The Actuarial Review

THE NEWSLETTER OF THE CASUALTY ACTUARIAL SOCIETY • VOLUME 37, NUMBER 2 • MAY 2010

INSIDE THIS ISSUE

Bob Conger (right), visited India to learn about its microfinance and microinsurance programs. Also pictured (l to r) are Maria de Nazaré Barroso (Portugal), Clemence Tatin-Jaleran (Institute for Financial Management and Research-India), Dave Pelletier (Canada), and Gottfried Rey (Switzerland). For an account of his trip, see page 12.

The Actuarial Review is the quarterly newsletter of the Casualty Actuarial Society.

Editor in Chief
Grover M. Edie

Managing Editor
Elizabeth A. Smith

Publications Production Coordinator
Donna Royston

Desktop Publisher
Sonja Uyenco

Editor Emeritus
C.K. "Stan" Khury

Editor Emeritus
Matthew Rodermund

Associate Editor
Martin Adler

Copy Editors
J. Parker Boone
Min Jiang
Leslie R. Marlo
Shama Sabade
Eric L. Savage
Michael B. Schenk
Arthur J. Schwartz

Book Review Editor
Douglas W. Oliver

Humor Editor
Michael D. Ersevim

Nonactuarial Pursuits
Martin Adler

Puzzle
John P. Robertson

Reporter
Leslie R. Marlo

Canadian Correspondent
Germain Denoncourt

U.K. Correspondent
Jonathan Bilbul

The Actuarial Review (ISSN 10465081) is published four times a year by the Casualty Actuarial Society, 4350 Fairfax Drive, Suite 250, Arlington, VA 22203. Telephone: (703) 276-3100; Fax: (703) 276-3108; E-mail: office@casact.org. Third class postage is paid in Lanham, MD. Publications Mail Agreement No. 40035891. Return Undeliverable Canadian Addresses to PO Box 503, RPO West Beaver Creek, Richmond Hill, ON L4B 4R6.

The amount of dues applied toward each subscription of *The Actuarial Review* is $10. Subscriptions to nonmembers are $10 per year. Postmaster: Send address changes to *The Actuarial Review*, 4350 North Fairfax Drive, Suite 250, Arlington, Virginia 22203.

Sponsors Support the 2010 RPM Seminar

The CAS appreciates the support provided by the sponsors of its 2010 Ratemaking and Product Management (RPM) Seminar:

- Breakfast, Networking Break, and Reception Sponsor—Ernst & Young
- Tote Bag and Cyber Café Sponsor—Pauline Reimer/Pryor Associates Executive Search
- Pen and Networking Break Sponsor—Liberty Mutual Group
- Breakfast Sponsor—EagleEye Analytics
- Lanyard Sponsor—Milliman
- Padfolio Sponsor—EMB
- USB Car Charger Sponsor—Valen Technologies, Inc.
- Highlighter Sponsor—Travelers
- Post-It Note Sponsor—Towers Watson

The 2011 RPM Seminar is scheduled for March 20-22 at the Marriott New Orleans. Contact Mike Boa at the CAS Office (mboa@casact.org or 703-562-1724) for details on sponsorship opportunities for the 2011 event. AR

Francis and Prevosto Win Data Prize

Louise Francis FCAS, MAAA, and Virginia R. Prevosto, FCAS, MAAA have won the CAS Management Data and Information Prize for their paper titled "Data and Disaster: The Role of Data in the Financial Crisis."

The award is given to the authors of the best papers submitted in response to a call for data management/data quality discussion papers. The CAS Committee on Management Data and Information worked in conjunction with the Insurance Data Management Association. Papers are judged by a specially appointed review committee on the basis of originality of ideas, understandability of complex concepts, contribution to the literature, and thoroughness of ideas expressed.

The award-winning paper and four other call papers were discussed by the authors at the 2010 Risk and Product Management (RPM) Seminar last March in Chicago. All of the call papers are e-published in the CAS E-Forum, Spring 2010. AR

Keep Current on CAS R&D

Want to know more about research efforts in the CAS? Read *CAS Research & Development News* online at http://www.casact.org/research/index.cfm?fa=newsletters. AR

Professional or Scientist?

I was once retained by a client to assist as a statistical expert in a legal proceeding. As is often the case in such situations, there was an opposing expert. The opposing expert's clients had an interest in proving that the incidence of a certain characteristic in a population was high. This expert held a Ph.D. in economics, with a concentration in econometrics, from a prestigious university.

The opposing expert's approach seemed to have been invented on the spot using a term that actually was in the literature and sounded good in the situation, but referenced an entirely different concept that was almost completely unrelated to the method at hand. The approach gave obviously ludicrous results that could be manipulated to provide nearly any desired answer. We tested the methodology in a hearing before a federal judge, and the judge ruled that the opposing expert's methodology was without foundation and excluded the expert's testimony from the case.

Based on the degree, we might have said this expert was a scientist, but was that person a professional? Merriam-Webster Online defines a profession as "a calling requiring specialized knowledge and often long and intensive academic preparation," so the expert was a professional under that definition. However, Wikipedia's discussion of "profession" is much deeper and includes the following characteristics of a profession, among others:

- A body of specialized technical knowledge,
- An extensive period of education,
- Testing of competency,
- Service to the public,
- Self-regulation, and
- A code of professional conduct.

Qualifying as a Ph.D. in economics clearly requires the first two of these characteristics, and maybe even the third. What sets actuaries apart from that expert and other scientists are the last three items: the primacy of service to the public, self-regulation, and a code of professional conduct. These characteristics are significant contributors to our professionalism and distinguishes us from quantitative specialists such as this expert, quants on Wall Street, and others who might think they can do everything that we can as well as we do.

A principal characteristic that separates our profession from other technical specialties or sciences is our duty to our public. Our code of professional conduct is a promise to the public that we will provide our service in an honest, forthright manner, in service to that public. We guarantee that promise by self-policing—identifying, publicly reprimanding, or even expelling those who violate the code.

In the United States, we often act as if we have transferred our duty to our public to the American Academy of Actuaries (Academy). To some extent there is good reason for this perception: both the Actuarial Standards Board (ASB) and the Actuarial Board for Counseling and Discipline (ABCD) are independent bodies that are administered by the Academy. The ASB sets actuarial standards of practice and the ABCD deals with issues surrounding professional conduct. In addition, the CAS and the other three U.S.-based actuarial associations (Society of Actuaries, Conference of Consulting Actuaries, and the American College of Pension Actuaries, which is part of the American Society of Pension Professionals & Actuaries) have all agreed to have the Academy provide a unified public face for the actuarial profession in the U.S.

Closer examination though, reveals that even in the U.S. we have not ceded our duty to our public to the Academy. First, the Code of Professional Conduct is a CAS document not an Academy pronouncement. We worked together with the other U.S.-based actuarial organizations to all adopt the same code, but the Code remains the Code promulgated by each individual organization.

Closer examination also shows that the ABCD does not discipline actuaries in the U.S., but the individual membership organizations have reserved that responsibility for themselves. The ABCD investigates potential material violation of the Code, including holding a fact-finding hearing on the record to formulate a recommendation for discipline. This recommendation is then transmitted, along with the written record, to discipline groups within the various organizations to which the subject actuary belongs. In the CAS, that group is the Discipline Committee, which consults the record, holds its own hearing and decides what discipline is appropriate, subject only to appeal to the CAS Board. Again the CAS has retained this important duty to our public, as does each organization to which the subject actuary belongs. The various U.S.-based organizations are working on a process that will make this more efficient while maintaining the sovereignty of each organization over its members. You will be hearing more about this in the months to come. You are also likely to hear more about cross-border discipline, since our work really does span the globe.

From the President, page 4

Does the Placement Go to the Lowest Quote?

Editor's Note: This article is part of a series written by members of the CAS Committee on Professionalism Education (COPE). Its intent is to stimulate discussion among CAS members. Therefore, positions are sometimes stated in such a way as to provoke reactions and thoughtful responses on the part of the readers. Responses are welcomed. 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.

Joe Starr obtained his FCAS designation in 1995 while working in the actuarial unit of Biggs Brokers International (BBI), a large reinsurance brokerage firm. Thanks to his hard work and dedication to the company, Joe quickly worked his way up to become head of the unit. After spending a few years in that role, Joe felt that he had the business skills to contribute much more to BBI outside of actuarial, so he made a lateral change to become a broker. During his first year-end renewal season, Joe excelled in his new role. Less than a year later, he was excited to be placing the reinsurance coverage for Testing Waters Insurance Company (TWIC), a very large firm whose business Joe helped BBI to win. As always, Joe asked BBI's actuarial unit for a pricing indication while waiting for the potential reinsurers' quotes. Joe sent the submission files to all the companies that he regularly works with for clients of this size.

TWIC's data is reliable, detailed and complete. Joe is not surprised to see the quotes coming in very close to each other. He notices, however, that La Conservative Reinsurance Company's (LC Re) quote is significantly lower than the rest; it is even below BBI's actuary's low estimate. This is extremely odd, since LC Re's quotes are typically higher than their competitors. Joe reviews LC Re's pricing and discovers that the actuarial work was done by a consultant who was brought in by LC Re to help with renewals during the busy season. LC Re indicates that it is willing to take a very large share of the TWIC's placement. TWIC will likely be expecting a higher price. Joe would be a hero for negotiating such a low price.

Is it okay for Joe to place a very large part of TWIC's reinsurance coverage with LC Re at the quoted price?

Yes

Why not? Joe is responsible for placing reinsurance for client companies at the lowest cost. Accepting LC Re's quote for as large a share as possible, provides the best service to his client. In his current position at BBI, this is what he is being paid to do. As an intermediary, he has been provided with a price that is agreeable to both parties involved, so there is no issue. The actuarial accuracy of a given quote is not part of Joe's responsibilities. He did not even see the actuarial analysis, nor was he at all involved in the developing the offered price. It's possible that LC Re intentionally offered a low price.

No

Joe is a member of the Casualty Actuarial Society and is bound by its Code of Professional Conduct. This remains true, even if he is

Ethical Issues Forum, page 5

From the President, From page 3

Another duty we have to our public is to keep our skills current. At the end of 2009, the CAS released an exposure draft of its policy on continuing professional education (CPE). Many say that such a policy is not necessary, suggesting that the Academy's qualification standard is enough. What that argument misses is the fact that the Academy's standards apply only in the United States. Many CAS members do not understand that the CAS is truly an international organization. Fully one in seven of our members is outside of the U.S., and that proportion will likely continue to grow as CAS members find more and more opportunities abroad. While some members who practice outside the U.S. follow the continuing education requirements of the local actuarial organizations, many of which are far more stringent than the proposed CAS policy, gaps do exist, most notably in Bermuda and China. Again, we have a duty to our public that we have not, nor in my opinion should we, cede to another organization.

In the end I am led to one inescapable conclusion, that if we want to be true professionals, we need to keep our duty to our public squarely in focus.

Ethical Issues Forum, From page 4

an actuary working in a nontraditional role. According to Precept 1 of the Code, Joe must "act in a manner to fulfill the profession's responsibility to the public and uphold the reputation of the actuarial profession." Joe is fairly certain that an error was made by LC Re's consultant. The quote offered is well below market value, as determined by BBI's own actuarial evaluation, as well as those of the other reinsurers. According to casualty actuarial principles, it is obviously not a fair price for the coverage. Joe has a responsibility to the public and to the actuarial profession to abide by actuarial principles and to act with integrity. Even though he is working in a nonactuarial role, he is still bound by the code of the CAS.

25 Years Ago in the *Actuarial Review*

By Walter Wright

The following article is a reminder that the CAS has always depended on the volunteer efforts of its members. Our organization has grown significantly over the years and is now managed by a professional staff of 26, but we still need the help and perspectives of our members. Please contact the CAS if you would like to volunteer and look for the CAS Participation Survey coming out this summer.

HELP WANTED

Experience preferred, but not essential. (Generally) Reasonable hours. High job satisfaction, but little recognition. No financial rewards.

By John P. Tierney

That doesn't sound like the type of ad that would be very attractive to many Fellows of the Casualty Actuarial Society. Most of us have parlayed long hours of training and years of experience into careers that offer the promise of high job satisfaction, broad recognition, and reasonable financial rewards. Yet in 1984, nearly 250 FCAS's, in effect, responded to this want ad by volunteering for committee work on behalf of the CAS.

Those of us who are committee members volunteer our time to the CAS so as to provide for the betterment of our profession. Many of us did not bring particularly unique skills to our first committee assignment other than a desire to work with our fellow professionals.

The hours that are taken up by committee work vary by committee, but for most members the work might entail 50 to 100 hours a year. That may sound like a lot at first glance, but most of us spent many more hours each year preparing for examinations. A commitment of this magnitude towards one's profession is significant, but certainly not unreasonable.

This work is inwardly satisfying, as there is a strong sense of accomplishment in tasks such as producing the Society's publications, preparing and grading exams, organizing meetings, etc. . .

As the ad says, there are no financial rewards associated with committee work. Ponder that for a moment. Our Society has grown and managed its affairs with essentially an all-volunteer staff. Over a thousand members and numerous other potential members benefit individually and collectively from this effort. The continued growth and success of our profession is dependent on the continuation of volunteer efforts by our members.

They Don't Ask Us Because We Are Not Visible

I got pretty frustrated since I last wrote this column.

The health care bill was all over the news, and the cost of it was one of the major issues. Regardless of your political view of the bill, I am still angry that no talk show host, no major newspaper, nor any other news outlet, interviewed an actuary for her or his opinion about the cost of the thing. One Trillion Dollars, and the very professionals who price this sort of coverage were absent. Not invited. Nowhere. I sense Charles McClenahan may be frustrated as well—don't miss his "DAMNED LIES" Random Sampler.

I discussed this at a recent meeting of actuaries, and none of them had seen or heard any actuary talking on the news or quoted in the newspapers either. Perhaps we all were reading the wrong papers, watching the wrong TV channels, listening to the wrong news radio, and visiting the wrong Web sites: I doubt it.

It is time we quit waiting to be asked for our opinion. It is time we, as a profession and individually as professionals, start making our voice heard about things that affect our profession.

"But wait," you say, "I am a personal auto pricing actuary, I don't have the experience needed to render an opinion about healthcare." I share that concern, and for some time was silent. But you don't have to "render an opinion" to ask some no-nonsense questions that lead the other person to a logical conclusion. Who do you think has a better understanding of the costs—a politician with an agenda or an actuary with integrity? And the recent health care situation is only one example.

The public needs to know what we know. They need to know why we know what we know. The public needs to know us as the experts we are, and ask us the questions that bring out the answers to questions we are best equipped to answer.

Why don't people ask actuaries? (Remember the buttons "Ask an Actuary!"?)

My answer: in general, people have no idea of what we do. And it's not just the general public. I have been talking to people within insurance companies, the home office of insurance companies, vice presidents at those companies, who don't know. If the vice president of claims doesn't know what an actuary does, and how an actuary adds value to a company and the questions an actuary can answer, they will never ask those questions. And forget about the average person on the street ever thinking of asking you—the general public knows a little about us, but not nearly enough.

So much for the tirade. Someone once told me (or I read it) to never bring a problem to your boss without a solution, or at least some sort of path to get some direction to a solution. That certainly applies here.

When I told my son, Wil, that I was going to start my own consulting practice, he reminded me of a book he had bought me a few years ago. The book, *Selling Retail* by John F. Lawhon,* is about selling sofas. Wil was managing a furniture store when he gave me the book, and we had been discussing sales of services versus sales of physical items—actuarial services verses sofas. On page ii of the book's preface Lawhon states:

> The need for professional salespeople exists only because many consumer products have features and benefits that need demonstrating and explaining before a customer decides to buy. And the retail sales professional will continue to grow because consumer products are becoming more and more complicated.

Lawhon goes on to explain that retail products are getting more useful yet more complex, and thus require someone to explain the product and its features to the potential buyer. Think of your cell phone, which has evolved from a wireless phone to one that includes e-mail, Facebook, games, GPS, and the Internet.

Actuarial work has evolved as well. Insurance is more complex, and so is our work. Who gets paid to "sell" our services—we do! Do we do a good job of selling? As a profession, I would say, "No!"

Compare that to the attitude I have heard from some actuaries:

"If I do good work, others will ask me for more of it."

"I don't need to advertise or to sell my work: My work speaks for itself."

"I certainly don't need to sell others on the value of my work, and if they are too stupid to know the value of what I do, that's their problem."

The fact that other people do not understand what we do and the value of our work product is our problem, not theirs. Our profession's ability to articulate and get across our value to society is what will make us and our work be appreciated.

One of the business skills we need to develop and hone is our sales expertise. When you think of it, we all are consultants. Some of us only have a single client—our employer. But the

In My Opinion, page 7

ERM Call Paper Winners Announced

Three awards to recognize outstanding research papers on ERM topics were announced at the 2010 ERM Symposium, which was held April 12-15, 2010, in Chicago. Authors submitted papers that covered theoretical and practical topics, in response to the 2010 ERM Call for Papers.

David Ingram and Alice Underwood received the Joint CAS/CIA/SOA Risk Management Section Award for Practical Risk Management Applications, along with a monetary prize of $5,000, for their paper "The Human Dynamics of the Insurance Cycle and Implications for Insurers."

PRMIA's Award for New Frontiers in Risk Management was given to Klaus Boecker, Alessandra Crimmi, and Holger Fink for their paper "Bayesian Risk Aggregation: Correlation Uncertainty and Expert Judgment." The award has a $5,000 monetary prize.

The Actuarial Foundation's ERM Research Excellence Award in Memory of Hubert Mueller for best overall paper, along with a $5,000 monetary prize, was awarded to Neil Bodoff for his paper, "Discarding Risk Avoidance & Embracing Risk Optimization: Managing Reinsurance Credit Risk." The award is sponsored by Towers Watson.

The award presentation at the 2010 ERM Symposium included a tribute to Hubert Mueller (1960-2009), who raised awareness of the importance of ERM across the insurance industry and promoted the role of actuaries in ERM. He was instrumental in founding the Joint Risk Management Section and was one of the first actuaries to receive the CERA designation. The ERM Research Excellence Award in Memory of Hubert Mueller is funded by contributions from Hubert's colleagues and friends throughout the insurance industry, as well as by Towers Watson. Contributions in memory of Hubert Mueller may be made through The Actuarial Foundation (www.actuarialfoundation.org).

Nine papers submitted in response to the 2010 ERM Call for Papers were presented by the authors during sessions at the 2010 ERM Symposium. All of the research papers submitted are available for download from the ERM Symposium Web Site.

The 2010 ERM Call for Papers Committee was chaired by Fred Tavan, and included Alfred Weller, Dan Oprescu, David Cummings, Gregory Slone, Maria Coronado, Max Rudolph, Riaan DeJongh, Robert Wolf, Steven Siegel, and Barbara Scott.

The 2011 ERM Call for Papers will be announced in July. Questions regarding the ERM Call Paper Program should be directed to Steven Siegel, Research Actuary, Society of Actuaries, at ssiegel@soa.org.

In My Opinion, From page 6

rules still apply—we still have to convince our boss that he or she needs our services. We still have to demonstrate that our services provide an acceptable return on the investment they have made in our salary, our benefits, our office and its support staff, and so on, as well as the time management has to spend with us. We might well be providing that value, but it is up to us to get others to recognize it.

My suggestion: pick up a book on selling and apply what you learn. I'd like to know what you are reading and how well you think it is working.

**Selling Retail*, by John F. Lawhon and Catherine D. Lawhon (Tulsa, Okla.: J. Franklin Publishers, 2002).

FINANCIAL REPORT
FISCAL YEAR ENDED 9/30/2009

FUNCTION	*REVENUE*		*EXPENSE*		*DIFFERENCE*
Membership Services	$1,969,684		$2,583,760		($614,076)
Seminars	2,207,497		1,833,968		373,529
Meetings	1,174,629		1,105,029		69,599
Exams	5,250,656	(a)	4,842,473	(a)	408,183
Publications	12,474		36,183		(23,710)
TOTALS FROM OPERATIONS	$10,614,939		$10,401,414		$213,525
Interest and Dividend Revenue					183,441
Realized Gain/(Loss) on Marketable Securities					(11,123)
Unrealized Gain/(Loss) on Marketable Securities					115,142
TOTAL NET INCOME (LOSS)					$500,985

NOTE: (a) Includes $2,824,550 of Volunteer Services for income and expense (SFAS 116).

BALANCE SHEET

ASSETS	*9/30/2008*	*9/30/2009*	*DIFFERENCE*
Cash and Cash Equivalents	$1,557,638	$1,916,928	$359,290
T-Bill/Notes, Marketable Securities	5,071,478	5,319,315	247,837
Accrued Interest	5,919	6,171	252
Prepaid Expenses / Deposits	116,546	117,169	623
Prepaid Insurance	24,759	25,431	672
Accounts Receivable	122,050	109,865	(12,185)
Textbook Inventory	1,766	14,386	12,620
Computers, Furniture, Leasehold Improvements	909,519	797,682	(111,837)
Less: Accumulated Depreciation	(420,000)	(447,042)	(27,042)
TOTAL ASSETS	$7,389,675	$7,859,905	$470,230

LIABILITIES	*9/30/2008*	*9/30/2009*	*DIFFERENCE*
Exam Fees Deferred	$974,669	$1,022,600	$47,931
Seminar and Meeting Fees Deferred	560,521	393,103	(167,418)
Accounts Payable and Accrued Expenses	670,914	791,022	120,108
Accrued Pension	478,446	457,057	(21,389)
Deferred Leasehold Improvements Allowance	150,840	129,792	(21,048)
Deferred Rent Obligation	89,462	100,522	11,060
TOTAL LIABILITIES	$2,924,852	$2,894,096	($30,756)

MEMBERS' EQUITY

Unrestricted	*9/30/2008*	*9/30/2009*	*DIFFERENCE*
CAS Surplus	$3,699,285	$4,074,501	$375,216
Michelbacher Fund	151,771	154,768	2,997
CAS Trust - Operating Fund	181,932	189,732	7,800
Centennial Fund	157,137	199,121	41,984
ICA 2014 Fund	26,090	39,302	13,212
ICA 2010 "Cape Town" Fund	45,027	64,198	19,171
Research Fund	112,373	155,690	43,317
Subtotal Unrestricted	$4,373,616	$4,877,312	$503,697

Temporarily Restricted	*9/30/2008*	*9/30/2009*	*DIFFERENCE*
Scholarship Fund	$4,601	$4,189	(412)
Rodermund Fund	3,542	1,613	(1,929)
CAS Trust - Ronald Bornhuetter Fund	53,540	54,597	1,057
CAS Trust - Reinsurance Prize Fund	29,526	28,098	(1,428)
Subtotal Temporarily Restricted	$91,209	$88,496	($2,712)
TOTAL MEMBERS' EQUITY	$4,464,825	$4,965,808	$500,985

Leslie Marlo, Vice President - Administration

AUDITED

CAS Audit Committee: Michael Wacek, Chairperson;
Mavis Walters, Vice-Chairperson; David Foley, and Steve Johnston

Register for the ERM Online Course

Enterprise risk management (ERM) is an important concept and is quickly developing into a tool that can be used to optimize firm value. The CAS is pleased to offer both members and nonmembers the online course "Introduction to Enterprise Risk Management." Scheduled for September 10-27, 2010, this educational offering is intended to introduce actuaries to the field of ERM and to show how many actuarial skills and techniques are applied in ERM.

The Introduction to ERM Online Course consists of twelve lectures, several exercises, and an exam. The course will be taught asynchronously so participants can fit the work into their individual schedules. Course lectures will consist of PowerPoint slides with audio. Exercises and the exam will consist of questions based on the lecture material and readings that will test the student's grasp of the subject matter.

Visit the CAS Web Site for more information and to register!

Mark Your Calendars For CLRS in Florida

Join us in Florida on September 20-21, 2010 for the 2010 Casualty Loss Reserve Seminar (CLRS). The CLRS offers actuaries, analysts, accountants, regulators, and others an engaging opportunity to learn more about loss reserves and estimating unpaid liabilities. The 2010 CLRS will be held at Disney's Contemporary Resort in Lake Buena Vista, FL.

Recognize Outstanding CAS Volunteers

Nominations Sought for CAS Service Awards

The CAS wants to recognize meaningful volunteer contributions, and we need your help. Nominate a worthy CAS volunteer for the 2010 Above & Beyond Achievement Award (ABAA) or the 2010 Matthew Rodermund Service Award.

The ABAA is made annually to CAS members who have made a recent contribution that is clearly outside of expected volunteer responsibilities and duties. Consideration is also given to contributions to the committees of other actuarial organizations that benefit CAS members. Any CAS member who is not a current board member or officer is eligible to receive this award. Keep in mind that an extraordinary effort can be shown in an assignment of limited scope, as well as on a larger task.

The Matthew Rodermund Service Award is intended to recognize CAS members who have made significant volunteer contributions to the actuarial profession over the course of a career. The award was established in 1990 in honor of Matt Rodermund's years of volunteer service to the CAS. Volunteer contributions could include committee involvement, participation in CAS meetings and seminars, volunteer efforts for Regional Affiliates or special interest sections, and involvement with other actuarial organizations. Service as an elected CAS officer or director and authorship of papers published by the CAS are not considered. Past presidents are not eligible.

Nominations are due by June 30 for both awards and the winners will be announced at the 2010 CAS Annual Meeting in Washington, D.C.

The Cost of Risk: A COTOR-VALCON[1] Discussion

Summarized by John A. Major, ASA, MAAA

Excerpted from the full paper[2]

This Brainstorms column summarizes a 2006 COTOR-VALCON online discussion on the relationship between the insurer's balance sheet and stock value. Section 1 introduces the basics: cost of capital, CAPM, and financial frictions. Section 2 explores CAPM more deeply. Section 3 addresses the sources and role of frictions. Section 4 summarizes the "emerging view" of shareholder value.

1. It All Started With That Swiss Re Paper

The essence of "The Economics of Insurance: How Insurers Create Value for Shareholders" (Hancock, et al. 2001) is the statement:

> An insurer's opportunity cost of capital is the return that shareholders could otherwise achieve by investing their risk capital directly themselves plus additional compensation for various frictional costs that are specific to insurers.

Insurance companies are often compared to closed-end mutual funds (investment trusts) because their assets are primarily financial assets. Issuing policies creates a cash flow into the investments for a period of time before claims take cash back out, analogous to bonds. In the case of a levered fund, the mix of assets and liabilities leads to a specific hurdle rate of return on equity that the firm is expected to make. That hurdle rate depends on, among other things, the *systematic risk* of returns, i.e., their correlation with the returns of the capital markets as a whole. Measuring systematic risk by a stock's "beta" is the basis of the Capital Asset Pricing Model (CAPM).

If an investment trust's returns are persistently higher than the hurdle rate, then market cap could be higher than book value—a situation where the difference, *franchise value*, is positive. Franchise value justifies the existence of the trust; shareholders do not think that they could have done better by themselves.

But insurers are not levered investment trusts.

First, their prime liabilities, insurance policies, are not traded on an exchange, so do not have a market value.

The second complication is what Hancock et al. refer to as *frictions*. The idea can be traced back to the famous Modigliani-Miller (1963) Irrelevance Theorems that state that under certain conditions, neither capital structure, dividend policy, nor profit volatility (and by implication risk management) matter to the value of a firm (Ng and Varnell 2003). Any failure of these conditions is known as a *financial friction*. Since failure brings negative contributions to firm value, those contributions are known as *frictional costs*.

In pseudo-mathematical shorthand, COST = CAPM + FRICTION.

So, deeper understanding is needed in two areas: the valuation of insured liabilities consistent with financial economics and the estimation of frictional costs.

2. CAPM: Is Nonsystematic Risk Priced In The Market?

Hole-In-One Insurance

The value of the Hole-In-One Insurance example lies in its simplicity. You take a 5% chance of paying out $1000, charging the $50 expectation as premium up-front, investing the premium and limit in a 3% insured CD. Your expected return is 3.15%. Is it a good deal? According to financial economics, it is. There are no sources of friction and the random outcome is independent of the financial markets.

But would you accept this sort of deal? Most people would not. Though not "systematic," the risk is substantial, and most people would want a higher return than 0.15% for bearing this risk. Does this mean financial economics is wrong? Or is there something else going on?

Who Is the Investor?

"Behavioral finance" explores the psychological side of risk-taking and investment. This research finds that most investors, being human, are not entirely rational. Perhaps more importantly, they do not necessarily assume that other investors are rational—and this by itself can lead to what appears to be "irrational" behavior (like bubbles).

If the hole-in-one premium were higher and the expected return were, say, 6%, there would likely be many people vying for the opportunity to write it—so the premium would be bid down. But all the way to 3.15%?

[1] Committee On the Theory Of Risk—VALuation of CONtingent liabilities

[2] Available in the CAS 2009 Spring *E-Forum*, http://casact.org/pubs/forum/09spforum/

And how long would it take? Ask a bunch of day-traders about the relevance of CAPM, beta, and equilibrium economics. For them, it's all about the short term; eventual trends in pricing will matter to them, but not much. On the other hand, a buy-and-hold investor whose planning horizon goes out for decades will not be overly concerned with current market turbulence.

So which perspective rules? That is hard to say. Price formation is a function of the investors who are ready to trade next. A rational investor who holds a diversified portfolio and is in a position to act on the hole-in-one opportunity might find a 3.15% expected return attractive. But what if no such investors are available? Then returns will be higher than they would be according to CAPM-type arguments.

3. Frictions and Frictional Costs

By negating the premises of Modigliani & Miller, we can construct a list of potential frictions:

- Barriers in the financial markets, such as institutional restrictions on trading
- Tax asymmetry and nonlinearity
- Transaction costs
- Distress costs and counterparty credit sensitivity
- Agency effects
- Information asymmetry
- Signaling

Generally, the impact of frictions can be seen as taking place on a continuum of the amount of risk capital. Too much, and some frictions, such as the tax cost of holding capital, dominate. Too little, and others dominate instead. The art of managing frictions involves, among other things, finding the optimal level of capital to hold.

Too Much Capital

Feldblum (2006) argues that the main frictional cost that bears on the question of fair value accounting is the tax on investment income. According to financial theory, whatever risk capital is invested in, its rate of return would be sufficient for investors. But investors need to be compensated for the tax loss, so premiums need to be higher.

Jensen & Meckling (1976) started the whole discussion of agency costs. Their subject was the typical industrial firm, where capital was about funding new projects that will earn profits higher than the required capital market hurdle rate. When a firm holds excess cash in government bonds, say, it is indeed earning an appropriate rate (taxes aside). But what if management decides to spend it on an ill-advised acquisition or other negative NPV project? What if management plays it safe and doesn't embark on certain risky but profitable ventures that investors would approve of? Investors would rather get that capital back than trust management to eventually invest it in good, new projects. As a result, certain costs, which mostly go under the heading of "monitoring and bonding" are incurred to avoid those outcomes.

Too Little Capital

For the industrial firm, too little capital means flirting with the possibility of bankruptcy and the costs that financial distress brings (lawyers, management distractions, raising capital) and missed opportunities for investing in positive NPV projects. For the financial firm, it also means disapproval from ratings agencies and potential action by regulatory authorities.

At heart, this reflects more than the distress and bankruptcy costs facing an industrial firm; it reflects a significant amount of counterparty credit risk, or, more specifically, *customer (policyholder) risk aversion*. Wakker et al. cite survey data suggesting that people require reductions in premiums of perhaps twenty times the actuarial cost of bearing the residual credit risk.

Looked at from the opposite perspective, customers are willing to support underwriting and claim expenses and even, sometimes, underwriting profits. Holding too little capital threatens the profitability of the insurance firm—not just probabilistically, but immediately.

4. The Emerging View

The emerging view of the insurer's financial predicament (Harrington & Danzon 1994, Staking & Babbel 1995, Doherty 2000, Froot et al. 2004, Babbel & Merrill 2005, Epermanis & Harrington 2006, Panning 2006, Mango & Major 2007, Froot 2007, Major 2008, Yu et al. 2008) centers on franchise value. If the firm earns only enough to cover its cost of capital, then (in theory) there will be no franchise value. As Babbel & Merrill (2005) explain it:

> Franchise value is dependent on firm insolvency risk. The less insolvency risk there is, the more likely the firm is to remain solvent long enough to capture all the available economic rents arising from its renewal business, its distribution network, its reputation, and so forth.

If franchise value is positive, but erodes when book value is too low (distress and credit frictions) or too high (tax and agency frictions), then the market value vs. book value curve (which Froot et al. call the "M-Curve") will be concave, not linear. Thus, increased volatility in book value will translate into decreased expectations for future market value.

The source of that volatility does not matter; it can be systematic or idiosyncratic. Either way, it will have an impact on the value of the firm. So, a risk management program that appears to protect surplus at greater than actuarial cost may be worth engaging if it also protects a substantial amount of franchise value as well.

References

References are available in the full paper.

India Travels

Near the end of 2009, Past CAS President Bob Conger traveled to India to learn about the workings of local microinsurance and microfinance programs. Following is an excerpt of an e-mail he shared with close friends and family.

India travels - Message

From: Bob Conger [mailto:bob.conger@towersperrin.com] **Sent:** Tuesday, November 17, 2009 11:06 PM
To: Undisclosed Recipients
Subject: India travels

Hi all,

Well, I am back home safely from Hyderabad, India, where I was attending a series of actuarial association meetings along with other actuarial representatives from around the world. Hyderabad is a city of 4 million or so, right about in the geographic center of the country. It is known as a technology center—there is a reasonable chance when you call a Help Desk, you might be talking to someone in Hyderabad.

I arrived late Tuesday evening, November 10, and my first impression on the one-hour drive to the hotel was the traffic. Not so much the volume, although there was plenty of that. But more the seemingly chaotic manner in which the interpretation of lane markers and traffic directions is a matter of great personal choice and creativity. At times, four lanes of traffic crowded onto two lanes of road. Other times, we were whizzing down the wrong side of the road, darting back into "our" lane just millimeters before being crushed by an oncoming truck. The road is filled with an eclectic mix of cars, buses, trucks, motorized rickshaws or *tuk tuks* (a three-wheeled contraption, about the size of a golf cart, designed for a driver and two passengers, but I know now to be capable of holding up to 15 people) and about a gazillion motorbikes—many of which carried an entire family (I saw several with a mother, father, and three small children stacked aboard—and frequently the mother in a sari was riding side saddle). The horn seems to be the most essential element of driving in India, based on how much it is used. But interestingly, it all is very civilized—none of the anger or frustration that you observe in New York, for example—everyone on the road knows how everyone else drives, and it actually works pretty well. It rather reminded me of a school of frenetic fish—packed in very tightly, but still moving harmoniously with the benefit of some mysterious means of inter-communication that is beyond our ken.

Wednesday morning, about 20 of us had scheduled an informational field trip out to the branch office of a local microfinance and microinsurance program. We met in the lobby at 5:30 a.m. and were divided into groups of 4-5, each accompanied by 1-2 representatives of the program, and loaded into separate vans for transport to four different sites. Traveling about 60 miles north of the city, we got outside the city limits relatively soon, and then were in an environment of pretty much continuous small villages without much space between. Some agriculture was visible, but not nearly as much as I expected. There were plenty of chances to see the same traffic patterns as I described above, although carried out at 70 or 80 miles an hour once the volume thinned a bit. On the way, our hosts gave us a bit of background on this particular program.

In India, the banks and insurance companies are required to have a certain percentage of their customers be from very low-income families, and they are required to have products and services appropriate to that market. So our first surprise was to learn that this microfinance/microinsurance program is run by

A Center meeting held in a local schoolyard.

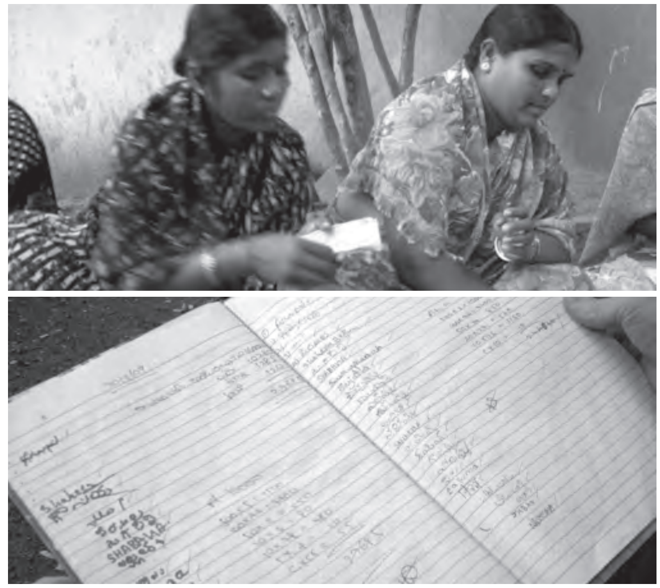
a for-profit company. But the typical loan is perhaps $200, and is paid back over a one-year period. The insurance amounts in this program are mostly life insurance, and sufficient to cover the loan, or maybe have a savings component that might build up $100 or $200 over a year or two. So the target markets are villages and people with very limited financial resources.

Our first stop was a little hut by the side of the road for a cup of coffee or tea. All along the road, we saw many tiny businesses operating out of little booths, or sometimes a row of one story buildings about the size and configuration of your garage but with a textile awning over the open front of the establishment.

Then, we went onto the branch office, a concrete building about 20 ft. square. It was very modest in appearance, but very well organized inside. The branch office manager was a woman of perhaps 40 years of age, and all of her employees were men. She and several of her deputies answered some of our questions, and then we and a field representative headed out to participate in a couple of the weekly meetings that he holds with his customer centers. The "center" turns out to refer not to a place, but to a group of customers. The customers are organized into "groups" of four or five people with a leader, and a "center" consists of five or six groups from a village (population 3,000-4,000). There is a great degree of mutual support in these groups and centers—the members of a group all join as a group, selecting for themselves the people they are willing to group with, and make a pledge to make good on one another's loans if a borrower is unable to repay. There is a lot of peer pressure! In turn, the members of a center begin their weekly meeting with a pledge to the group to continue working together for the good of the group.

Oh yes, the center is not a place, but, of course, it has to meet somewhere. The first center meeting consisted of a group of 30 women sitting on the dirt ground of a schoolyard. We arrived, took off our shoes, and joined the seated circle (they did provide some woven mats for us to sit on). Then, to the business of the week—each group turns in its loan payments and premium payments for the week. The transactions are noted with a penned transaction in the borrower's passbook, and in the master book that the field representative carries with him. When everyone has made his or her payments, the center's "cashier" (one of the women from the group) checks and confirms that the total of the transactions noted in the book equals the amount of cash taken in, and the field representative verifies. Then, new loans are issued to a few of the group members—but only if everyone else in the group (as well as the field representative) accepts the borrower and the loan as proposed. The borrowers are handed the loan amounts in cash, and again crosschecks are conducted to make sure what is entered in the books matches the money that changed hands.

I mentioned that the customers were all women. One of our group asked why there were no men in the group. As the question was translated, the women responded with surprise and laughter, that we would think men could be sufficiently responsible for such a serious undertaking. Interestingly, though, most of the loans were for family businesses in which the man was the primary worker—one was to open a barber shop, for example (we shared a cross-cultural giggle as they looked at me and I rubbed my head when this business was mentioned), another to start a carpentry business and another to expand his livestock. This was different than the microbusinesses we had read about, in which women might be starting small textile weaving operations or something similar. But clearly women play key roles as the financiers of the families, and as the members of the family with visions for a better life for their children.



Above, disbursing funds and recording transactions at a Center meeting. Below, transactions are recorded in the master ledger.

After the financial transactions were complete, the meeting continued on to announcements from the field rep, an educational session describing some aspect of financing and financial products, and then a discussion among the group members including a chance to voice concerns and complaints—and a chance to field a few questions from us. After an hour, the meeting ended. It had started precisely on the hour, and everyone was there on time; it likewise ended precisely on the hour likewise, and all the business had been completed. It was more effective and productive than any 30-person, one-hour meeting I have ever attended (or at least more effective and productive than any I have chaired!).

We moved on to a second center meeting, this one in the dirt yard of the home of one of the group members. A circle of 30 of us just about filled the perimeter of the modest yard. And we

India Travels, page 15

Seasoned Actuaries Come Together for Networking and Entertainment

The Seasoned Actuaries Section (SAS) has been active sponsoring a number of events in recent months. At the CAS Annual Meeting last November, 20 members and guests met at Anthony's Pier 4 in Boston for an enjoyable dinner. At the brief business meeting before the dinner, those present elected the following slate of officers for the coming year: Rich Fein, President; Joanne Spalla, President-Elect; and Pat Teufel, Secretary Treasurer.

The first travel experience SAS organized was a resounding success. Twenty people enjoyed the tours to Victoria Falls and Kruger National Park following the 2010 International Congress of Actuaries in Cape Town, South Africa. Bob Conger, who joined the tour with his wife Maggie and two daughters and sons-in-law, said "Our tour is fabulous….Wonderful lodging and fabulous game drives."

On December 11, 2009, about 25 seasoned actuaries in the greater New York area enjoyed a holiday luncheon at Papoo's Italian Cuisine & Bar in New York City, which was hosted by Rich Fein. Additional regional luncheons will be hosted by Pat Teufel in Hartford during April and Lee Smith in Chicago during May. Look for details in your e-mail and on the SAS Web Site.

Seasoned actuaries attending the 2010 Spring Meeting in San Diego are invited to a SAS dinner on Monday night, May 24. Watch your e-mail for details on the event or find out more about it at the CAS registration desk.

All CAS members who attained their designation 25 or more years ago and have a valid e-mail address on file are automatically included on the SAS mailing list unless they opt out. If you wish to be kept up-to-date on SAS activities, please make sure the CAS Office has your current e-mail address. If you do not have an e-mail address, you can contact the CAS Office and ask to be put on the SAS paper mailing list.

Out of Africa—Seasoned Actuaries Section members and their spouses relax after a tour of Victoria Falls and Kruger National Park near Cape Town, South Africa. Pictured left to right are Jim MacGinnitie, Barbara MacGinnitie, Barbara Meyers, Glenn Meyers, Gail Ross, Steven Ross, Laurie Miccolis, and Bob Miccolis.

Just a few of the many wildlife photographs captured by Gail and Steven Ross at South Africa's Kruger National Park.

An Actuarial History Lesson

When Were We Born? Archive Provides Evidence of First Actuaries

Have you ever wondered which insurance company was the first to use the term "actuary" and to apply actuarial principles to the pricing of insurance? The answer is the Equitable Life Assurance Society of London.

So when the archive of the Equitable Life Assurance Society became available for purchase in 2006, the Institute of Actuaries took note of its great historical value to the actuarial profession. The Institute of Actuaries, along with many other actuarial associations around the world including the CAS, banded together to buy it.

According to the Institute of Actuaries, the archive shows the first evidence of the scientific practice of life insurance (on the basis of actuarial analysis). In fact, the term "actuary" was first coined by the Society in its Deed of Settlement of 1762. The archive also "presents an almost continuous record of how life insurance operated and endured over nearly 200 years as new companies entered an uncertain market in the eighteenth and nineteenth centuries."

The Society for Equitable Assurances on Lives and Survivorships first prospected for policy applicants with tables of level premiums calculated by age. In 1776, it conducted the first actuarial valuation of liabilities. Later it pioneered the distribution of surplus in the first "reversionary bonus" (1781) and "interim bonus" (1809) among its members.

Since 2006, much work has been done to make the archive organized and accessible. David Raymont, librarian for The Actuarial Profession at Staple Inn in London, reported that surplus from the appeal funding to purchase the archive has been used to pay for research and preservation as well as to promote the archive and the profession's historical book collections. Some of several developments concerning the Archive include the following:

- The Archive is now housed on two sites: the early manuscripts and business archive to 1830 at Staple Inn; London Guildhall Library holds later archives from 1830 to 1950 in secure storage.
- The Web site presentation about the archive now has links to full catalogue listings drawn up by professional archivists detailing the archives and manuscripts acquired.
- Manuscripts and archives were filmed and featured in a program on the origins of life insurance broadcast on Japanese television by Japan's NHK Corporation in September 2008.

Mr. Raymont reported that other projects in development with the appeal fund surplus include a DVD of six key manuscripts from the Archive and a Web site timeline presentation on actuarial history, exposing key texts, images and links to research. The DVD will include introductions by actuary members and academic experts on the history of statistics and actuarial science and will be produced for limited distribution and sale.

Plans are underway to feature the Archive in an exhibit at the CAS Centennial Celebration and the International Congress of Actuaries in 2014. For more information, visit http://www.actuaries.org.uk/knowledge/elas_archive.

India Travels, From page 13

learned one reason that everyone is on time for a meeting—any late comers pay a fine. We were late, so the field representative with us paid the fine on behalf of all of us. (The fines are accumulated over the year, and the group decides what project to use the accumulated fines for at the end of the year—maybe some project for the village.) Again, at a one-hour meeting, all business was completed and there was time for some questions from us.

Back to the branch office for some tea (delivered in one ounce plastic cups), a bit more conversation, and then on our way back to the big city. The field trip was a wonderful reminder that behind all of the numbers and financial transactions of a bank or insurance company, there are real people trying to solve real problems and trying to lead their lives. It certainly strengthened my desire to find some way that I can play a role in helping with the design of practical and financially sound programs.

It was a long week of meetings and we also had a pleasingly productive meeting of Actuaries Without Borders, the group we have formed to try to facilitate the deployment of volunteer actuaries around the world (our equivalent of Doctors Without Borders). Of course, forming the group was pretty easy—now

India Travels, page 23

New UCAS Sessions Available

The University of CAS (UCAS) represents the Casualty Actuarial Society's ongoing commitment to provide convenient educational opportunities to practicing actuaries. UCAS offers recorded sessions that were presented at CAS meetings and seminars. The recordings, which feature audio synched with PowerPoint presentations, are made available online through an easy-to-use interface.

Sessions from the 2010 Ratemaking and Product Management Seminar include:

- Commercial Applications of Predictive Analytics
- Championing Price Optimization
- Intelligent Use of Competitive Analysis
- Geospatial Data Visualization and Analysis
- Risk and Return Considerations in Ratemaking
- Personal Lines Pricing Strategies

Sessions from the 2009 CAS Annual Meeting include:

- Solvency Regulation
- Introduction to Reserve Range Theory and Practical Model Application
- Allocation of Capital Debate
- Climate Risk Reporting and Monitoring
- Actuarial Accounting—A Cautionary Report
- Workers Compensation—Along for the Ride on the National Medical Train!
- Climate Change: Fact vs. Fiction and Implications for Our Business
- Federal Regulation—Yes or No?

Sessions from In Focus: The Underwriting Cycle Seminar include:

- Loss Reserve Adequacy Through the Cycle: A Primary Company Perspective
- Managing Insurance/Reinsurance Portfolios Through the Cycle
- Exploring the Impact of Auditors and Rating Agencies on Underwriting Cycles

Access to sessions is free for meeting attendees. This extends the value of event registration by allowing attendees to benefit from sessions they were not able to attend on-site. Access by individuals who did not attend these meetings can be purchased for $25 per session or $149 for all of the sessions.

Visit the University of CAS to learn more. At UCAS, education is just a click away!

Carrie Smith Earns CAE

CAS Director of Professional Education and Research, Carrie Smith, has obtained the Certified Association Executive (CAE) credential. The CAE is the highest professional credential in the association industry and is granted by the American Society of Association Executives. Less than five percent of all association professionals have earned the CAE.

To be designated as a Certified Association Executive, an applicant must have a minimum of three years' experience in nonprofit organization management, complete a minimum of 75 hours of specialized professional development, pass a stringent examination in association management, and pledge to uphold a code of ethics. Approximately 3,300 association professionals currently hold the CAE credential, which was first awarded in 1961.

Missing Letters

Chris Maslanka gives this puzzle: find two words so that one is *B*R*A*I*N, and the other is B*R*A*I*N, where each asterisk represents a missing letter. The same puzzle can be set with "brain" replaced by any of "cones," "poses," "sales," or "pries." For "pries" there is more than one solution. If you find a solution to any of these, please send it in! We are not asking for solutions to all of them.

Unusual Dice

Last quarter's puzzle was to find two six-sided dice so that each face is labeled with a positive integer, neither die is the standard die with faces labeled 1 to 6, and the probability of throwing any number 2 to 12 is the same as with the standard dice.

Jerry Han found the unique solution—one die is numbered 1, 2, 2, 3, 3, 4 and the other 1, 3, 4, 5, 6, 8. He used two observations as the basis of a proof that this solution is unique:

- Because we need exactly one pair of positive integers sum to 2, each die has to have exactly one value of 1.
- The sum of the two maximum values is 12. Because only one pair sums to 12, the maximum values are not repeated on the same die.

Using these, he is able to show that the solution given above is unique.

These dice are known as Sicherman dice after their original discoverer.

A high-powered solution to this puzzle is to factor the polynomial

$$f(x) = x^{12} + 2x^{11} + 3x^{10} + 4x^9 + 5x^8 + 6x^7 + 5x^6 + 4x^5 + 3x^4 + 2x^3 + x^2$$

into two polynomials with positive integer coefficients so that the sum of coefficients in each polynomial is 6. The exponents give the digits on the faces of the dice and the coefficients give the number of faces of the die that the digit appears on. Because

$$f(x) = x^2 (x + 1)^2 (x^2 - x + 1)^2 (x^2 + x + 1)^2,$$

there are two factorizations that work. One is $f(x) = h(x)^2$ where

$$h(x) = x + x^2 + x^3 + x^4 + x^5 + x^6,$$

which gives the standard dice. The other is $f(x) = f_1(x)\, f_2(x)$ where

$$f_1(x) = x (x + 1) (x^2 + x + 1) = x^4 + 2x^3 + 2x^2 + x$$

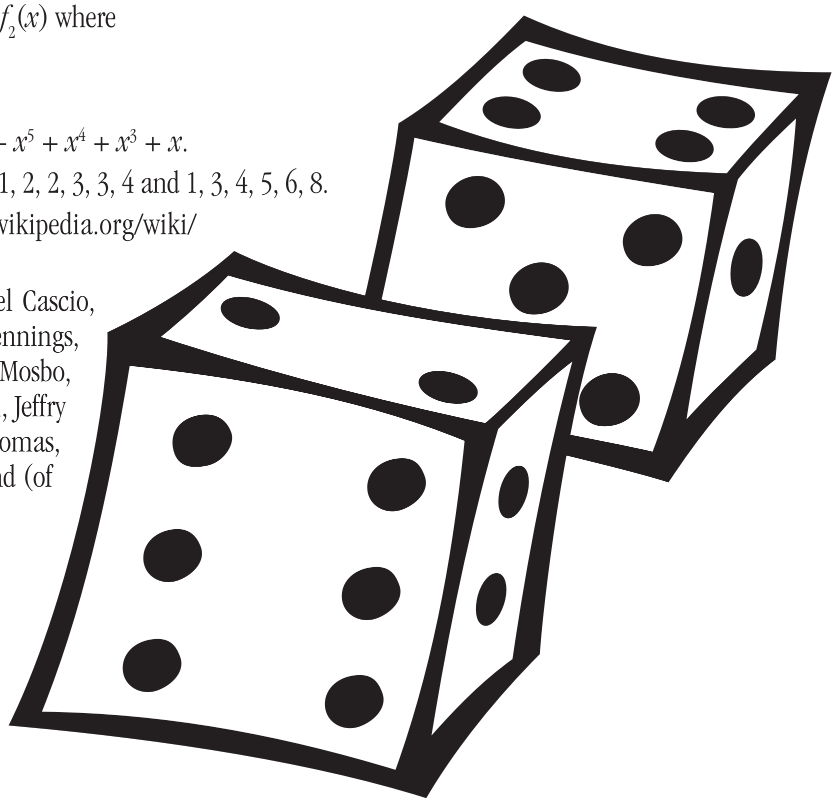
and

$$f_2(x) = x (x + 1) (x^2 + x + 1) (x^2 - x + 1)^2 = x^8 + x^6 + x^5 + x^4 + x^3 + x.$$

The polynomials $f_1(x)$ and $f_2(x)$ correspond to the dice 1, 2, 2, 3, 3, 4 and 1, 3, 4, 5, 6, 8.

Wikipedia has an article on these dice at http://en.wikipedia.org/wiki/Sicherman_dice.

Solutions were also submitted by Bob Conger, Michael Cascio, Jon Evans, Roman Fedoseev, Solomon Feinberg, Brian Jennings, Andrew Kiel, George A. Kish, Mike LaMonica, Christopher Mosbo, David Oakden, Eric Savage, Dave Schofield, Gabriel Silvasi, Jeffry Simmons, Bryan Starke, Adam M. Swartz, Robert M. Thomas, Rajesh Thurairatnam, Edward "Ned" Tyrrell, David Uhland (of course!), and David Yuan.



Climate Historian

Over the past several years, John Buchanan has delved into the history of climate change and has actively participated in spreading the information to students. While his interest is also professional, he initially got involved through his lifelong interest in Benjamin Franklin.

A native Philadelphian, John attended Franklin's 300th birthday celebration at the Constitution Center in Philadelphia in 2006. The highlight of the event was meeting "Benjamin Franklin," portrayed by Ralph Archbold. While standing in line with about 50 elementary and middle school students to greet Franklin, John was surprised when "Ben" bluntly asked him, "Are you a success?" After responding, "Yes," John was asked for a business card and invited to later meet with Ralph Archbold. Ralph was starting up a project, suggested by Lee Iacocca, to find people in all walks of life who have been influenced by Franklin.

Subsequent conversations with Ralph led John to a few Friends of Franklin events where he met Roy Goodman, museum curator of the American Philosophical Society (APS) and coeditor of the *International Bibliography of Meteorology: from the Beginning of Printing to 1889.* While speaking with Roy early in 2007, John mentioned his interest in Franklin's historic recordings of the Gulf Stream in the Atlantic. In his many voyages across the Atlantic, Franklin had charted the Gulf Stream by taking sea surface temperatures. John learned that no one had compared Franklin's measurements to the ones taken today. Roy directed him to Franklin's original ocean readings, which were published in the *Transactions of the APS.* Roy invited John to peruse various manuscript documents in the private reading room at the APS and encouraged him to take photos of the documents. Armed with his personal digital camera, John took some pictures, feeling like Nicolas Cage's character in the movie *National Treasure.* It was quite exciting to be in contact with original documents written by the likes of Thomas Jefferson and James Madison, and to discover weather records that were written in 1776 during the initial days of the Revolutionary War.

In 2008, John set out to see if these weather records from colonial times might be placed in the public domain for the benefit of meteorologists, citizen scientists, or other interested parties. He discovered that the National Oceanic and Atmospheric Administration (NOAA) had begun a coordinated effort, with a worldwide group called Atmospheric Circulation Reconstructions over the Earth (ACRE), whose mission is to recover and then analyze all such available records from 1750 onward. The manuscripts that John discovered at the APS, some of which provide a long-running series of weather observations from the era, fit in perfectly with what ACRE was trying to gather from all regions of the world. There were already various chapters and working groups set up around the world to gather records from places such as Australia, Chile, and China, but none related to the United States' colonial era. John volunteered to start the effort, calling it US CEDS (Colonial Era Data Study).

To avoid duplicating other efforts, he formed a working group for CEDS from the scientific, academic, and museum archive communities. He started by creating an online file cabinet of various documents and manuscript collections sent by various members of the working group and others. Later in 2008, after viewing a video from UK-Hadley Centre describing an Antarctic voyage, John decided to make a similar video about Franklin's Gulf Stream records. It became the first deliverable for CEDS. In December 2008, he wrote three different scripts for the video (two short versions and one long one) and narrated the first cut himself (he was a disc jockey in college). Upon hearing through ACRE that Google was interested in the video for the 2009 unveiling of Google Oceans, he decided to upgrade the voice talent for the video. He asked Ralph Archbold, Ben Franklin's impersonator, to add his voice and persona to a filming of the video. Ralph gladly accepted and they filmed the various versions in one afternoon session in January 2009, just after Franklin's 303rd birthday celebration.

The original video was intended for university students. After one of the professors showed it to his class, they soon realized that with a few minor changes to the content and music, it would be a good educational tool for junior high and high school students as well. Another group called GLOBE (Global Learning and Observations to Benefit the Environment) decided to highlight the video by posting it prominently on their Web site. GLOBE is a worldwide primary and secondary school-based science and education program that promotes and supports the collaboration of students, teachers, scientists, and citizens to better understand, sustain, and improve the Earth's environment.

In March 2009, Susan Woerner, the CAS Climate Change Committee chairperson, asked John to join this newly formed committee. Soon afterwards, John formed the CAS Student Outreach Subcommittee, which is reaching out to junior high school, high school, and college students to help them understand the complex issues surrounding climate change. One approach is using historical studies, such as those performed by Franklin and others, and relating them to climate change issues today, using the latest data visualization methods.

This past March in Philadelphia, GLOBE demonstrated the video at the annual National Science Teachers Association conference, which was fittingly titled "Connecting Science Past to Science Future." John and Ralph were there to enjoy the fruits of Ben Franklin's labor from over 200 years ago. As Franklin said, "An investment in knowledge always pays the best interest."

John Buchanan is senior vice president at Platinum Underwriters Reinsurance Inc. in New York City.

For Further Investigation…

For more information on Atmospheric Circulation Reconstructions over the Earth or ACRE, visit http://www.met-acre.org/.

Global Learning and Observations to Benefit the Environment or GLOBE works in close partnership with NASA, NOAA, and National Science Foundation Earth System Science Projects. They recently reached a milestone of having 50,000 GLOBE-trained teachers around the world. For more information on GLOBE, visit http://www.globe.gov/.

The National Science Teachers Association met in Philadelphia on March 18, 2010 for their annual conference. Pictured left to right are John Buchanan, Ralph Archbold (as Ben Franklin), and Teresa Kennedy. Ms. Kennedy is Deputy Director of the GLOBE Program.

CHARLES L. MCCLENAHAN

Damned Lies

Although the origination of the line is not known with certainty, it was Mark Twain who popularized this observation: "There are three kinds of lies: lies, damned lies, and statistics." While recent disclosures relating to global warming/cooling/whatever statistics may tend to reinforce this view, I would contend that a statistic (singular) may be inaccurate but not, in itself, deceptive. It is only in the plural (statistics) that they have the potential to be misleading.

As an example, recently Insurance.com compiled a list of the 10 "most dangerous professions for drivers," based upon the percentage who reported prior accidents or claims.[1] At the top: lawyers. Never do I willingly pass on an opportunity to disparage my legal friends, but I suspect the statistical methodology here is measuring not driving skill, but knowledge of the results of misrepresentation.

The current debate about healthcare legislation has spawned more lies, damned lies, and statistics than any policy debate in my (long) memory. Without picking the low-hanging fruit from any political "side," I would like to address the damage being done to the insurance industry and, worse, to the reputation of actuaries in this process.

> The health insurance's antitrust exemption is one of the worst accidents of American history. It deserves a lot of the blame for the huge rise in premiums that has made health insurance so unaffordable. It is time to end this special status and bring true competition to the health insurance industry.
>
> —Senator Chuck Schumer (D-NY)[2]

On February 22, 2010, the House of Representatives passed H.R.4626, exempting health insurance [undefined] from McCarran-Ferguson "to restore the application of the federal antitrust laws to the business of health insurance to protect competition and consumers."[3]

As actuarial students know, McCarran-Ferguson exempts insurers from antitrust laws only to the extent they are regulated by state law, and then excepting acts of boycott, intimidation, and coercion. To a great extent, the CAS owes its success in the latter half of the 20th century to this act.

> They [insurance companies] are so anti-competitive. Why? Because they make more money than any other business in America today...What a sweet deal they have.
>
> —Senate Majority Leader Harry Reid (D-NV)[4]

According to the Fortune 500, healthcare insurance and managed care was the 31st (of 49) industries in profitability for 2008 with a ROE of 11.1%. Return on sales placed 35th (of 53) at 2.2%.[5] Most grocery stores do better than that.

> The [president's] bill would create a new Health Insurance Rate Authority, made up of health industry experts that would issue an annual report setting the parameters for reasonable rate increases based on conditions in the market.[6]

Okay, now you have my full attention. The U.S. Government, in the incarnation of a Health Insurance Rate Authority, is going to "set the parameters for reasonable rate increases based on conditions in the market." Funny, I must have missed that one in the "Statement of Principles."

Regardless of how we may feel about the healthcare legislation, it is imperative that we stand up for the values inherent in actuarial science. If reasonable rates for health insurance become a function of market conditions, can homeowners rates be far behind? Is oceanfront property in Florida so much different from a preexisting condition?

I am reminded of the legislator who, when debating the adoption of the federal income tax, is purported to have said, "If we let this one percent foot in the door, who knows but what the tax may someday rise to two, three or even four percent."

So what can we do? Well, for starters we can point out what the insurance industry has done and can do for the American economy. When we go to a seventh-grade careers day, we can explain how the concept of pooled risk makes more sense than financial bailouts. And when we hear friends or politicians opining that "something needs to be done with those terrible insurance companies," we can inform or remind them that whether premiums or taxes are being pooled, they have to be paid by someone.

1 http://www.insurance.com/auto-insurance/safety/top-10-dangerous-professions-for-drivers.aspx

2 http://healthcarehorserace.com/tag/mccarran-ferguson/

3 http://thomas.loc.gov/cgi-bin/query/z?c111:H.R.4626.IH:

4 http://healthcarehorserace.com/tag/mccarran-ferguson/

5 http://money.cnn.com/magazines/fortune/fortune500/2009/performers/industries/profits/

6 http://www.nytimes.com/2010/02/22/health/policy/22health.html

C.K. STAN KHURY

Coercion Is Not Us

I hate to admit it, but I have been involved with the CAS for nearly 50 years. I became an ACAS in 1964, the CAS Golden Jubilee year. I have been privileged to witness the panorama of the CAS evolution from a highly collegial, tiny organization of 213 Fellows and 184 Associates to today's membership of approximately 5,000.

All of this came to mind upon reviewing the second exposure draft of the 17-page document containing the proposed continuing education (CE) policy of the CAS. But that was not the first thought that came to mind. Two other thoughts came to mind first: the proposed EU Constitution (The Lisbon Treaty) and the Internal Revenue Code.

"...somewhere in the system, there exists an unexplained need to take the requirements to an entirely new, very detailed, bureaucratic, and seemingly stern level."

My best friend is a naturalized citizen who immigrated to the U.S. from Holland after spending a few years in South Africa. He has seen a lot in his lifetime, including various attempts to put the EU under the rule of the professional bureaucrats in Brussels. He occasionally points out to me the unimaginable detail by which the EU would be governed under the weight of the proposed 479-page document. After reading the proposed CE statement, I actually looked up the EU Constitution (2008 draft) and tried to find a short paragraph to illustrate the point my friend had made on numerous occasions. It was a difficult chore. The difficulty was not in finding a suitable paragraph; rather it was in choosing just one—there are literally hundreds and hundreds of examples. I will cite just one. It is from page 402, a part of Protocol No. 31, Article 4, Section 2, titled "Concerning Imports Into The European Union of Petroleum Products Refined in The Netherlands Antilles":

> If a Member State considers that imports of petroleum products refined in the Netherlands Antilles, made either directly or through another Member State under the system provided for in Article 2 above, are giving rise to real difficulties on its market and that immediate action is necessary to meet them, it may on its own initiative decide to apply customs duties to such imports, the rate of which may not exceed those of the customs duties applicable to third countries in respect of the same products. It shall notify its decisions to the Commission which shall decide within one month whether the measures taken by the State should be maintained or must be amended or cancelled. The provisions of Article 3(3) shall be applicable to such decision of the Commission.

Chew on that one!

The Internal Revenue Code presents the same problem; the choices of difficult paragraphs are many. Here is just one. If an entity is involved with certain federal excise taxes, it must register with the IRS. Well, the registration form is rather lengthy, of course, and the first thing the registrant must do is to classify its activity into one of 27 different categories. One of those categories is the following:

> Qualified blood collector organization buying taxable fuel, taxable tires, and certain heavy vehicles; claiming exemption from the communications tax and heavy highway vehicle use tax; or to claim a credit or payment of certain excise taxes, for its exclusive use in the collection, storage or transportation of blood.

Another good chew!

The strange thing is that reading the proposed CE requirements evoked these thoughts in my mind. Of course, the point of contrast was the much simpler, earlier days of the CAS. In those days, the entire subject of professional conduct consisted of a grand total of not quite two pages that dealt with every aspect of professionalism. Of particular interest is the qualification standard in effect in 1964. It consisted of exactly one sentence: "The member will bear in mind that the actuary acts as an expert when he gives professional advice, *and he will give such advice only when he is qualified to do so.*" [Emphasis added.] This was the entire requirement, no details, no explanations, no annotations, no guidelines, no CEUs, no mandates, nothing more than the good faith and judgment of the professional actuary. Everything was placed on the shoulders of each member to make sure that he or she is fully qualified to do the work for his or her client.

Opinion, page 22

Carole Banfield Named APIW's Woman of the Year

The Association of Professional Insurance Women, Inc. (APIW) has named Carole J. Banfield, an Associate of the Casualty Actuarial Society, its 2010 APIW Insurance Woman of the Year. This award has been presented annually since 1976 and recognizes an exceptional woman who has achieved prominence in the insurance industry.

As Executive Vice President of ISO, Ms. Banfield serves as an exemplary role model for women. Under her direction, ISO supplies actuarial information, consulting services, and research on various property/casualty issues. She has been instrumental in the development and implementation of many of ISO's principal insurance programs. Ms. Banfield is involved with state and federal governments and national regulatory organizations such as the National Association of Insurance Commissioners (NAIC). She became an Associate of the CAS in 1973 and is also a member of the American Academy of Actuaries.

In announcing this year's award, Cynthia Beveridge, President of APIW, said of Ms. Banfield: "Her leadership and accomplishments, as well as her commitment to supporting and advancing women, are exceptional examples of all of the qualities that APIW looks for in the recipient of this highly prestigious honor. She has portrayed exemplary professionalism in all her activities and is highly respected both within her organization and within our industry."

A cocktail reception and award ceremony will be held in Ms. Banfield's honor on Thursday, June 24, 2010, from 6:00 pm to 8:30 pm at the New York Marriott Marquis.

Opinion, From page 21

Let me quickly add the obvious—CE is a central pillar of the profession and there is really no discussion on that point. Let me also add that the CAS has dealt with this aspect of professionalism on many levels over the years—from a simple expression of an intention to a fairly elaborate current set of requirements.

For some reason, somewhere in the system, there exists an unexplained need to take the requirements to an entirely new, very detailed, bureaucratic, and seemingly stern level. A tone best described by 22 uses of the word "must," 45 uses of the word "require," plus a sprinkling of various elements of intimidation such as "audit," "certification," "compliance," and "disciplinary action." Moreover, the motivation for such Draconian measures is not provided. Members deserve a clear and precise explanation for any proposal that will change the character of the CAS CE process in such a radical way.

In my eyes the general tone of the proposal is coercive. This is potentially damaging to the professional aura of the CAS. The suggestion that the added detail and complexity in the proposal assures a better qualification for the actuary simply is not true. There is enough wiggle room in what is being proposed, all the detail and complexity notwithstanding, to potentially make a farce out of the new requirements. It is especially noteworthy that there is no increase in the overall number of required CE units from the currently applicable standard. What is being proposed is an elevated level of complexity, bureaucracy, minimums and maximums, record-keeping obligations, and various other procedural burdens that tend to complicate but not enhance the achievement of the goals of CE. Also, the coercive elements involving audit procedures, disciplinary actions, and the like do not truly add to the credibility of the process. It is virtually impossible to challenge some of the requirements or the associated quantities that may be claimed. Any requirement that cannot be enforced is useless. It would seem to be much simpler and cleaner to adopt the existing (AAA) requirements as our own. It is at the same substantive level, procedurally straightforward, enables us to achieve independence on this front, preserves the flexibility to make our own changes in the future, and, most importantly, allows our own collegial personality to saturate the process.

I have served as a speaker at a number of CAS Professionalism Courses. One of the key points I always stress is that, regardless of what the requirements may be, it is imperative upon the actuary to always seek to "do the right thing." It is a much higher standard than any set of rules that could be promulgated. We should show more deference to the individual actuary's dignity, personal responsibility, and integrity in the observance of educational requirements. I think such a path is a far better outcome than anything that resembles the rules of the EU Constitution or the Internal Revenue Code. We can do better.

MICHAEL ERSEVIM

Historic Peace Agreement Reached Between SOA and CAS!

The long-awaited resolution to decades of in-fighting has finally been achieved. Both Society presidents were jubilant in proclaiming victory for their respective constituents, according to sources close to the negotiations. Some early details as to specific items resolved by the Actuarial Peace Treaty were leaked to the *Actuarial Review* and are summarized in the table below.

Summary of Societal Control

	CAS	**SOA**
Fashion	Double-breasted suits	"High-waters"
Exam	3L	MLC
Exam tools	The BA-35 and TI 30X II calculators	The BA30II and BAII Plus calculators
Exam Web site	Web-Notes	Lots of pull-down menus
Data formats	All data in triangular or parallelogram form, excluding rectangles	All data in rectangular form
Excel tools	Pivot tables	Solver macro
Job Perks	• Higher-paying job opportunities • Larger Professional Designation certificates	• Incoherent technobabble • Mechanical pencils that actually work well
Social	Karaoke night	Scrabble champion training camps

Items Remaining In Joint Societal Control
• Lengthy and effusive PowerPoint presentations
• Jokes about actuaries being introverted or socially awkward

All those who worked tirelessly towards this historic settlement are deeply thanked for all their hard work.

India Travels, From page 15

we have to start securing some projects and deploying some volunteers. We have been involved in one microinsurance program, and hope to do more of that in the future. Most recently, we sent some experts over to lecture at a university in Kenya and to provide some counsel to insurance company executives and government insurance company regulators. We are hoping to undertake a second phase of the project, sending some actuaries to Kenya for a month or two to mentor some young actuaries during insurance company internships (between university semesters)—but we have quite a bit of organizational work to do before that project can come to pass. In any event, we were successful in this meeting in bringing a group of energetic, young (and not so young), get-it-done kinds of actuaries from around the world (India, Switzerland, Germany, Africa, Canada, U.S.) onto the leadership committee, and I am optimistic that they will help bring some new energy and ideas to the table. Several of us had worked pretty hard to recruit the team, so it was very satisfying to see that piece come together. Now, to turn it into action. Stay tuned.

For more information on Actuaries Without Borders, visit the International Actuarial Association's Web Site at www.actuaries.org.

Casualty Actuarial Society
4350 North Fairfax Drive, Suite 250
Arlington, Virginia 22203 USA
Phone: 703-276-3100, Fax: 703-276-3108
www.casact.org

PRESORTED
STANDARD MAIL
U.S. POSTAGE PAID
LANHAM, MD
PERMIT NO. 4410

June 3-6, 2010
6th Conference in Actuarial Science & Finance
Samos, Greece
www.actuar.aegean.gr/samos2010/

September 20-21, 2010
Casualty Loss Reserve Seminar (CLRS)
Disney's Contemporary Resort
Lake Buena Vista, FL, USA

November 7-10, 2010
CAS Annual Meeting
JW Marriott Hotel
Washington, DC, USA

March 20, 2011 - March 22, 2011
Ratemaking & Product Management (RPM) Seminar
Marriott New Orleans
New Orleans, LA, USA

May TBD, 2011
Seminar on Reinsurance
Philadelphia, PA, USA

May 15, 2011 - May 18, 2011
CAS Spring Meeting
The Breakers
Palm Beach, FL, USA

In Memoriam

Loring M. Barker
(FCAS 1947) 1918-2009

Dennis J. Loper
(FCAS 1984)1957-2010

Robert J. Myers
(FCAS 1959) 1912-2010

LeRoy J. Simon
(FCAS 1954) 1924-2010

The Actuarial Review always welcomes letters and story ideas from our readers. Please specify what department you intend for your item—letters to the editor, news, puzzle solutions, etc.

Send your comments and suggestions to:
The Actuarial Review
Casualty Actuarial Society
4350 North Fairfax Drive, Suite 250
Arlington, Virginia 22203 USA
Or e-mail us at AR@casact.org