



The Actuarial Review

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From the President



Thoughts on the Examination Process

by Mavis A.
Walters

Over the last several weeks, as a result of many discussions with CAS members and students, as well as a review of the Student Discussion Forum on the CAS Web Site, I have spent a lot of time thinking about our examination process.

For those who may be unaware, there has been quite a bit of criticism directed at the Part 4B and Part 7 exams given last November. The complaints were somewhat similar: the exams were too difficult and, in the case of Part 7, too long. This has led students and some employers of those students, among others, to question whether we are deliberately trying to limit the number of new CAS members to enhance the competitive position and earning power of those who have already earned their CAS designations. Although that charge has been made before, I want to assure everyone that there is absolutely no truth whatsoever to that allegation.

The goals and objectives of our education and examination system, as stated in the CAS Syllabus, speak to developing a "thorough" and "comprehensive" understanding and a "working" and an "expert" knowledge of the syllabus material. And the exam committee's difficult task is "to produce examinations that contain representative, high-quality questions to test can-

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CAS Forms Committee on Health and Managed Care Issues; Seeks Input

by Richard I. Fein

At its meeting on March 25, 1998, the Executive Council launched a significant initiative aimed at providing casualty actuaries with information, communication, and research on health and managed care issues in casualty coverages. The Executive Council also established a new standing committee, the Committee on Health and Managed Care Issues in Casualty Coverages, to provide the technical resources to the CAS and its committees as they participate in the initiative. The committee will also provide recommendations to the Executive Council on the progress of the initiative and any changes necessary.

The Executive Council's action followed a yearlong evaluation by the Task Force on Health and Managed Care Issues. The 27 task force members were drawn from all casu-

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The CAS Strategic Plan— Reaching Out Internationally

by Gary R. Josephson

The CAS Strategic Plan provides a context for addressing international issues. This 1996 document discusses the geographic scope of the CAS, states as a guiding principle that the CAS is a significant contributor to the worldwide actuarial profession, and identifies several strategies under the membership function to improve worldwide access to CAS materials and members.

Recent actions taken by the CAS include:

- A proposal to provide for a nonvoting membership class ("Affiliate") for actuaries who are members of an International Actuarial Association (IAA) organization and who practice in the general insurance field;
- Formation of two new regional affiliates: Casualty Actuaries of Europe and Casualty Actuaries of the Far East;
- Plans for a joint effort with the Institute of Actuaries to conduct a seminar in the United Kingdom.

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Nomenclature

by C. K. "Stan" Khury

We are all aware of the rapid expansion of applications of the casualty actuarial craft. It is certainly growing in size as well as in complexity. A growth of these dimensions inevitably brings with it more complex nomenclature. Consider two recent examples:

- In the March 16, 1998 issue of *National Underwriter*, a story reporting on a Zurich unit attaining a retrocessional capacity against Florida hurricanes included the following paragraph: "About \$22.036 million of Class A-1 floating rate defeasance notes, paying a coupon of the London Interbank Offered Rate (LIBOR) plus 1.82 percent, and \$61.533 million of Class A-2 floating rate notes, paying a coupon of LIBOR plus 4.36 percent, were issued in a Rule 144A transaction completed March 3, Center Solutions said."
- The first exposure draft of the proposed *General Principles of Actuarial Science* contained the following principle of "actuarial soundness," "For most financial security systems, there are combinations of margins that will produce, relative to a valid actuarial model, a degree of actuarial soundness that exceeds a given specified level less than one."

We find these descriptions to be bordering on the incomprehensible. One can argue that subjects as complicated as these two almost demand a highly specialized language. Perhaps. During the past few weeks I have shown these paragraphs to a few colleagues and their reaction is substantially the same as mine. We suspect if a number of actuaries were asked to explain these paragraphs, we might get as many different explanations as there are actuaries. Is this difficulty a necessary part of our constantly evolving field of practice? We don't think so.

"One can argue that subjects as complicated as these two almost demand a highly specialized language. Perhaps."

Consider, for example, the recently released Actuarial Standards Board exposure draft of *Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves*. Without advocating or disagreeing with the substance of this document, we do think the language that is used is something to write home about. For the most part, it is written in plain English. It is straightforward and user-friendly. The terms that are used are only minimally abusive. A big hint on the degree of readability of the document can be found in the definitions section, where all the technical terms are defined. A quick glance at this section will confirm that the writers of this document are trying to communicate. Even as one scans through the rest of the document, the high readability of the proposed standard is crystal clear.

What is the difference between the two types of samples above? It is hard to tell from just reading them. One must be able to get into the minds of the writers to understand this choice of presentation. And since that is not possible, we are left with just making suggestions: perhaps a second level of editing may be helpful, a process that takes the originally proposed language and rewrites it in straightforward language. The national weekly news magazines often use this level of editing. After a story is produced by its original authors, the text is turned over to another type of editor to conform the language and style to those of the magazine.

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CAS Web Site Directory Supplants Membership Information Update

The CAS Committee on Online Services and the Executive Council have agreed to discontinue publication and distribution of the *Membership Information Update*. This publication has annually provided a midyear membership listing update for members whose address and/or telephone/fax/E-mail address had changed since the *Yearbook* was prepared. In addition, the *Update* included listings of members by ten employment types, further grouped by employer by city, and including member designations and telephone numbers.

Discontinuation of this publication saves the CAS an annual cost of approximately \$15,000 to publish and mail a directory update. Through the

CAS Web Site, users with passwords will be able to obtain more current members' directory information that is updated on a monthly basis.

With the development and wide acceptance of the CAS Web Site, the *Update*-type information is now provided through the Members Only section of the Web Site. Directory information is accessed from a searchable membership database that is updated monthly by the CAS Office to record members' address and other changes. The Update section for type of employment will be developed as before by the CAS Office and placed on the CAS Web Site (Members Only section) in July.

Members who have not yet registered for a password to the Members Only section on the CAS Web Site should contact Amy Wright, CAS Web Site Assistant, at awright@casact.org. Upon request to the CAS Office, Subscriber Program enrollees and Academic Correspondents will be provided with special passwords to the Members Only section at the CAS Web Site that are limited to the membership database and listing by employment type only.

Members, subscribers, and academic correspondents without access to the Internet may obtain a paper copy of the type of employment listing from the CAS Office. This service will be available in July 1998. ■

CAS Web Site News

Actuaries Explore Internet Resources

by Amy Wright, CAS Web Site Assistant

"The Internet is one of those things like programmable coffeemakers—I don't know how I lived without it," says Regina Berens, Consulting Actuary at MBA, Inc. and CAS Board member. Her statement reflects the growing reliance upon the Web, which has proven itself far-reaching and stable. Already it is being integrated with daily life and taken for granted, and it is growing by leaps and bounds. According to Netcraft, the number of Web sites found by their survey exceeded two million in March 1998. There are movie databases, bookstores, up-to-the-minute stock market shifts—you can even tour the Louvre online.

While this extensive range is part of the Web's appeal and convenience, navigating this endless stream of information can be tricky. Different routes are more advantageous for different users, but it takes time to learn the valuable landmarks along the way.

In the spirit of the fast-information age, I have compiled some of the surfing habits of CAS members in order to illustrate how actuaries use the Internet.

"The Internet is one of those things like programmable coffeemakers—I don't know how I lived without it"

and to identify some of the professional resources it offers.

Those who travel frequently might follow CAS President Mavis Walters' lead. She books flights, checks weather and restaurant information in cities she plans to visit, and gets driving directions online.

Berens also takes advantage of these

conveniences and has used a Web site to check the status of two people coming in on two separate flights. She was able to find out not only the arrival times, but the types of aircraft. (Surfers also refer to the airlines' "What to do when..." pages, which offer advice in the event of a missed or canceled flight, lost ticket, or damaged luggage.)

Lodging information is also easily accessible. In an effort to assist members with seminar and meeting planning, the CAS Web Site links to hotel Web sites. The Marco Island Marriott's site, for example, is linked from the online 1998 Spring Meeting brochure. This site includes a map of the Marco Island area and information about local attractions, room amenities, and hotel facilities.

The CAS meeting information pages, listed in our Continuing Education Catalog, contain reservation

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From the Readers

Readers' Choices: Recommended Readings

Dear Editor:

I heartily recommend that CAS members and students read the novel *Cyberbug* by Michael Cowell, FSA, available from the Society of Actuaries for \$10 (call them at 847/706-3526). The novel follows the life and career of a non-life actuary into the 21st century and makes some interesting predictions about insurance systems and the world decades from now.
Jerry Tuttle, FCAS

Dear Editor:

The Investment Section newsletter of the Society of Actuaries would be of interest to many CAS members. The Society of Actuaries' Sections are organized by people with specific special interests. One important area of section activity is the publication of a newsletter two to four times a year. The Investment Section newsletter is targeted at member actuaries who have a strong interest in investments.

Articles focus on areas of interest to actuaries, such as portfolio management or asset/liability management. There is less attention to topics such as security selection. The articles are

generally written by actuaries on a volunteer basis.

Of course, not all articles appeal to all actuaries. Having been a reader for many years, I believe that many of the articles would appeal to casualty actuaries interested in investment issues. They are written in a style and at a level that most actuaries would find clear and concise.

The cost of the newsletter is small—\$10 a year. Subscriptions to it can be obtained by writing to the Society of Actuaries at 475 North Martingale Road, Suite 800, Schaumburg, Illinois 60173-2226.

Bruce D. Moore, FCAS ■

From the President

From page 1

didates' knowledge of the material," as stated in the *Syllabus*—not to test candidates' knowledge of material covered in previous examinations.

Clearly what we want to do is to provide an actuarial education so that candidates who achieve their professional designations are really prepared to solve complex problems and contribute to the development of actuarial science. To that end, the Exam Committee tried to develop more thought-provoking, synthesis questions that probably required more time to answer.

I am confident that exam committee members would be the first to admit that they do not always achieve their objective: a fair, reasonable test of understanding and knowledge that can be completed in the allotted time period. Problems do arise on occasion despite everyone's best efforts. Even though exams are reviewed by the Part Chair, the Vice Chair, the Exam Committee Chairperson and the Exam Consultant(s), sometimes an exam can produce very disappointing results.

We need to recognize that more than 260 Fellows who serve on the exam committee are all volunteers and not professional educators. They have full-time jobs with lots of responsibil-

ity, just like the rest of us. But they also are called upon to produce high-quality exams and grade those exams under very tight time frames. And, I might add, they get very little thanks

**"The designations
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diluted."**

or appreciation for their efforts. I believe that they do an excellent job overall on behalf of the CAS and that our exam process is just as good if not better than those of other professional organizations who operate using volunteer members.

Recognizing all of this, however, Part 7, in particular, turned out to be a very disappointing exam for everyone. Candidates found this to be long and difficult and the raw pass ratio was only 29 percent. No one is happy with these results, beginning with the exam committee members themselves. Although there were the same number

of questions on the November 1997 exam as in 1996, in hindsight, this exam was too long. The committee has analyzed the exam results very carefully and believes that too many calculations were required.

On occasion it will happen that there will be exams that do not produce the expected or desired results, but this is not by design and it is the exception, not the rule. It is unfortunate, but it should not impugn the credibility of our education and examination system.

To those CAS members who might be critical of the current system I would ask you to get involved. If you think you can do it better we would welcome you as a volunteer. If you have constructive criticism then direct it to the Vice President-Admissions or to the Examination Committee Chairperson.

Finally, I believe that all of us in the CAS should recognize that we have an obligation to society at large and to our Society to maintain the high standards that have traditionally been met by members of the CAS. The designations ACAS and FCAS imply a competency to practice that none of us wants to see diluted. We will continue to struggle to find the right balance in our education and examination system and I am confident that we will continue to be successful. ■

Lessons from the Little League

by Charles L. "Fanner" McClenahan

This spring has been a difficult one for me. For the first time in years I am not involved in coaching baseball. Our son is in high school and, if truth be known, has advanced well beyond my ability to teach him anything about baseball. Our daughter is not a ball player. Instead she has chosen figure skating as her area of athletic endeavor—a sport requiring a level of grace and artistry well beyond that possessed by her father—and I am therefore limited to a more naive and awestruck type of support consisting mostly of a series of "wows."

It occurred to me as I was watching the grass turn green and my Neat's-foot-oiled glove turn brittle from disuse that there are some lessons that good coaches will try to impart to young baseball players and that, if remembered, will serve those players later on in the business world. Some of these lessons may be learned in other sports as well, but only baseball combines the elements of individual performance on offense with teamwork on defense to the same extent that they come into play in the modern corporate environment.

So for those of you who never played youth baseball I offer the following:

Practice makes perfect—The team that has spent time preparing for various situations and on which each member knows his or her responsibility will generally outperform the team that relies on instinct alone.

Players will rise to reasonable expectations—If the coach expects each member of the team to try his or her best, the players will do it. If the coach expects players to treat each other with respect and to provide support to their teammates, the

"There are some lessons that good coaches will try to impart to young baseball players...that, if remembered, will serve those players later on in the business world."



players will do it. If the coach treats the team as baseball players and not as kids, the members will think of themselves as baseball players and will act like baseball players. The key is the reasonableness of the expectations. If the coach expects to win every game, the team's inevitable failure to rise to that unreasonable expectation will spill over to reasonable expectations as well.

Don't look for a walk—I have observed many coaches of younger players coaching that "a walk is as good as a hit." This may be an effective strategy for winning against pitchers who have not developed good control, but in the long run it loses. Players coached to look for a walk when they are seven or eight often fail to develop the batting skills they need when they are twelve or thirteen. Coaching to win at the expense of development of basic skills is always a mistake.

Don't take a called third strike—I have never criticized one of my players for a swinging stikeout. When a batter has two strikes it is "crunch time" and any pitch that is close needs to be

attacked aggressively. There is probably nothing more difficult in all of sports as hitting a baseball, and there should be no negatives associated with swinging and missing. But for a player to take a close pitch for strike three with the bat resting meekly on his or her shoulder substitutes bad defense for good offense.

Don't argue with the umpire—Umpires (like CEOs, Popes, and Supreme Court Justices) make mistakes, but that is a necessary part of the game. Arguing with an umpire's judgment call is "bush" and has never been allowed on any team I have coached. Most kids play baseball for only a few years, but they can have class for their whole lives.

Play hard, play fair and have fun—Every season I made the same opening speech to my team, in which I told the players that I expected only these three things of my team. If you don't want to play hard there is always someone else, possibly with less physical talent, who would love to take your place. If you don't want to play fair then your priorities are not consistent with those of the team. If you don't have fun then what are you doing here?

Now I'm sure there are some readers who dispute the applicability of some or all of these lessons to business life. There may even be some who question their applicability to youth baseball. But any reader who bases such concerns upon the assumption that the modern corporate environment is far more complex than baseball is obviously unfamiliar with the balk rule. ■

IABA Seeks Mentors and Members

The International Association of Black Actuaries (IABA) invites African-American actuarial professionals with Fellow or Associate designations to become mentors to high school, college, and employed actuarial students pursuing an actuarial career. Non-designated actuarial professionals with more than seven years of experience in the field are also invited to mentor. The IABA encourages participation of African American actuaries in the activities of the professional actuarial organizations, supports minority-owned insurance companies and consulting firms, and provides scholarships to minority students. Jeffrey L. Johnson, FSA, 1998 IABA President and an actuary with Allstate Insurance Company, invites all African-American actuarial professionals to become part of this organization as it grows and moves into the 21st century.

Linda A. Shepherd, 1997 IABA President and Vice President and Actuary with Prudential Property & Casualty Insurance Company, began the IABA Mentoring Program in March 1997 under her presidency. Its purpose

is to reach out and assist African-American actuarial students in achieving their exam and career goals.

The IABA Mentoring Program encourages African-American high school and college students to pursue an actuarial career and provides mentors and role models for actuarial students. Under the program, each mentor is assigned a student based on career track and interest. For example, life actuaries are placed with life stu-

dents and so on. Mentors and students communicate at least once a month to discuss the student's development. While the program is set up for one-to-one mentoring, the student does have access to any mentor available (in some cases mentors assist several students). The IABA Mentoring Committee closely monitors the program to ensure that it is working effectively.

The mentoring program now has more than sixty participants and is continually growing. Those interested in becoming an IABA mentor or interested in being mentored should contact Patricia R. Powell, Mentoring Chairperson at (302) 475-7142 or write to:

IABA Mentoring Program
P.O. Box 7322
Wilmington, Delaware 19803-0322

The IABA is also seeking the support of companies interested in sponsoring memberships. Anyone interested in becoming a member should contact Linda A. Shepherd, IABA Membership Chairperson at (732) 946-5538 for more information. ■

IABA Scholarships

The IABA awards scholarships to qualifying students. To apply, contact the SOA and request SOA/CAS Joint Committee on Minority Recruiting Scholarship Application. Complete and return to the SOA. For additional scholarship information, contact Christy J. Howard, FCAS, Group Vice President with CNA and IABA Scholarship Chairperson at (312) 822-7081. ■

Strategic Plan

From page 1

These activities are all premised on the expectation that the globalization of the insurance business will lead to a significant increase in the number of CAS members practicing outside of North America. In addition, the number of actuaries in other countries seeking to become proficient in and credentialed in casualty actuarial work is likely to increase.

The Long Range Planning Committee has asked the CAS Board to provide additional strategic direction for addressing international issues. The committee also welcomes comments from the CAS membership on direction in this area. Specific questions that invite comment are:

- Should the CAS be more proactive in reaching out to individual actuarial students and members of actuarial organizations in other countries? If so, how should we do it?

- Does the international record indicate that the CAS is the preeminent general insurance education and research organization in the world? If not, should we be, and what do we need to do to achieve this reputation?
- Should the CAS be the (or "an") educator of general insurance actuaries around the world? If so, does the CAS have the required resources?

- How can we raise the visibility of the CAS in the world actuarial community?

We also invite comments on other aspects of the Strategic Plan. The plan is available on the CAS Web Site at www.casact.org/private/strategic.htm. Written comments should be submitted to John Purple, Chairperson, Long Range Planning Committee, c/o the CAS Office. ■

Accessing the Members Only Section

To access the Members Only section of the CAS Web Site, you need a user name and password. CAS Members may choose their user name and password, both of which should be between 6 and 12 characters and case sensitive. Send your selected username and password to Amy Wright at awright@casact.org. The request may also be mailed to the CAS Office at 1100 North Glebe Road, #600, Arlington, VA 22201-4798, or faxed to (703) 276-3108. If you have previously submitted a request but have misplaced or forgotten your username and password, you should also contact Amy Wright. ■

A Review of: *F.I.A.S.C.O. Blood in the Water on Wall Street*

by Frank Partnoy (W. W. Norton & Company, 1997)

by C. Gary Dean

Derivatives have been around for centuries, but in the 1990s they made front page headlines as leveraged bets led to financial havoc and bankruptcies for many players in the derivatives market. Well-publicized examples are the \$1.7 billion loss by Orange County and the collapse of Barings P.L.C., a respected 233-year-old British bank. The variety and complexity of derivatives has exploded and, according to the author, derivatives were a \$55 trillion market in 1996, the largest market in the world!

Derivatives can reduce financial risk. A farmer can buy futures contracts, one type of derivative, linked to the market price of his crops to hedge his investment in production costs. A drop in market price of his crops will be counterbalanced by profits from the futures contracts. A company may enter into a forward contract for currency exchange to reduce its exposure to swings in exchange rates. But the speculator who uses derivatives to bet on the direction of future commodity prices, interest rates, exchange rates, and so on, risks big losses if things don't go as hoped. The book looks at this dark side.

Frank Partnoy created and sold derivatives on Wall Street from 1993 to 1995. During his time in the Derivative Products Group (DPG) at Morgan Stanley, his group was by far the biggest moneymaker in the firm with total fees around \$1 billion. They made money not by investing in derivatives and assuming the risk, but as intermediaries who created, packaged, and sold them.

The author emphasizes the aggressive profit-driven culture within DPG and their disdain for potentially disastrous consequences for their clients.

**"PERLS were
especially attractive
to devious managers
at insurance
companies...."**

—Frank Partnoy

F.I.A.S.C.O. is an acronym for Fixed Income Annual Sporting Clays Outing where colleagues blasted clay pigeons with shotguns, seen by the author as a metaphor for their treatment of clients. His discomfort with this culture is displayed throughout the book. He now specializes in financial market regulation as an assistant professor in the University of San Diego law school.

Insurance companies and pension funds are mentioned repeatedly as naive buyers of derivatives. Investment managers are lured by promises of higher yields, but risks are misunderstood or ignored. Other managers purchase derivatives to circumvent investment restrictions. Some derivatives may look like bonds and receive good ratings from Standard and Poor's. These securities appear to be low risk, but payments of interest and principal are linked to other events.

Many derivative products are described including PERLS (Principal Exchange Rate Linked Securities). PERLS are a kind of bond called a structured note, but principal repayment is linked to various exchange

rates and they act like leveraged bets on exchange rates. On the surface a PERLS can look like an AAA-rated federal or corporate bond. The author reports, "PERLS were especially attractive to devious managers at insurance companies, many of whom wanted to place foreign currency bets without the knowledge of the regulators or their bosses."

Other investors did not know the risk of PERLS. One such manager at a "stodgy insurance company" saw \$85 million invested in PERLS shrink to a fraction of his original investment. His reaction when he became aware that he had bet on foreign exchange rates? "Foreign exchange bet? What the hell are you talking about? We didn't bet anything, and we shouldn't have lost anything. We didn't make any foreign exchange bet. We're an insurance company, for God's sake. We aren't even allowed to buy foreign exchange."

PLUS I notes were derivatives created to help Banco Nacional de Mexico (Banamex) remove undervalued and illiquid bonds from its balance sheet. These were peso-denominated bonds issued by the Mexico government. U.S. and Asian buyers had money to buy but needed investment grade bonds denominated in U.S. dollars. The task required considerable financial engineering plus the creation of a Bermuda company to buy the bonds from Banamex. The result was a dollar-denominated bond with an AA- S&P rating. For the rating S&P required a huge fee and a disclaimer on the Offering Memorandum that the rating did not reflect currency fluctuation risk.

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New Committee

From page 1

alty business lines. They are experienced practitioners and new members—many with extensive experience in health and managed care. A representative of the SOA also participated on the task force. The task force compiled its findings, conclusions, and recommendations into a report delivered to the Executive Council. The recommendations were adopted by the Executive Council at the March meeting.

The report concluded that:

- Health and managed care delivery systems and products will continue to have a growing and significant role in property and casualty products;
- Property/casualty actuaries will continue to be faced with significant changes to products and claims practices due to changes in health care delivery systems;
- There is insufficient information and technical support available to the property/casualty actuary to satisfy and facilitate this growing demand.

As the educator of property/casualty actuaries, the CAS can and should provide the relevant information and educational opportunities to help property/casualty actuaries develop the knowledge needed to understand and

evaluate the principal issues affecting property/casualty work.

The task force report contains six recommended actions and 41 detailed steps that the new committee will pri-

“...the CAS can and should provide the relevant information and educational opportunities to help property/casualty actuaries understand and evaluate the principal issues affecting property/casualty work.”

oritize and provide to the CAS committees as suggestions for individual committee goals. The report also contains the rationale behind the actions and recommendations. In addition, the report contains complete results of two surveys the task force completed during its evaluation period. Finally, the report contains a bibliography of references and a glossary as a starting point for discussions. The full text of the report is available on the CAS Web Site.

The newly established Committee on Health and Managed Care Issues in Casualty Coverages has been charged with implementing the actions recommended by the Task Force on Health and Managed Care Issues, providing advice and guidance to the CAS committees that are affected by the recommendations, and providing recommendations to the Executive Council to assure that casualty actuaries have sufficient resources to understand and evaluate the developing impact of health and managed care on casualty covers. The committee will also maintain a liaison with other actuarial, technical, and professional organizations. The committee members, all of whom were task force members, will be available to work with the other CAS committees to explain the task force findings and rationale in greater detail.

The committee will continue to communicate the health and managed care-related activities through a home page on the CAS Web Site. We are seeking your input on your needs as practitioners and students. The home page will provide an active discussion channel that will focus on health and managed care. Send your ideas or suggestions for the home page to Mike Boa at the CAS Office and feel free to talk to any of the committee members.■

Quarterly Review

From page 7

The MX was a custom-designed derivative that enabled a Japanese client to book instant and enormous profits. The downside for the client company, but not its current managers, is that a large non-performing asset has to be carried on its balance sheet for decades. If it sells the asset, income will take a big hit. When the asset matures in thirty years, a big loss will be recognized. This financial sleight-of-hand involved buying and selling a type of collateralized mortgage obligation and zero coupon bonds. The details are clearly explained in the book. Morgan

Stanley reaped an incredible \$75 million setting this up for the client!

Along the way the author describes derivatives that led to the downfall of Robert Citron in Orange County and Nick Leeson at Barings. Citron had been an easy mark for an aggressive salesman from Merrill Lynch. Citron's leveraged investments had produced high returns for a while, but things fell apart when interest rates rose in 1994. Leeson made steady profits as he worked arbitrage trades to profit from price differences in Nikkei-225 stock index futures between the Singapore and Osaka, Japan exchanges. His crash and Barings' came when he made big one-sided bets on the direction of the

stock index.

Actuaries working with the asset-side of the balance sheet should be knowledgeable about the risks of derivatives. As explained by the author, derivatives can be cloaked in innocuous looking wrappers. This is not a textbook on derivatives—there are no mathematical formulas. But, in 250 pages the author weaves entertainment and an education in derivatives. It can be read in a few evenings. His real-life examples and anecdotes are a good supplement to a rigorous study of the topic. And at every turn he reminds the reader of a favorite actuarial concept—RISK!■

And the Winner Is... ACAS Began His Early Career in Film

by Brian D. Haney

Hollywood is slipping these days. Among the culprits contributing to the fall of Tinsel Town are WAY too many sequels (I anxiously await *Schindler's List II*), highly improbable action films involving Bruce Willis (the next sequel to *Die Hard* should be titled, *Die, Please*), and sci-fi movies like *Independence Day*, where ultra-advanced races intent on destroying earth are still using DOS—no wonder they end up losing!

What we need are more actuaries in movies, or at least some actuaries in movies (the reader should see where this is going by now). This leads me to a trivia question: What was the last (and as far as I know only) major Hollywood movie to have a current CAS member in the cast? Drum roll please...*The World According to Garp*.

Garp is an odd but funny comedy released in 1982 based on the novel by John Irving. It stars Robin Williams, John Lithgow, Glenn Close, AND our mystery CAS member. This ACAS was only ten at the time when he played Duncan Garp, the elder of Garp's (Robin Williams) two sons. His character was blinded in one eye after a freak car accident in which he lost his little brother and his mother's lover lost a "member" of his family as well. (Fans of the movie and book should remember the scene; those who aren't familiar—you know where your local library or video store is.)

Our actuary got turned on to acting as a child in his home town of Minneapolis when he saw *The Hound of the Baskervilles* at the Children's Theater. Within a year he was auditioning for a part in a local production of one of the *Oz* series by Frank Baum. Although he didn't get the part in the play, he did get on the list to audition for the role in *Garp*.

Twenty to 30 children auditioned

for the part in *Garp* in Minneapolis. From this group he was chosen to go to New York for his first audition in January 1981. A few months passed with no word from the casting agency. In April 1981 he got a call for another audition and within a week he was offered the role of Duncan and started filming.

Shooting took place for eight weeks from mid-April to mid-June. Because of labor laws, child actors were held to strict schedules and were required to have a guardian. An aunt came and tutored him for two weeks so he could complete 5th grade. His mother and father each spent two weeks as his guardians on the set and the film's producer, Bob Crawford, also spent one week with him as guardian. Our actuary can't recall with whom he spent the remaining week.

The film was shot in New Jersey, New York City and Fishers Island, New York, which is located off the northeast coast of Long Island. All his expenses (hotel, drivers, and food) were paid for by the production company and every two or three weeks he was given \$500 as mad money. He used the cash for sightseeing, shopping, and video games.

During his time on the set, the future ACAS made friends with the stars in the cast. Most of his scenes were with Williams, Mary Beth Hurt (who played his mother), and Lithgow (in the role of the former fullback-turned-transsexual). Our actuary knew nothing of Robin Williams who, at the



Our mystery Associate sports a T-shirt signed by his co-stars in the film *The World According to Garp*.

time, was just beginning to do more films after starring in the television program *Mork and Mindy* (our actuary's parents didn't buy a television until the mid-80s).

Our mystery actuary also forged a bond with the film's director, George Roy Hill, who would make up palindromes with the young actor. One of his favorite palindromes he learned from Hill was "Sit on a potato pan Otis."

During the shooting our actuary earned a salary that dwarfs what entry level actuaries make—about \$1,000 a week. In the few years after *Garp* was made he received royalties from the film, but the royalty checks stopped a long time ago. After *Garp*, our actu-

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Actuaries Abroad

Lloyd's Reserve Opinions

by Catherine Cresswell

Lloyd's is complicated, as everyone will know who has tried to understand it. The regulation of Lloyd's is even more complicated. Rather than reporting to one regulator, Lloyd's entities report to several. The prime regulator of Lloyd's members, syndicates, and managing agents is the regulatory department of the Corporation of Lloyd's. This is supplemented by solvency monitoring on a name-by-name basis and at a global level, which is conducted by the Insurance Division of the U.K. Treasury. Reports must also be provided on U.S. surplus lines business to the International Insurers' Department of the NAIC and on U.S. trust funds to the New York Insurance Department. Not surprisingly, this plethora of reporting requirements has led to a clutch of different reserve opinions on syndicate liabilities and several guidance notes (practice standards) for actuaries giving these opinions.

The opinions and relevant guidance are as follows:

Professional guidance pertaining to giving these opinions is set out in GN20, GN33, and other guidance notes issued by the Faculty & Institute of Actuaries (such matters are now always dealt with on a joint basis by the two U.K. actuarial professional

bodies—the Institute of Actuaries based in London and the Faculty of Actuaries based in Edinburgh).

Fellows of the CAS are expressly permitted to sign GN20 opinions, so long as they are also Affiliate members of the Institute of Actuaries. This

“...this plethora of reporting requirements has led to a clutch of different reserve opinions on syndicate liabilities and several guidance notes...for actuaries giving these opinions.”

requirement that they be members of the Institute ensures that they are bound by U.K. professional standards, practice standards (for example GN20 and GN33) and subject to the U.K. profession's disciplinary procedures.

While many of the professional standards may be relevant to opinions

under GN20 or GN33, the standards explicitly require that an actuary must “consider carefully whether his or her experience of the business procedures of Lloyd's and of estimating reserves for types of business similar to that underwritten by the syndicate is sufficient to justify undertaking the assignment.”

Much London market business is arcane and there are differences in accounting practices between the London market and the U.S.; indeed there may well be some accounting differences between syndicates.

Becoming an Affiliate of the Institute is in any case to be recommended if an actuary who qualified other than through the Institute or Faculty is working in the U.K. One simply applies to Georgina Ivers at the Institute of Actuaries [fax (44) 171 405 2482, telephone (44) 171 242 0106, E-mail georgini@actuaries.org.uk], with details of one's actuarial qualifications. An FCAS is automatically entitled to become an Affiliate Member. On admission one is entitled to attend Institute meetings and receive Institute publications, papers, and exposure drafts. Affiliate membership costs £200 a year. Professional subscriptions are normally tax deductible in the U.K. ■

Editorial

From page 2

Another thing each of us can do to foster clear communications is to make sure that in all of our dealings with clients and colleagues, whether written or oral, we make sure that we use plain English as much as possible. In my experience clients and colleagues appreciate this beyond our knowing. It brings the fruits of our labors much closer to *their* consciousness—and therefore increases its usefulness to

them. Absence of such practice is likely to create and widen a gulf of miscommunication between ourselves and those who rely on us to illuminate the situation with our skills.

We close this column with a reference to *Utopia*, the classic work of Sir Thomas More, Chancellor to Henry VIII. *Utopia* is an imaginary faraway island nation in which life is idyllic. In the Utopian world, there are very few laws and no lawyers. Reason: Utopians believe that any law that requires a lawyer to interpret must be bad law. Therefore there are very few laws in

Utopia, because it is difficult to write laws that are so simple there can be no ambiguity as to their intent and application. And when there are occasional disputes, the people take them to their elders for quick resolution. Imagine a world in which we apply this logic to the actuarial field. We would have very few actuarial standards, principles, guides, rules, annotations, and the like—as we simply could not write many of these things in clear and plain language. It would be an interesting world, wouldn't it? ■

DFA—A Capital Idea

by Susan T. Szkoda

This article is the sixth and final in our series on Dynamic Financial Analysis (DFA). The previous articles covered Business Planning, Underwriting, Pricing and Reserving, Reinsurance, and Investment aspects of DFA. This article pulls these topics together to discuss one of the major uses of DFA—determining optimal levels of capital necessary to support the company's business plans.

The question of how much capital is "enough" has been answered in a variety of evolutionary ways. When I started in the business about twenty years ago, that question was usually

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answered by the "Kenney Rule"—the premium to surplus ratio should not exceed 2:1 or 3:1. Over the years this proved to be an insufficient answer. In the early 1990s the NAIC introduced the concept of Risk Based Capital (RBC). RBC was a quantum leap forward from the old Kenney Rule. In fact, RBC examines many of the same factors as DFA—premium growth, line of business mix, reserve adequacy, reinsurance and investments (among others). However, it relies on a formula approach based in part on broad industry averages. RBC also excludes explicit consideration of catastrophe risk and reserve/pricing risk arising from mass torts. While RBC is of benefit to regulators, company management and rating agencies generally

view this measure as somewhat simplistic.

I believe that DFA represents the next step in this evolutionary process. Sophisticated DFA models can capture many of the most critical variables that will affect the company's capital needs over some unknown future business plan horizon and generate thousands of scenarios that, in the aggregate, can help management determine capital confidence levels. Ultimately, management (and rating agencies) will need to determine how much is "enough" for any individual company. A rating agency using a DFA model will need to consider the confidence level necessary to merit AAA rating vs. AA rating and so on.

Richly complex DFA models will consider not only internal company factors but broad external economic factors. These include rates of economic growth in various economies, the capital markets, interest rates, inflation, the general business cycle, the specific insurance cycle AND appropriate linkages between these factors and internal insurance company business concerns such as frequency and severity trends by individual lines of business, and ability to achieve adequate prices.

Sophisticated models will also ultimately consider new products and new competitors that may enter the market and their impacts on existing market participants.

One of the great benefits of DFA models is their ability to incorporate the notion of variance (risk) around each of the potentially dozens or even hundreds of "expected value" variables affecting an insurance company.

Most business plans, even today, consist simply of a base case (expected value) scenario. This base case may be augmented by one or two pessimistic scenarios and one or two optimis-

tic scenarios. Business planning as we know it today is unequivocally not up to the challenge of helping manage-

**"...Many of the next
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ment set reasonable capital levels and capital allocation strategies. In many companies the business plan is little more than a moving target or goal that is subject to constant revision during the course of the year.

There are a variety of DFA models currently in existence. Based on company feedback, several seem to have a fairly strong capital orientation. These models seem to generate more interest from the CFO and senior management of the company than those that present themselves with less capital focus.

The models available today are helping companies to analyze their capital adequacy and to set capital allocation strategy. However, I still see too many models that randomly pick loss ratios from year to year without embedding them holistically and cohesively in multi-year external economic scenarios or even recognizing that year-to-year loss ratios for a particular line/company are not usually random independent events.

I believe many of the next generation DFA models will be more powerful. The next generation models will rely heavily on proprietary research linking external economic events with changes in internal insurance company trends. I believe the CAS should ac-

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1998-99 CAS Participation Survey To Be Released

The 1998-99 CAS Participation Survey will be mailed to all CAS members on June 8. The survey consists of descriptions of the activities for each committee and estimated time commitments for committee service, plus a questionnaire to indicate volunteer preferences for individual CAS and AAA/ASB committees and other CAS opportunities. Watch your mail for this important link to the successful volunteer operations of the CAS.

Associates are invited to serve on any committee except those labeled

Admissions (except for Student Liaison), Audit or Discipline Committees. However, Associates should not feel obliged to complete the questionnaire, given the significant time commitments for committee service, which can be a significant burden on those studying for Fellowship exams.

The CAS has a wealth of volunteer opportunities for you, including task forces formed to meet short-term needs. Or you may wish to participate in a continuing education program or write a research paper. While volun-

teering requires commitment, the professional rewards are great. Get involved or continue your involvement in 1998-99 by returning the questionnaire by July 13 to the CAS Office. You don't have to be "an expert" to serve. To the contrary, service is what creates the experts.

Any member who checks off "very interested and intend to serve if asked" for a particular committee will be contacted by the appropriate committee chair by November 1. ■

Wanted—Interested and Curious To Take on the Actuary "Supply" Model

Have you ever wondered how many colleagues you may have, five, ten, or even twenty years from now? Here is your opportunity to find out.

The CAS occasionally needs to have an idea of the number of casualty actuaries likely to be practicing in the future. Several years ago, the Long Range Planning Committee developed a model (the "Supply" model) that projects the numbers of new and employed Fellows and Associates. The model is somewhat elaborate, utilizing various assumptions and variables that influence the supply of future actuaries. Some of those assumptions are the number of new entrants to the exam process, the change in that number, "pass" rates, "take" rates, and "quit/death" rates. The model is in need of some updating and maintenance to keep it current with today's (and tomorrow's) exam structure.

The CAS would like to find an interested and curious member who is willing to take ownership of the model, updating its assumptions, validating its structure and logic in today's (and tomorrow's) exam environment, and analyzing and critiquing its output. The model currently resides on four computer disks and operates in an Excel (and Lotus) spreadsheet environment. Interested parties should obviously be spreadsheet-competent.

The Supply model is by no means cast in cement. The objective that the model was originally intended to serve (project the number of casualty actuaries) still has merit, and interested persons are, of course, free to either work with and adjust the Supply model as they see fit, or to pursue independent (and perhaps simpler) routes in fulfillment of the purpose. Suggested modifications and a final version will be subject to review and approval by the CAS Long Range Planning Committee.

Interested parties should contact either Ed Shoop at (818) 878-2273 (or Ed_Shoop%SUPERIOR_PACIFIC_CASUALTY_CO@notes.interliant.com) or Tim Tinsley at the CAS Office at (703) 276-3106. Ed will be glad to help in getting you started. ■

CAS Seeks Authors for Study Notes

The CAS Syllabus Committee is seeking authors to write study notes for the 2000 Syllabus. Topics for study notes are:

- Insurance Accounting—
General Concepts
(Non-Nation Specific)
- Accounting for Salvage and Subrogation
- Financial Reinsurance—
Overview
- Reinsurance Commutations
- Going from a Pure Premium to a Rate
- Miscellaneous Ratemaking Topics (Each could be a separate paper):
 - Deductibles
 - Increased Limits
 - Insurance to Value/
Coinsurance

Anyone interested in writing one of the study notes, please contact Syllabus Committee Chairperson Gail Ross at (609) 243-4208; fax (609) 951-8188, or E-mail: gailross@amre.com. ■

1998 Research Conference Set For Atlanta

Georgia State University in Atlanta, Georgia will be the site of the 33rd Actuarial Research Conference, August 6-8, 1998. The Department of Risk Management at Georgia State University is coordinating the event.

The conference is co-sponsored by the CAS, AERF, the Society of Actuaries, and the five other actuarial organizations in North America. June 15, 1998 is the deadline to register for \$95. Paper titles are due from authors by June 1, 1998. Each year the papers presented at the conference are published in the *Actuarial Research Clearing House (ARCH)*.

For more information on the conference, refer to the World Wide Web site: <http://www.rmi.gsu.edu/arc/arcl.htm>. ■

DFA

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tively sponsor significant levels of research to help identify these critical "linkages."

Looking ahead, I anticipate that DFA models will become indispensable in strategic business planning, merger and acquisition valuation, rehabilitation/runoff evaluation and capital planning.

The future is indeed bright and intellectually challenging for DFA actuaries!

(We hope you will attend the DFA seminar in July in Boston and our hands-on Limited Attendance DFA seminars(s) to be given this fall). ■

CAS Seeks Nominations For Rodermund Service Award

ARLINGTON, Va.—The CAS is encouraging members to nominate outstanding individuals for the 1998 CAS Matthew Rodermund Service Award. The Rodermund Award recognizes a CAS member who has made significant volunteer contributions to the actuarial profession. The award will be presented at the 1998 CAS Annual Meeting in November in Toronto, Ontario.

CAS members established the award in 1990 to honor **Matthew Rodermund's** many years of volunteer service to the CAS. Rodermund, who is the Editor Emeritus of the *Actuarial Review*, spent many years coordinating all phases of the production process of this publication with the help of his wife, Edythe, in their home.

When nominating a CAS member for the award, members are asked to include information detailing the nature of the nominee's volunteer service

to the profession or Society. (The biographical section of the *Index to Literature of the Casualty Actuarial Society* is a good source of information on member contributions.) Please note: Neither service as an elected CAS officer or director, nor authorship of *Proceedings* or discussion program papers will be considered in the selection process. Past presidents of the CAS are not eligible for the award.

Members should send nominations to the CAS Nominating Committee Chairperson, Allan M. Kaufman, c/o Casualty Actuarial Society, 1100 N. Glebe Road, Suite 600, Arlington, VA, 22201. The fax number for the CAS Office is (703) 276-3108; the E-mail address is office@casact.org.

Former recipients of this award include: **Walter J. Fitzgibbon, Jr., Dale A. Nelson, Robert A. Miller, Robert A. Bailey, Norman J. Bennett, Robert B. Foster and Paul M. Otteson.** ■

Addresses Omitted from 1998 Yearbook

Four members' addresses were inadvertently omitted from the 1998 CAS *Yearbook* published earlier this year. The CAS apologizes for any inconvenience the omissions may have caused these members and their colleagues.

The CAS has updated the Searchable Membership Database on the CAS Web Site to reflect these changes. Please update your *Yearbook* to include the following addresses:

Robert D. Bergen (FCAS 1972, ACAS 1968)
6064 Quailhill Drive.
Cincinnati, Ohio 45233
Phone and Fax: (513) 451-3933
E-Mail: bergenbob@yahoo.com

Catherine A. Neufeld (ACAS 1996)
4317 Pleasant View Drive
Stevens Point, Wisconsin 54481
Phone: (715) 344-4902
Fax: (715) 344-3800
E-Mail: tneufeld@coredcs.com

Martin M. Simons (ACAS 1971)
Public Actuarial Consultant
P.O. Box 61020
Columbia, South Carolina 29260
Phone: (803) 738-2547
E-Mail: mmsimons@msn.com

Sanford R. Squires (FCAS 1976, ACAS 1974)
Consultant
82 Kirkland Drive
Stow, Massachusetts 01775
Phone: (508) 897-6191
E-Mail: ssquires@ma.ultranet.com ■

CAS Web Site News

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forms, schedules, and lists of attendees. For the Spring Meeting, we intend to take advantage of the medium by posting each morning an "Online Daily," which will include meeting highlights and pictures to summarize the previous day's activities. Look for the first Online Daily on Monday, May 18 (<http://www.casact.org/coneduc/sprngmtg/sprngmtg.htm>).

Rachel Tallarini, a new Associate, finds the online *Syllabus of Examinations* to be helpful for its up-to-the-minute listings. Students are able to check the Updates section of the online *Syllabus* instead of waiting for the Notice of Examinations via snail mail. Similarly, the online Calendar of Events is a good resource for staying up-to-date on current CAS events. Gary Dean, CAS Vice President-Administration, refers to this schedule on a regular basis. Education and volunteer opportunities, calls for papers, and other time-sensitive notices can reach their audience more quickly and directly.

Speedy communication is one of the most frequently lauded benefits of the Internet—and the CAS Web Site in particular. The Searchable Membership Directory is one of our most regularly accessed pages. Through it, members can obtain addresses, phone numbers, and E-mail addresses of all CAS Fellows and Associates. Members can also search the directory by company, employment type, city, or FCAS/ACAS designation year for a broader

scope of information. Directory information is updated monthly.

According to Berens, E-mail lists such as CASNET are good ways to stay informed about emerging issues. With over 750 subscribers, CASNET has proven to be an extremely popular resource. This list, which is archived at <http://www.casact.org/lists/casnet/index.htm>, provides a platform for questions, announcements, and discussions about casualty actuarial topics.

The discussion forums serve a similar function, but are divided into roundtables for students, members, and the public. The roundtables are designed to focus discussion around special areas of interest and are open to all. Mavis Walters looks at the Student Discussion Forum at least once a week to be apprised of student issues.

The Internet's potential to overcome the barriers of cross-platform compatibility is another important advantage. Berens has already realized this capability by sending word processing and spreadsheet files to her clients via the Internet. Posting a Lotus spreadsheet, for example, on a Web page immediately raises the potential audience, because users with different spreadsheet software—or no spreadsheet software—are able to view the spreadsheet with their Web browser.

At this point, actuaries seem to be using the Internet and CAS site primarily as a communication tool. They book travel accommodations, set meeting agendas, keep in touch with colleagues, and stay current on issues

earnings from his acting and commercials to help fund his education, which paid off. He became an actuarial student after graduating from the University of Maryland at age 18. He has no regrets about his career choice: He feels his skills were so well suited to the profession that the decision was clear. But I figure that if Nathan Babcock wants to get back into acting, he can wait until he retires and audition for a part in the sequel to end all sequels, *Star Trek 12: So Very Tired*. ■

CAS E-Mail Directory in the Works

The CAS is in the process of creating an E-mail mailing list of CAS Members. This is the first step in giving members the option of receiving mailings via E-mail rather than in traditional paper-based form.

The CAS began recording CAS Members' E-mail addresses in the master membership database in 1996 and first published this information in the 1997 CAS *Yearbook*. Currently, 1,498 of 3,009 members have an E-mail address on file.

CAS Members will soon receive a form asking for updated address information. If you have an E-mail address and have not previously provided that information to the CAS Office, please make note of it on the Membership Update form. ■

through the Web. While the actuaries I polled have different areas of Internet interest, they all agree that the more they explore this resource, the more serviceable it proves to be. ■

Actuarial Sightings

National Public Radio's *Weekend Edition* for February 1 featured Ruy Cardoso as the on-air player for the program's "Sunday Puzzle." Cardoso was chosen from a lottery of people who had submitted correct answers to the previous week's puzzle. The puzzle was to name a two-word phrase appearing in the dictionary that has three sets of double letters and eight letters total. Cardoso answered 15 out of 19 questions correctly, thus, according to Cardoso, sparing his family from embarrassment. Incidentally, the answer to puzzle is goose egg. ■

Non-Actuarial Pursuits

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print advertisement but did not appear in another film. Ironically, a commercial he did for the Tonka toy "Power Punchers" ran for three years and earned him nearly as much in royalties as *Garp*.

After his 15+ minutes of fame, our actuary had no desire to continue acting but focused on his studies. Very prudently, the young star saved his

Leaders Discuss Future CAS Directions at Annual Leadership Meeting

Philadelphia, PA—More than 40 key CAS leaders met here to discuss "Expanding Actuarial Horizons," the theme of the annual CAS Leadership Meeting. CAS President-Elect **Steven G. Lehmann** conducted the meeting, which featured discussions and breakout sessions on nontraditional roles for actuaries, the CAS's international focus, and general committee management issues.

Eileen Sweeney, a self-described nontraditional actuary and president of ZC Healthcare, began a presentation on actuaries in nontraditional roles by enumerating several nontraditional skills for casualty actuaries. These included financial analysis, asset portfolio management, and project team evaluation. Other nontraditional skills include taking risks, managing groups of people with different backgrounds and technical abilities, and making presentations for sales and marketing. Sweeney described her career path and offered advice on how to move into nontraditional areas.

Following Sweeney, **Robert Wolf** presented the results of a CAS survey on actuaries in nontraditional roles, which was conducted by the CAS External Communications Committee last fall. The survey identified actuaries working in nontraditional roles and the type and extent of work they perform. Wolf reported that survey results will be used to write profiles and case studies of individual members, focusing on their actuarial skills and how they are applied in nontraditional ways. These case studies will be distributed to corporate America via business media as examples of how corporations and financial institutions can use casualty actuaries and the unique skills they possess.

Along with the other meeting presentations, CAS President **Mavis A. Walters** briefly updated the gathering on the progress of the CAS Task Force for Review of the Disciplinary Process, and Lehmann highlighted some of the many suggestions that were imple-

mented from the 1997 meeting (see box this page).

After each presentation, the meeting participants broke into five discussion groups, each facilitated by a CAS Vice President. The Vice Presidents presented the group's findings when the entire gathering reconvened. The following are a few of the suggestions compiled from the meeting.

Actuaries in Nontraditional Roles

Some discussion groups felt that the CAS should take a leadership position in identifying promising areas of work for actuaries. Suggestions for researching nontraditional roles included:

- Tracking members' employment focus/areas of practice and compiling the percentage of insurance company top management positions filled by CAS members;
- Surveying actuarial employers on where their business is headed and what their future needs will be;
- Asking employers to predict what skills actuaries will need in the future.

Some groups suggested that the CAS offer continuing education presentations on new opportunities or functions, including financial models, securitization, "soft issues" (making presentations, writing, and negotiating), and business management. Others were not sure that the CAS should offer training in areas that are not uniquely actuarial, but that the CAS might arrange for appropriate courses. Also, some doubted that the CAS should devote resources to education in nontraditional areas because many members won't need it and others will seek such education on their own.

The groups also considered reaching out to or "cross pollinating" with other organizations and professions. These "cross pollination" activities included inviting individuals in other professions to CAS meetings as speakers and/or panelists and conducting joint discussion paper programs. Other suggestions included posting other organizations' papers on the CAS Web

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Suggestions from the 1997 Leadership Meeting

The Annual CAS Leadership Meeting is an opportunity for CAS leaders to brainstorm or "blue sky" on the future direction of the CAS. Numerous ideas are generated; all are seriously considered and many are eventually implemented. The following is a short list of ideas that have come to fruition or are currently in progress.

- Proposals to create a new affiliate class of membership will be considered by the Board of Directors in May this year.
- Suggestions to increase communication among the leadership, committees, and members resulted in the development of Board and Executive Council private mail boxes and committee home pages on the CAS Web Site. Vice President cycle reports are now posted on the Web site for monitoring progress on Executive Council goals.
- Suggestions proposed and carried out that expand the use of the CAS Web Site include converting the catalog of bibliographies from paper to a searchable online catalog, posting prize papers to the download library, and hiring a Web site assistant.
- Suggestions to reimburse volunteer expenses resulted in the Board approving limited reimbursements to exam graders for travel and lodging. The Board will also consider expanding reimbursements for FY 2000. ■

McCarthy Awarded Ratemaking Prize



Tim McCarthy receives the Ratemaking Award from CAS President Mavis Walters.

Tim McCarthy was awarded the Ratemaking Prize at the general session of the 1998 CAS Ratemaking Seminar. More than 550 people attended the seminar, which was held March 12-13 in Chicago, Illinois.

The Ratemaking Prize is awarded to the author of the best paper submitted in response to a call for ratemaking discussion papers whenever the program is conducted by the CAS Committee on Ratemaking. McCarthy's paper, "A Frequency Based Model for Excess Wind in Property Ratemaking," is published in the CAS Winter 1998 *Forum*. ■

MAA Position Available

The Mathematical Association of America is seeking applicants for the position of Director of the American Mathematics Competitions. The CAS is a sponsor of these contests. Anyone interested should contact either John P. Robertson at his *Yearbook* address, or Professor Richard Gibbs at Fort Lewis College. ■

Leaders

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Site, holding joint symposia, and attending their seminars.

One final suggestion was to communicate to teachers of actuarial programs that actuaries need to learn non-traditional skills such as communications and other management skills.

International Issues

The groups determined that the CAS should be more proactive in reaching out to individual actuarial students and members of actuarial organizations in other countries. While the groups felt it was inappropriate and not cost-effective to attempt to position the CAS as the general insurance organization for other countries, they did recommend that the CAS position itself as a resource. Some of the suggestions included:

- Using the CAS Web Site as a key strategy for disseminating CAS information.
- Using satellite communications to broadcast CAS programs/seminar sessions.
- Developing an international newsletter.
- Establishing a Web page for CAS international members and regional affiliates.

Suggestions for raising the visibility of the CAS in the world actuarial community included placing CAS speakers on programs for large international meetings, endorsing the concept of an affiliate membership for international actuaries, and focusing on increased participation in interna-

tional actuarial organizations such as Actuarial Studies in Non-Life Insurance (ASTIN) and Actuarial Approach for Financial Risks (AFIR).

Ideas for creating an international presence included promoting international attendance at CAS seminars and meetings, holding joint seminars outside North America, and encouraging CAS members in the U.S. to participate in international activities.

General Committee Management Issues

In the final discussion group, CAS leaders talked about all aspects, good and bad, of managing committees. Committee work has many rewarding aspects such as producing a good work product and interacting with other actuaries. Some of the difficulties associated with committee management include finding time to do the work and enforcing deadlines.

Some participants thought that three-year term limits should not be enforced because of the valuable contributions many long-term members make and the difficulty in recruiting new volunteers. Some suggested, however, that committee members should reapply to serve instead of being expected to continue service.

The groups decided that using more electronic services is key to improving communications within committees. Some of the ideas generated included developing more committee E-mail lists, posting the Participation Survey on the Web site, and creating additional sections on the Web site especially for committees. ■

CAS Continuing Education Calendar

June 7-9, 1998

Seminar on Reinsurance
Hyatt Regency Greenwich
Greenwich, Connecticut

June 14-16, 1998

Seminar on Principles of Finance*
Airport Marriott
Atlanta, Georgia

July 13-14, 1998

Seminar on Dynamic Financial Analysis
Marriott Copley Place
Boston, Massachusetts

*Limited Attendance

The Ethical Issues Forum: The Case Of The "Adequate Rate"

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.

Ethical issues include both conduct and practice. Until now, this column has emphasized conduct issues. Issues involving Actuarial Standards of Practice (ASOPs) are often ambiguous. They involve a number of judgments that are unique to each situation. Therefore, in order to stimulate thought about these issues, this column will turn to practice scenarios for discussion and perhaps debate.

Each scenario will pose an ethical dilemma that will be presented from two perspectives. Comments on these issues will be welcome from the readers and used in future articles as discussion continues.

The Case Of The "Adequate Rate"

The Actuarial Standards Board recently promulgated two ASOPs that affect most CAS members. These are ASOP #29 titled "Expense Provisions in Property/Casualty Insurance Rate-making" and ASOP #30 titled "Treatment of Profit and Contingency Provisions and the Cost of Capital in Property/Casualty Insurance Rate-making."

In the state of Barely Adequate, the Adequate Insurance Company files for a 5 percent rate increase for voluntary private passenger automobile liability. As part of that increase, the company files a provision of 7.5 percent for policyholder dividends. This provision is calculated by Adequate's actuary based on the provisions of a new dividend program to be implemented shortly.

The state insurance commissioner disapproved the rate filing on the

grounds that the dividends are a voluntary refund of excessive profits and not a legitimate expense item.

Adequate Insurance Company appeals the decision. The administrative law judge agrees to base his decision on ASOP #29. How should he decide?

"Issues involving ASOPs are often ambiguous. They involve a number of judgments that are unique to each situation."

Point

Section 3.5, ASOP #29 categorizes policyholder dividends as an expense to operations. It is the job of the actuary to determine if dividends are a reasonably expected expense and are associated with risk transfer. The standard provides a number of factors that the actuary should consider when making this determination.

It is alleged that this provision should be approved based on the facts cited above.

Counterpoint

ASOP #29, Expense Provisions in Property/Casualty Insurance Rate-making, section 2.6, defines policyholder dividends as "nonguaranteed returns of premium or distributions of surplus."

Since policyholder dividends are non-guaranteed, the 7.5 percent provision for policyholder dividends included in Adequate Insurance Company rates is tantamount to an underwriting profit provision in excess of that allowed. Moreover, the definition of policyholder contained in ASOP No. 29 notes that distributions of surplus may fund policyholder dividends.

The state of Barely Adequate submits that if the Adequate Insurance Company truly intends to return policyholder dividends that they be funded from surplus.

In the alternative, ASOP #29, section 3.5 states: "...the actuary should consider the following: the company's dividend payment history, [and] its current dividend policy or practice..."

The provision contained in Adequate's rate filing was "calculated by Adequate's actuary based on the provisions of a new dividend program to be implemented." Hence, Adequate's arbitrary and excessive provision fails to comply with section 3.5.

This discussion represents two schools of thought. Which is correct? Are there any apparent violations of the Professional Code of Conduct? You can join in the discussion by sending your comments to the CAS Office either by mail or E-mail.

Actuarial Bill Of Rights

A news item in the February *Actuarial Review* described an "Actuarial Bill of Rights" that the ABCD had incorporated into the latest draft of its proposed revision to Article X of the American Academy of Actuaries' bylaws. The change was in reaction to a number of comments relating to the intended transfer of some procedural material from the bylaws to the ABCD's Rules of Procedure.

One reader took issue with the description of the proposed new language as a "Bill of Rights." He felt that it was not consistent with the claim that the ABCD has as its nature a "fact-finding, non-adversarial...charge" as the "Bill of Rights" presupposes an adversarial situation. The bottom line, as the reader states, is that the ABCD is not a court of law with the authority to award damages to injured parties. The reader asks: "Will the ABCD have police or counselors? Will there be discipline [recommendations to the membership organizations] or only admonishment and encouragement?" ■

FINANCIAL REPORT
FISCAL YEAR ENDED 9/30/97
OPERATING RESULTS BY FUNCTION

FUNCTION	INCOME	EXPENSE	DIFFERENCE
Membership Services	\$905,695 (a)	\$959,541	(\$53,846)
Seminars	1,084,652	838,519	246,133
Meetings	542,727	529,566	13,161
Exams	2,395,668 (b)	2,246,261 (b)	149,407
Publications	68,378	39,051	29,327
TOTAL:	\$4,997,120	\$4,612,938	\$384,182 (c)

NOTES: (a) Includes income of \$15,112 to adjust marketable securities to market value (SFAS 124).

(b) Includes \$1,475,850 of Volunteer Services for income and expense (SFAS 116).

(c) Change in CAS Surplus net of \$52,000 of interfund transfers (\$50,000 to Research Fund and \$2,000 to ASTIN Fund).

BALANCE SHEET

ASSETS	09/30/96	09/30/97	DIFFERENCE
Checking Accounts	\$149,550	\$237,098	\$87,548
T-Bills/Notes	2,595,152	2,922,852	327,700
Accrued Interest	45,728	49,875	4,147
Prepaid Expenses	28,405	31,798	3,393
Prepaid Insurance	8,256	11,467	3,211
Accounts Receivable	8,555	13,782	5,227
Textbook Inventory	0	14,435	14,435
Computers, Furniture	253,266	270,717	17,451
Less: Accumulated Depreciation	(199,649)	(223,531)	(23,882)
TOTAL ASSETS	\$2,889,263	\$3,328,492	\$439,230

LIABILITIES	09/30/96	09/30/97	DIFFERENCE
Exam Fees Deferred	\$328,948	\$338,649	\$9,701
Annual Meeting Fees Deferred	62,675	52,860	(9,815)
Seminar Fees Deferred	67,376	21,106	(46,270)
Accounts Payable and Accrued Expenses	269,427	372,617	103,190
Deferred Rent	33,407	21,744	(11,663)
Accrued Pension	45,692	44,835	(857)
TOTAL LIABILITIES	\$807,525	\$851,811	\$44,286

MEMBERS' EQUITY

Unrestricted	09/30/96	09/30/97	DIFFERENCE
CAS Surplus	\$1,766,753	\$2,150,935	\$384,182
Michelbacher Fund	94,856	98,425	3,569
Dorweiler Fund	4,371	3,591	(780)
CAS Trust	3,641	18,825	15,184
Research Fund	185,404	154,207	(31,197)
ASTIN Fund	6,000	31,550	25,550
Subtotal Unrestricted	\$2,061,025	\$2,457,533	\$396,508

Temporarily Restricted

Scholarship Fund	\$7,182	\$7,042	(\$140)
Rodermund Fund	13,531	12,106	(1,425)
Subtotal Restricted	20,713	19,148	(1,565)
TOTAL EQUITY	\$2,081,738	\$2,476,681	394,943

C. Gary Dean, 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: Regina M. Berens, Chairperson; Anthony J. Grippa, David N. Hafling, and William M. Rowland.

Regional Affiliate Formed in Europe

On February 27, 1998, the CAS Executive Council approved a petition recognizing the Casualty Actuaries of Europe (CAE) as its newest Regional Affiliate. The CAE joins 12 other CAS Regional Affiliates representing North America, Bermuda, and the Far East.

CAE officers are **Karen E. Schmitt**, President; **Herbert G. Desson**, Vice President; and **Alessandrea C. Handley**, Secretary-Treasurer. Two CAE meetings are planned in 1998: a spring meeting in Zurich and a combined meeting with ASTIN at Glasgow in October.

CAE leaders expect between 30 and 50 members and 10 to 20 subscribers to join the group. For information on CAE membership, contact:

Alessandrea C. Handley
CAE Secretary-Treasurer
Landmark Insurance Company
300 Pavilion Drive
Northampton Business Park
Northampton NN4 7YE
United Kingdom
Phone: 011-1604-66-2069
Fax: 011-1604-66-2127

CAS Regional Affiliates are: Casualty Actuaries of The Bay Area (CABA), Casualty Actuaries of Bermuda (CABER), Casualty Actuaries of The Far East (CAFE), Casualty Actuaries of Greater New York (CAGNY), Casualty Actuaries of The Mid-Atlantic Region (CAMAR), Casualty Actuaries of New England (CANE), Casualty Actuaries of the Northwest (CANW), Casualty Actuaries of the Southeast (CASE), Midwestern Actuarial Forum (MAF), Ontario Conference of Casualty Actuaries (OCCA), Southern California Casualty Actuarial Club (SCCAC), and Southwest Actuarial Forum (SWAF). Consult the 1998 CAS Yearbook for information on joining a Regional Affiliate in your area. ■

Brainstorms

Simple Tricks Solve Spreadsheet Simulation Problems

by Stephen W. Philbrick

Actuaries have used simulation techniques for many years. Despite the development of sophisticated algorithms for more direct calculation of aggregate loss amounts (Panjer, Heckman/Meyers, and others), there are situations where generating claim counts and amounts is still the optimal approach. A simulation approach can be used to gain greater insight into a problem and to provide a superior tool for explaining results to others. Even where direct calculations are possible, a simulation approach can provide a check on the direct calculations.

I recently needed to determine the likelihood that the second largest claim in a year would exceed a per occurrence retention. I was provided with the probability that the largest claim in a year would exceed the retention, but the severity distribution was not available,

so I could not directly calculate the probability that an arbitrary claim would exceed the retention. Although I solved this problem analytically, I also decided to build a simulation model to find the answer and to test the analytical solution. In the process of building this model, I used two techniques that may be helpful to others building a simulation model in a spreadsheet environment.

The straightforward way to build a simulation model is to generate a random claim count, then generate a random loss amount for each claim. (See some of Glenn Meyers papers for examples.) However, in a spreadsheet environment such as Excel, generating the number of claims is not trivial (unless you have an add-in like @Risk™). The built-in Excel functions include distributions, of course, such as Poisson and negative binomial, but there are no inverse functions. Fortunately, there is a solution that actually speeds up the calculation and reduces the parameter risk. Assuming we know in advance how many total scenarios we intend to generate, we can calculate precisely how many scenarios should have zero claims, one claim, and so on. For example, if we want to use the Poisson process for generating claims, with annual mean of four claims, and 10,000 simulated years, we can calculate that exactly 183 years should have zero claims, 733 should have one claim, and so on. We can build a spreadsheet with exactly the right number of claims for each scenario. After that, we can generate the severity using a built-in function such as LOGINV, the inverse of the lognormal, or create our own formula.

Some will be concerned that we have "cheated." After all, if we generate all the years with zero claims first, then all the years with one claim, we won't be generating a sequence of years that models reality. However, depending on what result of the model we use, this approach may be acceptable. If the de-

"I used two techniques that may be helpful to others building a simulation model in a spreadsheet environment."

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Replace the King

by John P. Robertson

We have avoided chess problems in this column, but the following is such an interesting problem that we can't resist.

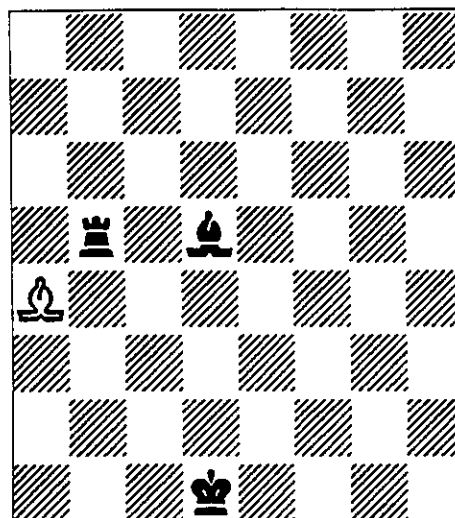
The wind had died, so I was cruising the clubhouse at the Berwyn Yacht Club looking for some action. I spotted Walt Wright looking perplexed at a chessboard. He had accidentally knocked his king off the board, and wasn't quite sure where it had been. He asked for help figuring out, if possible, where to put the white king. The diagram of the remaining pieces is at right (the black king is on d1, a black rook is on b5, a black bishop is on d5, and a white bishop is on a4). Can you help? Where was the white king? You will need to know the rules regarding how chess pieces move to solve the puzzle. A hint is at the end of the solution to the Dividing the Rashers puzzle.

Dividing the Rashers

The puzzle gave rules for the number of rashers that each of Jones,

Brown, Wag, and Robinson would take, noted that the Oldest Boarder found half a rasher when he came to breakfast, and asked how many rashers Wag had taken.

Bob Hallstrom sent in the most complete analysis. First he showed, by considering various cases, that if Mrs. Crabbe had set out 10 or more rashers, then there would have been more than half a rasher left for the Oldest Boarder. Next he rules out Wag arriving first, second, or fourth. Had Wag arrived first, he would have taken 3 and left 2. But then Jones, Brown, and Robinson, regardless of order of arrival, would have taken more than $1\frac{1}{2}$ among them, leaving less than half a rasher for the Oldest Boarder. Consideration of the cases where Jones or Robinson arrive first and Wag arrives second, and where Brown arrives first and Wag arrives second, rules out Wag arriving second. If Wag had arrived fourth, Jones, Brown, and Robinson would have taken at most $3\frac{1}{2}$ rashers among them, and Wag would have left one rasher. So Wag arrived third. It is not hard to show that Jones and Brown



were the first two to arrive, in either order, and took $2\frac{1}{2}$ between them, Wag was third and took $1\frac{1}{2}$, and Robinson was fourth, taking half a rasher.

Solutions were also sent in by **John Herder**, **Kevin Hobbs**, **Peter Sachs**, **Dave Skurnick**, and **Walter Wright**.

Hint for the chess problem: Consider the possibility that there might have been other pieces on the board recently. ■

In Memoriam

Clarence S. Coates

(FCAS 1922)
November 4, 1997

Charles Desjardins

(ACAS 1989)
February 20, 1998

Knut Arne Eide

(FCAS 1959, ACAS 1954)
date of death unknown

Robert C. Perry

(ACAS 1947)
date of death unknown

Brainstorms

From page 19

sired end product is the aggregate loss distribution, then this is equivalent to saying that we will sort the years by the size of the aggregate claim amount, so it doesn't matter whether we generate the individual years in a random order or in some organized order. On the other hand, if we are interested in information that does depend on the order, for example, if we are interested in the likelihood that consecutive years are loss free, or that consecutive years have a loss in excess of a retention, then the order does matter. In this case, we have to invoke the second technique.

At the same time each of the losses for a particular year is generated, also generate a random value between zero and one. (In Excel, this can be done with the RANDOM function.) After all the years have been generated, with all the losses for one year on a single row, sort the rows using the column containing the random value. This "sort" will effectively scramble the individual years, as if they had been generated by a random process.

A documented spreadsheet illustrating how to do this has been placed on the CAS Web Site for download by anyone interested. The name of the spreadsheet is Simulate.xls, and was written using Excel 97. ■