

# INTERNATIONAL NEWS

## U.K. Actuarial Profession's Strategy for International Members

by Nick Dumbreck

In an excellent article published in the November 2007 issue of *International News*, Hillevi Mannonen, now Immediate Past President of the International Actuarial Association (IAA) explained the growing role and influence of that body in an increasingly global financial market. But what should the major national actuarial professional bodies, such as the Society of Actuaries and the Institute of Actuaries, be doing for their international members in the twenty first century? This is a question which the U.K. Actuarial Profession—the Faculty and the Institute of Actuaries—has recently been addressing.

The issue arose as part of a comprehensive review of the U.K. Profession's strategy. The catalyst for the review was the March 2005 publication of the report on the Morris Review of the U.K. Actuarial Profession.

### The Morris Review – a Summary

The Morris Review of the U.K. Actuarial Profession was commissioned by the U.K. government on the publication of a report by Lord Penrose, a Scottish judge, on events at Equitable Life, a large mutual U.K. life insurer which closed its doors to new business in straitened financial services in December 2000. The Penrose Report was unashamedly written with the benefit of hindsight, and Lord Penrose was lavish in his criticism of most of the parties involved with the company, including the directors, the senior management and the regulators. The actuarial profession did not escape unscathed, being accused of insularity, of

providing weak and ambiguous guidance and of a reluctance among members to criticise their peers.

The report of Sir Derek Morris has been widely reported as a serious "rap on the knuckles" for the profession. For example, in an article on standard-setting in the January/February 2007 issue of *The Actuary* (the SOA publication of that name), David Kass referred to "the danger of being discredited en masse, as the experience of actuaries in the United Kingdom in recent years forewarns." In fact Sir Derek was highly complimentary about the majority of U.K. actuaries, referring to them as "dedicated, hard-working professionals."

Moreover, most if not all of the U.K. professions have been subject to a similar government-sponsored review in recent years. A common outcome of these reviews has been some degree of separation between the regulatory and disciplinary functions of the professional body and its other activities, including education and member support. Sir Derek's main proposal—the establishment of an independent Board for Actuarial Standards to set technical standards for U.K.-based actuaries—was in keeping with this pattern. In general, though, the recommendations for change put forward by Sir Derek are less far-reaching than those proposed for a number of other professions. The other main recommendation was for some of the U.K. Actuarial Profession's activities to be subject to oversight by the Financial Reporting Council, which has a similar role in relation to U.K. accountants.

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## Editor's Note

by Michelle John

The SOA is asking us to “Stand Out.” This is part of the overall strategy to enhance the image of the actuary. What can we do as international actuaries? For those operating in areas where the actuarial profession is not well developed, you may be the only actuary for miles around so you get to be the actuarial poster child. See it as an opportunity to sell the actuarial brand. For jet-set consulting actuaries, you are representing the SOA brand and your consulting firm. No wonder you turn up bright-eyed and bushy-tailed even when jetlagged. The actuarial image is definitely changing. We are no longer relegated to being the techie with the calculator in the corner. Not that there's anything wrong with that. We have taken on a multitude of roles both inside the insurance field and outside of it.

The articles in this newsletter demonstrate a variety of “actuarial images.”

- *Actuary as creative thinker (and hiker).* In “A Wild Thanksgiving,” Jose Berrios uses a hike in La Paz, Bolivia to illustrate business concepts.
- *Actuary as well-rounded business professional.* In “Expand our Territories with CPD,” Alex Zaidlin and Bosco Chan present strategies to enhance business skills.
- *Actuary as innovator.* In “Agribusiness Reinsurance in Argentina,” Javier Campelo presents a growth opportunity for actuarial models in the agribusiness reinsurance field in Argentina.
- *Actuary as public policy thinker.* In “Vive les grevistas, vive la France!” Michael Cohen presents his views on the French rail workers' pension system.
- *Actuary as risk professional.* In “Enterprise Risk Management—A Brazilian Market Perspective,” David Sommer describes the challenges and risks facing Brazilian actuaries. In “The Swiss Solvency Test,” Carlos Arrocha and Karen Tan describe the risk-based capital measure adopted in Switzerland.
- *Actuary serving customers.* In “Regulator Introduces New Requirements for Participating Business in Singapore,” Ken Hung and Eng Hun Yeoh describe the steps taken in Singapore to improve governance and enhance disclosure for participating policyholders.

Also, Nick Dumbreck, Institute President, describes what the U.K. Actuarial Profession is doing for internationally-based members in “U.K. Actuarial Profession's Strategy for International Members.” Catherine Robertson continues her series on pension accounting changes. She started out with changes in the United States last time now she's moved north into Canada. Tom Herget and Michael Lockerman describe the action at the U.S. GAAP seminar in Hong Kong. Caribbean Actuarial Association members, Marcia Tam-Marks and Lisa Wade present a tribute to Stephen Alleyne. Last but by no means least, Cathy Lyn tells us about the International Section activities at the 2007 Annual Meeting, held in Washington, D.C.

Actuaries will get more exposure as we expand our reach but I don't see us getting to the point where we are chased by paparazzi and covered in the tabloids. In the meantime, you can continue to read *International News*. The headlines aren't as eye-popping but the content is pretty cool. □



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# Chairperson's Corner

by Alex Kogan

**A**s incoming chair, I am very excited about the strong teamwork we have developed within our council, with excellent participation by all council members, all aimed at our fundamental goal of effectively serving the needs of International Section members. The council started the year with a budget and planning exercise to review all of our historic and planned initiatives, compare to our available resources, and set clear priorities for the year. A few highlights on council priorities for the coming year that I wanted to share:

- 1) We want to do more to reach out to members and make sure we understand your needs, and ideas, in order to better align council priorities with membership needs. As a result, a new survey of members is being defined and will be shared with members in the coming months to get your input on council priorities.
- 2) The council intends to build on the prior successful efforts for educational seminars, with two tracks. First, with a renewed commitment to offering international content at SOA meetings, we have several sessions planned at the upcoming spring and annual SOA meetings. Second, building on our successful efforts partnering with other sections to offer seminars in international locations, including the successful international U.S. GAAP financial reporting seminar, with seminars held in Hong Kong, Brazil, and Amsterdam to date, and new plans for several more sessions.
- 3) The council is looking for additional ways to support and re-invigorate the international ambassador program which connects local SOA members with the SOA in international markets. We expect to announce specific initiatives in this area in the coming months.
- 4) The section council is available to serve as a communication link between international section members and the SOA, including addressing member needs for such issues as the recently proposed CPD requirements and ensuring the SOA is aware of the unique needs and challenges for international members in fulfilling these requirements.

Our council has already shared a letter to the SOA on the new CPD requirements, based on member feedback.

- 5) The council is already looking forward towards planning our reception at the 2008 Annual Meeting in Orlando. This year we intend to include a speaker, and/or entertainment in addition to the popular networking opportunity with international section members over appetizers and cocktails.
- 6) The section continues to benefit from a great section newsletter, including articles on relevant topics from all over the world, consistent with our section mandate. We are excited about the several excellent articles we received for our "Country Feature" article competition which was announced in the November newsletter. We expect to announce the winner in early April and all members can look forward to reading some excellent articles on local country developments.

Please feel free to contact me or any of the section council members should you have any questions or suggestions on the council's plans. We welcome your input . □



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## The Strategy Review

The review itself was conducted in three stages. The first stage involved research among actuaries and users of actuarial services, and the publication of a detailed consultation paper setting out the findings of this exercise and identifying three high-level options for the strategic positioning of the profession. These options were:

1. A narrow profession, focusing on reserved roles and compliance activities in U.K. insurance companies and pension funds.
2. A broader role for actuaries as quantitative risk professionals, but still aimed primarily at the U.K. financial sector.
3. A global professional body offering examination, accreditation and continuing education services to actuarial students and actuaries throughout the world.

The second stage consisted of extensive consultation with members, based on the consultation paper. This revealed strong backing for the second of the three options. While the value and standing of the U.K. actuarial qualification in the global marketplace was acknowledged, there was little support for a strategy involving aggressive international expansion of the Faculty and the Institute, and a feeling that the U.K.'s continuing contribution towards the development of the actuarial profession in emerging economies should be channeled primarily through the IAA.

The third and final stage of the strategy review was the detailed design work, leading to implementation. This was organized into seven workstreams, one of which has been concerned solely with overseas members. In re-evaluating the U.K. Actuarial Profession's relationship with its overseas members it was important to find out what those members needed and wanted from their U.K. professional body. Many of them also belong to the local actuarial association in the country in which they live and work, and we needed to understand which services they would expect to source locally and which they would rely on the Faculty or the Institute to provide.

## Services to Overseas Members

We conducted a survey of our overseas members towards the end of 2006. 1,462 completed questionnaires were received from actuaries and students in 76 countries, representing 22 percent of our overseas membership. The survey elicited a range of views, but revealed significant demand for:

- more Web-based services, including, but not limited to, online CPD,
- ad hoc support for local associations,
- e-bulletins aimed specifically at overseas members.

We have already made good progress in the first of these areas, with a redesign of the U.K. Actuarial Profession's Web site and



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development of the infrastructure needed for Web-based discussion forums. Video recordings of sessional meetings have been accessible online to members for some time, and selected CPD events have also been filmed, with over 25 hours of material now being available to download. This is only a start, and the demand for more online services comes from the United Kingdom as well as overseas members.

The type of support for local associations that is felt to be most useful mainly involves helping those associations to get up and running in areas such as provision of professionalism courses or development of a disciplinary scheme—areas where our experience can be of value. Such assistance has already been provided to a number of associations, including some in countries where the Faculty and the Institute have no—or very few—members.

Another consequence of the strategy review is the implementation of a new structure for the U.K. Actuarial Profession, which went live on March 1, 2008. This includes the facility for a range of Member Interest Groups—similar to, but less formal than, the SOA sections. It would naturally fall to one of these groups, aimed at overseas members, to develop and produce a bulletin for this specific group.

It is also clear from talking to overseas members that many of them also value the output of the Faculty and the Institute's "learned society" activities—the technical research, the *British Actuarial Journal* and the *Annals of Actuarial Science*. In addition, the monthly magazine for members of the U.K. Actuarial Profession (also called *The Actuary*) is held in high regard as a means of keeping in touch and sharing information.

## Regulation of Overseas Members

The overseas workstream also considered the responsibility of the Faculty and the Institute for regulating the conduct of their members based outside the U.K. For those who also belong to a local association, there is potential for duplication and confusion in this area. In an attempt to create clarity, the work-

stream recommended that there should be two categories of overseas member at fellow and associate levels:

1. Those who choose another IAA full member association as their primary professional regulator.
2. Those who remain fully regulated by the U.K. Actuarial Profession.

This recommendation was implemented in mid 2007. Overseas members who have chosen the first category of membership now pay a lower subscription, and are exempted from U.K. standards (other than our Professional Conduct Standards) and from the U.K. CPD scheme. There are specific obligations on such members to disclose their regulatory status, and members in this category cannot undertake any U.K. regulatory work.

Implementation of these new arrangements has gone quite smoothly, but they will work best if other associations adopt a similar approach. The governance of international actuarial work is now being considered by one of the IAA committees, which may eventually lead to increased cooperation between national actuarial associations in this field.

## And Finally...

The U.K. Actuarial Profession has gone some way towards recognizing the particular needs and circumstances of its overseas members over the past two years. My successor as Institute president when I step down at the end of June this year will be Nigel Masters, an overseas member based in Zurich. No doubt he will be keen to continue this work. □

# U.S. GAAP Seminar in Hong Kong— an Encore

by Tom Herget and Michael Lockerman



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In October 2006, the International and Financial Reporting Sections collaborated to produce a three day seminar in Hong Kong on GAAP accounting. Response was phenomenal and potential registrants had to be turned away. Your section leadership, concerned about this, scheduled a repeat performance for Aug. 7-9, 2007. Again, the response was stunning, as over 130 people registered and attended.



The faculty comprised Charles Carroll of Ernst & Young, Tom Herget of PolySystems, Bill Horbatt of Actuarial Consortium, Michael Lockerman of PricewaterhouseCoopers, Simon Walpole of Deloitte and Jonathan Zhao of Ernst & Young. This seminar, held in the Kowloon part of Hong Kong, was coordinated by the Hong Kong staff office. Pat Kum and assistants Sarah Hui and Christina Lai were very helpful and ran a well-organized meeting.

The topics addressed were background of GAAP, principles of GAAP, expenses, product classification, non-par products (life and health), par products, fund-based products, payout annuities, investment contracts, investment accounting, shadow accounts, internal replacements, purchase accounting, reinsurance accounting, SoP 03-1, SoP 05-1 and a lively panel on emerging issues.

The faculty would like to share several Frequently Asked Questions (and answers!) with the readership.

One question that was on participants' minds was the treatment of reinstatements of traditional life insurance products. In much of Asia, companies are legally required to reinstate lapsed policies for two, three or even five years after the lapse occurred. These reinstatements may require little to no underwriting. Provided back premiums are paid with interest, companies must reinstate the lapsed contract.

In these cases, policyholders are (thankfully) not allowed to pay back premiums posthumously and companies have no requirement to pay death benefits once the policy has been lapsed for longer than its grace period. These contracts typically have a contractual grace period of 30 to 60 days and internal company guidelines dictate that benefits should be paid if death occurs 15 to 30 days after this contractual grace period.

The panel agreed that *Section 6300.29: Contract Reinstatements in Applying SOP 05-1* provided an answer. Provided the lapsed policy reached a point beyond where the internal company guidelines required a claim be paid, the policy should be considered extinguished and any reinstatement should be considered a separate contract. The panel also agreed that the calculation of this "new" policy may be very difficult with most companies' current systems and suggested participants perform an analysis based on materiality.

There were also some questions on accounting for sales inducements. Participants were particularly interested in recurring persistency bonuses, such as a bonus that is credited every five years, which qualify as sales inducements in accordance with SOP 03-1.

Although the SOP may not be explicit in this guidance, the panel believed that it would



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be appropriate to accrue a liability for these bonuses simultaneously. For example, the bonus credited at the end of year five would be accrued over the first five years and the bonus for year 10 would be accrued over the first 10 years. Although somewhat conservative, paragraph 36 of the SOP states that persistency may not be considered in this accumulation. As a result, most companies use an interest method to accumulate the amounts.

However, paragraph 37 states the company should simultaneously accrue a sales inducement asset for these liability accruals that would be amortized with expected gross profits. Including these sales inducement assets and liabilities would result in a more level recognition of income, but due to the conservatism in the liability accumulation, income would be somewhat deferred to later periods.



Another question was, “what is the difference between recoverability and loss recognition?”

Both terms deal with the analysis of profitability for a block of business. Recoverability refers to business issued within the current fiscal year. It answers the question, are costs that are deferred recoverable? Loss recognition refers to products issued over a multi-year period. It answers the question, is the liability I have established sufficient to mature the block of business?

The guidance for recoverability and loss recognition may be found in Paragraphs 32-37 of SFAS60.

For recoverability, the actuary must establish that costs deferred are recoverable from margins in the product. The study is performed regularly, on a quarterly or annual basis.

For FAS60 recoverability studies, for products with net to gross premium ratios over 100 percent, the provisions for adverse deviations (margins) are reduced until the net to gross premium ratio is 100 percent. If the margins are still over 100 percent, there is likely a problem with the original assumptions or with communications between the pricing and valuation areas.

For performing these tests, the contracts should be grouped consistently with the enterprise’s manner of acquiring, servicing and measuring profitability.

For FAS60 loss recognition (also called premium deficiency) studies, the actuary’s best estimate is used for all future assumptions. This gross premium reserve becomes the minimum floor for the net liability (reported GAAP benefit reserve less reported DAC).

It is generally easier to perform FAS97 recoverability and loss recognition studies. Since all future assumptions are based on current best estimates, the actuary need only to replace the contract rate (used to discount the cash flows) with the current earned rate(s).

Loss recognition is not performed for FAS91 products.

Moving on to the next topic, the discussion of the requirements of SFAS 113 on the accounting for reinsurance raised a question regarding when it is and is not appropriate to net reinsurance amounts against direct amounts. In most cases SFAS 113 calls for reporting reinsurance balances separate from direct rather than netting. For example, the cost of reinsurance (defined as the premiums paid, less allowances, less claims reimbursed) should be

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accrued separately over direct premiums or direct EGPs depending on whether the underlying policies are covered by FAS 60 or FAS 97. Netting reinsurance costs in the EGP calculation is not appropriate. One area where netting is allowed is in the calculation of deferred acquisition costs. If there are high front-end reinsurance allowances payable, these may be netted against direct deferrable acquisition costs in calculating the deferred acquisition cost asset.

The reception at the end of day one was well-attended and the faculty and participants got to know each other. Many attendees lived in Hong Kong and had to return to the office to work the night shift. But those that didn't were able to cover for them at the hors d'oeuvres table and wine bar.

The faculty that didn't live in Hong Kong had some travel tales to tell. Tom Herget had been in mainland China for 12 days and had to have a cheeseburger immediately upon his arrival. This time, Bill Horbatt's luggage arrived. Charles Carroll reported no unusual travel issues. But, Michael Lockerman was very fortunate to make it.

Some questions directed at Michael were, "Have you been near a chicken farm or processing plant? Have you been in any jungles?" and "Can you take a deep breath for me?"

These were not questions from participants at the seminar, but from a physician at the Hong Kong airport. Although he had flu-like symptoms, Michael's desire to teach U.S. GAAP overwhelmed his regard for his own health (as well as, apparently, the health of the fellow passengers on his flight from Bangkok) and he arrived at the airport with a fever of 102. In a region where SARS and Avian Flu have been significant occurrences and dengue fever is having a recent resurgence, airports are ready and the heat camera easily identified Michael's red face in a sea of blue-green smiles.

He was approached by masked, gloved men who quickly escorted him to a secure part of the airport where he waited for masked, gloved physicians to examine him. After an hour examination, the doctors concluded he either

had a simple flu (low mortality rate) or dengue fever (not contagious) and set him free.

At the end of the meeting, the faculty awarded a prize for best participation. Suchin Pongpuengpitack of AIA Thailand was awarded third place and Allen Chi Tat Lowe of Prudential UK was runner-up. But outdistancing the entire class was first-place winner Ching Gabrielle Chan of Alico Taiwan, who won a very attractive GAAP textbook work shirt.



The U.S. GAAP seminar continues to fulfill a need. The faculty plans more road trips, a fiesta in Mexico City and a return to the Pacific Rim, either Tokyo or Seoul. We hope to see you there. □





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# Vive les grévistes, vive la France!

by Michael Cohen

Most readers of the International Section newsletter, and indeed most actuaries, would probably have supported President Sarkozy in the show-down with *les grévistes* (strikers) at the SNCF (the French national railway company) and other rail workers which took place last November. They would have done this on the basis of President Sarkozy's democratic mandate to tackle the special regimes under which such workers can retire at particularly early ages, and of course they would be right to be supportive of the French president. However, if they were to look at the issue from a *pension* point of view, they might find themselves more supportive of the *grévistes*.

Why? Because what is being proposed is a reduction in accrued benefits in an occupational pension plan. I suspect that most actuaries, while agreeing that employers can reduce or even eliminate future accruals, if their employees and/or unions let them get away with it, would offer stiff resistance to a reduction in accrued benefits. In most cases pension legislation would prohibit this in any case.

So what's going on? Why can't Sarkozy just reduce future accruals and let accrued benefits remain unchanged? To answer this question we have to look at the way occupational pension plans are funded in France. In North America and the United Kingdom, even in the public sector, occupational pension plans would normally be funded on a full funding target, and even where they are not necessarily funded (in the public sector), some attempt would be made to at least account for them on an accrual basis (although this might not be universal). Certainly in Canada, workers for Via Rail have a pension plan based on the accrual principle (admittedly the comparison between Via and the mighty SNCF is quite invidious). I'm sure Via workers would be quite upset at seeing their retirement age increased for accrued benefits. In France, by contrast, occupational pensions are funded through a "solidarity" system. In other words, pay as you go. The French system is one big OASDI or CPP, not only for the social security part (which in the United States, Canada and the United Kingdom, generally represents only a fraction of a worker's expected pension), but for the whole lot, and generous at that. For

example, rail workers can retire at age 55 and some as early as age 50. This means many will spend more years in retirement than at work!

Does this matter? You bet! In a funded system, the past has been paid for and any reduction in future accruals gives the employer immediate relief in the bottom line. If we preserve accrued benefits and only change future accruals in a pay as you go system the bottom line relief in the short term is ... precisely nothing. Relief only comes when the first generation of workers begins to retire with reduced benefits and then it is only a small proportion of their benefit which is affected. Significant cost savings only start to be seen 15 to 20 years down the road, by which time President Sarkozy is himself a retiree and the inhabitant of the Elysée Palace is some person who is currently obtaining their education in the system that the President also promises to reform! Not a pretty picture from a political point of view.

So while there may be good reasons to propose pay as you go funding for universal social security, this little spat shows how dangerous this method is for occupational plans. Perhaps we should see a few French actuaries marching with banners inscribed "*Vive les grévistes, vive la capitalisation, à bas la répartition*" (long live the strikers, long live funding, down with pay as you go), but somehow I doubt it!

*Linguistic notes: One should write "Vivent les grévistes" (third person plural of the subjunctive), which in fact is pronounced the same way as "Vive les grévistes" (for those who complain about silent letters in English, note the silent "ent" in French!), but I have used "Vive..." by analogy with "Vive les vacances" (long live the vacations), which is used for the sake of euphony, or more correctly euscopy (no further linguistic notes on the use of Greek derivatives in the English language are offered!)*

*Editor's note: At the time of the strikes in France and writing this article, the author was in Kazakhstan, which was a pioneer in changing a pay as you go system to a funded defined contribution system, working with the state-owned pension accumulation fund. □*



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# A Wild Thanksgiving

by Jose L. Berrios

Last year I decided to trade the typical Thanksgiving football game and turkey dinner for a two-day hike in the high mountains surrounding the city of La Paz, Bolivia. It was a totally different and fun way to give thanks for a rewarding change in lifestyle, while living and working as an independent consultant in Bolivia this year. I never would have guessed that my actuarial and business career would have prepared me for such a career move.

As a business professional, however, I could not help but connect some dots between what a hard hike is like and some business concepts we face on a daily basis. I thought some of them were worth noting in this article. The article is meant to be thought-provoking and entertaining, so if the reader is interested in more in-depth intricacies of doing business in Latin America, please contact me at the coordinates indicated. Also, if the reader is interested in team-building activities or adventure hiking in Bolivia, please contact me.

## An Exciting Beginning

The preparation for the hike was thorough, similar to that of a Due Diligence project. The expedition team (my brother, my nephew, and I) knew we would be facing several types of weather. Now that the rainy season had begun, it was hard to predict what sort of climate Mother Nature would bring. I made a complete list of items and equipment to take (exam-like, for those who understand that language). I have to thank the Colorado Mountain Club for the wilderness training course I took in Denver two years ago when I lived there, it was most helpful. As in any well-planned activity, we faced several “unexpected” situations during the hike that we had not fully anticipated and therefore we had to improvise as the hike went on. This is typical of doing business in Latin America (improvise, improvise and improvise), where almost all “perfect strategic plans” fail because people are used to acting based on the

spur of the moment. Initially I had planned to take a tent, sleeping bag, cooking equipment, etc. After I stuffed it all in the backpack, the weight was like a ton of bricks. My brother (professional hiker) fortunately convinced me that there was no need for a tent as we would “camp” during our first night in an indigenous community that offers shelter. He offered to carry the cooking equipment and food, since trail-mix and power bars get old after a full day of serious hiking—I thought, fair deal! After repacking, the weight was much more manageable, but my shoulders told me otherwise at the end of the trip—the lessons here were 1) when in doubt, less is more, and 2) let the experts lead you and you will be fine.

## The Weather

Like in any start-up business climate, the start of the hike was in a cold and snowy mountain, where the road always goes up.



We started climbing at around 4,000 meters (approx 12,000 feet), and even though now I am used to the altitude of La Paz (3,700 meters), the uphill climb was slow as my feet started to get used to the terrain with all that gear on my back. This is similar to the normal process of running a business overseas. First you have to get used to the landscape, and then make decisions, not the other way around. Of course you need to start with a basic set of goals, but first

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know the lay of the land. Foreign companies who do business in Latin America forget this basic principle.

As we climbed, it started to rain mildly (the type that never stops) as we reached the summit of one of the mountains in the Cordillera Real (a chain of mountains that forms the Andes Region). Our goal was to pass over the mountain and descend to a lovely valley called Yungas, a pretty simple goal, the way it should be when one runs a business; keeping it simple is beautiful, but it is hard to perceive and practice because of all the information overload, high-tech tools and people factors. In the open wilderness, one realizes how simple life is, no cell phones, no distractions, just a trail that is supposed to lead us to accomplish our objective. One beauty of this country, Bolivia, is that there are many Inca “roads” that have remained the jewel of the mountains around La Paz. Some are heavily traveled but many are less well-



known and therefore on the wild side. My brother knows them all. The one we took was definitely a wild place to hike and I was very happy, because I enjoyed the challenge and I learned a lot from this hike. This is another key trait of working in Latin America, there is constant learning and no exams are substitutes for experience.

During the course of the hike, the weather changed from cold, to sporadic rain, to warm and sunny, forcing us to change clothing (peeling ourselves like onions, layer by layer). Therefore we had to adjust our hiking approaches, very similar to the phases of a normal business project. The similarity with doing business in Latin America is that one has to adapt to different business conditions and be flexible to have success in the long-run.

The ascending part of the trek, only took one and a half hours, but the descending part during the first day was a brutal nine-hour hard journey. The first part of the downhill hike was wet and we faced slippery stones. We had the right level of adrenaline, not rushing to slip and injure ourselves, and not too slow to make the descent endless and boring, but just right to manage the obstacles along the journey. The lesson here was that having the right level of chemistry and adrenaline in Latin America is very important for doing business and is something that can only be learned by living in the country and learning the intricacies of each culture. This is one reason why I love my job as a consultant, each culture is rich in many ways. Back on the hike, persistency and focus were necessary to manage the trail, but we never forgot the awesome views and the big picture (our goal) that we established for ourselves. As in many business situations, there is no going back, but only going forward and accomplishing our objective. This was the main reason why the three of us were together in that particular expedition, and is what I will coin a “real team spirit.”

## **DECISIONS, DECISIONS, DECISIONS**

As we descended the trail, it became much more challenging than I had anticipated—remember the word “unexpected?” The trail was full of slippery stones, mud, and water. We found several obstacles along the path. Heavy rain caused our water-proof boots and water resistant gear to become vulnerable, so we just had to deal with being damp and get used

to it. The vegetation became denser and the climate semi-tropical making the scenery even more spectacular. Even though we were wet,



we enjoyed the challenge ahead of us. The first major sign that we were on the right track was an awesome waterfall. If I had known, I would have brought my swim trunks, but I assume the water was on the chilly side.



To manage the road from that point onward, we had to use different strategies and in some situations, adapt and improvise on the spot. No committees, no phone calls to get approvals, no bureaucracy, just plain and simple execution to get the job done. On some occasions, because the road was slippery we had to walk making “baby-steps.” Sometimes we had to leap over puddles of mud to avoid sinking our hiking boots, and sometimes we had no choice but to sink our feet in the deep mud or get our boots fully submerged in water to cross the rivers that intersected the trail. We made conscious decisions based on the conditions of the road at that moment. These situations and actions are the kind that can never be planned ahead of time.



After nine hours of intense walking and seeing all sorts of beautiful vegetation, my knees, feet and shoulders were nearly destroyed, but we managed to make it to the “camp-site,” where there is a friendly community that offers a few “huts” with rooms (real beds and mattresses) and a clean bathroom with showers. The view from the open trail as the sun went down was outstanding and



worth all the pain and hard work. When we finally made it to the hut, we crashed there with our aching bodies and had a wonderful Thanksgiving dinner; no fancy Martha Stewart recipe, but a simple fettuccini a la carbonara that tasted so delicious because we were hungry and it was warm food. After such a long hike, any warm food is heaven sent and a very good reason to “give thanks.” After the meal, the second best feeling was a soft and warm sleeping bag and a restful night with the sound of crickets in the background.

## Day Two

The next day we embarked on the last leg of our journey, *only* a three hour hike to our final

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destination. The day was beautiful, a warm and sunny day, the views were breathtaking and the smell of semi-tropical air filled our lungs with pure clean oxygen.



We saw the last turn of the mountain, the last leg of our journey, where our loved ones were waiting for us with transportation.



I must confess, my body ached for about three days afterwards, but it was one of the best Thanksgivings of my life. Thank heavens for hiking poles, and I gave thanks that our expedition crew was reunited with loved ones—what smiling faces we had.



In summary, achieving our objective and seeing the big picture come true (being together again with our respective families), was the most rewarding feeling we achieved as human beings. Keeping it simple is what we forget sometimes when we are involved in business. As for the final thought, set yourself a simple (but hard to accomplish) objective and see it through to the end. You will have that same awesome feeling of accomplishment. I have the good fortune of working as a consultant and must travel all over Latin America, and every time I finish a successful project and come back home, I have that same rewarding feeling. What else is life all about? □

# Agribusiness Reinsurance in Argentina— Actuarial Models for Decision-Making

by Javier Campelo



*Editor's Note:* This article was originally published in Spanish in the May 2007 edition of *Todo Riesgo*. It is reprinted here with permission.

## Introduction

Agribusiness insurance shows very promising growth potential in Argentina. Reinsurance plays a key role in the development of this type of insurance, being a source of capital for the industry. The ceding companies use reinsurance to finance their activities because of different reasons. These include having a capitalization level below their objective; not wanting to assume a specific type of risk; or the use of their own capital for the activity is not optimal.

Reinsurance will continue to play a very important role in the development of agribusiness insurance. However, retention levels will go on rising, with the increasing experience of ceding companies in this line of business.

In this context, it will be very important for insurance companies to perform technical actuarial analysis to determine optimal retention levels. This analysis should also be useful in negotiations with reinsurers on the terms and conditions applicable to the new reinsurance schemes.

## Reinsurance Strategies

It is necessary that the ceding companies have a clear reinsurance strategy and see reinsurers who participate in their contracts as strategic partners.

Münchener Rück leads most reinsurance contracts in the agribusiness field. This reinsurer normally defines the minimum rates to be charged by the ceding companies. Among the other participating reinsurers one can mention the following: Hannover Rück, Swiss Re, Mapfre Re, Transatlantic Re, Scor, QBE and XL Re.

The insurance companies have both proportional contracts (Quota-Share), which provide a higher underwriting capacity, and non-proportional contracts (Stop Loss), used for protection from deviation in claims experience. A combination of both types is common.

Insurance companies often commence their business operations with Quota-Share contracts with high cession levels (usually combined with Stop Loss contracts). When the Companies' experience increases, retention levels tend to decrease. For example, a company could initially have a 50 percent Quota-Share contract, combined with a Stop Loss contract (protecting its retention) with an 80 percent priority and a 100 percent limit (on the retained premium).



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After a couple of years, the ceding company could decide to increase its retention in the Quota-Share to 75 percent (maintaining the Stop Loss contract), considering it has acquired greater experience in this line of business.

Following that, some years later, the company may consider that it only needs the Stop Loss contract as it already has enough experience and technical capabilities for its development. In addition, at this time, its claims experience may be very predictable.

When a ceding company makes a change in its reinsurance structure, it is advisable to perform technical actuarial analysis of the claims experience, as well as to model all those endogenous and exogenous factors that are relevant to decision making.

### Claims Modeling

In order to make reinsurance-related decisions, the ceding company should determine the aggregate loss distribution through the building of a mathematical model. This model is built by actuaries interacting with agronomists, meteorologists and other professionals in the insurance industry. They take into account both the empirical experience and all those variables that may have a significant impact in claims experience.

The suggested technique for obtaining results is simulation, which allows for solving a complex model with many correlated random variables.

The modeling process requires choosing a statistical distribution (such as Log-Normal; Transformed Gamma; or Burr) fitting the phenomenon under analysis, which should be assessed using a goodness-of-fit test. The parameters of the distribution also need to be properly chosen and tested.

It is important to consider that modeling must be performed for each relevant area and crop. For example, an insurance company could divide its portfolio into five different geographic areas (depending on the associated risk levels) and ten types of insured crops. In said case, there will be 50 probability distribu-

tions that can be combined, in order to have a sole aggregated loss distribution or aggregated distributions for a specific zone or crop.

Both the chosen distributions and the parameters must be tested frequently. For example, considering the “Law of Large Numbers,” the standard deviation of the distribution is expected to decrease as the portfolio size increases.

Another important factor to consider is the existing correlation in claims experience for different areas. This leads to the need for defining different correlation indexes between zones. These influence the aggregate claims experience ‘capturing’ the benefit of diversification for claims experience stabilization. The lower the correlation is, the higher the benefit of portfolio diversification between zones.

### Direct Premiums and their Exogenous Components

As in other lines of business, direct premiums in agribusiness insurance are calculated by multiplying the insured amounts by the premium rates. Premium rates are defined taking into account different variables, such as: the coverage (hail insurance with or without additional; multi-risk insurance); the area in which the insured farm is located; the crops insured and the deductible percentage, among others.

On the other hand, the face amount could be modified by variables not controlled by the ceding company. For example, said amount could be obtained by multiplying the number of sown hectares by the yield (in acres per hectare) and by crop prices (in dollars per acre). Both, the yield and the crop prices, are exogenous variables that the insurance company cannot control.

Those prices will depend on different variables, such as: the existing world stock for each crop relative to its consumption, whether they can be used or not as bio-fuels, the agricultural policies adopted by central countries and the increasing participation of China and India as main actors in the world economy.

**“In order to make reinsurance-related decisions, the ceding company should determine the aggregate loss distribution through the building of a mathematical model.”**

Crop price rises would lead to a proportional increment in the face amount (*ceteris paribus*), which would imply an increase in insurance and reinsurance premiums.

This in turn could result in decreased capitalization levels, which arises from comparing own capital and direct premiums. Consequently there would be an increase in the demand for reinsurance as a source of capital.

### Capitalization Level

The capitalization level is a key variable in making reinsurance-related decisions. For those companies operating in business lines with a very predictable and limited claims experience, the required capital (expressed as a multiple of the insurance premium) could be less than for those which operate in business lines with a more volatile claims experience.

An insurance company will have to define a target capital, depending on its risk aversion. For example, it could decide that its goal is to have a capital level that, with a 99 percent probability, will be sufficient to cover unfavorable claim experiences.

Once the aggregate claims distribution is determined, the need for its own capital to meet said goal could be higher or lower, depending on the structure of the reinsurance contract and the retention levels.

Therefore, a ceding company's decisions in reference to reinsurance will depend on the capital level that the company has to support its growth process. For example, the company's capital could total 150 percent of its premiums. However, considering its risk aversion grade and the aggregated claims distribution, its goal could be to have a capital equaling 200 percent of its premiums.

In this situation, reinsurance presents itself as a solution, being a capital source for financing the activities of the ceding company. Through a convenient reinsurance scheme, the need for own capital could be reduced to the level that the company effectively has available.

### Conclusions

Agribusiness insurance shows very promising growth potential in Argentina. In this context, it is particularly important that insurance companies make wise decisions in reference to such critical aspects of their business as optimal capitalization levels and reinsurance strategies.

We, consultants who specialize in reinsurance, have the responsibility to continue collaborating with our clients in modeling their insurance activity, providing technical actuarial tools. It is vital that these tools be effective for decision-making and for negotiating reinsurance terms and conditions. □

# The Swiss Solvency Test

by Carlos Arocha and Karen Tan



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Just as reserving and capital requirements for U.S. life insurers are undergoing a dramatic overhaul, Swiss companies and the Swiss regulator, the Federal Office of Private Insurance (FOPI), are heavily engaged in the Swiss Solvency Test (SST) paradigm, in force since Jan. 1, 2006. A sign of the global times is that even for a seemingly stable economy, events like the crash in international equity markets of 2001 and 2002, the steady fall in bond yields, and an increased longevity, have spurred modern insurance risk management.

The SST attempts to foster better risk management practice among insurers. Before SST, life insurers determined required capital using the Solvency I standard formula: 4 percent of mathematical reserves, plus 0.1 percent of net amount at risk. This formulaic approach failed to consider a company's own risks profile and was clearly inequitable for prudent insurers. With the advent of Solvency II in the European Union (to which Switzerland does not belong), Swiss authorities took the opportunity to devise a "risk-based capital" solution which fits squarely with the second pillar of Solvency II (i.e., supervisory review of capital adequacy).

## SST Modelling Approach

SST requires insurers to apply risk-based capital models that are able to capture each company's unique risk profile, complemented by scenarios or event shocks. While companies are encouraged to develop and implement their own internal models as the default approach,

a standard model has also been developed by FOPI to ensure that all companies are able to fulfil the minimum requirements.

Standard models are provided for market risks, life insurance risks, P&C risks, health insurance risks, and credit risks. All models but the credit risk model (which follows a Basel II methodology) are stochastic. Parameters are either set by the regulator or by the companies themselves.

Both company specific and predefined scenarios are important tools for supervisors in the assessment of risk management and the company's internal processes (another SST tenet.) These two elements facilitate an informed exchange between senior management, the board of directors, and insurance authorities.

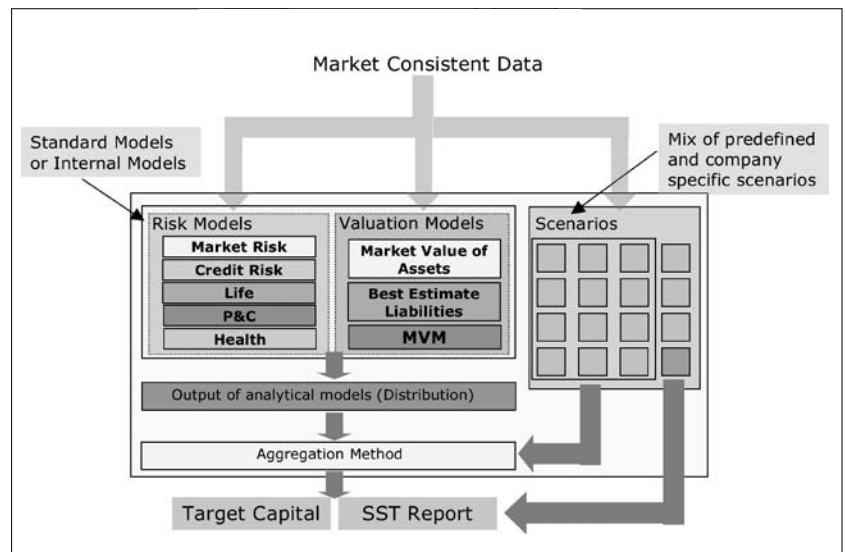


Fig.1 – Structure of SST  
Source: Federal Office of Private Insurance



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The results of the standard models are mixed with the evaluation of the scenarios with an aggregation method. The aggregation basically consists of determining the weighted expected value of probability distributions given the "normal" situation (captured by the standard models), and the "special" situations (captured by the scenarios). This makes the SST a hybrid stochastic—scenario model. To arrive at target capital, results of the standard

models and evaluations of a number of scenarios are aggregated.

## Transparency

The SST improves policyholder protection and enhances an insurer's risk management processes within a more transparent system. Regulators have historically passed solvency legislation to protect the policyholders, however setting strict standards for liability recognition have also carried systemic risks: companies are "rewarded" if they can beat the system by writing products that are not monitored adequately by the regulator. FOPI believes that a first prerequisite for a transparent and comparable regime is that assets and liabilities are valued in a consistent way by all market players.

## Market Consistency

A basic tenet of SST is that both assets and liabilities must be market-valued. For liabilities, all policyholder guaranteed receivables and embedded options must be considered at a market value if it exists, or the value of a replicating portfolio of traded financial instruments *plus* the cost of capital for the remaining basis risk.

*Risk-bearing capital* consists of the difference between assets and liabilities (both taken at the market consistent value), plus the market value margin (labelled MVM in Fig. 1). This margin is approximated by the present value of future required regulatory capital for the run-off of the portfolio of assets and liabilities.

*Target capital* is defined as the sum of the expected shortfall of change in risk-bearing capital within one year at the 99 percent confidence level, plus the market value margin. In essence, the expected shortfall is a conditional tail expectation (CTE) measure that is robust, convenient, practical, and coherent for quantifying financial risk exposure. It has become the preferred measure whenever stochastic methods are used to set liability provisions.

Under the SST, an insurer's capital adequacy is defined if its target capital is less than its risk bearing capital. (Fig. 2)

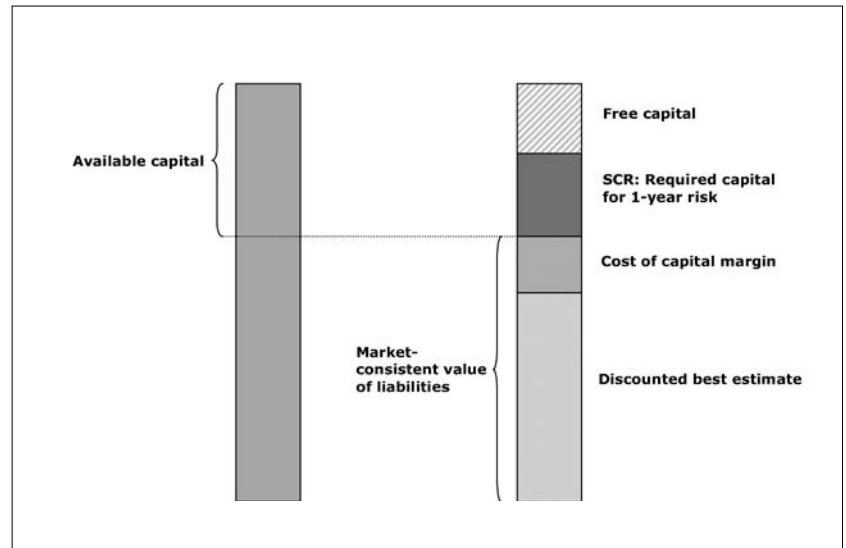


Fig.2 – The Economic Balance Sheet  
Source: Federal Office of Private Insurance

## Compliance: the SST Report

The SST Report summarizes an insurer's risk position on an annual basis. It has a prescribed minimum content, incorporating relevant information required to review the target capital and available capital calculation, and must be signed by the CEO. This needs to be supplemented by a risk management report that covers aspects such as the risk strategy (including objectives and appetite), risk management procedures, and an allocation of responsibility and accountability.

Interestingly, the onus is not on the chief actuary to comply with the solvency requirements. Rather, Senior Management and the Board of Directors are responsible for the adherence to SST principles.

## Convergence of Global Actuarial Thinking and Insurance Supervision

Risk-based solvency requirements have a long history in a number of countries. To provide incentives for risk and capital management and to transfer (back) the responsibility to Senior Management and the Board of Directors, it is critical that the approach to supervision is principles-based.

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In 2004, the International Association of Actuaries (IAA) published back in 2004 a paper with recommendations on how to implement a risk-based regulatory framework. Many supervisors have adopted a few recommendations. A case in point is that the SST incorporated the following:

- The expected shortfall as a risk measure;
- The total balance sheet approach;
- The one-year time horizon; and
- The explicit risk margin.

In addition, the International Association of Insurance Supervisors (IAIS) guidance papers on solvency assessment indicate the global trend toward principles-based approaches:

- Structure of regulatory capital requirements;

- ERM for capital adequacy and solvency purposes; and
- Use of internal models for risk and capital management

All these are prime examples of convergence of thinking of the global actuarial profession and insurance regulation activity.

### Expanded Opportunities for Chartered Enterprise Risk Analysts (CERAs)

An interesting item for the actuarial profession is the emphasis on an ERM approach that is implied in the SST Report. This translates into attractive career development opportunities for CERAs and other risk management professionals. □



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# Expand our Territories with CPD

by Alex Zaidlin and Bosco L. Chan



It is not a secret that we live in an ever-changing world. Political, social and economic changes take place on an almost daily basis. Certain changes, like new government regulation or compliance requirements, affect actuaries directly while others indirectly. As professionals, we have a social responsibility to update and expand our knowledge base as these changes occur.

The issue of whether the Society of Actuaries (SOA) should have continuing professional development (CPD) requirements was first brought to the Issues Advisory Council's attention in January 2006 and reviewed by the SOA Board of Directors in March of the same year. The Issues Advisory Council and Knowledge Management Strategic Action Team (KMSAT) studied the issue further. In June 2007, the Board approved the draft implementation plan for CPD requirements to maintain the actuarial profession's role in the evolving marketplace and to preserve the value of credentials with its members and stakeholders. To ensure a well-designed program, the CPD<sup>1</sup> focuses on three major areas:

1. Professionalism,
2. Job relevant topics, and
3. Non-technical (soft / business and management) skills.

The importance of the first two areas is very clear to actuarial practitioners. One must continue developing their technical skills and maintain professionalism to keep up with market changes. However, the reasons behind continuing education on their soft skills may not be obvious to many. As a reference, the Canadian Institute of Actuaries (CIA) modified its CPD requirement in 2005 to include business and management skills development as it believes that even though those skills are not unique to the actuarial profession, they certainly improve personal effectiveness and the actuary's ability to succeed in a diverse business environment.<sup>2</sup>

The Pacific Rim Actuaries' Club of Toronto (PRACT) is a leading local actuarial organization in Canada. It is aware of the actuarial professional's need to strengthen their business and management skills. Therefore, the PRACT



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<sup>1</sup> Based on draft implementation plan in June 2007, which may be different from the final plan to be approved by the SOA Board.

<sup>2</sup> The Canadian Institute of Actuaries' Qualification Standard—Continuing Professional Development (CPD) Requirements (effective Jan. 1, 2006).

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decided to assume a major role by developing a series of interactive business workshops for local actuarial practitioners. The first workshop took place in June 2004, even before business and management skills were required in the CIA CPD requirement. The workshop has been offered twice a year since. If the participants find that the workshop material is relevant to their job, each of these workshops may be used to fulfill two structured hours of the CIA's CPD credits that are equivalent to 2.4 units of proposed SOA CPD units.

Before each workshop, the PRACT committee members discuss in length the needs and desires of the workshop attendees, to provide them with the most valuable two hours that will enhance their day to day work performance and contribute to their long-term growth as business professionals. The content of the workshops is developed by the workshop facilitator with input from the committee and is customized for our profession's specific needs. In addition to the presentation segment, each workshop includes real life examples along with group exercises to make it thought-provoking and educational at once. The workshops turned out to be a great success. Not only did they draw higher-than-expected attendance, but they also received positive feedback from the attendees.

The PRACT committee is made up of actuarial professionals in various fields of practice, which allows it to come up with relevant topics for actuaries today. The following topics have

been offered in the past PRACT business workshops:

1. Business Networking
2. Networking and Relationship Building
3. Presentation Skills
4. Leadership Skills
5. Conflict Management
6. Communication Skills

We understand there is a need for actuaries to expand their territories from sophisticated professionals to well-recognized business experts, and this need is expected to grow over time. There are a lot of opportunities around us. To capture or create new opportunities, we want to equip ourselves with more skills and knowledge. Receiving the credentials at a point in time reflects one's level of knowledge at that point in time only. The CPD program ensures that the actuary's level of knowledge is comparable to or even exceeds the level of knowledge they possessed on the day of receiving his/her credentials. The CPD program may not be the most popular program when it is first rolled out; nevertheless we are confident it has profound implications to the success of our profession in the evolving business market.

The views and opinions expressed in this article belong to the authors and should not be interpreted as those of the authors' employers or any other organizations with which the authors are associated. □



# Regulator Introduces New Requirements for Participating Business in Singapore

by Ken Hung and Eng Hun Yeoh

The Monetary Authority of Singapore (MAS), regulator of the financial industry in the country has recently introduced a new regulatory notice for life insurers writing traditional participating business in Singapore. This Notice, *MAS Notice 320: Management of Participating Life Insurance Business*, covers both the corporate governance and disclosure aspects of running a participating business, and has an expected implementation date of Jan. 1, 2008 and March 1, 2008 respectively.

## Background

MAS Notice 320 is the result of a review of participating business conducted by MAS in consultation with the life insurance industry. Participating business still forms a significant share of new business of the life insurance industry in Singapore, and it had been obvious from policyholder complaints and queries that the average policyholder had a rather poor understanding of par policies. In addition, Singapore insurers employ a variety of approaches to surplus distributions, including both American-styled cash dividends and U.K.-styled reversionary bonuses. Compared to many markets, there are also relatively larger numbers of bonus series, and greater variance in bonus philosophy. All these make par business relatively difficult to understand.

At the same time, there had been various regulatory initiatives in other jurisdictions to improve the governance and transparency of par business, key among them the requirement for par funds in the United Kingdom to have a Principles and Practices of Financial Management (PPFM) document. In the same vein, an objective of the review of participating business was to improve the governance of par business in Singapore. It was noted that in the Singapore context, bonus philosophies tended to not be clearly stated, and mainly rested in the judgment of the Appointed Actuary. A change in Appointed Actuary could thus result in significant shifts in bonus philosophy, which could be avoided by improved governance procedures.

An industry workgroup, consisting of representatives from MAS, the Life Insurance Association (LIA), the Singapore Actuarial Society and industry players, was formed to conduct the review. MAS also conducted a public consultation of the workgroup's recommendation. MAS Notice 320 was a result of these efforts.

## Internal Governance Policy

Under the new Notice, all life insurers which have established or will be establishing a participating fund shall put in place an internal governance policy on the management of its participating life insurance business. The purpose of this governance policy is to set a clear framework for the management of the participating life insurance business to ensure that the business is efficiently managed and policyholder interests are safeguarded.

The governance policy will cover areas such as bonus determination, investment of participating fund assets, risk management and expense allocation to the participating fund. Key principles that should be reflected in the governance policy include equity to policyholders and maintenance of the solvency of the participating fund. Once put in place, the governance policy shall be reviewed annually to ensure it remains relevant.

Traditionally, par fund management has been seen as primarily the responsibility of the Appointed Actuary. According to the Insurance Act, the role of the Appointed Actuary includes responsibility for premium rate setting, allocation of surplus, assistance in formulating investment policy, financial condition investigation, etc. The Appointed Actuary shall also provide a written report to the Principal Officer and Board of Directors on any matter that has material adverse effect on the financial condition of the insurer and requires rectification by the insurer.

While not diluting the role of the Appointed Actuary, MAS Notice 320 emphasizes the

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principle of Board accountability. According to this Notice, the onus is on the Board of Directors to ensure that the participating fund is managed in accordance with the governance policy. While not a departure from previous practice, the formalization of this principle highlights the need of Directors to be vigilant in matters related to the participating fund.

### **Disclosure to Policyholders**

The new disclosure framework is achieved via a combination of mandatory regulatory requirements as set out in MAS Notice 320, and industry guidelines provided by the LIA.

The disclosure requirements in the Notice address the need to improve the policyholders' understanding of traditional participating policies. This is to be achieved by increasing disclosure to participating policyholders both at point-of-sale and post-sales. The new point-of-sale disclosure requirements affect the Product Summary, while post-sales disclosure requirements affect the Annual Bonus Update.

In the Product Summary, additional disclosure is required in areas such as bonus determination (e.g. what risks affect the level of bonus, how these risks are shared with other plans, how bonuses are smoothed, actual bonuses declared in the past three years), investment of participating fund assets (asset allocation, actual investment performance and investment expense ratio over the past three years), fees and charges imposed on participating policies, and any potential conflict of interest.

The Annual Bonus Update that should be sent out on an annual basis is the main document affected by the new post-sales disclosure requirements. New information that is required in the Annual Bonus Update include a description of the past performance and future outlook of the par fund, and an explanation of how this will impact future bonus allocations; disclosure of reversionary and terminal bonus rates in the past three years; and a revised projection of surrender and maturity values upon any revision (or expected revision) of bonus rates.

In conjunction with the release of the Notice, LIA has released new industry guidelines setting out a new benefit illustration format. The new format shows the projection of policy benefits on two different investment rates of return instead of one. This provides the policyholder with a better understanding of the potential of lower returns, should investment returns be below expectations.

At the same time, LIA has also released a new guide to the policyholders called "Your Guide to Participating Policies" which contains the basic information on how a participating policy works.

To ensure that these additional disclosures are useful and can be better understood to customers, the LIA commissioned a consumer survey on the proposed disclosure documents. The industry is hence confident that the disclosures will be meaningful to the customers, and do not unnecessarily add to compliance costs.

### **Industry Reaction**

This Notice follows several rounds of close consultation with the Life Insurance Association (LIA), the industry group representing life insurers in Singapore. The new requirement was generally well received by the industry, and is seen as a positive step towards reinvigorating the role of the participating policy in today's insurance landscape. □

# Pension Accounting Changes—Volume 2

by Catherine Robertson

In the November 2007 issue of *International News*, we looked at the first steps that have been taken in the United States towards global convergence of pension accounting. This article will concentrate on updating the status of global convergence in Canada and also look at changes proposed in the International Accounting Standard, IAS 19.

## The Horizon in Canada

In January 2006, the Accounting Standards Board (AcSB) in Canada announced its decision to require all publicly accountable enterprises to report under International Financial Reporting Standards (IFRS) for years beginning on or after Jan. 1, 2011. This date will be confirmed by March 31, 2008.

## Interim Changes in Canada

In late March 2007, the AcSB issued an exposure draft to the Canadian Institute of Chartered Accountant's standard 3461, *Employee Future Benefits*. The exposure draft proposed, in the AcSB's words, a significant improvement to financial reporting that would improve the completeness and understandability of balance sheet information. The proposed changes were consistent with the changes included in the U.S. Financial Accounting Standards Board's (FASB) Statement of Financial Accounting Standards No. 158 *Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans*, issued in September 2006 (which were detailed in the November 2007 issue of *International News*).

However, following the end of the comment period, the AcSB announced that they had elected not to proceed with the proposals. In rationalizing its decision, the AcSB noted that the timing was not right to implement changes to pension and benefits accounting standards, only to change them again in a few years during the planned transition to IFRS. The AcSB further justified the decision as, since the U.S. FASB had also announced plans to converge with IFRS, the Canadian and the U.S. standards should eventually become harmonized again.



Although the AcSB believed that the March proposals would have enhanced Canadian financial reporting, they pointed out that changed market conditions have made the new reporting requirements less urgent, and that the funded status of defined benefit plans is already disclosed in notes to financial statements even though it is not fully reflected in the balance sheet. The AcSB further noted that, under the current IFRS, a plan sponsor's opening balance sheet on transition to IFRS will, in many cases, reflect the funded status of a defined benefit plan, due to the options available for treating unamortized balances on transition and the limited ability to defer and to amortize past service costs.

The AcSB's focus is now on the implications of adopting IAS 19, *Employee Benefits*, on the date of transition to IFRS, and on the International Accounting Standards Board's current project to amend that standard.

## A Short History of International Accounting Standards

On April 1, 2001, the International Accounting Standards Board (IASB) was formed as an independent accounting standard-setter based in London, U.K. The IASB assumed accounting standard-setting



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responsibilities from its predecessor body, the International Accounting Standards Committee (IASC). In particular, the IASB assumed responsibility for all existing standards issued by the IASC, which were known as International Accounting Standards (IAS). All accounting standards issued by the IASB since April 1, 2001 have been called International Financial Reporting Standards (IFRS).

IFRS are used in many parts of the world, including the European Union, Hong Kong, Australia, South Africa and Singapore. Nearly 100 countries currently require or permit the use of, or have a policy of convergence with, IFRS.

### Some Key Features of IAS 19

IAS 19, *Employee Benefits*, covers short term employee benefits such as salary costs and long term employee benefits and post employment plans, including defined benefit pension plans.

With specific regard to defined benefit plans, IAS 19 prescribes that the discount rate should be based on high quality corporate bonds. The amount recognized on the balance sheet is the surplus/deficit under the plan, adjusted for any unrecognized actuarial gains or losses and unrecognized past service costs, and subject to an asset limit.

At a minimum, unrecognized actuarial gains and losses that exceed 10 percent of the greater of the defined benefit obligation or the fair value of plan assets must be recognized over the expected average remaining working lives of the participating employees. Faster recognition is permitted. The recognition can either occur through profit or loss or outside of profit or loss, in a statement of recognized income and expense.

When there is a change to the benefits of the plan, IAS19 requires these to be amortized on a straight line basis over the period that the benefits vest. Hence, benefit improvements/reductions that are immediately vested should be recognized immediately.

### Future Developments under IAS 19

In July 2006, the IASB added a project on post-employment benefits to its agenda. The project is to be conducted in two phases.

The first phase will consider issues that could be resolved within the next four years, namely:

- Presentation and disclosure.
- Definition of defined benefit and defined contribution arrangements and accounting for cash balance plans.
- Smoothing and deferral mechanisms.
- Treatment of settlements and curtailments.

The aim is to issue an interim standard that would significantly improve pension accounting by 2011. The IASB expects to issue a discussion paper in the first quarter of 2008.

In addition, the IASB will monitor the U.S. Financial Accounting Standard Board's project to conduct a comprehensive review of all the accounting rules applicable to pensions and other post-employment benefits (OPEBs), which is also a two stage project. Although the timing and scope of the first phases of both projects is expected to differ, the objective of both Boards is ultimately to develop a converged standard. □

# Enterprise Risk Management—A Brazilian Market Perspective

by David Sommer

Priorities in overseas insurance markets are not the same as in the United States. Enterprise Risk Management (ERM) is no exception.

While various forms of dynamic financial analysis and risk modelling have been discussed and practiced for some time in more technically advanced insurance markets, the advent of Solvency II has brought these concepts and the framework of Enterprise Risk Management to the attention of developing markets. In many instances, this awareness is created via the regulatory authority, which wishes to implement a risk-based approach to capital adequacy. This was the case in the Brazilian market, where new regulations anticipate capital requirements for underwriting, credit, market, operational and legal risks. While these will be phased in over time, this completely new approach toward insurance company management is forcing the market to reeducate itself.

While there has been much written about ERM, it has typically been written from a developed-market (U.S. or European) point of view. Many sources of insurance risk in other markets are different and even those that are similar have different levels of relevance. The goal of this article is to look at ERM from the point of view of the Brazilian Insurance Market and comment on some of the specific challenges there.

## Underwriting (and Reserve) Risk

Brazil is a market with a much less aggressive court system than other more developed markets and almost no natural catastrophe risk. While there is significant price competition and related underwriting cycles here, the tails are much shorter and as a result, the corrections typically occur much more quickly. Further, companies with diversified books of business do a fairly good job of not being aggressive across-the-board. In addition, the market is focussed on personal lines products with lower limits. Even where there are higher

limits exposed (property premiums make up less than 15 percent of market premium), company retentions are relatively low due to regulatory restrictions, limiting the insurer's underwriting risk due to large losses.

Underwriting risk in Brazil typically comes from what we would call parameter risk, that is the incorrect pricing of business (or poor acceptance criteria) due to the lack of familiarity by the underwriting department. While there is a movement toward more technically-based pricing in the market, this is limited to a only a few products and much of this analysis tends to be subverted by commercial concerns with only a few brave souls willing to maintain discipline in face of market pressures. With regards to life insurance, there is still significant debate over which mortality tables are appropriate for the Brazilian insured population (which is significantly different than the overall population) and the impact of improvements in mortality in general.

As far as reserving risk is concerned, the market for the most part calculates reserves mechanically without considering changes in portfolio or environment. As a result, there is a significant probability that a company's reserves are not properly stated. With the relative shortness of tail, this magnitude of this risk is likely to be less than in more developed markets.

## Market Risk

Market risk is characterized by volatility in interest rates and their effects on asset values and returns. Due to the governments concerns of inflation, Brazil has one of the highest real interest rates in the world despite consistently improving indicators. However, interest rates are falling and will continue to do so, with forecasts of nominal interest rates close to 10 percent at the end of the year. This sustained fall in investment returns (interest rates were 18 percent in January 2006, compared to 11.5 percent



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in July 2007), is particularly concerning as there are few options for long-term investments that could allow for companies to immunize their portfolios against the impact this will have on their investment returns. And for multinationals with Brazilian operations, the weakening of the U.S. Dollar against the Brazilian Real (18 percent since the beginning of 2006) has only increased these concerns. Integrating a well-built asset module into an insurer's dynamic financial model can provide the basis necessary to evaluate which investment strategies would be the most appropriate for this new environment.

In addition to these more obvious issues, there are the underwriting risk implications for products with interest-sensitive components. During periods of high returns, many insurers provide guarantees for their products that are unsustainable in today's environment. In these instances, market and underwriting risks are difficult to separate, especially when effects on lapse rates are also considered.

### **Credit Risk**

Until the beginning of the year, the Brazilian reinsurance market has been a monopoly. Although legislation has been passed opening the market, regulation defining the new environment will likely not be released before the end of the year. As such, traditional credit risk concerns of reinsurance recoverables have not yet come to Brazil, although they will be here shortly. While there is the default risk on investments, insurers typically do not invest in stocks and most commercial paper held, if any, is in larger banks.

### **Legal Risk**

This is Brazil's contribution to the international discussion of what risks insurers face. The initial definition put forth by the regulator to the working group in 2005 was that legal risk consisted of "the level of uncertainty to the returns of an institution due to the lack of a completely legal basis for its operations. An example of this is the risk that its contracts are not legally protected against bad faith by its associates, insufficient documentation, or insolvency." The regulator, perhaps seeing that the market was having difficulties under-

standing the distinctions between legal and operational risk (and some aspects of underwriting risk) has recently defined this to be "the risk in view of the peculiarities of the Brazilian legal system." It is clear that the market will continue to await further definition of this and operational risk prior to undertaking any modelling.

### **Operational Risk**

As in other contexts, operational risk remains defined in complementary terms or "all other risks." The market, due to regulatory initiative, has begun to focus more on internal controls and it is hoped that this will be the first step towards identifying (and subsequently quantifying) sources of operational risk.

While insurers do not tend to have large sums of money riding on the successful execution of the number of transactions that banks have, they do recognize that there is significant risk due to bad faith, E&O and other operational shortcomings. And as the legal system in Brazil is particularly paternalistic, the "people" risk due to employee lawsuit (not covered by legal risk) is a significant reality here.

### **ERM for Insurers in Brazil in the Near-Term**

As previously mentioned, insurers are facing new risk-based capital requirements that carry strong incentives (approximately 15 percent of required capital) for them to develop dynamic financial models for these risks, starting with underwriting risk. As the market is relatively unsophisticated from a modelling perspective, companies are scrambling to hire consultants and/or develop internal expertise in designing, building, parameterizing and calibrating these types of models, as well as finding a platform sufficiently transparent and flexible to adapt to future regulations as well as integrate into the company's newly-developed risk management processes. While it is important for these modelling efforts to be focussed on Brazilian issues, it is equally important to understand how the Brazilian market is changing and understand which methods and approaches will be appropriate for a given company during this period of transition. □

# The International Section in Washington, D.C.

by Cathy Lyn



The 2007 SOA Annual Meeting came to Washington, D.C. on Oct. 14, 2007 with over 1,600 attendees. It was held at the Marriott Wardman Park Hotel, an older conference hotel with a perfect balance of landmark charm, modern sophistication, and a historic setting spanning 16 lush acres of flowering plants and boasting a storied guest list of U.S. presidents and dignitaries.

This article recounts the varied activities of our International Section members at this meeting.

This was a conference covering all practice areas and drawing actuaries from all parts of the globe. Countries represented outside of North America included Barbados, Bermuda, China, Egypt, England, India, Ireland, Jamaica, Japan, Mexico, Panama, Scotland, Switzerland, Taiwan and United Arab Emirates. The Board of Directors, section councils and clubs take this chance to have meetings in person when most of their committee members are gathered in one place.

## October 2007 Council Meeting

The International Section started off with a council meeting on the afternoon of Sunday, October 14th. There is a subtle change to the sections' role to use their contact with the "grass roots membership" as a leadership position for the SOA. This is an important meeting that sets the pace for the year. After introductions and elections, we had a long agenda covering strategies and priorities for 2008 including accelerating member commu-

nications and recruiting, *International News*, reinvigorating the Ambassador Program, the U.S. GAAP Seminar Program, the International Experience Study and the section's budget.



2007/2008 Council, left to right are Darryl Wagner, Cathy Lyn, Carl Hansen, Alex Kogan, Joe Chou, Alistair Cammidge, Rich de Haan. Bosco Chan and Liang Zhang were absent.

## The International Section Program

The 2007 conference was planned as a practical example of the **actuarial value ladder** to inspire members to action. The actuarial value ladder is a professional development tool that is a component of the foundation of the SOA Marketing and Market Development Plan (MMDP). The objective of this program is to enhance the image of the profession and encourage targeted leadership skill development.



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In keeping with this goal, the International Section sponsored or co-sponsored three sessions and held a reception as part of the program. The sessions were:

- **U.S. GAAP for International Insurers Workshop** facilitated by Mike Leung and Michael J. Lockerman.



Mike Leung

This workshop was intended for actuaries who work for companies with international operations that apply U.S. GAAP to their business. The workshop addressed problems encountered when applying U.S. GAAP to products and regulatory environments that differ from the United States.

- **Economic Capital Models** co-sponsored with the Joint Risk Management Section with moderator Patricia Matson and Presenters: Tamsin Abbey, Hubert Mueller and Craig Turnbull.

In this session, experts discussed current trends for developing company-specific economic capital, as well as best practices for its uses and applications. Panelists covered recent changes in the regulatory and rating agency landscape for determining capital adequacy. They also talked about the role of capital models in the rating process, rating agencies' goals for their own capital models and the coexistence of companies' capital modeling with rating agencies' capital models.

- **Actuaries Without Frontiers co-sponsored** with the Actuary of the Future Section with moderator Cathy Lyn and a panel of three speakers: Arthur C. Cragoe (retired), Rodney Lester (the World Bank) and Heinrich DeKock (International Finance Corporation).



Rodney Lester



Heinrich DeKock

Our profession has become more competitive worldwide, but are you aware that many underdeveloped countries could benefit from volunteer actuarial services? These countries lack basic infrastructures for health care, social insurance and other areas that require the foundations of our expertise. Actuaries Without Frontiers was created in November 2003 as a nonprofit organization operating within the International Actuaries Association (IAA). This session helped attendees explore the possibilities of getting involved, whether it is in terms of career-expanding opportunities or as an avenue to take up short-term assignments on a volunteer basis.

Session handouts are available at <http://www.soa.org/meetings-and-events/handouts/annual-meeting-07.aspx>

## International Section Reception at the World Bank

We were happy to have the Chinese Actuarial Club (CAC) co-sponsor this event. It was held on the evening of October 16th and took the form of a cocktail reception with exquisite hors d'oeuvres and an open bar. The location required security clearance for all attendees so it was not possible to accept last minute registrations.



Over 50 people signed up for the reception and we were taken by private coach from the hotel to the World Bank headquarters on H Street. The reception was hosted by seven International Section council members. We welcomed Nick Dumbreck (president of the Institute of Actuaries, U.K.), Stafford Thompson (a past president of IABA), Rodney Lester and

Heinrich DeKock, among many others. Several of us renewed old friendships and many of us made new friends and exchanged actuarial chatter from around the world.

### CAC Annual Reception Dinner

The Chinese Actuarial Club (CAC) held their annual reception dinner on October 16<sup>th</sup> at the Chinese Garden Restaurant on Connecticut Avenue near Dupont Circle. This function was held jointly with the International Section. Gene Wang organized the dinner with able assistance from Ching-Meei Chang and Lisa Cheng, an aspiring CFA with KPMG. Lisa joined this actuarial crowd and came to help at her sister's (Chen-Te Cheng) request. Chen-Te, a "local" actuary, had worked on the preparations but could not attend.



There were 40 people at the reception dinner. One group came directly from the International Section's reception at the World Bank Headquarters, many from non-Asian countries but keen to mix and sample Washington, D.C.'s Chinese cuisine.

We took turns introducing the person sitting to our left. The introductions were imaginative and caused good-humored laughter. We were all good sports. Wai Keung "Wilbur" Lo did not mind being introduced as "pressure cooker (or a microwave oven)." One lady from Shanghai introduced herself as "Ms. Chu" ("Chu" in Tai is a famous female character from the legendary Chinese love story, Butterfly Lover). She was a natural comic and made everybody laugh. Wen Mei Chu referred to herself as the best pricing actuary of her company, second

only to her former colleague who was also at the dinner. Lih-Bin Shen came for the meeting from Korea having started his new job there only a month ago. Lih-Bin and Wilbur got into a discussion of the toasting rituals in Korean. There was one young couple who talked about their busy life and their dog.

We made new friends. George Green from Richmond, Va., an actuary and pilot, invited me for an aerial tour of the city. I assumed this would not include flying over the White House. In turn, I reciprocated with an invitation to visit Jamaica, but warned him to be prepared for the rustic way of life with no TV and no hot water in the house. The dinner was also an opportunity for networking and reconnecting with old friends. Erle Robinson, a long time friend from Trinidad joined us for dinner as Chinese cuisine is a popular meal in the West Indies.

In keeping with tradition, a few of us took a casual stroll back to the hotel. We enjoyed the pleasant night, met other actuaries who had been to Ruth's Chris Steakhouse for dinner, viewed the statues and the night scenery from the bridge and worked off full stomachs.

See you in Orlando in October.

The author thanks Nian-Chih Yang for his contribution to this article. □

# Tribute to Stephen Alleyne

by Marcia Tam-Marks and Lisa Wade

The Caribbean Actuarial Association (CAA) was saddened to learn of the passing of Stephen Alleyne, BSc., FFA. Stephen was a founding member of the CAA. He served on its Executive Council from 1992 to 1998 holding several positions including first vice president. He was also a regular speaker at our annual conferences.

Stephen's contribution to the development of the profession also lay in his willingness to mentor young actuaries, many of whom owe him a debt of gratitude for inculcating in them the traits that make good professionals.

The CAA extends its condolences to his wife Yolanda, their daughter Ayanna and the rest of his family. May he rest in peace. □

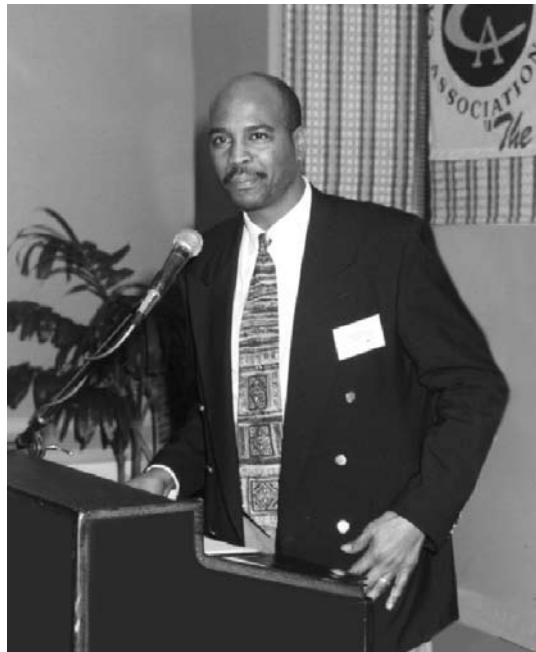
He graduated from Herriot-Watt University, Edinburgh, Scotland after which he joined The Scottish Life Assurance Company and qualified as fellow of the Faculty of Actuaries in 1987. Stephen made a sterling contribution to the development of actuarial science in the region. He was the first qualified Barbadian actuary to serve as the appointed actuary for a local insurance company. He was also the first Barbadian actuary to head an insurance company when he became the chief executive officer of Life of Barbados Limited in 1998.



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He was deputy chairman of Barbados' National Insurance Board from 1994 to 2005. During this time he served as chairman of the Sub-Committee for Pension Reform and was instrumental in the successful implementation of major reform in Barbados' social security system.



## **Cathy Lyn named President-Elect of the CAA**

Congratulations to Cathy Lyn, council member of the International Section, who was recently named president-elect of the Caribbean Actuarial Association (CAA). In addition to her current work on the council, Lyn has also served on the editorial team for *International News* for several years.

Lyn will serve on the new council of the CAA for two years as president-elect and will take office in December 2009 for two years. The CAA was officially formed in Jamaica in December 1991. Its birth represented the culmination of the efforts of a number of actuaries who worked in the Caribbean region.

Cathy is also the SOA ambassador coordinator for the Caribbean and Latin America region and is currently employed as a consultant in Kingston, Jamaica.



## **U.S. GAAP for International Insurers**

After two well-attended U.S. GAAP seminars in Hong Kong during 2006 and 2007 and successful U.S. GAAP seminars in Amsterdam and Sao Paulo, Brazil during 2007, the International and Financial Reporting sections are planning for additional seminars outside North America during 2008. The need for such seminars is demonstrated by over 300 attendees and some sessions oversold. Locations under consideration for 2008 include Hong Kong and Mexico City. Please stay current with upcoming developments at the Society of Actuaries Web site.



## **Joint IAA Section Colloquia: IAAHS, IACA, PBSS, May 4-7, Boston**

A Joint Colloquium and Seminar of three of our sections, namely, the Consulting Section (IACA), the Pensions, Benefits and Social Security Section (PBSS) and the Health Section (IAAHS) will take place in Boston, Mass. on May 4-7, 2008. The program will include formal addresses by eminent keynote speakers, topical seminar-type sessions with invited presenters, and a variety of parallel sessions at which submitted papers will be presented.

The Colloquium will cover all practice areas, including pensions, social security, investment, health, life and casualty insurance, enterprise risk management and general topics such as professionalism, the public interest, and consulting practice. Keynote speakers include: David Hartman, 2008 President of the International Actuarial Association; Alicia Munnell, Professor of Management Sciences at Boston College; and David Walker, Comptroller General of the United States. The theme of the Colloquium is "Global Challenges and Opportunities facing the Actuarial Profession." There will also be a social program that will include a welcome reception and a gala dinner event. You are cordially invited to attend the Boston 2008 Joint Colloquium. Registration information is available at: [www.actuaries.org/Boston2008/Registration\\_EN.cfm](http://www.actuaries.org/Boston2008/Registration_EN.cfm)

Program details are available at: [www.actuaries.org/Boston2008/Program\\_EN.cfm](http://www.actuaries.org/Boston2008/Program_EN.cfm).  
Colloquium Web site: [www.actuaries.org/Boston2008/](http://www.actuaries.org/Boston2008/)



## **IAA Council and Committee Meetings: June 11-14, Quebec City**

The International Actuarial Association (IAA) will hold its next council and committee meetings from June 11-14, 2008 in Quebec City, Canada. Check the IAA Web site home page for developments at [www.actuaries.org](http://www.actuaries.org), see "Upcoming Events" in the bottom right-hand corner.



## **IAA Life Section Colloquium: June 16-18, Quebec City**

The 2nd Life Colloquium is being planned for Quebec City from June 16-18, 2008 in conjunction with the SOA Quebec Spring Meeting. Check the Web site [www.IAA-LIFE.org](http://www.IAA-LIFE.org) for developments.

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## **IAA ASTIN Section Colloquium: July 13-16, Manchester**

The 38th ASTIN Colloquium is being hosted by the U.K. (United Kingdom) Actuarial Profession and will be held at the historic Town Hall in Manchester, U.K. from July 13-16, 2008. Information on the forthcoming colloquium is now available on the colloquium Web site: [www.actuaries.org/ASTIN2008/](http://www.actuaries.org/ASTIN2008/).



## **IAA AFIR Section Colloquium: October 1-3, Rome**

The 18th International AFIR Colloquium is being hosted by the Istituto Italiano degli Attuari and will be held in Rome, Italy, Oct. 1-3, 2008. A call for papers has been issued and more details are available on the official AFIR Web site at [www.IAA-AFIR.org](http://www.IAA-AFIR.org).



## **2008 SOA Health Spring Meeting: May 28-30, Los Angeles**

*International Section sponsored session: A Comparison of North American Health Care Systems*

In the spirit of a U.S. presidential election year, we offer up a friendly “debate” on the merits of the health care systems in the United States, Canada, and Mexico. Panelists will compare and contrast the approaches to health care in the three countries, and highlight current trends as well as possible future changes.

You will come away from this session with a better understanding of how the various health care systems in North America operate, and the potential impact of proposed reforms based on experience elsewhere.



## **2008 SOA Life Spring Meeting: June 16-18, Quebec**

*International Section sponsored session: Key Issues Arising from Solvency II*

After more than 30 years of operating under simplistic, volume-based capital requirements and asset-allocation limits, Europe is changing its reserving and capital requirements to greatly reduce the widening gap between regulatory capital and economic capital. The new three pillar system will significantly alter the methodology for determining capital requirements in EU countries.

The European Commission adopted a new framework for Solvency II requirements in July of 2007 with implementation now expected in 2012. This session covers the three-pillar approach derived from the Basel model—with Pillar One as the calculation of technical reserves and capital requirements, Pillar Two as supervisory review and Pillar Three as public and supervisory disclosures. Attendees will learn about methodologies to bring a risk-based approach to regulation. In addition, our panelists will discuss practical aspects of implementation and the implications to companies preparing for it.

Attendees will better understand how Solvency II might impact their companies, as well as gain insights into international practices in the assessment of capital adequacy that may offer greater perspective into evolving U.S. regulation.

*International Section sponsored session: Takaful Insurance*

Takaful is a form of insurance based on Islamic law. Numerous countries have enacted legislation for Takaful insurance in the last few years. With an estimated 1.5 billion Muslims worldwide, the potential market for Takaful insurance is huge. The market for all forms of Islamic finance (including Takaful) is currently estimated at US\$500 billion.

You will come away from this session with a better understanding of how the traditional principles of Islam meld with the modern insurance industry to develop Takaful insurance, including the role the actuary plays in this development.

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