SOCIETY OF ACTUARIES

The Actuary

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An explanation of systemically important financial institutions

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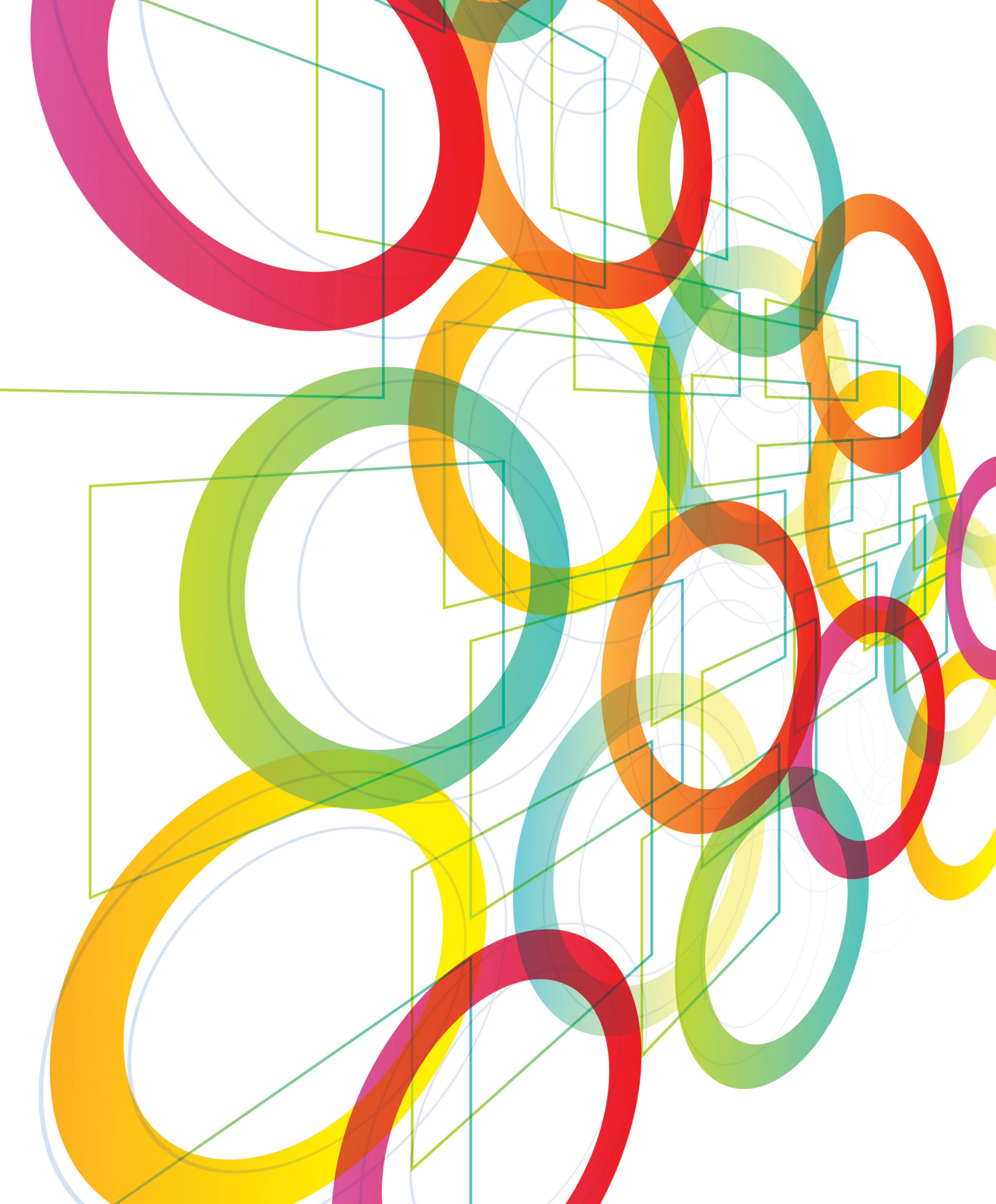

Aug/Sep

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Editorial

THINKING A LOT ABOUT RISK LATELY, TOO

BY JAMES RAMENDA

SOA PRESIDENT BRAD SMITH made some thought-provoking comments in a recent Letter from the President (*The Actuary*, February/March "The Nature of Risk"). In particular, as a result of his "thinking a lot about risk lately" he pointed out some potentially uncomfortable realities concerning hoped-for avenues of growth for the actuarial profession:

- A sample of very large insurance companies' CROs shows that only about one-third were credentialed actuaries.
- To date, the CERA designation is still working toward one of its original purposes: to broaden the designation's appeal to a meaningful number of non-actuarial professionals.
- Research indicates barriers to entry for actuaries in pursuing enterprise risk management (ERM) in nontraditional areas, including a perception that our education is not relevant to non-insurance related industries.

Among the conclusions was that these facts suggest a re-examination of an idea that has enjoyed some prominence in the past decade, i.e., that actuaries can penetrate non-insurance-related ERM (the example given being ERM for a hypothetical candy bar manufacturer—I use airlines when discussing this possibility, myself). A corollary conclusion was that growth may be more readily achieved by increasing focus on the markets we currently serve.

I've spent about 30 years in nontraditional work, including my current job designing and marketing risk management systems for hedge funds, so I've been thinking a lot about risk lately, too. Now, one might expect a "nontraditional actuary" to take issue with the foregoing conclusions. However, my experience suggests that President Smith's points are not only well-founded, but if anything, they could be expanded to include some of the broader challenges facing our members and our brand.

More specifically, I think the prospects in new and/or non-traditional areas are in some ways a reflection of trends in the traditional insurance and pension areas and therefore must be addressed together. I believe that even well before the financial crisis, many of our members' traditional employers had reached a very mature stage as a result of the maturing demographics of their end-customers. Top-line growth flattened out in many lines of business. Where there was high growth it was sometimes accompanied by large losses, such as occurred in early long-term care products and certain forms of variable annuities.

It's logical that as end-customer-driven demand for our traditional employers slows, so too, does these employers' demand for actuarial services. The good news is that the actuarial profession is not suffering the full effects of this slow-down in end-customer demand because there is currently a boom in "process-driven growth," i.e., new opportunities arising from regulatory, governance and financial reporting processes.

While there is no substitute for strong end-customer demand, process-driven demand does have its attractions. Just consider what process-driven demand has done for the accounting profession in the form of Sarbanes-Oxley. CPAs are now an integral part of the corporate governance process. Any process that absolutely requires a professional's signature can be very good for that profession, at least in the short term.

But process-driven demand has disadvantages as well:

- Because it brings costs and complexity to businesses, it rewards scale and consolidation, rather than development of new products and markets.

- With consolidation large companies grow larger, but fewer in number, with a net reduction in higher-level jobs industry-wide.
- Smaller entrepreneurial companies are disproportionately burdened, reducing opportunities for some of our most creative members.
- Some may view the nature of process-driven work as less intrinsically rewarding than market-driven work.

Also, while it is tempting to think of the ratcheting-up of regulatory and reporting complexity as the very embodiment of the mythical "Actuaries' Full-Employment Act," the ultimate outcome can be far different. Actuaries of my vintage can remember the ERISA boom that was to guarantee the careers of anyone working with private sector defined-benefit plans. In retrospect, ERISA actually foreshadowed the peak of employer willingness to offer private sector defined-benefit plans. Likewise, perhaps, there may currently be big opportunities at the outset of U.S. health care reform, but in the long term it is easy to imagine scenarios (e.g., single payer) that would greatly decrease the demand for health insurance actuaries. And while all the solvency and accounting changes on the way may create voluminous initial work for some, they may also cost others their jobs permanently by reducing the returns available to their employers.

I see a connection between demand in the traditional industry environment and President Smith's concerns over the prospects for actuaries in new areas like broader risk management. My experience is that at least some CERAs, as well as many nontraditional actuaries, in general, have pursued those directions not because they wish to avoid traditional actuarial work, but rather because the market for such work has changed in the ways indicated above.

So I think we must not only re-evaluate the path to growth in new areas, but also examine the growth trend in traditional areas. Too often it seems to me that we have defined our growth in terms of supply, e.g., number of new fellows or exam-takers, and not by the demand for our services. In this column I've speculated on the trends in demand, both the level and the nature of the demand, but this is simply my own conjecture. I think we need to get a better understanding of the future demand side of the equation in both new and traditional areas in order to determine how best to protect and build our brand for our current members, as well as being realistic regarding the standards for students and helping them understand the prospects they can expect.

James Ramenda

The financial crisis punctuated an era of significant change in the business models and fortunes of many of our profession's traditional employers. It also accelerated the rise of ERM and spawned new areas of process-driven demand for actuarial services, even as it further pressured end-consumer driven demand. As I agree with President Smith's call for a re-examination of our potential new avenues for growth, I see the issues involved in this effort and the issues facing traditional areas as two sides of the same coin, both looking vastly different than most would have thought 10 years ago, both facing challenges worth a closer look.

James Remenda, FSA, CERA, is senior vice president, Enterprise Risk, SS&C Technologies, Inc. He is also a former chairperson of the Entrepreneurial Actuaries Section and serves on the Project Oversight Group for the Developing Demand for Actuaries project. He can be contacted at *jramenda@sscinc.com.*

Letter From The President

PROFESSIONALISM

BY BRADLEY M. SMITH

WHETHER INTERVIEWING a prospective employee or potential consultant, employers/clients want to learn three important pieces of information about you.

First, the obvious. They want to know whether you are capable of doing the job. Like many boys growing up, I wanted to be a major league baseball player. Unfortunately, my inability to hit the curveball kept me from realizing that dream. I did not meet the first criteria. Specifically, I could not do the job.

Second, they want to know whether you have integrity. A few years ago I went to the Web and did an Internet search of the word "integrity." Please, no jokes about a baby boomer searching for integrity on the Web. I did find a working definition that appealed to me. Unfortunately, I am unable to attribute it to its author. Nonetheless, "integrity" was defined as, "Doing the right thing even when no one is looking." When you think about the scandals of the past, be it Watergate, Enron/Arthur Andersen or Bernie Madoff, this definition seems to fit well. Consequently, the second piece of information all prospective employers/clients want to know about you is, can I trust you to do the right thing even when no one is looking?

The third and final piece of information they want to know is, do you have enthusiasm for the job? Today, the world is so competitive; you will not be able to commit the time and effort necessary to succeed unless you truly love what you are doing. I am fortunate in that I love what I do professionally. I always have. It is what I would choose to do if I didn't have to work for a living. In some real respect, I have never "worked" a day in my life; other than the summer before entering college when I worked on a hot tar roofing crew! Consequently, putting in the effort necessary to get the job done has never been an issue with me. This is what potential employers/clients are looking for.

I frequently speak to college students. One question I hear quite often is: "Do grades matter?" If you accept the premise that all potential employers want to know the three things outlined above, of course grades matter! They matter because they specifically address question 1 (do you have the necessary ability to perform the job?) and question 3 (do you have enthusiasm for the job?).

I recently had a college graduate ask me to do a "mock interview" with him before he went into his real interviews. I asked him to send me his résumé and his college transcript. Turns out he was a very mediocre student, receiving C's in many of the subjects in his major. I had to be honest with him. If he were interviewing with me, I would ask him one question: "Given your performance in college, are you average/mediocre or did you just not care?" It has to be one or the other, right? Either he did not have the capability to perform at a high level in his given field of study or he wasn't willing to make the effort to excel.

It is difficult to answer question 2 (do you have integrity/will you do the right thing even when no one is looking?) affirmatively. However, you can prove that you do not/will not. How so? Cheat. Based upon recent reports it appears that cheating is rampant on our college campuses. Yet, cheating is a losing path, whether you get caught or not. If you are caught, you cannot answer the second question positively. If you are not caught, you may be hired by an employer/client who believes you have more capability than you actually have, leading to inevitable disappointment on their part.

Early in my career Milliman was engaged to conduct an appraisal of a life insurance company that was being sold by its founder for estate planning purposes. As a consultant on that assignment I was privileged to meet and work with the founder of the company and, over the years, we became friends. Many years later, in his early 80s, he decided he wanted to re-enter the life insurance business and asked us to look for a company that he could purchase. A few months later, we had identified a prospective company for him to purchase. We were discussing specific aspects of the potential target with his other advisors late one Friday evening. The problem with clients in their 80s is that most of their advisors tend to be in their 80s (your humble author being the exception). On this particular Friday night his (older) advisors were arguing against any transaction. Their arguments ran along the following lines; He didn't need the hassle … He shouldn't risk his capital … He should rest and take it easy … The problem was, he was tired of taking it easy. He loved running and building an insurance company and wanted to do it again!

As the night wore on it became obvious that we were not going to resolve whether or not to proceed. I suggested we re-convene Monday morning after we each had an opportunity to think about it over the weekend. Everyone agreed. I went home exhausted and immediately crashed. I woke up around 3 o'clock the next morning thinking about the possible transaction. Knowing that I would not get back to sleep I got up, went to the gym and worked out, headed to Denny's for a quick breakfast and then ended up in the office around 5:30 on Saturday morning. Never before had I been in my office at 5:30 on a Saturday morning. I was thinking about the transaction when my phone rang about 6 a.m. I thought it was Karen, my spouse, asking what the heck I was doing in the office. It wasn't. The caller was my elderly client. He immediately started talking about the transaction and we continued to talk until about 9 a.m., by which time he had decided to proceed with the transaction.

As we were wrapping up, I asked him if he had called my house earlier, assessing how I would deal with an irritated spouse who had answered a call from a client at 6 a.m. on Saturday. I will remember his response until the day I die.

"Of course not. I knew you would be in the office."

As I said earlier, I had never been in the office at 6 o'clock on a Saturday morning in my entire career!

He is a client who will never engage the services of a competitor. He will never negotiate a reduced billing rate (although he always chides me over the level of actuarial billing rates)—not unexpected for an individual who grew up dirt poor during the Depression.

What are we talking about? We are talking about being a professional. What are the attributes of professionalism? Specialized knowledge/capability. Personal integrity. Commitment to completing the assignment. Courtesy.

An actuary shall act honestly, with integrity and competence …

Bradley M. Smith

A quick review of the Code of Professional Conduct adopted by each of the five U.S.-based actuarial organizations reinforces this notion:

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

Precept 2: An actuary shall perform actuarial services only when the actuary is qualified to do so …

Precept 4: An actuary who issues an Actuarial Communication shall take appropriate steps to ensure that the Actuarial Communication is clear …

Precept 7: An actuary shall not knowingly perform Actuarial Services involving an actual or potential conflict of interest unless the actuary's ability to act fairly is unimpaired and there has been disclosure of the conflict …

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

Precept 9: An actuary shall not disclose to another party any confidential information …

Precept 10: An actuary shall perform actuarial services with courtesy and professional respect …

If you are a member of any of the five U.S.-based actuarial organizations you are bound by the Code of Professional Conduct. That is reason enough to comply.

However, it is not the only reason. Hopefully, as this column demonstrates, there is an equally compelling reason:

The marketplace wants someone with specialized knowledge and capability.

The marketplace wants someone it can trust.

The marketplace wants someone committed to completion of the assignment.

The marketplace wants someone who communicates clearly and is pleasant to deal with.

The marketplace wants professionals.

Bradley M. Smith, FSA, MAAA, is president of the Society of Actuaries. He can be contacted at *bsmith@soa.org*.

Around The Globe

THE EVOLUTION OF ACTUARIAL EDUCATION

BY JOHN I. MANGE

I WAS 16 YEARS OLD when I first heard the term "actuarial science." Intrigued, I wrote to the Society of Actuaries (SOA)—there was no *beanactuary.org* in those days—and learned that you had to be good at mathematics, and you had to pass some exams. My father had passed away about two-and-a-half years earlier. He left my family well-provided for, and actuaries, I also learned, had something to do with that.

The work of actuaries affects people's lives. What we do matters in a deep and abiding way to families like mine and, more generally, to society. As I considered whether or not being an actuary was right for me, I thought about a lot of things, but I didn't think once about what it means to be a professional or, for that matter, what a profession is.

"Professions are occupations with special power and prestige. Society grants these rewards because professions have special competence in esoteric bodies of knowledge linked to central needs and values of the social system, and because professions are devoted to the service of the public, above and beyond material incentives."[1] We acknowledge our duty to the public in Precept 1 of our Code of Conduct: "An Actuary shall act … in a manner to fulfill the profession's responsibility to the public. ..."[2]

But it is not just individual actuaries who have this duty. We share this duty collectively through our membership in the SOA. Integral to fulfilling this duty as a profession is optimizing how we educate and admit the next generation of actuaries to the SOA. Today, of course, we rely primarily on a self-study educational model enhanced last decade by electronic educational and assessment modules, e.g., the Fundamentals of Actuarial Practice, that most candidates supplement through the purchase of study guides, flash cards, and more. How did we get here?

Founded in 1889, the Actuarial Society of America (ASA), a forerunner of the Society of Actuaries, formed its first examination committee in 1896.[3] It set one examination for associateship and another for fellowship. Soon thereafter, the profession began to consider how best to educate future actuaries. In 1905, Arthur Hunter, a member of both the Faculty of Actuaries and the ASA, offered suggestions[4] regarding how to help actuarial students progress through the examinations and how to better prepare them for their careers, including:

- "Giving them the tools of their profession which include the Transactions of the Actuarial Society ... the Institute of Actuaries' Text-Books … and many other volumes."
- Adding subjects to the syllabus such as finance, banking, pensions and a more thorough treatment of accounting.
- Encouraging actuaries to structure work assignments for their aspiring students as educational opportunities.
- Arranging monthly lectures on subjects not covered adequately in the textbooks. "These lectures might then be published as the 'Text-Book of the Actuarial Society of America.'"

In 1910, the ASA published its first course of reading. By then, there were four associateship and two fellowship examinations. In short, expanding the course of reading and finding ways to supplement our self-study model of actuarial education has been part of our culture almost from the beginning.

Our self-study model was, then, the only practical approach to educating future actuaries. In the ASA's earliest days, very few universities offered actuarial programs of any kind.[5] By the 1950s, a number of universities had taken notice of the actuarial profession and had begun to offer actuarial courses, but even then, relatively few individuals began their actuarial education at university.

By the late 1960s and for much of the 1970s, consideration was given to an "alternate route" to associateship. In his 1969 presidential address, Wendell Milliman, then president of both the SOA and the American Academy of Actuaries (Academy), described this proposal as granting Academy credit for the first five examinations of either the SOA or the Casualty Actuarial Society (CAS) to individuals who had earned a master's degree in actuarial science at an "accredited institution" and who also passed a single comprehensive examination covering the appropriate subjects. In his 1975 presidential address, Charles Trowbridge commented on the "very unusual relationship" between the actuarial profession and the academic world. "We put little or no emphasis on academic degrees, and we have no university-connected actuarial schools giving the equivalent of M.D. or J.D. degrees. … [W]e rely on a professionally run (as opposed to academically run) education and qualification system." He went on to argue that the alternate route would strengthen the ties between the profession and academia and thereby enhance the reputation of the profession. Two years later, the Advisory Committee on Education and Examinations, which had initially supported the alternate route, withdrew its support, and the debate about an alternate route ended.

The idea of granting exam credit for some university course work has been discussed from time-to-time since then, but it has never been adopted by the SOA.

Other professions take a different approach to determining who to admit as new members. The legal and medical professions, for example, require aspiring lawyers or doctors to take challenging examinations—the Law School Admissions Test and the Medical College Admissions Test, respectively—before they begin their formal legal or medical training. Assuming they score well enough on these examinations, they will spend years preparing for their careers in highly focused graduate programs. Aspiring doctors in the United States must pass two examinations—the United States Medical Licensing Examinations (USMLE) Steps 1 and 2—by the time they complete medical school. Following that, they participate in an apprenticeship program (called a residency) during which they must pass a third examination, the USMLE Step 3. Only at that point are they able to apply for an unrestricted license to practice medicine. The route for lawyers is simpler. Once they have successfully completed law school, they need only pass a state bar exam to become licensed as a lawyer.

Outside North America, the actuarial profession has moved toward granting examination credit for some university work at accredited universities. The Institute of Actuaries of Australia has offered exam credit for some university work since 1968. The Institute and Faculty of Actuaries in the United Kingdom have accredited entire actuarial programs since 2006. They have offered exam credit for some university work for many years.

In 1973, the Canadian Institute of Actuaries (CIA) became a cosponsor of the examinations administered by the SOA. To a CIA candidate, this meant that a portion of the CIA's qualification requirements could be met by passing certain SOA examinations. In late 2011, the CIA announced its decision to offer an additional pathway to meeting its qualification requirements. "Beginning September 2012, approved universities can offer courses giving students the option of applying to the CIA to gain exemptions from writing certain Casualty Actuarial Society/Society of Actuaries (CAS/SOA) examinations leading to associate and fellow status in the CIA."[6] Among the reasons for offering an additional pathway was "The option of exemptions from exams … will open up the profession to a broader range of potential actuaries by increasing interest in actuarial science among students across Canada."[7] The CIA clearly perceives that a university-based pathway will better serve the Canadian public by expanding interest and attracting more highly qualified candidates to the profession.

Whether you agree or disagree with the CIA's reasoning or decision, it is a noteworthy event in North American actuarial education. I encourage you to read more about the CIA's new pathway in Rob Stapleford's article found on page 14 in this issue of *The Actuary*.

John I. Mange, FSA, MAAA, is president, Health Reinsurance Management Partnership, in Danvers, Mass., and also general chairperson, SOA Education Executive Group. He can be contacted at *jmange@hrmp.com.*

ENDNOTES

1 Larson, Magali Sarfatti, *The Rise of Professionalism: A Sociological Analysis*, Berkeley, CA: University of California Press, 1978, p. x.

2 Adopted by all five U.S. actuarial organizations and effective Jan. 1, 2001, Precept 1 states in full "An Actuary shall act honestly, with integrity and competence, and in a manner to fulfill the profession's responsibility to the public and to uphold the reputation of the actuarial profession." Rule 1 of the Canadian Institute of Actuaries' Code of Conduct is similar.

3 Much of the history of actuarial education here is drawn from Chapter VII of *Our Yesterdays: the History of the Actuarial Profession in North America, 1809–1979* by Ernest Moorhead and published by the Society of Actuaries, 1989.

4 Hunter, Arthur, "Some Suggestions Regarding the Education of Actuarial Students and the Future Activities of the Society," TASA 9, 26.

5 The first university-based actuarial courses in North America were delivered at the University of Toronto in 1875. It was not until 1902 that university-based actuarial courses were even offered in the United States—at the Universities of Michigan and Iowa.

6 Document 211117 of the Canadian Institute of Actuaries can be found at *http://www.actuaries.ca/members/publications/2011/211117e.pdf.*

7 Ibid.

THE CANADIAN INSTITUTE OF ACTUARIES UNIVERSITY ACCREDITATION PROGRAM

BY ROB STAPLEFORD

THE CANADIAN INSTITUTE OF ACTUARIES (CIA) is the national organization of the actuarial profession in Canada. Member driven, the Institute is dedicated to serving the public through the provision of actuarial services and advice of the highest quality by the profession. The Institute holds the duty of the profession to the public above the needs of the profession and its members as one of its Rules of Professional Conduct.

The CIA promotes the advancement of the actuarial profession in Canada through research, sponsors programs for the education and qualification of members and prospective members, ensures that actuarial services provided by its members meet extremely high professional standards, is self-regulating and enforces rules of professional conduct, and is an advocate for the profession with governments and the public in the development of public policy.

In light of these areas of focus and the need to respond to and anticipate changes in the business environment, the CIA wishes to ensure that the profession continues to evolve and meet the needs of future generations of actuaries in Canada. In response to this challenge, the Institute is focused on how the profession can attract the best and brightest talent to the profession now, to build a strong, unified, and sustainable Institute over the long term. One component of this strategy is how the Institute educates and qualifies members.

The CIA recognizes the education and examination systems of the Society of Actuaries and the Casualty Actuarial Society towards fulfilling the eligibility requirements for the ACIA and FCIA designations, and values the good relationships that it has with its education partners. The CIA also recognizes the education and examination systems of other organizations through mutual recognition agreements. The CIA supplements these outsourced aspects of education and examinations with additional Canadian-specific content at the fellowship level, through its practice education course (PEC), and continuing professional development requirements. To further enhance the existing education and qualification processes, the Institute identified an opportunity to better leverage the high quality actuarial education offered in Canadian universities.

A great deal of work has been completed over the past three years by the Institute. An accreditation committee (AC) was formed in 2010 with the mandate to build upon the work that had been completed on accreditation, and to implement an accreditation program in Canada. The AC worked with the CIA staff to develop and implement the Institute's university accreditation program (UAP). In order to have input from its education partners, representatives of the Casualty Actuarial Society (CAS) and the Society of Actuaries (SOA) were invited to join the AC as observers.

The goal of the UAP is to provide exemptions for some preliminary examinations while maintaining the strong standards of the exam-based entrance to the profession. The CIA believes that the UAP will allow for a rich and rewarding university experience that will make travel time to the FCIA designation more predictable and produce stronger, more capable actuaries for the future. The UAP policy, approved by the CIA board in March 2011, provides for exemptions for exams FM/2, MFE/3F, MLC/3L and C/4. No exemptions are available for the probability exam. Students will be required to complete the examination of the SOA/CAS/CIA for exam P/1 as well as the fellowship exams, modules and other eligibility requirements for the associate (ACIA) and fellow (FCIA) designations of the CIA.

Beginning in September 2012, accredited universities will be able to offer courses which will provide students with the option of applying to the CIA to gain exemptions from writing the examinations noted above.

The remainder of this article contains information on the criteria for accreditation, the process followed, and the final recommendations of the AC and the Eligibility and Education Council (EEC) to the CIA board for the accreditation of the Canadian universities which met the accreditation requirements.

The AC invited 16 universities to apply for accreditation on a course basis. In order to assess whether the UAP criteria were satisfied, a separate accreditation panel (AP) was formed for each of the 11 universities that applied. Each AP generally consisted of a member of the AC, an academic and a fellow of the CIA, as well as a representative from the CIA staff. Members of an AP may not have been affiliated with the university to which they were assigned within the past three years. Each AP conducted a site visit of approximately 1.5 days in length to assess the university's application. The visits consisted of a series of meetings with key members of the faculty and, where possible, the instructors who would be teaching the courses eligible for exemption.

Discussions with program and department heads as well as the dean or dean's representative allowed the AP to assess the university's commitment to the UAP and to the long-term enhancement of actuarial education in Canada. Discussions also focussed on the university's discipline process, which must have stringent and detailed procedures in place to ensure that the integrity of grades is maintained. The AP also met with the individual course instructors and lecturers, and compared the responses of the first group with those of the individual instructors with respect to their perspectives on accreditation, their views on the importance and commitment to hiring fellows as faculty members, and generally their commitment to their actuarial science program.

The number and type of faculty of each university are considered one of the key criteria for accreditation. The UAP policy calls for each university to have a minimum faculty complement to demonstrate a commitment to actuarial education and to the sustainability of the program. Typically, this requirement anticipates a faculty with at least four full-time faculty members, one of whom must hold a fellow-level designation and who will serve as the university's accreditation actuary (AcA). The AcA ensures that the courses being used for exemption purposes continue to meet the criteria and expectations of the CIA over the long term. The AcA works closely with the CIA to ensure that standards are maintained. The AcA role may be filled through a part-time or consulting role for a transitional period of up to four years. The AP met with the nominated accreditation actuary in each university to assess that individual's long-term commitment to the role, how they perceived their level of influence within the program, and their general orientation towards the UAP.

Using the learning objectives for each SOA/CAS/CIA examination, a syllabus mapping form was completed by each university for each exam in advance of its meetings with the AP. The form required the university to map its courses to all of the learning objectives, with minimum exam syllabus coverage of 85 percent. Where syllabus coverage was less than 100 percent, universities were asked to identify what additional material would be covered to make up any shortfall. During the meetings with individual course instructors, the AP reviewed the university's course outlines against the syllabus mapping form. Instructors were asked to provide examples of additional material taught outside the syllabus, including real-world examples to ensure that students receive a broad and realistic preview of the profession.

The goal of the UAP is to provide exemptions for some preliminary examinations while maintaining the strong standards of the exam-based entrance to the profession.

The university course outlines were also reviewed with respect to how the final course grade is calculated. Each course for exemption must have at least 80 percent of the final course grade coming from examination or test conditions. And, the total number of hours of examination within the courses required for exemption must exceed the number of hours of examination on the SOA/CAS/CIA examinations.

Course instructors were asked to supply exam scripts for each course as well as sample anonymous student exams for high achieving students, as well as for those who were not as successful, to determine the depth and breadth of the examination questions being used, how well the students were able to respond, and how hard or easy a particular instructor may have marked in order to assess whether improvement in grading standards was required. In particular, the AP was interested in seeing the quality of responses from students and the corresponding marks given to students in the target exemption mark range of B or higher.

Upon completion of the AP's site visit, the panel was charged to write a report using a standardized template to record the findings of the site visit and to make a recommendation to the accreditation committee.

The AC then reviewed the reports from each AP and met over two days to review and prepare their recommendation to the EEC. The AC's work included a thorough review of the estimated maximum percentage of students who would meet the minimum grade in each course required for each exemption in order to set a minimum exemption grade for each course in each university. The process for setting these grades was rigorous. In their original application, universities were asked to propose an exemption grade of B or higher for each course mapped to the SOA/CAS/CIA exam syllabus. B was chosen as the minimum requirement in order to be more stringent than the grade (B-) required for validation by education experience (VEE) within the current SOA/CAS/CIA examination structure.

To ensure a thorough review, the AC went back to each university to gather further historical information for each course regarding the number of students completing the course with a grade of B, B+ or A-, over the past two offerings. Typically two to three courses are mapped to each SOA/CAS/CIA exam syllabus, and students are required to achieve the minimum grade in every course to qualify for each exemption.

… the expected number of students who will receive exemptions will likely be less than the proportion of students who pass the traditional examinations.

The estimated number of exemptions for each course mapped to each exam was then compared to data supplied by the SOA and CAS on the overall passing percentages for each SOA/CAS/CIA exam that would be eligible for exemption. The AC also received information from the SOA for Canadian universities which included the number of successful candidates at each university-based test center for each of the exams in question. The AC noted that this data may not reflect all the students from that university writing examinations, that some students may not be enrolled in the actuarial science program but may still be writing exams, and that the statistics for some universities would be based on a rather small sample size of students. The AC also noted that there was a noticeable difference in success rates among Canadian universities. The AC attempted to recognize all of these factors in setting the minimum grade required for exemptions for each course in each university and concluded that it would be difficult to have one single grade apply to all universities and all courses.

There is also a compound effect that needs to be considered because in most cases, a student is required to achieve the minimum grade on more than one course to receive an exam exemption from the CIA. The AC concluded that the expected number of students who will receive exemptions will likely be less than the proportion of students who pass the traditional examinations.

A minimum exemption grade for each course in each university was then set by the AC that would produce an estimated number of exemptions lower than the overall passing percentage for the same SOA/CAS/CIA exams. In addition, the overall principle of keeping the final exemption grades between B and A- was applied. It is important to note that the recommended exemption grades are a starting point for year one of the program. Exemption grades and percentages will be monitored yearly against early predictions to assess whether adjustments are needed.

Upon completion of their review of the AP reports and the establishment of the minimum exemption grades, the AC prepared its report and recommendations for accreditation for consideration by the EEC. The EEC subsequently accepted the recommendations of the AC, and as a result, five universities received full accreditation (term of five years), and three universities received provisional accreditation (term of three years). Provisional accreditation provides universities with the same rights and benefits as fully accredited universities; however, some changes to the program may be required within an agreed-upon time frame.

The UAP Policy anticipated an appeal process for universities wishing to appeal the decision of the EEC regarding their application. For each university appeal, an appeal investigation panel was formed to review the original application, the AP report and other relevant information. The appeal investigation panel prepared a confidential report for consideration by an appeal review panel, which had the authority to make a final determination. Three universities appealed the initial recommendation of the accreditation committee, and as a result of the appeal process, two additional universities were accredited.

SUMMARY OF THE CRITERIA FOR ACCREDITATION

The criteria for accreditation are outlined in Section 3 of the UAP Policy, which is available on the CIA website or by sending a request to *accreditation@actuaries.ca*, and is broadly summarized below.

1. 85 percent coverage of SOA/CAS/CIA syllabus;
2. Additional material where less than 100 percent coverage;
3. Typically four full-time faculty, one of whom must be a fellow;
4. Accreditation actuary (fellow) approved by the CIA;
5. Strong testing procedures with at least 80 percent of a grade from examination-like setting;
6. Strong university discipline measures; and
7. Exemption grades of B or higher on each course required for exemption.

In addition to the policy criteria, the accreditation committee has developed guidelines for the accreditation program to aid in interpreting the policy. These guidelines will continue to evolve during the life of the program.

ACCREDITED UNIVERSITIES

The following universities are accredited for courses beginning on, or after, September 2012. (Listed in alphabetical order)

Concordia University
Simon Fraser University
Université du Québec à Montréal
Université Laval
University of Calgary
University of Manitoba
University of Regina
University of Toronto
University of Waterloo (Undergraduate and Graduate Program courses)
University of Western Ontario

PROCESS FOR GRANTING EXEMPTIONS TO STUDENTS

Students who achieve the minimum grade requirement in the accredited courses will submit an application form along with official university grade transcripts. An application fee of 80 percent of the corresponding SOA/CAS exam fee will apply. The AC considered a transitional measure where students who had achieved the minimum grade in accredited courses prior to September 2012 could apply to receive exemptions from the CIA. The AC decided against recommending retroactive exemptions despite the fact that many students will feel that they have been disadvantaged. The main reason is that the courses had not been evaluated by the CIA and would not have reflected any changes requested by the CIA to meet the minimum accreditation requirements.

NEXT STEPS

The CIA will appoint an external examiner for each university for ongoing monitoring and review. In addition, the CIA will maintain regular communications with the accreditation actuary in each accredited university to provide support and assistance where necessary.

There are a number of additional actions that need to be completed to implement the accreditation program. Many participants in the accreditation process identified that some form of recognition from our education partners is a key step in the long-term success of the UAP. Therefore, gaining recognition and acceptance from the SOA/CAS of CIA exemptions is a top priority for the CIA. The AC has been actively providing information to both the SOA and CAS for their review. In addition, because the CIA uses the education and examination systems of the SOA and CAS to qualify candidates for the ACIA and FCIA designations, it recognizes the importance of ensuring a continued clear pathway for all CIA candidates, including those with UAP exemptions, to fulfill those qualification requirements.

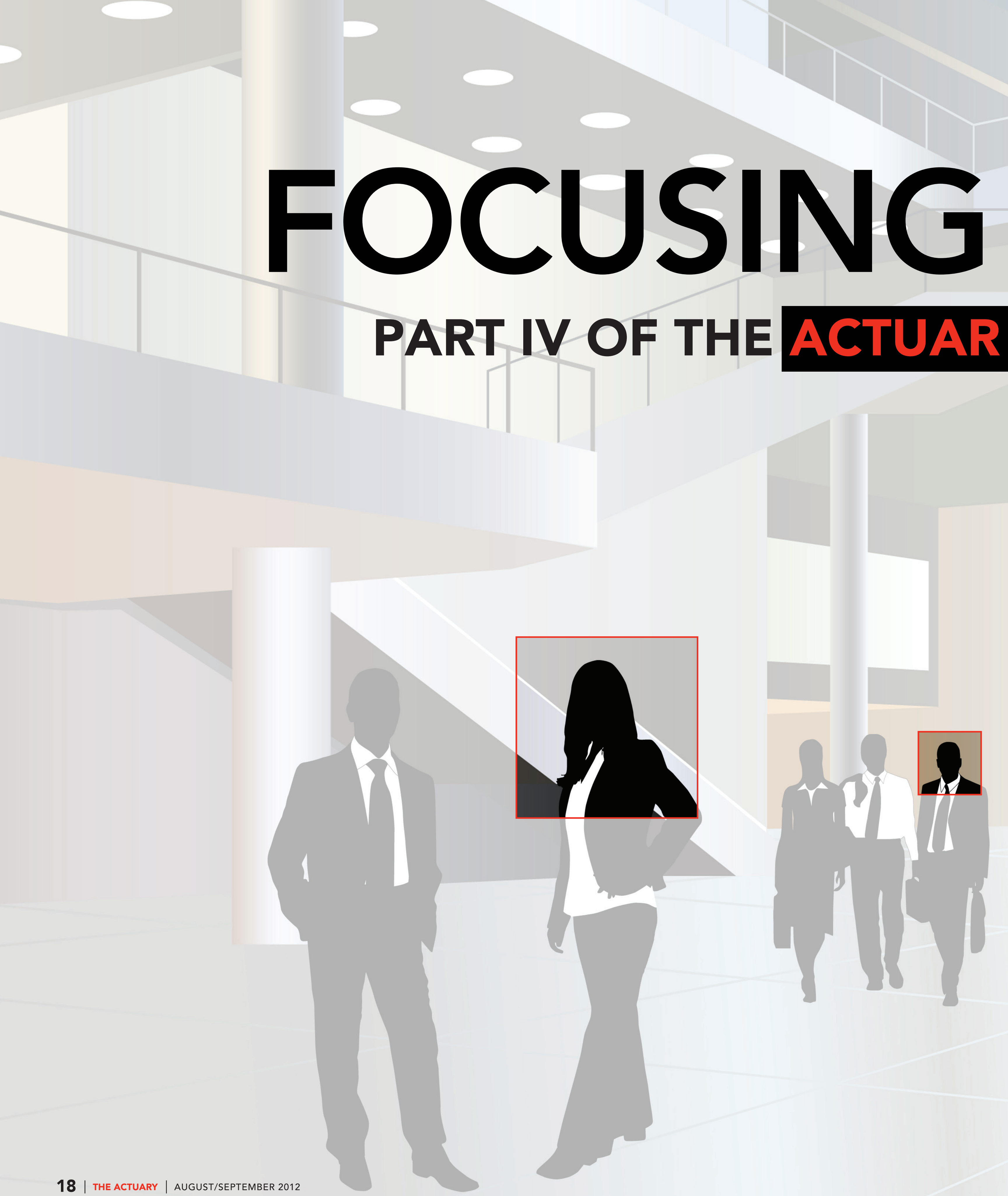
Other program-specific activities include the recruitment and training of external examiners to be appointed to review the accredited universities, ongoing monitoring and review of the program, and the development of administrative procedures by the CIA secretariat.

Questions or comments may be directed to: *accreditation@actuaries.ca*. A

Rob Stapleford, FSA, FCIA, is chair of the CIA accreditation committee and is CIA board director. He can be reached at *rob.stapleford@mercer.com.*

FOCUSING

PART IV OF THE ACTUAR



IN

IES ON BOARDS SERIES

THIS ARTICLE DISCUSSES WHERE ACTUARIES FIT ON BOARDS AND THE DUE DILIGENCE THAT IS IMPERATIVE BEFORE ASSUMING A BOARD POSITION. BY G.M. FILISKO AND MEMBERS OF THE SOA'S ACTUARIES ON BOARDS TASK FORCE

Responding to calls for more corporate accountability, many companies have appointed new, highly credentialed members to add teeth to their corporate boards. This trend may present opportunities for savvy actuaries to strengthen corporations and benefit shareholders while promoting their personal expertise and raising awareness of the reputation of the actuarial profession as a whole. However, not all boards are beds of roses. It's wise to perform thoughtful due diligence before accepting a board position.

Actuaries' financial acumen should mesh well with the responsibilities of several committees ...

The Society of Actuaries (SOA) has formed the Actuaries on Boards (AOB) Task Force to research the best ways for actuaries to pursue this career path. Recently the task force interviewed more than 15 actuaries currently working as sitting members of various boards in the hopes of gathering advice for those who might someday consider seeking such a position. This is the fourth in a series of articles in which the information gleaned from those interviews will be presented.

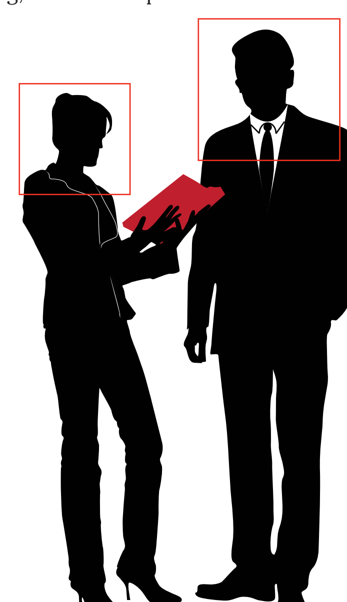
HOW AND WHERE ACTUARIES CAN HELP

Actuaries who've served on corporate boards say the typical actuary's strengths would benefit most boards. "Obviously, where actuaries have particular value is in the quantitative side of things," said Terri Vaughan, ASA, ACAS, MAAA, CEO of the National Association of Insurance Commissioners, who served on the Endurance Specialty Insurance and Principal Financial Group boards. "That involves understanding financial statements and the firm's financial condition, including how you think about that, what you look for, what you worry about, and the kinds of questions you ask. Capital adequacy is a big issue right now, especially on the boards of financial institutions. But not everyone on the board has the ability to think at a very deep level about that issue. Thinking about financial risk is something actuaries lend themselves to quite well."

Actuaries' financial acumen should mesh well with the responsibilities of several committees increasingly found on corporate boards. "Take a Fortune 500 or Fortune 1000 company, and which committees do those boards have?" asked Larry D. Zimpleman, FSA, MAAA, chairman, president and CEO of the Principal Financial Group. "All have an audit committee. Probably 60 to 65 percent of these boards have something called or similar to a finance committee. Maybe 25 percent have something that might be called a risk committee. As it becomes more common to have a finance or risk committee, that increases the opportunity for actuaries to take on board positions and focus on areas where their technical skill set would make them good contributors."

Boards are also increasingly being forced to shoulder more technical responsibility, and actuaries may be able to contribute on that front. "Whether it was originally because of the Sarbanes-Oxley Act and it's now to some degree because of the Dodd-Frank Act relative to financial companies, the job of boards is getting more focused around technical and risk management issues," added Zimpleman. "With Sarbanes-Oxley, it was more around accounting. With Dodd-Frank, boards are increasingly focusing now around risk management. I absolutely think this will be an opportunity that will emerge over the next couple of decades."

Because of the technical demands, corporations are increasingly considering CPAs for board roles. However, considering an actuary's rigorous training, actuarial expertise can be as or more effective. "Many companies are looking for CPAs to be on their boards," said Marla Glabe, FSA, who currently serves on the boards of Wintrust Wealth Management, First Insurance Funding Corp. and Northwest



Community Healthcare. She's also president of the North Shore United Way board of directors. "Primarily, or perhaps because of, the Sarbanes-Oxley Act, boards want accountants to populate their audit committee. Boards should also think about seeking actuaries to populate, if not their audit committee, at least their risk management committee. A board's finance committee would also be a natural for an actuary."

Executive compensation is also fertile ground for many actuaries. "You're actually seeing more and more actuaries work in the area of executive compensation," Zimpleman explained. "Most executive compensation isn't earned through base salary or an annual bonus. It's earned through long-term, deferred compensation. Actuaries are one of the few disciplines that can really understand how economic value is created, so the proper design of executive comp programs is something actuaries are well suited to do. Now shareholders are much more able to vote on whether an executive compensation program is appropriate. They have a vote, but they don't really have an understanding. Actuaries could play a very helpful role in helping investors and shareholders understand whether the design of executive compensation programs makes sense."

That contribution can also be broadened to employee benefits in general. "Actuaries can make a contribution not just in executive compensation, but in employee benefits," said Phil Briggs, FSA, MAAA, who began serving on boards in earnest after his retirement from MetLife. He has acted as a member of the board of directors for Trizec Properties, Interstate Bakeries and Blue Cross/Blue Shield, in addition to serving on several subsidiary boards during his career.

From One Leader To Another

THESE READING RECOMMENDATIONS come from SOA leadership including past presidents and board members. They are intended to be helpful to those looking to be more effective leaders.

- ***The Effective Executive*** by Peter Drucker
- ***The Path of Least Resistance*** by Robert Fritz
- ***The Little Green Book of Getting Your Way*** by Jeffrey Gitomer
- ***Execution: The Discipline of Getting Things Done*** by Larry Bossidy and Ram Charan
- ***Cut to the Chase*** by Stuart Levine
- ***Ready for Anything*** by David Allen

For the complete list, visit *www.soa.org/selfhelpreadings*

"I'm thinking particularly of pension plans where management has frequently made really bad decisions, not understanding the implications of what they were agreeing to. An actuary should be able to bring some conservatism to those decisions."

On the same page is Mike DeKoning, FSA, FCIA, MAAA, president and CEO for Munich American Re, who has served on several other types of boards, including the MIB Group and the American Council of Life Insurers. "Specifically, I'm thinking of pension and post-retirement medical costs," he said. "I'll call it long-tail liabilities of non-insurance companies—and all insurance companies as well, obviously. One thing we were struggling with when I joined the MIB Group was an aging workforce; a lot of people who went there never left. It had a defined-benefit plan, which became increasingly costly as its employee population aged. Boards are struggling with what to do with legacy or even currently active defined-benefit plans. Those are areas where we can bring a fair amount to the table because actuaries are equipped to understand them better than the average board member would."

DUE DILIGENCE FIRST

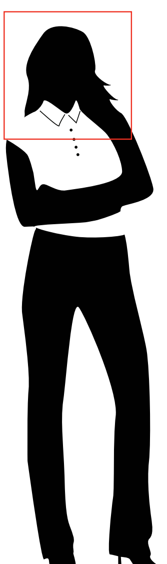
It is clear that actuaries have much to offer the boards of corporate America. As with any opportunity, serving on a corporate board carries risks that must be carefully assessed.

"There are a number of people who like the idea of being on a board for a variety of reasons—perhaps compensation, perhaps prestige, perhaps other things—so there's an inclination to accept rather promptly an invitation to come on a board," explained Brad Smith, FSA, MAAA, chairman at Milliman Inc., who has served as an advisor to commercial boards. "But there's real responsibility and also real liability on boards."

That's become especially true in the past five years, according to Kriss Cloninger, FSA, MAAA, president, treasurer and CFO of Aflac who has served on not only Aflac's board, but also the boards of Tupperware

Brands and TSYS. "The world has changed for board members," he contended. "It used to be that boards weren't held as accountable legally as they perhaps are today. You see a lot of press about legal exposure for board members. Most people would argue that as long as you're performing your fiduciary function the way a prudent person would, you ought to be OK in terms of your legal exposure. Others, though, would say that if you're in a certain position, such as a financial expert on an audit committee, and your company has a problem with an audit or a material weakness in its internal controls, you're going to be held accountable because you didn't oversee management properly. Do you want to take that kind of a risk at this point in your career and from a personal liability perspective?"

Smith suggested getting as much information about the company as possible before making that decision. "I'd advise any person who's considering joining a board to be pretty careful because once you're on, you're on," he said. "It's not so easy to get off. You can always resign, I know, but it's embarrassing. Do your homework before you accept."



What does that homework encompass? Smith suggested starting with an Internet search to review the company's financials, along with every nugget of news and press information you can unearth.

"It's trying to find as much information as you can on the company," said Dave Holland, FSA, MAAA, who researched IA American before he agreed to serve on its board. "IA American is a publicly traded subsidiary of IA Financial in Canada, so there was a fair amount of information available. I also had interviews with top management and discussions about what they were trying to do and where they were headed. Also, Munich has operations in Canada, so I knew people at Munich who knew people at IA, and they were able to say that it's a top-rated, top-flight company."

You need to ask questions, including how you'll be compensated for your service. "I'm on a board that does compensate very well, and I'm on another board that doesn't compensate very well, at least not at the moment," said Cloninger. "With the latter, financial performance has been weak of late, so the company can't be aggressive in increasing board compensation. You need to have your eyes open on the front end and realize that you want to be reasonably paid for any responsibility you take on and any risks you end up being exposed to."

A related consideration is the time you'll be required to devote. Ask how many board meetings there are each year and where they're located. And if you're offered a board position for a struggling company, multiply your time commitment by some factor that makes sense. "I'd prioritize a situation where the company, its strategy, and its management team is in a viable, ongoing mode," said Zimpleman. "That's where there aren't large, well-known issues hanging out there about its business strategy or its ability to actually stay in business or get financing in the capital markets; or it hasn't had significant accounting restatements or other things that would make its credibility a bit of a risk. Those are difficult, and you need to recognize how challenging that's going to be. You're not going to be paid any more. You're just going to have to work a lot harder. Some actuaries might like that. I'd probably say, 'I just don't have the time and commitment to do that well.' My goal would be to help a company get better. A fixer-upper situation would be a little bit more challenging."

Also give other board members a once over. "Now I'm much more sensitive to the culture of the board," said Vaughan. "That's harder to get your arms around. But how well does the board get along? What are board members' views of corporate responsibility? That gets to the ethics of the firm, the culture of the firm, and the interaction between the CEO and the board. That's all very important because the reputational risk of being a director is huge, and you really need to understand what you're getting yourself into. Is this a firm that you want to put your reputation on the line as being associated with?"

An individual seeking a board position would also be wise to discuss potential committee assignments in order to find the highest and best use of one's strengths before accepting an opportunity.

Be wary of any board you sense is seeking your participation as a "trophy" board member. It is important to read as much as you can about the company and talk with individual board members. On some occasions you may learn that companies don't always disclose to board members everything that's going on. If you were the shiny, new actuarial or finan-

… be sure your due diligence analysis incorporates a worst-case scenario.

cial expert recently added to the board, this might display to the public that the company was completely pristine. However, some things may have been going on in the background that you didn't know about and you could likely be held responsible for stuff you had no idea was going on."

Finally, be sure your due diligence analysis incorporates a worst-case scenario. "You almost need to assume there's going to be some company crisis during the term of your board membership, and you're probably going to have to spend some extra time dealing with board responsibilities during that period," said Cloninger. "You want to be comfortable management has an appropriate tone at the top in terms of wanting to do the proper and ethical things and dealing with issues in a way that's satisfactory in terms of professional responsibility and ethics." The board has a significant role to play in the company's overall strategy when it comes to risk and their fiduciary responsibilities to shareholders. There is a balancing act to this role vis-à-vis management, and the boards of directors must assess management's strategy and know when, and how, to assert oversight of strategic plans.

The bottom line: Don't overestimate the risk, but don't dismiss it, either. "Unfortunately, the distribution of results on that is binomial," explained Dale Wolf, FSA, president and CEO of Jessamine Healthcare. Wolf has been a member of several boards, including Catalyst Health Solutions Inc. and Coventry when he was the company's CEO. "In 99.99 percent of the time, there's no realized risk to one's personal fortune. In that very small percentage of the time, it's a very bad answer. The secrets are obviously making sure there's the right kind of legal protection under Delaware or whatever law the corporation is governed by and making sure the company has separate insurance coverage for directors. There's no free lunch. Without the right homework, it's not worth the risk. With the right homework, I've obviously concluded it's worth the risk." A

G.M. Filisko is a freelance writer. She can be contacted at *gabifil@rcn.com*.

Actuaries On Boards Task Force: W. James MacGinnitie, FSA, FCAS, MAAA, HonFFA; Nancy Bennett, FSA, CERA, MAAA; Max Rudolph, FSA, CERA, MAAA; Vinaya Sharma, FSA, CERA; Thomas Terry, FSA EA, FCA, MAAA; John G. Turner, FSA, MAAA; and Amanda C. Fox.

DESCRIBING RISK CULTURE

HONEST AND ASTUTE DIALOGUE AND DEBATE ARE THE HEART AND SOUL OF THE ENTERPRISE RISK MANAGEMENT (ERM) PROCESS. ERM MAKES A DIFFERENCE BY COALESCING INTELLIGENCE WITH POWER, FORGED INTO ACTION. BY TIM CARDINAL

IN THE OPENING SCENES of Russell Crowe's 2010 *Robin Hood*, the king looks for someone who will not "mollycoddle" him and says, "let us see if we can find an honest man." The king encounters Robin Longstride and, observing him as "brave and honest" says, "Are you honest enough to tell a king something that he does not want to hear?" Robin responds to the question honestly and astutely. The king responds, "Honest, brave *{pauses}* and naïve." Moments later, Robin finds himself locked in the stockade awaiting torture and punishment. Imagine the next time the king pursues a challenging goal or asks subjects or risk managers for input.

Randomly choose an insurance company or financial institution and read its annual report. Many, if not most, companies state they have a strong risk culture. And that is not always true. Shortly before their downfall, Merrill Lynch's CEO said, "We've got the right people in place as well as good risk management and controls."[1]

What exactly is meant by "strong risk culture"? How would you describe it? Culture does not have color, shape or mass. What is best practice? Would you know it, if you saw it? Some ERM framework components, such as corporate governance and policy, best practices and company-specific adaptations are readily identified and implemented. ERM processes regarding people, dialogue, judgment, decisions, leadership and culture are fuzzy, elusive and difficult to implement.

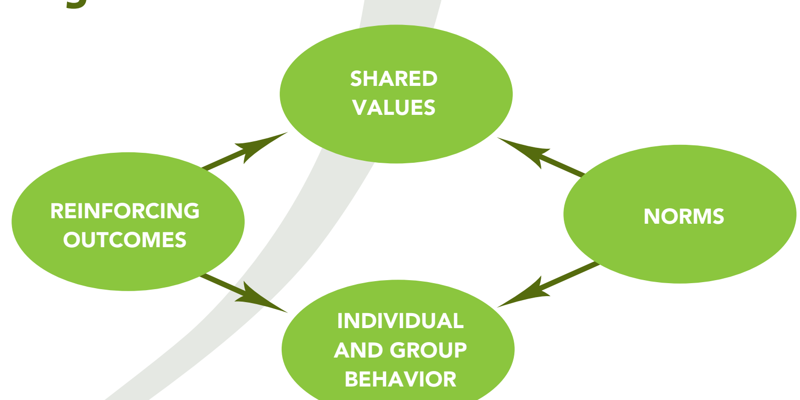
This excursion into describing culture is a sequel to "Strategic Organizational Behavior: Finding The Right ERM Fit," (*The Actuary*, Feb./March 2011).[2] In that article, Jin Li and I show that ERM is a complex, people-centric process and the topics of transparency, communication, conflict, and decision-making pitfalls are explored. We conclude ERM is more effective in decentralized networks employing high involvement management, and the right ERM fit can be found by involving the company's employees. A crash course in strategic organizational behavior is continued by exploring culture from *Organizational Behavior: A Strategic Approach* by Hitt, Miller, and Colella.[3]

CULTURE

Culture represents the shared norms and values governing appropriate behaviors. Organizational cultures go through development and reinforcement processes (see Figure 1 below). Positive and negative aspects of culture become self-reinforcing and difficult to change and are based to some degree on the homogeneity of associates and managers and the length and intensity of shared experiences in the organization.

ERM Spin: It can be difficult to discern ERM reality from appearances and the way management would have others perceive them. Culture exposes whether risk management is a

Figure 1



façade or a competitive advantage. When used to describe culture, the adjectives strong and weak indicate the nature and degree of alignment of associates with organizational values. Weak cultures often exercise control through rules and punitive force. Is risk management a framework of checkbox policies and procedures followed, and reports created, sent and dutifully filed? Or does ERM increase participation, stir dialogue and result in engaged employees productively, effectively and creatively implementing management strategy, tactics and decisions? The stories that are told within the company—challenges met, mistakes, near misses, poor decisions but lucky outcomes, well-thought-out failures, and how people are treated and valued—portray its culture.

STRUCTURE

Organizational structure can be described by structural characteristics and structuring characteristics. Structural characteristics include height (how many layers), span of control (number of reports) and departmentation (groupings of resources). Structuring characteristics are policies and approaches used to prescribe the behavior of managers and associates. Four dimensions of structuring characteristics include: 1) centralization is the degree authority is retained at the top; 2) standardization is the degree rules and operating procedures govern behavior and organization; 3) formalization is the degree rules and operating procedures are documented; and 4) specialization is the degree job scopes are narrow and limited in variety. Numerous factors have an effect on structure such as corporate strategy and size, environmental uncertainty, and technology.

A variety of self-explanatory labels can be used to describe two contrasting cultures and the spectrum between the two including: organic versus mechanistic, learning versus non-learning and boundary-less versus traditional. Whatever the label, a more flexible empowering type of structure is associated with fewer management levels, broader spans of control, and lesser amounts of centralization, standardization, formalization and specialization. The flexible approach provides freedom for lower-level managers and associates to think for themselves, communicate with anyone who could be helpful, and try new ideas.

ERM Spin: ERM provides centralized coordination but decentralized command—local authority and responsibility are unchanged. ERM is like the Central Intelligence Agency—a business intelligence agency—but also quite unlike the Central Intelligence Agency. ERM is not secretive but transparent and supports the decision-making process by aggregating and disseminating intelligence.
Some risks are simple to measure, monitor, interpret and manage. Other risks are infinitely complex and difficult to measure or monitor. Structural and structuring characteristics impact whether risk management enables or disables business opportunities or the company's ability to anticipate and manage changes such as strategic and emerging risks. Attempts to control risks through rules can actually increase risk by reducing the ability to respond to change or changing circumstances. The appropriate balance between policy and judgment must be considered. Vertical and horizontal layers increase the distance, create communication and collaboration challenges, and potentially decrease dialogue between acquirers and interpreters of risk intelligence and decision makers. A shared behavior of great leaders is that they are at the scene and go and get the intelligence from those acquiring it.

COMPETING VALUES MODEL

The Competing Values Model is based on two value dimensions: the first dimension relates the value placed on stability and control versus flexibility and discretion and the second relates the value placed on internal focus and integration versus an external focus and marketplace differentiation. See Figure 2 on page 27.

Four types of culture emerge: 1) clans are friendly workplaces with a great deal of commitment and loyalty; 2) hierarchies are formal and standardized; 3) markets can be difficult places to work due to a constant focus on results and outperforming colleagues; and 4) adhocracies tend to be vibrant workplaces with significant risk taking. Organizations usually possess elements of all four cultural types and need all four because morale, innovation, success relative to competitors in the marketplace, and efficiency are all important for long-term performance and survival. An organization often emphasizes one cultural type over another as each can be useful depending on circumstances.

ERM Spin: Companies and leaders should vary the what and how and adapt styles and cultures to global and local circumstances. Different people within the company have different responsibilities and their departments or divisions have different needs along these two dimensions. They will have different attitudes and perspectives towards risk/reward/revenue resulting in different preferences in risk taking and management strategies and decisions. The inherent conflict cre-

Figure 2: Competing Values Model

Stability and Control vs. Flexibility and Discretion

Clan Leadership – Mentors and Coaches Effectiveness – Cohesion and Morale	**Adhocracy** Leadership – Entrepreneurs and Innovators Effectiveness – Creativity and Innovation
Hierarchy Leadership – Mentors and Organizers Effectiveness – Efficiency and Order	**Market** Leadership – Hard Drivers and Competitors Effectiveness – Goal Achievement and Winning

Internal Focus and Integration
vs.
External Focus and Differentiation

ated by these differences can be functional or dysfunctional. Deciding the appropriate course of action for the circumstances based on sound ERM processes is reached through dialogue before, during and after. If one does not understand causes for success (and the risks taken) one will not understand what went wrong when one fails.

CULTURAL AUDITS

A cultural audit is a tool for assessing and understanding the culture's shared values and entails four steps. It is a complex and lengthy process requiring careful planning and preparation and is full of political landmines. When subcultures exist, one or more could include values substantially counter to organizational values. Such a counterculture may be difficult to manage but can also produce positive outcomes such as inducing a revolution, forcing change in a staid outmoded culture, or encouraging the development of new and creative ideas not allowed by existing norms. There are four audit steps:

1. Analyze socialization process/content of new associates/managers;
2. Analyze responses to critical incidents in the organization's history;
3. Analyze values and beliefs of culture creators and carriers (current leaders); and
4. Explore anomalies discovered in other analyses.

ERM Spin: Poorly developed or weak cultures are less likely to tolerate a critical assessment. Strong cultures are more likely to welcome opportunities to learn and to become even better. Is the organization a learning culture that identifies, develops and shares best practices inside and outside the company? Are risk dialogues embedded broadly and deeply in the organization and occurring throughout the decision-making process not only at the end but at the beginning? Interpreting and implementing decisions requires a high involvement culture and capable associates. ERM execution is more than controls, compliance and check-boxes. ERM anticipates, enhances speed, puts a finger on the pulse of emerging risks, and uncovers opportunities to exploit strengths and business potential.

ORGANIZATIONAL CHANGE

Organizations are not static entities but constantly face internal and external pressures for change. Internal pressures include aspiration-performance discrepancies and lifecycle forces as a company grows. External pressures include technological advances, regulations, societal values, political dynamics, changing demographics and increased global interdependence. The process of planned change can be described as unfreezing, moving and refreezing. Change agents must consider tactical choices regarding the speed of change and the style of change. Organizations often encounter resistance to changes due to a lack of understanding, different assessments, self-interest or low tolerances for change. The biggest challenge is changing people's behavior.

ERM Spin: Effective change requires effective leadership. The chief risk officer (CRO) is a recently created position. For companies that have appointed a CRO, what has changed or is different? If the culture has deficiencies, how does a CRO go about changing the culture? When drastic change is needed, oftentimes new and external senior management are hired precisely because it is too difficult to change culture from within. In addition to breaking down risk silos, ERM also breaks down cultural silos.

TRANSACTIONAL VERSUS TRANSFORMATIONAL LEADERSHIP

Leadership is the means of providing direction and influencing individuals or groups to achieve goals. Effective leaders are more concerned with strategy (do the right things) than tactics (do things right). The right things include the ability to create and communicate vision, communicate with and gain support of multiple constituencies, persist in the desired direction even under bad conditions and create the right culture to obtain results.

Transactional leaders understand what followers want from their work, clarify links between performance and reward, respond only if performance is unsatisfactory, and utilize a contingent reward behavior and active and objectives. Charismatic leaders are tied to higher stock prices—stakeholders make larger investments, innovation, creativity and long-term performance.

Transformational leadership has the strongest impact on the situations demanding that associates perform outside explicit expectations by providing extraordinary effort or being innovative. Integration of transformational and transactional leadership approaches is the most effective leadership strategy.

ERM Spin: Decisions are not made by institutions, corporations or policies. Decisions are made by people exercising integrity, wisdom and judgment. Recent failures such as Merrill Lynch, HBOS, Countrywide, Hurricane Katrina, Madoff, Toyota and BP all share failed responsibility and judgment in behaviors, decisions and actions as a common cause. A leader that has the right stuff also needs to dictate ideas, problems and solutions. Collaboration really means communicating marching orders. Autocrats equate delegating busy tasks as delegating meaningful responsibility, authority and resources. Autocrats restrict engagement at idea formation, participation in problem definition, and exploration of different perspectives and alternatives and solutions. Instead, ideas, initiatives, innovation and creativity are dictated. Autocrat risk managers practice control ERM, not high involvement ERM. Associates only need to know enough to do their jobs, not how their job pertains to the whole. Rules and policies are established forbidding or curtailing others from having or exercising responsibility, authority or judgment. Fearful of Autocrats, Chicken Little managers must be seen by superiors and peers as always right and in control. Thus authority and resources are micromanaged and misused. The staff responds NOW! to perceived mistakes and the crisis of the day

management-by-exception style.

Transformational leaders increase followers' awareness of achieving valued organizational outcomes, vision and required strategy, encourage placing organizational interests first, raise level of followers' needs in part by continuous development/improvement to strive for higher levels of accomplishment and utilize charisma, intellectual stimulation and individual consideration. They communicate vision through personal action, emotional appeals and symbolic forms such as metaphors, delegate significant responsibility and authority, eliminate unnecessary bureaucratic restraints, provide coaching and developmental experiences, encourage open sharing of ideas and concerns, encourage participative decision making, promote cooperation and teamwork, modify organization structures and policies such as selection and promotion criteria to promote key values know how to get things done, i.e., the right stuff done the right way. Leading by example starts with how associates are treated and valued. Gen. Patton wrote, "There is a great deal of talk about loyalty from the bottom to the top. Loyalty from the top down is even more necessary and much less prevalent." Dozens of applicable words could be substituted for loyalty. Transformational leadership provides a cornerstone for high involvement management and managing significant risks.

A TALE OF TWO CULTURES

In "Strategic Organizational Behavior: Finding The Right ERM Fit," (*The Actuary*, Feb./March 2011), to illustrate a point we considered the symptoms of three cultural diseases, "Yes, Afraid and Safe," in the extreme. Now consider the additional disease of Autocrat. Autocrats (managers, department heads or C-positions) as life or death. The modus operandi is a short-term, threatening and reactionary focus with a lack of long-range planning and lack of learning and improving by understanding and addressing root causes of successes and failures. Proactive capabilities, infrastructure and work processes are not built, thus perpetuating the next crisis. These managers do not make choices—all work is a high priority. Through adept office politics, blame is transferred, credit is stolen, and good associates are miscast in a negative light. Morale suffers and staff burnout results.

In contrast, transformational leaders promote a high involvement culture and have the courage and confidence to admit when they are wrong rather than maintain they are right. They would rather be right in the end (results). Great leaders go to the scene, initiate getting intelligence firsthand from acquiring sources, and encourage participative exploration of alternatives even when it suggests their own views might need to be reconsidered. They champion true team players who define what winning means (strategic/tactical/project objectives), give credit and take blame, ask tough probing questions, speak up when something can be done better or should not be done at all, and strive to do the right thing even when difficult or poorly received. They exercise unity of command (i.e., one decision maker). The way they treat and value the contributions of associates inspires followers to give their best.

DIALOGUE: OPEN AND CLOSED

Compare our *Robin Hood* scene with the culture described by Gen. Stanley McChrystal in his 2011 SOA Annual Meeting Presidential Luncheon speech. In 2003, the United States' fight against al-Qaida was not going well. The United States needed to collaborate fully with global agencies yet the U.S. intelligence agencies were themselves operating in cultural silos. Global and U.S. leadership assessed and determined change was needed. Gen. McChrystal assumed command. He did not blame the staff as incapable or try to change the culture with words or exhortations. He accomplished changes by leading and by being an example through his day-to-day actions. He successfully navigated many of the issues covered in the cultural section above and built a strong risk culture. One example he gave was his 90-minute daily Web conference call with 200+ participants (and more people lurking) representing intelligence agencies from 27 countries. He described a typical exchange via a brief given by a young junior intelligence officer. He addressed her by name, Susie, and asked her questions he knew she could answer so she could demonstrate her expertise and abilities to everyone on the call. Then he asked her point-blank for her opinion on what she would do. He thanked her for contributions. Follow-up discussions occurred between small groups across the globe including those who didn't get air time during the Web call. He contrasted this with an executive's BlackBerry response of "OK" to reports, emails or recommendations. What does OK mean—go ahead or don't waste my time? Another contrast given was the corner office and the isolation it creates versus going to the sources, sharing information and involving and valuing people. Imagine the next time the general pursues a challenging goal or asks for input. Staff, knowing it will be read, heard, discussed and valued, will give brilliant briefings and will not mollycoddle the general. With the culture being indoctrinated day in and day out, staff produced extraordinary efforts and achievements.

ALL THE RIGHT WORDS

One insurance company cited its strong risk culture was due to collaboration, bottom-up involvement, non-silo teams, everyone is a risk manager, etc. Competitive advantages in risk management included their investment department and hedging capabilities. The CRO and management portrayed a culture freely exchanging ideas with risk management embedded in every process including hedging and product development begin-to-end stages. However, the culture was described by risk management associates as silos and walls—they were excluded from interdepartment dialogue. Product and investment departments (and hedgers) were off limits to ERM staff. The risk management department VP attended many meetings, but seldom apprised staff, providing directives instead. The CRO's direct reports never disagreed. When asked to cite an example, one VP said that in the past five years he had not once disagreed, stating the CRO was smart and always right.

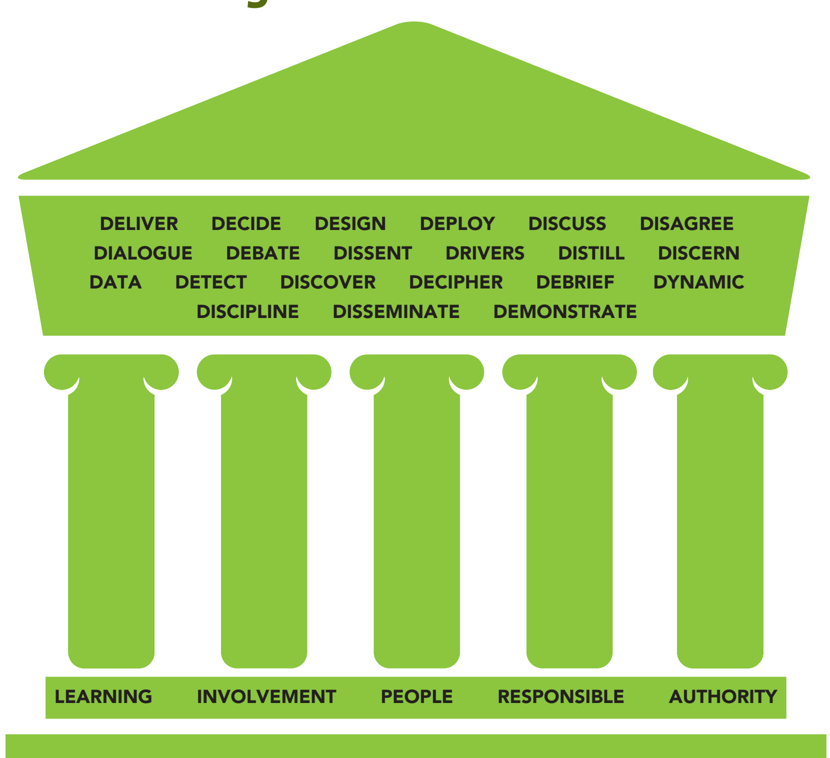
NOT OPEN FOR DISCUSSION

Another company appeared to have a strong risk culture. It was an early adopter of ERM, appointing a CRO, defining risk appetites and tolerances, and identifying and monitoring risks with a risk dashboard. All the appropriate buzz words were, and are, used by management. However, as narrated by several mid-level actuaries (at various times in the years prior to the risk failure), associates were expected to perform tasks with little delegation of responsibility, authority or involvement. The culture was indeed strong, but negatively. Which questions were allowed to be asked or issues to be pursued and debated and by whom were indoctrinated in their culture and associates' behaviors. The risk dashboard was dutifully and timely circulated to the management and board. The dashboard indicated risk exposure to stocks, and in particular bank stocks, was red and had been red for a few years. However, it was politically advantageous to overlook this risk exposure. During the crisis, the value of their bank stocks fell precipitously, representing more than 30 percent of the company's surplus, and resulted in a downgrade.

CONCLUSION: THE D'S OF ERM

Risk managers should be honest, astute, and brave—enough to tell a king something he does not want to hear. They shouldn't be naïve or fearful or punished. ERM is built on five pillars (see Figure 3 below). People are at the center—responsible stewards with authority built on a high involvement learning culture. Each layer of D's encapsulates the ERM process and corresponds to Keegan's stages of making intelligence useful, which we illustrated in "ERM, Lessons From WWII Codebreakers," (*Contingencies* March/April 2011).[4] The first layer (discipline, etc.) permeates the entire process. The second level is the first two stages (acquisition and delivery). Next, ask questions and gain insights into what really matters. Honest and astute dialogue and debate are the heart and soul of the ERM process. The third and fourth levels are Keegan's third and fourth stages (acceptance and interpretation). The fifth level is Keegan's fifth stage (implementation). ERM makes a difference by coalescing intelligence with power forged into action. Our sixth level is winning, performing and delivering results. To paraphrase Churchill, effective ERM can't guarantee victory, but a strong risk culture built on the D's and pillars can ensure that we deserve to win. ◼

Figure 3: The D's of ERM



Tim Cardinal, FSA, CERA, MAAA, MBA, is vice president, Polysystems, Inc. He can be contacted at *tcardinal@polysystems.com.*

ENDNOTES

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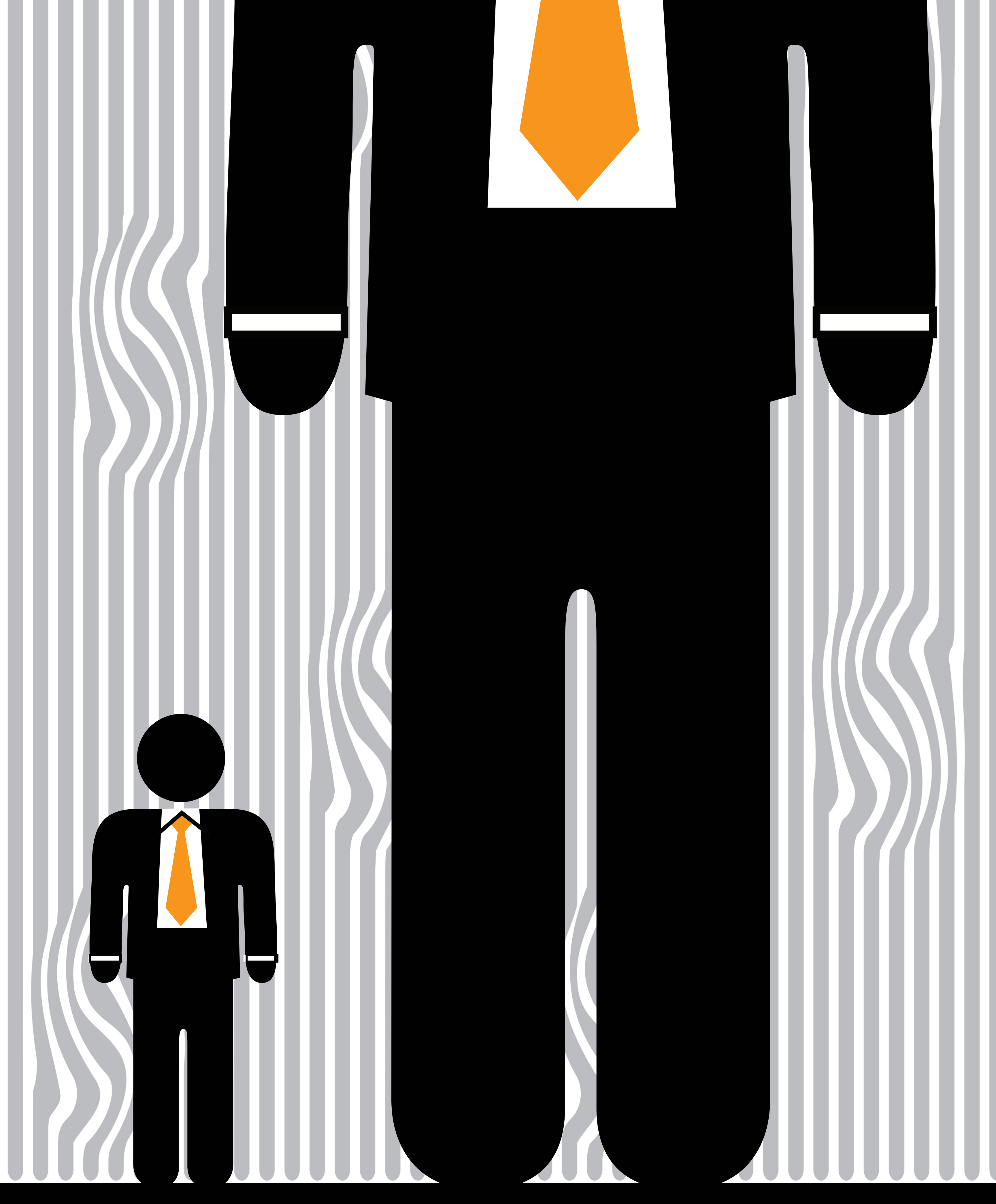
HOW BIG IS TOO BIG?

An explanation of what qualifies as a systemically important financial institution and the new rules those businesses will have to adhere to. By Jeffrey Schlinsog and Thomas Sullivan



During the financial crisis, a host of financial institutions contributed to and were impacted by the accompanying severe economic distress, including certain nonbank financial institutions. These nonbank financial companies (NBFCs) were not subject to the type of prudential regulation and supervision applied to U.S. banking organizations, nor were effective resolution mechanisms in place to address potential systemic risks at the largest and most interconnected financial firms.

In response, Congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank or the act). This act introduced the concept of macroprudential regulation to foster and protect the financial stability of the United States. A key objective of Dodd-Frank is to subject systemically important financial institutions (SIFIs) to enhanced prudential standards to limit any impact their distress may have on financial stability. Congress determined that any bank holding company with $50 billion or more in assets would be a SIFI, as would any foreign bank with U.S. banking operations that have worldwide assets of $50 billion or more. In the case of NBFCs, which include insurance companies, Congress left the question of which NBFCs should be designated as SIFIs to the Financial Stability Oversight Council (FSOC or the council). After much deliberation, on April 3, 2012, the FSOC approved the final rule and interpretive guidance it will use for determining when an NBFC is deemed systemically important to U.S. financial stability.

The council emphasized that its determinations would be on a case-by-case basis. Requests by several segments of the financial services industry (including insurance) to essentially exempt their segment from designation were rejected. On May 16, 2012, Congress conducted a hearing on the final rules and heard several concerns expressed by the insurance industry and its regulators over the possible designation of insurance companies. Chief among these are that insurers are not systemically important and are not suited to be regulated under a banking model.

DEFINITION OF FINANCIAL ACTIVITIES

Under Dodd-Frank, an NBFC is defined to be a company that is "predominantly engaged in financial activities," which means 85 percent or more of its activities in insurance and annuity related businesses as well as credit, real estate, asset management, securities underwriting and merchant banking.

Learn More about this topic

WANT TO LEARN MORE about this topic and related subjects? Check out:

Annual Meeting, Session 82, Dodd-Frank - Where Are We Now? *SOAAnnualMeeting.org*

Annual Meeting, Session 140, Solvency II, NAIC SMI and Risk Management - Can We Have it All? *SOAAnnualMeeting.org*

Valuation Actuary Symposium, Session 19, NAIC Solvency Modernization Initiative; *SOA.org/ValAct*

TREATMENT OF NONBANK FINANCIAL INDUSTRY SECTORS

In addition to insurers, several other sectors of the nonbank financial services industry (including asset managers, captive finance companies, money-market funds and the Federal Home Loan Banks) requested that the council exclude their respective industry from consideration, due to structural or other factors that make them less likely to raise systemic concerns. In the opinions of these NBFCs, it would be inappropriate to subject them to the type of enhanced prudential standards that are based on a bank holding company model. Nevertheless, the council stated that it would not provide industry-based exemptions from potential determinations, yet it does intend to afford such arguments due consideration in the determination process.

In certain comments received, clarification had been requested by hedge funds as to whether separate funds would be considered separately for purposes of total consolidated assets. The final rule remained ambiguous, as the guidance states that the FSOC "may consider the aggregate risks posed by separate funds that are managed by the same adviser, particularly if the funds' investments are identical or highly similar." Similarly, where asset managers asked for clarification as to how assets under management would be considered, the final rule merely states that the FSOC's "analysis will appropriately reflect the distinct nature of assets under management compared to the asset manager's own assets."

THE DESIGNATION PROCESS

For the designation process, the final rule describes a "three stage" process that will be followed by the council for determining whether an NBFC may pose a threat to the financial stability of the United States. The process is intended to progressively narrow the pool of NBFCs for review and possible designation. Only NBFCs making it to stage three may be subject to a proposed determination.

To designate an NBFC as a SIFI under the act, either of two determinations must be made—(i) that material financial distress at the NBFC would pose a threat to U.S. financial stability, or (ii) the nature, scope, size, scale, concentration, interconnectedness or mix of the activities at the NBFC could pose a threat to U.S. financial stability. In making a determination, the council must consider a number of statutory factors that the council has incorporated into an analytic framework consisting of six categories—three of which (size, interconnectedness and substitutability) seek to measure the impact of an NBFC's financial distress on the broader economy, and three of which (liquidity risk, maturity mismatch and existing regulatory scrutiny) seek to assess the vulnerability of a complex NBFC to financial distress.

THE STAGE 1 THRESHOLDS

Under the final rule, an NBFC will not be subject to further analysis beyond Stage 1 unless its total consolidated assets are $50 billion or more and it meets one of the following five thresholds.

1. **$30 billion in gross notional credit default swaps (CDS) outstanding for which an NBFC is the reference entity.** This threshold will likely be the more significant driver of "interconnectedness" across the market. The council intends to calculate this data through the Trade Information Warehouse, a subsidiary of the Depository Trust & Clearing Corporation. Also, in a Stage 2 analysis, the council will consider CDS for which an NBFC parent is the reference entity. Embedded derivatives will be included in accordance with GAAP when such information is available.

2. **$3.5 billion of derivative liabilities.** Currently the rule takes into account the fair value of derivative contracts in a negative position. For companies that disclose the effects of master netting agreements and cash collateral held with the same counterparty on a net basis, the council will take into account the effects of these arrangements in its calculation. As the current threshold captures only current exposure, the council said that it may revisit this calculation to consider potential future exposure.

3. **$20 billion in total debt outstanding.** The final guidance defines the term "debt outstanding" broadly and regardless of maturity to include loans, bonds, repos, commercial paper, securities lending arrangements, surplus notes (for insurers) and other forms of indebtedness.

4. **15-to-1 leverage ratio of total consolidated assets (excluding separate accounts) to total equity.** Separate accounts are excluded because they are not available to claims by general creditors of an NBFC. This means a surplus-to-assets ratio under 6.67 percent.

5. **10 percent short-term debt ratio of total debt outstanding with a maturity of less than 12 months to total consolidated assets (not including separate accounts).** Total debt outstanding will be defined the same as in measuring the amount above.

WILD CARD AUTHORITY

Because the uniform thresholds may not capture all of the potential ways an NBFC could be a threat to financial stability, the council may, in limited cases, initially evaluate an NBFC based on other firm-specific qualitative or quantitative factors, such as substitutability or existing regulatory scrutiny.

Although there is no notice provision for Stage 2, each NBFC in the Stage 3 Pool will receive a "Notice of Consideration" that the NBFC is under consideration for a proposed determination. The notice will include a request that the NBFC provide information that the council deems relevant to the council's evaluation, and the NBFC will be provided an opportunity to submit written materials to the council. The guidance accompanying the final rule sets forth in some detail the types of information—including qualitative information—which the council will be seeking.

FURTHER EXPLANATIONS AND CLARIFICATIONS

In the final rule, in response to other comments received, the FSOC provided further

… an NBFC is defined to be a company that is "predominantly engaged in financial activities."

What Is FSOC?

UNDER THE DODD-FRANK ACT, the Financial Stability Oversight Council (FSOC) was established to help provide comprehensive monitoring to ensure the stability of the United States financial system. The council is charged with identifying threats to the financial stability of the United States, promoting market discipline and responding to emerging risks. Comprised of 10 voting members and five nonvoting members, the council consists of federal financial regulators, state regulators and an insurance expert as appointed by the president.

explanation and clarification on various items including:

- **Accounting.** In applying the metrics, US GAAP will be utilized when available, and in its absence, statutory accounting principles (SAP), international financial reporting standards, or other such data will be used.

- **Timing.** The Stage 1 thresholds will be applied on the basis of the latest quarterly data if available.

- **Foreign NBFCs.** For purposes of evaluating Stage 1 thresholds, the FSOC will consider global assets, liabilities, and operations for U.S. nonbank financial companies, but only U.S. assets, liabilities, and operations for foreign nonbank financial companies.

- **Stage 3 Notices Only.** The FSOC rejected the requests of several commentators to provide notice to a company if it progresses to Stage 2 or does not progress to Stage 3. Similarly, the FSOC rejected the suggestion that it explain the reasons why a company will be subjected to Stage 3 review.

- **Resolvability.** An NBFC's resolvability may mitigate or aggravate, as the case may be, the potential threat to U.S. financial stability during the Stage 3 process.

- **Confidentiality.** The final rule clarifies that the confidentiality protections will apply as well to any data, information or reports that are being voluntarily submitted by an NBFC being considered for a determination.

FOR A LARGE NBFC, WHAT DOES ALL THIS REALLY MEAN?

The implications of being determined a SIFI place significant burdens, both real and perceived, upon those NBFCs officially designated. The burden will most likely be greatest on the first round of designees as the potential impacts are currently open to a wide range of speculation, and, without further clarity, will likely be viewed negatively in the short term by the market. Enhanced prudential standards for SIFIs (whether a bank holding company or NBFC) include higher capital and augmented liquidity requirements. SIFIs will also be subject to enhanced oversight, including the mandatory submission of resolution plans and prudential regulations and supervision by the Federal Reserve in selected areas such as increased levels of capital and liquidity.

It is important to maintain some perspective on the council designation process amid all the speculation in the financial press and company hallways about which firms may be designated. The council is clearly not going to use a Noah's Ark approach—two of every type of NBFC—as some have suggested, or displace state regulation of insurance. Many may appear called by the Stage 1 thresholds, but few are likely to be chosen (probably in the range of 1-to-3 NBFCs initially).

While no large NBFC gets a lifetime pass from designation, there are several other provisions of the act and the Group of 20 (G-20) reform agenda that are designed to reduce concentration of risks, such as the proposed single counterparty exposure limit and central clearing of derivatives that may well lessen the number of NBFCs likely to be designated in the future. The Federal Reserve will to some degree have to tailor enhanced prudential standards to NBFCs that are designated, as a wholesale transfer of the banking model will not be feasible. Devising that framework will have to compete with equally pressing regulatory requirements under Dodd-Frank that are already impacting agency bandwidth on reform.

At the same time, the FSOC may also take into consideration the International Association of Insurance Supervisors (IAIS) efforts, as they are currently developing their own process for designation of Globally Significant Important Insurers (G-SIIs). The IAIS (an organization of international insurance regulators), has been deputized to recommend G-SIIs, which will ultimately be determined by G-20 members. A data call was commissioned by the IAIS during 2011, where U.S. insurers submitted data confidentially for review. In the IAIS' review of the data collected, the need to establish common metrics and trigger criteria was revealed. After several months of deliberations to develop its criteria, on May 31, 2012, the IAIS' rule was proposed for a 60-day comment period (which ended on July 31, 2012). After the criteria is set, a second data call will be issued, which is expected to occur during 4Q2012, with G-SII determinations and recommendations expected to occur during early 2013. The IAIS feels its approach is consistent and aligned with the FSOC, which may lead the FSOC to wait until the final recommendations are made by the IAIS to ensure international consistency—a key objective of the G-20 process. In its proposed rule, the IAIS devoted discussion toward the deference shown to the jurisdictional regulator, and the need to share information amongst regulatory agencies.

In its proposed rule, the IAIS recognized how the traditional insurance business model has several unique features that are not typically found in banking, and therefore, in their view, less risky than banking. However, here in the United States, the FSOC made no such delineation for specific industries in establishing the systemic risk criteria. Such unique features identified by the IAIS as compared to banking include the technique of pooling insurance risk, a liability-driven investment approach, cash outflows that occur over an extended period of time, and a high degree of substitutability.

The proposed measures for the IAIS criteria include both quantitative and qualitative components, consisting of an 18-point system divided into five categories covering size, global activity, interconnectedness, substitutability, nontraditional and non-insurance activities. The criteria of the IAIS and proposed weighting factors to those criteria are also distinctive from the FSOC, advocating that size alone should not be a determining factor. In fact, the IAIS opines that size in traditionally regulated insurance is actually a favorable characteristic since "in an insurance context size is a prerequisite for effective pooling and diversification of risks," and thus assign a 5 to 10 percent weighting factor to size criteria. On the other hand, the IAIS assigns the most significant weight to two of its other criteria, those being 1) "Non-Traditional and Non-Insurance Activities" (40 to 50 percent), and 2) "Interconnectedness" (30 to 40 percent). Unlike the FSOC approach, the IAIS methodology adds the criteria of international activity and type of activities an insurer engages in, recognizing the unique features of insurance, such as the long horizon of insurance liabilities, the concept of pooling of risks, insurable interest, and cash claims patterns.

IN CONCLUSION

The adoption of final rules for designating SIFIs is one more milestone in the slow but steady implementation of Dodd-Frank. The process has been deliberate, reflecting the complexity of the issues, the vast amount of comments received from industry and interested parties, and resource constraints at the Federal Reserve.

In the next three to five years, insurance industry participants will fall into one of three camps. First, there may be a handful, or less, that are designated as SIFIs and made subject to Federal Reserve oversight. As some are already finding, they will have to build out significant infrastructure to comply with this additional enhanced supervision.

Next, there will be a group of 30 or so companies that meet the NBFC threshold of more than $50 billion in total assets, but are not deemed to be SIFIs. These companies will linger in an under watch status for an unspecified period of time, effectively creating a form of self-regulation of all potential NBFC-SIFIs to avoid being deemed systemic. These companies may operate with an eye toward not piercing the Stage 1 thresholds. While they are not subject to Federal Reserve supervision, they may begin to develop capabilities to satisfy those enhanced standards to the extent it makes good business sense.

The balance of the industry will not be directly impacted by Dodd-Frank except as it may impact centralized clearing of derivatives or limitations placed on counterparties. To date there is no indication that the NAIC will incorporate Federal Reserve enhanced supervision standards that so far are grounded on bank holding company oversight. Rather, the NAIC is clearly committed to its statutory insurance regulatory regime and is currently enhancing it under the Solvency Modernization Initiative. This system has proven to be effective in regulating insurance company solvency and is likely to persist for the foreseeable future. A

Jeffrey Schlinsog, FSA, MAAA, is a principal with PricewaterhouseCoopers. He can be contacted at *jeffrey.s.schlinsog@us.pwc.com.*

Thomas Sullivan is a principal at PwC and former Connecticut Insurance Commissioner. He can be reached at *thomas.sullivan@us.pwc.com*

Education

NEW CERA PATHWAY DEBUTS

BY STUART KLUGMAN

IN MARCH 2011 the Society of Actuaries (SOA) board of directors approved a new pathway for candidates earning the Chartered Enterprise Risk Analyst (CERA) credential and new CERA options for candidates earning the fellow of the Society of Actuaries (FSA) designation on tracks other than the risk management track.[1] This article focuses on the new components of the CERA pathway that became effective July 1 of this year. These components include the new Enterprise Risk Management (ERM) module and the new ERM exam. I'll also share information on the courseware being provided for the ERM exam. I'll also share information on the courseware being provided for the ERM exam.

THE ERM MODULE

The module provides the bridge between the introductory ERM material covered in the Fundamentals of Actuarial Practice (FAP) course and the advanced material covered in the ERM exam. The topics covered are:

- Introduction to enterprise risk management—what it is, why it is needed, who is involved, where it is needed and how it works.

Requirements For CERA Credential

THE CURRENT REQUIREMENTS FOR THE CERA CREDENTIAL ARE:

- Probability Exam (P)
- Financial Mathematics Exam (FM)
- Models for Financial Economics Exam (MFE)
- Construction and Evaluation of Actuarial Models Exam (C)
- Validation by Educational Experience (VEE) Economics
- VEE Corporate Finance
- Fundamentals of Actuarial Practice (FAP) Course
- Enterprise Risk Management (ERM) Module
- Enterprise Risk Management (ERM) Exam
- Associateship Professionalism Course (APC)

The ERM module replaced the former Operational Risk module on July 1, 2012. Candidates who have passed this module receive credit for the ERM module.

The ERM exam replaces the former Advanced Finance and ERM (AFE) exam requirement for CERA. Candidates who have passed AFE receive credit for the ERM exam. The new ERM exam will be given for the first time on Oct. 31, 2012.

Starting in Fall 2013, candidates on fellowship tracks other than the Corporate Finance and ERM track (where the ERM exam is a requirement) will have the option of taking the ERM exam in place of the two-hour exam in their track. This facilitates the earning of the CERA along with an FSA in a non-ERM practice area.

- Developing an ERM framework—risk maps, risk appetite, risk aggregation, strategic objectives, culture and organization.

- Regulatory and rating agency requirements—including Solvency II and Own Risk and Solvency Assessment.

- Defining, identifying and evaluating operational risks—including varying approaches, key risk indicators, sources and cost of risk.

- Data issues—types of data, internal versus external data and data validation.

- Risk measurement approaches—risk measures, extreme value theory and scenario and stress testing.

- Economic capital—development and analysis of an economic capital model using a case study.

- Putting it all together—summary of prior sections and how they bring a strategic focus to risk management.

The SOA's CERA pathway is designed to meet, and in places exceed, the requirements set out in the CERA Treaty.[2] One of the 50 learning outcomes is, "Develop an economic capital model for a representative financial firm." It is difficult to evaluate a candidate's achievement as it is not possible to fully evaluate it in a timed, proctored, written-answer exam setting. While we could provide a model that has already been developed and ask a candidate to analyze it, we cannot (in an exam setting) have them develop the model itself. However, in the ERM module, candidates work through a case study in which they construct and then analyze an economic capital model. This model is then used by the candidate to complete the required end-of-module exercise.[3]

THE ERM EXAM

This exam is the final component in the CERA pathway. It reinforces the CERA global learning objectives that were covered in FAP and the ERM module and fully covers the remaining objectives. The exam's learning objectives are that the candidate will understand:

- The types of risks faced by an entity and be able to identify and analyze these risks.

- The concepts of risk modeling and be able to evaluate and understand the importance of risk models.

- How the risks faced by an entity can be quantified and the use of metrics to measure risk.

- The approaches for managing risks and how an entity makes decisions about appropriate techniques.

- The concept of economic capital, risk measures in economic capital assessment and techniques to allocate the cost of risks within business units.

The launch of the ERM exam includes two exciting developments. The exam will contain practice area extensions and will also provide courseware to aid candidates in their exam preparation. Over time, the SOA will begin offering courseware to all fellowship exams of four hours or more in length.

PRACTICE AREA EXTENSIONS

One of the goals of the redesigned CERA and FSA pathways was to make the CERA credential more accessible and more relevant to candidates following non-ERM practice area tracks to fellowship. Part of that goal was accomplished by removing the "advanced finance" topics from the previously offered AFE exam and constructing the new ERM exam to have less focus on life insurance. A further step is to include material on the exam that is unique to a selected practice area. In addition to core readings that are required of all candidates, six reading extensions are offered:

Stuart Klugman

- General Corporate ERM,
- General Insurance (property and casualty insurance),
- Group and Health,
- Individual Life and Annuities,
- Investment, and
- Retirement Benefits.

Candidates will be able to review all six extensions prior to registering for the exam (at which time they must declare which one of the six exam variants they wish to receive). The General Corporate ERM extension is designed for candidates on the Finance/ERM track as well as for those who have yet to select a practice area or those who believe they are not in a position to apply ERM principles in a particular practice area. Candidates pursing an FSA do not have to match the ERM exam extension to the track they ultimately select for fellowship.

The exam will have a case study (as most fellowship exams do). The case study for the ERM exam has components aligned with the six reading extensions. Twenty-five percent of the exam points will relate to the selected extension. These questions will ask the can-

ERM Courseware Document

BY MAX RUDOLPH

When studying to earn my actuarial designation many years ago, one challenge was combining multiple sources of material into my learning plan. The SOA examination committees have made great improvements since then, stating specific learning objectives and outcomes and including case studies in the syllabus material. I was very pleased to be allowed to write the first courseware document, covering enterprise risk management (ERM).

The ERM courseware document is designed to put the material into context and I hope my efforts help candidates both better grasp the material for the exam process as well as make it useful in their career. No matter which practice area your career focuses on, I believe that the tools and processes you develop for ERM will help you make better decisions.

The courseware does not cover the material in the practice area extensions or the case study but does provide a suggested order of reading for the core reading. The courseware is a study note and so is required reading, including highlights of some of the syllabus required readings. Supplemental material is also included to expand on some of the material in support of specific learning outcomes.

As someone who works in the ERM practice area, one of my goals in writing the courseware was to make comments about the varying ways tools are used in the real world. The syllabus itself does a good job of this, reflected in the current debate over banks' regulatory use of the value at risk (Var) metric versus conditional tail expectation (CTE). ERM is an evolving practice area, but one that can add value to your career. Earning the CERA credential in addition to completing the fellowship requirements can do nothing but expand your career possibilities.

Max Rudolph, FSA, CERA, MAAA, is owner of Rudolph Financial Consulting LLC. He can be contacted at *max.rudolph@rudolph-financial.com*

didate to apply risk management principles and techniques within the selected extension, using the assigned readings and often the context of the case study. While the core reading will not be the focus of these questions, material from those readings may be needed to provide complete solutions.

COURSEWARE

A common concern raised by fellowship exam candidates is that we hand them a (really large) stack of readings and ask them to make sense of it all and then respond to questions with a high cognitive level in a short time period under stressful conditions. We aren't going to reduce the cognitive level of our questions or expand the time period. We also suspect that there is little that can be done to lower the stress level at the exam. However, we have developed a new courseware component designed to help candidates navigate the syllabus. It presents a reading plan and explains how the readings fit with the instructional objectives and learning outcomes. The courseware also provides commentary and additional insights that can help candidates put the material into context. The courseware for the ERM exam was written by Max Rudolph, who explains in the sidebar his goals in writing courseware.

Candidates can anticipate a superior learning experience guided by the courseware. The SOA will be adding similar courseware to the study notes packages for the redesigned fellowship exams, with some being produced in Fall 2013 and others to follow.

SOA volunteers and staff have worked hard to implement the new CERA pathway and believe it provides a significantly improved learning and testing experience for candidates with a final outcome of better preparing actuaries to serve employers and the public. A

Stuart Klugman, FSA, CERA, is a staff fellow, Education at the Society of Actuaries. He can be reached at *sklugman@soa.org*.

ENDNOTES

1. An article by Kathy Wong and Bob Sanford in the February/March 2012 issue of *The Actuary* outlined the changes coming to the FSA pathway. Link to article: *www.soa.org/fsa-restructuring*.
2. The launch of the CERA credential as a global risk management designation was marked by the signing of a multilateral treaty (more formally, the Global Enterprise Risk Management Designation Recognition Treaty) in November 2009.
3. The ERM module is also available for continuing professional development.

Section Highlights

ENTREPRENEURIAL ACTUARIES SECTION

BY KEVIN PLEDGE

Entrepreneurs face many challenges; we have to deal with everything from raising capital to marketing our services. To meet these types of needs, the Entrepreneurial Actuaries Section set up a Resource Center to provide a knowledge base for actuarial entrepreneurs. This Resource Center is part of the SOA website (*http://bit.ly/EASRC*). A challenge of any website is currency. Section volunteers are involved in updating the content and reviewing the organization of the site to be more modern. We would like to see more consistent formatting; topics easily searched, and to allow readers to post comments. We are currently working with the SOA to update this asset to ensure that the effort that went into it is not lost over time.

While the Resource Center will benefit many entrepreneurial actuaries who offer actuarial services, there are also many actuaries who are entrepreneurs in other areas: software developers, media and even one actuary who owns a brewery company.

Another important issue for the Entrepreneurial Actuaries Section is around the definition of actuarial advice. When Nicole Fende discussed bartering on her radio show (*http://bit.ly/NFRadio*) it was not intended to be taken as actuarial advice; however an extreme view is that any advice given by an actuary constitutes actuarial advice. Even if you don't attach your actuarial credentials to what you are saying, it is argued that you can still be identified as an actuary from the directory or other sources. The Entrepreneurial Actuaries Section is looking for common sense to prevail in this area as we are actively involved in discussions around how you define an actuary and actuarial advice with the SOA staff and the Academy.

Kevin Pledge, FSA, FIA, is CEO and co-founder of Insight Decision Solutions Inc., and chairperson of the Entrepreneurial Actuaries Section. He can be contacted at *kpledge@insightdecision.com.*

TAXATION SECTION

BY KRISTIN A. L. SCHAEFER

The Taxation Section assists its members and affiliate professionals in all matters tax, including those related to life insurance companies. Fortunately for us, there is never a shortage of new regulations, rules, codes or provisions as you can see in any issue of our section publication, *TAXING TIMES*. A big topic in 2012 is Statement of Statutory Accounting Principles No. 101 (SSAP 101).

SSAP 101 relates to current and deferred taxes. It was effective Jan. 1, 2012 and replaced SSAPs 10 and 10R. Among other specifications, it defines the amount of deferred tax assets (DTAs) that can be admitted in an insurance company's statutory financial statements. What does this have to do with actuaries? We usually focus on calculating items such as reserves, which fall on the liability side of the balance sheet, not the asset side.

Temporary differences between book (statutory) and tax give rise to net DTAs. For many insurance companies, the largest temporary difference, and thus the largest component of the gross DTA, is caused by the difference between statutory and tax reserves.

SSAP 101 allows the book/tax difference in reserves that will reverse within a time period of up to three years to be admitted as part of the DTA. This time period and the amount allowed are constrained by several calculations specified in the SSAP. However, it is still important to estimate this reserve difference reversal as accurately as possible since the larger the number, the greater the potential admitted asset. Now do you see how this is relevant to actuaries?

If you're intrigued about SSAP 101 and want to know more, I encourage you to read the article "NAIC Adopts SSAP 101—Income Taxes" in the February 2012 issue of *TAXING TIMES*, which is available on the SOA website. Or plan to join other members of the Taxation Section at the SOA Annual Meeting. Our breakfast session will feature a discussion on the treatment of the DTA in the risk-based capital (RBC) formula.

Kristin A. L. Schaefer, FSA, MAAA, is a corporate actuary with Transamerica in Cedar Rapids, Iowa, and is the 2012 chairperson of the Taxation Section. She can be contacted at *kristin.schaefer@transamerica.com.*

LIVING to 100

SOCIETY OF ACTUARIES
INTERNATIONAL SYMPOSIUM

Call for Papers—Living to 100 Symposium V

The Committee on Living to 100 Research Symposia requests professionals, knowledgeable in the important area of longevity and its consequences, prepare a high quality paper for presentation at the next Living to 100 Symposium, Jan. 8-10, 2014 in Orlando, FL. The topics of interest include, but are not limited to:

- theories on how and why we age,
- methodologies for estimating future rates of survival and
- potential benefits and risks associated with the increasing numbers of retirees and potential answers to other difficult issues that arise.

Please submit an abstract or outline of your proposed paper by Sept. 15, 2012. The abstract should include a brief description of the subject of the paper, data sources and methods to be used, key items to be covered, and how your paper will contribute to current knowledge, theory and/or methodology.

A brief curriculum vitae or resume is also required.
Submit the information by email to:

Jan Schuh
Sr. Research Administrator
Email: *jschuh@soa.org*

Learn more about the call for papers, including the complete topic list, by going to Livingto100.soa.org

Questions may be directed to Ronora Stryker, research actuary, at *rstryker@soa.org*.

Actuaries
Risk is Opportunity.®

ACTUARIES ON THEIR OWN TIME

"Grandmother's Quilt"—by Beverly Orth, FSA, principal at Mercer. She can be contacted at *beverly.orth@mercer.com*.

BEVERLY ORTH spends a lot of her free time quilting. "I started quilting around 1980, initially small projects like baby quilts, which I machine pieced and quilted. About eight years ago, I started my first hand-quilted project. When I finished that quilt, I started thinking about finishing a quilt that my grandmother started in the 1930s (see photo). She had appliquéd and embroidered 20 quilt blocks but never made a quilt from them, so I decided to put the blocks into a quilt, add borders, and hand quilt it. That was a big quilt and a big project that took me five years to finish (2006 to 2011). It fits a queen size bed."

"I got started on quilting as a variation on sewing garments and accessories, something I have been doing since the age of 8 when I took 4-H," Orth stated when asked how she got her start quilting. "I've made wedding dresses, tailored suits and coats, almost any kind of clothing you can think of. When some of my friends had babies, I made baby quilts, and eventually made quilts for my own daughters when they were born in 1989 and 1992."

When asked about an actuarial tie-in to quilting, Orth responded with, "I don't know about actuarial tie-ins per se. There are definitely a fair amount of measurements and calculations to make sure there is enough of each fabric that goes into the quilt. For the large quilt I'm working on now, there are about 40 different fabrics (it is called a scrap quilt). I'm also working on a baby quilt that has eight different fabrics. Others have had only three fabrics.

"There is also geometry involved. The pieces need to be cut and pieced very precisely. Otherwise you will end up with non-square sides and borders that don't fit. One little error at the beginning has a tendency to increase in magnitude as you go along. Not fun to find out that you have to re-do whole sections because of a little error made early on."

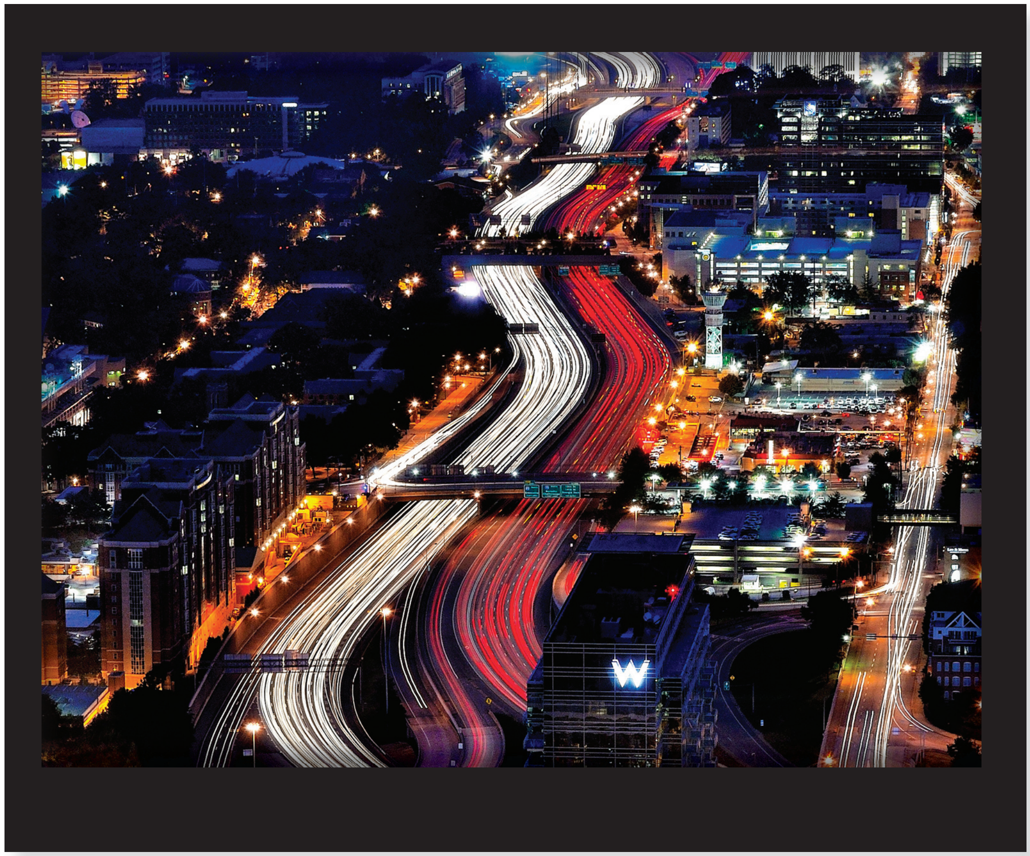
"Let The Squares Dance"—by Marguerite Boslaugh, FSA, MAAA, managing director with Cigna. She can be contacted at *marguerite.boslaugh@cigna.com*.

MARGUERITE BOSLAUGH has been quilting for more than 30 years. Boslaugh says, "For me, quilting grew out of sewing clothes, which I learned in 4-H." Her favorite part of quilting is "that it includes both order and serendipity. Unlike many situations, with quilting, I'm in control of the choices and execution and the quilt waits patiently for me just as I left it. On the other hand, as the parts of the quilt come together, I find it sometimes transforms into a different design and feeling than I had originally planned. Also, it's really nice to produce something concrete after a hard day spent with all the abstractions in the world of investments and insurance."

How much time to make a quilt? Boslaugh says, "The time I spend on a quilt can be as little as 15 to 20 hours (for a simple baby quilt) up to several hundred hours (for a large complicated one). I generally start with a quilt pattern—often the design is for a 'block' or segment of the quilt, which will be repeated multiple times. I've been known to run out of a particular fabric and need to figure out a new design solution, but that is part of the creative aspect for me. The pieces are then sewn together into larger and larger units, maybe with a few borders. Then the completed quilt top is layered with a backing piece of cloth (which may itself be pieced) and the batting (cushy layer inside the quilt.) The sewing that connects the three layers (quilt top, batting and quilt back) is the actual quilting."

"The type of quilting I do (updated versions of traditional blocks) could be very mathematical if one wanted to approach it that way—lots of angles and hypotenuses and geometry to compute how much fabric to buy and the most efficient way to cut and assemble the pieces," Boslaugh says when asked if there is an actuarial tie-in to quilting. "But I usually go with the flow and pre-calculated dimensions. On the other hand, the patience and persistence needed to get through the exams comes in pretty handy when things aren't going well." A

FOR MORE OUT OF THE OFFICE,
TURN TO PAGE 46



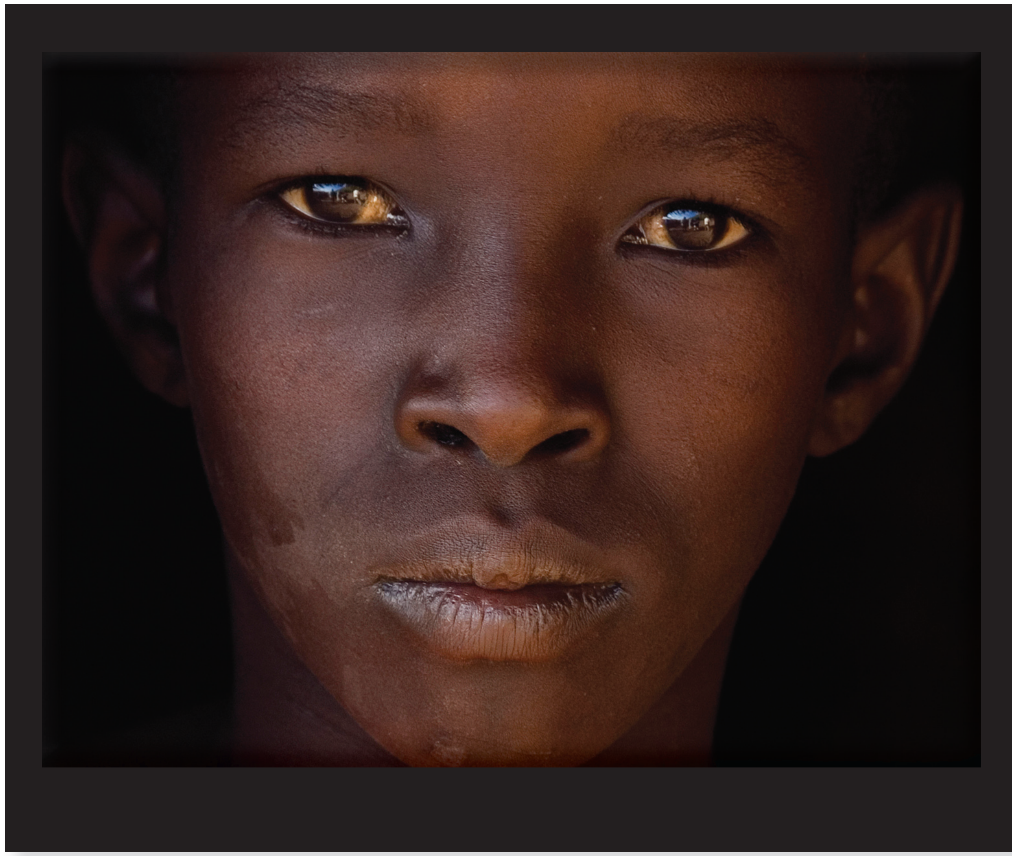
"Atlanta Highways at Night"—by Mike Raker, ASA, EA, FCA, MAAA, actuarial consultant, Swerdlin & Co. He can be contacted at *mraker@swerdlin.net.*

MIKE RAKER started taking photographs in his early teens. His dad set up a darkroom for him in a spare bathroom of the family home to process black-and-white images. "After that," Raker said, "I started shooting everything. About the same time, I was asked to be a yearbook photographer in high school, and it became a more serious hobby that I have continued to this day."

For Raker, photography is a creative outlet. "When I capture images, I share them with like-minded photographers who have a passion for photography as a hobby," he said. "Simply put, there is a lot of math to photography. It's easy to get caught up in the technical side of this art. If you let that happen, you miss a lot of opportunities for great images—it's OK to bend the rules. I shoot many photos of my subject to get a pool of worthwhile images that, hopefully, has one outstanding capture with a nice artistic feel."

Shooting in color versus black and white is a critical consideration any photographer should be asking from the moment they consider composing a photograph, according to Raker. "For instance, black and white images can often convey the texture of a subject better than color if that is important," he said. "On the other hand, vibrant colors—when they are captured in the right proportions and combinations in a painting, or photographic image—really cannot compare to shades of gray in a black and white image."

Raker has always enjoyed photographing landscapes and wildlife, but lately he is experimenting with all types of subjects. "I have participated in groups that post images of an 'announced' subject which you have to shoot within a particular time frame—usually a week," he said. "This is fun because you get to compare what you have done versus what others have captured. Most recently, I have tried to take candid images of people, but not portraits, as part of a challenging genre known as street photography. Basically, I like shooting it all!"



"Maasai People – Village Portraits"—by Frank Sabatini, FSA, CERA, MAAA, president, Sabatini Advisory Services LLC. He can be contacted at *francis.sabatini@gmail.com*.

FRANK SABATINI says, "I first picked up a camera to photograph my two boys as they grew up. Now this hobby has evolved into a combination of travel and photography with a focus on wildlife and people. I've been to Kenya, Galapagos, Egypt, Churchill Canada (polar bears), Alaska, Machias Seal Island, Maine (puffins) and many of our national parks. The experience of visiting new places and being able to record the experience is what it's all about for me. My next trip is to Haines, Alaska to photograph eagles."

Sabatini's first serious camera was a Canon AE-1 that he purchased in the 1980s. Now he uses a Canon EOS 5D Mark II and has several lenses and other camera bodies as well. As with many photographers, Sabatini is the picture taker at family events, but he doesn't mind at all. "I have a granddaughter who is 21 months," he said. "She's the focus of my photography these days."

Though digital photography has virtually taken over the art, Sabatini is not a stranger to film. "When I first started taking pictures, I used film," he said. "I still have my old negatives and slides that I'm slowly moving to digital. The things you can do with digital photography are so amazing that it's hard to go back. Although, I must admit I'm a bit of a purist and try not to manipulate my images too much."

For Sabatini, photography is both a creative outlet and mastery of a technical skill. "The creativity comes with identifying and capturing a unique shot," he said. "Technically, mastery of the camera, related equipment and post-shoot processing is as much a part of the experience as taking the image."

Being an actuary has helped Sabatini become a better photographer. "All actuaries need to pay attention to detail. That focus helps immensely with photography in framing an image and understanding the technical aspects and capabilities of one's equipment."

The SOA At Work

BUILDING A BETTER RELATIONSHIP WITH CANDIDATES

IN OCTOBER 2011, the Society of Actuaries (SOA) board of directors (BOD) approved a slate of 2012 Strategic Initiatives that included an Enhanced Relationships with Candidates initiative.

This initiative was brought about because the SOA recognizes the importance of maintaining its relevance for the actuarial profession into the future. It was framed to consider options for building and strengthening the SOA's relationship with candidates who will soon be deciding among several options for their actuarial education, and to potentially initiate that relationship earlier in the education process. The initiative is also intended to look at ways to increase understanding of the profession as a career choice, so that individuals making decisions among quantitative fields can clearly see the attributes of an actuarial profession. Connecting with candidates prior to their attaining a designation is seen as a way to promote a lifelong relationship which eventually may lead to increased volunteering and support.

To get a clear understanding of candidates' wants and needs as well as the best practices within professional membership associations, the SOA launched a multiphase market research study consisting of the following:

- **i.** Pre-ASA candidate focus groups,
- **ii.** Analysis of professional membership organizations, and
- **iii.** Online survey of pre-ASA candidates.

Preliminary results from the research were shared with the SOA board at its June meeting. Taking into consideration the guidance received at that meeting, the SOA will review and analyze the research collected and recommend a set of possible programs/services that might be developed with the goal of strengthening candidate relationships with the SOA and the profession.

The SOA is continually looking for ways to provide the most value to its members and future members. If you have an idea about that topic, please share it at *www.soa.org*, About, Contact Us. A

— SOA Executive Director Greg Heidrich

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:

Chinese Slowdown And Cyber Attacks: Key Risks For 2012
Global Finance June 2012 issue highlights latest Emerging Risks Survey; quotes Max Rudolph. To read more, visit *www.gfmag.com*, search term Chinese Slowdown, or use the QR code.

Time For The Mind
SOA President Bradley M. Smith discusses the general insurance exam track in *Risk & Insurance* magazine. To read the article, visit *www.riskandinsurance.com*, search term Brad Smith, or use the QR code.

Study: Health Care Costs On Rise
Learn more about what's truly driving health care spending in the United States. For the full article, visit *www.politico.com*, search term Health Care Cost Institute, or use the QR code.

Data Trove May Shed Light On Health Care Uncertainties
Health care spending is now rising more slowly. Read coverage in *The Washington Post*. To read the article, visit *www.washingtonpost.com*, search term Data Trove, or use the QR code.

Working Late, By Choice Or Not
A recent *New York Times* article includes SOA data about older Americans working longer. The article can be found at *www.nytimes.com*, search term Working Later, or by using the QR code.

It's Time To Serve Up Some Big Incentives To Curb Obesity
The Los Angeles Times notes SOA research findings on obesity. To read more, visit *www.latimes.com*, search term Curb Obesity, 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

ATTENTION READERS!

If you have an idea for an article you think should appear in *The Actuary*, or a response to something you have read in these pages, tell us about it by sending an email to *theactuary@soa.org*.

PROFESSIONAL DEVELOPMENT OPPORTUNITIES

VALUATION ACTUARY SYMPOSIUM
Sept. 10 – 11
Los Angeles, Calif.

CRITICAL ILLNESS INSURANCE FORUM
Sept. 10 – 12
Las Vegas, Nev.

DI & LTC INSURERS' FORUM
Sept. 12 – 14
Las Vegas, Nev.

PRODUCT TAX SEMINAR
Sept. 20 – 21
Washington, D.C.

ANNUAL MEETING & EXHIBIT
Oct. 14 – 17
Washington, D.C.

ASSET LIABILITY MANAGEMENT TECHNIQUES AND PRACTICES
Oct. 22 – 24
Chicago, Ill.

ASSET LIABILITY SEMINAR
Oct. 25 – 26
Chicago, Ill.

SOA ANNUAL SYMPOSIUM – SHANGHAI SOA
Nov. 5 – 6
Shanghai, China

EQUITY-BASED INSURANCE GUARANTEES CONFERENCE
Nov. 12 – 13
Chicago, Ill.

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 Dave Ingram

Global Systemically Important Insurers: Proposed Assessment Methodology

From the International Association of Insurance Supervisors website: "The International Association of Insurance Supervisors (IAIS) is participating in a global initiative, under the purview of the Financial Stability Board (FSB) and the G20, to identify potential global systemically important insurers (G-SIIs). As part of this initiative, the IAIS has developed a proposed assessment methodology to identify any insurers whose distress or disorderly failure, because of their size, complexity and interconnectedness, would cause significant disruption to the global financial system and economic activity. A two-month public consultation on this methodology will run from 31 May 2012 to 31 July 2012." For more information, visit *www.iaisweb.org/Consultations-918* or use the QR code.

From Dave Ingram

Report To G20 Leaders On Basel III Implementation

On the Bank for International Settlements' website, www.bis.org, there is the following news item: "The Basel Committee on Banking Supervision has established a comprehensive implementation review process to ensure its globally-agreed standards are implemented fully by member jurisdictions. A key element of the process is transparency, including reporting to the G20 Leaders. As such, the report of interim findings (*http://www.bis.org/publ/bcbs220.pdf*) to the G20 Leaders summit in Los Cabos, marks an important step forward in the Committee's work on implementation." For more information, visit www.bis.org, search term Report to G20 Leaders on Basel III, or use the QR code.

E-COURSES

Enterprise Risk Management

This e-course is designed to provide information to actuaries who do not yet regularly practice in enterprise risk management (ERM), but want to know more about it to help expand existing skills or meet professional development requirements.

Financial Reporting

The e-course is designed to introduce you to the basic concepts and terminology necessary to understand financial statements and regulatory capital requirements. While applications and examples are taken from the insurance industry, much of the content is not industry specific. In addition, while the focus is on Canada and the United States, an important part of the environment in these jurisdictions is the effort to align with international standards.

Investment Strategy

The e-course is designed to provide you with an understanding of the investment theories used to implement the investment process. Throughout this e-course, you will be exposed to case studies from real experiences that illustrate the range of considerations in managing investment portfolios supporting particular liabilities and goals. After completing this module, you should be able to define, design, monitor and modify an overall investment strategy given a client's objectives and constraints. You should also be able to communicate results to the client.

Operational Risk

This e-course is intended to help you learn how to identify, measure and manage operational risk.

The Actuary