

Enterprise Risk Management Discussed

By Benjamin W. Clark, FCAS, Candidate Liaison Committee

Have you recently seen one of the many discussions about Enterprise Risk Management and wondered what it is? Do you wonder how this topic applies to actuarial science?

From the CAS Committee on Enterprise Risk Management, Enterprise Risk Management (ERM) is defined as “the discipline by which an organization in any industry assesses, controls, exploits, finances, and monitors risks from all sources for the purpose of increasing the organization’s short- and long-term value to its stakeholders.”

As taken from the CAS Overview of Enterprise Risk Management, there are several key points to consider, based on this definition:

1. ERM is a discipline. It becomes part of the culture and is key to top-down corporate decisions.

2. ERM applies to all industries (it is not unique to insurance). In fact, ERM became quite prevalent in the banking industry back in the late '90s.
3. ERM purposes to consider risk for value creation and not just risk-mitigation. Entities that are better equipped to understand certain risks can bear more of these risks to create both short- and long-term value.
4. ERM should consider all sources of risk.
5. ERM involves all stakeholders in its process (from shareholders and debtholders to employees, officers, customers, and the community).

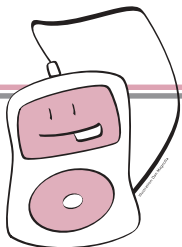
I recently sat down with Donald F. Mango (Fellow of the CAS and member of the CAS Board of Directors and the CAS ERM Program Committee) to discuss ERM and its application in current actuarial science.

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Discussions Continue on Changes to Education Structure

The CAS Board of Directors held a special meeting in January to discuss education issues, including questions that were raised in the final report of the Task Force on FCAS Education. The Board developed a number of ideas for possible future directions on both basic and continuing education. The Board agreed that before taking action, however,

it was important to gather input from key stakeholders, including members, candidates, and employers. Therefore, a Board task force was commissioned to prepare a white paper to document the issues and potential strategies. Once the white paper is approved by the Board, it will be published and stakeholder input will be solicited before any final decisions are made.



Name That Journal!

Leave your mark on the CAS for years to come by helping us name our new journal. Submit your ideas online until April 1, 2006. The winning name will be announced at the CAS Spring Meeting in May. Visit www.casact.org for details on the contest, the guidelines and the fabulous prize...an Apple iPod Nano!

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Spring 2006 Exam Registration Deadlines

Exam 1/P

March 15, 2006

Exams 3, 5, 7, and 8:

March 16, 2006

Exams 2/FM and 4/C:

April 1, 2006

There is only one deadline for each set of exams. Late registrations will not be accepted.

Refund Deadlines

Exam 1/P

Noon of the third business day before test appointment

All Other Exams

Three weeks (21 days) after exam date

Ratemaking Seminar

March 13-14, 2006

Marriott Salt Lake City Downtown
Salt Lake City, Utah

ERM Symposium

April 23-26, 2006

Sheraton Downtown
Chicago, Illinois

CAS Spring Meeting

May 7-10, 2006

El Conquistador Resort
Fajardo, Puerto Rico

Seminar on Reinsurance

June 1-2, 2006

Hilton New York
New York, New York

Registration Process Improved for Second Administration of Computer-Based Testing

By Jonathan Marshall, Candidate Representative, Candidate Liaison Committee

While much actuarial work is done using computers, CAS candidates took an actuarial exam in front of a computer screen for the first time in September 2005. Exam 1/P (Probability) was first offered by computer-based testing (CBT) in a three-day “window” in September. The second administration took place in February 2006. Almost all candidates sitting for Exam 1 in North America and many taking it worldwide used the CBT format during these first two CBT windows.

An advantage of CBT is the ability to offer exams more frequently. There will be four testing windows for Exam 1 in 2006.

The registration process for the second administration went smoothly as the result of addressing challenges of the inaugural testing window. To address testing issues, the CAS, Canadian Institute of Actuaries (CIA), and Society of Actuaries (SOA) worked together with the CBT vendor Thomson Prometric. Thomson Prometric is a leading vendor of CBT, providing electronic administration of college admissions exams and licensure exams for the medical, securities, education, and accounting professions.

The first testing window of the Exam 1 administration took place September 26-28, 2005. The second window was February 21-23, 2006. Instead of presenting themselves at a set examination time, actuarial candidates scheduled an appointment with local Thomson Prometric testing centers during the three-day window. Results for the September sitting were released just six weeks after the exam—on November 11, 2005—two weeks faster than previous sittings that were offered exclusively by paper and pencil. By the end of 2006, it is anticipated that candidates will receive an unofficial score immediately after completing the exam.

Prior to the first testing window, the CAS, CIA, and SOA established an

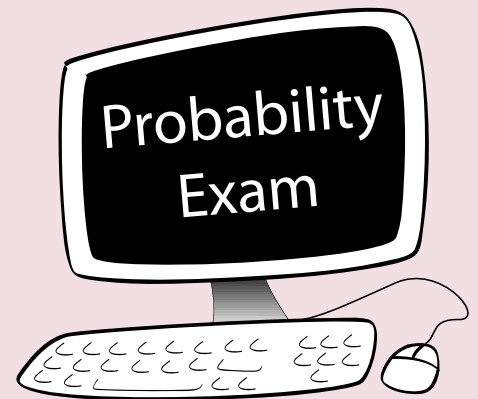
Implementation Team to get the ball rolling with CBT. As with any significant change, the team expected “bumps along the way” in addition to the types of problems that typically accompany a paper-and-pencil exam administration. The Team communicated regularly with Thomson Prometric to resolve issues as they came up. There were significant issues that deserve mention.

In the September window, Thomson Prometric did not have Exam 1 activated in their online scheduling system for the first few days of the announced scheduling period. As this happened over a weekend, it was difficult to get the situation resolved quickly. The SOA received so many calls from concerned candidates that their telephone system was damaged. On the follow-

By the end of 2006, it is anticipated that candidates will receive an unofficial score immediately after completing the exam.

ing Monday, the problem was resolved, and the scheduling process proceeded. Hoping to avert such a problem in the future, the Team asked the vendor for improved internal procedures and controls. The registration for the February testing window was greatly improved.

Initially, Thomson Prometric intended that all scratch work would be done on erasable whiteboards, as is the case with some of their other computer-based tests. Candidates, as well as members of the CAS, CIA, and SOA, felt that this would not work well and provided feedback to the societies. The Team discussed solutions with Thomson Prometric, and it was decided that, for the September window, Thomson Prometric’s standardized scratch booklets would be used instead of whiteboards. Many candidates felt that the single booklet of four scratch sheets was not enough to



finish the computationally heavy 30-question exam. Although a candidate was permitted to receive additional scratch booklets, he or she was required to ask the proctor and return the used booklet before getting the new one. The Team worked with Thomson Prometric to improve the scratch booklet. A 32-page scratch booklet was used for Exam 1 in the February 2006 administration and will be used going forward.

Another issue for some candidates was that the September pre-exam information did not mention whether downtime due to a rare computer freeze counts against the three-hour time limit for the exam. Candidates are now assured in the exam materials that the clock does not continue to count down in the event of a freeze—even momentary freezes.

Despite the challenges of implementing CBT, the test day went well for the vast majority of candidates in the first window, and the registration process ran very well for the second window. (At press time, the second window had not yet taken place.)

The Team continues to review the whole process. Regular teleconferences with Thomson Prometric facilitate real-time feedback on the active testing window and planning for future improvements. Two key goals are to provide candidates with immediate unofficial grades by the end of 2006, and to expand CBT sites internationally. **f**

Off the Beaten Path—Profile of an Actuary Blogger

By Timothy K. Pollis, ACAS, Candidate Liaison Committee

Where would you turn to find a recent article announcing the hiring of a CEO at a rival company? What if you also wanted to find articles about the insurance market in a foreign country? What about stories on the job market for actuaries or other insurance professionals? What if you wanted it all in one place, and you wanted it all at your fingertips?

Well, such a place exists, thanks to the work of Claude Penland, ACAS. Penland manages the Web site www.actuary.net, which serves as “an international actuarial news feed.” Best’s Review, Insurance Networking, and Independent Agent Magazine have also profiled actuary.net.

What exactly does that mean? It means that Penland organizes and posts links to articles on the topics listed above, as well as more wide-ranging topics. He recently created a podcast section, which contains links to actuarial and quantitative webcasts. There are also sections for ERM, accounting, software, and general actuarial professional news. “There probably will be other sections added before this article is published,” says Penland.

Penland’s employment history matches that of most people in the early stages of an actuarial career. He started out doing large account pricing and then reserving. He moved from there to pricing non-traditional insurance risks, and later found a job in consulting. By then he had progressed through exams enough to earn his ACAS. At this point, he was able to turn a passionate side-interest into a full-time job.

Penland’s next position, which he still holds, was partner in charge of Web sites and Internet strategy for D.W. Simpson & Company, the actuarial recruitment firm. His job includes managing the firm’s salary surveys, helping to keep their recruiters informed of industry trends, writing job descriptions and posting these to Web sites, and fielding questions on ActuarialOutpost.com. In 2004, Penland decided to launch his blog.

He has not abandoned the skill sets that he relied on in becoming an ACAS. In fact, he uses them regularly. “Last year, Clickz (a resource Web site for interactive marketing) had an interesting article about the skills that go into making a good Web site manager. They suggested that two of those skills were being a good actuary and statistician—where you’re trying to estimate what will happen when you make changes and adjust.”

Penland knows his actuary.net site isn’t the only place to find good information about the industry. Information on the current events and issues facing the industry, he says, is crucial to helping shape a career. “Companies demand that their actuaries be businesspeople.

It’s never been more true than it is now, especially on the property and casualty side. The amount of really good information that’s available on the Web is phenomenal. I couldn’t imagine not reading the *Insurance Journal*, *Business Insurance*, *Yahoo Insurance News*, and some other sources every day, even if I were still employed as an actuary. The CAS does a great job on their Web site with their professional standards and task force updates, and providing the most important announcements on their front page.”

This information can help you in your current role, or later on down the line. “You’re going to be asked to remember information and interpret information, whether it’s by your boss, or a product manager, or an interview someday. Some actuaries have reached the C-levels (CEO, CFO, etc.) of their companies with their ability to put into the proper historical context the business situation they’ve found themselves in. Absorbing that information has to be part of your continuing education every day, day after day—it can’t be crammed.”

Another reason to stay current on the state of the industry, Penland says, is to find issues or ideas that interest you. “The demand for ambitious learners,” he says, “is never going to diminish.” Penland says having this kind of information about the industry can shape your career. You never know when that one topic will come up that makes you say, “I’d love to do that!”

Penland has found such a niche for himself. On his job, he says “I love it because of the fantastic people I work with daily, and I love it because every week is different than the last one. It’s rewarding to know that I’m helping to grow a profession that I believe in. If you prepare your career for the unexpected, someday somebody might come along and offer the unexpected to you.” **ff**

DFA Modeling Workshop to be Offered as Continuing Education

Although the DFA Modeling Workshop will continue to be considered as part of any redesign of the CAS basic education structure, the Board of Directors approved offering it as continuing education. There will be one workshop offered in 2006. Details will be announced when available. **ff**

Syllabus Highlights

Special Arrangements for Candidates With a Disability

From time to time, the Candidate Liaison Committee will highlight various exam policies that are published in the CAS Syllabus of Basic Education. For this issue, the focus is on special arrangements for candidates with a disability.

A candidate with a formally diagnosed disability who needs special testing arrangements must submit a written request to Preliminary Actuarial Examinations (for Exams 1/P, 2/FM, and 4/C) or the CAS (for Exams 3, 5-9, and Transitional VEE Exams) for each examination the candidate intends to write. Documentation of the disability (e.g., physician’s statement, diagnostic test results), as well as the need for special arrangements, are required of each candidate; previous accommodations given to the candidate in an educational program or work setting may be considered. Requests for special arrangements and supporting documentation must be submitted at the applicant’s expense at least two weeks before the registration deadline. **ff**

Enterprise Risk Management

from cover page

ff *Why do you think actuaries are leading candidates for practicing ERM?*

DM: Actuaries are risk analytics professionals already. Their traditional roles are essential parts of ERM for insurers. They have a reserved regulatory reporting role subject to organizational tension and conflict, which appears to be similar to risk management roles in other industries. They have a strong professional society with ethical standards and discipline.

ff *Is ERM mainly intended for operational risk, or are there other uses for it?*

DM: Operational risk is the risk due to failures in processes, systems, people, or (natural) hazards. This is just one band in the ERM spectrum. Some other major bands include market (fluctuation in market value of held assets), credit (failure of a counterparty to deliver on a promised payment), strategic (interaction effects resulting from multiple participants in competition), and underwriting (all the risks associated with underwriting an insurance portfolio).

ff *What types of data are needed/helpful for ERM work?*

DM: The core elements of traditional actuarial work—exposures, perils, frequency, severity, and aggregation—are also essential to ERM work. In fact, best practice in operational risk modeling is gravitating towards an actuarial model. The same data elements are needed: loss histories, exposure measures, and correlation estimates. The end product is the same as well—cost forecasting models.

ff *Many of the discussions relating to ERM focus on security and derivative analysis. Why should security and derivative analysis concern a P&C actuary?*

DM: Insurance contracts are derivatives—long-dated, illiquid, over-the-counter derivatives—on untraded underlying elements (for example, you cannot look up whether or not you had an accident on a Bloomberg terminal). That places insurance pricing and valuation at one end of a complete spectrum. Alongside it are other illiquid securities: real estate, private equity, hedge funds, and exotic options. At the other end are standardized, liquid, exchange-traded securities—publicly traded equity, debt, and standardized derivatives. So the pricing and valuation techniques are probably variations on a single, unified theory of risk. Actuaries have to do their part by learning the language, theory, and methods of the financial mathematicians. But both sides acknowledge the need to converge.



Donald F. Mango, CAS Board of Directors and the CAS ERM Program Committee

Note: Derivative security pricing is a topic covered on CAS Exam 8: Investments and Financial Analysis.

ff *How is ERM different than normal actuarial and insurance practices?*

DM: It's not! "Normal" actuarial practices are integral parts of ERM for insurers. Arguably the largest risks facing an insurer are: (1.) do we have enough set aside to cover promises we've already made?, (2.) how much should we be charging for new promises?, and (3.) can we survive if something really bad happens? These are valuation, pricing, and capital adequacy, all areas where actuaries play a leading role.

ff *Where do you think ERM can have the most impact to a P&C actuary?*

DM: (ERM can show P&C actuaries) where their work fits into the big picture of sound management of their companies.

ff *How prevalent is ERM in most life insurance companies? P&C insurance companies?*

DM: To varying degrees in all companies. Life insurers have valuation, asset-liability management or ALM, market risk and credit risk functions. P&C insurers all have underwriting letters of authority, catastrophe management, reserving, etc. Most do not have a comprehensive ERM framework or "risk office" within the company yet.

ff *Where do you see ERM in five years?*

DM: I would hope we are well on the road towards having a true risk analytics profession that serves all industries, with a solid academic base and regulatory recognition. The actuarial profession is a good model for how a risk profession can serve such a vital role within an industry. [Note: The Society of Actuaries Board of Governors has recently approved a new ASA-level designation for Enterprise Risk Management. See www.soa.org for more information.]

For further readings, the CAS has a web link dedicated to Enterprise Risk Management, at www.casact.org/research/erm. Also, there are various publications available for further research. The CAS Overview of Enterprise Risk Management references many of them. **ff**

Reminders

- In the "Admissions" section of the CAS Web Site are:
 - All updates to the 2006 *Syllabus of Basic Education*
 - "Notice of Examinations"
 - "Verify Candidate Exam Status" to verify that joint exams and VEE credits are properly recorded
- CAS Regional Affiliates have their own section on the CAS Web Site. Check it out!
- If you have not received a confirmation of your registration for Exams 3, 5-9 two weeks prior to the registration deadline, please contact the CAS Office.
- Remember your Candidate Number!

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For more information please visit www.casact.org/aboutcas/officemove.htm

Exam Survey Uses

Theresa A. Turnacioglu, FCAS, Candidate Liaison Committee

You know the feeling you get right after an exam is over? Regardless of how you think you did on the exam, you just want to relax, catch-up on your favorite television shows and forget all about exams until results come out and it's time to start studying for the next sitting. Maybe the last thing you want to do is to go to the CAS Web Site and fill out a survey about the exam that you just took. You wonder what the results are used for anyway. Well, those exams surveys do matter. This article will attempt to explain some of the ways that the results are used and why your feedback is important.

After each exam sitting, the CAS posts the exam survey on its Web site for approximately two weeks. Roughly one third of candidates sitting for CAS exams in 2005 responded to the survey. The survey asks for feedback on a wide range of issues regarding the particular exam. Results are tabulated and distributed to the CAS Vice President of Admissions and the various admissions committees, including the Candidate Liaison, Examination, and Syllabus Committees. Results of the survey are used for many purposes. Survey feedback on the quality of exam sites is used for planning future exam sites. The Candidate Liaison Committee reviews survey results for issues of interest or

concern to candidates. The survey also provides much helpful information to the Examination and Syllabus Committees. While the survey is not intended for comments on errors in specific exam questions (which should be sent directly to the CAS Office), results of the survey are compiled and distributed to Examina-

...the exam surveys provide a means for exam-takers to voice their opinions and offer much useful information to those planning and preparing the CAS exams.

tion Committee Part Chairs prior to grading sessions. Part Chairs review these results in case there are any issues with particular exam questions or exam sites. The Examination Committee is also interested in feedback on exam clarity, difficulty, length, and syllabus coverage. The committee uses this information for preparing subsequent exams.

How many of you have said to yourself after an exam, "If only I knew there was that question at the end, I would have gotten more points"? In response to survey comments such as this on exam length, the Examination Committee recently added a reading period to the exam.

The Syllabus Committee continuously reviews the syllabus readings for each exam and therefore monitors exam survey results, seeking feedback on which readings are valuable and which are considered to be of questionable quality to exam-takers. The Syllabus Committee also reviews the survey results for comments on particular readings to determine if candidates find these readings unclear, too long, out-dated or repetitive with other readings. Comments on which readings are considered well-written are also helpful to the Syllabus Committee when they are seeking authors for new papers.

In short, the exam surveys provide a means for exam-takers to voice their opinions and offer very useful information to those planning and preparing the CAS exams. This information is used for all aspects of the exam—from considering syllabus changes to planning exam sites to grading the exam. It is well worth the effort to make your thoughts known. **ff**

Candidate Liaison Committee Mission

The Candidate Liaison Committee communicates with CAS candidates, collectively and individually, who are taking CAS examinations. The committee informs candidates as to appropriate courses of action available to them. Through periodic communication, this committee informs candidates of results of examination administrations, actions taken on complaints received regarding examination questions, and reasons for syllabus and examination changes being implemented. Communication encompasses existing policies and procedures as well as changes being considered. The committee should advise the CAS and its committees of the interests of the candidates regarding matters that come before the CAS and its committees. Candidates may contact the Candidate Liaison Committee at the CAS Office address.



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Results of Fall 2005 CAS Examinations

Summary of Fall 2005 Examinations

Exam	Number of Candidates*	Number of Passing Candidates	Number Below 50% of Pass Score (Ineffective)	Effective Pass Ratio
2/FM	4,436	1813	571	46.9%
3	346	116	68	41.7%
4/C	1,785	904	70	52.7%
6	733	300	82	46.1%
9	416	192	30	49.7%

Note: For Exams 2 and 4, the summary includes all candidates who sat for the specified examination.

Summary of Fall 2005 Examination Survey

Exam	Percent Responding	Syllabus Coverage Inadequate (1) to Adequate (5)	Exam Clarity Not Clear (1) to Very Clear (5)	Exam Length Too Short (1) to Too Long (5)	Exam Difficulty Easy (1) to Difficult (5)	Exam Quality Poor (1) to Excellent (5)
2/FM	7.37%	3.43	3.10	3.09	3.76	3.08
3	54.05%	3.31	2.97	3.61	4.43	2.77
4/C	9.41%	3.66	3.20	3.36	4.10	3.37
6	34.92%	3.71	3.44	3.79	3.58	3.35
9	37.98%	3.72	3.41	4.02	3.66	3.42

Note: Responses are of total group response. Responses for joint exams based upon preliminary number of takers.

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