The Actuarial Review

THE NEWSLETTER OF THE CASUALTY ACTUARIAL SOCIETY • VOLUME 40, NUMBER 2 • MAY 2013

INSIDE THIS ISSUE

Photo credit: Elizabeth A. Smith.

Mr. Kilbourne Goes to Washington. *CAS staff members welcome former CAS President Fred Kilbourne (1982), who visited the CAS Office earlier this year. Pictured from left to right are Diane Tremblay, Executive Assistant; James Mundia, IT Coordinator; Jen Walton, IT and Online Services Manager; Mr. Kilbourne; Bob Searson, Communications and Marketing Coordinator; Megan O'Neill, Marketing and Corporate Relations Manager; and Kathleen Dean, Director of Meeting Services.*

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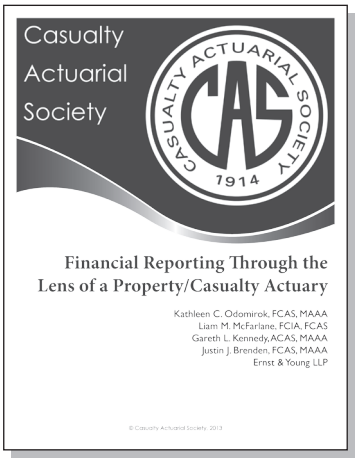
Actuarial Review Letters Policies

Send letters to the editor to ar@casact.org or to the CAS Office address. Include a telephone number with all letters. *Actuarial Review* reserves the right to edit all letters for length and clarity and cannot assure the publication of any letter. Please limit letters to 150 words. Under special circumstances, writers may request anonymity, but no letter will be printed if the author's identity is unknown to the editors. Announcement of events will not be printed.

New CAS Text Released

A new e-textbook for CAS Exam 6 has been released. "Financial Reporting Through the Lens of a Property/Casualty Actuary" is written by Ernst & Young employees Kathy C. Odomirok, FCAS; Liam J. McFarlane, FCIA, FCAS; Gareth L. Kennedy, ACAS; and Justin J. Brendan, FCAS. The text is available under Online Publications on the CAS website and in the Exam 6 Syllabus.



School Ties: Engaging Universities and Strengthening Relationships

One of the more pleasant duties I have as president is meeting with many of our constituent groups and discussing the CAS. One very important group is university students. I have had the opportunity to speak to several actuarial science clubs as well as other student groups, such as the Canadian Actuarial Students National Association and Gamma Iota Sigma (the fraternity for risk management, insurance and actuarial science majors). After meeting with these talented young minds pursuing actuarial careers, I have been left with a very good feeling about the future of the actuarial profession. But these visits have also reinforced for me how important it is for the CAS to strengthen our relationships with universities.

Improving communications and relationships with candidates and academics is a top priority in the CAS strategic plan. The reasons behind this objective are obvious. For the CAS to continue to thrive and grow, we need to continue to attract the top students. This is nothing new. But what is new is that we can no longer simply tell students the benefits of choosing the actuarial profession and let their choice of career path direct them to the CAS exams. We need to tell the CAS story. Fortunately, it is a good story to tell.

It is the story of an organization with a singular professional focus over its 100-year existence: to advance and promote the practice and application of casualty actuarial science. It is the story of an organization that is a desired partner with other actuarial organizations around the world in developing and supporting casualty actuaries, and one that has helped its many members and students thrive in their careers and in the profession. It is the story of an organization whose credentials remain the gold standard for casualty actuarial education, certification, research and professionalism.

Since 1999 the CAS University Liaison program has matched CAS members with academics to provide the academics with one-to-one relationships with practicing actuaries. While this has been a very good and productive program, the Executive Council decided last year that it did not go far enough. We need to step up our engagement with universities so that we can educate students on what the CAS offers, and support faculty members in developing future casualty actuaries. As a result, the Task Force on University Engagement was created and charged with evaluating our current activities related to university students and professors, and making recommendations for building stronger connections between the CAS and universities.

The University Engagement Task Force delivered its report earlier this year, and there are a number of very good recommendations. One of the key ones is to have tailored approaches for different universities. This cannot be a one-size-fits-all program. We want our interaction to supplement the academic curriculum in such a way that the professors support it and the students appreciate it.

Another recommendation of the University Engagement Task Force recognizes the limited amount of time that CAS members have available to give back to the profession. Thus, we are developing a library of presentation materials that members can draw upon when making a campus visit. These materials range from a basic introduction to the casualty actuarial profession to case studies that can be used as in-depth presentations on specific topics. As a result, our liaisons will have a ready source of materials that can be tailored to the specific needs of the university.

If the students' reactions and questions are any indication, we have a very interested group of young men and women wanting to learn more about the casualty actuarial profession and the CAS.

In order to carry out the recommendations of the University Engagement Task Force, we need to ramp up member participation in the academic outreach areas. If this is an area that you are interested in, I encourage you to contact CAS Director of Marketing and Communications Mike Boa at mboa@casact.org.

I discussed these ideas with the actuarial professors at a number of universities, and they would welcome anything the CAS can provide to inform their students about the CAS and the casualty actuarial profession. If the students' reactions and questions are any indication, we have a very interested group of young men and women wanting to learn more about the casualty actuarial profession and the CAS.

Attracting the best of this talent to the profession and the CAS is the lifeblood of our future. We have an eager audience out there. Are you ready to help us tell the story? AR

WE GET CALLS!

"We Get Calls!" is a new AR column designed to address popular questions we receive at the CAS Office. If you a question, feel free to contact the Actuaries Resource Center at arc@casact.org.

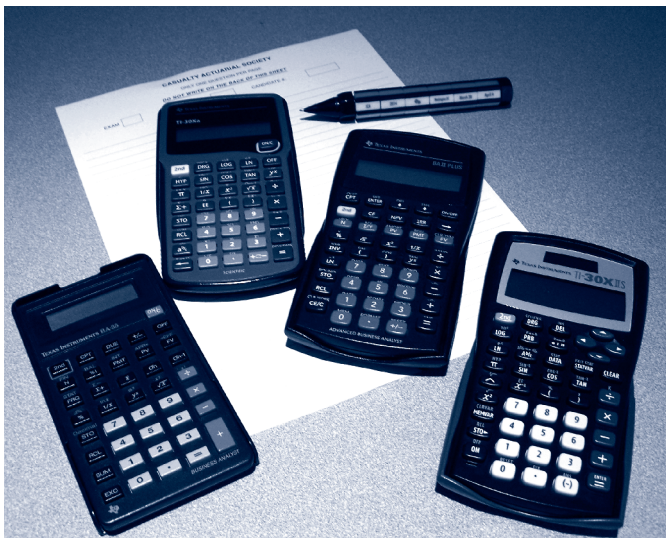
"What calculators can I use on the exam?"

This is an important question for those who are preparing to take an upcoming CAS exam. All exam-related questions can be answered in the *Syllabus of Basic Education*. In this case, the answer to this question is filed under the "Examination Rules."

Electronic calculators are allowed in the examination room for all examinations, but only the following Texas Instruments calculators may be brought into the examination room:

- BA-35
- TI-30Xa
- BA II Plus
- TI-30XII (IIS solar or IIB battery)
- BA II Plus Professional
- TI-30XS MultiView (or XB battery)

For more information on calculators and the exams, visit http://www.casact.org/admissions/syllabus/.



CAS-approved calculators pictured above are (left to right) Texas Instrument models BA-35, TI-30Xa, BA II Plus and TI-30XII. Photo credit: Cecily Marx.

RPP II Research Articles Available

The Risk Premium Project (RPP) represents an extensive analysis of the theory and practice of risk assessment in property-casualty insurance. Initiated by the Committee on Theory of Risk (COTOR) of the CAS. The project began in 2000 with RPP I, a review of the actuarial and finance research done to that date. Given the vast development of research both in finance and actuarial science, RPP II was conducted in 2010 in order to extend the findings from RPP I with research done in the last decade. Moreover, challenges for future research were identified. Martin Eling and Hato Schmeiser undertook RPP II from June to November 2010; CAS members were involved in the process via an online questionnaire.

As a result of this project, a searchable website with all review results has been developed and is provided at www.casact.org/rpp2. The web page is structured along four categories: About RPP II, Questionnaire, RPP II Results and RPP II Database. Its central element is the searchable RPP II database with 961 references to papers structured in 11 thematic categories. The thematic categories have been developed by incorporating the opinions of interested colleagues from academia and practice, and especially with the feedback of COTOR. The research also resulted in the RPP II Report, a 58-page document with detailed analysis of the existing research and future research areas. Members are encouraged to explore RPP II and its resources as an invaluable tool that is being updated on a yearly basis.

Nominations Sought for CAS Service Awards

The CAS wants to recognize significant volunteer contributions, and we need your help. Nominate a worthy CAS volunteer for the 2013 Above & Beyond Achievement Award (ABAA), the 2013 New Members Award, or the 2013 Matthew Rodermund Memorial Service Award.

The ABAA is bestowed annually upon CAS members who have made contributions that are clearly outside of expected volunteer responsibilities and duties. 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 New Members Award acknowledges outstanding volunteer efforts within the first five years of a member's last credential. The criterion for this award is exceptional CAS volunteer work beyond what is reasonably expected of new members. Time committed to CAS volunteer activities and leadership positions will also be considered.

The Matthew Rodermund Service Award was created to acknowledge 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 Matthew Rodermund's years of volunteer service to the CAS. Volunteer contributions may include committee involvement, participation in CAS meetings and seminars, volunteer efforts for Regional Affiliates or special interest sections, and involvement with other actuarial organizations. Past presidents are not eligible.

Nominations are due by June 29, 2013. All award winners will be announced at the 2013 CAS Annual Meeting in Minneapolis. Nomination forms can be found online. Send nominations to Matt Caruso at mcaruso@casact.org.

25 Years Ago in the *Actuarial Review*

Double Down

By Elizabeth A. Smith

The CAS has certainly come a long way, technologically and in staff size, as these two items from May 1988 AR *attest.*

DOUBLE-SPACE!

DOUBLE-SPACE!

Please double-space all material submitted printing in The *Actuarial Review*—letter "from the READERS" included. In the future *AR* will request that single-spaced copy be retyped.

Also, indented paragraphs are requested (examine this issue), and wide margins, at least an inch and a quarter on typewritten copy.

This is *AR*'s biennial appeal. It doesn't seem to register.

Now if we could just get people to stop putting double spaces after periods.

CAS Staff Doubles

Two new employees in the CAS office are now relieving Edee Morabito and Gloria Sessa of some of the burdens they have accumulated as the CAS has grown.

Terry Cullinan came in September 1987 to handle financial detail and bookkeeping chores and to work with Tony Grippa, CAS assistant treasurer. Terry performs most of the computer operations in the CAS office.

Kathleen (Kathy) Spicer, who arrived in January, works three days a week (Tuesday, Wednesday, Thursday) tending to the details that arise out of the CAS meetings and seminars. She is a great help to Mike Fusco, vice president-programs, and [Rich] Fein, chairman of the Program Planning Committee.

Measuring Model Lift

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 reader. 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.

Honest Abe, FCAS, MAAA, was recently hired by We Care, a growing primary insurer that writes mostly personal lines. The actuaries at We Care have always done class plan reviews using traditional actuarial techniques, but as part of a management directive to increase the use of analytics throughout the company, the chief actuary asks the pricing actuaries to use generalized linear models (GLMs) for the upcoming homeowners class plan review. The actuarial managers warn Bill, the chief actuary, that a GLM-based project will require significantly more resources, especially since most of the staff are new to predictive modeling. Bill nonetheless decides to move forward.

Abe joins We Care after most of the modeling for the new homeowners class plan has been completed. We Care is preparing to file the new plan, and the actuarial manager who was in charge of the project has recently departed the company (Abe is his replacement). Andrew is Abe's boss in his new position, and Abe's first assignment is to oversee the filing, approval, and implementation process of the Homeowners class plan. Abe is familiar with predictive modeling and with GLMs from his prior work experience, and that is a major reason that he was hired by We Care.

As part of the filing support, the actuaries who worked on the class plan project created various goodness-of-fit and lift measures, which show the new plan significantly outperforming the old plan. Abe was very pleased to hear this. Unfortunately, when he began to dig into the details, his enthusiasm turned to disappointment. The actuaries who built the model did not use any holdout data. Rather, they used the same data to both fit and validate the model, and in Abe's opinion, included many variables with only marginal significance.

Abe scheduled a meeting with Andrew (his boss) to discuss his concerns with the validation process. Here's how their conversation went:

Andrew: I thought the model performed well…that it fits the data well. I remember seeing several charts and numbers to that effect.

Abe: Yes, the model does fit the data well…too well! It's an overfit model. If you look at the deviance residuals on holdout data, though, or a plot of actual versus predicted loss costs on holdout data, you'll see that the fit is significantly worse.

Andrew (eyes glazed over): Fine, for argument's sake, let's say that the model is overfit. Who cares? It's a nuanced technical point. The model does provide lift over the current rating plan. The lift charts that I saw showed the model doing a much better job of differentiating the best and worst risks than does the current rating plan.

Abe: The lift charts do show the model outperforming the manual, but they were created on the same data that was used to build the model. That's part of the overfitting problem. Lift should only be measured on holdout data, but it wasn't in this case. The lift we're seeing isn't real… it's the result of overfitting.

Andrew: Alright, this conversation is wearing me out. I don't know all of the technical points of this model, and I don't want to debate them with you. The modeling phase of this project is done, and we have to move on now. The new plan was supposed to be filed last year, but the modelers kept saying that they needed more time to get things right. Bill went along with that, but now we've reached the end point. If this thing isn't filed by the end of the month, we are in serious trouble.

Abe: I understand that there are tight deadlines, but I don't see the value in moving forward with a flawed product. The proposed plan is actually worse than the current one, and it will probably be worse than our

competitors' programs. Wouldn't it be more prudent and more logical to spend the time to get this right? Or, at the very least, to not file something that is worse than what we currently have?

Andrew: You want to walk over to Bill's office and tell him that the GLM-based class plan that we have invested so much time and money in, for which he has repeatedly pushed back the filing deadline so that we can "get things right," is not worth filing? Fine, Abe…you want to do that, go ahead. But, if you decide not to do that and to actually save your career, I suggest that you start working on those filings.

Abe leaves the meeting feeling very frustrated. He firmly believes that the proposed plan is inferior to the existing one (and far worse than the plan which could be created using predictive modeling), and that We Care will be economically harmed by implementing it (due to adverse selection).

At this point, what is Abe's best course of action? Among the alternatives, consider these:

Alternative 1

Abe should do the job that he was hired to do. He shouldn't lie or say anything deceptive, but he should try his hardest to get the plan approved and implemented in as many jurisdictions as possible. As long as he is honest, he is not in violation of any actuarial standards.

Alternative 2

Abe should discuss his concerns with Bill and present his ideas for reworking the class plan analysis. Abe should offer to support the filing process if We Care wants to proceed, but Abe should indicate that he is not fully comfortable signing the filing documents. Ultimately, though, he should do whatever Bill asks him to do.

Alternative 3

Abe should refuse to defend a model that he believes is inaccurate and will harm We Care. If that means getting fired from a company to which he was recently hired, then so be it. Abe rereads the actuarial professionalism documents and notices a few things:

- Precept 1 of the CAS Code of Conduct, which states, "An Actuary shall act honestly, with integrity and competence, and in a manner to fulfill the profession's responsibility to the public and to uphold the reputation of the actuarial profession." Even if he doesn't explicitly lie at any point, how can he claim that he is acting with integrity and competence while he is working for approval and implementation of a flawed rating plan? Doing so would not only hurt his professional reputation, but it would also hurt the actuarial profession.
- Precept 8 of the Code of Conduct, which states, "An Actuary who performs Actuarial Services shall take reasonable steps to ensure that such services are not used to mislead other parties."
- The Risk Classification Statement of Principles, which says that one of the primary purposes of a risk classification system is to "protect the insurance program's financial soundness." Since the proposed rating plan underperforms We Care's current program, and almost certainly underperforms We Care's competitors' programs, it most likely exposes the company to adverse selection. AR

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Member Profile: Melissa Tomita

Promoting and Celebrating the Actuarial Career Path

By Matt Caruso, CAS Membership & Volunteer Manager

CAS volunteers advance the Society's goals through the innovation and creativity they bring to many different functions and areas. Melissa Tomita (FCAS 2013) of Scottsdale Insurance Company in Arizona is one such volunteer, working for both the CAS University Liaison Program and the Casualty Actuaries of the Desert States (CADS), her local CAS Regional Affiliate.

Ms. Tomita earned her B.S. in mathematics from New Mexico State University in 2007. While at New Mexico State, she was involved with the local chapter of *Pi Mu Epsilon*, the national mathematics honor society. She attended a talk on the actuarial profession that the chapter had sponsored. Inspired by the presentation, she signed up for CAS exams and interned at Allstate that summer. Continuing to pursue exams, she achieved her ACAS in 2011. Ms. Tomita immediately began volunteering for the CAS.

Serving as a CAS University Liaison to her alma mater, New Mexico State, Ms. Tomita presents to students in the insurance studies program and those preparing for actuarial exams. "My life was changed by a presentation about the actuarial profession, and I could not be happier about my decision to become an actuary," said Ms. Tomita. "I want to provide my positive experience to future actuaries."

In her other volunteer activities, Ms. Tomita serves as CADS vice-president, planning and executing meetings with the other CADS officers. "Being a Regional Affiliate officer is a great way to branch outside of your company and get to know your entire actuarial community," she said. Along with providing continuing education at meetings, CADS is involved with students at Arizona State University in Tempe. Arizona State students and professors regularly attend CADS meetings to interact with CAS members. "My goal as a CADS officer is to make students feel welcome in a room full of professionals."

Melissa Tomita

Her work with students at different universities led Ms. Tomita to join the CAS University Engagement Task Force in 2012. She is currently involved in implementing the task force recommendation of having CAS members and students collaborate on actuarial case studies. Her hard work continues to help shape the future of the CAS University Relations program. "This is a great career that students cannot pursue if they do not know about it!" she said.

To learn more about volunteering for the CAS, please email Matt Caruso at volunteer@casact.org

Exploring Model Lift: Is Your Model Worth Implementing?

By Dan Tevet

You've just finished building a predictive model. Now all you need to do is summarize the results, send them along, and you're done, right? WRONG. You've missed one very important and often-overlooked component of the modeling process: model validation.

Model validation is the process of determining how well a predictive model performs. Broadly speaking, there are three components to model validation:

- Goodness-of-fit: assessing how well the model fits the data.
- Lift: measuring the "economic value" of the model.
- Stability: seeing how stable the model results are.

This article will describe a few ways of measuring model lift; we'll save goodness-of-fit and internal stability for later discussions.

Lift is a measure of the "economic value" of a model. The term is in quotes because economic value doesn't mean the profit that an insurer will realize by implementing the model. There are lift measures that do try to quantify profitability, but more generally, lift is measuring the ability of a model to distinguish the best and worst risks. In effect, lift measures the extent to which a model helps an insurer avoid adverse selection by charging each insured an actuarially fair rate.

Lift measures the extent to which a model helps an insurer avoid adverse selection by charging each insured an actuarially fair rate.

There are several ways to measure model lift. Three methods discussed in this article are simple quantile plots, double lift charts and Gini indices.

For this example, suppose we have two models—Model A and Model B. The question is, "Which model provides more lift?"

Before getting into the details, though, it is important to make the distinction between training and holdout data. Training data is used to build the model, whereas holdout data is not used in the model-building process. Goodness-of-fit can be measured on either training or holdout data, but model lift should only be measured on holdout data. Otherwise, a model that is extremely overfit may seem to provide significant lift, when in fact it only performs well on the training data.

Simple Quantile Plot

A simple quantile plot is created as follows:

1. Sort the data set based on the predicted loss cost.
2. Bucket the data into equally weighted quantiles (quintiles, deciles, etc).
3. Within each bucket, calculate both the average predicted loss cost and the average actual loss cost.
4. Plot the average predicted and average actual loss costs for each quantile.

In our example, we would have two quantile plots—one for Model A and one for Model B. Note that the sort order of the two plots differs; for one plot, we sort based on the Model A predicted loss cost, and for the other, we sort based on the Model B predicted loss cost.

How do we determine which rating plan is better? We can consider three criteria:

1. Are the actual loss costs monotonically increasing (or approximately so) as we move across the quantiles? Note that, by definition, the predicted loss costs will be monotonically increasing.
2. How closely do the actual and predicted loss costs for each quantile match? That is, is the model predicting accurately?
3. Is there a large amount of lift between the first and last quantiles? That is, how much differentiation does the model provide between the best and worst risks?

Double Lift Chart

Double lift charts are similar to simple quantile plots, but rather than sorting based on the predicted loss cost of each model, we sort based on the ratio of the two models' predicted loss costs. Double lift charts directly compare the results of two models.

Here are the steps in creating a double lift chart:

1. Calculate the ratio of (Model A predicted loss cost)/(Model B predicted loss cost).
2. Sort the data set based on the ratio calculated above.

3. Bucket the data into quantiles (deciles, quintiles, etc.).
4. For each bucket, plot three quantities:
   a. The model A predicted loss cost.
   b. The model B predicted loss cost.
   c. The actual loss cost.

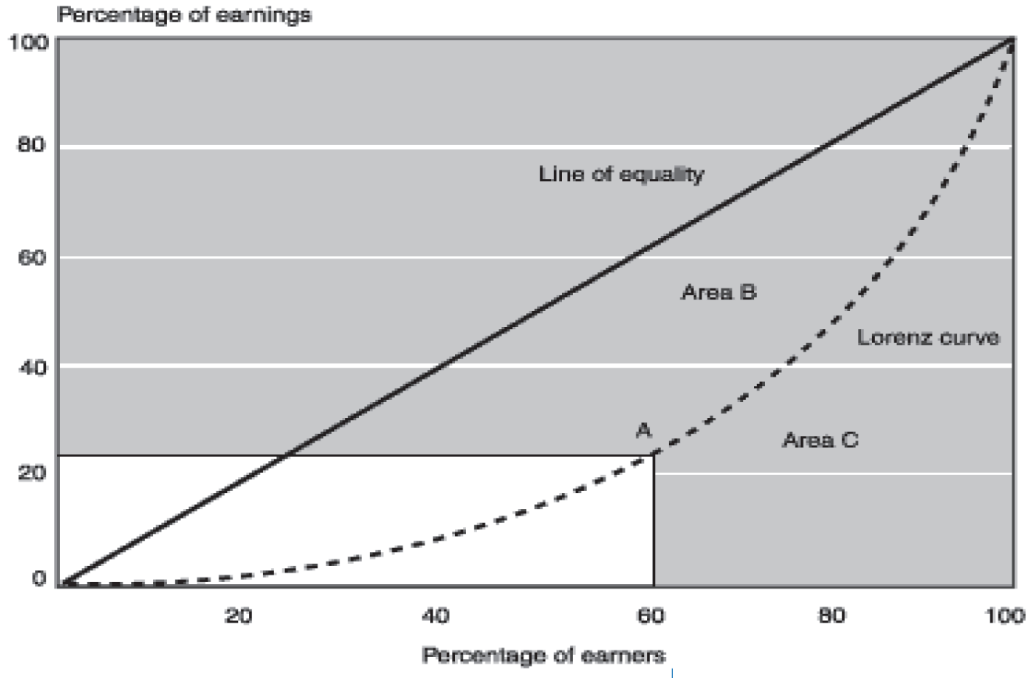
We then see which model more closely matches the actual loss costs.

While simple quantile plots often show ambiguous results—that is, in many cases both Model A and Model B appear to perform equally well—double lift charts tend to show a clear winner.

The Gini Index

While quantile plots and double lift charts are easy to understand and interpret, they are also subjective. The Gini index, though it is more complex, has the benefit of boiling lift down to a single number.

The Gini index, named for Corrado Gini, is commonly used in economics to quantify national income inequality. Here is a Gini index plot for the United States per the Social Security Administration website:



We first sort the population based on income, from lowest to highest. The x-axis is the cumulative percentage of people and the y-axis is the cumulative percentage of earnings. The locus of those points forms what is known as the Lorenz curve, which is the dotted line in the graph above. For example, point A shows us that the poorest 60% of Americans earn about 20% of the income. The 45-degree line is called the Line of Equality, so named because, if everyone earned the same exact income, then the Lorenz curve would be the Line of Equality. However, everyone doesn't earn the same income, and the Gini index is calculated as twice the area between the Lorenz curve and the Line of Equality.

How is the Gini index used to quantify model lift? It is constructed as follows:

1. Sort policyholders from best to worst, as predicted by Model A.
2. The x-axis is the cumulative percentage of exposure (car-years, house-years, etc).
3. The y-axis is the cumulative percentage of losses.
4. Calculate the Gini index for Model A as twice the area between the Lorenz Curve and the Line of Equality.
5. Do the same for Model B and compare the Gini indices produced by the two models.

If Model A produced the Gini plot above, it would tell us that Model A has identified 60% of risks that contribute only 20% of total losses. A Gini index does not quantify the profitability of a particular rating plan, but it does quantify the ability of the rating plan to differentiate between the best and worst risks.

Creating, filing, and implementing a new rating plan is a major investment. Before moving forward with a model result, we should ask ourselves: Is this the best model that we can produce? Does it provide more lift than the other contender models and, most importantly, does it outperform the current rating structure?

The three methods described above are fairly simple, and the performance of any of them will add to your confidence in the models you are comparing. In a future article we will explore measures of goodness-of-fit and stability.

For more information on measuring model lift, along with several examples, please see the following presentation from the 2013 Ratemaking and Product Management Seminar: http://goo.gl/MGA5Y

Dan Tevet is an associate actuarial consultant for ISO in Jersey City, NJ.

CASUALTY·LOSS·RESERVE·SEMINAR

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Advice for New Graduates

This May my younger son, Wil, is scheduled to graduate with a degree in actuarial science (with one exam and honors—yes, I am proud of him!). I was thinking about what advice I should give him as he starts his actuarial career. Then I thought there is no reason that I should limit advice I provide to college graduates to just one graduate.

Be Honest

The first item, absolutely without question, is to make sure that your honesty is never questioned. If they don't trust you in the little things (attendance, for example), they won't trust you with the big things, like an important project.

Appearances Matter

Of course you must "do the right thing," but it is not enough that you just do the right thing; you also must give every appearance of having done the right thing. For instance, a meeting in private might be just a conversation, but if it is out of the view of others, how would you be able to disprove a charge of sexual harassment? Also, you might have checked your work, but without documentation you have no written evidence of it–something you might need long after the work was done.

Habit is Your Friend

Establish good work habits, even though they may take longer than you would like. Speed will come later. Practice makes habit. Only deliberate consistent practice makes reliable actions. Establish good habits early in your career, and they will help you later.

Birds of a Feather Flock Together

Make certain you associate with people who have like goals. I recall studying with other actuarial trainees at the Insurance Services Office. Those that were passing exams were the ones that I compared myself with so far as exam problems, progress, and questions were concerned. Those associations enabled me to keep track of my progress, and by and large most of us passed.

When figuring out how long a task or assignment will take you to do, double or triple the time you have estimated, especially if you haven't done it before.

Don't Overdo Social Interactions at Work

As enjoyable as the social aspect of work may be, that alone will not pay the bills or get you promoted. You should work to profit from your efforts. That does not mean be unsociable, nor does it mean that you should not socialize with your boss, peers or those at levels below your own. Just keep track of how much time you are spending "just being social" and don't overdo it.

Be Nice to Everyone

Be nice to everyone—not just the people above you, not just the people that can make a difference in your career, but everyone.

Take Note

If you are meeting with your boss or going to a meeting where you will be given an assignment, take paper and write it down. Even if your memory is perfect, it will let others know you are serious about the assignment and want to make sure you have it properly documented.

Allow Enough Time

When figuring out how long a task or assignment will take you to do, double or triple the time you have estimated, especially if you haven't done it before. Even if you have done the task before, you will likely still be optimistic on how long it will take you to complete it. Build in some time for setbacks, interruptions, and other delays. I almost always severely underestimate new projects, and have noticed others do so as well.

This is a part of "under promise and over deliver." You

In My Opinion, page 14

Fischer Hired as CAS Director of Admissions

ARLINGTON, Va.—The Casualty Actuarial Society (CAS) has named Richard Fischer as its new Director of Admissions.

Dr. Fischer will be responsible for ensuring that the CAS education and examination program continues to set the standard of expertise, credibility, and professional integrity for the property/casualty actuarial profession. He will spearhead the effort to collaborate with key CAS stakeholders to ensure that the CAS credentialing programs continue to prepare actuaries with the specialized knowledge to be qualified to practice.

Before joining CAS, Dr. Fischer worked in the U. S. Department of Labor's Office of Federal Contract Compliance Programs as a psychometric expert to support federal test discrimination enforcement and to be the public face of that enforcement. Prior to public service, he worked with private and non-profit clients on a variety of projects related to applied measurement, test development and validation, licensure and certification, and training and instructional design.

Dr. Fischer has served as a consultant and expert witness on numerous test discrimination cases. He is the author of many articles and publications and is a sought-after speaker on topics such as applied assessment, test discrimination enforcement and legal defensibility of tests. He holds a Ph.D. in Measurement and Statistics and an M.A. in Instructional Technology from Columbia University.

"Employers of actuaries and industry regulators understand that CAS Associates and Fellows are prepared with unmatched technical skills and uncompromising professional integrity–attributes that are crucial to managing the challenges in the financial services industry," noted Cynthia Ziegler, Executive Director of the CAS. "Rich's experience in developing credentialing programs that are valid and reliable while meeting the needs of the marketplace will benefit not only the CAS and its members, but the companies and principals that rely on casualty actuaries as well." AR

In My Opinion, From page 13

might want to go with "it will take hours, not days" or "days, not weeks" or some sort of very general estimate so there is at least some understanding of when the product can be delivered. But don't get the reputation of always overestimating the time to deliver, or your future estimates will be discounted by those asking.

About your work product itself, a few items are worth mentioning.

Check the Data

Check the data both for reasonableness and for accuracy. If you can validate it against a known standard source, or against the data that was used in the prior analysis, that is all the better. There is no reason to do a lot of calculating on data that turns out to be incorrect or on the wrong subject.

Check Your Work Product

Check everything you do before releasing it to anyone else. Check it for both computational accuracy and reasonableness. And check to make sure you are answering the question that was implied by the task. Make sure you document your work well enough so that you will be able to follow what you did later, and so that someone else can follow what you did when they check it or are assigned the same task next time.

To the extent you can, have everything checked by someone else. Even if no one asks that you have someone else check your work, if it is visible, take the initiative to ask someone to check it. And offer to check other people's work for them. Reciprocate the favor and you will likely learn some new things from a project with which you would have otherwise not been involved.

If your work is going to someone at a high level in the organization or to someone outside the organization, you might want to have it checked twice, especially if it is new or unique. You may think it's a waste of time, but if you ever make such an error in something that important, you'll never recover.

Making a habit of checking your work may slow you down in the beginning, but the accuracy you create will be worth it.

Enjoy Life

Don't forget, you do have an existence outside of work and exams. Make sure you spend enough time with the important people in your life. Early in our marriage, my wife and I used to have a weekly date at noon one day a week. The boys were in school, and she would have my undivided attention. Later, we moved our date to the evening, and it is still nice for us to get away on a regular basis.

Finally, there is an abundance of knowledge within the CAS. Seek out that knowledge as you gain work experience. AR

The Skew Normal Distribution and Beyond

Regular readers of this column will recall that I have promoted the use of building loss reserve models using incurred data instead of paid data. While I still think that is appropriate, I suspect that I have been unfair. My original conclusion was based on using one particular model. It could be the case that some other model may work with paid data. A likely candidate might be a model with a payment year trend, which has been championed by the likes of Ben Zehnwirth for years now. One problem with such a model is that a payment year trend makes sense only with incremental paid data. Cumulative data contain settled claims that are unaffected by inflation. The problem with incremental paid data is that, at least occasionally, they contain negative claim amounts. This is a problem that many (including me) have ignored. We might consider using a normal distribution instead of the lognormal or the overdispersed Poisson distribution, but our data are skewed.

I was talking about this problem with Frank Schmid at last year's CLRS, and he suggested using what he called the skew *t* distribution. Faced with the problem above, I decided to look into it.

It turns out that a special case of the skew *t* distribution, called the skew normal distribution, has been written about extensively.[1] Wikipedia has a nice summary of it and there is even a skew normal R package, called "sn," available on CRAN. One of the nicer articles I found on an Internet search is one by Frühwirth-Schnatter and Pyne titled "Bayesian inference for finite mixtures of univariate and multivariate skew-normal and skew-*t* distributions."[2]

The random variable X has a skew normal distribution if

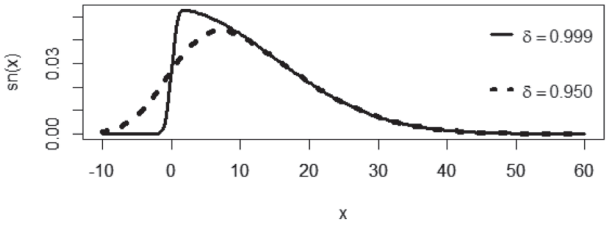
$$X=\mu+\omega\cdot\delta\cdot Z+\omega\cdot\sqrt{1-\delta^2}\cdot\varepsilon$$

where Z has a half normal distribution, i.e., a standard normal distribution truncated at zero, and ε has a standard normal (0,1) distribution. For reasons that will be made clear below, I prefer the hierarchical formulation

$$X \sim normal\ (\mu+\omega\cdot\delta Z, \omega\cdot\sqrt{1-\delta^2}).$$

In looking at either expression for the skew normal distribution, one can see that when $\delta = 0$, the skew normal becomes a *normal* (μ, ω) distribution. As δ approaches one, the distribution gets more skewed and becomes a half normal distribution when $\delta = 1$. Figure 1 plots the density functions for $\mu = 0$, $\omega = 15$ and two values of δ close to one.

Figure 1



It should be apparent that the coefficient of skewness can never exceed the coefficient of skewness of the half normal distribution, which is equal to 0.995. As it turns out, this constraint is important. I have fit stochastic loss reserve models with the skew normal distribution and found that, for most triangles, the coefficient of skewness was very close to its theoretical limit. This suggests that a distribution with a higher coefficient of skewness is needed.

The formulation of the skew normal distribution described by Frühwirth-Schnatter and Pyne suggests an alternative. Simply replace the half normal distribution with another skewed distribution, such as the lognormal distribution. Here is one way to do that. Define

$$X \sim normal(Z, \delta), \text{ where } Z \sim lognormal(\mu,\sigma).$$

Let's call this distribution the mixed lognormal-normal (ln-n) distribution with parameters given by δ, μ and σ. The density of X is calculated by numerically integrating[3] out the Z.

$$ln\text{-}n(x \mid \delta,\mu,\sigma) = \int_0^\infty f_X(x \mid z,\delta)\cdot f_Z(z \mid \mu,\sigma)\cdot dz$$

where f_X is the density function for a normal distribution and f_Z is the density function for a lognormal distribution.

Brainstorms, page 16

[1] One of the more active scholars on the skew normal distribution is Adelchi Azzalini, a statistics professor at the Università di Padova in Italy. His skew normal website is at http://azzalini.stat.unipd.it/SN/.

[2] http://biostatistics.oxfordjournals.org/content/11/2/317.full

[3] I have been using the MCMC software JAGS to fit stochastic loss reserve models, so I haven't had to calculate the density function in practice.

Update on CAS Research & Development

Climate Change Committee

This joint committee made up of members from the CAS, SOA, and CIA issued a request for proposal called "Determining the Impact of Climate Change on Insurance Risk and the Global Community-Phase II" in late 2012. The committee hired Solterra Solutions to write the report, which will review literature focusing on potential impacts of climate change to society and the insurance industry. For Phase II of the project, which is soon to begin, committee members will work with the selected vendor to produce first an Actuaries Climate Index and then an Actuaries Climate Risk Index.

Committee on Valuation, Finance and Investments (VFIC)

VFIC has begun another project addressing key issues made more prominent during the 2008 Financial Crisis, namely contingent capital and housing valuation. Kailan Shang is the author of the recent VFIC-sponsored report titled, "Understanding Contingent Capital." Mr. Shang writes that "contingent capital is meant to minimize the risk of financial failure due to poor capitalization by automatically converting debt to equity instruments." The objective of his paper is to explore the key features and characteristics of contingent capital instruments, their effectiveness in risk transfer, and the pricing and valuation tools for them. Mr. Shang also provides a quantitative, illustrative tool for contingent capital evaluation and risk assessment. The report concludes by characterizing contingent capital as a "promising candidate" for improving the financial industry's tolerance for risk and reducing the cost to taxpayers. The report will be published in an upcoming *E-Forum*.

VFIC also accepted a proposal from Shaun Wang of Risk Lighthouse to study actuarial measures of property value that combine (1) construction costs (utilizing localized indices for construction costs), (2) financial factors (mortgage rates, income levels and mortgage financing underwriting standards) and (3) demographic trends, including local employment trends.

Actuarial measures of property values can help actuaries offer valuable professional services to the appraisal industry and to lenders. Knowing the relative relationship of actuarial measures and market values can help regulators effectively manage systemic risks for the housing market and their impacts on other sectors of the economy. Furthermore, equipped with actuarial measures of property values, actuaries will have tools for designing effective hedges for future insurance claim inflation. Such an approach will be a showcase for expanding actuarial skills to a nontraditional field.

The modeling to be performed is a valuable teaching tool in addition to state-of-the-art research. Also, the blend of actuarial and financial modeling will enhance the accuracy of the P&C Annual Statement.

Committee on Health Care Issues

The Committee on Health Care Issues has just released a request for proposals titled, "Medicare Secondary Payer Status—The Current and Future Impact on Workers Compensation." The project is asking for research to be done on the possible future financial impact to the property and casualty insurance and self-insurance industries due to Section 111 of the Medicare, Medicaid and SCHIP Extension Act of 2007. This bit of legislation requires commercial insurers and self-insured entities to report claimants/plaintiffs that are potentially Medicare-eligible directly to the Centers for Medicare and Medicaid Services. Proposals are due May 15.

To learn more about other CAS research activities, visit www.casact.org/research/.

Brainstorms, From page 15

Figure 2

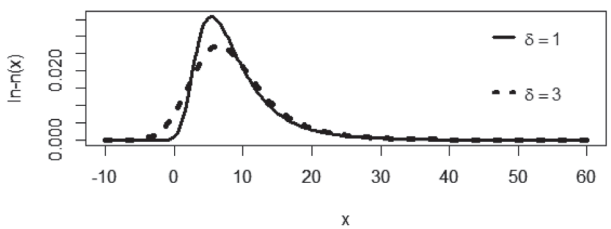


Figure 2 plots the density functions for $\mu = 2$, $\sigma = 0.6$, and two different values of δ. The R code that produced the figures will be distributed with the Web version of this article.

I am suggesting that the distributions like those in Figure 2 will fit the (possibly negative) incremental paid losses in a loss development triangle. I will talk more about that in a future column.

Outstanding Spring Meeting Education Programs to be Offered

As we are days from the CAS Spring Meeting in Vancouver, May 19-22, *Actuarial Review* wishes to provide a snapshot of some of the continuing education that awaits attendees.

- The CAS will feature Dr. Bruce Weinstein, The Ethics Guy®, on Monday morning to address the role of ethics in leadership. He will speak on the value of ethics in everyday life, and using ethical principles to help make the best decisions possible.
- The Spring Meeting will also provide international sessions, which are especially appropriate for this Pacific gateway meeting venue. One such session will address the Canadian regulatory capital requirements. A second session will provide attendees with a look at the regulatory environment in China. At the latter session, leaders from the China Insurance Regulatory Commission, a major insurance company in China, and a major reinsurer in China will give the audience a clear and complete picture of the insurance market in China from various perspectives. In addition, the panelists will conduct a roundtable in Mandarin, providing more information on that market.
- Have you ever encountered a self-driving car? You may see them on the road soon. What are the implications for insurers and the extent of liability? On Tuesday, Kim Hazelbaker from the Highway Loss Data Institute will present a General Session on "The Latest Developments in Crash Avoidance Technology." What do we know about the real-world performance of such systems today, and what is a realistic time frame for their introduction into the marketplace? Mr. Hazelbaker will discuss these and other advanced vehicle technologies in this fast-paced session with many video clips demonstrating the systems' potential.
- At the same time as the above General Session—yes, you must make a choice—Barry Franklin, Don Mango and Michael Angelina will address how to communicate risk to stakeholders. They will discuss how to construct a sales pitch to appeal to the various stakeholders—"selling" risk models to get buy-in from users; strategies on how to explain complex risk concepts; and how to quantify reasonable corporate risk tolerances both inside and outside the capital model.

May 19-22, 2013
The Westin Bayshore Vancouver
Vancouver, BC

The Program Planning Committee worked diligently to select topics and speakers that address a broad range of disciplines and lines of business. For more information, go to www.casact.org/spring.

Temple University to Host the 48th Actuarial Research Conference

Temple University in Philadelphia is hosting the 48th Actuarial Research Conference (ARC), July 31 through August 3, 2013. The ARC is open to all areas of actuarial practice and will attract researchers from around the world. The conference will take place in Alter Hall, the main business school building on Temple's main (North Broad Street) campus. We encourage you to make plans to attend the conference.

For more information, please visit the ARC website (http://www.fox.temple.edu/cms_academics/dept/risk-insurance-healthcare-management/actuarial-research-conference/conference-overview/) or contact J. David Cummins, Temple University's Joseph E. Boettner Professor, at cummins@temple.edu.

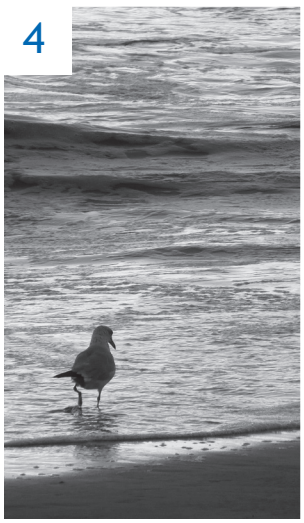
Scenes from the 2013 CAS RPM Seminar

1

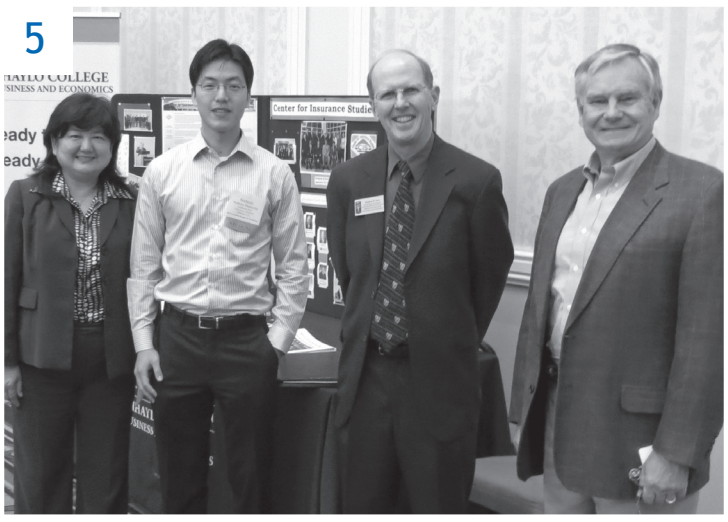
2

3

4



5



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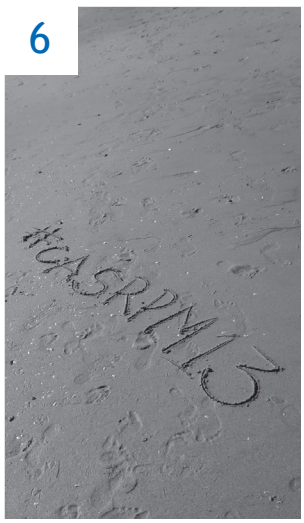


1. Nick Meaney makes a point during his keynote address at the CAS RPM Seminar on Wednesday, March 13, in Huntington Beach, California. Mr. Meaney told how his small company in England parlayed its expertise in risk management into becoming a trusted advisor to the Hollywood film industry.

2. A full house came to hear keynote speaker Roger Craig at the CAS RPM Seminar on March 12 in Huntington Beach, California. Mr. Craig told how he used predictive analytics to set the record for winning the most money on a single day as a contestant on Jeopardy!, the television quiz show.

3. Huntington Beach sunset.

4. A lone bird hunts the beach for food.

5. Cal State Fullerton students were invited to the meeting: L – R Dr. Weili Lu, Cal State Fullerton; Norberto Namkoong, Cal State Fullerton student; Stephen D'Arcy, CAS Past President; Dr. Richard Roth, Cal State Fullerton.

6. Twitter hashtag for the 2013 RPM Seminar.

Photo credits: Matt Caruso.

The Impact of Health Care Reform on the P&C Insurance Industry

HUNTINGTON BEACH, Ca.—The key changes in federal health care reform remain months away, but property/casualty actuaries are already trying to determine what impact these changes will have on their own lines of business as new rules and regulations emerge.

Elements of the Affordable Care Act have been phased in since the law's 2010 passage, but many key reforms begin January 1, 2014. The expected impact on health insurance is direct and widely studied—the law will expand access to affordable health care and attempt to rein in rising medical costs. Less obvious, but still important, are the indirect effects on other insurance lines such as workers compensation and medical malpractice. Property/casualty actuaries need to consider the potential impact of these effects so they can adjust rates and reserves when changes occur.

At the CAS Ratemaking and Product Management Seminar held March 12-13, two Fellows of the CAS led a discussion of the health care law's major changes and how the reforms may affect property/casualty lines.

Many of the law's measures have already been enacted, said Laura N. Cali, FCAS, MAAA, chief actuary and manager of product regulation for the Oregon Insurance Division. But the biggest changes remain, including requiring everyone to buy insurance and eliminating health insurers' ability to deny coverage.

Key questions include:

- How effective will the individual mandate be?
- Will the uninsured population entering the market be more or less healthy than current insureds?
- How much pressure will fall upon primary care givers like physicians, as millions of new insureds seek treatment? Will more treatment be handled by non-physicians, such as nurse practitioners, and what impact will that have?
- How will medical specialists be affected? They may not face an immediate influx of patients, the way primary care physicians will, but demand for specialists' services will increase as new insureds work their way through the system.

The law is creating "a lot of new regulations," Cali said, "and it's happening quickly."

The changes could significantly affect property/casualty insurance, said Anne M. Petrides, FCAS, MAAA, a director and consulting actuary with Towers Watson. As of now, it is hard to tell what impact the reforms will have on liability and costs, she added.

Ms. Petrides led a discussion of major changes and how those changes could either increase or decrease liability and costs in two lines most likely to be affected—medical malpractice and workers compensation. She noted that the impact will differ by state as both lines are sensitive to state laws and regulations.

Health care reform will increase the number of people who have health insurance. This could reduce medical malpractice liabilities if new insureds are able to visit doctors and receive treatment earlier than they would have without insurance. Early treatment could lead to better medical outcomes and thus help prevent the adverse outcomes that can trigger malpractice lawsuits. But the increase in the insured population could raise liabilities, as more patients per unit exposure would imply more potential risk. A physician shortage could also impact the frequency of medical errors.

The same change could lower costs in workers compensation if greater access to health care creates a healthier workplace. But it could increase costs if a doctor shortage delays treatment and a return to work.

Also for workers compensation, costs could go down if research creates greater agreement on what are now questionable treatments. But costs would go up if the research indicates more treatment, or more expensive treatment, is warranted.

Reform's attempt to create financial incentives for improved care and patient safety could lower medical malpractice liability if the incentives work as intended. But liability could increase if failure to qualify for an incentive becomes considered as evidence of negligence.

Other lines will be affected, too. If reform triggers a wave of mergers and acquisitions, directors and officers coverage could be at risk. Auto liability could be affected by any changes in how medical care is provided. For both workers compensation and auto liability coverages, uncertainty exists if decreases to provider fees in the health care system will require the providers to shift shortfalls to third-party payors so as to remain financially sound.

Ms. Cali and Ms. Petrides agreed that it's impossible to know right now how this will all shake out. But property/casualty actuaries can act now to help the industry understand the potential exposure and begin gathering and analyzing data that will help them respond when changes do occur. AR

June 6-7, 2013
The Fairmont Southampton
Southampton, Bermuda

Seminar on Reinsurance

FINANCIAL REPORT
FISCAL YEAR ENDED 9/30/2012

FUNCTION	*REVENUE*		*EXPENSE*		*DIFFERENCE*
Membership Services	$2,439,129		$3,230,592		($791,463)
Seminars	2,651,871		2,170,734		481,137
Meetings	1,213,042		1,135,208		77,834
Exams	5,610,941	(a)	5,102,348	(a)	508,593
Publications	3,644		21,866		(18,222)
TOTALS FROM OPERATIONS	$11,918,627		$11,660,749		$257,878
Interest and Dividend Revenue					171,794
Realized Gain/(Loss) on Marketable Securities					69,430
Unrealized Gain/(Loss) on Marketable Securities					649,141
TOTAL NET INCOME (LOSS)					$1,148,243

NOTE: (a) Includes $3,014,610 of Volunteer Services for income and expense (SFAS 116).

BALANCE SHEET

ASSETS	*9/30/2011*	*9/30/2012*	*DIFFERENCE*
Cash and Cash Equivalents	$1,471,491	$2,041,221	$569,730
T-Bill/Notes, Marketable Securities	6,984,424	8,390,826	1,406,402
Accrued Interest	8,931	11,012	2,081
Prepaid Expenses / Deposits	220,507	388,441	167,934
Prepaid Insurance	26,343	35,875	9,532
Accounts Receivable	411,937	173,393	(238,544)
Textbook Inventory	12,335	11,953	(382)
Computers, Furniture, Leasehold Improvements	767,338	780,219	12,881
Less: Accumulated Depreciation	(639,708)	(672,383)	(32,675)
TOTAL ASSETS	$9,263,597	$11,160,557	$1,896,960

LIABILITIES	*9/30/2011*	*9/30/2012*	*DIFFERENCE*
Exam Fees Deferred	$1,017,410	$1,153,591	$136,181
Seminar and Meeting Fees Deferred	691,012	977,152	286,140
Accounts Payable and Accrued Expenses	654,679	640,169	(14,510)
Accrued Pension	531,819	905,239	373,420
Deferred Leasehold Improvements Allowance	87,696	66,648	(21,048)
Deferred Rent Obligation	100,568	89,103	(11,465)
TOTAL LIABILITIES	$3,083,184	$3,831,902	$748,718

MEMBERS' EQUITY

Unrestricted	*9/30/2011*	*9/30/2012*	*DIFFERENCE*
CAS Surplus	$5,045,265	$6,011,601	$966,336
Michelbacher Fund	161,162	162,541	1,379
CAS Trust - Operating Fund	237,075	243,151	6,076
Centennial Fund	304,420	373,529	69,109
ICA 2014 Fund	66,505	79,646	13,141
Research Fund	276,521	368,460	91,939
Subtotal Unrestricted	$6,090,949	$7,238,928	$1,147,979

Temporarily Restricted	*9/30/2011*	*9/30/2012*	*DIFFERENCE*
Scholarship Fund	$3,351	$2,879	(472)
CAS Trust - Ronald Bornhuetter Fund	56,853	57,339	486
CAS Trust - Reinsurance Prize Fund	29,259	29,509	250
Subtotal Temporarily Restricted	$89,463	$89,727	$264
TOTAL MEMBERS' EQUITY	$6,180,412	$7,328,655	$1,148,243

G. Chris Nyce, Vice President - Administration

AUDITED

CAS Audit Committee: Jeanne Crowell, Chairperson
James Merz, Vice-Chairperson, Charles Bryan, Lisa Canzit, David Klein, and John Tierney

Actuarial Foundation Update

THE ACTUARIAL FOUNDATION

Meet the 2013 Insurance Legends

The Actuarial Foundation is proud to announce the 2013 Insurance Legends Award recipients, Robert D. Shapiro and A. Greig Woodring. The Insurance Legends Award celebrates individuals for their leadership, intellect and personal achievements, as well as their significant contributions to the insurance community and to society in general. Mr. Shapiro and Mr. Woodring were recognized during the Insurance Legends Award ceremony held in conjunction with the 2013 ReFocus Conference in Las Vegas, NV.

Insurance Legends: http://www.actuarialfoundation.org/events/2013-legends-vid.shtml

What's Your Financial Literacy IQ?

Share the latest online financial literacy resource with a middle school near you. The *Plan, Save, Succeed!* Online Challenge is the companion game to the newest offering in the *Expect the Unexpected With Math*® series. A financial literacy curriculum resource for middle schoolers, *Plan, Save, Succeed!* is engaging and fun, and the Online Challenge gives players the chance to beat the clock while answering questions on budgeting, saving, credit and debt.

Plan, Save, Succeed! Online Game: http://www.actuarialfoundation.org/plansavesucceed/

Do You Know a Deserving Student?

Support the future of the actuarial profession while fostering the best and brightest students. Tell a deserving student about The Actuarial Foundation's scholarship programs. Applications for the 2013-2014 school year are now available.

Scholarships: http://www.actuarialfoundation.org/programs/actuarial/scholarships.shtml

Distinguishing Forward-Thinkers in the Profession

Nominations are now being accepted for the John Hanson Memorial Prize, which annually recognizes the best paper on an employee benefits topic. Also accepting nominations is the Wynn Kent Public Communication Award, which annually recognizes an actuary who has promoted the value of actuarial science in meeting the financial security of society in the fields of life, health, casualty, pensions or other related areas. The deadline for nominations for each of these awards is June 1, 2013.

Awards: http://www.actuarialfoundation.org/programs/actuarial_education.shtml AR

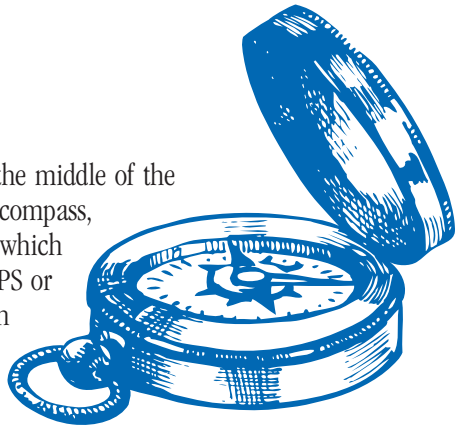
McNulty and Moehring Win Ratemaking Prizes

The CAS Ratemaking Committee awarded two prizes for papers submitted in response to the committee's 2013 call for ratemaking papers.

Gregory F. McNulty, FCAS, won the Best Paper Prize for his work titled, "Extending the Asset Share Model: Recognizing the Value of Options in P&C Insurance Rates." Marquis J. Moehring, ACAS, was awarded the Most Practical Paper Prize for his work titled, "PEBELS: Property Exposure Based Excess Loss Smoothing."

The prize-winning papers and eight other call paper submissions are published in the Spring 2013 E-Forum (http://www.casact.org/pubs/forum/13spforum/). AR

Lost at Sea



Captain Ron is stranded alone in a small motorized inflatable boat in the middle of the Pacific Ocean near the Equator. He is out of food and water. All he has is a compass, enough fuel to last about 75 minutes, and, of course, a bottle of rum which is nearly empty. He has no radio or other communication device, no GPS or inertial navigation device, no flare gun, no mirror, nothing to calculate with, not even pencil and paper, and he never learned to do basic arithmetic anyway. The sky is completely overcast.

He spots a ship directly north of him and can tell it is moving east. The ship is 5 nautical miles north and moving directly east at 30 knots, but Captain Ron has no way to determine these numbers. His boat can go 31 knots. He wants to catch up to the ship so it can rescue him. Captain Ron's first instinct is to steer his boat so that at all times it points directly toward the ship. If he does this, will he catch up to the ship before he runs out of fuel? Can you suggest another navigation rule he might use?

This puzzlement is another creation of Jon Evans.

Editor's Note: Puzzle solutions will appear two issues after the puzzles appear, instead of in the next issue, as now. This will allow readers enough time to work on the puzzles.

Know the answer? Send your solution to ar@casact.org.

Discipline Report

Suspension of Donald Gould

The Discipline Committee Panel of the Casualty Actuarial Society (CAS), acting in accordance with the CAS Bylaws and with consideration of the findings from the Actuarial Board for Counseling and Discipline (ABCD), hereby suspends Donald E. Gould, ACAS, from membership for a period of two years from August 26, 2012–August 25, 2014 for materially failing to comply with Precepts 1, 3 and 4 of the Code of Professional Conduct.

Mr. Gould materially violated Precept 1 in connection with his preparation of July 2008 and August 2009 IBNR Reserves reports by failing to use appropriate actuarial methodology, failing to use appropriate tests for reasonableness, failing to document his work appropriately, failing to state relevant actuarial assumptions, failing to disclose the limitations of his analysis, and otherwise failing to exercise appropriate skill and care.

Mr. Gould materially violated Precepts 3 and 4, with regard to the same reports, by failing to appropriately identify data, assumptions and methods used in his reports in a manner sufficient for another actuary qualified in the same practice area to objectively appraise the reasonableness of the reports; failing to identify the purpose or use of IBNR estimates; failing to identify the measure of his selected estimates; failing to understand the nature of unpaid claim estimates; failing to use and document methodology for estimating unpaid claims that was appropriate to the circumstances; and failing to assess the reasonableness of the unpaid claim estimates.

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

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May 19-22, 2013
CAS Spring Meeting
The Westin Bayshore Vancouver
Vancouver, BC, Canada

June 6-7, 2013
Seminar on Reinsurance
Fairmont Southampton
Southampton, Bermuda

September 16-17, 2013
Casualty Loss Reserve Seminar
Boston Marriott Copley Place
Boston, MA, USA

September 30-October 1, 2013
In Focus Seminar: Elephants in the Room
Hyatt Chicago Magnificent Mile
Chicago, IL, USA

November 3-6, 2013
CAS Annual Meeting
Hilton Minneapolis
Minneapolis, MN, USA

March 30-April 1, 2014
Ratemaking and Product Management Seminar
Marriott Wardman Park
Washington, DC, USA

March 30-April 4, 2014
30th International Congress of Actuaries
Marriott Wardman Park
Washington, DC, USA

In Memoriam

Paul Deemer
(FCAS 2004) 1974-2013

Rex C. Davis
(ACAS 1967) 1934-2013

Walter J. Fitzgibbon
(FCAS 1961) 1933-2013

John H. Muetterties
(FCAS 1956) 1923-2013

M. Stanley Hughey
(FCAS 1947) 1917-2013

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