Both the General Accounting Office and the inspector general of the Department of Health and Human Services have launched investigations. While those investigations are in progress, the Academy intends to refrain from making any statements that could prejudice them in any way.

We support the principle that sound, unbiased actuarial analysis should be available to decision-makers, in both the public and private sectors. The open exchange of information is crucial to our democracy. The news reports have brought to the public's attention the value of actuarial analysis and the role of the actuary in determining national policy.

Sincerely,

Barbara Lautzenheiser, President

Preliminary Exam

From page 1

consideration. In particular, the board considered the Validation by Educational Experience (VEE) component, in which candidates could substantiate knowledge by submitting acceptable evidence of having satisfactorily completed appropriate university courses or exams or courses administered by other organizations.

The board's two changes to the proposal were:

- Add transition rules related to pre-2000 exams.
- Offer exams on economics, corporate finance, and applied statistics for a minimum of two years as additional option for achieving VEE credit for these subjects.

At the end of two years, the CAS will reevaluate whether to continue to offer these exams, dependent on the quantity and quality of other educational experiences available for working candidates who did not take the necessary courses while in college. Although the CAS will administer these transitional exams, both the CAS and SOA will accept the exams for VEE credit.

To read the revised summary of the changes approved by the CAS Board visit www.casact.org/admissions/reports/PErevisions.htm. The CAS hopes to be able to announce the full syllabus for new Exams 1-4 by late spring.

The feedback received by the board on the VEE proposal indicates that there is a lot of confusion about this component. A Q&A document, posted to the CAS Web Site at www.casact.org/admissions/reports/QA.htm, addresses the most common questions and concerns. ■

Int'l Accounting

From page 1

lets. The first contains the mandatory requirements of the IFRS; the second contains the IASB's Basis for Conclusions, which sets out the IASB's reasoning behind the requirements in the IFRS; and the third consists of implementation guidance, including various illustrative examples. Subscribers are able to access the standard through IASB's online services. Those wishing to subscribe can do so via e-mail request (publications@iasb.org) or online (www.iasb.org).

The publication of this IFRS provides, for the first time, guidance on accounting for insurance contracts, and marks the first step in the IASB's project to achieve uniform insurance industry accounting practices around the world.

Introducing IFRS 4, Sir David Tweedie, IASB chairman, said, "At the urging of users, insurers and regulators, we have developed IFRS 4 to provide interim guidance on insurance accounting practices without imposing on the insurance industry significant costs that could prove to be wasted when we complete the more comprehensive project."

→ page 17

Latest Research

Economic Variable Model Available on CAS Web Site

by Phil Heckman, Chairperson, Committee on Theory of Risk

An economic time series model is now available in the Research Section of the CAS Web Site. The model was created by CAS members **Steve D'Arcy** and **Rick Gorvett** of the University of Illinois, and Kevin Ahlgrim of Illinois State University, under the joint sponsorship of the CAS Committee on Theory of Risk and the CAS Dynamic Risk Modeling Committee and the Society of Actuaries. This model generates multiple financial scenarios, incorporating interrelations among interest rates, inflation, and other financial and economic variables. The model has applications for dynamic financial analysis (DFA), cash flow testing, investment analysis, and financial planning

The model is written in Microsoft Excel using Visual Basic and the Palisade Corp.'s @Risk add-on. Users can run the program with the base parameters already installed, or change these parameters to reflect the judgment of the user. The time series it can simulate are

- Long Term Interest Rates and Yield Curve
- Short Term Interest Rates and Yield Curve
- Inflation Rates
- Stock Market Price Levels—Large Capitalization Stocks
- Stock Market Price Levels—Small Capitalization Stocks
- Equity Dividend Yields
- Real Estate Price Levels
- Unemployment Rate

The model documents include an Excel workbook containing the model itself and another with a large number of economic scenarios generated by the model for those users who do not have the @Risk add-in. Also posted on the Web site is an extensive report and bibliography with thorough discussion of the research team's modeling decisions and a comparison of the output of the model with historical values. Before undertaking the modeling itself, the research team conducted an extensive literature review. The report includes discussion of key contributions to the literature.

The original impetus for the model came from **Chuck Emma**, then chair of the Dynamic Risk Modeling Committee (formerly DFA Committee). Emma saw the need for a basic simulation model, for economic time series commonly used in DFA, which would incorporate the correlations and dependences among these series and provide a modeling platform that reliably produces reasonable and realistic economic scenarios. In my capacity as the chair of the Committee on Theory of Risk, I led oversight of the project jointly with Steve Segal, director of research for the SOA.

The model is intended to support a basic level of professional quality in DFA modeling and should be of interest to any practitioner, even those with more sophisticated models at their disposal. Nonpractitioners will find the report well written and an efficient way to become informed on economic modeling issues.

The model is publicly available, and all interested parties are welcome to download and try out the model, perhaps in a live DFA analysis. The authors presented their work at the recent Enterprise Risk Management Symposium, which was held in Chicago and cosponsored by CAS, SOA, the Professional Risk Managers' International Association, and Georgia State University. The authors invite your questions and comments. ■

CAS Issues Bylaws Errata for 2004 *Yearbook*

The 2004 *Yearbook* of the Casualty Actuarial Society contains an error in Article IV of the CAS Bylaws. Included in the envelope of the *AR* issued to CAS members is an errata sticker that can be put in place of Article IV's first paragraph, printed on page 290 of the *Yearbook*.

The CAS regrets the error.

CAS Fellows approved the Bylaws change in April 2003. Following is the correct wording of the paragraph. Place the sticker over the first paragraph of Article IV. ■

ARTICLE IV.—*Elections and Filling of Vacancies*

Procedures for nominations and elections shall be established by a majority vote of the Directors present and voting at a meeting of the Board of Directors. These procedures shall be provided to the membership annually at the beginning of the election process. A majority of the votes cast by Fellows shall be necessary for the election of the President-Elect. For the election of Directors, the four candidates with the highest number of votes cast shall be elected, subject to a requirement that one third of the valid ballots cast for Director shall be necessary for the election of a Director.

Actuarial Research Exchange Brings Together Researchers and Organizations

The Joint CAS/CIA/SOA Committee on Academic Relations established an actuarial research matching service to join faculty and business or government actuaries for collaborative work on practical business and societal problems. This Web-based service links faculty researchers and organizations for joint research projects. Organizations are invited to post their research needs on the Actuarial Research Exchange Web Site, where faculty researchers can review the opportunities and respond to those that match their interests. There is no cost to the organization to post a research opportunity. In addition, faculty members who are interested in conducting research are listed to allow companies to contact them directly about research projects.

This Web Site can be viewed from The Actuarial Foundation's home page at www.actuarialfoundation.org or www.aerf.org/exchange. Please contact Sheree Baker at (847) 706-3565 for more information. The Joint CAS/CIA/SOA Committee on Academic Relations and the AERF Committee of The Actuarial Foundation sponsors the site. ■

In My Opinion

From page 2

analysis showed the price tag to be 50 percent greater than Congressional Budget Office (CBO) predicted, the legislation probably would not have been passed into law. Mr. Foster may be pressed very hard to explain in great detail why he didn't come forward sooner, much sooner, like, for instance, before the legislation was passed. Some members of Congress may see nothing judicious, reasonable, or ethical by waiting so long to bring this incident public.

The CBO should be asked to explain a few things, too. Does CBO still believe that its estimates are reasonable? If not, then why did the CBO analysts fail to discover this before the vote? If so, on the other hand, does it believe that Mr. Foster's estimates are also reasonable? Let's not argue about whether \$400 billion or \$600 billion is the "right" answer. Let's not argue again about who is trustworthy and who isn't. Let's see if we can agree on the reasonable range of estimates.

Maybe then we can approach an intelligent decision.

The reports made Mr. Scully sound like Captain Queeg, but the reports did not describe what kind of working relationship Mr. Scully and Mr. Foster had. Being a political appointee, Mr. Scully probably had a set of marching orders from on high. He would have been especially sensitive to political agendas, hidden or otherwise, on the part of the people who sent information requests to Mr. Foster. Mr. Foster had no political agenda; apparently, he simply provided his best advice to whomever asked for it. According to *The Wall Street Journal* article, a member of the Clinton administration said that he received complaints from the White House occasionally about Mr. Foster's "independence."

It would be nice if the White House and the Congress could play cooperatively in the federal sandbox and build some nice sandcastles for us all. But politics more often resembles a poker game than a daycare outing. (What's the difference between poker and politics? In poker, somebody always wins.) The game itself is noncooperative. Cooperation occurs at the process level—how the game is played. The players do expect one another to abide by the rules of the game. (What's the difference between politics and poker? Poker has a rulebook.)

In politics, and in poker, a winning strategy requires that you figure out the other players' hole cards and prevent them from figuring out yours. The same can be said of the business world. (What's the difference between business and politics? Depends—how much can you donate to the campaign?) One rule that some people follow in business and politics is this: If your work will create a nasty mess that your boss will have to clean up, then you make sure your boss is the first one to know.

Corollary: Since you don't know what might create a nasty mess for your boss to clean up, give your boss an opportunity to review your work before you send it out.

My bosses have explicitly told me many times over the years, "Do your analysis, but don't send it out before you discuss it with me." I have learned a lot about business on these occasions. In general, I find it helpful to subject my work to scrutiny. My boss and my nonactuary peers discuss with me questions such as these: In 25 words or less, what does the analysis say? How realistic are the assumptions? What do we actually know and what are we only guessing at? How realistic is the model? How sensitive are the results to the assumptions? How bad, and how likely, is the worst-case scenario? How might this be interpreted differently by someone who knows less about the subject than we do? What objections, concerns, and additional questions might we expect from the recipient? How do we respond?

I don't worry about these questions while I'm doing my analysis, or, rather, the first draft of my analysis. (Good thing, or I'd never finish.) The discussion is my chance to step back from the numbers and consider the broader business concerns. This is my chance to find out things I didn't know that I didn't know. Hence I couldn't build these things into my analysis in the first place. The discussion usually leads me to change the analysis in some way. I am improving my work product, not caving in under political pressure.

Granted, I can't use my circum-

→ page 21

ERM: Myth vs. Reality

by Shaun Wang

Enterprise risk management (ERM) has become a hot subject among actuaries and risk managers. Theories predict that by taking an integrated (or holistic) approach to major risks facing an enterprise (including financial, strategic, operational, and hazard risks), ERM can reap great benefits in contrast to traditional silo approaches. However, an examination of current ERM practices reveals much misconception about risk and misapplication of financial theories. For healthy development of ERM, we need to separate myth from reality.

The Concept of Risk

To many educated minds, risk is random or stochastic, and can be described by a probability distribution. This myth is deeply rooted in financial and actuarial textbooks. The probability distribution can be estimated from observable (experience or market) data, with possible adjustments for trending and parameter uncertainty.

In modeling risks, however, more stochastic is not necessarily better. An outsider may observe risk as a random process. An insider, however, may see the same phenomena as trends and directions; in fact, such forward-looking projections can be very valuable for decision-making.

For business risks and strategic risks, a major concern is "not knowing the reality," "lack of information," or "driving in the dark." Information asymmetry is prevalent in various risk transactions. A more dreadful risk is wrong existing structure or state of being, for instance, wrong incentives, poor coordination and communication, and lack of accountability. These risks are worse than random risks and are not readily describable by a probability distribution.

The randomness mentality of risk has an unhealthy influence on the modeling of operational risks. It may be nice to fit a Pareto curve to historical operational loss data, but what does it do for an enterprise? It would be much more helpful to take a hard look at the business processes and incentives that led to past operational losses.

Multiple Perspectives of Risk

ERM does offer valuable big-picture perspectives, especially in balancing various types of risks. For instance, from an ERM perspective, we see an imbalance in traditional actuarial risk modeling that devoted much effort to modeling claim frequency, claim severity, and loss development volatilities, but neglected more important risks such as the underwriting and reserving cycle.

"ERM does offer valuable big-picture perspective... [but] cannot replace local expertise and knowledge."

In reality, within an enterprise, various business units (or activities) have their own sets of relevant risks. The ERM big-picture perspective cannot replace local expertise and knowledge.

When it comes to local (product-level) decisions, there is a saying "the devils are in the details."

ERM should not replace existing specializations such as asset risk modeling, credit risk modeling, and the like. In essence, ERM is a new specialization that coordinates the risk-taking activities of various business units, reconciles diverse perspectives, and harmonizes different economic interests and incentives, for the ultimate benefit of the enterprise.

Misapplications of Financial Economics

In the past two decades financial economics has been underpinning the explosive growth of the derivatives markets, which in turn has earned financial economics undisputable authority in the academic world. The basic versions of financial economics assume no frictional costs and information efficiency, and the only relevant risks to investors are systematic risks for the market as a whole. While these assumptions reflect some idealized states and approximate truth in some capital markets, they are far from reality when it comes to running an enterprise. It is exactly because of potentially large disruption costs in a non-ideal world that risk management becomes a necessity.

ERM is concerned with the risks that are most relevant to the enterprise, which may be or may not be the same as the systematic risks to the market as a whole. For example, in the P&C insurance industry, the most dominant risks may well be the notorious underwriting and reserving cycle.

ERM further recognizes that the set of relevant risks to a business unit can be quite different from that for the enterprise as a whole. In contrast, many companies are doing top-down economic capital allocations based on a giant covariance matrix where correlation parameters are guesstimates at best. By so doing, they are unknowingly using the top-down perspective to suppress the perspectives that are most relevant to the individual business units.

The Curse of Blind Risk Diversification

Correlation and diversification have been at the heart of enterprise risk modeling. Many insurance companies have developed analytical models to quantify the diversification benefit between business units. Unfortunately, blind applications of portfolio theory misguided companies to "diversify" into

→ page 10

ERM: Myth vs. Reality
From page 9

new markets and business lines, and suffered big losses. I would categorize the effects of diversification into the following four different levels:

- "Offset" produces the highest benefits, e.g., long- and short-position in financial assets. An implication is that hedging is the most effective diversification provided the hedging cost is fair.
- "Random drivers" offer good benefits, e.g., natural catastrophe events in various geographic regions. Some specialized property catastrophe writers actively manage their portfolios through geographic and risk peril diversifications.
- Pooling of "expertise intensive" business may yield little or even negative risk diversification. For instance, different sectors (banking and P&C insurance) may be subject to different market dynamics, and require different sets of expertise; it would be very difficult for the management to understand and manage both well.
- For large diversified (complex) conglomerates, there may be legal "drags" due to the deep-pocket effect, and there may be "drags" of reputation spillover; these potential drags are in effect negative diversification benefits.

Based on the theory of risk diversification, many companies on the buy side were able to reduce their insurance cost significantly by seeking integrated risk protections, under the name of alternative risk transfers (ART). On the sell side, however, some companies now abhor the word ART after suffering big losses.

Necessity For Multiple Risk Measures

Recognizing the fact that the set of relevant risks can be different among various business units, ERM necessarily employs multiple risk measures. Solvency measures at the enterprise level (say, 99% VaR or TVaR) should not dictate the pricing risk measures used at the lower unit level (e.g., the Sharpe ratio). It is understandable that companies desire a common yardstick for comparing risk-return performances of various business units. The reality is that most enterprises have both risk-taking functions and service functions. We need to go beyond traditional risk measures so that we can quantify the brand name and customer services, as they are determinants of the franchise value for the enterprise.

Prediction

As a young discipline, ERM forces us to take a fresh look at various old risk concepts. I predict that theoretical breakthroughs will emerge to reflect better the realities of our businesses, and we will see more research products that offer simulated risk dynamics and market environment, allowing for interactions with decisions taken by participants (the company, its competitors, rating agencies, customers, and the like). ■

Financial Report

FISCAL YEAR ENDED 9/30/2003

OPERATING RESULTS BY FUNCTION

FUNCTION	*INCOME*	*EXPENSE*	*DIFFERENCE*
Membership Services	$ 1,229,027	$ 1,481,638	$ (252,610)
Seminars	1,268,152	1,176,483	91,669
Meetings	749,870	715,846	34,024
Exams	3,364,905 (a)	3,225,397 (a)	139,508
Publications	52,843	48,395	4,447
TOTALS FROM OPERATIONS	$ 6,664,798	$ 6,647,759	$ 17,039
Interest Income			115,034
Unrealized Gain/(Loss) on Marketable Securities			197,490
TOTAL NET INCOME (LOSS)			$ 329,564

NOTE: (a) Includes $2,119,313 of Volunteer Services for income and expense (SFAS 116).

BALANCE SHEET

ASSETS	*9/30/2002*	*9/30/2003*	*DIFFERENCE*
Checking Accounts	$ 151,821	$ 869,659	$ 717,838
T-Bills/Notes, Marketable Securities	3,523,655	3,423,050	(100,605)
Accrued Interest	28,458	19,327	(9,131)
Prepaid Expenses	63,034	65,094	2,060
Prepaid Insurance	23,715	29,550	5,835
Accounts Receivable	76,250	68,464	(7,786)
Intangible Pension Asset	12,721	10,019	(2,702)
Textbook Inventory	17,716	2,123	(15,593)
Computers, Furniture	394,247	436,216	41,969
Less: Accumulated Depreciation	(319,999)	(338,547)	(18,548)
TOTAL ASSETS	$ 3,971,619	$ 4,584,955	$ 613,337

LIABILITIES	*9/30/2002*	*9/30/2003*	*DIFFERENCE*
Exam Fees Deferred	$ 463,460	$ 615,284	$ 151,824
Annual Meeting Fees Deferred	149,168	169,695	20,527
Seminar Fees Deferred	50,625	3,000	(47,625)
Accounts Payable and Accrued Expenses	418,550	525,556	107,006
Accrued Pension	192,418	195,620	3,202
TOTAL LIABILITIES	$ 1,274,221	$ 1,509,155	$ 234,934

MEMBERS' EQUITY

Unrestricted	*9/30/2002*	*9/30/2003*	*DIFFERENCE*
CAS Surplus	$ 2,524,858	$ 2,854,421	$ 329,564
Pension minimum liability (net of unamortized service cost of $10,019)	(124,651)	(90,572)	34,079
Michelbacher Fund	122,057	126,329	4,272
CAS Trust-Operating Fund	85,620	98,777	13,157
Research Fund	44,418	43,668	(750)
Subtotal Unrestricted	$ 2,652,302	$ 3,032,623	$ 380,322

Temporarily Restricted	*9/30/2002*	*9/30/2003*	*DIFFERENCE*
Scholarship Fund	$ 6,297	$ 6,018	$ (280)
Rodermund Fund	8,799	8,107	(692)
CAS Trust-Ronald Ferguson Fund	30,000	29,052	(948)
Subtotal Temporarily Restricted	45,096	43,177	(1,920)
TOTAL MEMBERS' EQUITY	$ 2,697,398	$ 3,075,800	$ 378,402

Sheldon Rosenberg, Vice President–Administration

This is to certify that the assets and accounts shown in the above financial statement have been audited and found to be correct.

CAS Audit Committee: Phil N. Ben-Zvi, Chairperson;
John F. Gibson, Frederick O. Kist, and Patricia A. Teufel

Roundtable Discussion

The State of the Actuarial Employment Market—Part Two

by Arthur J. Schwartz

(Editor's Note: Part One of the Roundtable Discussion appeared in the February issue. Visit www.casact.org to read back copies.)

To assess the state of the employment market for actuaries, I recently held a round-table discussion with a number of prominent recruiters. Our panel includes:

Patty Jacobsen, from D.W. Simpson & Company in Chicago, the largest actuarial search firm in the world. Patty is managing partner with her firm, which specializes solely in actuarial search within all lines of business including life, health, property/casualty, and pension. Patty can be reached at 1-800-837-8338 x229 or by e-mail at patty.jacobsen@dwsimpson.com

Margaret Resce Milkint, from The Jacobson Group in Chicago. Milkint is a partner and her firm places all types of specialties for insurers—actuaries of course, but also underwriters and claims specialists. She can be reached at 1-800-466-1578 or mmilkint@jacobsonsolutions.com

James Coleman, from Nationwide Actuarial Search in Las Vegas. His firm specializes in placing casualty actuaries only. He can be reached at 1-800-733-3536 or jim@actuary-recruiter.com

Pauline Reimer, ASA, MAAA, from Pryor Associates in New York. Named one the top 25 recruiting firms by Dun & Bradstreet, Pryor Associates has 30+ years of experience in the insurance industry (property/casualty, life, health, pension). Pauline has been director of the Actuarial Placement Division since 1986 and has a decade of her own employment experience in insurance and consulting firms. She has also been appointed to the Executive Board of Actuarial Society of Greater New York (ASNY) as vice president of Public Relations. Pauline can be reached at 1-866-6-ACTUARY or by e-mail at paulinereimer@aol.com.

***Schwartz**: A topic that's been increasingly in the news is employers' EEO policies. For example, how common is it for employers to offer health benefits to same sex partners of their employees? How common is it for religious beliefs to be tolerated?*

Reimer: All the major employers have EEO policies that are blind to issues such as race, sex, creed, religion, national origin, age, marital status, sexual orientation, disability or any other "protected category."

> **"I've seen an evolution in employers' attitudes. There's greater awareness, greater acceptance, and greater interest in diversity."**
> *—Margaret Milkint*

Jacobsen: Some of these insurers include USAA, American Express, CNA, Allstate, and Fireman's Fund.

Milkint: I would add Prudential Financial, CIGNA, Nationwide, Hartford, Hartford Financial, Progressive, St. Paul, and Aon.

Jacobsen: It's no problem, ever. It's never an issue with any employer I've dealt with. People today are judged on the merits of what they bring to the table.

Milkint: I've been in this business for eighteen years, and I've seen an evolution in employers' attitudes. There's greater awareness, greater acceptance, and greater interest in diversity. In big organizations, what you do outside of work is your choice.

Coleman: All employers that we are aware of offer positions without regard to race, religion, sexual orientation, and so on. Clearly there are other factors beyond a person's exams and work history that affect the hiring decision. Among these are communications skills, personal hygiene, clothing choices, and personality, which all play important roles. We are not aware of any unfavorable company or candidate responses in regard to these topics.

Reimer: Candidates are naturally more inclined to discuss personal issues in a face-to-face setting. My attendance at over a dozen conferences annually affords me the opportunity to speak individually with actuaries who are personally concerned about a particular EEO issue.

Jacobsen: Some of the larger employers have gay and lesbian support groups. I think that really speaks to how much more liberal the workplace has become.

→ page 12

A Comparison of Salaries from Actuarial Recruiters
Years of Experience

Exams	0 to 1 yrs	1 to 5 yrs	5-10 yrs	10 yrs or more
1 to 2	40 - 60	42 - 74	*	*
3 to 4	48 - 70	50 - 85	65 - 100	*
Near Associates (5 to 6)	*	57 - 95	80 - 130	*
Associates	*	65 - 115	85 - 135	90 - 218+
New Fellows	*	*	95 - 180	118 - 188+
Experienced Fellows	*	*	95 - 180	100 - 400+

From page 11

Milkint: In our post-9/11 and post-Enron world, there is a greater openness to these issues by employers. I believe it's an ethical reevaluation. The good news is that there are employers where a candidate can be secure that they and their partner will be accepted.

Schwartz*: Let's discuss the situation of foreign students who do not have an H1B Visa. It's my understanding that the INS has drastically reduced the number of such visas offered. A disadvantage of the visa is that the sponsoring employer has to complete some extensive paperwork. However the dilemma is that it seems as if opportunities are drying up for talented foreign students. What is your take on this?*

Jacobsen: I agree. Today it is much tougher to get an H1B Visa. If you currently have this visa, the Portability Act makes it easier to change employers. There are still quite a number of Asian students who have an interest in coming to the U.S. However, the number of H1B Visas being issued has decreased.

Coleman: According to my research, in 2001 the H1B Visa cap was set at 195,000 for 2001 through 2003. That number was reduced by roughly two-thirds starting in October 2003. It appears our economy may be missing a huge opportunity by not figuring out how to integrate more of the technical skills and diverse backgrounds offered by hiring an actuary from a foreign country.

Jacobsen: Under NAFTA we could easily bring in students or credentialed actuaries from Canada and Mexico. It was easy to hire them; now we see a push back from potential employers.

Coleman: Limiting foreign candidates has had the effect of driving up salaries, particularly for students, for those who currently have H1B Visa. The reduction in the issuance of these visas will limit the pool of talent that American employers can draw from. There has to be a balance between U.S. and naturalized professionals versus industry demand if the technical need is to be met. This should also be a concern of our universities and industry leaders as they look to supply and demand in the future.

Milkint: Actuaries from foreign countries enrich the profession. A stumbling block is that getting the H1B Visa costs the employer more on the front end. The benefit to the employer is a greater diversity in talent and ability.

Jacobsen: Competition is healthy among actuaries regardless of what country they are from.

Coleman: We encourage more employers to embrace the H1B Visa process as a sound method of managing staffing costs. As recruiters we should continue to encourage and support hiring companies with qualified candidates—both U.S. citizens and those needing visa support. We can continue to research and educate employers on cost and advantages of these workers. Competition to U.S. citizens is negligible; the professional benefits are significant.

“It appears our economy may be missing a huge opportunity by not figuring out how to integrate more of the technical skills and diverse backgrounds offered by hiring an actuary from a foreign country.”

—James Coleman

Jacobsen: We at D.W. Simpson take a proactive role to educate our clients on the visa process. We have written up a simple document for the potential employers that describes the process. However, we do see employers who are afraid of the process because it seems more difficult than it is. I hope there will be an attitude shift over time. Employers could greatly benefit from these groups of actuaries.

Milkint: It's a joint process. If someone in the organization is a champion for the foreign actuaries, that makes all the difference. They will talk the issue up and bring legal and human resources together to craft a sound, long-term, intelligent policy for the enterprise. It's a lot of work. A supporter in the organization can really streamline the process and bring it to fruition.

Reimer: We have significant experience dealing with immigration and related legal issues, including a successful relationship with an attorney specializing in this area. If the candidate is willing to pay the cost of the attorney, the company is usually more amenable. Also, the greater the number of years of actuarial experience, the more likely the company is to sponsor that individual. If they have no experience, many companies are less likely to sponsor.

Schwartz*: It sounds like a Catch 22: “I have no experience so I need the visa to get some experience, but I can't get the visa unless I already have some experience.”*

Milkint: That's true, however, another option is an F1 visa. That's given so the person can get practical training for one year.

Coleman: The F1 (student) visa is good for one year and can be extended by an additional year as I understand it. In general, employers are reluctant to support this program because they fear seeing their training efforts and investment walk out the door in a year. The bureaucratic and financial cost requirements to the company are prohibitive in view of the risk to the employer after one or two years.

(Editor's note: One Web site with more information on the H1B visas is http://travel.state.gov/visa;tempwkr.html.)

Schwartz*: Thank you all for a great discussion!* ■

Actuaries Abroad

Actuaries Under Scrutiny

by Kendra Felisky-Watson

The long-awaited Penrose Report into the problems at the Equitable Life Assurance Society was released on Monday, March 8 to considerable media coverage. Equitable Life is Britain's oldest mutual life insurance company, founded in 1762 at a meeting in the White Lion tavern in Cornhill in the City of London.

[By now you are thinking: What does this have to do with general insurance (aka property/casualty) actuaries? Keep reading….]

Here's a very simplified background so I do not get sued for libel: many years ago, The Equitable devised a product that would guarantee a certain rate of interest for policyholders who chose to buy the product. Unfortunately, when interest rates fell and the stock market did not do what was expected, they had to fork out far more than they had anticipated to these policyholders. Not surprisingly, they eventually ran out of money, causing losses of an estimated £3.5 billion for its one million policyholders.

While the U.K. actuarial profession thought actuaries might get some blame for the problems at The Equitable, the U.K. profession was surprised by the government's response to the Penrose review. (And this is where we get to the part that pertains to ALL actuaries.)

The government has appointed a special advisor (Sir Derek Morris) to review the U.K. actuarial profession with particular regard to professional standards. Although the problems with The Equitable pertain more to life actuaries, ALL actuaries are being included. The complete terms of reference for Sir Derek are as follows:

"Consider what professional and/or other regulatory framework would best promote recognised, high-quality, and continuously developing actuarial standards, openness in the application of actuarial skills, transparency in the professional conduct of actuaries, accountability for their actions, and an open and competitive market for actuarial advice in the U.K.

In doing so:

- Take into account developments in the actuarial profession, regulation, and the financial services market in the U.K. and abroad;
- Examine the role of actuaries in the financial services sector, including providing actuarial opinions in relation to audited accounts;
- Build on the work of recent government and regulatory initiatives;
- Examine the relationship between the Government Actuary's Department and the actuarial profession and with other parts of government.
- Recommend a framework that will be independent in representing the public and consumer interest, and be accountable, flexible, transparent, and no more burdensome or restrictive than is clearly justified."

"The government has appointed a special advisor to review the U.K. actuarial profession with particular regard to professional standards... In the U.S., this would be equivalent to a congressional inquiry into the actuarial profession."

In the U.S., this would be equivalent to a congressional inquiry into the actuarial profession. We are talking serious business here.

Even before the Penrose Report, the U.K. profession had realized there was a need for change. Jeremy Goford, president of the Institute of Actuaries, and Tom Ross, president of the Faculty of Actuaries, stated that "today, there is an irresistible clamour for openness, transparency, and accountability, and we are having to change more rapidly." They then introduced four initiatives:

- Actuarial Standards Board—containing a majority of independent members to introduce the concept of independence into our standard-setting procedures
- Revalidation of Professional Competence—requiring all actuaries who give actuarial advice to have practicing certificates
- Peer Review—having all actuarial work reviewed by external/independent actuaries
- Disciplinary Scheme—making new joint arrangements between the Institute and Faculty.

It is interesting to note the frequency of the word "transparency" in all these communications. Obviously, the time has now come for actuaries to step down from their ivory towers, open their black boxes, and join the rest of the world.

On a slightly more entertaining note, a paper will be presented at the Institute of Actuaries on Operational Risk. This is an expanded version of the paper presented at last October's GIRO conference in Cardiff. It has some quite interesting thoughts of the kind of risks facing companies, including insurers, and how to model them. Some amazing-looking graphs are included that really need to be seen to be believed.

The horrible cold, grey, drippy, wet winter appears to finally be coming to an end and England beat the West Indies at cricket in the West Indies. Spring is definitely on its way. ■

From the President

From page 1

CAS success as an organization rests on three critical groups of people: the elected board, who determines policy and direction for the Society; an enormous volunteer committee structure, headed up by an appointed Executive Council (EC), to carry out the business of the Society; and a very fine permanent staff who makes everything happen.

Our board of directors consists of twelve elected regular directors plus the president, the president-elect, and the immediate past president. The board meets four times a year; all significant policy decisions are made at those meetings. The board chair is the past president. Six vice presidents plus the president and president-elect make up the EC. Unlike many of its sister organizations, the CAS makes a clear distinction between the elected board—the policy makers—and appointed vice presidents whose responsibility is to carry out the board's directives. In many other organizations, EC members are also voting board members and the president chairs both bodies, effectively creating a more influential board within the board. In the CAS, only the president and the president-elect sit on both the EC and the board, and since the board chair is the past president, the president's influence on the board is limited.

How, then, does the CAS make decisions? How do policies change? Ideas come from all over. They may be suggested by an individual member in a phone call to a VP, the president, or a board member. A committee may suggest a change. A few of our committees, such as Education Policy and the Long Range Planning Committee, exist pretty much just for the purpose of making recommendations. Some changes are prompted by outside influences, such as the International Actuarial Association's minimum standards for qualified actuaries. Other ideas are initiated by board or EC members. If the suggestion falls within the scope of an existing committee, the EC will ask that the committee study the matter and put together a recommendation.

If there is no logical committee to tackle the question, or if the idea is especially far reaching, the EC will often ask the board for permission to form a task force just to investigate and report back on that one idea. Board-initiated questions are usually handled by task forces that report directly back to the board itself. The EC reviews the committee or task force report and places the item on the board's agenda, usually along with a recommended board action. Occasionally, board-initiated task forces deliver their recommendations directly to the board.

Then comes the fun part. Fifteen independent-minded board members attempt to come to a consensus. Each director has an equal voice in the process. Discussion continues until all have had an opportunity to contribute. Only in very rare instances is the original recommendation adopted by the board without amendment. Board discussions are far reaching, and directors try to make sure that they have evaluated all of the implications and taken all of the members' and candidates' interests into consideration. Sometimes it takes more than one board meeting, with additional directed research, before a decision is made. Given the responsibility that each board member displays, we have little worry that a single, dominant individual could steer the Society far from its best course.

The next board meeting is Sunday, May 16, in Colorado Springs. This is the Sunday of our Spring Meeting, and I invite all members to schedule your travel a bit earlier so that you can arrive in time for the board meeting. Two very important task forces will be delivering their reports, so we have scheduled their presentations to begin at 11:30 a.m. to allow for as many people as possible to arrive in time to hear the board's deliberations. The Task Force on Membership Classes is charged with developing a recommendation on how many classes of membership are needed in the future CAS, and on how the classes should be defined. A second task force has been considering the appropriateness of expanding the role of Associates in the leadership and governance of the Society. Please join us in Colorado as we consider these core policy questions. ■

The CAS Board Meeting: You're Invited

CAS President **Mary Frances Miller** invites all CAS members to attend the next meeting of the CAS Board of Directors. The meeting takes place before the CAS Spring Meeting on Sunday, May 16, in Colorado Springs.

CAS members will be able to observe the meeting and may be called on to give their opinions. Meeting highlights include task force reports on classes of membership and Associates' roles in CAS governance. These presentations will begin at 11:30 a.m. to accommodate as many members as possible arriving in time to hear the board's deliberations.

To sign up to observe the board meeting, please contact the CAS Meetings Department at meetings@casact.org.

John Culver Wooddy Scholarships Available

The Actuarial Foundation, through its AERF Committee, will award up to four $2,000 (U.S.) Wooddy Scholarships to undergraduate students who will have senior standing during the 2004-2005 academic year. Applicants for the John Culver Wooddy Scholarship are required to have completed at least one actuarial exam, rank in the top quartile of their class, and must be nominated by a professor at their school.

The deadline for applications is June 25, 2004. Applications and information are available on The Actuarial Foundation's Web Site at www.actuarialfoundation.org. ■

Does Your Data Have Integrity? A Case Study

by the CAS Committee on Management Data and Information

The CAS Committee on Management Data and Information developed the following case study in response to some comments that actuaries were unaware of their responsibilities regarding data. The committee decided a case study giving examples of proper practice would be helpful to practitioners. The committee plans to expand the case study into a presentation at the 2005 Ratemaking Seminar in Atlanta.

Q An actuary has completed his review of a company and is reading the opinion letter one final time before signing. He sees that the opinion letter includes a sentence "I evaluated the data for reasonableness and consistency" and wonders whether or not he has actually done this.

He asks his manager and his manager states, "As long as the year-end case reserves and the paid losses for the most recent calendar year used in your analysis match the totals shown in Schedule P Part 1, you are fine." The actuary is confident the figures reconcile. But is that sufficient?

A This is necessary but not sufficient, for a number of reasons:

1. Reconciliation to Schedule P should be done in more detail. As explained in the annual Property and Casualty Practice Note for Statements of Actuarial Opinion on P&C Loss Reserves, produced by the Committee on Property and Liability Financial Reporting, the comparison should be done by line of business, by accident year, to the extent such detail was relied upon significantly.

2. Items other than case reserves and paid losses should also be reconciled. To the extent paid defense and cost containment expenses, incurred defense and cost containment expenses, paid adjusting and other expenses, and earned premium were relied upon significantly in forming the actuarial opinion, these also need to be reconciled to Schedule P, as explained in the Practice Note.

3. "Evaluation of data for reasonableness and consistency" goes beyond reconciling to Schedule P.

- ASOP 23, Data Quality, describes this review as identifying data values that are questionable or relationships that are materially inconsistent.
- The Practice Note gives one example of something the actuary may choose to investigate—cumulative paid loss amounts that significantly exceed subsequent cumulative paid loss amounts for the same accident year and coverage (unless the actuary is aware of a valid reason for downward developments in the particular circumstances).

Is doing all that's necessary also sufficient?

- The proposed revision of ASOP 23, currently circulated for comments, states that when reviewing data, if the same work has been done for the prior period the actuary should review the prior period data for consistency with the current period data, and if the actuary does not have the prior period data the actuary should consider requesting it.
- The White Paper on Data Quality, produced by the CAS Committee on Management Data and Information, states that the actuary should determine the extent of checking, verifying, and auditing done by the data manager/supplier and comment on the confidence, reliability, and value of the data quality procedures done by the data manager/supplier.

Little, if any, other guidance is provided, so it is left up to the actuary to determine how to go about this review. ASOP 23 states that the actuary is not expected to develop additional data compilations solely for the purpose of searching for questionable or inconsistent data. Other than reviewing cases where paid losses develop downward and current period data differs from prior period data, as mentioned above, an actuary may want to consider some of the following:

- Are there any individual development factors that appear inconsistent with the remainder of the data?
- Are there instances of unexpected negative case reserves?
- Are there unusual points contained in triangular compilations of ratios of paid-to-incurred losses, loss ratios, reported claims per exposure units, paid or reported claim severity, closed claims to reported claims, or any other data compilation reviewed?

The actuary is by no means compelled to review any of these particular items, they are simply shown here as examples of things an actuary may want to consider. Nor should this be considered an exhaustive list of things to review.

4. It's not enough to do it; you have to document it. ASOP 23 states the actuary should maintain adequate documentation to support the use of specific data underlying the actuarial work product. This should include any work done to evaluate its reasonableness and consistency. The Practice Note states that the underlying actuarial work papers, including documentation of the reconciliations required by paragraph 10 (i.e., the reconciliation to Schedule P), must be maintained at the company and available for examination for seven years.

Note that it is not necessary to conclude from these tests that the data is "perfect," as perfect data is difficult, if not impossible, to find. Items initially found unreasonable or inconsistent can either be explained or adjusted such that the actuary's analysis is not materially affected. What to do when this cannot be done is beyond the scope of this article. ■

CORP-Accepted Papers Posted on Web

The CAS Committee on Review of Papers has released its quarterly update of recently accepted papers. The CAS Editorial Committee will be editing these papers for inclusion in the *Proceedings of the Casualty Actuarial Society*. As of April 1, 2004, CORP has accepted the following papers:

1. "The 'Modified BF' Approach to IBNR Allocation" by Trent Vaughn and Phoebe Tinney
2. Discussion of David Ruhm's "Distribution-Based Pricing Formulas Are Not Arbitrage-Free" by Michael Wacek
3. Discussion of D'Arcy and Dyer's "Ratemaking: A Financial Economics Approach" by Michael Wacek ■

From the Readers

From page 5

you can say something useful, like "my best estimate reflects an X% rate of change, the underlying average in the data. If the past repeats itself, there's no reason why this estimate ought not to be pretty good. However we know the past is not going to repeat itself. Therefore, I have also calculated the liability at (X +/- !)% (etc.), and it is worth Y millions" (etc.). Relatively unsophisticated users can get a pretty good idea of the sensitivity of the result to a change in the input real fast.

This communicates two aspects of reserve estimates very quickly, simply, and clearly: they are sensitive to small changes in highly variable assumptions, and for that reason (amongst others) they are highly uncertain. It lets users decide for themselves if this particular insurance product (homeowners, for example, or workers comp) is for them.

As I wrote, actuaries are almost certainly doing this right now. The problem is, who are they doing it for, and where (and possibly when) are they doing it? If any actuary is doing this solely for him (her) self, that's good, but it's clearly not nearly good enough—and I maintain this is one of the huge problems of our profession. We tend to cultivate a mistrust in our profession by pretending to know what we do not—and cannot—know.

With respect to whom it is being done for, if it's only internally for management, that's good, too, but again, that is not good enough. Management has its own agenda, which may or may not coincide with the full contingent of actuarial publics. If it's being done for outside dissemination, that's very good. Then the question tilts towards "who is paying attention?" If this sort of advice is widely available, responsive (timely), and easily obtained, then the fault lies with the user. However, I suspect this is not the case. Actuarial pronouncements on reserves tend first to stay inside. Even the Board report is protected. If they do somehow make their way outside, their distribution tends to be carefully controlled.

My preference is for us to make our work and our results—crucial to almost any insurance-related financial statement user—completely and swiftly available and easily obtainable. I urge the reserves study group Mary Frances identified to make strong recommendations in this direction.

Edward C. Shoop, FCAS

P.S. If you teach people how to do reserves, which in the simple case is largely picking appropriate and defensible loss development factors, you can always tell them, "Well if you don't like this particular answer, pick your own LDFs. I'll just write 'em up in my report as yours, not mine, and YOU can own the result." Here's a good example: "historical LDFs for 12 to 24, eight years running, were: 3.15, 3.20, 3.08, 3.13, 3.23, 3.19, 3.11, and 3.17. I tested 3.16, the (rounded) average. They produced a reserve of $515M. Management thought 2.23 was a better idea. It produced a reserve of $383M. That's what's in the financials."

Of course, you should also go on to say, "Even though I feel 3.16 is a good representative average if history repeats, if it does NOT, and we actually end up experiencing say a half point higher LDF at 3.65, here is the impact."

Him or Her?

Dear Sirs:

Notice the salutation. I did not use "Dear Ms." This letter is to inform your contributors, particularly **Walter C. Wright** and **John Robertson**, that the convention is to refer to the unknown person as if he were male, not female ("25 Years Ago in the *AR*" and "It's a Puzzlement," *The Actuarial Review*, February 2004). It is jarring to see the feminist proclivities of your authors injected into a supposedly objective article. Must I go through each word and rub out each "s" from "she" and edit each "her" to "his" or "him?" Whatever happened to our grammar school education? Does one swallow politics with one's A B C's these days?

Louis Spore, FCAS

Editor's reply:

The Actuarial Review editors use *The New York Times Manual of Style and Usage* as the referee in disputes about acceptable writing standards. The manual says, "He or she may be used as a last resort to avoid an unwanted assumption of maleness or femaleness in a general reference. But preferred solutions are those that spare the reader all traces of a writer's struggle. Try the plural construction...Or rewrite the sentence so that no pronoun is required.…"

This does not apply, unfortunately, to either of the items you cited. Walt Wright was quoting directly, and correctly, from an article published in the *AR* 25 years ago. John Robertson's puzzle in the November 2003 issue clearly indicated that the agent is female. To refer to the agent as "he" in the February 2004 issue would be ludicrous as well as wrong.

In a letter to the editors, "Dear Editor" or "Dear Editors" is perfectly acceptable. Alternatively, use "Letter to the Editors" as the subject line of your e-mail and skip the salutation. ■

Membership Survey
From page 1

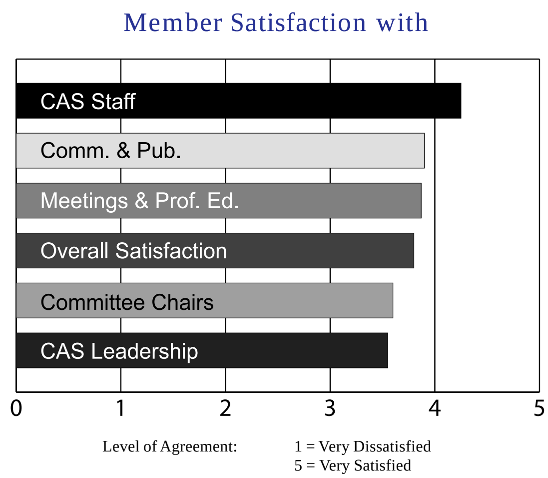
with the membership. The report can be found on the CAS Web Site at www.casact.org/members/reports/2003ms.htm.

The survey results offer a great deal of positive news for the CAS. For starters, when asked to rate their overall satisfaction with the CAS, more than 80 percent of the respondents indicated that they were very satisfied or satisfied. In addition to asking about overall satisfaction, the survey asked about satisfaction with five specific aspects of the CAS. CAS staff garnered the highest satisfaction ratings, followed by communications/publications, and meetings/professional education. Ratings for committee chairs and the leadership were somewhat lower, although still very high as shown on the chart.

Although satisfaction levels were high, responses offered insights into areas of the CAS needing improvement, such as in its communication efforts. For example, while a large majority of the respondents felt that CAS research was useful and valuable, less than 20 percent felt that they were well aware of the research that was performed or sponsored by the CAS. And while many respondents took the time to suggest improvements to the Web site, many of the suggestions have already been implemented, indicating the need for greater education of members about the offerings of the Web site.

A positive observation from the survey is the fact that the CAS leadership has already begun to address some of the issues that are important to the membership. For example, the respondents reacted favorably to the changes made to the election process in 2002. Furthermore, the CAS Board has formed two task forces to address voting and other rights of Associates, which was an area that generated many comments from respondents.

2003 Membership Survey Results



The CAS has also formed a Task Force on Publications, which provided several of the questions that appeared on the survey. The responses indicated that the CAS should strive to maintain some form of refereed journal and should concentrate on improving the overall organization of CAS papers and the quality of nonrefereed papers.

Because the CAS Membership Survey is conducted every five years, the Membership Survey Task Force was able to examine the results of the 2003 survey against responses from 1998 and 1993. The Task Force was surprised by a trend that indicated an increase in the proportion of respondents involved in the traditional actuarial activities of ratemaking and reserving. At the same time, there is a decline in membership involvement in the areas of executive management, strategic and financial planning, marketing, and underwriting. Based on these findings, the Task Force has recommended that the CAS further explore the apparent downward trend of CAS members in executive management and nontraditional positions.

The Membership Survey Task Force offers 11 other recommendations in its report that touch on professionalism, general business skills, Regional Affiliates, the CAS Web Site, and other areas. The report has been accepted by the CAS Board of Directors, and the Board has charged the CAS Executive Council with considering the recommendations and taking appropriate action.

The Task Force extends its thanks to the CAS members who took the time to respond to the survey and encourages members to read the full report on the CAS Web Site or in an upcoming issue of the CAS *Forum*.

Editor's note: In addition to Chairperson Spalla, members of the Membership Survey Task Force include ***Roger M. Hayne****,* ***Douglas W. Oliver****,* ***Stephen W. Philbrick****,* ***Alessandrea C. Quane****,* ***James B. Rowland****, and staff liaisons Todd P. Rogers and J. Michael Boa.* ■

Int'l Accounting
From page 6

A global consensus on a rigorous and comprehensive approach to insurance accounting could not be completed in time to meet the starting date of 2005 set by the European Union and other jurisdictions. In that light, IFRS 4 does not require extensive changes that might need to be reversed when the IASB completes the second phase of its project. It introduces improved disclosures for insurance contracts and makes modest improvements in recognition and measurement practices.

In the second phase, the IASB will address broader conceptual and practical issues related to insurance accounting. These will be the subject of IASB deliberations and consultations with interested parties that will resume in the second quarter of 2004. The project may take several years to complete, and IFRS 4 is subject to change as a result of the working party's discussions. For a detailed list of the primary requirements of IFRS 4, visit www.iasb.org.

IFRS 4 and future IASB standards are expected to generate considerable work for actuaries involved in the accounting for contracts offered by insurers.

These standards do not include

→ page 22

Web Site News

CAS Conducts Online Voting For 2004 Elections

For the second year in a row, the CAS electorate will have the option of submitting their ballots online during the CAS Elections. Fellows can still vote with the traditional paper ballot, but will be able to vote online if they register in advance. Fellows who registered for online voting last year do not need to register to vote online again in 2004.

Feedback from 2003 online voters was positive with many commenting on the ease of using the online system. Online voters can vote by visiting the CAS Web Site, clicking to the ballot, recording votes, and submitting the ballot. Voters receive an e-mail confirmation that the ballot has been cast.

Online voting has proven to be faster and less expensive than using paper ballots. The online voting process includes all of the safeguards currently in place with the paper balloting system. Voters will have the ability to double-check their votes prior to final submission. Voter privacy is also maintained. Finally, safeguards are in place to disallow repeat voting.

Fellows who are not already registered for online voting must complete the online registration form to specify that they prefer to cast their ballots online. Fellows who register to vote online will not receive a paper ballot through the mail. The registration form and ballot are hosted on the same system, so if Fellows are able to register, they should be able to vote.

Voter registration is now open. Fellows can specify their method of voting and find additional details through the Election Information page on the CAS Web Site at www.casact.org/aboutcas/elections. ■

CAS Publishes Fair Value Concepts Book

The Casualty Actuarial Society has released to the membership its newest publication, *Fair Value of P&C Liabilities: Practical Implications*. The book is the result of two commissioned analyses showing the impact of fair value concepts applied to property/casualty insurance companies. *Fair Value* will be mailed to CAS members and other interested parties this spring and will be available on the CAS Web Site in the "What's New" section.

In fall 2003, the CAS sent out an RFP to selected consulting firms seeking research on the impact of fair value concepts on property/casualty insurance company financial statements. The RFP called for information on the time value of money (versus not reflecting the time value of money, which is the most common U.S. GAAP practice); and risk margins to reflect the market charge for uncertainty.

The CAS awarded the commissions to PricewaterhouseCoopers LLP (PwC) and Towers Perrin. Authors from the two firms will participate in the general session of the CAS Spring Meeting, "Fair Value Accounting—Can It Work?" The session is scheduled for May 19 in Colorado Spring, CO. ■

Actuarial Mentors Needed for Advancing Student Achievement Programs

The Actuarial Foundation is actively seeking actuarial volunteer-mentors for ongoing school programs in Phoenix, Houston, St. Louis, Chicago, and Newark, NJ.

If you can spare a relatively small amount of time to assist in an established math-mentoring school program, please contact The Actuarial Foundation right away.

The Foundation's Advancing Student Achievement program brings actuaries and educators together in voluntary partnerships to enhance student mathematics achievement. This program combines actuaries' expertise in math with a sense of community spirit, creating a vehicle to work as volunteer math-mentors in public and private schools. When business professionals and educators work together in voluntary partnerships to increase student achievement in math, everybody wins. More information can be found at www.actuarialfoundation.org/grant/index.html.

To contact The Actuarial Foundation call (847) 706-3535 or send an e-mail to asa@actfnd.org. Please consider mentoring a student today and make a difference for life.

The Actuarial Foundation is a 501(c)(3) organization established in 1994 to help facilitate and broaden the actuarial profession's contribution to society. The Advancing Student Achievement program is one of the Foundation's most successful initiatives serving our mission. ■

Nonactuarial Pursuits of Casualty Actuaries

Dance Hall Cowboy

By Marty Adler

If you have ever been intimidated by watching others do something that you could not, take heart from this column's subject. He became a world champion country & western dancer, mastering an activity that had initially intimidated him.

Our Fellow had moved from Seattle to Houston in 1993. The following year he discovered country & western dancing at the Long Horn Saloon in Houston. He sat along the bar adjacent to the dance floor and watched the people on the dance floor do various dances to different music. It wasn't just a single couple doing it. It was everyone, and he was too intimidated even to step onto the dance floor. He concluded that everyone in Texas but him knew how to dance.

Shortly afterward he learned that the dance studio at which his 11-year-old daughter was taking ballet and jazz lessons also had C&W instruction. He, his daughter, and his former wife began taking C&W lessons in September 1994. By the summer of 1995 they were in their first competitive outing. The contest was held at a Houston mall by TNN Wild Horse Saloon, which provided a free trip to Nashville and an opportunity to compete on a TV show. They made it to the finals, finishing in second place. With that near success they decided to enter the next regional dance competition. Having taken his final CAS exam in November 1994, he found the free time to pursue this.

Country Western Dance is defined by the UCWDC (United Country and Western Dance Council). Standard couples dances include the following styles – 2-Step, Polka, Waltz, Cha-Cha, East Coast Swing, West Cost Swing, and Night-Club. Our Fellow describes this as ballroom to differentiate it from other CW dance styles such as line dancing (which most people probably think of as country dancing) and square dancing. To compete, one can enter as a couple or a pro-am (competing with an instructor). There are separate divisions for different age groups as well as an open division. The music played for the competition is not known prior to the dance so dancing is not choreographed to the music. Thus, mastery of the lead-follow concept and ability to interpret the dance to the music (known as hitting the breaks in the music) are keys to successful dancing.

UCWDC has over 50 competitions in North America and Europe. To compete in Nationals you must participate in at least three events throughout the year. Our Fellow has competed in Houston, Dallas, Fort Worth, Austin, New Orleans, Denver, Albuquerque, Seattle, Las Vegas, Louisville, and Nashville. During 2000 our Fellow entered seven regional competitions, winning all events in the Southwest but finishing third in Nashville. In 2001 he won the Male Pro-Am Intermediate world title in Edmonton.

When preparing to compete, he scheduled three to four hours of practice a week with his instructor. He also took additional hours of instruction from various ballroom and swing dance coaches from around the country. He would often go out to local dance clubs and country & western bars and social dance two or three nights a week, spending an average of 10 to 15 hours a week on this pursuit.

Competition is a "real rush" for this Fellow. "It is like being on stage and having everyone looking at you. It allows the extrovert in me to escape. It may also have been my escape from the normal introverted stereotype given to actuaries." Costuming is required—cowboy hat, cowboy boots, Wrangler jeans, rhinestoned shirts, and big belt buckles. And yes, you get points deducted from your dance if the hat gets knocked to the ground.

About a year after he started competing, he returned to the Long Horn Saloon to join a couple he met through competing. When they arrived, they quickly took seats next to the dance floor. He looked out at the dancers who had intimidated him so much on his first visit. As it turned out, all the dancers who showed up at this bar every Saturday night were other competitors and instructors in the area. From this he learned that it is important not to jump to conclusions based on observations of a small and biased sample. Not everyone knows how to dance in Texas.

Mark Phillips is a consultant in Houston, Texas. As for his daughter, she won world titles in the youth pro-am country & western ballroom in 1995, 1996, 1999, and 2001. ■

Recent Florida Cat Losses

Missing: "Fluffy," large calico, Tampa area. Reward if found! Call (813) 555-1425.

Missing: "Miss Boots." Friendly, needs medical attention. St. Augustine area. Call (904) 555-7723.

Missing: "Oki," Siamese, very shy. Last seen in the Orlando area near the malls. (407) 555-8675. ■

—Michael Esevin

25 Years Ago in *The Actuarial Review*

by Paul E. Lacko

Setting Goals for Strength and Influence

The following article, which appeared in the May 1979 issue of The Actuarial Review, *illustrates our association's long-standing aspiration to improve.*

CAS Planning Committee Seeks Strengthened and More Influential Society

"More strength and more influence for the CAS are the broad goals set the by Long Range Planning Committee, according to the report present by its chairman, George Morison, at the Society meeting in November. Mr. Morison listed seven specific goals, and elaborated on them, indicating that they probably can be achieved by specific actions in differing time spans….

The seven goals are:

1. To initiate and support research in those areas of property and casualty insurance where casualty actuaries are especially qualified.
2. To establish committees on actuarial subjects, where appropriate, and to intensify the work of such existing committees as the Committee on Loss Reserves and the Committee on Theory of Risk.
3. To prepare public statements on matters that involve actuarial content or that are actuarial in nature.
4. To expand the applications of casualty actuarial science beyond traditional fields.
5. To educate member as well aspirants.
6. To undertake public relations efforts aimed at identifying the casualty actuary and his areas of special qualification.
7. To maintain high levels of professional conduct."

Did we achieve these goals? Do we achieve these goals? Does the Centennial Goal restate them or supersede them? ■

Tales of Examinations

Driven to Distraction

By Arthur J. Schwartz

Thanks to all of you who responded to my request for your CAS Exam true stories and anecdotes. The editorial staff will select stories from time to time for publication in this new column, called "Tales of Examinations."

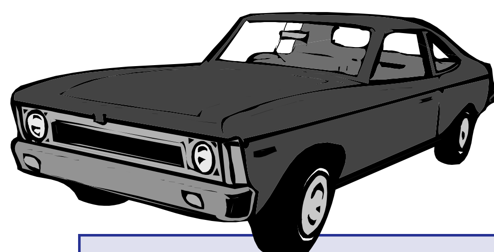
He was taking the last exam needed to become an Associate. It was the end of the line, a long road for him. He felt confident going into the exam room. Knowing John* as we did, we all felt confident that he would ace the exam. In fact, we were planning where we would hold a celebratory party.

John would be taking the exam at a test center where he had never been before. Driving over early on the morning of the exam, it was raining, so naturally our hero turned on his headlights. He parked in the visitor parking lot, and strode briskly into the building to find the exam room. All went well, at first. He glanced over all the questions before answering any, and felt even more confident. Then he began answering them.

About halfway into the exam, a security guard came into the exam room and asked if anyone had license plates QVR 973. Our hero raised his hand. "Your lights are on." Our hero left the exam room, exited the maze of hallways to the parking lot, found his car, and extinguished the lights. Returning to the exam room, he had lost fifteen minutes. In a tough, competitive exam, fifteen minutes can make all the difference. Plus he had to settle in again.

Flash forward to a few months later. Grades are out. Our hero got a five! We made him pay to take all of us out to lunch! And his wife scolded him: "From now on, no leaving the exam room ahead of time—not even if there's an earthquake!"

* Names have been changed to protect the innocent! ■



Tales of Examinations—Tell Us Your Stories

Do you have a humorous story or anecdote about taking the CAS exams? This can cover such areas as studying for exams, taking seminars (including instructors and classmates), things that happened on the day of the exam, or exam study partners. If you do (we *know* you do!), please send your story to Arthur J. Schwartz at aschwart@ncdoi.net. Arthur will compile your stories (taking care to protect the innocent!) and publish them, for our mutual enjoyment, in a future issue of *The Actuarial Review*. ■

2004 *Yearbook* Corrections

The 2004 *Yearbook* contains some errors. Corrections are as follows:

- **Bruce Ollodart** is president of American Actuarial LLC in Wallingford, CT.
- **Ed Shoop's** phone number is (304) 926-5429. ■

Ethical Issues Forum

Changing Positions

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.

John is chief pricing actuary at ABC Insurance Company (ABC). Bob, who works for XYZ Consulting Company (XYZ), an independent actuarial consulting firm, handles ABC's loss reserving functions, including the Statement of Actuarial Opinion.

Over the past five years, ABC has written a substantial amount of medical malpractice insurance, which as it turns out has performed very poorly. In particular, average claim costs have increased dramatically beyond expectations. In January 2004, John sent Bob the data needed for his analysis of ABC's loss reserves. Last week, Bob issued his preliminary estimates indicating the loss reserves that ABC's management intended to book were deficient by $45 million, which is half of ABC's surplus. Based on this preliminary estimate, Bob would not be able to issue a clean opinion on ABC's reserves.

Due to the significance of Bob's findings, ABC held an emergency meeting with its top management, including John. At the meeting, it was suggested that John should get together with Bob for the purpose of trying to get Bob to lower his estimates. In order to do this, ABC's management asked John to put the most positive spin on anything that would convince Bob to reduce his reserve estimates. Suggestions included telling Bob that ABC's average case reserve level has increased recently (even though it is likely that average paid claims have increased correspondingly) and that ABC's defense costs should be decreasing because they intend to settle claims when there is clear negligence instead of litigating them (even though this will likely increase overall loss costs).

John spends most of his time on pricing issues and therefore does not know if management's suggestions will have a favorable impact on Bob's reserve estimate.

Should John advocate his company's position?

Yes

John will not be lying when he talks to Bob. He simply won't be telling the gut-wrenching truth. Besides, advocating an employer's position is supported by statements made in ASOP 17: Expert Testimony by Actuaries, which states in section 3.4 that, "There may be occasions when an actuary acts as an advocate for a principal when giving expert testimony. Nothing in this standard prohibits the actuary from acting as an advocate."

No

John is violating Precepts 1 and 8 of the Code of Professional Conduct. John is making false representations that are intended to mislead Bob.

Precept 1: An Actuary shall act honestly, with integrity and competence, and in a manner to fulfill the profession's responsibility to the public and to uphold the reputation of the actuarial profession.

Precept 8: An Actuary who performs Actuarial Services shall take reasonable steps to ensure that such services are not used to mislead other parties. ■

University of Iowa to Host 2004 Actuarial Research Conference

The University of Iowa is hosting the 39th Actuarial Research Conference, August 5-7, 2004, in Iowa City, Iowa. The conference is an opportunity for academics and practitioners to meet and discuss actuarial problems and their solutions. It is also a forum for discussing general actuarial education issues. The CAS and other actuarial organizations in North America are cosponsoring the conference.

To ensure a spot on the program, participants who would like to make presentations must submit a copy of their title and abstract to Elias Shiu at eliasshiu@uiowa.edu by June 1, 2004. The papers presented at the conference will be published in the *Actuarial Research Clearing House* (*ARCH*), which is published electronically. Additional information about the conference can be found at www.uiowa.edu/~confinst/production/actuarial/index.htm. ■

In My Opinion

From page 8

stances and experiences as the yardstick by which to measure the behavior of Mr. Scully and Mr. Foster, but it's a reasonable first approximation. I am willing to cut Mr. Scully some slack, for now, with respect to that memo to Mr. Foster.

I'm more interested in what information Mr. Scully and his superiors withheld from Congress, and why. I'll bet Congress is, too. ■

Applied Actuarial Research Conference Off To A Successful Start

by Don Mango, CAS Vice President-Research and Development

The first annual Applied Actuarial Research Conference (AARC) was held on March 8-9 at the University of Central Florida (UCF) in Orlando. UCF, SOA, CAS, Universal American Financial Corporation, and Lotter Actuarial Partners sponsored the AARC. Approximately 60 actuaries and some nonactuaries with insurance-related research interests attended. Based on the positive feedback, we expect to hold the event again in Orlando next year at the same time. The conference is unique in having both researchers from all practice areas and equal representation from academia and industry. It also had significant attendance from many actuarial students in UCF's growing actuarial science program.

The AARC kicked off with a discussion of the "Current State of Applied Actuarial Research." A quick look at the agenda for the first AARC shows the mix of papers on property/casualty, financial, group insurance and managed care, data mining, and retirement systems topics. Those interested in seeing the agenda can visit www.cas.ucf.edu/statistics/AARC2004.htm. Papers and presentations will also be posted on this site. Some interesting P&C papers presented include:

- "Applications of the Ruhm-Mango-Kreps Conditional Risk Algorithm" by David Ruhm, Donald Mango, and Rodney Kreps
- "Catastrophe Modeling and Component Rating for Property Insurance" by John Rollins
- "Using Adverse Development to Predict Workers Compensation Losses" by D. Sheppard

Why Should P&C Actuaries Care About Other Practice Areas' Research?

A good question! When you take a closer look, you find techniques and topics that cross all practice areas. One practice may be ahead of the others in innovation or solutions. Examples of shared areas of interest include classification ratemaking (life insurance uses surprisingly few variables), interest rates and economic scenarios (the CAS is currently cosponsoring a funded research project on economic scenario generation with the SOA), medical inflation, managed care (the CAS even has a Health and Managed Care Issues Committee), and pensions (an important element of workers compensation).

P&C actuaries should take a look at the following AARC papers from other practice areas:

- "Insurance Applications of Fuzzy Logic" by A. Shapiro
- "Cost Effective Risk Management, Firm Value, and the Market" by C. Thompson
- "Modeling by Extreme Value Theory: Using Transformed GEV and GPD Distributions" by J. Han
- "Predicting Return to Work Using Data Mining" by B. Senesky

The Future of AARC

The AARC's potential looks promising, and the CAS will continue to support its growth and continued success. AARC is a unique opportunity for networking and idea sharing in a smaller, more concentrated forum. The exchange between academics and practitioners, and actuaries of all practice areas, is vitally important to the development of the profession. We hope to see you in Orlando next March! ■

CAS Professional Education Calendar

Bookmark the online calendar at www.casact.org/calendar/calendar.cfm

May 16-19 CAS Spring Meeting The Broadmoor Colorado Springs, CO	**June 7-8** Seminar on Reinsurance Marriott Boston Copley Place Boston, MA	**July 19-20†** Seminar on Practical Applications of Loss Distributions*, TBD, Chicago, IL	**July 19-20†** Seminar on Basic Dynamic Financial Analysis*, TBD, Chicago, IL
July 19-20† Seminar on Advanced Dynamic Financial Analysis*, TBD, Chicago, IL	**July 19-20†** Online Course: The Building Blocks of Financial Risk Management: Forwards, Futures, Swaps, and Options, CAS Web Site	**Sept 13-14** CAS/AAA/CCA Casualty Loss Reserve Seminar, The Mirage, Las Vegas, Nevada	**Sept 14-15** Asset Liability Management and the Principles of Finance*, The Mirage, Las Vegas, Nevada
Sept 20-21 CAS/CIA Appointed Actuary Seminar, Hilton Montréal Bonaventure Hotel, Montréal, Québec, Canada	**Sept TBD†** Seminar on Reinsurance*, TBD, New York, New York	**Nov 14-17** CAS Annual Meeting, Fairmont The Queen Elizabeth, Montréal, Québec, Canada	**TBD†** Online Course: Financial Risk Management: Securitization, CAS Web Site

* Limited Attendance
† For calendar of events updates, visit www.casact.org.

Int'l Accounting

From page 17

detailed guidance to the actuary on how to actually perform the needed calculations or to assess the appropriateness of the measurement of the liability for these balance sheet obligations. The needed detailed guidance has been left to the actuarial profession to provide.

The International Actuarial Association (IAA) has undertaken to provide this guidance by developing International Actuarial Standards of Practice (IASPs). The IAA Professionalism Committee is responsible for monitoring the development process, which

→ page 23

Int'l Accounting
From page 22

includes preparing the IASP for exposure and consulting, conducting additional consultations if needed, developing a final exposure draft for Council approval, and putting the final version to a membership vote. Once approved by full member associations, the IASP will become effective.

As noted, developing actuarial standards is a new process for the IAA. As a result, limited experience is currently available within the IAA for the format or the wording to be used. The subcommittee requested support from the Actuarial Standards Board (the "ASB"), the actuarial organization associated with the American Academy of Actuaries that adopts actuarial standards for the U.S. actuarial profession. This assistance should prove beneficial because of the ASB's long experience in developing actuarial standards in a highly litigious country. As a result, the ASB is acting as a staff resource to the subcommittee.

An IASP adopted by the IAA would not automatically be binding on actuarial associations in relation to their own standard-setting activities in connection with local practice, except in cases where a client advised by the actuary is required, or decides, to comply with the relevant IASP.

A Member Association can decide whether to (1) endorse a particular IASP for use in connection with, say, a relevant International Financial Reporting Standard, (2) adopt it formally for use in relation to local accounting standards or other reporting requirements, (3) adapt it to produce a locally applicable standard, or (4) do nothing. Where a Member Association decides to adopt a standard that would be applicable in the same or similar circumstances as would require compliance with an IASP or where an actuary might find himself or herself being required to comply with the IASP and the national standard simultaneously, the Member Association should ensure that its standard does not conflict with the IASP in regard to work which falls within the scope of the IASP. Unless a Member Association decides on course (3) above, the IAA IASP would apply to actuaries practicing in that country. The Member Association, not the IAA, is expected to deal with discipline matters with respect to the application of IASPs.

Currently, several IASPs related to IFRSs affecting insurers are under development. They will take one of two forms: 1) a class 3 IASP or "recommended practice;" or 2) a class 4 IASP or "practice guideline." The areas currently covered by the material being developed include actuarial practice, contract classification, embedded derivatives, reinsurance-related issues, liability adequacy tests, setting current best estimate assumptions, disclosures, stochastic models, business combinations (acquisitions and mergers), and unbundling (splitting investment from risk elements where practical).

The subcommittee aims to prepare various informal discussion drafts that will be available in the near future. The objective of these drafts is to provide an opportunity to receive comments before the promulgation of Preliminary Exposure Drafts, currently anticipated in early June. Preliminary Exposure Drafts only need approval by the IAA president in order to be distributed. It is hoped that these due process stages will lead to the receipt of comments and suggestions that will enable final IASP Exposure Drafts to be brought to the IAA Council at its Washington meeting (November 2004) for approval of their release for a final exposure period and vote by Member Associations.

Editor's Note: For more information, see the special newsletter on the Development of Potential IAA Standards for Application with IASB Standards (www.casact.org/global/iaa/iasb.pdf). The newsletter has also been posted to the IAA Web Site (www.actuaries.org/) in the Members' section under IAA Documents, Newsletters. ■

Brainstorms

The Art of Algorithms

by Stephen W. Philbrick

It's an election year, so many subjects that would barely merit media coverage suddenly get front-page treatment because some politician decides that banning something (or perhaps mandating it) will make the world a better place. Outsourcing is garnering many of these headlines this year. Offshoring —the "hot potato" aspect—is dubbed statistically insignificant by some economists. Nevertheless, it doesn't seem so insignificant if it happens to you. Many in the tech sector and call center business have reason to be concerned.

> **"Offshoring —the 'hot potato' aspect—is dubbed statistically insignificant by some economists... There's less concern among actuaries. I wondered why...."**

There's less concern among actuaries. I wondered why, which led me to think about the nature of actuarial work versus other occupations.

A couple of decades ago one could make a long list of reasons why an actuarial function couldn't be outsourced to, say, Bangalore. It's a long way to travel for a rate hearing. Good reserving actuaries need to get their hands "dirty" reviewing claim files. Even triangle "manipulation" required an understanding of the underlying data, access to related data, and discussions with many people cognizant of the insurance process.

→ page 24

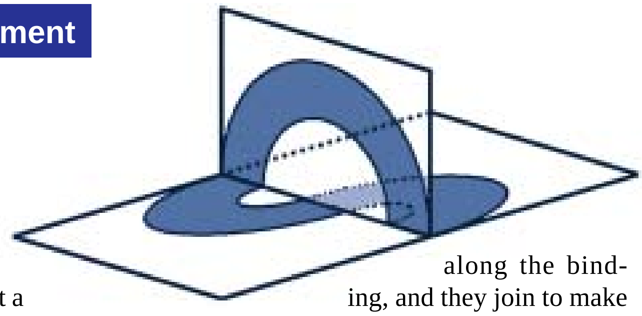
It's a Puzzlement

Comparing Ages

by John P. Robertson

Two people know their ages (in years) differ but don't know who is older. Neither is willing to divulge their age to the other or to a third party. Is there a way they can determine who is older? You can assume any necessary equipment is available, and that each will scrupulously follow any rules they agree to.

Mobius Strip



The puzzle was to cut a Mobius strip out of a book that had three "pages" (a front cover, a back cover, and one leaf in between). There are several methods that involve cutting a half-annulus from each "page" so that the ends of the half-annuli are along the binding, and they join to make one continuous loop. See accompanying diagram for a solution.

Robert S. Ballmer, **Jon Evans**, **Bob Giambo**, Alex Kozmin, Christopher S. Mosbo, David Uhland, and Michael Ziniti solved the puzzle. ■

Brainstorms

From page 23

Over time, some of the reasons for being local have disappeared. The advent of PC's, standardization of software, electronic capture of claim files, e-mail, the Internet, and decreases in long distance rates have gradually whittled away at some of the rationale for the actuary to be physically local. Presence at rate hearings is still on the list, but maybe Web cams will change that.

Many of these changes have transformed the tech sector and call center industry, yet these innovations haven't prompted management to relocate the actuarial function to other countries. So what is it that is different about the actuarial function?

One possibility is the nature of a call center operation can be reduced to a well-defined algorithm. The steps required to figure out why your PC stopped working properly after you installed the latest version of Doom may be numerous and complex, but they are algorithmic. They can be logically mapped out as trees, with scores of nested branches. Once mapped out, the process itself may not be much fun for either the caller or the callee, but the odds are high that the process will reach a unique node on a tree. It is important to distinguish the skill level required to maneuver the algorithm from the skill level required to create the algorithm. For any given problem, we might expect an inverse relationship between the skill level used to create the algorithm and the skill level required to navigate the resulting algorithm.

Actuarial problems aren't as easily adapted to the algorithmic model. One can think of specific examples—if the paid indication significantly exceeds the incurred indication for all years, look to see if the closing rate has accelerated. But the attempt to create a few examples illustrates the difficulty of reducing all of the reserving or pricing process to an algorithm.

I doubt this will surprise anyone. The phrase, "more art than science" is ubiquitous in actuarial circles, and supports the notion that converting actuarial work into an algorithm is close to impossible. I've often wondered if this phrase was more of a crutch than an insight.

I decided to use one of my favorite tools, a Google search for a phrase, to quantify my expectations. The answers did not turn out as expected. A search on the phrase "more art than science" turned up more hits than the phrase "more science than art," when each were coupled with the word "actuarial." However, simply searching on the two phrases without the term "actuarial," turned up more hits for "more science than art" than "more art than science." This surprised me.

Maybe we've been relying on this crutch too long.

Some of the hits for "more science than art" involved pricing. The reference wasn't specific to insurance pricing, but if the professionals in other areas are now contending that pricing can be more science than art, is there any good reason insurance pricing should be less amenable to scientific rigor?

I started this discussion in the context of outsourcing. A naysayer might object that making our work more rigorous might well make it more susceptible to description by algorithm, and thus more likely to be shipped to another country. I don't share this concern for several reasons, one of which is even if true, ignoring it won't stop it from occurring.

My major area of concern is that we may have been too quick to assume that actuarial work is inherently too subjective to ever allow it to be formalized. For this reason, I suspect few have even attempted to formalize it. While I am certain that we are still many years from creating anything that would rival a call center algorithm, I think the effort would be worthwhile. Like creating a mission statement, the value may not be the end product, but the insights gained by those involved in the process. ■

In Memoriam

Robert B. Foster
(FCAS 1955)
February 4, 2004

William S. Gillam
(FCAS 1957)
January 24, 2004