SOCIETY OF ACTUARIES

The Actuary

JUNE/JULY 2013 VOLUME 10 ISSUE 3

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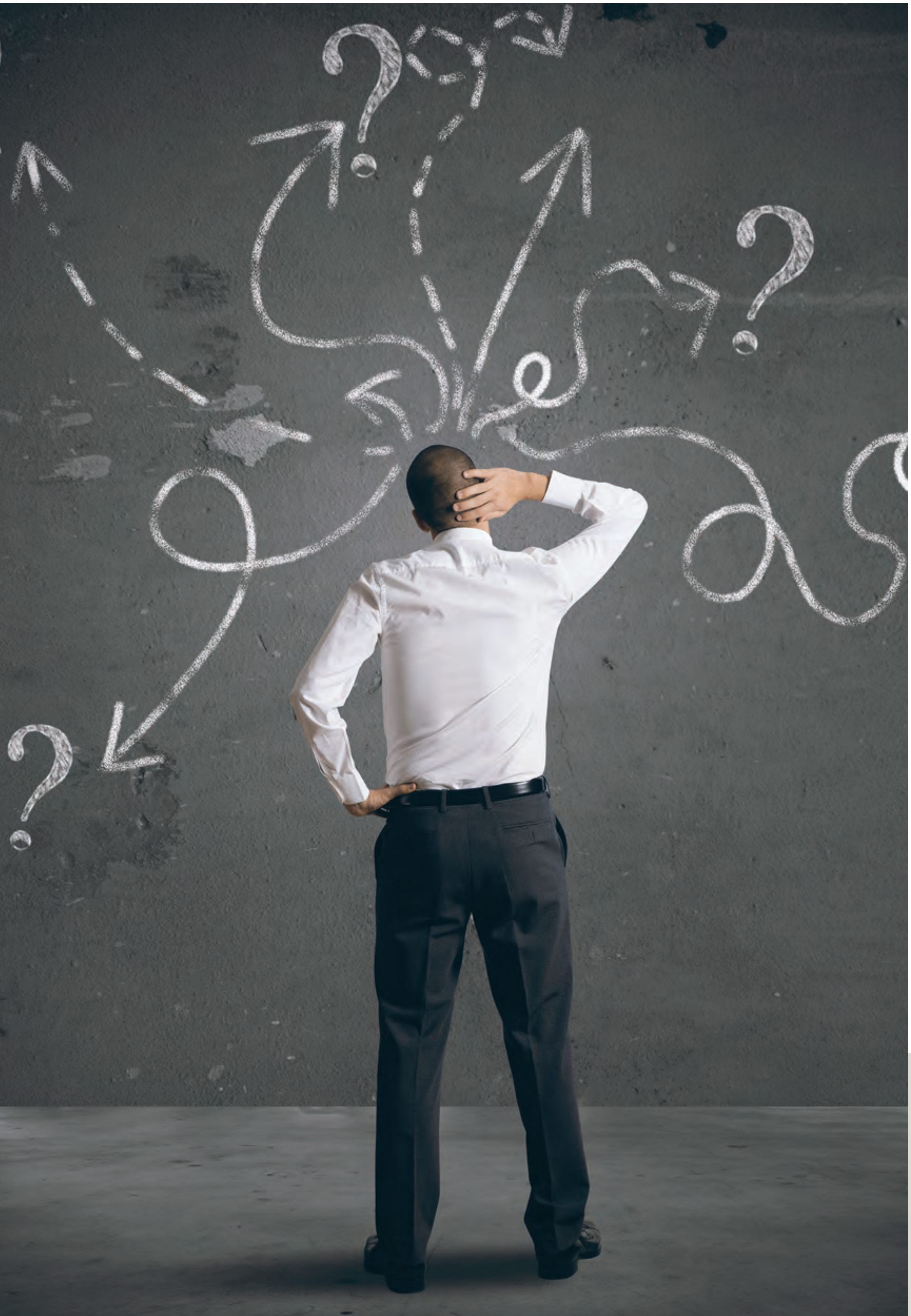

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The Actuary

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The Actuary is published bi-monthly (February, April, June, August, October, December) by the Society of Actuaries, 475 N. Martingale Rd., Suite 600, Schaumburg, IL 60173-2226. Periodicals postage paid at Schaumburg, IL, and additional mailing offices. USPS #022-627.

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The Actuary is free to members of the Society of Actuaries. Nonmember subscriptions: students, $22; North American $43; Int'l $64.50. Please send subscription requests to: Society of Actuaries, P.O. Box 95600, Chicago, IL 60694-5600.

POSTMASTER: Send address changes to the SOA, c/o Communications Department, 475 N. Martingale Rd., Suite 600, Schaumburg, IL 60173-2226.

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The Actuary welcomes both solicited and unsolicited submissions. The editors reserve the right to accept, reject or request changes to solicited and unsolicited submissions, as well as edit articles for length, basic syntax, grammar, spelling and punctuation. *The Actuary* is copyedited according to Associated Press (AP) style.

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June/July 2013
issue of *The Actuary*

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Editorial

HOW WELL DO YOU KNOW WHO WE ARE?

BY LARRY STERN

MY CAREER AS AN ACTUARY spans more than 40 years. When I first started as an actuarial student, my calculator was a "clunker" Smith Corona Marchant—big, clumsy and noisy. I entered numbers by pushing buttons and hitting a key. The SCM would spin like a one-armed-bandit. After a few seconds the answer would appear. No computers in "those days." What it took me to accomplish in three months during my first summer as an actuarial student can now be completed in a nanosecond. My, how time has flown!

To maintain my status to render actuarial opinions (and keep current on actuarial/financial services industry activities), I attend SOA and industry-sponsored meetings/seminars/conferences/webcasts to obtain continuing education credits. But every time the syllabus changes, I double check to ensure my FSA designation has been "grandfathered." I recently proctored an associate-level exam in my city for an individual and I have to admit, I don't think I could have answered the first question! My, how times have changed!

Which begs the question: how well do you know who we are? At a recent SOA Leadership Conference—those in attendance were members of the Board, Leadership Development Committee, the Nominating Committee, chairs and vice-chairs of all the sections, and members of the SOA staff, about 80 in all—we were pre-assigned at tables of eight. One of the team-building exercises was a quiz on how well we knew who we are as a profession, historically speaking. People at each table worked as a group to answer the questions. We were given about 20 minutes to complete the task. Even with all the knowledge and experience in the room, it surprised me how few of us could correctly answer the questions.

I thought it would be a fun challenge for the membership to take the same quiz. Your prize is the satisfaction you realize by knowing the correct answers. (For those of you who are stumped, the answers appear later in this edition of *The Actuary.* We thought about holding them until the next edition but waiting that long just might conjure up memories of waiting for exam results.) So here you go, and good luck!

Note: *A special thank you to SOA Director of Governance Sheree Baker for compiling the questions and researching the answers.*

THE QUIZ STARTS HERE.

1. Who wrote the SOA motto, "The work of science is to substitute facts for appearances and demonstrations for impressions?"

   a. Wright
   b. Newton
   c. Holmes
   d. Batten
   e. Ruskin

2. Who was the first Canadian actuary?

   a. Ezekiel B. Elliott
   b. Hugh Baker
   c. John B. Cherriman
   d. Charles McCay
   e. William Bard

3. Who was the first U.S. actuary?

   a. Robert Patterson
   b. Nathanial Bowditch
   c. Charles Gill
   d. Elizur Wright
   e. Jacob Shoemaker

4. What year did the Society of Actuaries officially come into existence as an incorporated body?

   a. 1927
   b. 1909
   c. 1937
   d. 1949
   e. 1956

5. What year was the first female actuary appointed to an actuarial position?

a. 1898
b. 1910
c. 1866
d. 1922
e. 1931

Bonus: Who was the first female actuary?

6. Where was the earliest actuarial club formed in North America?

a. New York
b. Toronto
c. Hartford
d. Philadelphia
e. Quebec

7. The name for the Society of Actuaries was selected by a vote of 112 to 82. What was the other name that was considered?

a. Actuarial Society
b. American Institute of Actuaries
c. Fraternal Actuarial Association
d. North American Actuarial Association
e. Association of Actuaries

8. The Society of Actuaries' first president was:

a. Benjamin T. Holmes
b. Walter Klem
c. Henry E. Rood
d. Edmund M. McConney
e. Wendall A. Milliman

9. The office of president-elect of the SOA was created in what year?

a. 1949
b. 1965
c. 1960
d. 1955
e. 1952

Bonus: What year was the preferential ballot for president-elect introduced?

10. Who was the first female president of the SOA?

a. Anna Rappaport
b. Daphne Bartlett
c. Emma Warren Cusman
d. Barbara Lautzenheiser
e. Tonya Manning

11. How many countries are represented by SOA membership?

a. 76
b. 55
c. 42
d. 87
e. 94

Here's some extra credit for all you overachievers. Read statements A, B and C before answering questions 1 through 5.

A. *"Actuaries generally have positions of considerable influence in their companies. I think it is up to us to use that influence wisely and for the good of the general public as well as for the good of our own … companies …. We should remember that in the long run what is best for the public is what is best for the companies; otherwise the companies will not survive."*—Julius Vogel, SOA president 1979-80

B. *"If we are to mature as a public profession and … achieve the public recognition that we … believe we deserve, we must tackle with intelligence, understanding and mature perspective those problems which fact us today. The long-term vigor of the Society is measured by, and reflects its willingness to fight for, what it believes to be right"*—Thomas P. Bowles, Jr., SOA president 1972-73


Larry Stern

C. *"The Committees are the working fabric of the Society. At the present time, about 500 members serve on committees. This is remarkable membership participation, and it reflects the high esteem in which we hold society membership."*—Donald R. Sondergeld, SOA president 1990-92

1. SOA President Vogel made statement A. **True or False**
2. SOA President Bowles, Jr. made statement B. **True or False**
3. SOA President Sondergeld made statement C. **True or False**
4. SOA President Vogel made statement A and SOA President Bowles, Jr. made statement B. **True or False**
5. All three SOA presidents made each individual statement attributed to them. **True or False**

Answers are on page 47. Well, how did you do?

Until next time, may all your experiences be profitable ones.

Larry Stern, FSA, MAAA, is president of Canterbury Consulting LLC. He can be contacted at *larry_stern@earthlink.net.*

Letter From The President

SUPPORTING OUR INTERNATIONAL STRATEGY

BY TONYA B. MANNING

YOU HAVE HEARD quite a bit over the past few years from the SOA about our international strategy. Simply put, the overarching goal of our international strategy is to have the FSA designation be recognized as an international credential that translates globally.

We know that globalization is providing opportunities for actuaries around the world and we are seeing a growing number of candidates from outside North America taking our exams. We want to be sure that wherever our members practice, the FSA designation is accepted and appropriately recognized.

Additionally, all organizations are facing risk management challenges that can cross multiple disciplines. The SOA must ensure that its educational system is equipping actuaries with the skills to address the full spectrum of risk management issues. That is why our international strategy depends on our offering general insurance (or property and casualty) education.

To help support our international strategy, I recently took my first trip to Hong Kong and China. Over 12 days, Ken Guthrie, SOA managing director of Education, Wai Ling Yung, SOA program manager based in Hong Kong, and I met with SOA members, university faculty and students, employers, and the media. Our purpose was to better understand the needs of our members, learn what we should expect with regard to growth of the profession, and find out what opportunities exist for partnerships with universities, employers and local actuarial organizations.

It was both an educational and inspiring experience that helped me better understand both the region and the opportunities and challenges that are presented there.

UNIVERSITY VISITS

During our 12 days, we visited five universities. It's always energizing to be on a university campus. There's an eagerness for learning and a contagious excitement about the future. The students I talked with had a number of questions, and certain topics clearly stood out as most important to them.

Students want to have a better understanding of the daily responsibilities and duties of an actuary. In addition, some were in the process of weighing an actuarial career with other careers, so they particularly wanted to know, "What are my opportunities for employment?" With the fast-paced growth of the insurance industry in Asia, opportunities are expected to remain strong.

One professor and several students expressed an interest in expanding opportunities through applying actuarial science outside of the traditional actuarial fields, such as financial engineering or banking. We discussed how we currently structure our courses and what changes might be made to allow students to be better prepared to apply actuarial science in another complementary discipline. I have had this same idea proposed by faculty and students at North American universities, and it is something the SOA is exploring. We are already developing more professional development content that leverages leading-edge investment and risk management content with applications outside of insurance, and we will continue to expand the continuing education offerings for business skills and communication skills. There is much more to be done to fully explore new paths for actuaries, and the unique needs and opportunities for actuaries working in Asia should be considered and leveraged.

Overall, talks with the students at the universities confirmed the importance of having a solid relationship with those taking our exams. It is clear that the needs and expectations of exam takers are changing.

In response, we have built another initiative around better understanding and meeting those needs. As part of this work, we are reviewing our study materials to determine if any changes are needed, seeking to offer new opportunities for candidate networking, and considering how we can help candidates in other ways. Our goal is to improve our support for candidates so they are not only well prepared for our exams, but are set to succeed once they enter our profession. With the abundance of highly-qualified students, Hong Kong and China might be very well-suited as a testing ground for some of the new ideas resulting from this initiative.

TALKING WITH BUSINESS LEADERS

To better answer the students' questions about opportunities, we met with several employers in both cities. We discussed the status and expected growth of the insurance industry in China and Hong Kong, as well as relevant economic issues.

Talks focused on understanding the local business market, particularly with regard to general insurance (or property and casualty insurance). This industry is growing rapidly, and is translating into most of the new employment opportunities for actuaries, but the level of growth in the industry and actuarial employment is not yet fully in sync. Nonetheless, it is expected that the continued evolution of regulations and business requirements will lead to more growth in the employment opportunities for actuaries.

The SOA's marketing efforts should help enhance that growth. We have been actively marketing the new general insurance track in China, Hong Kong, Singapore and Taiwan. Through a combination of print and digital advertising, and direct mail and email campaigns, the SOA has reached students, faculty, employers and candidates throughout Asia. News about the general insurance track has appeared in daily newspapers and trade publications, and on regional insurance industry websites and social media sites.

We are committed to providing the latest information in the general insurance track and have expanded our reach by producing advertising materials in native languages to better communicate with our international audiences. The SOA has also developed a number of digital gateways dedicated to serving these international audiences.

General Insurance Gateways

English

- *Asia.soa.org*
- Facebook.com/SOA.Education

Traditional Mandarin

- *Asia.soa.org/zh-tw*
- Facebook.com/SOA.Education.TW

Simplified Mandarin

- *Asia.soa.org/zh-cn*
- Renren.com/SOAEducation

As regulations and markets continue to develop in Asia, employers recognized the importance of professional development and research. There was a particularly strong interest in the SOA helping them develop models and experience studies that specifically support their region's needs. We are exploring ways to achieve this, which will likely involve collaboration with both the Chinese Actuarial Association and various large employers.

Tonya B. Manning

CONVERSATIONS WITH MEMBERS

While attending local club meetings and receptions, I was able to talk informally with our members who live there. They reiterated the need for additional professional development opportunities in Asia. This would help them obtain continuing education, as well as provide them with opportunities to build professional networks. I was very encouraged that there were not only requests, but also offers to assist in designing and delivering professional development sessions—always good news to a volunteer-driven organization such as the SOA.

MOST VALUABLE TAKEAWAYS

This trip was confirmation that Hong Kong and Beijing are exciting places for actuaries. There is so much growth and opportunity and there are so many strong actuarial candidates coming out of the universities there. The possibilities are both abundant and unique for the profession, for members, for businesses, for students, and for the SOA.

I will return to Asia a few more times this year to assist with professional development events, symposiums and a Fellowship Admissions Course that's going to be held in Bangkok in October. I'm looking forward to learning more about the culture, the students, the business markets and how we can work together to explore different ways to make our profession stronger, broader-reaching, and even more appealing to upcoming actuaries so that they can make a positive difference around our world.

Warm regards! A

Tonya B. Manning, FSA, MAAA, EA, FCA, is president of the Society of Actuaries. She can be contacted at *tbmanning@soa.org.*

UAP IS NOT IN OUR BEST INTEREST—A PERSONAL VIEW

BY BRADLEY M. SMITH

The April/May 2013 issue of *The Actuary* featured an article recommending that the SOA board recognize the Canadian Institute of Actuaries' (CIA's) University Accreditation Program (UAP), and another calling for the SOA to embrace university as well as self-study approaches to educating actuaries while implicitly endorsing adoption by the SOA of the CIA's UAP. Under the UAP, students who successfully complete (defined as receiving a certain grade) a class (or classes) devoted to topics covered in certain preliminary actuarial exams are given credit for passing the SOA's exam. One article was written by James E. Trimble, director of Actuarial Science at the University of Connecticut. I have had the great pleasure of speaking with Professor Trimble's students during my tenure as a presidential officer of the SOA and admire what they have accomplished at UConn. The other article was written by Marcus Robertson, a current SOA board member with whom I have worked over the past few years and whom I greatly respect.

I have met with the leadership of the CIA on multiple occasions and understand their expressed desire to have the SOA adopt their UAP. I know that the SOA values its Canadian members and some of our leaders, including me, would undoubtedly like to express appreciation of our Canadian counterparts by accommodating their request, if at all feasible.

Nonetheless, I believe the impact of such adoption would be sufficiently negative for the SOA and its members—enough to necessitate denial of the CIA's request. The remainder of this article will explain why I believe adoption is not in the SOA's best interest.

Personally, my most valuable professional and economic asset is my fellowship in the SOA. For me, it is the asset from which all other financial and professional assets emanate. Based upon numerous discussions over many years, I believe this to be true for many, if not most, of you. Consequently, the primary responsibility of both the board and the staff of the SOA must be to maintain, protect and enhance the value of the SOA's credentials. I believe that adoption of the UAP has the potential to impair the value of SOA credentials.

Specialized skill validated by an independent authority is a key component of designation as a professional. Accountants are tested and accredited, despite their rigorous university-based education. My spouse, Karen, is a CPA. She graduated from the University of Illinois with a major in accounting. The University of Illinois is known for the rigorous preparation of its students. Its graduates historically have been extremely successful passing the CPA exam. Nonetheless, graduates of the program are still required to pass the exam. No waiver is granted. Independent, uniform testing is the best way to assure the continued quality of university-trained, future accounting professionals. Similarly, graduates of the nation's finest law schools are required to pass the bar exam before they are allowed to practice law. Medical school graduates must pass their board exams. What makes the actuarial profession different?

Outsourcing the validation of skills of our future professionals introduces important quality control issues. From time to time, we have all read about cheating scandals at some of our most prestigious universities. Although admittedly anecdotal, I have received feedback from a few of our recent FAC graduates. They expressed concerns about the difference in oversight of actuarial exams versus the oversight that existed when they took their final exams in college. These students graduated from schools approved by the CIA to implement the UAP. In addition, I believe we need to recognize that what does and what does not constitute "cheating" differs by geographic region. We cannot allow university professors around the world to apply their personal interpretation of "cheating" when administering exams that validate our future professionals' competence.

We are also aware of the concept of "grade inflation" in our universities. Grading of SOA-sponsored exams occurs on an anonymous basis. The individuals grading exams in a university setting typically know the individual test takers. How might they react when they consider the personal consequences of giving a certain grade to one of their students? These are quality control risks that we can avoid by rejecting adoption of UAP.

Proponents of the UAP appear to be confusing education versus testing/validation. They have a clear preference for university-based education versus self-study. Having graduated from a university-based actuarial program, you will not find a bigger supporter of university-based actuarial education than me. Adopting UAP is not a referendum on university-based education versus self-study. Rather, it is a decision whether or not to outsource validation of actuarial skills. And it is not limited to Canada. If we were to adopt this proposal, how would we deny outsourcing responsibility to similarly qualified universities in the United States? In Hong Kong? In the rest of the world? The SOA is a large, growing global organization. Decision makers must take into consideration not just the relatively benign consequences of adopting a program in a limited geographic area, but the consequences of adopting the same program worldwide.

Adoption of this proposal and expansion globally would transform the expense structure of the SOA. Testing is scalable with much of the variable component currently covered by SOA volunteers. Accreditation of university programs is not scalable and would involve substantial incremental expense, not to mention the potential loss of exam revenue, incurred by the SOA. This would eventually result in either an increase in membership dues or a decrease in membership services, as currently provided by the SOA. While not dispositive, this certainly needs to be considered in any decision to adopt the UAP. If the benefits of adoption were overwhelming, the cost would not be a significant concern. Given that the benefits are questionable, at best, the incremental expense must be considered.

The argument I am ***not*** making is, "We had to pass actuarial exams. You should, too." The SOA is a professional organization, not a fraternity or sorority where membership is subject to an initiation process. I continue to support the existing system simply because uniform testing is the best way to validate the competence and capability of potential future professionals. A

DISCLAIMER: The views expressed in this article are those of the author alone. They do not necessarily represent the views of the Society of Actuaries.

Bradley M. Smith, FSA, MAAA, is immediate past president of the Society of Actuaries, and is chairman of the board of Millman Inc. He can be contacted at *brad.smith@milliman.com.*

THE "EVOLUTION THESIS" OF THE EVOLUTION OF THINKING

MANY OF US TALK ABOUT THE EVOLUTION OF THINKING. WOULD WE DO BETTER TO SUBSTITUTE "PROLIFERATION" FOR "EVOLUTION" OF THINKING? THIS AUTHOR THINKS SO. **BY CHARALAMPOS FYTROS**

Dave Ingram, in the February/March 2012 issue of *The Actuary*, talks about the evolution of thinking. It seems that this evolution has left us, as actuaries, "in a good place," as long as "the true actuarial method is a blend of all three modes of thinking."[1] The three modes identified by Ingram are heuristics (simple shortcut strategies we commonly use in thinking) that "are the best of primitive man," the clinical or expert judgment (the application of experience and expertise to the problem at hand) that "was the path of the middle ages [when] everyone studied the ancient masters," and the contemporary reasoning-and-evidence-based statistical mode that is the basis of the last centuries' scientific revolution.

THE EVOLUTION THESIS

Ingram's position, that actuarial thinking is a blend of all three modes of thinking, apparently differs from the popular belief that actuaries belong only to the lofty statistical/scientific mode of thinking. Such an intriguing perspective deserves much of our attention. Yet, I believe that his choice of words—i.e., the "evolution" of thinking—runs the risk of letting his position be reinterpreted along the lines of the popular understanding: While humans have evolved to the scientific/statistical mode of thinking by leaving behind much of the heuristics and clinical-based modes, nevertheless (and here comes his contribution) we should, as actuaries, in order to enhance our performance, accommodate and supplement our reasoning-and-evidence-based mode with elements of the earlier modes. Such a thesis (that henceforth I'll call the "evolution thesis") preserves the superiority of the current statistical mode of thinking (after all, Ingram talks about the "evolution" not the "regression" of thinking) that should, nevertheless, generously expand to include elements of the earlier, less sophisticated modes of thinking. In this way, talk of "blended" actuarial decision making is justified without having to abandon the popular belief of the superiority of the statistical/scientific mode of thinking.

In fact, it is unclear if Ingram himself rejects the "evolution thesis," although in the way I read him, based on his other writings, he clearly dissociates himself from it. The "evolution thesis" is a powerful idea that drives contemporary understanding—think about it this way: once we slough off our concern with what the old masters happened to say (clinical mode of thinking) and with what generally simply works (heuristics), we are left with what can be objectively supported by evidence and efficient reason. To put it into broader terms, once we leave behind our comforting reliance on authority or unsophisticated experiential methods, we become autonomous to pursue our human goals through an empirical-scientific approach that can guarantee a safe passage to objective knowledge.[2] Rephrased in such a way, the "evolution thesis" seems, I think, self-evident for most of us.

PROLIFERATION INSTEAD

In what follows, I will try to deflate this thesis and argue (admittedly in a condensed way) that this statistical—or, more broadly, quantitative—mode of thinking is not the apex of the last 50,000 years of our presence on the earth, but just another mode of thinking developed and appended to the continuous spectrum of our practical engagement with the financial world. That said, we would do better to substitute "proliferation" for "evolution" of thinking, a substitute in fact embraced by Ingram himself in his talk of "plural rationalities."[3]

To deflate the evolution thesis, let me frame the problem in terms of a clash familiar in the investment world: the contrast between the star investors with the blowing returns and the quant-type investors. The popular understanding between these radically different investment tribes goes like this:

On the one hand, star investors develop and pursue a personal style of investing heavily based on instinctive and gut thinking, a style that frequently involves the use of non-quantifiable, often subjective and qualitative elements (think of Soros who claims he physically feels uncomfortable when the markets he is following are in the sort of flux where there are large fortunes to be made[4]). Obviously, lacking any scientific quant-type objectivity, this approach fails to lead to universal consensus. On the other hand, quant-type investors, equipped with their proprietary models, are justified to believe they can objectively spot undervalued and overvalued securities (the same way non-life actuaries equipped with their chain ladder models are justified to believe that the estimated reserves are adequate for future claims). In other words, the grounds provided by a properly constructed, validated and applied quant model enjoy a kind of scientific objectivity that naturally presses all other, independent, rational minds of the financial community into universal consensus. In fact, it isn't even necessary to be a member of the financial community: in the same way the grounds provided by science made not only astronomers but also religious people believe that it was the earth moving around the sun, grounds provided by quant models may assure financial and non-financial people alike that, e.g., the Black-Scholes formula enjoys a fundamental, ahistorical soundness on the basis of which you may "objectively" price an option (even in a ceteris paribus context).

TO SUM UP

- Star investors develop a personal style, privately accessible, which heavily relies on subjective, qualitative elements, even on instincts and guts—a style that can only be *imitated* (when sufficiently apprenticed);

- Quant investors develop a non-personal style, publicly accessible, which heavily relies on objective, quantitative elements, excludes instinctive thinking (read heuristics or clinical-based judgments) and only includes rational and empirical analysis—a style that can be *replicated* (i.e., take a taxi driver who has never heard of finance before. Give him an accurate technical manual of a hedge fund's quantitative investment model and make sure he strictly follows it: he'll soon be in position to replicate

Learn more

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This professional development e-course focuses on decision making and communication. Visit ***www.soa.org/decision-making.***

the quant's returns in a way that you, an external observer, won't be able to tell that a financially uninformed taxi driver is actually behind the fund's returns).

So, if you were not lucky enough to be born as a "transcendentally talented"[5] investor, do not lose heart: although such lucky supermen do exist, the rest of us can also do pretty well thanks to universally accessible and equally effective science. No wonder, then, that the rest of us talk about the "evolution" of thinking, which—after many centuries of hard work—finally restores nature's blind injustices.

So goes the popular understanding. Yet, as soon as this picture is articulated, you can't but ask: Is it true? Is it true that I, an outsider, can replicate a hedge fund manager's proprietary quantitative model and achieve equal returns? Or, to put it in actuarial terms: Is it true that my actuarial chain ladder model and my estimation of the adequacy of reserves can be accurately replicated by an outsider thanks to the universal and public statistical/scientific approach (on which I heavily rely)? Is it true, to put it differently, that our statistical/scientific mode of thinking is *all the way down* statistical/scientific and thus, in principle, replicable? I want to suggest that it's not: Quantitative mode of thinking is *not* all the way grounded neither on the empirical given nor on rational analysis but on what could be called a background know-how that supports (and is also exhibited by) the quant's way of practicing. This background know-how structures his world—that is, it disposes him in a certain way that makes possible an understanding of what is significant or not in the problem at hand. It is that "unsaid" in his practice, i.e., the background assumptions, dispositions, conceptual systems and so on, that effectively grounds his actions[6] and, thus, the subtle particularities of his model too.

NOT QUITE SCIENCE

As Dennis Overbye wrote in a *New York Times* article titled "They Tried to Outsmart Wall Street," "Even the quants tend to agree that what they do is not quite science."[7] Indeed, it takes more to outsmart Wall Street than constructing a well-grounded scientific model: even as a quant you need to develop a personal style; you need to *take a stand* that exhibits your personal understanding of the problem at hand—which effectively means that I, an outsider, cannot replicate an expert's quant strategy the same way I cannot replicate Jamie Oliver's crunchy garlic chicken no matter how closely I follow his well-grounded recipe.

No wonder, then, that the rest of us talk about the "evolution" of thinking, which—after many centuries of hard work—finally restores nature's blind injustices.

Consider the famous quant Emanuel Derman: "Years ago, when I first became aware of the [volatility] smile and hoped to find the 'right' model, I used to ask colleagues at other firms which model they thought was correct. But now … [I] rather [ask]: When you hedge a standard S&P 500 option, do you use the Black-Scholes hedge ratio, something larger, or something smaller? … ten years after the first smile models appeared, … after thousands of published papers, there was still no consensus on how to respond to it. There still isn't."[8] And there will never be: There is no "correct" model because, deep down, there is no ground (rational or empirical) to fundamentally base such a model. There are only our ungrounded practices. But on such an ungrounded basis it is still possible to develop skills (i.e., it is possible to hedge the option) in a way that discloses your personal style and background know-how understanding: Should I use the Black-Scholes hedge ratio, something larger, smaller or what else? Or, should I use the chain-ladder method, the Bornhuetter-Ferguson, something in between, or something else?

What applies within the micro-level of a particular mode of thinking (and we have just used as a clue the quant mode of thinking), applies also on a larger scale: take, for example, an insurance company. Ingram identified four different tribes (i.e., four different stand-takers) within an insurance company,[9] each driven by a different background know-how and understanding: the marketing and "entrepreneurial" underwriting people with profit maximization as their guiding value; the claims and legal people, motivated by survivorship concerns; the actuarial and "technical" underwriting tribe with risk management as their governing understanding; and, finally, the operations and IT people where pragmatism is the dominant virtue. Each of these tribes has a different style of "productive seeing," of perceiving things in advance in such a way that leads them to see certain features as more important than others.[10] Each of these tribes is differently predisposed to the world: a world full of profit opportunities for the marketing tribe, filled with risk that must be avoided for the legal people, risk-manageable according to the actuaries, unpredictable and uncontrollable for

the operational tribe. Such different predispositions create pools of diverse rationalities that make total sense for the members of the tribe (and thus clear the way for them to develop good and reject bad practices) but are incomprehensible to the others. This phenomenon, elegantly termed "plural rationalities" by Ingram, is totally missed by the traditional efficient market hypothesis, for which there is only one rationality (mainly that of the quant-type investor), and by the ascending behavioral finance paradigm, for which the different predispositions are considered to be cognitive, emotional or other-type biases that need to be controlled, managed or even eliminated.

A FEW SURPRISING IMPLICATIONS

To conclude: In the larger scale of an organization—say an insurance company—different understandings (that ask different questions and thus arrive at different answers) are in tension. But this is equally true even within the microclimate of a particular mode of understanding, where deep down the agent is also required to take a personal stand on his practice. (Ingram identifies members within the quant tribe of risk managers who structure their choices by taking a stand on volatility, ruin, a blend of both or a blend of more.[11]) I close by mentioning very briefly a few of the surprising implications such a thesis has:

1) Our everyday actuarial functions are much more personal than we are mostly prepared to admit (I use the word "personal" not "subjective" in order to avoid solipsistic implications: one has a *real* life on the basis of his *personal* relation with his wife, yet a fictitious and out-of-reality life on the basis of his *subjective* fantasies with Julia Roberts. The same is true with an actuarial model—and I can assure you, reality is much harsher than Julia.)

2) Our everyday practice follows what Ingram calls the "law of risk & light."[12] That is, my perspectival approach to reality structures and makes visible (i.e., brings forth in the light) the problems that must be dealt with, but simultaneously renders other aspects inconspicuous. Consequently, what is illuminated is properly managed (leading to a decrease in the degree of uncertainty), but what hides in the dark has the potential to accumulate risk until large enough losses demand attention.

3) That said, we should acknowledge that we can never stand back and take a clean look of where we are and where we go—we can never be transparent, if you want, to ourselves and to others (since we equally belong to light and dark pools). But that does not mean we cannot practice and achieve excellence in our practice. And we can practice and excel only by belonging to a mode of thinking (i.e., to a tribe) that can provide us with standards of practice against which we can be measured, and issues about excellence or unworthiness can be settled. But these are intra-tribal standards, not extra-tribal or universally valid.

4) If our mode of thinking is just another way to practically engage with reality, that implies that reality itself is much more plural than we are usually prepared to admit. That by itself should change our perception of our place in such a reality: We can no longer consider ourselves masters of a reality that is ultimately controlled (or managed) by our superior reasoning and evidence-based mode of thinking (which most probably takes place within our actuarial departments). Instead, we should start seeing ourselves as what we in fact are: children of a reality filled with inexhaustible meanings—a reality that calls us to disclose and disseminate meaning as a way to live a fulfilled life.

We shouldn't feel surprised or perhaps disconcerted by such implications. Instead, we should feel grateful—after all, Ingram tells us, we are left, as actuaries, "in a good place." A

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SOCIETY OF ACTUARIES

HOW MODEL RISK *DEVASTATED* AN ORGANIZATION

To have a successful ERM program, companies must use a primary ERM model that is practical, transparent, flexible and realistic. A primary ERM model lacking these qualities can increase an organization's exposure to model risk … sometimes to a devastating level. **BY SIM SEGAL**

Most large financial services organizations have some form of enterprise risk management (ERM) program. Having an ERM program gives their executives, boards of directors, and external stakeholders increased confidence in the organization's shock resistance. However, the way in which some of these ERM programs are designed and implemented can unwittingly weaken the organization. In this article, you will hear a story about a large insurance company that appeared to have a highly-sophisticated ERM program, yet, according to our source, harbored model risk whose exposure was so large that it caused massive destruction in shareholder value. The purpose of this article is to increase awareness of the dangers of model risk and to help prevent others from suffering a similar fate.

This article is divided into three sections:

- **A.** Four Characteristics Causing Model Risk
- **B.** Interview: Model Risk Case Study
- **C.** Concluding Remarks

A. FOUR CHARACTERISTICS CAUSING MODEL RISK

Several years ago, I was having a discussion with someone—we'll call him George—about which is the better approach to ERM modeling. He believed that a Solvency-II-type[1] ERM model was the only one needed for an ERM program. Though I believed that many different types of models can play supporting roles, I advocated using a value-based[2] ERM model as the central focal point of an ERM program: the primary model most directly connected to decision making. A Solvency II ERM model infers a baseline company value by creating a market-value balance sheet, where liabilities are replaced by replicating asset portfolios that attempt to mimic liability cash flow behaviors. A value-based ERM model directly calculates baseline company value by projecting, and then discounting, distributable cash flows consistent with the strategic plan. In each approach, risk is measured by the level of change in baseline company value. These are extreme simplifications of the two methodologies. However, rather than describe them in detail, we examine four characteristics that can generate model risk when using a Solvency II approach for a company's *primary* ERM model:

COMPLEXITY

A Solvency II approach requires a large number of mathematical inputs and has highly-complex calculations. This increases model risk, including errors in the model itself; errors in processes connected to the model;[3] misinterpretations of model results; and negative impacts on risk culture.

In contrast, a value-based approach has a manageable number of inputs and straightforward calculations. This lowers model risk, increasing model reliability. Reliability is one of the most important drivers of a model becoming trusted by management for decision making.

TRANSPARENCY

The Solvency II approach to modeling is typically only understood by a handful of technical personnel who must explain the outputs to management. This lack of transparency tends to produce one of two outcomes, neither of which is desirable:

1. Management invests all trust with, defers to, and over-relies upon, the few technical experts; or
2. Management refuses to base key decisions upon calculations they do not fully understand.

In contrast, a value-based approach is accessible to everyone. It is constructed of basic building blocks, such as deterministic risk scenarios and projected distributable cash flows. All of the elements are tangible and relatable, which contributes to the high level of buy-in it tends to generate with decision makers.

INPUTS

A Solvency II approach predominantly uses an external and formulaic approach to quantifying risk. Risk information is largely inferred from examining market values and the company's balance sheet. This information is used to develop formulae that represent the risk distributions. The formulae are then used to generate stochastic (random) risk scenarios. This results in models that run on automatic pilot, where internal subject matter experts do not have much opportunity to provide their insights.

In contrast, a value-based approach uses an internal and expert-based approach to quantifying risk. Risk information is primarily obtained from internal subject matter experts. The subject matter experts have the opportunity to review and consider all available information, including market

CHARACTERISTIC	SOLVENCY II MODELING	VALUE-BASED MODELING
Complexity	Highly complex	Practical
Transparency	Understood by only a few	Understood by all
Inputs	External and formulaic	Internal and expert-based
Basis	Risk-neutral, market-consistent	Real-world

information, stochastic model outputs, etc., and then choose the deterministic risk scenarios that they believe fairly represent the risk distribution. In addition, the risk scenarios can be updated dynamically when subject matter experts and management feel it is warranted.

Implicit in a Solvency II approach is a belief that the market knows more about the risks of a company than the company itself. A value-based approach has the opposite belief: that a company's own internal subject matter experts—those closest to the business—are in the best position to provide more accurate insights into the various risk scenarios that could occur and how each risk scenario would actually work its way through the organization.[4]

BASIS

Solvency II models are based on an artificial construct: a risk-neutral, market-consistent view of the world. This is a construct—used purely to facilitate the mathematics of the calculations—in which some unrealistic assumptions must be made, such as:

- **a)** You cannot earn more than the risk-free rate.
- **b)** The market value of any business is equal to the market value of its individual component parts.

A value-based approach operates under the firm belief that since management has to live in the real world, so should ERM models, which are only useful to the extent they use realistic risk scenarios and project their realistic impacts on cash flows. The fact that assumption (a) above is unrealistic is self-evident. But I will share an example I use to illustrate the danger inherent in assumption (b). Imagine that I buy a new car for $30,000, drive it off the dealer's lot, and park it in my garage. In the real world, a reasonable valuation of the car on my personal balance sheet would be somewhat less than $30,000, because it is now a used car. However, in a Solvency II world, the car is valued at $90,000, because if you broke the car down into its component parts and sold them, it would bring about three times the car's value on the market.[5] And there's the problem: I'm not doing that with the car. I'm driving it. This is analogous to an insurance company operation. To value the whole as the sum of what the individual pieces would bring in the market were the insurance company to sell them is unrealistic: They are not doing that with the pieces of their business. They are running the business as a going concern and using these assets in the process of producing distributable cash flows for owners, which is how they should be valued.

The Solvency II approach to modeling is typically only understood by a handful of technical personnel who must explain the outputs to management.

Let's return to my discussion with George. I recall that at the end of our discussion, he identified a large insurance company—we'll call it CastleCloud—as a poster child

JRMS Announces Essay Winners

THE JOINT RISK MANAGEMENT SECTION (JRMS) of the Society of Actuaries (SOA), the Casualty Actuarial Society (CAS), and the Canadian Institute of Actuaries (CIA), in collaboration with the International Network of Actuaries in Risk Management ("IN-ARM"), will soon publish a fourth series of essays (13 total) that address "Incentive Compensation—the Critical Blind Spot in ERM Today." Congratulations to the authors of the top three papers. The papers will be available on the JRMS Web page in the coming weeks. Visit ***http://www.soa.org/jrm-landing.aspx***.

- David Ingram (1st place, $1,000)
- Towers Watson Essay (2nd place, $500)
- Charles A. Bryan (Tied for 3rd place, $200)
- Alfred O. Weller (Tied for 3rd place, $200)

A webcast is being planned for the end of July. The prize-winning authors are invited to present their papers. Visit the SOA professional development calendar at ***http://www.soa.org/PDCalendar.aspx*** to check date and time.

for his approach. George had helped CastleCloud build what he claimed was one of the strongest ERM programs in the industry. Not long after our discussion, the financial crisis ensued. One might expect that if CastleCloud indeed had a superior ERM program, that it would have fared better, perhaps even far better, than its competitors, through the crisis. However, this was not the case. In fact, CastleCloud fared far worse than its peer group, suffering massive losses in shareholder value, layoffs of employees, and requiring a dramatic change in its strategy. I have always suspected that the weaknesses outlined earlier contributed to CastleCloud's losses.

It wasn't until a few months ago that I believe my suspicions were confirmed. I was having a discussion with someone—we'll call him Kirk—who was telling me a story about a company that in his view had suffered massive losses as a result of weaknesses in its ERM program. The company was CastleCloud. After hearing Kirk's story, I thought it would be helpful to share his views on how model risk contributed to CastleCloud's difficulties. What follows is an interview with Kirk, in which you will hear the cautionary tale, as well as echoes of the concerns outlined earlier.

B. INTERVIEW: MODEL RISK CASE STUDY

Sim: Let's start with a high-level overview. Can you summarize what actually happened at CastleCloud?

Kirk: It began with sudden growth. This should always be a warning sign. If a business grows dramatically out of nowhere, the red lights and the sirens need to be going off. I can't think of a single case where a company exploded onto the scene from nowhere, grew massively, and did not end up blowing up. As a risk manager or a regulator, when you see unusual growth, that's a huge warning signal. Internally, the thinking often is, "We've figured stuff out that nobody else has ever figured out. We're smarter." Maybe you are; maybe you aren't. At CastleCloud, there was incredible revenue growth across a number of business units. Yet I don't recall that anyone ever stopped to ask, "Why are we one of the sales leaders in these businesses? Are we better/smarter or are we mispricing or are we just taking on large amounts of risk?"

The financial crisis hit and many of CastleCloud's key businesses went wrong at the same time. In my view, the businesses were more interconnected than the models reflected. It was of course no surprise that the variable annuity (VA) business suffered in that economic environment. But the crisis also exposed the fact that the asset side of the balance sheet was also loaded with risk. And then as things deteriorated on the balance sheet, rating agencies, salespeople and customers began to be concerned, and their actions increased the pressure on the company. The result was a liquidity and capital crunch at CastleCloud.

As I see it, the company had to pull back on growth in general, due to the strain on capital. Some businesses were virtually shut down. This strained distribution relationships and resulted in layoffs, which further impeded the ability to grow. It was a vicious cycle, a potential death spiral. A massive amount of energy was appropriately spent trying to stabilize the situation, but this distraction further inhibited growth. Shareholder value quickly plummeted at that point.

Sim: How do you think the ERM modeling approach played a part in CastleCloud's losses?

Kirk: In my opinion, CastleCloud had an economic capital (EC) model that was magnificently complex. I think it was this complexity that resulted in it being largely ignored by management at a front-line decision-making level. In my view, management was unable to connect the model results to what was going on in the day-to-day running of the business. I do not believe that the model produced either the statutory or GAAP numbers management was used to relying upon, and as a result, it wasn't actionable information.

I also think that the information just didn't make much sense a lot of the time. One business unit would get emails periodically from corporate saying that due to something happening in an unrelated business unit, changes to the model covariance factors needed to be made. This changed the model results, but I think that the business unit did not have a good understanding of what was driving the change and couldn't do much about it. In order for this information to be actionable, I think there should be communication with the business unit to properly evaluate whether, and to what extent, key ERM model inputs should change; but I don't know if such communication ever took place.

Sim: It sounds to me like they weren't including internal subject matter experts in the determination of key inputs into the model.

Kirk: I think that's correct. In my view, the ERM modeling team believed they had the perfect risk management model, and so felt no need to get input from people, no need to improve these models, no need to improve the process, because it was all so wonderful. I feel that the opinions of internal risk personnel with decades of experience were routinely ignored. It seemed to me that the ERM modeling team trusted in their model as an all-knowing oracle, didn't listen to management instincts about the business, or sometimes even their own instincts, and missed some obvious leading indicators of trouble.

It was not just the model itself, but also what I feel was the rigid structure and poor risk culture that surrounded it. As I saw it, there was an inflexible structure … all these rules in place to manage the risk: "You need to follow the rules." It felt to me like rules-based risk management, where basically they created a bureaucracy that effectively insulated them from actually having to, and even allowing people to, stop and think, "Gee, are we missing something here?" And so I think they applied rules and structures to every business whether it applied to that business logically or not.

Sim: A key weakness of Solvency II is its belief that a balance sheet can tell you what your risks are. I believe that risks cannot be properly understood without projecting their impact on future cash flows, which is particularly true for very long-term businesses like insurance. Do you agree?

Kirk: Yes, and I saw this as part of the problem at CastleCloud. Market-consistent approaches originated in the banking sector, where, even though they don't work particularly well there either—as the financial crisis has shown—they're even more inappropriate for insurance companies to use as a primary approach, because the liabilities are much longer in duration. And I think CastleCloud was influenced by the banking perspective when they developed their ERM modeling approach. But when bankers look at an insurance company, they see all the risks as an asset-based or investment risk. They think that the way you should manage risk is to use models. I'm not anti-model. Models are extremely important, but they are just a tool for management; models just don't manage risk on autopilot.

A key weakness of Solvency II is its belief that a balance sheet can tell you what your risks are.

As an example, the VA business, which contributed mightily to the pain in the insurance sector, is a very long-term liability that is very difficult to understand. Bankers come in and say, "We know how to price derivatives and options," but they are talking about instruments with duration of one or two years at most and have no policyholder behavior risk element to them at all. And so being able to say what VA risk is, it is hubris to think you know what that number is at any point in time, particularly in the tail. That's where I think one of the biggest issues is: tail risk. The notion of insurance companies, "if you hold enough capital, then you are safe" doesn't work for public companies, because shareholders won't let you hold enough capital for this. If there had been a double dip in 2008 to 2009, I think you would have seen some insurers fail. The worst thing you can do is to create a very rigid hard-and-fast structure around risk management, because the nature of the risks you're facing is going to evolve over time.

I think the model was also unrealistic. They used a market-consistent approach where everything is marked to market. But that's not the world we live in and not how things work. So, one of the huge things that I think the model misses is that we live in a statutory and GAAP accounting world, and from a risk standpoint, statutory capital is the minimum needed to stay in business and that is not a mark-to-market world. In my view, there were many examples at CastleCloud—which include some of what were huge-growth businesses—where the market-consistent model results look fine, when in reality your statutory capital is imploding. A number of companies have figured that out now, some the hard way.

Market-consistent models have their uses. I'm not totally against them. But when used as the primary approach to ERM modeling, without proper focus on real-world things such as cash flows, GAAP earnings, etc., they can be disastrous. For most insurance businesses, if you mark to market, you get a very different view of the risk than if you look at it on a statutory or GAAP basis, due to their complexity … insurance is far more complex than banking. For example, let's mark our fixed annuity business to market, both assets and liabilities. How do you do that? Too often we think the answer is easy: Apply a stochastic pricing model and run it through the market-consistent risk-neutral scenarios and get a market value for the liability. But is that the risk? I don't know. Because the market-consistent idea is that supposedly it represents the value for which a willing buyer and seller will exchange it. But, interestingly, such an exchange never occurs, so how realistic is it? The danger here is ignoring real-world perspectives while enshrining a market-consistent approach as being the absolute truth.

A good friend of mine, an actuary who worked on Wall Street for quite a while, commented to me that risk-neutral or market-consistent approaches can work when you are interpolating between two known observable market values. But the problem is that it is a terrible extrapolation formula. This is a really good insight. For example, what is the market-consistent price for an option that matures 30 years from now? I don't know. Nobody knows. Companies today that are marking their VA business to market and have their market-consistent value … do you think any of them can or would sell it for that price? Do you think there would be any buyers at that price? So how is that market-consistent? It's not. It's fantasy.

Sim: It's informative that advocates of a market-consistent approach favor "risk-neutral" assumptions over "real-world" assumptions, yet it is precisely because the modeling is not based in real-world terms that it can be misleading, even directionally incorrect.

Kirk: Exactly. In general, models that are not well thought out in the context of the real risks to the business and how they play out in the real world end up ignored when it comes to making business decisions.

Sim: Integrating ERM into decision making is one of my 10 key ERM criteria that define a robust ERM approach. But it sounds to me like ERM was not integrated into decision making at CastleCloud?

Kirk: I don't believe that it was. In my view, much of the time, the information provided by risk management staff was ignored. So when risk management staff would say, "Gee, maybe you shouldn't be doing this to your product," I felt that the reaction of the business leaders was something to the effect, "Well, we have these growth targets and everybody else is doing it and we don't understand your models anyway, so we are just going to ignore what your models say." There's always a tension between risk and growth. You have to take some risks to grow and thrive as a business. But when the tension becomes us vs. them rather than a collective business decision … when you disconnect those things, I believe it becomes a huge problem because you end up with a winner and a loser instead of a company that's run in a cohesive way.

To senior management or someone from the outside, it might have looked like CastleCloud had a lot going on in ERM. They had sophisticated, super-complex risk models with all the latest bells and whistles and they had all these risk governance structures with a high level of bureaucracy and numerous signoffs. But in my opinion, there were too many perfunctory and meaningless activities and not enough thoughtful consideration and discussion, which led to some really bad decisions. If you talked to the heads of the businesses, I believe that they would tell you they had almost no interest in ERM. I think they didn't understand it and didn't pay attention to it, so, effectively, in my opinion, they didn't have ERM.

Sim: In closing, do you have any parting advice about model risk?

Kirk: The insurance business has grown extremely complex over the years. It is very unlikely that it will become less complex. The complexity has led to some models with ever-increasing complexity. These models can be useful tools. But a more complex model does not a better tool necessarily make, because they will always fail to fully capture all of the complexity of the real world. In order to really manage risk, there needs to be an integration of modeling with expert analysis and decision making. And this all needs to be fully built into a company's culture.

Sim: Thank you for taking the time to share this. I think it should be very helpful to many in our industry.

Kirk: My pleasure.

C. CONCLUDING REMARKS

As this case study illustrates, the approach to ERM modeling matters. Many different types of models can play useful and supporting roles in an ERM program. However, to be successful, companies should use as their primary ERM model—the one most directly connected to decision making—one that is:

- Practical enough to keep complexity manageable and to maintain reliability
- Transparent enough to gain buy-in from decision makers
- Flexible enough to incorporate input from internal experts to properly reflect the risks
- Realistic enough to represent the real-world impacts of the risks.

A primary ERM model lacking these qualities can increase an organization's exposure to model risk … sometimes to a devastating level. A

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END NOTES

[1] The approach referred to herein is a risk-neutral market-consistent Solvency II approach used at that time; Solvency II has since evolved somewhat in response to industry pushback.

[2] The value-based ERM approach was developed by the author and is further described in his book *Corporate Value of Enterprise Risk Management: The Next Step in Business Management* (published by Wiley in 2011).

[3] A common example is "update fatigue" where the large number of inputs required to update a model results in a poorer quality of updates over time, as individuals making the updates become less careful.

[4] These comments relate to the appropriateness of internal company ERM models and are not to be mistaken for commentary on external factor-based ERM models, such as those used by rating agencies or regulators.

[5] *http://www.gminsidenews.com/forums/f19/parts-worth-more-than-car-48624/*

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Globally Speaking

INTERNATIONAL COMMITTEE AT WORK

BY ALAN COOKE AND DARRYL WAGNER

WHILE BEING GLOBAL is nothing new to the Society of Actuaries (SOA), there are some exciting recent developments on the international front for the SOA. In 2010, Mike McLaughlin, then SOA president, established an International Membership Strategy task force to develop an international strategy for the SOA. You might think of this as formalizing more than developing, given the significant amount of international activity historically for the organization, but the task force also looked to identify areas of further opportunity. Chaired by Darryl Wagner, the task force worked during 2010 and 2011 and proposed an international strategy statement and formation of a standing International Committee, both of which were approved by the SOA Board in October 2011.

The adopted strategy statement states that the SOA will proactively and intentionally increase its international presence and influence in order to:

1. Strengthen the value of the SOA credentials in today's increasingly global environment
2. More effectively meet the needs of the SOA's members in the context of rapidly growing internationalization
3. Advance the reputation and impact of the actuarial profession globally
4. Meet the competitive challenges arising from other disciplines and credentials.

These strategic aims will be achieved by:

1. GROWING OUR INTERNATIONAL MEMBERSHIP

SOA membership growth contributes to the growth of both the actuarial profession worldwide and the global strength, relevance, and portability of the SOA credential. This growth will be accomplished primarily through increased offering of SOA pre-qualification educational pathways and section memberships.

The SOA today has a significant number (approximately 12 percent) of members outside North America. Many of our international members have chosen to pursue the SOA educational pathways in their country of residence, where SOA exams and educational programs are offered as either a primary pathway or as a complement to pathways offered by the national or other international associations. By increasing SOA international membership, we will create greater resources for members in locations where the SOA has existing membership and develop the profession in areas with no or limited SOA presence.

The role of the SOA sections in developing our international membership is key. The SOA views section membership as a powerful way to increase affiliation with actuaries around the world in topical areas of common interest, regardless of their credentialing association.

Fundamental to this international growth we will be working with national associations, universities and the International Actuarial Association (IAA) around the world to identify, articulate and execute on the value proposition for SOA membership and section affiliation.

2. BUILDING SUSTAINABLE INTERNATIONAL COMMUNITIES

While growth is important, growth without community marginalizes the value of that growth. Community allows SOA members to access and capitalize on the enhanced value and resources that international growth creates.

Building Community

Examples of community-building events held by the SOA in 2012 are financial reporting seminars in Hong Kong, Manila and Kuala Lumpur; an asset liability seminar in Shanghai and Taipei; a symposium in Shanghai; and CPD-level professionalism courses in Hong Kong and Taipei. All in all, seven face-to-face events were held in the Asia-Pacific region.

In addition to achieving growth, the SOA seeks to build, expand, and strengthen communities among SOA members globally, among SOA members within countries and regions, and among actuaries globally, regardless of association affiliation, who share common interests. The SOA will build community through expanded and enhanced locally relevant continuing professional development offerings, sponsorship of meetings and seminars, and by enabling connectivity and knowledge sharing within and among our various communities. These efforts will build on the success of current initiatives such as the annual financial reporting seminars sponsored by the International Section in Hong Kong and other locations in the China region, and the International Experience Study program and tool, to give two examples. We anticipate that other SOA sections will play an increasing role in these activities.

One of the ways in which the SOA builds community is through the natural networks formed by the many dedicated volunteers, including our Country Ambassadors, who faithfully contribute time and talent to the SOA. Expanding the SOA volunteer community internationally will be important to facilitating the building of other forms of community, as well as building the volunteer community outright.

The SOA also envisions the existence of strong volunteer communities around the world as critical to becoming a truly global organization whose initiatives are planned, resourced, and carried out around the world to the benefit of both local and global SOA communities.

3. CULTIVATING OPPORTUNITIES FOR ACTUARIES WORLDWIDE

Merely increasing the number of actuaries around the world is an inadequate goal if not coupled with the cultivation of appropriate opportunities. The SOA envisions this cultivation to be achieved via two important pathways.

The first pathway includes awareness of the actuarial brand by:

- Improving communication and relationships with employers
- Working toward broader regulatory recognition of the actuarial profession in general and of the SOA credential specifically, where appropriate
- Developing and implementing marketing programs intentionally aimed at raising awareness of and demand for actuarial skills and the SOA pathway to gain those skills.

Alan Cooke

The second pathway leads to promoting non-traditional opportunities for the actuarial skill set.

Darryl Wagner

This international strategy statement is reflected and echoed in the recently adopted SOA strategic plan for 2013 to 2016. Although the focus of the task force was to strengthen support for international activities, a related outcome should be the creation of internationally-oriented material that will also be of interest to our North American membership. Increasing the international awareness of our domestic audience is a key part of the SOA's role.

The SOA's International Committee is now up and running, with Darryl Wagner serving as chair and Larry Bruning as vice chair. The membership of the committee is comprised of representatives of several key constituencies within the SOA, including the Educational Executive Committee, the Professional Development Committee, the International Section, the China Region Committee, and the SOA's International Actuarial Association (IAA) delegation.

The charter of the committee is focused on oversight and coordination of the SOA's international activity, rather than execution. There is a lot of SOA international activity already underway, involving many individuals and groups within the SOA, and much opportunity on the horizon for the

More Educational Offerings

Along with growth, the SOA is focused on more effectively meeting the needs of international members. One way the SOA has worked to better support its international members is to increase available educational offerings. In 2012 there were a number of seminars and webcasts developed specifically for the Asia-Pacific community and held in that region's time zone. For example, the "Retirement Landscape in Mainland China" webcast covered who the key players are and what the roles are for actuaries in the retirement industry, as well as the opportunities and challenges for industry development.

SOA to advance the international strategy articulated here. The value add potential for the International Committee is to help "connect the dots" around international initiatives and benefits, as well as spur new thinking and ideas.

The International Committee met in March 2013 to discuss priorities for 2013. Topics of focus included:

- Increasing our level of engagement with and support for national actuarial organizations with whom the SOA works around the world, including supporting SOA members affiliated with those organizations
- Encouraging SOA sections to develop their own international tactics to better serve members outside North America, as well as benefiting all section members through the sharing of global knowledge, experience and best practices

- Articulating more clearly our relationship with the IAA, including increased formalization of roles and communication among interested parties and our membership at large

- Better supporting our members and their employers around international matters; for example, by supporting initiatives undertaken by supranational organizations such as the International Association of Insurance Supervisors (IAIS).

This, of course, is in addition to the large inventory of international activity already in flight, including:

- Basic educational offerings all around the world

- Seminars, webcasts and other professional development opportunities on international topics offered both in and outside North America

- Participation in and contribution to IAA committees and initiatives

- Numerous section-led international activities including those sponsored or co-sponsored by our International Section

- Frequent visits to and conversations with actuarial organizations, universities and supranational organizations around the world by the SOA leadership team and other SOA representatives

- Sponsorship of and participation in actuarial conferences and seminars hosted by other actuarial organizations.

The SOA's decision to offer a general insurance educational pathway is a particularly exciting development for our international strategy, as it allows us to offer a complete array of actuarial career choices to international candidates, on a par with other national actuarial organizations outside North America.

There is much to be excited about with respect to the SOA's international strategy. And in the increasingly global world in which we live and practice as actuaries, it is important to all of us, as SOA members, that our organization and credentials stay globally recognized and relevant, as well as providing us access to knowledge and best practices from around the world. In the end, that is the objective of the SOA's international strategy. Reaching that objective is truly a team effort, and we welcome your ideas and involvement. Please contact *theactuary@soa.org* if you have thoughts, suggestions, experiences to share, or if you would like to be part of the action! A

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Jay M. Jaffe

Point of View

ARE ACTUARIES PROFESSIONALS?

BY JAY M. JAFFE

IF YOU WERE TO ASK actuaries whether they are professionals, many, if not most, would quickly and possibly indignantly respond that, of course, we are professionals! If you were then to ask them why they are professionals, they would probably respond it's because we take tests, require continuing education (CE), and have associations that govern our conduct, or some other similar explanations. But the most important issue is whether the public thinks of actuaries as "true" professionals as compared, for example, to doctors and lawyers.

There are many ways to decide whether a group of workers are professionals. Among the most elementary tests might be whether mothers dream of their son or daughter becoming an actuary. I haven't heard of mothers having such dreams, although there are several families with multiple actuaries, thus proving that there is an exception to any rule.

Another possible criterion for being a professional is how we are educated. In the past most of us didn't obtain our basic knowledge of actuarial science in academic settings. Currently, the opportunity to learn actuarial science in an academic environment is increasing, but this training is not sufficient to earn a professional title. For example, graduates from medical school earn the title of doctor, but graduating actuarial students do not automatically become recognized as actuaries either by their peers or the public (unless they have completed the requisite number of exams for membership in an actuarial organization).

SEARCHING FOR CRITERIA

For a long time I have been searching for a set of criteria that defines a professional so that I could assess whether actuaries are professionals or if they should be described in some other manner such as a trade or a group of very skilled workers. I think the motivation for my interest is more rooted in the prestige of being a professional than, say, concern that we aren't appropriately paid for our work.

I recently became acquainted with the writings of Ashish Nanda, a professor at the Harvard Business School, who addressed my question. Directly on point, one of Nanda's papers is "Who is a Professional?" This paper sets forth a framework for assessing who is and who is not a professional.

Nanda classifies actuaries as professionals along with the traditional professions (doctors, lawyers, engineers, etc.). But he also considers others, including hedge fund managers and management consultants, as professionals. It is intriguing to read Nanda's paper to learn the criteria he uses for determining who is and who is not a professional and to compare his criteria against the actuarial profession's characteristics.

According to Nanda, "professionals are a subcategory of service providers." He goes on to state that "service providers differ on two dimensions: (1) inference skill, the complexity of the inference process they use; and (2) service value, the importance of the service to client welfare."

What makes some services more valuable than others? Nanda points out that "the less externally observable is the service providers' inference process, the greater is the inference skill that clients attribute to the service providers." Since most people don't understand the underlying principles of actuarial science and/or perceive that actuaries utilize black boxes to arrive at conclusions, using this criterion would seem to make actuaries very valued service providers.

SPEED AND IMPACT OF DELIVERY

The two factors that determine service value are the speed of delivery of the service and the impact of the delivery. For the most part, actuaries are not faced with needing to deliver our services instantly and almost never do we face (figuratively speaking) life-and-death situations. On the other hand, many of our clients can't proceed without the input from actuaries. In fact, in many situations an actuarial certification or similar document is required in order to complete various types of submissions or transactions. To some degree Nanda might see actuaries as being technicians rather than professionals because many of our services have become a "necessary evil" rather than visibly contributing to making something better.

On the other hand, it is very important for professionals to use judgment. Here's Nanda's description of judgment:

> Judgment is a deductive process of applying the understanding of abstract knowledge to a specific problem. Whereas learning by doing develops over multiple iterations of reasoning through exclusion, judgment is a one-time process of reasoning through construction.

Nanda further states that professional judgment requires both "mastery over a broad body of interrelated abstract knowledge and the ability to apply this knowledge effectively in particular circumstances." Actuaries are regularly faced with making judgment calls. As actuaries gain experience, they should understand that applying "cookie-cutter" solutions to complex problems can lead to providing inappropriate and/or incorrect advice. As all professionals, we "earn our keep" when we use judgment to distinguish between situations for which there is a discernible normal solution and ones which should be an exception to whatever rules or processes we've learned.

Now, as is the case with all facets of our lives today, education and how it is delivered is a changing process.

TIERS OF PROFESSIONALS

The body of actuarial knowledge has increased dramatically in recent years. As is the case with many professions, within actuarial science there are sub-professionals. Some of us work in life insurance while others specialize in accident and health (A&H), retirement programs, property and casualty (P&C) insurance, etc. The separation of a profession into smaller units is common when there is a need to master specific knowledge. For example, among physicians there are cardiologists, internists, dermatologists and many other "ists."

One comment by Nanda that may not strengthen actuaries' belief that we are a profession is his opinion that "individuals train for a profession by learning the content of abstract knowledge in a didactic setting and the application of that knowledge in a practice setting." No one would contend that actuaries don't learn how to apply our learned knowledge in a practice setting. However, it doesn't seem to be the case that we learn our abstract knowledge in a didactic setting.

Now, as is the case with all facets of our lives today, education and how it is delivered is a changing process. It may now be possible to gain abstract knowledge in non-didactic settings using new technology. Since its inception, the actuarial profession either has not had available or currently has not made a commitment to deliver basic education and training in an academic environment for all new entrants. Instead, the actuarial profession has relied heavily on structuring its own curriculum and examinations.

The historical methods used by the actuarial profession to deliver actuarial knowledge raise two questions: (1) do our continued reliance and nearly total governance of the study and examination processes best deliver the base knowledge actuaries need for working and competing in a progressively complex environment; and (2) is the present educational system the best way to increase the professional standing of the actuarial profession by the general public? If the answer to either of these questions is "no," then the actuarial community needs to reconsider its present practices for educating actuaries.

RISE AND DECLINE OF PROFESSIONS

In another paper Nanda talks about how professions rise and decline. This discussion deals more with the operations of professional associations and their impact on the degree to which the members of such associations are professionals. The central point in this particular paper is the need to put client interests ahead of self-interest. A group that operates mainly to foster self-interest will eventually lose its status, independence and clout, as well as the public's goodwill.

The opposite of acting out of self-interest is acting in the public interest. Actuarial bodies recognize the importance of acting in the public interest. It is a fair and continuing question to pose to actuarial associations whether they have done more than paid lip service to the commitment to act in the public interest. It would be very helpful for the public's view of the actuarial profession, as well as to aid our members' understanding of the profession's accomplishments, for actuarial associations to annually summarize in a special publication how the various actuarial organizations have acted in the public interest during the past year. Explicitly showing how the profession has developed proposals or information for solving some of the most vexing actuarial-related issues facing our economies and societies would help the public to confirm the status of actuaries as professionals.

KEEP MOVING FORWARD

As discussed in this article, there are areas where the organizations leading and governing the actuarial profession could be more proactive in growing the public status of actuarial practice as a profession. Most of these opportunities will be long-term undertakings. But let's not let the length of the change process keep us from robustly embracing these and any other appropriate initiatives that will help to increase the public's perception of actuaries as professionals. A

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Education

INTERNATIONAL OUTREACH
WHAT HAVE WE BEEN DOING?

BY MARTHA SIKARAS AND WAI LING YUNG

EMERGING DEMAND FOR ACTUARIES IN ASIA

Asia is clearly a promising area for financial and insurance markets with steady growth expected in the coming years.

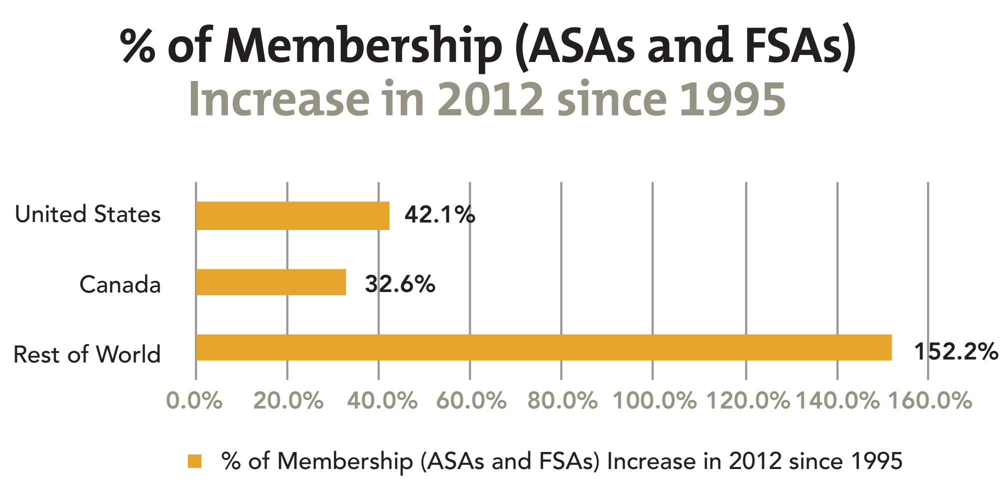
> *Our outlook last year indicated that growth-seeking insurers would look to Asia-Pacific, and this continues to be the case. The region leads the world in expected GNP growth rates, despite a slowdown in overall global economic growth. Standouts include China, Hong Kong, India, Indonesia, Vietnam, Malaysia and Thailand. Each country has experienced rapid development of its financial markets and services sectors.*[1]

> *China is expected to become the world's third largest insurance market by 2015, and it is estimated that demand for professional actuaries will climb to 5,000 in the coming decade. However, there are fewer than 500 qualified actuaries to support the strong growth of the industry, creating a supply gap.*[2]

> *"There has been a steady growth in the insurance sector as a whole, so the need to acquire actuarial talent extends beyond our shores," says Patrick Tan, principal consultant, Key International Search. "We are starting to compete with regional markets to bring good actuaries at all levels into Singapore."*[3]

> *…according to a study by the Southwestern University of Finance and Economics in Chengdu, China will need approximately 58,000 new insurance management staff and 700 new actuaries by 2015. Such is the shortage of qualified actuaries across the region, insurers have now begun to look for expertise in related fields, such as statistics and mathematics, to provide the analytical skills supporting underwriting and rate-making functions.*[4]

But what has the SOA been doing so far to support the actuarial profession's growth in Asia? This article explains the commitments the SOA has made and the actions the SOA has taken as part of its international outreach strategy to better support its members and



	CURRENT MEMBERSHIP (FSAs AND ASAs)	CURRENT CANDIDATES
United States	68.9%	55.0%
Canada	17.8%	17.9%
China, Hong Kong and Taiwan	7.7%	16.9%
Malaysia, Singapore, Thailand, Japan and South Korea	1.9%	5.8%
Rest of the World	3.8%	4.3%
Total	100%	100%

candidates who live and work in Asia and other regions outside of our traditional markets.

GROWING FIGURES OF SOA MEMBERS AND CANDIDATES ACROSS REGIONS

SOA membership and candidates have grown steadily outside the Canadian and U.S. regions over the past two decades. For example, the number of FSAs and ASAs outside the United States and Canada has grown 152.2 percent since 1995 (see graph on page 34).

Moreover, our changing candidate population means that the SOA's membership is becoming more globally diverse as current candidates become members. According to 2012 membership and candidate data (see table above), fewer than 15 percent of members are located outside of the United States and Canada, but more than 25 percent of candidates are based outside of the United States and Canada, mostly in Asia.

In short, the SOA is growing, and much of that growth is from outside of the United States and Canada.

SOA'S COMMITMENT TO IMPROVED INTERNATIONAL SERVICE

In October 2011, the SOA board of directors approved several strategic recommendations to enhance the presence, influence and quality of service to those members outside the U.S. and Canadian regions.

The primary elements of the recommendations were to:

1. Strengthen the value of the SOA credentials in today's increasingly global environment
2. Meet the needs of the SOA's members outside of the United States and Canada more effectively in the context of rapidly growing internationalization
3. Advance the reputation and impact of the actuarial profession globally.

Education, networking and other outreach opportunities have been keys to helping the SOA pursue these goals.

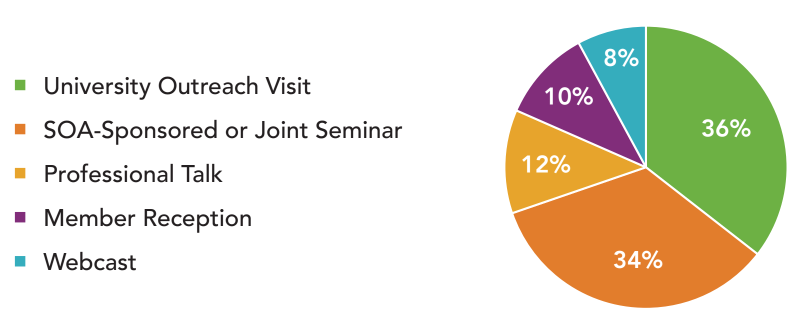
ASIA PROJECT UPDATES

From 2011 to 2013, various events were organized for our members and candidates in Asia to promote the value of the SOA credential, support our actuarial communities based on their interests through professional events and continuing professional development (CPD) opportunities, and promote a culture to support our values of professionalism and excellence of service through translation of promotional materials and e-Learning modules. These activities included events like university outreach visits, seminars, professional talks, member receptions and webcasts. (See chart below.)

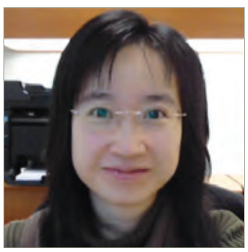
ENHANCED CANDIDATE RELATIONSHIPS AND BETTER PUBLIC AWARENESS

The SOA has organized different types of events to strengthen our candidate relationships and facilitate the communication with our candidates and members and with the financial services industry. These events have included university outreach visits, focus

2011–2013 Asia Events Opportunities



Martha Sikaras



Wai Ling Yung

groups, individual interviews, social media development and industry visits.

More than 20 university outreach visits were conducted in different Asian regions during the past two years, connecting with universities in mainland China, Taiwan, Korea, Hong Kong, Singapore and Malaysia. In each visit, SOA delegates introduce the background of the SOA and the profession to the faculty and student participants, as well as provide an update on any changes to the SOA education pathway. The sessions have been well received by participants.

As always, the SOA values feedback and suggestions from stakeholders. We respect the views expressed and the ideas generated from our interested parties. Some suggestions are under consideration for incorporation into a framework to enhance support for candidates and members. Through focus groups and individual interviews, we have learned about the perspectives of our key stakeholders, including candidates, members, academics, math-focused high school and university students and their parents, and high school guidance counselors with regard to their needs in such areas as professional image, exam process, market needs and their "wish list" for the SOA. The results of this research further contribute to advancing our initiatives.

Social media development is another key component in the SOA's efforts to foster greater public awareness. Updates on professional development (PD) opportunities, exam restructuring details and the new General Insurance track are all hot topics in our regular announcements to the media below:

- Local and regional publications
- Chinese version of Facebook (*http://www.facebook.com/SOA.EducationTW*)
- Sina Weibo website (Chinese as: 新浪微博)
- Renren network (Chinese as: 人人網)
- Chinese version of SOA micro website now available at *asia.soa.org*.

Corporate and industry visits are considered one of the major opportunities for SOA management to share views and news with the industry professionals. From time to time, SOA management and delegates visit local employer stakeholders, including regulatory officials, actuarial societies and employers, to keep abreast of local market trends as well as to keep these professionals informed of the SOA news such as the new General Insurance track initiative. The SOA is also participating in different local industry events such as the 26th East Asian Insurance Congress in Kuala Lumpur, Malaysia.

SUPPORT STRONG ACTUARIAL COMMUNITIES BASED ON PROFESSIONAL INTERESTS AND/OR LOCATION

To better serve our members with region-specific educational services and PD opportunities, various SOA-sponsored and joint seminars such as the SOA Annual Symposium and Joint Regional Seminar were organized over the past two years in different parts of Asia.

University outreach students with SOA Immediate Past President Bradley M. Smith at Shanghai University of Finance and Economics.

Students enjoy visits at the Universiti Kebangsaan Malaysia; Sessions at the SOA Annual Symposium-Shanghai (November, 2012)

Apart from the face-to-face seminars and professional talks, the SOA has organized webcasts in Asian time zones in order to suit the needs of our members and candidates. In order to maximize the opportunity for our audiences to participate in the event, the webcasts are usually organized during midday local time. Our seasoned speakers conduct their sessions in real time via an Internet connection with audio-visual capabilities. Audiences and speakers also interact and share their views directly via the online question-and-answer sessions. When it is appropriate, audiences are able to communicate with our speakers in the local language as well.

TRANSLATION INITIATIVES

The SOA is aware of the need to satisfy local language concerns. Apart from the social media developments mentioned previously, the SOA e-Learning team is also working on two pilot projects to meet the language needs of China region candidates and members. The first project is the development of a traditional Chinese version of the Regulation and Taxation e-learning module for Taiwanese members and candidates. The SOA has collaborated jointly with the Actuarial Institute of Chinese Taipei and its designated volunteers to implement this project. The second project is the development of an International Professionalism e-course. A team of actuarial experts from different regions is producing local content materials that are sensitive to the regional context and applications.

Each opportunity to connect with our members and students is a learning exercise as we strive to keep pace with the needs of our overseas constituents. Technology tools such as e-Learning and social networks further support a greater level of connectivity. The SOA is cognizant that providing quality yet cost-effective local learning opportunities is of prime concern to our members in the region. The work accomplished in recent years has been a good start, and the SOA is looking to build on that success so that members come to expect a regular and robust slate of learning options created with their needs in mind. We welcome the chance to hear from you as to topics and programs that may be of interest to you. A

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A Look Into ERM

ERM IN THE HIERARCHY OF CORPORATE NEEDS

BY DAVE INGRAM

QUITE OFTEN, the proponents of a new business management theory will oversell the importance of their ideas. Firms that want to be known as forward thinking will accept these overblown descriptions and subject their companies to wave after wave of new and better ways to order pencils or arrange desks.

Enterprise risk management (ERM) is no exception.

Proponents of ERM will talk about how the culture of the entire firm needs to be adapted to conform with this über-important new discipline. The capital models that are at the heart of an ERM program are required to be at the center of the strategic planning process of the firm.

As has happened to other new business management ideas, ERM is often oversold. And with that exaggeration of the importance of ERM, we risk it joining many other ideas as a passing management fad.

ERM needs to be seen in perspective of the other management priorities. Like the human needs articulated by Maslow, there is a hierarchy of corporate needs and ERM is not first on that list.

ATTRACTIVE PRODUCT

The first need of a corporation is to have a product or service that someone will buy from them. Simply put, a company must have sales. That this is the first and most basic need of all corporations is often lost from sight, perhaps because the corporation has had sales for many, many years. But any person who founds a new company will very clearly remember when they were first sure that they had found their something that customers would buy. No company can exist for any length of time without sales.

REASONABLE PRICING

The second need is for the business to have the capability to create that product or service at a cost that is lower than the price that customers will pay—a profit. As products and services go through cycles of demand ebbs and flows, companies that had achieved their profit may be challenged to stay profitable. Of course, a company cannot continue in the long run without a fundamentally profitable business.

Once a company has sales and profits, that company has the potential to be valuable. But one more thing is needed for that company to actually be valuable—the ability to stay in business in the future and repeat the process of making sales at a profit. These first two needs of companies and the ability to continually meet those needs should be of the highest concern to the executives and boards of firms.

PROFITABLE SALES

The third corporate need is that repeatability of sales and profits. That is where ERM comes into the hierarchy of need—in third place. When the business has the ability to repeat the process of profitable sales, then the business has a value. ERM is the comprehensive process for defending that value. Once the decisions have been made regarding how to go about making sales and profits, the role of ERM is defensive. Corporate value is a function that combines all of the first three needs—amount of sales, profit per unit of sales, and likelihood of achieving the sales and profit. To satisfy the level 3 corporate need, ERM usually focuses on maintaining or improving the likelihood of achieving a profit.

The defense of sales is often completely separated from the defense of profits. Some risk managers have named that process strategic risk and seek to include it within

ERM. In many firms, defense of sales is a more longstanding and better-staffed function than ERM.

When a firm has a value, the fourth need comes into play—the need to increase that value. A company can increase value in three ways: by increasing sales, by improving profits per unit of sales, or by increasing the likelihood of achieving the future sales and profits.[1] In some circumstances, there are options that exist for a company to improve one of these three elements at minimal cost to the other two, but those options are rare. In most cases, companies must make a trade-off. It is in deciding on those trade-offs that ERM can provide unique insights about how decisions will impact upon the likelihood of achieving future profits.

WHAT ARE THE TRADE-OFFS?

This ability to systematically and quantitatively evaluate the trade-offs *is* an exciting new addition to management's capabilities that ERM can bring to the table. It is the capability that drives the process that S&P refers to as strategic risk management. To many practitioners, this capability *is* ERM.

But risk managers need to understand the place of this capability in the hierarchy of needs. It does not help at all in achieving the highest-priority corporate need for sales. This capability is expensive and therefore works against the second-priority corporate need of profits. This capability is not specifically predictive and therefore provides limited assistance with the third-level corporate need of sustainability either. This capability to determine the value trade-off of strategic alternatives comes into play to satisfy only the fourth-level need of value growth.

Companies that are struggling with satisfying their level 1, 2 and 3 needs will not be particularly interested in spending the time or money required to master this practice. These companies may have appointed risk managers with hopes that they would concentrate on the level 3 need for very specific security of profits. Outside analysts who see a firm struggling with achieving consistent profits will consider the lack of profits to be the most pressing risk of the firm.

Dave Ingram

So before charging forward with the intellectually and professionally satisfying activities of modeling risk and assessing strategic alternatives, risk managers need to be clear on where their firms stand in terms of satisfying their corporate needs—and how the risk management discipline can assist with any that are unmet. A

David Ingram, FSA, CERA, MAAA, is executive vice president with Willis Re Inc. He can be contacted at *dave.ingram@willis.com*.

END NOTES

[1] See Panning, W. Managing the Invisible, *NAAJ*, 2013.

Investment-Based Insurance Guarantees Conference

JULY 8-9, 2013
Four Seasons Hotel Dublin
Dublin, Ireland

Organized by the Society of Actuaries and Annuity Systems Inc., and co-sponsored by The Institute and Faculty of Actuaries in the United Kingdom and the Society of Actuaries in Ireland, this conference will tackle issues relating to all investment products embedding market guarantees (equity and/or interest rates) that are offered in Europe. We will discuss the current European environment, risk metrics used to manage long-term market risks, quantification of policyholder behavior, effectiveness of capital markets instruments in hedging long-term risks and more.

Learn more at **SOA.org/calendar**

ANNUITY SYSTEMS INC
SOCIETY OF ACTUARIES
Institute and Faculty of Actuaries
Society of Actuaries in Ireland

Meg Weber

Section Highlights

THE VALUE OF SECTION MEMBERSHIP

BY MEG WEBER

WHY DO PEOPLE belong to SOA professional interest groups, aka "sections"? To ensure sections stay relevant, we ask members this question frequently. We ask them via the SOA member and candidate surveys. We ask them in individual section surveys. We ask them in person. We also ask people why they don't belong to sections. Sections are the grassroots organizations of the SOA. We use these answers as well as other sources to keep member benefits current.

Why people say they belong:

ENHANCE JOB PERFORMANCE

"Sections provide me with specific and practical information to enhance job performance and opportunities."

- Section members are people engaged in their careers. Sections attract a variety of people: non-actuaries, younger members looking ahead, members breaking into new roles, and actuaries who want to be up to date with technical and industry trends in their areas of practice. From low interest rates to the Affordable Care Act (ACA), these times are rich in content! While all sections have stepped up the frequency and depth of their member communications, in 2013 a few are taking it to a new level. The following sections are piloting new online services available to their members only:

  - Health Section members only—*Health Affairs*

  - Investment Section members only—EBSCO news feed

  - Management & Personal Development Section members only—getAbstract.

If you are a member of one of these sections, don't miss out on these resources. Access is password protected and is contracted for members of those sections only.

NETWORKING IS A PLUS

"Sections provide networking for me."

- The 2012 Annual Meeting had over 20 face-to-face section-sponsored networking events. During the course of the year, over 60 events were held. A similar number is expected in 2013, and some events are held in conjunction with local clubs.

- Virtual networking. Seventeen of 19 sections have members' only LinkedIn groups. Joint Risk Management has the most discussions and participants.

ENHANCED PERSONAL REPUTATION

"Section membership enhances my personal reputation or brand."

- The purpose of sections is to advance the profession by assisting members with education, research, networking and other specialized needs that arise. Members want to be a part of these groups in a recognized way.

Although officers and voting rights have some restrictions, section membership and opportunities to participate are open to anyone. What keeps you current with your profession? Let me know. A

Meg Weber is director of section services for the Society of Actuaries. She can be reached at *mweber@soa.org*.

LEARN MORE about professional interest sections at *SOA.org/sections.*

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Out Of The Office

ACTUARIES ON THEIR OWN TIME

Travel Bug

If anyone offered **Lisa Marquardt** a job as a "nomadic actuary," she'd take it.

She has been traveling internationally since she was 21.

"I've been to 66 countries in seven continents, plus several out-of-the-way territories such as Easter, Galapagos, and Falkland islands. In 2004 to 2006, I took a 20-month career break before joining my current employer," Marquardt says. "The first 13 months were spent hiking and staying in haunted castles in Ireland, camping for 10 weeks in Africa, learning Spanish, volunteering, and salsa dancing and traveling the 'gringo trail' for a few months in South America, a month each in Australia and New Zealand, and then a couple months in Southeast Asia where I rented an apartment in Chiang Mai, Thailand, and took classes and rested."

Some of her travel bug comes from her parents.

"My mom and dad used to take us on car trips to Colorado as children," she says. "It was real budget traveling—five of us sharing a motel room, bologna sandwiches every day. We'd stop at all these kitschy places on the way—Wall Drug, Devils Tower and the Mitchell Corn Palace."

Marquardt has continued her travels with her parents on two cruises.

"They joined me on a trip to Antarctica, which was my seventh continent and their sixth," she says. "Since then, at 77 and 75, they visited their seventh continent, Africa, and were later featured in my local town's newspaper as the farmers who visited all seven continents."

Antarctica—continent number seven for Marquardt.

Sometimes Marquardt travels with a group, like when she journeyed to Egypt, Turkey and Eastern Africa. And "for the first time, last summer I traveled for 24 days on the trans-Siberian train from St. Petersburg to Beijing via Siberia and Mongolia with a stranger I met on *lonelyplanet.com*. She was one of my best travel partners ever." She has also traveled solo through much of South America, South Africa and Southeast Asia.

Last year, she went to the Philippines on a four-week trip that included a five-day cruise. A group of 14 travelers were island hopping on a locally built fishing boat.

"For two nights we camped on private islands and two nights we stayed in local fishing villages. We donated school supplies and volunteered at a preschool, did amazing snorkeling, swam in a beautiful waterfall and ate fresh seafood. One morning I woke up early and kayaked into a lagoon to see a fantastic sunrise," she says.

Some of the highlights of all of her trips include the Northern Ireland coastline, Zanzibar, Namibia, Salar de Uyuni in Bolivia, Antarctic icebergs and the Australian Outback.

"The two things that they all have in common are that they're naturally beautiful and usually sparsely populated," she says.

Marquardt has learned a lot from her travels.

"I am an amateur geographer, historian, cartographer, geologist, photographer, biologist, etc. My Spanish-speaking skills went from zero to conversational. Sometimes the presence of poverty is upsetting, but gives me an appreciation for everything we have and a desire to help."

She keeps a travel journal, and "during my 2004 to 2006 trip, I kept a blog so family and friends could all get regular updates. I love photography so I publish my own coffee table books using Shutterfly after each big trip … sort of a photo journal."

Later this year she'll be traveling overland through Central Asia, stopping in the former Russian republics of the 'stans, including some of the least traveled countries on Earth. A

Lisa Marquardt, FSA, MAAA, is managing actuary with Farmers New World Life Insurance Company. She can be contacted at *lisa.marquardt@farmersinsurance.com.*

Imagination Soars

Gary Thomas' work experiences have taught him that if a solution is there, it will be found if only you keep staring at it.

He used that knowledge several years ago when he purchased "a rusty, grimy 40-year-old Corvair engine from an auto salvage merchant. I tore the engine down, rebuilt it, and attached it to an aluminum two-seater airplane that I had started to build in the meantime."

"My interest was sparked when I visited the airshow that every summer turns Oshkosh into the busiest airport in the world. While wandering around, I noticed a man called William Wynne holding forth to a small crowd about his automobile engine conversion for airplanes. I handed over the money for his instruction manual. Reading the manual, I found myself drawn in by William's combination of practical advice plus evangelism for the idea of building something for yourself."

Thomas bought an engine and tore it down, "reasoning that, if I failed, I could bail out before I made too big of a commitment."

Thomas' Corvair built for the air.

After taking apart the engine, he "cleaned it, repaired and repainted it, modified some parts and acquired top-notch replacement parts from various suppliers. William Wynne manufactured certain conversion parts that enabled me to bolt on a propeller where there once had been a gearbox. When I was done, it looked like a thing of beauty to me. It was exhilarating when I first got the engine to fire.… For weeks I would taxi it around the airport just to hear the engine run and feel the blast from the propeller. I still didn't know how to fly."

Eventually the FAA gave its approval and, after much nervous double and triple checking, up it went for a successful first test flight.

"Prior to the test flight, there had already been a substantial number of tests performed on the ground, and the engine was completely run in," he says. Also, throughout the three-year build, technical advisor Lou Grabiec of the Experimental Aircraft Association kept a watchful eye to ensure that all bolts, rivets, control cables, wiring, etc., met the highest standards.

His most memorable adventure in the plane "was my first big trip from south Florida up to North Carolina. It was blustery and I was finding it difficult to fly, read charts, and look out for various landmarks at the same time. The airport runway in the distance got closer and closer until I realized that it wasn't some local regional airport, but Jacksonville International. I apologized profusely to the person at Jacksonville Approach who had been monitoring my progress and hightailed it out of there. Since then, I try to make my flights as uneventful as possible. The best flights are early evening when the air is calm and you feel like you are floating along. My dream is to fly in to the Wright Brothers museum and airport in the Outer Banks of North Carolina."

Thomas is now based in Bermuda and can only fly occasionally when he returns to the United States. He does have a number of projects at various stages of completion, but nothing significant, he says.

"Occasionally my imagination will be fired by the thought of taking an old object and repurposing it. I spend a lot of time scouring eBay and watching TV shows devoted to restorers and pickers," he says. "I do get a lot of pleasure from making things, and think that this will be a permanent part of my life." A

Gary Thomas, FSA, MAAA, is assistant director, Long Term, with the Bermuda Monetary Authority. He can be contacted at *gthomas@bma.bm.*

Among the Fish and Coral—Amazing!

For those who find scuba diving scary, **Sharon Giffen** says the most important thing to remember is that "the rules for scuba diving—how deep, how long and how fast you surface—are laws of physics. There are no exceptions, no bending the rules 'just this once.' Armed with that knowledge, it only takes some patience with the foreign sensation of weightlessness and practice to open up another world, where I find it impossible to stress over work."

Giffen became interested in diving as a child, watching Jacques Cousteau, Flipper and Sea Hunt on TV.

"At that time," she says, "I was fascinated by the fish and other creatures that they introduced; they also showed us that people could interact with the creatures without interfering with them. Of course, the travel and adventure were also pretty appealing to a small-town girl."

The wildlife still fascinates her.

"I really enjoy watching the tiny creatures and fish, trying to figure out what they are doing. I have had cleaner fish and shrimp give me a 'manicure,' (and) teased a small, but very aggressive fish by (gently) threatening his territory.… Pipefish cling to a blade of underwater grass, and float in the gentle current along with the grass, extremely well disguised. An octopus will shake hands with you, to check you out. Territorial little damselfish, 1.5 inches long, will strike your hand or face if you get too close to his eggs, or his algae patch."


Giffen says each dive is a brief visit to another world.


A Scarlett-Striped Cleaning Shrimp makes a rest stop.

Since learning to dive in the '80s, she has made about 750 dives, mostly in the calm warm waters of the Caribbean with her husband, but also in the Pacific, including Hawaii and Papua New Guinea.

"I treat each dive as a brief visit to another world where I have the privilege of seeing creatures not everyone gets to see, and to watch them getting on with their business of living," she says. "They mostly just ignore divers or—as I refer to us—big, noisy bubble-fish. I never dive with the expectation of seeing a specific fish or creature; I dive with the hope of seeing whoever happens to live in that place—knowing full well that we'll never find everyone who is there."

A few dives stand out as particularly special.

"In Hawaii, on a night dive, we saw manta rays, with a 10-foot wing-span swooping and dancing gracefully as they fed on plankton that is attracted to light shining on the water," she says. "In Papua New Guinea, we saw a 25-foot whale shark; in fact, he swam so close to me that I reached out and stroked his velvety side as he drifted by—drifting for him is, however, much faster than I can swim."

The colors are astonishing as well.

"Fish and coral are the most amazing brilliant colors. Imagine the most exotic flowers and birds, vibrant reds, brilliant yellows and every shade of blue—that is just a casual glance around on a coral reef. Look closer to find violet, orange and the many shades of green also common," she says.

Diving has also given Giffen a streak of environmentalism.

"Actions that destroy the aquatic world steal from future generations the wonder of a world of which we have seen only a tiny fraction," she says.

She is excited about her next trip—to Belize this May.

"I have always said that my best dive ever will be the next one," she says. 🅰

Sharon Giffen, FSA, FCIA, MAAA, is president of Foresters Canada. She can be contacted at *sgiffen@foresters.com.*

On Board with SHIP

Dwight Bartlett believes that volunteering is a way of staying involved, particularly for actuaries who are entering retirement.

"There are so many opportunities that utilize your expertise, so pick those that are a good and satisfying match for you," he says.

Bartlett's background is in health insurance. When he retired, he began volunteering one day a week with Maryland's Anne Arundel County Department of Aging and Disabilities in their Senior Health Insurance Assistance Program (SHIP). The program is sponsored by the Centers for Medicare and Medicaid Services (CMS) but is implemented across the country by county governments. SHIP's mission is to help seniors, mostly those approaching or in Medicare-eligibility age, to understand what their options are, including Medicare's options and employer-sponsored retiree health insurance, as well as Medicaid and other government programs for assisting seniors to obtain and afford health insurance.

For Bartlett, volunteering equals involvement.

Over the three years he has been with SHIP, he has found the experience rewarding by "seeing my clients appreciating the help I give them."

His clients most frequently ask what they should do and what choices they should make.

"Of course, I don't tell them what to do, but merely help them to understand their options," he says. "We have a very complex system, unnecessarily so in my opinion. Even well-educated persons have trouble understanding their options."

Bartlett has "come to understand much better the stress my clients feel in making a critical decision for themselves. Many have limited incomes in retirement."

He enjoys the experience of helping his clients in a hands-on way.

"Much of my business and professional career was spent leading organizations where I had little contact with the ultimate beneficiaries of my work," Bartlett says. "I wanted a volunteer job where I dealt face to face with those who, hopefully, benefited from my expertise. Since much of my background was in health insurance, SHIP seemed a natural fit." 🅰

Dwight Bartlett III, FSA, MAAA, is principal of Bartlett Consulting Services, Inc. He can be contacted at *dkb3fsa@verizon.net.*

The SOA At Work

SOA RESEARCH—MAKING AN IMPACT

IF YOU PICKED UP A NEWSPAPER, surfed online news sites or turned on any number of radio or television broadcasts in late March and April, you may have heard about new health care-related research from the Society of Actuaries. This research addressed a major question raised by the U.S. Affordable Care Act, namely possible changes in underlying medical claim costs as markets and circumstances change under the new law. The study predicted that claim costs would increase in most states, with the amount of the increase varying widely among the states.

With ACA implementation set to take place in 2014, costs associated with health care are a hot topic. And the SOA research provided new insight that was of great interest and resulted in hundreds of news articles, and dozens of local and national broadcast stories. Among the media who covered the SOA research findings were *CNN, Fox, USA Today, Associated Press* and *National Public Radio*.

The research quickly caught the attention of policymakers and requests for more information came to the SOA from both the majority and minority staffs of the U.S. Senate. I was pleased to be part of the SOA team that discussed the research at two Senate staff briefings in late April.

We were told by the Senate staff members that a major reason our research received such attention was that it was from a truly non-partisan organization. Indeed, the SOA has no political interests and no "position" on any legislation; our interests lie in providing relevant, objective data and information to members, policymakers, regulators and the public on important societal issues. SOA members have told us that they want actuarial expertise to be considered on issues like health care reform, and we believe that providing non-partisan research is one meaningful contribution the SOA can make in this arena. This is in keeping with the SOA's mission and supports the SOA's 2013-2016 strategic plan, which calls for the SOA's activities to "inform public policy development and public understanding." In fact, research that informs public policy issues is not new to the SOA. During the past few years, we have produced research on pension issues through our Rapid Retirement Research that has also been of interest to policymakers in Washington, D.C. We have a long history of providing mortality and experience data useful to state insurance regulators, information for the public on retirement risk, and relevant research in many other areas.

We've also released new research evaluating the impact of aging on health care costs, which has been of interest to policy staff on Capitol Hill and others. Another research study scheduled for release later this year will explore some elements of success for accountable care organizations, with particular attention on reducing costs, managing risk and related actuarial issues.

Developing a formal strategy to guide the SOA's activities with respect to public policy-related topics is underway. While we think these activities are grounded in our research mission, we need to give additional consideration to how we can be most effective in carrying out this aspect of our work. Our recent experience shows that non-partisan contributions through the SOA's research are already adding value to important public policy discussions.

Please look for more information from the SOA as we continue our consideration of this topic and of the ways we can be most effective in meeting this part of our mission. A

— SOA Executive Director Greg Heidrich

How Well Do You Know Who We Are?

ACTUARIAL HISTORY QUIZ ANSWERS

Did you read Larry Stern's editorial on page 8? He talks about a quiz that was distributed at an SOA Leadership Conference—a quiz designed to gauge how well attendees knew about the profession from a historical viewpoint. Take the quiz and see how well you do. Enjoy!

1. e. Ruskin
2. b. Hugh Baker
(1818—First Life Insurance Actuary)
3. e. Jacob Shoemaker
(1809 First Life Insurance Actuary)
4. d. 1949
5. c. 1866

Bonus: Who was the first female actuary?
(**Answer:** Lucy Jane Wright, Union Mutual Life in Boston appointed her as actuary. Unfortunately her duties only lasted seven months because she became ill with tuberculosis and died one year later.)

6. b. Toronto
7. a. Actuarial Society
8. d. Edmund M. McConney
9. c. 1960

Bonus: What year was the preferential ballot for president-elect introduced?
(**Answer:** 1963)

10. d. Barbara Lautzenheiser (1982-83)
11. a. 76

Extra credit answers:
1. True
2. True
3. False
4. True
5. False

THE ACTUARIAL PROFESSION IN THE NEWS

The SOA is focused on raising awareness of actuaries in the media. Recent efforts have been successful. Here are just a few examples:

Women Need To Plan For A Longer Post-Work Life Than Men
The Washington Post quotes retirement actuaries discussing issues affecting women in retirement. For the whole article, visit *www.washingtonpost.com*, search term Carla Fried, or use the QR code.

Industry News From RIAA
The Retirement Income Industry Association names Anna Rappaport the winner of its 2013 Practitioner Thought Leadership Award. To read the article, visit *www.lifehealthpro.com*, search term Anna Rappaport, click on "NerdWallet …" article, or use the QR code.

Dust Off Your Math Skills: Actuary Is Best Job of 2013
Actuary ranked best job for 2013. To read the article, visit *http://blogs.wsj.com*, search term Actuary, click on "The Best And Worst Jobs" article, or use the QR code.

Pension Math Overwhelmed by Discount Rate
Longer life spans are putting some pressure on corporate defined benefit plans, but changes in the interest rates used to calculate liabilities are by far the biggest issue facing pensions, experts say. For the entire article, visit *http://blogs.wsj.com*, search term Pension Math, or use the QR code.

View all of these articles by going to *www.soa.org/newsroom* and clicking on the Profession In The News link. A

PROFESSIONAL DEVELOPMENT OPPORTUNITIES

INVESTMENT-BASED INSURANCE GUARANTEES CONFERENCE
July 8 – 9
Dublin

ENTERPRISE RISK MANAGEMENT TECHNIQUES AND PRACTICES
Aug. 5 – 7
Chicago

DYNAMIC HEDGING ESSENTIALS, MASTER CLASS AND WORKSHOP
Aug. 8 – 9
Chicago

CRITICAL ILLNESS INSURANCE FORUM
Sept. 16 – 18
Ft. Lauderdale

DI & LTC INSURERS' FORUM
Sept. 18 – 20
Ft. Lauderdale

VALUATION ACTUARY SYMPOSIUM
Sept. 23 – 24
Indianapolis

ALM TECHNIQUES AND PRACTICES
Oct. 14 – 16
London

ANNUAL MEETING & EXHIBIT
Oct. 20 – 23
San Diego

EQUITY-BASED INSURANCE GUARANTEES CONFERENCE
Nov. 18 – 19
Atlanta

View all Professional Development opportunities by visiting *www.soa.org* and clicking on Event Calendar.

Recommended Readings

The following is a list of recommended readings from the contributing editors that they feel will pique your interest and help keep you informed.

From Jay Jaffe

Naked Statistics: Stripping the Dread from the Data **by Charles Wheelan**

The New York Times described *Naked Statistics* as" … a riff on basic statistics that is neither textbook nor essay but a happy amalgam of the two." If you're an actuary in need of a quick statistical refresher course or someone who would like to get a better feel for how to discuss statistical concepts with non-quantitative people, this is a good book for you. This read may also increase your understanding of how statistics are used (or misused) by others to make their points. Wheelan also offers that statistics can be applied to help find solutions for many societal problems and might inspire some actuaries to tackle one of these vexing matters. The book is not a hard read for actuaries (we shouldn't be intimated by the book's contents) and my guess is that it will help many of us to find ways to improve our ability to communicate statistical and actuarial concepts and findings. To read more, visit *http://books.wwnorton.com/books/Naked-Statistics* or use the QR code.

From Tim Paris

Wait: The Art and Science of Delay **by Frank Partnoy**

The premise of Frank Partnoy's latest book, *Wait: The Art and Science of Delay,* is that even as technology and the pace of daily life accelerate, many of the choices we make, in time frames ranging from split seconds to years, benefit significantly from delay. The author shares many practical and amusing examples. Actuaries, like fighter pilots and first dates, will likely appreciate the power of the OODA Loop (Observe-Orient-Decide-Act). And we can all use the recipe for the best temperature to eat crow. So don't just do something, stand there. But if you're already a procrastinator, you should still read this book … someday. Read more at *www.publicaffairsbooks.com* search term Wait or use the QR code.

E-COURSES: GROWING YOUR KNOWLEDGE

THE SOA IS PROUD to offer 20 e-courses worth more than a combined 80.00 CPD. See our full listing at *www.soa.org/ecourses*.

Decision Making and Communication

Decision Making and Communication (DMAC) provides a foundation for making decisions related to complex business problems that require the involvement of many stakeholders and decision makers. DMAC presents a decision-making process that is specific enough to provide solid guidance when making decisions yet general enough to be applicable in a wide variety of situations.

Financial and Health Economics

This e-course is designed to provide you with an overview of the financial and health economics disciplines and their relevance to the actuarial profession. Financial economics is the study of the production, distribution and consumption of goods and services. These disciplines underlie all financial and health services.

Fundamentals of Actuarial Practice (FAP)

This e-course is set in the context of the control cycle. It encompasses real-world applications and uses examples to demonstrate actuarial principles and practices. You will also have opportunities to apply these principles and techniques in traditional and nontraditional actuarial practice areas. With the fundamentals in your toolkit, you will be better prepared to apply your learning to new areas of practice that may emerge during the course of your actuarial career.

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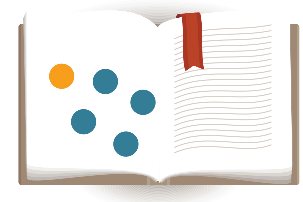
Contact info@ica2014.org with any questions.

Good Research Reads



COMPLETED EXPERIENCE STUDIES

- 2008-09 Individual Life Experience Report
- 1990-2007 Individual Disability Experience Committee Report
- 2007-09 US Individual Life Persistency Update
- Preferred Structures Survey Report
- 2011 Credit Disability Experience Report and Tables
- Mortality Improvement Scale BB

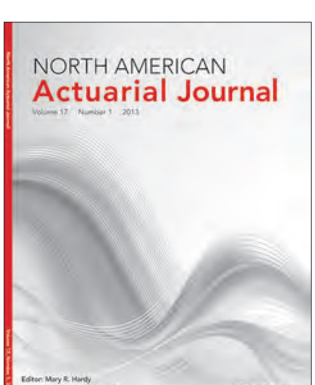
To view a complete listing, visit ***www.soa.org/Research*** and click on Completed Experience Studies.

COMPLETED RESEARCH STUDIES

- Life Reinsurance Treaty Construction
- Comparative Failure Experience in the U.S. and Canadian Life Insurance and Banking Industries from 1980 to 2010
- When Black Swans Aren't: Holistically Training Management to Better Recognize, Assess, and Respond to Extreme Events
- Application of Actuarial Science to Systemic Risks
- How Fair Value Measurement Changes Risk Management Behavior in the Insurance Industry
- Living to 100: Insight on the Challenges and Opportunities of Longevity
- Cost of the Newly Insured Under the Affordable Care Act
- Validating the PRIDIT Method for Determining Hospital Quality with Outcomes Data
- Risks & Mitigation for Health Insurance Companies
- Policyholder Behavior in the Tail Risk Management Section Working Group UL with Secondary Guarantee 2012 Survey Results
- Application of Actuarial Science to Systemic Risk
- Value Investing and Enterprise Risk Management: Two Sides of the Same Coin
- Back Testing of Investment Performance by Asset Class
- Observations on Input and Output Smoothing: How do they affect the funding of defined benefit plans?
- Measures of Retirement Benefit Adequacy: Which, Why, for Whom, and How Much?

To view a complete listing, visit ***www.soa.org/Research*** and click on Completed Research Studies.

SOCIETY OF ACTUARIES DEVELOPS PARTNERSHIP WITH ROUTLEDGE, TAYLOR & FRANCIS GROUP



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SOA members have free access to the *NAAJ* on Taylor & Francis' online platform at ***www.tandfonline.com/uaaj.*** Enhanced features include improved searching; fully hyperlinked text, articles and references; citation export; RSS feeds; back archives fully searchable and hyperlinked; ability to save favorite searches, issues and articles; and an optimized mobile layout. Instructions for accessing the journal's content on Taylor & Francis Online are available at ***www.soa.org/naaj***. Click on the FAQs for detailed information. If you wish to continue receiving a print copy of the *NAAJ,* please log in to your SOA member profile and opt in.

YOU drive the session ideas.

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YOU present.

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SOA 2013

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SOAAnnualMeeting.org

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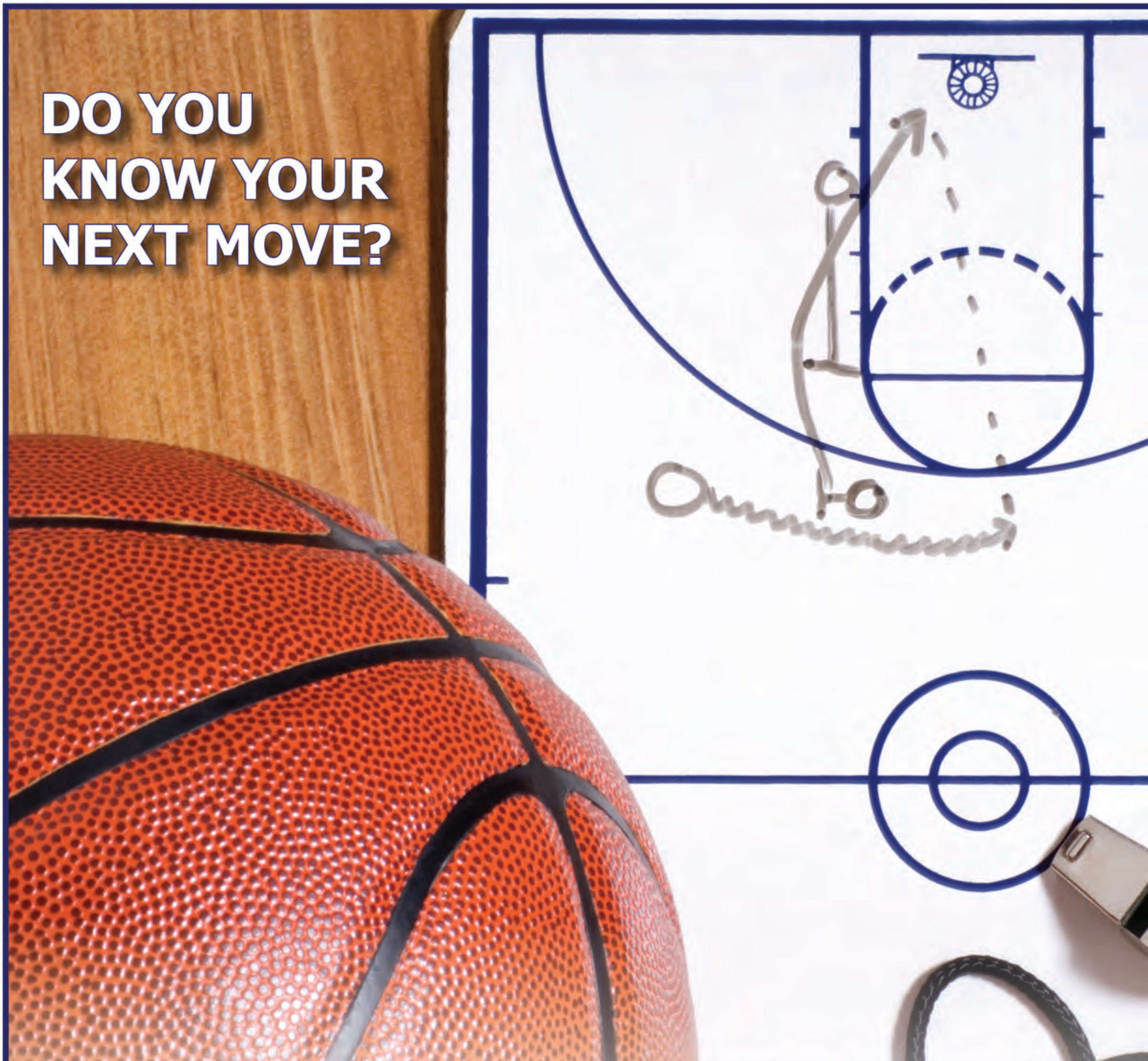

PolySystems experts can help reengineer your valuation and modeling processes and provide an "end-to-end" solution from a single actuarial system.

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