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Broadening Our Profession's Horizons

by Robert M. Beuerlein, President, Society of Actuaries

As our businesses become increasingly a part of the day to day expansion of the global economy, it becomes clear that:

Broadening Horizons lead
to Expanded Opportunities
and
Narrowing Horizons lead
to Lost Opportunities

Also:
Unless things change, they remain the same!

The actuarial profession continues to also be challenged by these axioms. It is easy for some people to focus on things that they do well while losing sight of the world that is passing by. It is sometimes more difficult for these people to take a step back and realize that their horizons are narrowing and opportunities are being lost.

Over the past year the actuarial profession, led by the Society of Actuaries, has taken a step back to review the role of the actuary in today's global economy. In doing so, the actuarial profession has decided to reposition the "actuary brand." We envision the actuarial profession as dynamic and relevant to today's business environment, which lays the groundwork for increased influence and opportunity in traditional and broader financial services markets.

The International Section can play a significant role in the repositioning of the "actuary brand." With membership and influence in numerous countries around the globe, the International Section can

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Society of Actuaries

Editor's Note

by Cathy Lyn

We are delighted to bring readers messages from two of the foremost leaders of the actuarial profession; Robert Beuerlein, president of the Society of Actuaries and Michael Pomery, president of the Institute of Actuaries. We in the International Section, although small in number, have an important role to play as thought leaders in helping to shape the actuarial profession. As you have been hearing from many sources, we have to operate more and more in an international context, so I encourage members of the International Section to promote the section and encourage your colleagues who are eligible to join. Also, I would like to see the International Section develop a vibrant Ambassador program.

Michelle and I would like to thank all contributors to the November issue of *International News*. On this occasion, we have country updates from Egypt, Ireland, Kenya and Slovakia to keep you informed about international activities. We have two articles about Korea on two very different aspects; the new legislation on corporate pensions and a co-op student's experience working in Seoul. We have an article on HIV and the Insurance Industry in Kenya and the second of a 2-part series on Risk and the Actuarial Profession. We would like to welcome Brian Holland from Germany as a writer for the Accounting Corner. Other authors are from Canada and the United States.

We look forward to many more submissions to bring news about actuarial development, challenges and solutions both technical and social from around the world to our readers. ☐

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Chairperson's Corner

by Marc Slutzky

I believe that the International Section is about volunteerism. The Section Council is made up of volunteers who have an interest in managing the section and rely on many volunteers to get projects done. One of the best benefits of volunteering is getting acquainted with other members who have similar interests in building and managing projects and sharing ideas and experiences of an international nature. You may not be involved with international work and may only be curious about what those international folk are doing. We welcome you all.

The membership of the International Section is geographically dispersed around the world. Similarly, the Section Council faces the challenge of overcoming these vast distances between council members to operate the section effectively. We are able to have only one in-person meeting annually, at the SOA Annual Meeting. It is particularly important for section council members to meet each other and develop a rapport that makes working together easier. Scheduling our seven conference calls during the year faces the problem of finding a convenient time for people in the several time zones in the United States, Hong Kong, Germany, United Kingdom, Brazil and the Caribbean; further complicated by the changing observances of daylight savings time throughout the year, and even more complicated by the fact that our members are often traveling on international assignments.

However, we are all keen to continue building the International Section and supporting the various initiatives of the SOA. We welcome your participation in and suggestions for activities, seminars, studies, webcasts and anything else that will serve the needs of the membership.

We are planning interesting sessions at the Annual Meeting in New York in November, and are running a webcast on M&A in Emerging Markets in October. Any other ideas that you have would be welcome.

I look forward to seeing you at a meeting or hearing from you by e-mail. Let's discuss your ideas! ☐

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Editorial Correction

International News apologizes to Frank Buck for the error printed in the July issue regarding his place of employment. We would like to notify all readers that Frank Buck is a principal at Deloitte Consulting and can be reached at *fbuck@deloitte.com*

expand the opportunities of the actuarial profession globally while enriching the roles of individual actuaries.

Broadening of Section Responsibilities

Recently, the roles of the sections in the SOA have changed dramatically. Special interest sections began as their name implies—to serve the special interests of the members of the Society of Actuaries. These "grassroots" operations have been tremendous successes in the SOA. The International Section is no exception as it has grown in membership and continues to serve its constituency admirably.

However, providing a sense of community to actuaries interested in the international environment is necessary but not sufficient to the success of the International Section. The International Section is being challenged to do more than provide a sense of community. It is being challenged to constantly be scanning the environment for key issues that are important to its members. These key issues can then be communicated to the membership through publications, continuing education and basic education and examinations. The key issues may result in research initiatives or expanded experience studies. Overall, you as members of the International Section are being asked to be "thought leaders" to the actuarial profession from your perspective.

Morris Review

Actuaries familiar with the global profession have noticed that the actuarial profession has received significant scrutiny in the United Kingdom as a result of the Morris Review. A primary criticism from Sir Derek Morris regarding the U.K. actuarial profession is that the profession has become too "insular." To some, insularity implies narrowing horizons and lost opportunities. Many actuaries have asked how the SOA views the report from the Morris Review.

Over the past few years, the Society of Actuaries has developed a Strategic Plan that the SOA leadership uses as a roadmap for accomplishing the objectives that are important to its members. Concurrent with the issuance of the Morris Report in February 2005, the Society of Actuaries Board of Governors appointed a "blue-ribbon" Task Force to evaluate the SOA Strategic Plan in light of the Morris Review. The Board was asking this Task Force to determine if the "roadmap" was leading to the proper place. The four pillars of the SOA Strategic Plan;

- Professional Community Advancement,
- Marketplace Relevance,
- Knowledge Management, and
- Membership Value,

provided a backdrop against which the Task Force evaluated the Morris Review.

In its June report, the Task Force determined that the Morris Review validates the core tenets of the SOA Strategic Plan as it repeatedly calls upon the actuarial profession to be:

- Proactive in dealing with business and public interest situations in which actuaries offer unique expertise (Professional Community Advancement);

- Relevant and non-insular in developing professional methods for actuaries at all levels (Marketplace Relevance); and

- Forward looking and broad thinking in developing educational topics and techniques (Knowledge Management).

The SOA's mission focuses primarily on education and research. Comments by Morris regarding the U.K. actuarial education system have helped the SOA to focus on reinforcing the need for changes within the Society of Actuaries basic and continuing education offerings. The development of actuaries' skills in the areas of business acumen and communication is increasingly necessary. And, the exploration of university accreditation and alternate routes to actuarial credentials must be continued.

FAP

Over the next months, several new educational initiatives will be implemented that will continue to globalize the services of the Society of Actuaries.

In 2006, the Fundamentals of Actuarial Practice (FAP) modules will be introduced into the examination syllabus. These modules will utilize computer-based learning tools to provide learning experiences to students via the Internet. Students around the world will be able to access these modules from their own computers.

In 2007, additional e-learning components will be introduced that will provide further basic education in an interactive format to supplement the traditional written exams for the FSA.

Thermometer or Thermostat?

We should ask ourselves, are we thermometers or are we thermostats? A thermometer is a device that measures the temperature in a room, but does not influence the temperature. The temperature may be uncomfortably high, but the thermometer can do nothing about the situation except report that the temperature is high. On the other hand, a thermostat is a device that can impact the temperature of a room. If the thermostat detects that a room is warmer than desired, it will send a signal to the air conditioner to cool the room to the desired temperature.

Are we thermometers or thermostats? When the environment around us is not desirable, do we acknowledge that it is undesirable and complain about it? Or, do we determine what we desire the environment to be and make changes to influence the environment?

The International Section is in a unique position to be a thermostat for the actuarial profession globally. We know that the world may not always view the actuarial profession as dynamic and relevant to today's business environment, but we must lay the groundwork to increase the influence and opportunity for actuaries in traditional broader financial services markets.

If you are not sure how you can become a thermostat for the actuarial profession, I encourage you to go to *www.imageoftheactuary.org* for more details and ideas.

Conclusion

The topic of broadening our horizons applies to everyone in this ever-changing world. Through your membership in the International Section, you can make a difference in the actuarial profession of the future by providing "thought leadership." The Society of Actuaries recognizes the need for change by providing increasing value to its members through a variety of services. But, it is incumbent on each of us as actuarial professionals to step forward to expand the opportunities of actuaries worldwide. ☐

The SOA's mission focuses primarily on education and research.

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HIV, ARVs and Life Insurance

by Shiraz Jetha

Editor's Note: The author is grateful to Dr. Pat Naidoo of the Rockefeller Foundation for his input, especially on the medical aspects of HIV/AIDS. The author includes his apologies for the length of the article, but feels it is necessary to provide a broader treatment of the subject.

The question of providing life insurance coverage to individuals who test positive for the Human Immunodeficiency Virus (HIV) has been a controversial one. On the one hand is the question of risk—can cover be provided without exposing the underwriter to significant risk and hence potential losses in the long-term fund? On the other, there is a real need for some coverage to alleviate the financial hardship caused by death. It could be argued that the latter is really a social role and hence the responsibility of the government. However, in Kenya, the government is looking at the industry with anticipation as the expert in "insurance risk" to take leadership in this area. This, though, is not an easy problem to solve and probably cannot be done by the industry single-handedly.

So what do we know about HIV and especially insurance coverage for HIV in Kenya?

A. BRIEF EPIDEMIOLOGY OF HIV

HIV debilitates an individual's immune system resulting in increased susceptibility to opportunistic infections, ultimately resulting in death. The virus is transmitted mainly through exchange of blood and other body fluids, particularly as a result of unsafe sexual practices (e.g., multiple partners without barrier protection), unsafe blood transfusions, needle-sharing among injection drug users and transmission from mother to child (in-utero, during passage through the birth canal) and breast-feeding from an infected mother.

In Kenya, transmission through heterosexual intercourse accounts for 90 percent of HIV infections, while mother-to-child transmission and contacts with infected blood account for the other 10 percent.

The prevalence of the virus in the population is thought to be between 7 percent and 15 percent, with the highest prevalence being in western Kenya. More females than males are becoming infected at younger ages. Young women in the age group 15-24 are more than twice as likely to contract HIV as males in the same age group. The peak ages for AIDS cases are 25-29 for females and 30-34 for males. Most AIDS deaths occur between ages 20-30 for women and 25-35 years for men. Currently in Kenya, with a population of about 31 million, it is estimated that 1.4 million women in the age group 15-49, compared to 0.9 million men in the same age category, are infected with HIV.

The mother-to-child transmission occurs primarily during the third trimester and during passage of the baby through the birth canal. Approximately 30 percent of babies born to HIV positive mothers will themselves be HIV positive. After birth, there is a 15 percent chance that a baby who is breast fed by an HIV positive mother will become infected through ingestion of breast milk.

There is quite a lot of individual variation in responses to the infection (related to viral

factors and human host factors as well as the presence of co-infection with other diseases). There is also a difference between how men and women initially respond physiologically to the virus. Generally in the absence of treatment, women progress much more rapidly from infection to full-blown AIDS than do men.

Following initial infection, an individual generally would not notice any overt change in his/her health or bodily function. Depending on his/her physical fitness and nutrition, an HIV positive person can live in a relatively healthy state for anywhere between 18 to 48 months. The virus meanwhile continues to replicate within the individual, initially stimulating the host's immune system to respond and then progressively overcoming the immune system because viral replication occurs faster than the body's ability to defend itself against the increasing viral load. At this point, the individual becomes susceptible to opportunistic infections (skin rashes, diarrheal diseases, pneumonia, fungal infections, TB) that normally will not be a problem if the person was immunocompetent. Childbirth, inter-current infections (e.g., malaria) and stress can all contribute to over-burdening the individual's defenses and hastening the decline of immunity.

Symptoms first start to appear when the CD4 cell count drops to around 200-250 (CD4 cell counts measure the ability of the immune system to fight infections; an ideal "healthy" count level is around 1000) although some indications such as fatigue and weight loss might start earlier. This might be the time the individual becomes aware of or suspects that (s)he might be HIV positive. Without significant medical intervention, the virus continues to weaken the immune system until disease resistance virtually disappears (full-blown AIDS) and death ensues shortly thereafter. Survival (in the absence of treatment) can vary from 27 months (for CD4 less than 200) to 55 months (for CD4 levels in the range of 200-350).

B. CURRENT AVAILABILITY OF LIFE INSURANCE

In Kenya today, *for the employed population*, especially with mid-sized to large employers, insurance is available that covers death from all causes including HIV/AIDS (AIDS is the acronym for the advanced stage of infection when disease fighting ability in the body's immune system is very weak) for amounts below the "free cover limit (FCL)." FCL amounts typically vary by size of the employee group and can, in some cases, cover as much as three times salary.

A second type of insurance coverage available (both as group and as ordinary policies) caters to funeral expenses. While company practices may vary on HIV/AIDS deaths, more and more—at least for these two categories of coverage—deaths from advanced AIDS would be covered.

Medical coverage for HIV/AIDS is more restricted and generally not available within either employee group or individual/personal covers. However there are exceptions here also, especially for employee groups where some medical care delivery/financing organizations—HMOs—will cover the condition, either completely or in a limited manner.

Medical coverage for HIV/AIDS is more restricted and generally not available within either employee group or individual/ personal covers.

Outside Kenya, a similar situation prevails. Additionally, there is probably some experimentation of enhanced coverage at higher premiums depending on the extent of the virus (viral loads) or CD4 cell counts or on the "target market." Widespread availability of life or medical coverage to the population at large is virtually nonexistent. Nor are there specific coverages catering only to the HIV positive population.

C. ARVs AND THEIR IMPACT ON THE AIDS VIRUS

ARV (Anti-Retro Viral) medication has over the years proved quite effective in resisting the proliferation of the virus and keeping the immune system relatively healthy. It does so by reducing viral replication and destroying the virus; however, the virus is not totally eradicated from the system. A few viral particles may continue to persist in the liver and spleen. If medication levels are decreased below optimal levels (through poor adherence to treatment or partial or inadequate treatment), these viral particles rapidly proliferate and again invade the system. Under these circumstances the "undestroyed" virus usually also mutates developing resistance to one or more of the medications used to treat the infection.

Currently there are three main types of drugs used: nucleoside reverse transcriptase

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inhibitors (NRTIs), non-nucleoside reverse transcriptase inhibitors (NNRTIs), and protease inhibitors (PIs). These are used in different combinations (drug cocktails) as first line treatment. Combination therapy (triple-therapy or HAART) is recommended over single or dual therapy as a way to stave off drug resistance. Depending on symptoms, progression of the disease, levels of drug resistance and the risk of drug toxicity, second and third line drugs may be introduced into the treatment regimen.

First-line drugs are available either as generic or as brand name preparations. Generic preparations are considerably cheaper (reportedly between KSh 500 and KSh 2000—$7 to $28—for a month's supply). Brand-name drugs on the other hand, are considerably more expensive than generics ($50–$80 per month). There are currently no significant differences in the efficacy of generics versus brand-name drugs. Second and third line treatment regimens are only available as brand-name drugs and are much more costly ($80 to $180 per month).

First-line treatment (both generic and brand-name) has a dramatic effect by fairly rapidly improving the quality of life of a patient and also increasing patient survival. In Africa, because ARVs have only recently been introduced and there has been a relatively short period of consistent use, the impact of ARVs on the actual period of survival is still anecdotal.

Evidence from western countries (where patients are relatively better nourished and have access to better general health care) points to a potential extension of the life of a patient by anywhere from 10 to over 20 years for someone who would otherwise have been within six to 18 months of death. Survival is dependent on good compliance and adherence to treatment, a healthy lifestyle and a conducive environment.

Data from African countries is scanty; outside Africa, Brazil has the most advanced national treatment program in the developing world and has, since 1996 by presidential decree, made ARVs universally available at no cost in public hospitals. Here within the first six years of program implementation, HIV-related mortality had fallen by 50 percent and median survival time had increased dramatically from 18 to 58 months among "advanced" patients and 84 months among ARV-naïve patients. The goal in Kenya is to make ARVs available at no cost and the health ministry has been asked to present proposals on this.

Increasingly across Africa, patient outcomes with ARVs are so compelling that individuals within one to two months of death—emaciated, drained of hope and energy, very sick individuals—bounce back to vitality (gain weight, increase their appetite) and are ready to return to work and take on new challenges with positive outlooks within a period of four to eight weeks of medication.

ARVs have to be administered by trained professionals. The treatment is typically started when the CD4 count is at a certain reduced level (250-300) and/or the viral load is high (>100,000 copies). As a rough guide, at any one time, around 10 percent to 20 percent of all HIV positive individuals would need to be put on medication. Typical dosages can be as many as six tablets three times a day (combining various doses of the three medications) or even more. However "cocktail" preparations are

now available in generic combinations that have lowered the "pill-count" to around two to three capsules twice a day. This is a lot easier for patients who commonly suffer from oral candidiasis (oral and throat fungal disease) to swallow and remain compliant.

Mother-to-child transmission can be almost eradicated by the administration of ARVs to the mother during the second trimester of pregnancy and to the baby within 48 hours of being born. The administration of a single dose of Nevirapine to a newborn at a cost of around KSh 50 ($0.65) can be effective protection against infection.

However, the medication is strong and may in a minority of cases result in significant side effects (allergic reactions and sometimes severe liver damage). This same medication or HAART (Highly Active Anti-Retroviral Therapy—triple therapy) if available can be used for a limited time as post-exposure prophylaxis for rape victims, health workers with needle-stick injuries, etc.

D. PROSPECTS FOR WIDER AVAILABILITY OF LIFE INSURANCE WITHOUT TESTING FOR HIV

If the longevity outcomes and availability/affordability of ARV medication in the West can be replicated in Kenya, clearly the case for availability of specifically designed products would be quite strong. However, all we know today of the situation in parts of sub-Saharan Africa is that an infected individual whose immune system has degenerated and who would likely die in two years could probably increase his/her lifespan a further four to fifteen years with appropriate medication and care, especially with high compliance, ongoing medical supervision and adequate nutrition.

It is understandable that the insurance industry is still nervous about providing coverage to HIV positive individuals in Kenya. Substantial study data is just not available. However, on the positive side, we already cover HIV in the "group" and the "funeral" coverages and hence are familiar with the risk in these populations. There is also encouraging information on the impact of ARVs on life spans, which can be central to the design of appropriate coverages.

However, there are questions about the widespread availability of ARVs and of its affordability as well as numbers of trained professionals to oversee the proper administration of the medication.

So how can the problem of wider insurance coverage be solved? First, there has to be recognition that the insurance industry on its own cannot solve the problem. Additionally, because of the positive impact of ARVs on life span, if coverage is to be provided, there should be proactive efforts, including solid commitment from the government to make the medication widely available with access to palliative care and patient support and to partner the industry in the initiative. Lastly, there should be an industry-wide initiative that, in collaboration with the government and other interested organizations, undertakes a project to design broader product(s) that provide financial relief on deaths, including those from the effects of HIV/AIDS. In other words, not a project focused exclusively on HIV positive individuals, but broader products that also cover, in degrees if necessary, deaths on account of advanced HIV. *Key to this project would be risk pooling,, including the participation of the government to ensure the financial stability of the arrangement.*

In conclusion, ARVs offer significantly improved longevity prospects to HIV positive individuals. To the extent that perhaps for the first time in the history of the epidemic, the industry, the government and interested organizations can, by working in unison each with its natural role, think about building the framework for providing life insurance coverage to include these individuals in Kenya. ☐

There is also encouraging information on the impact of ARVs on life spans, which can be central to the design of appropriate coverages.

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High on the Agenda—Communicating Uncertainty

by Michael Pomery

Actuaries are highly numerate people, but we are not generally renowned for our communication skills. In my career, I have met quite a few actuaries who are very good communicators. However, it is often the case that actuaries are better at explaining how they have arrived at a result, i.e., the methods and assumptions they have used, than they are at explaining the implications and consequences to their client or colleagues.

The core of actuarial work, reserving and pricing, involves assessing the present value of future liabilities. This requires us to make assumptions about the future. The future is inherently uncertain. Communicating that uncertainty to others, whether to our clients or our employers, to journalists or to the general public, is a major challenge for actuaries.

To meet that challenge, there are a number of difficulties we have to overcome. Firstly, in much of our work we are required to produce a single result, for regulatory, accounting or practical purposes. This single result creates an aura of certainty. Non-actuaries can believe that the single result we have given them is, in some sense, the "right answer" to a question they have asked. This explains why they find it difficult to understand that two actuaries, faced with very similar circumstances, can come up with different results. Surely, they think, one actuary must be "right" and the other must be "wrong."

This way of thinking also helps to explain why actuaries are accused of having made a mistake when the actual outcome differs from their earlier advice. Here in the United Kingdom, successive published projections of future mortality tables by the profession have indicated longer and longer life expectancy.

As actuaries, we argue that the emergence of new data has enabled us to update our previous estimates. But the media frequently criticise the actuarial profession for "getting it wrong," by consistently underestimating life expectancy. We sometimes see the blunt criticism that, as the latest result is different from the previous one, the earlier result must have been "wrong."

The answer to the challenge of communicating uncertainty is to show ranges of possible outcomes. The "single result" can then be seen as one out of a large number of possible answers, every one of which might turn out to be the right one. This approach does, however, require greater effort by the person for whom the work is being done to understand the underlying actuarial advice. How many times have you come across the client who says, "I'm very busy—don't bother me with the explanation, just tell me the result"?

Another difficulty is that showing a range of possible outcomes may be unwelcome. Many people feel uncomfortable with uncertainty and crave as much certainty as possible in their lives.

Recent changes in regulations in the United Kingdom for both life insurance companies and defined benefit pension plans have created a

shift in the role of the actuary. In life insurance, the appointed actuary position has been abolished and the responsibility for all management decisions has been firmly placed on the Board of Directors.

The actuary's role is now that of advising the Board. Similarly, for defined benefit pension plans, the trustees are responsible for agreeing funding targets and contribution schedules with the sponsoring employer. The actuary's role is to advise the trustees. This change in the emphasis of our role should enable us in the future to present our advice in the form of a range of possible outcomes, leaving the ultimate decision makers to choose the appropriate result from within that range.

This change of role might appear at first sight to make life easier for actuaries. But I believe it actually brings with it increased responsibility. We will need to distill the range of available choices to a manageable number and, in doing so, we will inevitably be making important decisions on behalf of our clients. We will then need to explain those choices and their implications in a clear and understandable way, so that the users of our advice can arrive at an informed decision. The manner in which we give the explanation and the extent to which we "steer" the clients will have an important bearing on the outcome.

Sir Derek Morris, in his review of the U.K. actuarial profession, identified what he called an "understanding gap" between actuaries and their clients or employers. He recommended better communication by actuaries, including the development of a "*generic standard on communication covering the content of actuarial communications and the use of those communications by others.*"

He also recommended improved training and education for users of actuarial advice. However, he concluded that the "understanding gap" could never be closed completely, because of the "*intrinsically complex nature of the subject matter.*" This conclusion colored much of his report.

The existence of this "understanding gap" was the main reason for recommending greater scrutiny of actuarial work, e.g., through increased use of independent peer review.

Even before the Morris Review was announced, the question of how best to communicate uncertainty was already being actively addressed within the U.K. actuarial profession in three quite different areas of our work; pension projections, mortality rates and general insurance reserving.

On pension projections, our Finance and Investment Board had prepared a paper for the U.K. financial services regulator. This paper discussed alternative ways of presenting projections of possible outcomes of long-term savings products for consumers. The emphasis was on helping consumers to appreciate the uncertainty of the outcomes. We were also able to send the regulator, who is conducting a review of the rules on projections, a copy of the final report on research that the profession had commissioned from Warwick University on "Consumer Understanding of Risk." *http://www.actuaries.org.uk/files/pdf/social_policy/ConsumerUnderstandingRiskRep.pdf*

The Continuous Mortality Investigation ("CMI") is a part of the U.K. actuarial profession's organization that collects data from insurance companies and publishes mortality tables for use by actuaries. The CMI has been engaged in detailed consultations with academics and actuaries into stochastic methodologies for projecting longevity, to meet the aim of highlighting the uncertainty surrounding projections. The CMI has published a series of Working Papers, which chronicle the development of their thinking in the light of the input from their consultation process. *http://www.actuaries.org.uk/files/pdf/cmi/wp15/wp15.pdf.*

In the third field of general insurance (or property and casualty, as it is known in some countries), a major project on reserving is underway. This is an area of actuarial work where the necessity for the "single result" and the inevitable disappointment when subsequent outcomes differ from the previous advice are common features. Not surprisingly, a key component of the project is the issue of communicating uncertainty. The draft consultation paper published by the project task force contains a chapter (chapter six) that discusses the distinction between parameter uncertainty

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The actuary's role is to advise the trustees. This change in the emphasis of our role should enable us in the future to present our advice in the form of a range of possible outcomes ...

and stochastic uncertainty. It contains a number of examples of actuaries' current practice in communicating uncertainty when reporting on reserves and sets out draft proposals for improved communication. *http://www.actuaries.org.uk/files/pdf/general_insurance/grit_consultation.pdf*

Communicating uncertainty is part of a wider requirement for better communication to reduce the "understanding gap" between actuaries and users of actuarial advice, which Sir Derek Morris considered to be so important. It is being tackled from various angles in the United Kingdom and I hope we can pull the strands together to form a coherent communication standard, in order to meet the recommendation in the Morris Review. We would be interested to hear how actuaries in other countries are tackling this challenge. (*askmichael@actuaries.org.uk*). □

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Actuarial Profession and Education in the Egyptian Insurance Market

by Mohammed F. Amer

Preamble:

The Egyptian insurance market was closed to foreign companies until May 1955. Foreign companies were able to operate as minority partners in eight free-zones. In 1998, legislation was passed allowing foreign companies to participate in forming insurance companies, abolishing the nationality stipulation for general managers and allowing privatization of public sector insurers. This has led to the entry of several major international insurers, including Legal & General (United Kingdom), Royal Sun Alliance and American International Group (United States).

Currently the Egyptian insurance sector consists of 22 companies, and insurance premiums have been growing rapidly as awareness has improved. We must take into account the government social security system which covers the working population and which provides pensions to workers and surviving dependents, which could reach 80 percent of the final salary up to a maximum. Over the past 25 years, the pensioners got a discretional annual cost of living increase of 10 percent. The increase effective July 2005 is 15 percent. The increases are in keeping with the inflation rate.

The Actuarial Market

The Egyptian market is still suffering from a shortage in the number of actuaries; currently eight actuaries are working in the market after the death of a senior actuary (M.R. Hamamo, FIA) and including a young actuary who is an ASA.

A qualified actuary by the Egyptian law (since 1937 and subsequent modifications in 1950, 1980 and 1995) must be an Associate or Fellow from one of the following:

- The Institute of Actuaries (London)
- The Faculty of Actuaries (Scotland)
- The Society of Actuaries (United States)

A Department for Actuarial Science has been in existence within Cairo University since 1995 providing a B.Sc. in Actuarial Science. The course materials were planned to correspond to those of the U.K. Institute of Actuaries, and those who obtain satisfactory passing grades may obtain exemption from corresponding exams of the Institute. In a couple of cases, individuals who got enough exemptions applied to the Society of Actuaries to get credit from corresponding SOA exams and became ASAs and were thus admitted as actuaries in Egypt !

Some members of the Egyptian Society of Actuaries take an active role as lecturers for some courses.

To provide opportunities for university graduates who work in the insurance field, a diploma in Actuarial Science is given by Cairo University which covers material similar to the undergraduate program. This started in 2003 and the first groups are to graduate this year.

The number of graduates up to June 2004 was 75. About 40 are working with insurance companies and the supervisory authority. There are about 12 who are taking actuarial exams.

The American University Cairo (AUC) Actuarial Program

The AUC incorporated an actuarial program within the Math Department in fall of 2004. Some students are taking the SOA exams in Cairo at the Egyptian Society of Actuaries.

Additional facilities for Students

Cairo is the center for examinations of both the Institute of Actuaries (UK) and the Society of Actuaries (USA). Both exams are administered through the Egyptian Society of Actuaries. ☐

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Slovakia—From an Actuary's Viewpoint

by Graham Luffrum and Maria Bilikova

Slovenská spoločnosť aktuárov

Slovak society of actuaries

Editor's Note: The year 2005 marks 10 years since the actuarial profession began its rebirth in the small Central European country of Slovakia (pop. approx. 5.5 million). Here we look at some of the issues facing the profession and its association the Slovak Society of Actuaries.

1. Short historical background

Slovakia is part of the former Czechoslovakia, a country formed after the collapse of the Austro-Hungarian Empire at the end of World War I. In between the two World Wars, Czechoslovakia had a flourishing insurance industry and an actuarial profession to go with it. The only insured lives mortality tables in existence in Slovakia today date from this period. After World War II, and then in 1947, the full imposition of a socialist economy brought about the end of the (private) insurance market and also the actuarial profession. Remnants of the profession continued to exist only in the area of demography.

The 'velvet' revolution in November 1989 brought an end to the socialist economy and the start of the re-emergence of a private insurance industry.

The 'velvet' revolution in November 1989 brought an end to the socialist economy and the start of the re-emergence of a private insurance industry. Slovakia became an independent state on Jan. 1, 1993 and the process of development of a modern insurance industry gathered further pace, with the entry into the market of subsidiaries of a number of foreign companies. In the early days they were mainly from Austria, but now they are also from Holland, Germany, the United Kingdom and the United States. Finally, in 2002, the former state insurance company was sold to a leading German insurance company.

2. Pension reform

As in most continental European countries, the state pay-as-you-go system is in a poor way. The current right-wing government has finally had the courage to reform it. The first, and perhaps most painful step for most people, has been to increase the retirement age, albeit phased in, to 62 for both sexes. Also, women have lost their right to retire earlier according to their number of children. Again this is being phased in. It is anticipated that a further increase in the pension age, perhaps up to 65 for both sexes, will become necessary before too long, if the system is to avoid total collapse.

The second stage of the reform involved the setting up a new three-pillar pension system as of Jan. 1, 2005. The first pillar is the current pay-as-you-go scheme, itself amended as of Jan. 1, 2004. The second pillar takes the form of personal savings accounts. New entrants to the workforce will have their pension contributions, including those made by their employer, split 50/50 between these first two pillars. Current members of the workforce have until June 30, 2006 to decide whether to stay entirely within the current pay-as-you-go scheme, i.e., the first pillar, or to switch to the new system.

The third pillar, which already existed prior to the current reforms, consists of supplementary pension arrangements. In order to further encourage people to provide for their own retirement, the Government changed the tax law on Jan. 1, 2005 and introduced tax deductions for various forms of long-term savings (life insurance, mutual funds, long-term banking products).

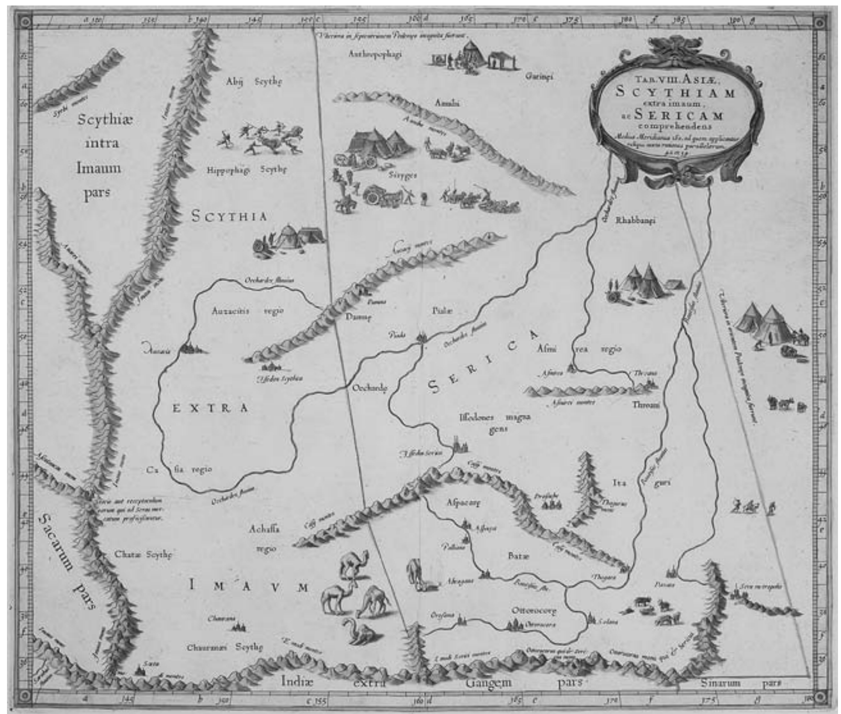
By the end of 2004, eight management companies were set up to administer and invest the money in the personal accounts under the second pillar. At retirement each person will use the money accumulated in his or her account to buy an annuity from an insurance company to add to the pension from the first pillar.

The management companies offer a choice of three investment funds: conservative (money-market investments), middle-of-the-road (government bonds) and adventurous (equities etc.). The Financial Market Authority, which amongst others supervises insurance companies in Slovakia, has the task of supervising these companies.

The nature of the reform leaves open some interesting questions. Perhaps the most important, is how will those who have the option to switch to the new system make their choice? The management companies will want to persuade as many people as possible to switch, but for many they would be better off staying entirely in the current pay-as-you-go system. The government also is keen for the reform to be successful and hence would like to see as many people as possible switch. It is, however, aware that for older members of the existing workforce the new system will not necessarily provide them with a higher pension. Unfortunately, it is not saying where the dividing line, in terms of age, is. At the time of writing (June 2005), almost 1 million people out of a total workforce of 2.2 million have opted to switch to the new system.

A second question is the choice of investment strategy. Contributors will be able at the start of each year to change the type of fund in which they invest their contributions. The rules require that an individual has his/her contributions in only one fund, which stops someone from splitting between funds. The fund management companies and the Government assume that people will start with the adventurous, switch later to the middle-of-the-road and finally as retirement approaches move into the conservative fund. Is this though, the best strategy to adopt? At the time of writing (June 2005) some 1.27 billion Slovak Crowns (about $40 million) has been contributed into the three funds combined—about 5 percent in the conservative fund, 31 percent in the middle-of-the-road fund and 64 percent in the adventurous fund.

A further question relates to the annuities that insurance companies will offer. Under the pay-as-you-go system, pensions increase according to the higher of inflation or the increase in average earnings, a method that the government accepts will have to be reformed at some stage. Will insurance companies be required to offer annuities with the same increases? If so, how will they price them and reserve for them? How will the companies allow for mortality changes? There is room for significant improvement in mortality rates in Slovakia over the next few decades. The Ministry of Labour is aware of some of the issues here and is actively consulting with both the insurance industry and the actuarial profession.



The map above shows an old landscape view of the villages that existed in Slovakia at one time.

3. Insurance

The insurance market in Slovakia is still relatively underdeveloped. In 2004, total written premiums amounted to some 19 billion Slovak Crowns (about $600 million) in life and 29 billion Slovak Crowns (about $900 million) in non-life. Despite this, there are over 20 companies authorized to write business. The market is, however, quite concentrated. The largest company had a 28 percent share of written life premiums in 2004 (the top four companies had a combined share of 70 percent) and 50 percent of non-life premiums (the top two companies had a combined share of 73 percent). Over 40 percent of the non-life business relates to compulsory Motor Third Party Liability (MTPL) coverage.

Slovakia has a system of Responsible Actuaries, modelled, as the name suggests, on the German *Verantwortlicher Aktuar*. Every insurance company, both life and non-life, has to have a Responsible Actuary whose main role is to prepare a report for the Financial Market Authority every year. The content of the report is set out in legislation and includes the

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requirement to give an opinion on the financial condition of the company.

The Financial Market Authority maintains a list of people who can be Responsible Actuaries. To get on this list, an applicant must be university educated, have a clean criminal record, have practical experience and pass a special examination. The latter is meant to test actuarial knowledge as well as knowledge of the insurance law and insurance accounting. It consists of a three-hour written examination and a half-hour oral examination.

There is no requirement to be a member of the Slovak Society of Actuaries. This is a pity as the education requirements of the Society are more onerous and in particular meet both the IAA and the *Groupe Consultatif Actuariel Européen* requirements. In practice, however, almost all the people on the list of Responsible Actuaries are also members of the Society. We believe that the others are members of actuarial societies in other countries.

One significant gap in the Responsible Actuary system is the lack of a requirement for these actuaries to undertake CPD.

One significant gap in the Responsible Actuary system is the lack of a requirement for these actuaries to undertake CPD. Given the speed of change in the insurance area this seriously undermines the credibility of the system.

4. Medical expenses

The state health system is currently going through a period of reform. The main change so far has been the introduction of modest charges for visits to a doctor and for each prescription, daily charges on admission to the hospital and mileage charges for transport by ambulance. The next layer of changes will see the introduction of different charges for different illnesses. The whole cost of serious illnesses, heart disease for example, will be met by the health system, whereas the patient will meet the entire cost of avoidable illnesses, like influenza, for example.

The Government is keen to see insurance companies offer complementary medical expenses insurance that will cover all these charges and also allow patients to have better hospital accommodation, food and the ability to queue-jump. At the moment, such insurance products exist only in a limited form.

5. The actuarial profession

Some important dates in our short history

January 1994 – First Actuarial Diploma Course–Actuarial Mathematics and Statistics–was held in Slovakia in the Faculty of Economic Informatics of the Economics University (FEI EU) in Bratislava.

March 28, 1995 – Participants in the above course set up a Club of Insurance Mathematicians under the auspices of the Slovak Association of Insurance Companies.

June 28, 1995 – The club's members decided to set up an independent body: the Slovak Society of Actuaries (SSA).

March 27, 1996 – The membership approved the final version of the SSA Statutes.

April 2, 1996 – The SSA was officially registered with 32 founding members.

August 2004 – Membership of the SSA exceeds 100.

Education

The first diploma course was followed by a second diploma course in April 1995 to September 1996—Actuarial Mathematics and Insurance. Both of these courses were funded by the British government, with the British actuarial profession providing many of the lecturers. With respect to both these courses, Society members played a role not just as participants, but also as organizers and lecturers.

From May to June 1997, there was a further Postgraduate Diploma Course—Actuarial Mathematics and Pension Insurance. This was organized by the FEI EU, with funding from the European Union.

All these courses were aimed at those who had already graduated from university and were already doing actuarial work. This enabled them to gain valuable theoretical and also practical knowledge.

The year 1997 also saw the start of a series of biannual seminars—Insurance Mathematics

in Theory and in Practice—organized jointly by the Department of Mathematics of the FEI EU and the SSA.

Since the start of 2004, the SSA has been organizing a regular series of Continuous Professional Development (CPD) activities. These take the form of seminars on current topics of interest to members. The presenters have also included guest speakers from outside of Slovakia. It is the aim by the end of 2005 to set up a formal scheme of CPD that will include a requirement for Full Members of the SSA to attend a professionalism seminar.

In early 2005, the membership of the SSA approved a formal structure for initial actuarial education, the main plank of which is a set of detailed syllabuses. This will not only help to visibly improve the professional status of actuaries, but also allows the SSA to apply to become a full member of the IAA and of the Groupe Consultatif Actuariel Européen.

Status and recognition of the profession

Up until 1999, the SSA's main concerns had been in the areas of education and international contacts. From 1999 onward, most effort has been put into trying to improve the status of the profession, in terms of getting the SSA recognized as a fully professional body representing actuaries in Slovakia and getting the term "actuary" accepted in the legislation.

The first step was the approval on April 16, 1999 of a Code of Conduct for SSA members. Then the term "Actuary" was inserted, thanks to an amending law aimed at bringing Slovak legislation more into line with that in the EU, into the then existing law on insurance. SSA members helped in drafting the role, status and responsibilities of the actuary.

Following this success in getting actuaries recognized in the insurance legislation, the SSA worked at improving its relations with the Ministry of Finance and the Financial Market Authority. At the same time it worked at increasing the acceptance of the SSA by employers of actuaries—insurance companies.

The improved cooperation with the Ministry of Finance bore fruit during the preparation of an entirely new law on insurance in 2001. This new law was needed not just because of economic and legal changes, but also by the need to align Slovak legislation with that of the EU in the run-up to EU membership.

The new insurance law came into effect on March 1, 2002. It significantly extended the rights and duties of the actuary in insurance companies and in particular introduced the role of Responsible Actuary mentioned in Section 3.

Membership in international actuarial associations

The SSA has been an Associate Member of the IAA since 1997. In April 2005, it applied to become a full member of the IAA and a member of the Groupe Consultatif. Besides the education changes already mentioned, this has required changes to be made to the Statutes and Code of Conduct, and also the introduction of a formal disciplinary procedure and a procedure for approving standards of practice.

The future

Due to the increased volume of activities and duties relating to actuaries, the SSA decided early in 2004 to set up a number of working parties to deal with specific areas. To date there are working parties dealing with the preparation of actuarial standards of practice, initial and continuing actuarial education, adequacy of reserves and pensions. ☐

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My Co-op Experience in Seoul, South Korea

by Jennifer Cho

Scared, excited, nervous, anxious and enthusiastic were just a few of the mixed emotions that I experienced two years ago. I was on a plane headed to South Korea about to begin an eight-month journey in my homeland working as a co-op student at Samsung Fire & Marine (SFM) Insurance Company in Seoul.

As a student of the Honours Actuarial Science Co-operative Education program at the University of Waterloo, Canada, I had the opportunity to seek employment for four-month periods between school semesters. This was a great way to experience various business environments and ultimately aided in my decision of which area of the actuarial field to pursue. Traveling, networking and developing new skills were among the many advantages of my work terms. SFM was no exception to this rule.

At the time, I had previously worked for two pension consulting companies in Toronto, Canada and was looking for something different. Instead of enrolling through the usual Waterloo co-op application and interview process, I created my own job opportunity at Samsung. The co-op concept is unheard of in Korea; hence SFM was understandably skeptical and hesitant about hiring a student for full-time responsibilities, even if only for a few months. My supervisor had worked with co-op students at his previous positions in Canada; thus, being familiar with the advantages of the program, he successfully convinced SFM to give myself and the Waterloo co-op program a try.

Immediately immersed into the Eastern business environment, it was fascinating to observe the differences compared to the Western version. Growing up in Canada, I seldom had a chance to express my Korean roots outside of my home. Now, I was in a country where the customary greetings were bows instead of handshakes, where business transactions could be completed over a hot meal accompanied by a bottle of soju, and where showing respect to those of higher office ranks was of the utmost importance. Even though Korea had westernized, its Asian cultures and traditions remained strongly apparent in society.

Given my lack of insurance experience and limited Korean business language skills, I had much to learn at Samsung. Communication was the largest obstacle that I faced: aside from my supervisor, very few of my co-workers were fluent in English; however, many were eager to learn. As my manager explained, the Korean insurance industry is quite different and more complicated than its Canadian counterpart. Insurance companies in Korea sell insurance "products" which are basically a variety of coverages, all contained in one package. Life and P&C insurance could be sold as one package. There were many other specific features of the products that were, of course, aligned with Korean laws and taxes. At SFM, I performed statistical analysis and forecasting on data used for pricing and reserving, which also included programming a ratemaking software.

The insurance industry in Korea uses its own examination system to qualify actuaries. I

understand it consists of two exams testing the candidate on Korean laws, accounting and other insurance practices. Companies typically allow a one-month study period, during which their employees go to an off-site facility in lieu of the workplace. They must report to the facility daily as if going to work, but instead study during that time. Korean companies recognize this Korean actuary designation over the FSA designation provided by the Society of Actuaries (SOA). Similar to North American firms with SOA exams, the Korean companies use pay raises and bonuses as incentives for passing the exams.

At the time of my work term, Korea's pension system consisted of a one-time lump sum amount presented to the employee upon termination and/or retirement from a company. The government and various insurance companies were beginning to research and develop a different pension format. I contributed to this proposal by providing research materials and ideas, including a presentation on the Canadian pension system. In turn, I gained a better understanding of the Canadian retirement practice in addition to my one year of experience in the Canadian pension industry.

Being the very first co-op student at Samsung Fire & Marine Insurance, I helped set up their co-operative program for future students. With the consideration that non-Korean speaking students may be hired, English versions of software and materials were installed.

One of the more entertaining aspects of my work term was offering English lessons to my co-workers, during one lunch per week. I would conduct lessons focused on oral skills, such as reading aloud, presentation and comprehension from conversations, since Koreans rarely have a chance to practice them. Also, once a week, we would go out to lunch where it was mandatory to speak English. At times, we would invite foreign Samsung employees to join us. It was always a pleasure to meet and speak with people originally from places such as New Zealand, the United Kingdom and the United States.

It amazed me how the Koreans' need for perfection actually hindered the development of their English skills at first. Most were shy, embarrassed and even stressed from the fear of making mistakes in front of

In the photo, from top left going clockwise: **Jong Hwan Shim**, *Team Manager*; **So Yeon Kim**, *Special Contract Employee*; **Seo Joo Lee**, *Assistant Manager*; **Eun Hee Yun**, *Assistant Manager*; **Young Woo Rho**, *Assistant Manager*; **Jong Hwan Yoo**, *Deputy Manager*; **Eun Hae Baek**, *Administrative Assistant to the Department Manager*; Missing from photo: **Eun Joo Kang**, *Assistant Manager*. This was the Samsung Product & Development Task Force Team when Jen was a co-op there.

their co-workers. But, by the end of my work term, my "students" shed that mentality and all showed improvement.

Being a Canadian-born Korean, I had not been exposed to all the traditional Korean customs and conduct. There are distinctive ways to speak, drink and act depending on the environment. This work term offered me the opportunity to explore my roots.

All work and no play makes for a very boring work term, so while I upheld the Korean tradition of working long hours, I am glad to have managed the time to personally enjoy my time in Korea. I was lucky enough to travel the country, meet new people and breathe in the amazing Korean culture. I am very thankful to my cousin who took me in for eight months and to my many relatives who taught me about my heritage and opened my eyes to the beauty of Korea.

During my eight months in Korea, I was able to gain a better understanding of myself, my culture and my family, all while developing actuarial knowledge. Working in Korea was an invaluable experience and I highly recommend to any reader the opportunity to work or study abroad. The people that you meet and any obstacles you may encounter in the process will make you a stronger and better person. Open your mind to the possibilities. ☐

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International Life Insurance from Ireland

by Andrew Kay

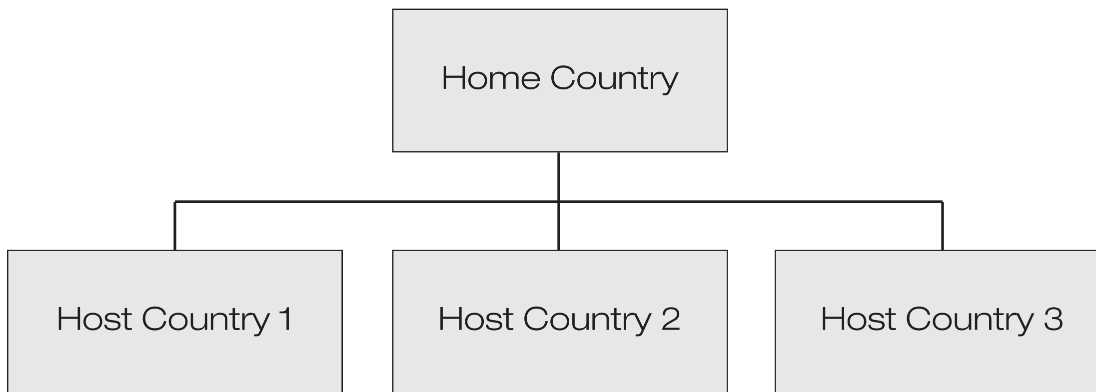
With economic growth forecast to exceed 5 percent in 2005, Ireland is enjoying something of a mini-boom at present, reminiscent of the Celtic Tiger experience of the late 1990s, when the country's economic growth rate averaged almost 10 percent per annum. Ireland, the only English-speaking member of the Euro zone, boasts a record of high economic growth over the last decade or more that stands in sharp contrast to the sclerotic growth experienced by other members of the Euro zone in that period.

The country's superior economic performance can be attributed in large measure to the firmly pro-business stance of successive Irish governments. A significant contributor to Ireland's economic strength has been the success of its international life insurance industry. In fact, the international, or cross-border, life insurance market has thrived in recent years to the point where it now exceeds the domestic market in terms of new business premium income (€6.4bn in 2003 for the cross-border market compared with €4.0bn for the domestic market). Industry figures are not yet available for 2004, but while both domestic and cross-border business written from Ireland experienced strong growth in 2004, the cross-border market again outperformed, thereby extending its lead over the domestic market.

We are seeing increasing numbers of both U.S. and European insurers establishing themselves in Ireland to enable them to efficiently target the trillion dollar European savings and investment market.

Access to a Single European Market

The growth in Ireland's international insurance market is a result of various European Union Directives aimed at building an integrated European financial services market. The first EU Life Directive (1979) set the minimum solvency requirements for insurers operating in the EU. Provided these solvency requirements are satisfied, the third Life Directive (1992) allows companies with their head office authorized in one EU country (the "home"country) to sell into another EU country



(the "host" country) without having to seek additional authorization.

Once a company can demonstrate its ability to satisfy the solvency requirements of the home country, all that is required is for it to abide by the consumer protection requirements of the host country. This effectively means that the home country regulator is the primary regulator with full responsibility for solvency supervision, while the host country takes responsibility for consumer protection and regulation of sales practices.

This single authorization enables the insurance company to establish a presence anywhere in the European community on either a Freedom of Services (FoS) or Freedom of Establishment (FoE) basis. Under the FoS approach, the head-office company is deemed to have no permanent establishment in the territory in which business is sold and hence the company is taxed only in the home country. However, a company operating on a FoE basis is deemed to have a taxable presence in the local market and is therefore subject to taxation in the host country. While tax efficiency is obviously a key consideration, many other factors are important in choosing between the two approaches.

The IFSC

To capitalize on the EU single market Directives, the Irish government set up the International Financial Services Centre (IFSC) in Dublin in 1987, with the aim of attracting foreign financial services providers to Ireland. Companies based in the IFSC benefited from a low rate of corporation tax (10 percent) and were permitted to offer tax-free investment for policyholder funds, thereby placing them on par with their continental European counterparts. At that time, domestic life insurance companies were taxed on the internal build-up of policyholders' funds (the "I-E" basis, similar to the tax system that still applies in the UK) while only approved pensions business had tax-free accumulation (gross roll-up).

The decision to tax profits from cross-border business at 10 percent, combined with the benefits of gross roll-up, attracted a large number of life insurers with aspirations to transact pan-European business to Dublin's IFSC. However, the preferential tax treatment of companies transacting cross-border business from Ireland did not go down well with other members of the EU, who put pressure on the Irish government to end the discrimination. The government's response was to extend both gross roll-up of policyholders' funds and low corporation tax (which was increased from 10 percent to 12.5 percent for cross-border insurers) to all companies from 2001. This move made Ireland even more attractive to companies aspiring to transact cross-border business as it made Ireland's tax regime for life assurance less exposed to challenge from other member states, since the new tax regime applied to both domestic and cross-border business.

Other Advantages

Although a significant factor, the attraction of Ireland as a base for transacting cross-border insurance business is not just about low tax rates. Ireland also has a well-developed regulatory regime, which often gives greater

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flexibility in terms of capital requirements and product design compared to some parts of continental Europe.

Unlike the situation in its nearest neighbor, the United Kingdom, the Appointed Actuary system is alive and well in Ireland, and the Irish Financial Regulator has in effect devolved to the Society of Actuaries in Ireland the job of specifying many of the detailed technical requirements for solvency supervision through the medium of its Professional Guidance Notes for Appointed Actuaries. This has enabled the country to develop a sophisticated approach to capital management of life assurance companies and has fostered product innovation. Whether by good fortune or design, it has also resulted in a clean sheet in regulatory terms: since the passing of the landmark 1936 Insurance Act, not a single life assurance company supervised from Ireland has had to be bailed out or put into receivership.

Cost is also a key factor in helping Ireland's development as a centre for European and global cross-border life assurance business. A number of cross-border companies operate an outsourced business model, where external parties provide the traditional head-office functions such as the finance, legal, policy administration and actuarial functions. This often gives these companies a lower cost base and greater flexibility than their domestic counterparts, and can be invaluable for increasing speed to market.

An expanding market

The year 2004 saw the accession of 10 new member countries to the European Union, which increased the size of the potential market for pan-European life insurance business. Another major factor that is set to increase the size of the European savings and investment market is the shift from state-provided to private pension arrangements. Many European countries are currently facing a pensions crisis that has been caused by a combination of generous unfunded pension arrangements with demographic trends including increasing life expectancies due to mortality improvements, and falling fertility rates. State pensions (which are normally operated on a pay-as-you-go basis) are becoming increasingly unsustainable and governments are being forced to consider alternatives including increased private provision.

EU legislation aimed at enabling the concept of pan-European pensions is required to be implemented by member states in 2005, and many players see this as a market to watch. Ireland has already amended pensions legislation to comply with EU requirements, which should ensure Ireland remains an attractive location for pan-European business. ☐

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IAA Corner

by Martha Sikaras

With each International Section newsletter, we'll update you on the current events and projects conducted under the auspices of the International Actuarial Association (IAA). The IAA is the unique international organization dedicated to the research, education and development of the profession and of actuarial associations. It has 50 full-member associations, 24 associate member associations and three institutional members. The SOA has representatives on all of the IAA committees.

IAA Education Committee Completes 1st Assessment Process

Several years in the making, the first formal assessment of the basic education requirements for all fully qualified members of full member IAA associations was completed in June. The IAA Committee, headed by Chairperson Carla Angela and the assessment team, led by SOA member Cecil Bykerk along with a group of dedicated volunteers, reviewed assessment documents and reported a successful conclusion to this project's first phase. The IAA adopted a set of education guidelines with the formal requirements starting this year. The guidelines ensure that newly qualified actuaries coming from any one of the 50 member associations are well-versed in 10 key areas: Financial Mathematics; Probability and Mathematical Statistics; Economics; Accounting; Modeling; Statistical Methods; Actuarial Mathematics; Investment and Asset Management; Principles of Actuarial Management; and Professionalism.

IAA Reinsurance Committee

Past International Section Council member, Rejean Besner, is the SOA representative on this committee. He reports that the IAA is finalizing a standard of practice on accounting for reinsurance contracts. It was acknowledged that the standard is primarily focused on ceded reinsurance and mostly geared toward P&C situations. It was agreed to try to add a few "life" examples to make it more relevant for life actuaries.

IAA Committee on Insurance Accounting

Pursuant to the recommendations of the IAA Committees on Insurance Accounting and Professionalism, the IAA Council adopted the IAA Practice Guidelines regarding International Financial Reporting Standards as the official IAA guidelines together with appropriate Preamble. These guidelines can be found at *http://www.actuaries.org/LIBRARY/Standards/IASP2.pdf*.

28th International Congress of Actuaries, May 28 to June 2, 2006

Paris eagerly awaits the members of the actuarial profession as plans are well underway for the 28th International Congress of Actuaries, May 28 to June 2, 2006. Early-bird registration discounts are now available. Visit *www.ica2006.com* for complete details including fees, hotel accommodations and special tour information. Event brochures will be available at the SOA exhibit booth at both fall meetings or contact Martha Sikaras at *msikaras@soa.org* for more information. Nous vous attendons à Paris! ☐

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Risk and the Actuarial Profession: Full Steam Ahead

by Charles L. Gilbert

Editor's Note: The following previously ran in the CIA bulletin. Charles L. Gilbert serves as representative for the Canadian Institute of Actuaries and the Society of Actuaries on the International Actuarial Association Committee on Financial Risks. He is also a member of the International Actuarial Association Task Force on Risk Practice. This article is the second of a two-part series on international developments.

Actuarial science can be described as the study of the pricing, valuation, analysis and management of risk. The Canadian Institute of Actuaries and the Society of Actuaries state the common vision '*for actuaries to be recognized as the leading professionals in the modeling and management of financial risk and contingent events.*'

No doubt about it, actuaries are in the business of risk. Some would argue that the actuarial profession is the world's oldest—and currently the only—bona fide risk profession. That is not meant to be a knock against other esteemed organizations, professionals or individuals working in the risk field. It is just an observation that the actuarial profession is the only risk profession with rigorous education and examination requirements, standards of practice, rules of professional conduct, continuing professional development requirements, and discipline for its members. In many jurisdictions, actuaries are formally recognized in law.

Traditionally, actuaries have tended to specialize in either the insurance or pension fields. In recent years, however, actuaries have started broadening their skills and applying their risk expertise to areas outside of the traditional actuarial boundaries. Actuaries are now working in banks, assuming roles as chief risk officers and playing a leading role in the evolution of enterprise risk management. This demonstration of the risk expertise and judgment of actuaries outside of the insurance and pension fields is vital for the profession. All actuaries benefit from the application of actuarial approaches to new areas and the contributions actuaries make in the broader risk field.

Internationally, the actuarial profession has been examining its broader role in the risk practice area. In June, an IAA Task Force on Risk Practice was established to examine what course the profession should be taking. At the same time, other groups and individuals have also been exploring what course they should be taking.

Two events took place last November that could have a profound effect on the actuarial profession:

BOSTON, November 10, 2004—A group of individuals from various organizations including the Society of Actuaries (SOA), the Casualty Actuarial Society (CAS), the Professional Risk Managers International Association (PRMIA) and two universities form the ERM Institute.

WASHINGTON, the next day—The International Association of Actuaries (IAA) Financial Risk Committee supports the recommendation of the IAA Task Force on Risk Practice to create a Risk Section of the IAA and move forward with several specific risk initiatives.

Both of these initiatives seek to extend the risk expertise of actuaries beyond the insurance and pension worlds. Let us take a closer look at each of these.

IAA Risk Section—Expanding Risk Practice Within the Actuarial Profession

The creation of a Risk Section within the IAA will be a major step toward globalizing the profession in the risk practice area. What is currently being envisioned is to expand, refocus and rename the existing AFIR Section (what was described previously as the Risk Board of the Actuarial Profession). The two primary objectives are:

1) Globalize the actuarial profession in the risk practice area
2) Promote and demonstrate the risk expertise of actuaries

The first objective of **globalizing the profession in the risk practice area** will be achieved by coordinating activities through the soon to be created Risk Section of the IAA. Some of the proposed initiatives include:

- Establishing formal liaisons with various actuarial sections, committees and working groups related to risk practice worldwide
- Coordinating and jointly sponsoring risk practice related activities
- Creating international working groups to execute global risk practice priorities
- Publishing and promulgating standards and best practices
- Engaging with rating agencies and regulators
- Creating the IAA as a brand

The second objective of promoting and demonstrating risk expertise of actuaries will be achieved through several specific initiatives including:

- Sponsoring risk-related symposia, specialty seminars, meetings
- Raising the profile of these events
- Organizing a global risk event to be held annually
- Conducting a global survey of risk practices
- Developing a survey based on input from regulators, rating agencies, bank and insurance executives, media
- Promoting the survey while it is being conducted
- Promoting risk practice research in the mainstream press
- Expanding and improving IAA Web site

ERM Institute—Creating a New Risk Profession

Building off the success of the jointly sponsored ERM Symposia, the creation of the ERM Institute will involve strategic alliances with various organizations and universities and aim to become the leading professional organization for ERM research, education and practice. The ERM Institute may also seek to create its own designation (i.e. Chartered Risk Analyst), conduct its own exams, and set out its own governance, standards of practice, rules of professional conduct, and discipline for its members—effectively becoming a separate profession. While there is general agreement that there are many positive mutual benefits to be gained by working with other organizations and professions, there are concerns that the creation of a new, separate risk profession would compete with the actuarial profession for jobs and new entrants. One response to those concerns is that this will happen in any event and that it is better for the actuarial profession to be part of it.

While there is some disagreement over the best course of action to pursue, all agree that the window of opportunity to act is about to close very soon. Two courses have been charted and it is time now to move full steam ahead. ☐

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An Update from Kenya

by Shiraz Jetha

Kenya is a country of some 31 Million people located on the eastern coast of Africa, neighboring Tanzania and Uganda—both with similar populations. From an insurance industry perspective, Kenya has 20 companies writing long-term (life insurance, pensions and annuities) business and 37 companies writing general (or P&C; short term—includes medical) business.

Reinsurance capacity is available through two locally resident reinsurers, two regional ones and several "global" reinsurers maintaining offices locally, but operating principally from South Africa.

Insurance business is regulated under the Insurance Companies Act of 1988, which requires actuarial involvement in the long-term business through annual statutory reporting and filing of rates for life insurance products offered. Revisions to the Act are under consideration to strengthen as well as to update for global trends in regulation.

HMOs started operations in the mid-1990s (although at least one has been present longer) as an alternative to insured programs offering broader and cheaper coverage. They became popular and quickly gained membership—offering strong competition to the insurers. However, their subsequent decline in the late 1990s could be attributed to lacking actuarial, management and financial expertise as well as being thinly capitalized (not being subject to any capital requirements). In 2004, the insurance act was amended to bring these organizations under the regulatory umbrella. The thrust of the legislation is to severely limit risk-taking by these organizations. For the medical business, the pendulum has swung back to insured programs (and higher prices).

HIV/AIDS is a significant issue for the country (where half the population is under age 20 and life expectancy at birth is under 50) and for the industry. It has resulted in a cautious approach to underwriting, an evolution of the product design to more investment-oriented features and lack of (or limited) coverage for deaths on account of AIDS. For group life, there has been steady liberalization in amount of and coverage for AIDS, especially under the free cover limit.

Beyond insurers, a second area in which actuaries are involved is in defined benefit company pension plans. At one time numbering in excess of 200, these are now either winding down or converting to defined contribution plans and number around 150. The main reason for the change is the poor funding of the programs resulting in higher sponsor contributions. This has been aggravated by salary inflation, poor remittance of sponsor contributions and by improving plan benefits with time. Investment returns have, in general, been at anticipated levels.

The presence of actuaries in insurance companies has been virtually nonexistent with most of the required work done by consulting actuaries—locally based as well as those offering services from abroad (South Africa, Pakistan). In the past, some locally based companies closed their offices, essentially leaving two local firms operating in Kenya for

several years. This too is beginning to change as new organizations expand into actuarial work. Currently there are five Fellows—two FSAs and three FIAs. In addition, there are three ASAs as well as a handful of individuals who have made solid progress in the examinations of the Institute of Actuaries. The latter organization has more of a presence now in Kenya with many students working for the FIA designation.

The actuarial profession has an "elitist" image in Kenya and hence has popular appeal among students, not least because of the success of Kenyan actuaries abroad. Both of the major universities offer undergraduate programs in Actuarial Science. Unfortunately the industry has been slow in absorbing graduates, although this is beginning to change. With a growing actuarial community, the profession on June 16, 2005 launched the Actuarial Society of Kenya. It is hoped that over time, the Society will play a leading role in the region and will be able to influence the thinking in key areas, including regulation of insurers and HMOs, governmental social programs and asset management businesses. ☐

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Life Insurance Valuation Models for IFRS Insurance Phase II

by Brian Holland

Editor's Note: This article does not reflect information published since June 2005

IFRS Phase II Overview

The IASB's recent Phase II discussions have been on nonlife, but the life side has hardly taken a break. The IASB's Insurance Working Group (IWG), established to analyze insurance accounting issues has been recently carrying the ball. The IWG brings together a wide range of interests and includes senior financial executives. The IWG's project plan is to identify appropriate accounting treatments by contract type. Then later, in another round of discussions, it will review and resolve any inconsistencies between the treatment of contract types.

The IWG discussed models for the contract type, term insurance, in the second quarter. This summary of the current models will acquaint you with the key points of the models and a range of open issues. The IWG noted that its discussion on term should be relevant for several other types of conventional nonparticipating contracts, specifically, whole life, immediate life annuities and pure endowments.

What Makes Models Different

Before diving into a discussion of different models, we should at least review a basic checklist of what makes them different. The most basic issues for term plans are profit timing and volatility, which are of course bound-up with reserve adequacy. A few pointed questions will illustrate possible perspectives.

Regarding profit timing, especially whether there is an impact on the income statement at issue:

- Should issuing business cause a loss? If we get the business, were we possibly a bit underpriced? Shouldn't we be on the safe side early in the life of the contracts?
- Should some profits be booked at issue, on our watch, since we priced profitably and took the trouble to build a solid risk management framework?
- If we make a fair exchange with another party, for example, making an insurance commitment for a premium, didn't we just trade items of like value? Wouldn't that mean we should not show a gain or a loss, i.e. have no income impact?

Regarding profit volatility due to revising reserve interest, mortality, lapse or other assumptions:

- Doesn't volatility just distract us from the business fundamentals since these jumps will probably just reverse anyway?
- If we reflect volatility, couldn't we show how we've managed the company's risk profile?
- If outside parties (analysts, credit agencies, etc,) will make their own assessment of current status, shouldn't company insiders publish an explicit status update?

Of course, there are other issues besides profit timing and volatility, such as comparability and verification. Also, the IWG made clear that it excluded from the discussion, without prejudging future outcomes, topics including insurance liability credit risk, unit of account, reflection of favorable lapses, and segmentation into revenue versus changes in liabilities.

Models Discussed

Four models were presented to the IWG, plus two others that the IWG sees more as variants within the main four. The four principal models are the lock-in, amortized cost, entry value and exit value models. For purposes of discussion and presentation, the IWG is using risk-free interest rates, but it is not committing to recommending risk-free rates.

The Lock-In Model

The lock-in model will be familiar to FAS 60 users, because assumptions are locked in at issue and only reset for loss recognition. It is also like FAS 60 in that acquisition costs are deferred and amortized and premiums are recognized as revenue. A key difference from FAS 60 is that the lock-in model recognizes no gain at inception by using a margin on unbiased assumptions, either explicit or implicit. The margin is recognized as the insurer is released from risk.

No specific basis has been recommended yet for recognizing margins in profit and for amortizing DAC. One criticism of the model is that it could be difficult or arbitrary to select the appropriate basis, whether premiums, FAS 97-style expected gross margins, a combination or something else.

Liability adequacy is to be tested at each reporting date. If liabilities are inadequate then the loss of increasing liabilities goes through income. The level of aggregation is an obvious issue that will be familiar to FAS 60 users. Other issues that would have to be resolved before implementation include whether the reset assumptions, like the initial assumptions, should include a margin (i.e. whether a current loss should cause future profits), whether the interest and lapse discount rates should be reset, and whether losses should be reversed if experience recovers.

Other open DAC issues are whether DAC should be an asset or reduction in liability, and which costs should be deferred. The IWG noted that deferring only incremental costs would be consistent with IFRS precedents.

A clear advantage of the approach is its familiarity and general fit with much existing valuation. But locking the assumptions in reduces the method's value as an early warning system; accounting mismatches could arise depending on asset valuation, and the measurement is inconsistent with IFRS valuation of other liabilities in IAS 37 (provisions) and IAS 39 (financial instruments).

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Amortized Cost

The Amortized Cost model is IAS 39's amortized cost for financial instruments, which clearly would bring the advantage of consistency between insurance and other financial liabilities at amortized cost. In short, the insurance liability is the present value of future best-estimate cash flows, discounted using the internal rate of return of the initial best-estimate cash flows. The cash flows include the marginal costs of producing business (i.e. incremental transaction costs). So from the model's mechanics, the liability at policy issue is premium less incremental transaction costs. This liability is the cash that the insurer just got for making the commitment, so it could be considered an observed market price. Also note that there is no profit or loss at issue.

No liability adequacy test is required because best-estimate cash flows are used each period. However, the locked-in discount rate precludes a loss recognition mechanism for inadequate returns on the assets backing the liability. A second actuarial issue with locked-in discount is the possible distortions of measuring interest-sensitive insurance cash flows.

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Current Entry Value

A policyholder could lapse at any time and enter into another policy with the same remaining benefits. For example, three years into a 20-year term policy, the policyholder could lapse the current policy and enter into a 17-year term policy to replace the remaining benefits. We can think of the replacement policy's present value of premiums as a best-estimate present value of the remaining benefits and costs, because presumably the policy would not be sold if the insurer did not expect to cover all costs. And please don't forget profit. So the reserve is the present value of the replacement policy's premiums less the present value of the real policy's premiums.

This model would defer acquisition costs and would have no initial income impact. The profit margin in the premiums is then released over time, since the present value of the replacement policy's premiums should include a profit margin. Assumptions, including discount, are consistent with the insurer's pricing model. A variation similar to Australia's Margin on Services method would use current cash flow estimates and market discount rates.

An advantage of the method is its calibration to a market price. A disadvantage is the potential lack of observable price after inception: do you know insurers with terms one through 20 in their portfolios? Also, the pricing basis may not be appropriate if the insurer has inadequate risk management or an outdated pricing basis, is selling a loss-leader, or is subject to distorting regulatory restrictions. Reserving as an early warning system could fail where needed most.

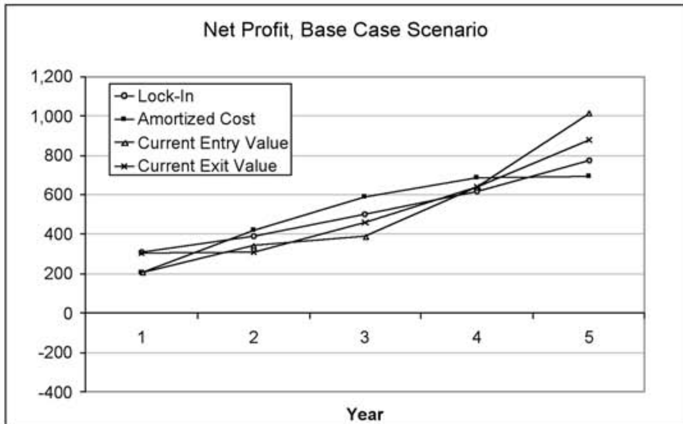
Current Exit Value

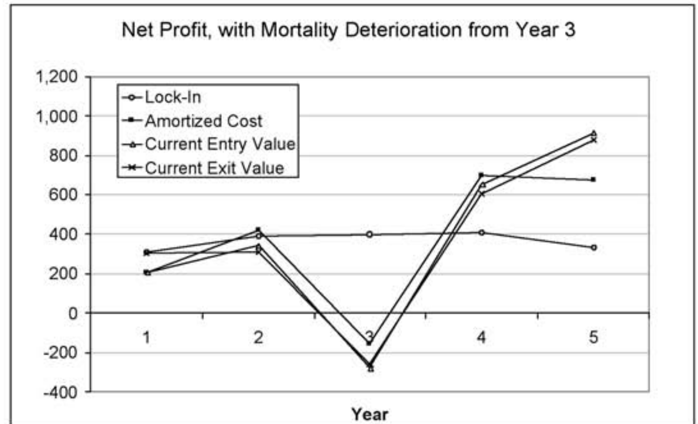
The current exit value is the insurer's hypothetical cost to exit the business. That is, the cost is an estimate of the amount the insurer would have to pay another entity to accept all of its remaining contractual rights and obligations. This amount is then the reserve: the insurer would have to have it or effectively be ready to pay it to meet its commitments. In this model, the acquisition costs are implicitly deferred as long as the assuming entity would itself pay to acquire the business. There could be initial income impact depending on the insurer's estimate of secondary insurance market conditions.

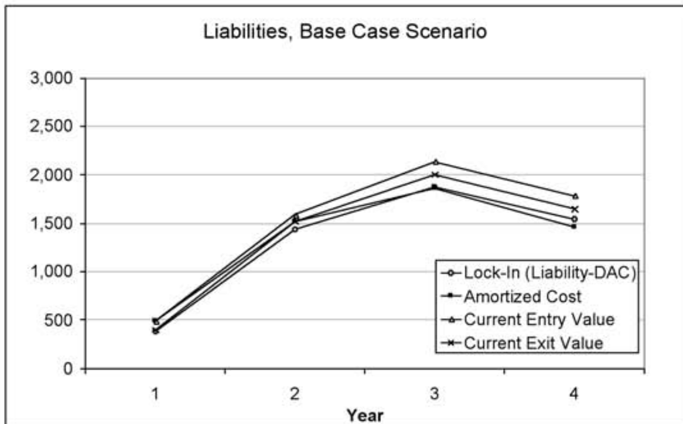
The liability includes a margin demanded by market participants for risk, so margins should flow into income as the insurer is released from risk. Again here, with current assumptions, no liability adequacy test is needed. The liability reflects the policies' inherent credit risk, which the Insurance Working Group intends to discuss in the future. The approach is consistent with IAS 37 liability measurement, which is the amount required to settle the obligation. The Insurance Working Group considers a "business-to-customer" approach, such as the Current Entry Value method, to be more appropriate than this "business-to-business" approach, and gains at inception are considered imprudent. As with current entry value, poorer risk management and measurement systems are likely to lead to lower liabilities—a potential failure of the early warning system.

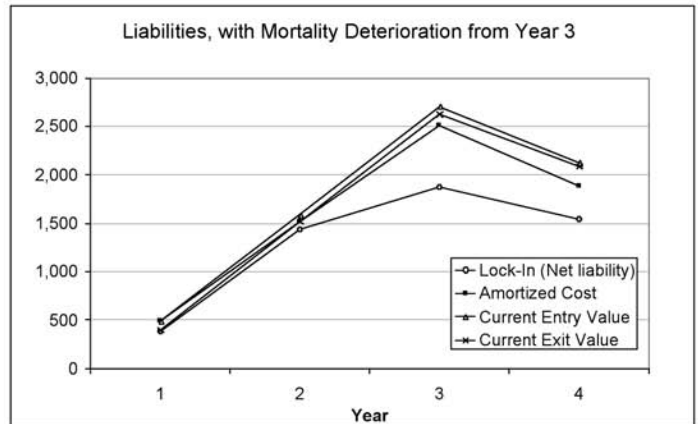
Examples

The Insurance Working Group has produced numerical examples of financials under all four methods and under three scenarios, together with descriptions of the models and assumptions. All are provided on the IASB Web site in the Insurance Working Group observer notes section at *http://www.iasb.org/meetings/wg_obs_ins.asp*. For purposes of illustration, charts are presented here of the liability and earnings under the first two of those scenarios—a base case with experience emerging as expected, and a second case with mortality 110 percent of expected from the third year. The product is a five-year term plan projected without lapses.









Conclusions

Best-estimate assumptions have the common advantages of keeping the view current, and the common disadvantages of expense and difficulty. Whether there are accounting mismatches depends of course on the asset valuation. To compare any methods we must keep in mind whether their valuations of assets and liabilities accurately reflect the underlying business economics and risks.

In particular please see the paper "Life Insurance: Overview of Possible Accounting Approaches" that is referenced there as well as the related numerical examples. The charts above are from those examples. ☐

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The Emerging Era of Corporate Pensions in Korea

by George Beram

A new occupational, or corporate, pension law (the Employee Retirement Security Act or "ERSA") was passed by the Republic of Korea (South Korea) National Assembly on Dec. 29, 2004. It will allow for private sector defined benefit (DB) and defined contribution (DC) pension plans for the first time in the world's 10th largest economy (in 2004 based upon GDP according to the Korean Ministry of Commerce, Industry and Energy). The law will require many regulations to be issued by the ministries of labor, finance and other governmental agencies before, and after, the Dec. 1, 2005 effective date; importantly, on tax issues, funding rules for defined benefit plans, and fiduciary obligations. What follows is the situation as of the end of September 2005 as all the usual suspects—employers, employee groups, financial institutions, consultants, system providers and others—are jockeying for position for control of a share of the new Korean pensions market.

ERSA is limited legislation in many respects and it should be considered a beginning to solving the pension crisis facing Korea, which is not unlike crises being faced by many other aging, developed countries. But the situation in Korea may be more serious than most because of an overambitious social security system, the lack of private sector occupational pensions in the past and a population that is aging at a very rapid pace.

It should be noted that employees of the government in Korea and certain other groups, are covered by generous defined benefit plans which is not unlike the evolving pension situation in the United States, United Kingdom and other countries where most private sector workers appear to fare poorly in comparison to governmental workers. This article is focused on the private sector.

I will begin with a look at the Korean retirement system, as it has existed before ERSA, followed by a review of the new law, options to be considered by employers and some of the issues to be resolved. Assuming enough employers actually adopt corporate pensions soon after Nov. 30, 2005, a follow-up article in a year or so may be of interest.

Korean Retirement System before the Employee Retirement Security Act (ERSA)

The Korean retirement system currently consists of the following,

- National Pension Scheme (social security),
- Mandatory "retirement allowance" plans, and
- Personal pensions.

The National Pension Scheme began in 1988 and its primary features are:

- Target pensions of 60 percent (expected to be decreased to 50 percent or lower) of final salary for the average worker with 40 years in the system,
- A normal retirement age of 60 (expected to be increased to 65), and

- A funded but unsound system at a 9.0 percent contribution rate (split between employers and employees).

The mandatory retirement allowance (RA) plans ("retirement" may be a misnomer) provide lump sum termination indemnities similar to those in Italy, Brazil and other countries, with features as follows.

Minimum Benefit
Final average monthly salary (three months) x years of service (paid as a lump sum immediately upon termination or retirement; an annuity could be purchased, but is almost never done). A number of Korean companies provide "progressive" benefits that are greater than the mandatory minimum.

Defined Benefit System
RA plans are technically considered defined benefit plans under IAS 19 and FAS 87 unless accrued benefits are consistently paid out to employees at the end of each year (called "advance payments") which is a practice followed by a number of Korean companies.

Lump Sum Driven
Tax laws in Korea provide a significant incentive for employees to take a lump sum, and close to 100 percent of employees actually take a lump sum.

Limited Use for Retirement
Studies show most retirement allowance benefits (about 80 percent) are paid upon termination before retirement (or as advance payments) and are used for purposes other than directly providing retirement income.

Funding
RA plans may be internally (book reserve) funded, externally funded, or both, with tax exemption up to certain limits.

While the primary goal of ERSA is that employers replace RA plans with DB and DC plans, the retirement allowance system began in the 1960s and is an entrenched employee benefit in Korea notwithstanding its many drawbacks. Replacing mandatory RA plans with DB and DC pension plans (it will be up to employers to choose—with employee consent required) will not be easy, and that explains the very limited nature of DB and DC options under ERSA. The DB and DC plans look like RA plans; something that many hope will change over time.

What will drive the change, if regulations are strong enough, is the elimination of the current tax incentive (virtually no tax) to take a lump sum under an RA plan combined with incentives to annuitize. The phase-out of tax deductions for internally funded RA plans combined with the phase-out of external funding vehicles for these plans, the latter being a provision of ERSA, will also drive the change.

The approximate current funded status and market share of fund providers of externally funded mandatory retirement allowance plans (employers with 30 or more employees at the end of 2004) is shown on the chart below (*sources: Ministry of Labor and Samsung Life*).

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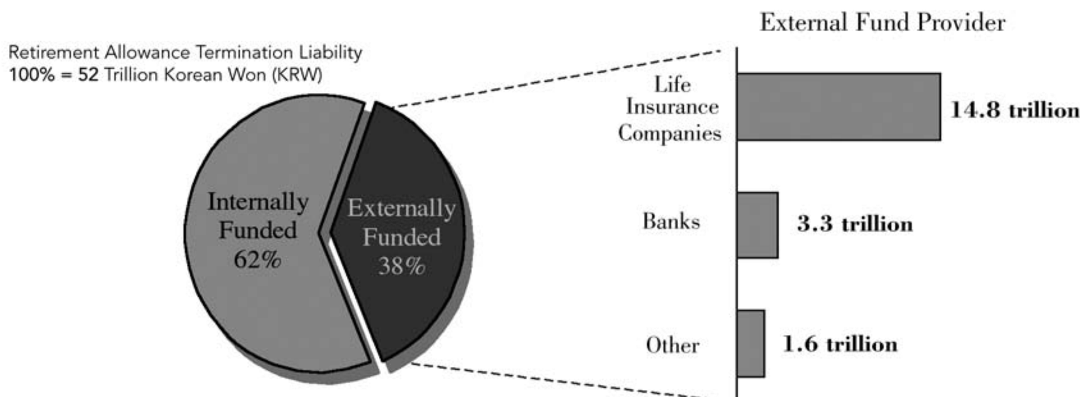


Retirement allowance plans for employers with five to 30 employees, a substantial part of the working population, might add roughly another 30 to 50 trillion KRW of liability, and are not included in the chart. Most of these small employers do not externally fund RA plan liabilities.

Personal pensions are similar to IRAs in the United States with a tax-exempt contribution limit of about $2,400 a year. They are not widely used. Retirement allowance benefits cannot be rolled over to a personal pension account.

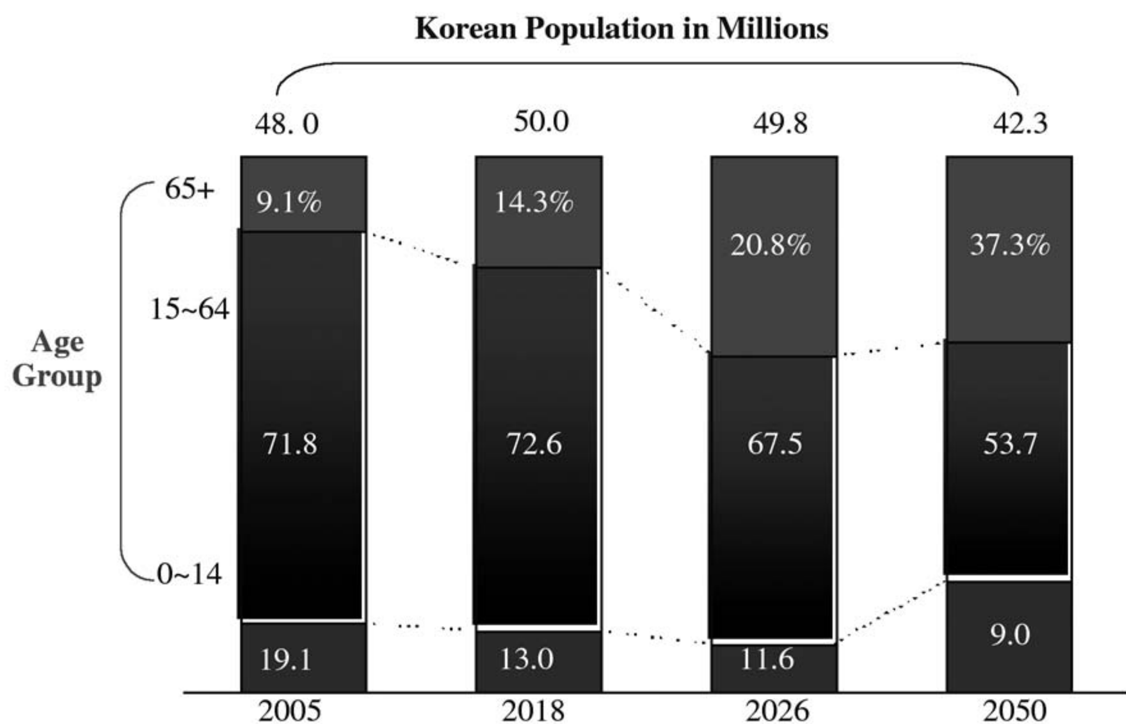
Rationale for Adoption of the New Korean Employee Retirement Security Act

A number of factors have led to the passing of ERSA:

- Recognition that the National Pension Scheme (NPS) cannot deliver promised benefits at a 9.0 percent contribution rate (at least 15 percent to 20 percent would likely be needed);
- A rapidly aging population (see the following chart below) with, possibly, the world's lowest birth rate;
- The rapid decline of extended family care for elders, and the growth of individualism;
- The need to provide for a gradual transition from mandatory retirement allowance plans to corporate pensions of the type prevalent in Japan and in such countries as the United States, Germany, Canada and the United Kingdom; and
- The need to transition much of the internal book reserve funding under the RA system to external funding in order to provide greater security for employees and provide additional capital for Korean financial markets (although Professor Klaus Heubeck has recently written, with regard to Germany, that internally funded book reserve systems remain a viable way of meeting pension liabilities).

The rapid aging of the Korean population is shown in the following projections made by the National Statistical Office of Korea (January 2005).

While most developed, and some undeveloped, countries are aging, Koreans may be aging at one of the fastest rates.



	Retirement Allowance	Defined Benefit	Defined Contribution
Minimum Benefit (if lump sum)	Average of Final 3 Months' Salaries x Service	Average of Final 3 Months' Salaries x Service	Account Balance
Funding (Employer)	Internal and/or External (5 year limit on the latter)	External Funding - Rules to be Determined	Full External
Funding Basis	Employer Discretion	Actuarial Determination*	8.3 Percent of Salary Each Year (min.)
Tax Consequences (Generally EET for DB and DC Plans)	Deduction for Internal Funding up to 40 Percent of Expense (expected to be phased out); Deduction for External Funding Ends on December 31, 2010	Full Deduction for External Funding	Full Deduction for External Funding
Withdrawals Before Retirement or Termination	Advanced Payments Allowed (data is limited but as many as 30 percent of employers may make advance payments on a regular or irregular basis)	• No Advance Payments • Loans up to 50 Percent of Accrued Benefit	• No Advance Payments • Loans up to 50 Percent of Account Balance • Hardship Withdrawals
Benefit Form	Lump Sum	Lump Sum/Annuity	Lump Sum/Annuity
Portability to an IRA	No	Yes	Yes
Assets	Fixed Income Securities through Retirement Insurance/Trust Contracts	Fixed Income and Equity Funds to be Available from "Providers" (life companies, banks, securities firms and others) There May, by Regulation, Be a Limit on the Percent of Equities in a DB Plan Fund	Fixed Income and Equity Funds (at least three) from "Providers" with a 40 Percent Limit on Equities in an Employee's Account Balance and One Fund Must Provide a Guarantee of Principal and Interest Employees Select from Among the Funds as in U.S. 401(k) Plans
Employee Consent Requirement	No	Yes	Yes

** Regulations may also allow a non-actuarial method for calculating DB funding amounts such as the increase in plan termination liability from one year to the next where the liability is simply the amount to be paid out if all the employees then terminated.*

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Summary of ERSA

ERSA is relatively simple (however, regulations will change that) and provides limited choices for employers. Briefly, there will be three practical options for employers:

- *Continue a mandatory retirement allowance (RA) plan,*
- *Adopt a defined benefit (DB) pension plan in place of an RA plan, or*
- *Adopt a defined contribution (DC) pension plan in place of an RA plan.*

If an employer chooses a DB or DC plan it will be possible to retain the RA plan for benefits accrued to the date of change.

A fourth option may be to allow employees to choose either a DB plan or a DC plan, which means the employer would end up sponsoring two pension plans.

It is likely that employers with union and non-union groups or with several subsidiary companies may choose DB plans for some and DC plans for others.

Over time, regulations and amendments to the law may increase the options (e.g., cash balance plans as allowed in Japan and maybe again in the United States). In choosing among pension plan options, employers will also need to address some difficult issues arising from the transition from RA to DB plans or RA to DC plans, a subject beyond the scope of this article. As might be expected, one of the big questions is whether DB or DC plans will predominate.

The chart on page 35 presents a brief comparison of mandatory retirement allowance, defined benefit and defined contribution plans under ERSA, effective Dec. 1, 2005 and, again, based upon information available at the end of September 2005.

Plan Options for Employers: Pros and Cons

In outline form we have the following options.

1) An employer could decide to continue to provide a mandatory RA plan on and after Dec. 1, 2005.
    - *A "do nothing" approach.*
    - *The simplest and easiest solution for now, particularly if regulations are not clear and formalized.*
    - *But the employer will almost certainly lose current tax advantages for internal funding. Forty percent of internal funding expense for RA plans is currently tax deductible, however, this is expected to be phased out (a reduction to 30 percent has been approved for 2006, with likely further reductions to 20 percent in 2007, 10 percent in 2008 and zero percent in 2009).*
    - *If externally funded, retirement insurance/trust contracts currently used to fund RA plans must end within five years and no new retirement insurance or trust contracts are allowed after November 30, 2005 for employers who had not set up such a contract before then.*
    - *Possible negative effect on employees' perception.*
    - *At best, a short-term solution.*

2) Adopt a DB plan in place of an RA plan.
    - *Most similar to a retirement allowance plan, easiest to explain to employees, and strongly favored by unions.*
    - *Probably more flexible funding levels, including a possible provision for retention of a certain level of internal book reserve funding, compared to a DC plan.*
    - *Possible volatility in financial statement expense (see below).*
    - *Simpler annual administration than DC.*
    - *Transition from an RA plan to a DB plan should be simpler than a transition to a DC plan.*

3) Adopt a DC plan in place of an RA plan.
    - *Requires 8.3 percent (one-twelfth) of annual salary to be contributed to each employee's account (full external funding).*
    - *The ultimate benefit depends upon investment performance from funds offered by the employer and selected by the employee.*

- *Complex recordkeeping system is necessary, which is the provider's problem, but can also affect employers.*
- *Investment education is required to be given to employees.*
- *More complex transition issues (than DB) from RA plans.*

4) Give employees a choice of a DB or a DC plan (if allowed by regulation).
   - *i.e., some employees will choose DB and some will choose DC.*
   - *Reduces or eliminates employee consent issues.*
   - *But the employer will be sponsoring two pension plans instead of one, which may be impractical.*

Financial Accounting

Korean-based companies generally do not follow IAS 19, FAS 87 or other actuarially based standards on accounting for the cost of retirement allowance plans. However, the Korean Accounting Standards Board (KASB) is considering adoption of IAS 19 or a version of it in the near future (Korea follows Japan and the United States in many respects, and here the KASB is probably looking at the Japanese standard).

Korean subsidiaries of the European Union, United States, United Kingdom and other multinationals, generally comply with IAS 19, FAS 87, and other such actuarially based standards for their Korean RA plans, except where annual advance payments are the rule.

Given what has happened in other countries, some Korean employers are concerned that adoption of a DB plan will have an adverse effect on their financial statements.

Retirement Age

The Korean NPS normal retirement age is currently 60 and is expected to be increased to 65. Most Korean companies have a normal retirement age of 55, which could be applied to DB and DC plans under ERSA. However, there will very likely be a labor shortage in the future due to demographic changes if the country's financial forecasts for economic growth are to be met. Therefore, should employers raise the normal retirement age if and when a corporate pension plan is established? What are the cost and other consequences of raising the retirement age, and is this an opportunity to introduce a phased retirement system?

In summary, this article presents the situation at the end of September 2005, as Korea is attempting a sea change in the delivery of retirement income to its citizens, I have briefly described the new pension law and touched on some of the major problems to be faced by the country, employers and employees in establishing a secure and affordable three-pillar system. The tough question is: Can a successful occupational pension system be implemented, and can it be done in time—meaning the race between the accumulation of retirement assets and the rapidly aging population? All we can say now is that ERSA is a first, limited step in changing the country's retirement system and that, at least, should be of great interest to our profession. Of particular note is that while many financial institutions are preparing products and services for the new corporate pension market, there may not be, at present, sufficient numbers of pension consultants and actuaries in Korea to assist in the complex work that must be done. ☐

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Report on the 2005 Shanghai Insurance and Actuarial Open Forum

by Tong Zhou

The 2005 Insurance and Actuarial Open Forum was held on June 8, 2005 at the Management and Development Center of Fudan University in Shanghai, China. The Forum had two themes: health insurance and the SOA Education Redesign. It intended to address some critical issues of the Chinese health insurance market and the new SOA education structure that many actuarial students and educators in China are now facing.

The Forum was organized by Professor Hanji Shang, Director of AIA-Fudan Actuarial Center, and Tong Zhou. There were 115 attendees representing the China Insurance Regulatory Commission (CIRC), Shanghai Insurance Association, Shanghai Insurance Institute, 19 companies and three universities.

Three VIPs spoke at the opening session: Jingzhi He, Chairwoman of the Shanghai Insurance Association and the 8th and 9th China National People's Congress-woman; Professor Zukang Zheng, Vice President and Dean of the School of Management of Fudan University and Xueping Ma, deputy commissioner of the CIRC at Shanghai Bureau. Deping Cheng, the General Secretary of Shanghai Insurance Institute, made the closing remarks.

The Health Insurance Market in China

This year the Chinese health insurance sector is experiencing very rapid growth. In the first six months, the health insurance market generated 16 billion RMB (about $2 billion) in premium income, representing a 17 percent increase over the same period in 2004. Demand for health insurance products remains exceptionally strong.

In 2003, the Development Research Center of the State Council of the People's Republic of China conducted a survey of demand for insurance in 50 metropolitan areas. The survey showed that health insurance was the most desirable coverage. Among the respondents who had plans to purchase insurance policies, 77 percent of them wanted to have health insurance.

David Campbell, a partner of PWC in China, made a presentation on the health insurance market in China. He discussed three factors driving these demands. First, the State is spending less and less on health care. Expenditure is down from 36 percent in 1980 to currently around 10 percent of total health care cost. This means the private sector needs to step in to fill the gap. Second, health care expenditure in China was around 5 percent of GDP in 2002, trailing behind South Korea, which was at 5.9 percent. David expected that it had to grow to the 8 to 9 percent of GDP, which would then be more consistent with France, Germany and Canada. Third, the Chinese economy today depends heavily on export, whereas mature economies depend more on consumer spending. Therefore, it is important to stimulate consumer spending in order to move the Chinese economy away from

export dependency. However, Chinese consumers have a very high propensity to save and worrying about the costs of major health care events is one of the primary reasons for high savings. Private health insurance can be an effective means to encourage consumption and reduce savings.

In his presentation, David also discussed profitability in the Chinese health insurance market. The profit margin for individual accidental was around 6 percent, whereas the margins for group business ranges from 4 percent for accidental coverage to -2 percent for Social Insurance Benefit coverage. The loss ratios of medical insurance in most areas were above 80 percent, and they were above 100 percent in some affluent and highly populated provinces such as Zhejiang, Guangdong, Jiangsu and Liaoning. The keys to controlling risk are market identification, product design, and underwriting and claim control. "The growth rate is tremendous and the opportunity is huge. But the risk is also huge. Health insurnace is a great way to lose money as well as to build up a business," said David as he closed his presentation.

The Chinese health insurance industry faces a serious problem in the lack of credible experience data. This point was emphasized by both Jingzhi He and Xueping Ma in their opening speeches. "In the health care field, we don't have sufficient historical experience and data. The raw data we collected in recent years require further research and analysis by the actuaries before they can be used for pricing and regulation," said Jingzhi.

To address the data issue, Associate Professor Rongmin Li of Fudan University presented a study on incidence rates of cancers. The material presented is part of a research project on demography, mortality, critical illness and hospitalization. For sampling purposes, Rongmin collected the data from the Center of Disease Control (CDC) of Yangpu district, which is the largest district of Shanghai with a population of 1.24 million.

While the death records of critical illness kept by the CDC of Yangpu district can be traced back only to 1979, the study still revealed many discernable trends on cancer incidence rates. For example, the incidence rates of colon and rectum cancers for males have doubled from 1992 to 2000, which Rongmin attributed primarily to changing dietary habits. The speedy social reform and transformation, started in 1979, has resulted in substantial increases of personal wealth and rapid proliferation of western-style fast foods in China. "The distributions of incidence rates of cancers are vital to the pricing and risk management of critical illness insurance. This is because more than half of the so-called critical illness cases are cancers," said Rongmin.

The health insurance sessions continued into the afternoon when Edwin Betz, a senior vice president at the Samsung Fire & Marine in South Korea, presented the pricing and risk management techniques employed in the health insurance field. The speaker began with an overview of health insurance products that are available in the United States, including medical indemnity, disability income, critical illness and long term care insurance. Using disability income as an example, he described various methodologies for pricing insurance products. Each method was introduced as an enhancement of the preceding method. The spreadsheet model used in the presentation was well-received by the audience as Betz received a dozen follow-up e-mails after the forum.

Moving from pricing to in-force management, he described various risk measurements used in the United States and South Korea. The tools that measure insurance risk include interest-adjusted loss ratios and experience studies in the United States, and earnings by source analysis in South Korea. Embedded values and cash flow testing were also discussed as tools for risk management.

Actuarial Education and Profession in China

Prior to the establishment of the first actuarial program at Nankai University in 1987, actuarial education and the profession did not exist in China. There are now 11 graduate-level actuarial science programs at the universities in Anhuei, Beijing, Guanzhou, Hunan, Shanghai and Tianjin. The Society of Actuaries

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of China (SAC) was established in 1999 and offers its Fellowship designation upon successful completion of the Chinese actuarial syllabus. In the same year, the CIRC organized the first Chinese actuarial exams that produced 43 Fellows of the SAC. The membership has now grown to 50 Fellows and 164 Associates. The qualification standards, promulgated by the CIRC, for an appointed actuary require Fellowship of the SAC, but also accept Fellowships from the United States (SOA), Britain (IA), Australia (IAA) and France.

There are 12 actuarial exam sites spread across major cities and provinces in China. Eight of the sites are following the U.S. track, two are British and the other two are Japanese. "Among the 47 locally produced FSAs, 20 had graduated from the AIA-Fudan actuarial program," said Zukang Zheng proudly. While the U.S. track is still the most popular designation within the actuarial community in China, many exam takers and educators are very perplexed by incoming changes brought about by the SOA's new Education Redesign. Some educators said that they were confused and were advising students to take either the Chinese or the British tracks.

To help answer their concerns, Tong Zhou made a presentation on the SOA Education Redesign. He discussed the many new features and processes of the 2005 education system and included information about the Enterprise Risk Management track. The presentation received a positive response from the audience with an extensive Q&A session. As China is making fast progress in establishing actuarial standards of practice, accounting rules and insurance regulations, the actuarial education and designation will conceivably have significant long-term business implications, especially for the foreign companies in or planning to enter China.

One obstacle facing Chinese actuarial students is the cost of the exams and seminars. Unlike the situation in North America, actuarial student programs and corporate sponsorships are uncommon in the Chinese insurance industry. Most exam takers (or most likely their parents) have to bear the costs of exam and study materials.

The chairman of the China Region Committee (CRC), Robert Fok, an actuarial director at PWC in Hong Kong, introduced the mission and initiatives of the CRC. The CRC was established in 1997 to serve the SOA members in Asia. One of the highlights from his presentation are the measures currently undertaken by the CRC to mitigate against the reduction of exam fee discounts. This issue is quite sensitive in China now. "If I have to stop taking the SOA exams for this reason, it will be a loss to both sides," said one of the managers at the Supervision Division of CIRC after the forum.

Some cheerful news from Fok's presentation: Course 7 Seminars are now held in Hong Kong every year; APCs have been offered in China since 2001; and an FAC in Hong Kong will be planned once the demand reaches a certain threshold level. Changes resulting from the Education Redesign will also mean fewer travel requirements for international candidates as Course 7 and the Professional Development component will be eliminated in 2007.

After the open forum, representatives of the CIRC, E&Y, Fudan University, PWC and Shanghai Insurance Institute attended the banquet hosted by Samsung Fire and Marine.

Last, but not least, I would like to thank Professor Hanji Shang once more for his dedication to actuarial education in China. Without his efforts in arranging many thoughtful details for the open forum, it would not have been such a great success. I am also indebted to Pat Kum's help to obtain the PD credits from SOA. ☐

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