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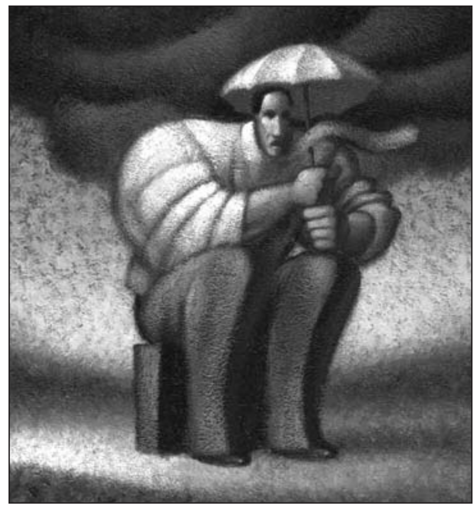
The Ripple Effect of an Asian Tsunami Around the World

by Bosco L. Chan

On December 26, 2004, a mega-thrust earthquake triggered tsunamis, hitting the shorelines of nine countries in Southeast Asia, destroying infrastructure and leading to 273,000[1] dead or missing. This disaster made media headlines around the globe immediately. By following the newscasts, I recognized that the impact of the devastation was more than that described in the news; valuable lessons can be deduced by reviewing the far-reaching impact around the world.



Without knowing much about earth science, I went to the International Tsunami Information Centre Web site[2]. The word "tsunami" comes from a combination of two Japanese words: "tsu" meaning harbor and "nami" meaning wave. About 80 percent of all tsunamis occur in the Pacific and this probably explains why this kind of disaster is named using Japanese words. Tsunamis are generated by any disturbance that displaces a large amount of water, including earthquakes, volcanic eruptions, meteorites or landslides into the water or below its surface.

The total insured losses caused by the Asian tsunami are expected to range from $2.5 billion to $4 billion. Early forecasts indicated that reinsured losses would not be large.[3] The low claim losses compared to the damage sustained imply that the population and property were generally underinsured or even uninsured. There are many reasons for this situation in developing countries: lack of financial resources, unawareness of needs and lack of understanding of risks. The good news is that as business expands overseas and more corporations outsource work to offshore companies to take advantage of the lower labor cost in the less-developed countries, the need for insurance coverage in these countries will increase. These underdeveloped

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1) Figure extracted from March 4, *2005 Yahoo News* (www.yahoo.com)

2) International Tsunami Information Centre (www.prh.noaa.gov).

3) *Tsunami: Indian Ocean Event and Investigation into Potential Global Risks*, report by Guy Carpenter & Company, Inc. on March 14, 2005 (www.guycarp.com)

Editor's Note

by Cathy Lyn

Catherine D. Lyn, ASA, FIA, is a consulting actuary at Coke & Associates/Eckler Partners in Kingston, Jamaica. She can be reached at clyn@eckler.ca.

Let me thank all the regular and new authors for the feature articles submitted over the past several months. We published country updates from Bermuda, China, Malaysia and New Zealand in the last issue. On this occasion, we have contributions from Australia, Haiti, India, Indonesia and Vietnam, and have started an IAA corner to keep you informed about international activities. Other authors are from Canada, England and the United States. We look forward to many more submissions to bring news about actuarial developments around the world to our readers.

I look at how the range of countries emphasizes the great distances which separate our many members and the variety of cultures that combine to make our International Section. A newsletter can be classified as static dialogue, but we can add a new dimension to make the dialogue interactive even if not in real time. So, tell us your ideas, what you would like the International Section to pursue and what you would find interesting, and provide information and feedback on things of importance to you.

I believe that such feedback relating to our own opinions and experience in the actuarial industry will strengthen our common ground and offer an opportunity to share knowledge, experience and solutions to problems we have met in our individual areas.

One very relevant area is the important issue of the continuing changes in the regulatory framework that now seems endemic. Such interaction and discussion may allow us to better formulate action plans so compliance is not so consuming that it distracts us from risks that need our attention.

So I strongly urge us all (might I say beseech?) to find the time to contribute to the section and our profession in this way—I even believe it will be enjoyable. ☐

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Society of Actuaries

insurance markets provide great opportunities for international insurance and reinsurance companies to increase revenue growth.

I believe the necessity for insurance will come first from business-related insurance, such as property and casualty insurance. Management of international firms is relatively more familiar with the risks faced by businesses and these corporations also have the financial strength to negotiate insurance coverage. Insurance coverage, such as life and health insurance, will then develop along with the increase in wealth accumulated by the general public as a result of foreign investment in their country. Consequently, life expectancy will increase due to improvement in standards of living and medical care, leading to the demand for pension and annuity products. As local insurance companies demand advanced financial products to back their insurance policies, the financial sectors of these countries will have incentive to develop.

I remember a traditional Chinese saying: "Wealth comes with risks." It is important to understand the risks that are related to global business. You may be familiar with some of their characteristics already. But please allow me to describe them again together with insight from the Asian tsunami.

1. Risks of the same type are not always independent

The first wave of the Asian tsunami slammed into shore and swept people out to the ocean. This tsunami wave swept over Thai seaside resorts and people dashed to the beaches to help the injured. Then a second wave struck and claimed even more victims. Generally, the third to eighth wave crests are the largest. This pattern is different from other natural disasters where they would hit only once (i.e., a typhoon). The casualties were the local seaside population and tourists mainly from Europe.

2. Correlation of different types of risks

Earthquakes or volcanic eruptions can be stand-alone disasters but they can also lead to tsunamis. In addition, the World Health Organization said that as many as 5 million people were at risk because of the potential spread of disease due to the high volume of dead bodies, medical shortages and poor living conditions in areas affected by the Asian tsunami. It is clear that there is correlation between different types of disaster.

3. Risk has no national boundaries

The tsunami was caused by an underwater earthquake off the Indonesian island of Sumatra that struck the shorelines of nine countries. A single natural disaster can create multinational damages. Another good example is the Severe Acute Respiratory Syndrome (SARS) disease that originated in Asia and spread rapidly across many countries by exposed/infected travelers in early 2003. Living on one side of the world does not guarantee safety from disasters or disease that are happening on the other side of the earth.

4. Technology risk

Many of the coastal villages that were wiped out by the killer waves did not even have telephone service. An effective alert system would have to include a reliable emergency broadcasting system for scientists to warn coastal residents of an impending threat[4]. The cost for building a comprehensive facility to reduce future potential tsunami damages in all at-risk areas may be too expensive. It is possible that investment will only be made in tourist or highly populated areas. The limitation on the availability of appropriate technology due to cost can be a source of higher claim losses in the future.

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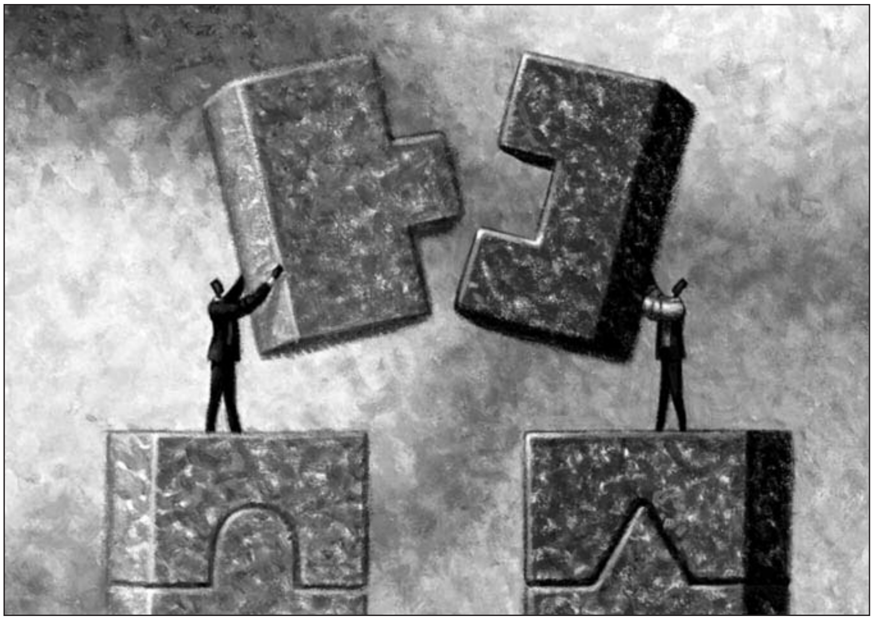
As local insurance companies demand advanced financial products to back their insurance policies, the financial sectors of these countries will have incentive to develop.

4) Canadian Broadcasting Corporation, January 4, 2005 News (*www.cbc.ca*)



5. Operational risk

It is reported that Thai officials knew a tsunami might be coming but failed to issue a warning[5]. It is not clear whether there was insufficient time or if there was deficiency in the process. But this reminds us operational risk always exists. We should try to minimize it even though it can never be completely eliminated.

6. Legal risk

Risk of losses due to litigation has made governance and the call for fiduciary responsibilities a priority. A U.S. attorney and two fellow advocates applied to the New York District Court on behalf of some survivors of the Asian tsunami for damages against the U.S. forecasters and Thai officials. They challenged the U.S. National Oceanic and Atmospheric Administration in Washington and the Tsunami Warning Centre in Hawaii for not warning the Indian Ocean coastal countries despite having information about the giant wave. They also blamed the Thai administration for failing to warn the public about the disaster on time. It is the first worldwide tsunami claim[6].

There are two interesting points here. First, the disaster did not occur in the United States. Also, how effective communication is between governments of different countries depends on observing accepted protocols and whether they are friendly. Second, if a warning was given but no disaster occurred, people suffering losses from a false alarm could file a lawsuit against the government too. The legal system indirectly drives the establishment of defensive policies or practices. Adopting defensive strategies helps to make the procedures more comprehensive but the marginal cost to strive for accuracy is likely to be very expensive.

7. Political risk

The devastation caused by the Asian tsunami was broadcasted constantly. Everyone who heard the news was stunned by the catastrophe. This led to record-high donations made by individuals and governments all around the world who felt very compassionate about the tremendous loss and suffering that had taken place. These massive donations came with a price tag: for countries facing government budget deficits, the increase in government spending and the reduction in tax revenue from tax-exempt donations could cause political pressure in the next round of budget planning. As countries sent financial and medical assistance that exhibited their capability, power and concern, the physical damage caused by the disaster was transformed into monetary cost and then transferred implicitly to non-Asian countries.

8. Back-up risk

While property damage insurance can be purchased as a protection against perils such as fire, floods and earthquakes, loss of business

5) Canadian Broadcasting Corporation, January 4, 2005 News (*www.cbc.ca*)

6) *ZAMAN Daily Newspaper*, March 6, 2005 News (*www.zaman.com*)

activities may be substantial if a disaster strikes an institution with no adequate back-up facilities[7]. The back-up risk is the risk of losses on account of deficient contingency planning. Whether a company uses strategic offshore outsourcing or is simply a multinational operation with offshore facilities, a well-defined and well-tested business continuity plan is a must. There is a greater potential for disruption from a natural disaster in the developing world because of lower building-code standards, a general lack of preparedness and less mature business models. Companies that use offshore services should develop a global strategy across multiple suppliers or use global providers of offshore outsourcing so that services can be moved quickly to other parts of the world when necessary[8].

We are living in a society exposed to a variety of risks. Modern technology can allow people from different parts of the world to communicate instantaneously. This connection improves work-efficiency, reduces delays, and makes for faster communication and increased productivity. At the same time, this situation creates new challenges. Media, technology and globalization of economy introduce new risks. The Asian tsunami highlights these risks and the far-reaching impact of the losses. Business leaders must pay close attention to understand the risks faced by their organizations because some of these risks can be difficult to identify and quantify. As we move into the new millennium, we need innovative methodologies to identify, measure, control and reduce risks. There is a need to develop global strategies applicable to local operations that could have very different risk profiles. □

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Guy Carpenter & Company, Inc., Report on Tsunami: Indian Ocean Event and Investigation into Potential Global Risks

P. Jorion, Value at Risk: The New Benchmark for Managing Financial Risk – 2nd edition

S. Warren, Eye on Offshoring: Lessons from the Tsunami

We are living in a society exposed to a variety of risks. Modern technology can allow people from different parts of the world to communicate instantaneously.

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7) Jorion, Philippe, 2001, *Value at Risk: The New Benchmark for Managing Financial Risk* – 2nd edition (Section 19.5.2), McGraw-Hill

8) "Eye on Offshoring: Lessons from the Tsunami," article wrote by Scott Warren of International Network Services, Inc. and published by Computerworld on February 21, 2005 (*www.computerworld.com*, quicklink#52492).

Chairperson's Corner

by Marc Slutzky

Marc Slutzky, FSA, MAAA, is a consulting actuary at Milliman Inc. in New York, N.Y. He can be reached at marc.slutzky@milliman.com.

It is hard to believe that it is already time for me to write my column for the International Section newsletter again. To date it has been a very busy year.

The Society of Actuaries is making great progress on the section and practice area evolution. Our section now has Shu-Yen Liu, a member of the SOA Board of Governors, as our board partner. This will enhance two-way communication between your Section Council and the BOG. The SOA has also enhanced training for the Section Council members and other volunteers such as the newsletter editor and SOA meeting representative by using more face-to-face training, webcasts and written materials. We have all learned more about reaching out to our members and finding out what their needs are.

I believe that the key to the future success of our section is volunteering. This includes both volunteering your ideas as well as your time. We have lots of room for people who have ideas for seminars, webcasts, meetings and other ways of serving our widely dispersed membership. If you would like to organize one of these activities yourself or partner with a local actuarial club, please let us know and we will help to make it a success. If you would like to volunteer your time or talent for other activities not mentioned here, or if you have other ideas you feel would positively impact the section membership, please let us know. If you are an ambassador, please let us know how we can help.

We had a great session at the the SOA Meeting in New Orleans, and we have great activities planned for the Annual Meeting in New York in November.

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

Vietnam Life Insurance Regulation Update

by Huynh Thanh Phong

Huynh Thanh Phong, FSA, FCIA, is a consulting actuary at Prudential Insurance in Vietnam. He can be reached at ht.phong@prudential.com.vn.

The new regulations issued on October 19, 2004 by the Ministry of Finance (MoF), the regulatory body of the insurance in Vietnam, have wide-ranging implications on the Vietnamese life insurance market and are presenting big changes for practicing actuaries. They include:

1) A minimum reserving requirement, based on the Zillmerisation method
2) Separation of funds for policyholders and shareholders
3) Profit sharing between policyholders and shareholders in participating business
4) New limits on commission remunerated to the sales force
5) Financial condition reports, to be submitted quarterly and annually
6) Introduction of Appointed Actuary's role, with responsibilities to sign off financial condition reports, product submissions and other actuarial reports to the MoF

All of these changes became effective on a phased approach starting January 1 with some key regulations only effective one year later. Life companies are feverishly preparing themselves to comply with the new regulations.

For large multinational companies like Prudential Assurance plc and AIA, these new regulations are welcome developments which will undoubtedly strengthen the industry and limit unhealthy practices among life companies in Vietnam.

However, it is questionable whether smaller and newly formed companies will have the necessary resources to comply within such a short implementation timeframe. This may affect the pace of the industry's growth in the short run. □

IAA Corner

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.

28th International Congress of Actuaries, May 28-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 spring meetings. Nous vous attendons à Paris!

ASTIN/AFIR Colloquiums

ASTIN is a section of the IAA, which focuses on actuarial studies in non-life insurance. Each year, the section organizes an international colloquium, attended by over 200 actuaries from all over the world. This year's meeting will be September 4-7 in Zurich, Switzerland. Details can be found at *www.astin2005.ch/*. Likewise, another IAA section, AFIR, Actuarial Approach for Financial Risks, will be hosting its annual colloquium in Switzerland, September 6-9. September 7 will be a day of jointly sponsored sessions. Information on the AFIR event can be found at *www.afir2005.ch/*.

IAA Social Security Committee

SOA Past President Rob Brown is the SOA representative on the IAA's Social Security Committee. This committee is currently establishing a template for publishing reports on Social Security systems from around the world. These reports will ultimately be made available to everyone via a dedicated Web site. The committee is also working in conjunction with the IAA Education Committee to try to establish a model Social Security education program that could be used anywhere in the world. At present, there are only two such programs and both are in Europe. For more information on this committee or its work, please contact Rob Brown at *rlbrown@uwaterloo.ca*.

Potential IAA Standards Regarding International Financial Reporting Standards

In March 2004, the International Accounting Standards Board (IASB) published its International Financial Reporting Standard for insurance contracts (IFRS 4). This IASB standard sets forth the principles for accounting for insurance contracts. These financial instruments or service contracts are subject to other standards of the IASB, in particular IAS 39 and IAS 18, respectively. It is expected that many insurers in a number of countries, including EU member states and Australia, will be required to use these standards as of 2005. While the official comment period has ended, discussion will be conducted up to the formal committee and IAA council meetings in June 2005. The draft and comment letters received to-date can be viewed on the IAA Web site, at *www.actuaries.org*.

For more information, contact Mark Freedman, the SOA representative to the IAA's Subcommittee on Actuarial Standards. He can be reached at *mark.freedman@ey.com*. ☐

International Implications of SOP 03-1

by Frank Buck and William R. Horbatt

Editor's Note: This is the second article devoted to unique international accounting issues. International News *solicits from its readers additional articles on international accounting issues or comments on articles published here.*

Summary

The American Institute of Certified Public Accountants (AICPA) published guidance for nontraditional long-duration contracts and for separate accounts in their first Standard of Practice issued in 2003 (SOP 03-1). Being a United States organization, they naturally focused on issues germane to the U.S. marketplace. This article will share some insights on how SOP 03-1 uniquely impacts foreign companies that report financial results in accordance with U.S. generally accepted accounting principles (U.S. GAAP).

The SOP gives detailed guidance on accounting for separate accounts and this resulted in somewhat surprising results in some countries. Guidance on whether contracts qualify as being insurance was quite relevant to companies seeking to keep traditional insurance accounting under new International Accounting Standards (IAS). Similarly, efforts on reserving for insurance guarantees like guaranteed minimum death benefits helped companies prepare for the European CFO guideline requirements.

Read on to share the authors' experience implementing SOP 03-1 in a number of countries.

Separate Accounts

Separate accounts enjoy a simple treatment in GAAP financial statements. The separate account is held as a single asset and an equal single liability in the balance sheet, while investment results are excluded from the income statement. For unit-linked and other products to qualify for this treatment, four criteria must be satisfied (see shaded box on page 9).

Prior to SOP 03-1, foreign companies frequently classified unit-linked contracts using only the last two criteria, so legal opinions were requested during the adoption of the statement in a number of countries to evaluate whether a separate account satisfied the first two criteria. Unfortunately, a number of countries do not provide for the legal insulation of separate accounts and some of the countries where separate accounts had to be reintegrated into the general account for GAAP include:

- Czech Republic
- France (some contracts)
- Italy
- Japan
- Liechtenstein
- Netherlands
- Poland
- Slovakia
- United Kingdom

If any of the criteria are not met, the assets are commingled with the assets of the general account and valued according to their SFAS 115 classification. If the assets backing the unit-linked contracts were classified as "trading" there is usually little impact on either equity or income. However, if any other asset classification is chosen, there could be a mismatch between asset income and liability income and a corresponding offset in other comprehensive income.

Qualification as Insurance

Paragraphs 24-25 of SOP 03-1 provide more explicit guidance on whether a contract provides "significant mortality or morbidity risk" and thus is accounted for under SFAS 97 instead of SFAS 91 (investment contracts).

Paragraph 11 of *SOP 03-1* criteria required for separate account treatment:

1) It must be a legally recognized separate account.
2) It must be legally insulated from the General Account.
3) It must invest as directed by SA contract holder.
4) All investment performance must be passed through to the contract holder.

"The determination of the significance of mortality or morbidity risk should be based on a comparison of the present value of future excess payments to be made under insurance benefit features…with the present value of all amounts expected to be assessed against contract holders…

In performing the analysis, an insurance enterprise should consider both frequency and severity under a full range of scenarios that considers the volatility inherent in the assumptions…"

There is a rebuttable presumption that a contract has significant mortality risk where the additional insurance benefit would vary significantly with capital markets volatility.

Examples of products that qualify:

1) An Italian equity-indexed product that pays the single premium improved with interest at maturity plus 50 percent of the appreciation in the DAX50 stock index that also guarantees a return of premium at death. In this case the single premium for the death benefit (1 percent) is significant when compared to the total front-end load (10 percent).

2) A French single premium unit-linked product that guarantees a return of premium at death. This qualifies under the rebuttable presumption that the benefit "would vary significantly with capital markets volatility."

Following is an example of a product that fails to qualify:

1) A United Kingdom unit-linked contract that pays a death benefit equal to 101 percent of the account value at death since the value of the benefit is insignificant when compared to the value of fees to be collected.

Note that there was a significant incentive for European companies to qualify products as having significant mortality risk since this permits them to continue existing local accounting treatment under IFRS 4 for their 2005 International Accounting Standard compliance.

Additional Benefit Liabilities

The most common additional benefit found by the authors has been the guaranteed minimum death benefit (GMDB), followed by the guaranteed minimum income benefit (GMIB). Guaranteed minimum accumulation benefits (GMABs) are relatively rare.

Guaranteed Minimum Death Benefits (GMDB)

GMDBs benefits are frequently quite simple, involving just a return of premium at death or upon occurrence of other specified events (for example, the unit-linked version of the PEP product in France which pays benefits if unemployed, injured, etc.).

Paragraphs 26-28 of SOP 03-1 specify how additional liabilities should be calculated. In simplified terms, a constant proportion of Expected Gross Profits (EGP) is contributed to the reserve, which increases with interest and decreases as claims are paid. The additional liability is much like a constant loss ratio reserve in health insurance.

GMDB liabilities were somewhat of a non-event in markets where products are fully funded by front-end loads (deductions from the original single premium), since it simply required bifurcating the front-end load into the benefit liability and the residual deferred profit liability. Markets with products funded from asset-based fees frequently required more effort since companies frequently held no explicit reserve for these benefits.

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There is a rebuttable presumption that a contract has significantly mortality risk where the additional insurance benefit would vary significantly with capital markets volatility.

Guaranteed Minimum Income Benefits (GMIB)

Deferred annuity contracts in some countries, such as Italy, have guaranteed annuity purchase rates based upon the statutory life insurance mortality table used to value death benefits. Regulators (such as ISVAP in Italy) may require insurance companies to hold an additional statutory liability when contractual annuity purchase rate guarantees are more favorable than current purchase rates. The question then arises whether the statutory GMIB reserve can be used for GAAP purposes and the answer requires a careful review of three key assumptions:

1) Discount rate – GAAP best estimate may be higher than a conservative statutory valuation rate.
2) Annuity election rate – election rates are low, frequently in the 2-4 percent range, since customers may not understand the value equation.
3) Annuitant mortality – there is a tendency for regulatory conservatism.

The greatest challenge is with the third assumption, expected annuitant mortality, since this is rarely studied. The local actuary may wish to refer to the SOA's Table Manager[1] in this case to develop a reasonable estimate of annuitant mortality. In the Italian case, the following logic was followed:

- Recent Swiss retiree mortality was similar to U.S. retiree mortality, so one could conclude that neighboring Italian mortality would be similar to U.S. mortality.
- A comparison of mortality improvement from Italian statutory mortality tables over the period from 1971 to 1992 to a U.S. annuitant mortality projection scale indicated that the U.S. projection scale was reasonable.
- A comparison of U.S. individual annuity mortality against group annuity mortality indicated that individual selection increases the cost of an immediate annuity about 5 percent.[2]

Applying the mortality assumption derived in this manner and a realistic discount rate led to the conclusion that unique "best estimate" GAAP assumptions produce additional reserves lower than statutory reserves.

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Sales Inducements

These include a day-one bonus, persistency bonus, enhanced crediting rate bonus, and should be included as a liability over the period for which policyholders must stay in force to be eligible. If the criteria are met, the bonus is deferred and amortized using the same methodology and assumptions used to amortize DAC. The unamortized sales inducement is booked as an asset separately from DAC and is called the Deferred Sales Inducement. The amortization is to be recognized as a component of benefit expense.

Sales inducements are not very common in many international markets.

Conclusion

The introduction of SOP 03-1 was a timely event for companies that would later need to comply with IAS and European CFO guideline requirements. It clarified some previous ambiguous U.S. GAAP guidance and covered products and product features that had not existed when SFAS 97 had been issued. Implementing it required substantial effort by a number of companies and their auditors.

The failure for unit-linked products to qualify for separate account treatment is a telling example of the need for actuaries to put aside preconceived notions and carefully evaluate the local situation before attempting to comply with U.S. GAAP accounting standards.

Overall, SOP 03-1 has helped companies better measure and manage risks. Companies subject to either US GAAP or European CFO guidelines may find that increased senior management understanding of implicit guarantees may achieve a competitive advantage over local competitors that are not fully cognizant of risks that they are taking. ☐

1) The SOA Table Manager is available for free at the SOA's Web site *www.soa.org*. Search for "table manager" to find it

2) Report of the Individual Annuity Experience Committee, "Mortality under Individual Immediate Annuities, Life Income Settlements, and Matured Deferred Annuities between 1976 and 1986 Anniversaries," Transactions of Society of Actuaries 1991-92 reports

An Update from Australia

by Jules Gribble

In an earlier article in the February 2004 edition of *International News*, some topical issues and the background to the Australian actuarial profession were discussed. This article provides an update on the current "state of play." Therefore, the focus is mostly on topical issues, as much of the background already provided remains relevant.

The Australian Actuarial Profession

The Institute of Actuaries of Australia (IAAust) has an active program of updating professional guidance.

Recently, a draft of the proposed guidance note regarding independent actuarial peer review of statutory actuarial work was distributed to members, and may well be the subject of lively discussion in coming IAAust Horizons meetings around the country.

In summary, the IAAust is proposing that "*as best practice that the Independent peer review of statutory reserving or liability valuation reports for life and general insurance, prepared by the Primary Actuary, and the practice of the Superannuation Actuary in relation to advice on the financial status of superannuation funds*," with "*The Reviewing Actuary should be appointed by the entity (usually a company, firm or board) receiving the advice that is to be peer reviewed.*" Drivers behind this effort to increase public confidence in the actuarial profession and the quality of its work include making proactive responses following the HIH failure (2001) and the United Kingdom's Penrose Report.

The IAAust has also published a number of other new Guidance Notes, which are available from the IAAust Web site (http://www.actuaries.asn.au). These include:

- GN 670: Financial Condition Reports for Health Insurers
- GN 552: Economic Valuations
- GN 252: Economic Valuations for Life Business

Work continues on the development of guidance for financial condition reports for general insurers. Annual Financial Condition Reports are becoming mandatory for general and health insurers in Australia matching, from a statutory point of view, the mandatory annual Life Financial Condition Report and triennial Defined Benefit Review.

The IAAust Biennial Convention was held in Cairns, in north Queensland, May 8-11, 2005. The theme was "Sustain…Ability-Actuaries and the Future." Approximately 900 attended the event.

Current Issues

There are a number of major issues facing the financial services industry, in addition to those implied by the changes in the regulatory environment. Consequently, this provides opportunities for the actuarial profession in Australia. Some are specific to Australia, and some are part of international trends:

Risk Management

As part of an ongoing increase in awareness, heightened by the February 2004 National Australia Bank foreign exchange blow out (estimated to have incurred losses of the order of $AUS400m), there has been an increase in focus on risk management, both by industry and by regulators.

In the superannuation area, trustees will be required to prepare a risk management strategy covering their own operations and a risk management plan for each entity that they operate.

In the banking arena, the introduction of the Basel II requirements and the increased awareness of operational risk provide scope for actuarial input.

Unit Pricing

In the wake of the major scandals in the United States regarding unit pricing, regulatory attention in unit pricing practices in Australia was piqued. Several recent significant unit pricing issues (with headline remediation costs between $AUS50m and $AUS100m) have also focused attention on unit pricing practices. A joint APRA and ASIC

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The Morris Review of the United Kingdom's Actuarial Profession

by Chris Daykin

In December 2000, Equitable Life, the oldest mutual life insurance company in the world, closed to new business. Equitable, established in 1762, was the first insurance company to call its mathematician an "actuary." It is ironic that its eventual closure should have triggered the first ever government-established review of the actuarial profession. Equitable closed because of a judgment by the House of Lords, the United Kingdom's Supreme Court, in July 2000, which ruled as illegal the company's practice of awarding different terminal bonuses according to whether or not contracts had a guaranteed annuity option.

A public inquiry was set up under Lord Penrose into the events that had led to the closure of the Equitable. The 817-page March 2004 report of this inquiry was critical of the company management but also levelled criticism at the actuarial profession and at the regulatory structures. Penrose suggested that both the regulatory system and the profession had placed too much reliance on the role of the appointed actuary. He also accused the profession of lacking comprehensive and specific professional standards, of having reactive disciplinary arrangements, of giving insufficient technical guidance on good practice in specific areas and of not being willing to challenge fellow professionals.

In receiving this report, the government accepted that there had been some shortcomings in the regulatory system, for which previous governments were responsible, although they argued that these shortcomings had now been largely dealt with by the new supervisory structure that had been put in place under the Financial Services Authority. However, they announced that they were setting up a review of the actuarial profession, under Sir Derek Morris, an academic economist who was completing his term as chairman of the Competition Commission.

There were three main aspects to the Review:

- The extent of competition and choice in the market for actuarial services
- The regulatory framework for members of the actuarial profession
- The future role of the Government Actuary's Department (GAD)

A small team supported Sir Derek in carrying out the Review. There was also an external advisory panel, including one Canadian actuary and two United Kingdom actuaries, one being from a major consulting firm. The Review issued a consultation document in June 2004, requesting responses by September, and carried out interviews with those familiar with the actuarial profession or with GAD. The Review published an Interim Assessment Report in December and a Final Report in March 2005.

The Review concluded that they had "*no reason to doubt that the overwhelming majority of actuaries in the UK are anything other than dedicated, skilled professionals, providing important and useful advice with commitment, integrity and a strong sense of professional duty.*" However, the Review identified a number of weaknesses in the current framework of self-regulation by the profession, including:

- Professional standards that have been weak, ambiguous or too limited in range, and perceived as influenced by commercial interests
- An absence of pro-active monitoring of members' compliance with professional standards
- A profession that has been too introspective, not forward-looking enough and slow to modernize

On the question of competition, the Review concluded that sufficient competition and choice is in general available in the market for actuarial services, but that there is an "understanding gap" between users and actuarial advisers, which inhibits the exercise of choice. The Review suggests the need for more formal review and market testing of actuarial services and for measures to reduce some obstacles to a more effective market emerging.

In particular, the Review recommends that trustees of pension plans should invite tenders separately for 1) actuarial advice, 2) strategic investment advice and 3) fund manager selection advice. It also recommends that pension plan trustees should:

- Informally evaluate their actuarial advisers on an annual basis
- Undertake a more formal evaluation every three years
- Undertake a formal market-test of their actuarial advisers every six years

The Review was concerned that users of actuarial advice are not well-placed to challenge and question the advice they get and recommended that the pensions regulator should develop information and case study material to help pension plan trustees to challenge their actuarial advice and to be able to recognize conflicts of interest. There should also be education and training for non-executive directors of insurance companies to assist them in challenging advice from their actuaries.

On the regulation of the profession, the Review recommended that there should be independent oversight of the profession by the

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(national prudential and market regulators respectively) consultative paper regarding unit pricing practices is expected to be finalized soon.

Choice in Superannuation
As of July 1, 2005, many superannuants (of the order of half of all current superannuation contributors) will be required by law to be given choice as to the superannuation fund in which their compulsory superannuation contributions (the 9 percent of salary so-called Super Guarantee Contribution) will be placed. This is generating a lot of market issues for the superannuation industry, with some suggesting that it may spark a wave of consolidation amongst smaller superannuation funds.

General Insurance
In November 2003, APRA published a discussion paper "Prudential Supervision of General Insurance – Stage 2," to initiate the second round of discussions on the ongoing general insurance reform process.

International Accounting Standards
In common with many other countries, the impact of IAS is becoming a major issue for, amongst others, the actuarial profession. The current Australian position has been stated to be that IAS will be fully implemented in Australia consistent with international time frames.

Australian Actuarial Education
Actuarial education continues to evolve in Australia.

Starting in 2005, Part I of the education process will change inline with the syllabus as prescribed by the UK Institute of Actuaries. The vast majority of Part I actuarial education continues to be provided through the four universities accredited by the IAAust.

The new Part III subjects come online in 2005 as well. Part III, and the associated professionalism course, are required in order to qualify as a Fellow of the IAAust. The new Part III structure consists of four modules, each representing a half-year course with all modules intended to be offered each half year. Modules are:

- **Module 1:** Investment Management and is compulsory
- **Module 2** and **3:** Students choose one practice area from Life Insurance, General Insurance, Superannuation & Planned Savings, and Investments & Finance and then complete two modules in that area
- **Module 4:** Business Applications, and this is also compulsory

Further Information
A number of sources of further information regarding financial services and the actuarial profession in Australia were provided in the February 2004 article. ☐

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Financial Reporting Council, which already oversees the accountancy profession. The FRC should establish an Actuarial Standards Board and expand the remit of the Professional Oversight Board for Accountancy (POBA) to include actuaries, with responsibility for oversight of education, the disciplinary process and compliance with standards.

The Review was not convinced that the current education arrangements for becoming an actuary were optimal, reflecting, it would seem, a rather partial understanding of the education strategies and processes. However, they regarded the current "work-based" model of part-time study and exams run by the profession as a constraint on the profession expanding into wider fields of practice, reinforcing the existing pattern of actuaries being largely employed in insurance and pensions, a strategy which could prove dangerous to the profession if these areas of work decline in importance or in their need for actuaries.

Notwithstanding some criticism of past efforts to modernize the syllabus, the Review was impressed with the latest education strategy, which has just come into force with the April 2005 examinations, and encouraged the profession to implement that fully. The profession's education processes will in the future come under the oversight of the expanded POBA, but the profession should ensure that it obtains broader input into future revisions of the syllabus and core reading. This seems to reflect a (largely incorrect) perception by the Morris team, that the profession had not received broad academic and other input into previous syllabus revisions and that there had been excessive influence from commercial interests.

More radically, the Review recommends that the profession should consider moving toward a more university-based education system, with the actuarial education up to Associateship level provided entirely by the universities, and the profession concentrating on Fellowship level examinations and work experience requirements. Morris also envisaged the profession giving much greater freedom to the universities than at present to teach and assess the basic actuarial education in whatever way they wanted, contrasting with the close monitoring and accrediting of particular courses which characterizes the present model of university exemptions.

The Review was not impressed by the current Continuous Professional Development Scheme and recommended that the objectives of the scheme be clarified and that CPD should be kept relevant and up-to-date, taking fully into account developments in actuarial science, financial markets and other related disciplines. The Review liked the United Kingdom profession's current proposals for revalidation and maintenance of professional competence, which will in effect make CPD mandatory for all working actuaries, since anyone who is an actuary and in work (whether or not in an actuarial capacity) will be required to have a renewable practicing certificate and to maintain a certain level of CPD, including a mandatory level of professionalism training.

Sir Derek Morris studied the reserved roles that actuaries have in the United Kingdom in life insurance and pensions and largely supported their continuation, although ominously the Review recommended that, in the medium term, the government and the regulators should keep the roles that they reserve to actuaries under review, with a view to opening up the roles to other suitably qualified professionals.

They did not provide any indication of who they thought these other suitably qualified professionals might be! The Review did, however, recommend that the regulators should consult on introducing a requirement for property/casualty insurers to take appropriate advice from an "approved person" with relevant skills in risk assessment and the valuation of liabilities, who may or may not be an actuary.

The Review recommended the establishment of an Actuarial Standards Board. This was already under consideration by the profession at the time the Review was set up. In the context of the Review's recommendations, such an ASB would be part of the structure of oversight to be established by the FRC. The profession would continue to have responsibility for the professional code of conduct (the Professional Conduct Standards (PCS)), unless the expanded POBA at any time had concerns about the quality of the PCS.

Consideration was given by the Review to the question of the public interest and the accountability of actuaries. In general the Review concluded that the public interest will best be served through actuaries' compliance with high-quality professional standards. They saw this being enhanced by the future role of the ASB in setting standards, by more rigorous requirements for independent review and scrutiny of actuarial work and by expanded requirements for actuaries to "blow the whistle" to statutory regulators, to the FRC and to the profession.

The Review considered that there was a clear need for formal, systematic and independent scrutiny of the work of actuaries perform in reserved roles in life insurance and pensions, given the:

- Complex nature of actuarial advice
- General lack of challenge provided by users of actuarial advice
- Importance of the work undertaken by actuaries in reserved roles

In general this may not mean much additional scrutiny in life insurance relative to what is already envisaged under the Financial Services Authority's new three-actuary system that has recently replaced the Appointed Actuary system, since one of the three actuaries is the Reviewing Actuary, who advises the auditors on auditing the actuarial aspects of the company's accounts. However, it is recommended that the profession should identify any gaps in the current structure, that insurers themselves should consider whether further peer review would be appropriate of actuarial advice provided to the Board, and that the FRC satisfy itself that appropriate monitoring is occurring, either through direct supervision by the regulator, by audit or by external peer review.

Following this logic through into pensions, Sir Derek supported the introduction of peer review of scheme actuaries' advice, as currently proposed by the profession, but recommended that the pensions regulator should ensure that Scheme Actuaries' advice is subject to formal scrutiny by independent experts, either through risk-based supervision, or through audit or external peer review, possibly differentiating between large pension plans and smaller pension plans in the way in which this is implemented.

Finally, the Review concludes that the changes already made by the profession to modernize its disciplinary scheme are entirely suitable. The only recommendations made here are to bring the future oversight of the disciplinary scheme under the expanded POBA, to bring about closer links between the regulators and the disciplinary scheme and to give the Accountancy Investigation and Discipline Board (another entity under the FRC) an expanded remit to investigate and to hear 'public interest disciplinary cases' involving actuaries.

The Review endorsed the continuing need for a professionally independent government actuary's department, but recommended more competition, through the removal of any constraints on public bodies and pension plans being able to seek actuarial advice from any source. They suggested that GAD's demographic work should be carried out by the Office for National Statistics in the future.

Somewhat melodramatically, the Review concludes that the United Kingdom's actuarial profession is at a crossroads and inevitably faces change. They perceived a danger that this could lead to retrenchment. However, Sir Derek Morris writes, in the introduction to the Final Report, that "with strong leadership…I believe that the Profession can move forward, on the basis of the reforms proposed in this review, to fulfill a wider remit in the field of financial risk analysis, bringing expertise, robust technical standards and the benefits of professional conduct standards to both traditional and new sectors." We hope so. ☐

…the Review concluded that sufficient competition and choice is in general available in the market for actuarial services, but that there is an "understanding gap" between users and actuarial advisers…

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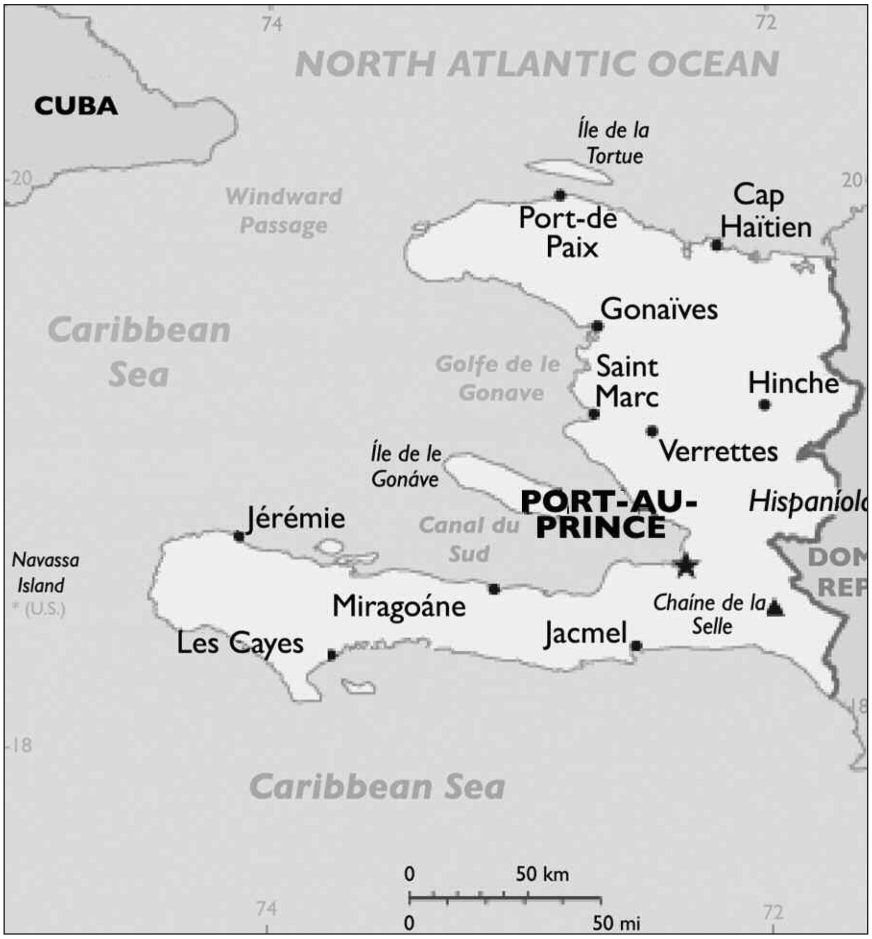
An Update from Haiti

by Pascale Elie



In Haiti, there may be only one official practicing actuary. Major insurance companies operating in the country are mainly brokers of foreign companies with actuarial support abroad.

The insurance and pension fund sector is very basic in Haiti and essentially not regulated. The legal infrastructure is obsolete and inadequate. Despite significant expansion in the banking sector in recent years, the capital market is still very much in its infancy stage with only a narrow range of financial instruments to offer investors. Under these conditions, companies investing the technical reserves and accumulated contributions have limited local opportunities for investments that are likely to ensure some guarantee against the risks of insolvency, liquidity and devaluation in the exchange rate.

An extensive study completed in 2002 on insurance and pension was conducted by a consulting firm in Haiti, Capital Consult S.A., in collaboration with Gowling, Strathy and Henderson and financed by Inter-American Development Bank. The following information was found:

1. State Insurance (compulsory)

Compulsory state insurance companies are:

1.1. Employers' Liability Insurance, Health and Maternity Insurance (OFATMA – *Office d'Assurances Accidents du Travail, Maladie et Maternité*)

1.2. Old-Age Pension (ONA – *Office Nationale d'Assurance-Vieillesse*).

The pension formula of ONA is a "defined benefit" type, and offers three types of products:

- Old-age pension
- Savings and loans
- Mortgage loans

In 1998-99, ONA collected income of approximately 217.65 USD (3,637.00 Haitian Gourdes) per insured. The return of the fund depends on the individual loans, the mortgage loans, loans to the government and investment in financial institutions.

1.3. Finally, there is the Public Liability Insurance for Automobile (OAVCT – *Office d'Assurance Véhicle Contre-Tier*)

The first two are administered by the Social Affairs Ministry which specifies the covered risk, the conditions of eligibility, the amount of the contributions and the insurance benefits. Contributions are made by the employer and represent a percentage of the employee's salary. The OAVCT is under the supervision of the Ministry of Finance and Economic Affairs.

2. Private Sector Insurance

Insurance companies are governed by the Code of Commerce and have to be domiciled in Haiti. The Secretary of State for Finance and Economic Affairs is charged with regulating the insurance companies operating in Haiti. Finally, to be an authorized insurance broker, it is necessary to have a work permit from the Commerce Department.

The regulation of insurance companies in the Code of Commerce should be revised because it is completely outdated.

In 2000, 40 insurance companies were authorized to operate, from which 24 were set up with foreign capital and 16 with local capital. Thirteen of the companies with Haitian

Capital are active, while nine of those with foreign capital are active.

The insurance companies cover a wide variety of risks:

Casualty Insurance
- All-risk home insurance
- Liability insurance
- Automobile insurance
- Transport insurance
- Credit insurance
- Bankers blanket
- Surety bond

Personal Insurance
- Life insurance
  - Pure endowment life insurance
  - Term life insurance
  - Mixed insurance (This is a combination of pure endowment with a term life and is most popular.)
  - Waiver of premium insurance (This an option offered with a life insurance contract that covers the policyholder in case of sickness or disability.)

Health insurance
- For companies allowed to operate in Haiti selling group health insurance, their policyholders are large commercial companies (private and/or public), NGO and international organizations. For individual health insurance and small groups, the policyholders are small to medium companies, families and self-employed.
- The usual benefits are accidental death, amputation, medical fees and hospital care.

- For offshore companies, they offer two kinds of policies:
  - Conventional health insurance policies are usually bought by large families with high income. It covers charges in foreign countries for general hospital and medical fees, prosthesis, hospital rooms, maternity care, etc. The particular attraction is that they cover care in a foreign country and ambulance transport (because of the deficiencies in the health system, families prefer to receive care abroad).
  - Short-term speciality risk policies are travel insurance and cover medical and doctor fees, medication, hospital fees, etc.

- Health Maintenance Organizations (HMO) and Preferred Private Organizations (PPO)
  - HMO is a group health plan and covers medical fees with the condition that they receive care from affiliated doctors and hospitals.
  - PPO differs from HMO in that the policyholders may receive care from providers of their choice.

The group health insurance market covering mostly employees from public corporations is almost three times that of the individual health insurance market. Individual health insurance coverage is supplied mostly by offshore companies for a small group that can afford it.

Because of the absence of local regulation and control, each company writes its own policy contract using foreign examples. However, these contracts need modification for local conditions.

Reinsurance
- Proportional reinsurance: quota share and surplus share
- Non-proportional reinsurance: excess loss and stop loss

In 2000, insurance cover for the private sector represented 666 million Haitian Gourdes (31.5 million USD).

The Association of Insurers in Haiti (founded in 1986) has members from the profession: individuals or insurance companies. This association is not recognized by the government and has no official jurisdiction.

3. Retirement Pension Fund for the Public Sector

Any public servant who has 25 years of service in the public sector, has been contributing by salary deduction and has attained 55 years, may benefit from the Retirement Pension Fund for the Public Sector. It is a defined benefit pension payable for life with a death benefit. It is the only standalone pension fund allowed by ONA. Usually contributions can go up to 6 percent by employees and 6 percent by employers. The members have access to loans on contribution balances in case of emergency, for school fees and mortgage. In 1998, the fund balance was at 462.8 million Haitian Gourdes (around 21.8 million USD).

The rate of return on the contributions is very poor due to weak interest rates and low recovery of loans. The income of the pension fund consists of returns from bonds, real estate investments, loans to members, term deposits, etc. The net rate of return is between 2.8 percent and 6 percent.

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Risk and the Actuarial Profession: Two Visions Emerge

by Charles L. Gilbert

Editor's Note: The following previously ran in the CIA Bulletin. This article is the first of a two-part series on international developments. Part II will outline proposed initiatives the actuarial profession plans to undertake following the IAA meetings in November.

If we are to thrive as a profession, there is a necessity for the actuarial community at large to globalize and broaden our sights beyond traditional areas of practice. An important first step toward this goal is to establish the actuarial profession globally as experts in the broader risk field.

Actuarial science can be described as the study of the pricing, valuation, analysis and management of risk. For over 150 years, the focus of the actuarial profession has been the application of risk expertise to insurance and pensions. This highly specialized and complex area of focus has required more rigorous study and training than any other profession (indeed, the travel time needed for a Ph.D. in rocket science is less than half!). It has been suggested that this specialization in insurance and pensions has led to missed opportunity. The actuarial profession produces highly trained and specialized risk professionals who have tended to apply their risk expertise to a very narrow field. Few actuaries have ventured outside of traditional boundaries or applied actuarial approaches to other areas such as banking and investments. Fewer still have ventured beyond the financial institutions sector.

All of that may be about to change.

In the past few years, companies have started realizing the importance of Enterprise Risk Management (ERM). Insurance companies in particular have been at the forefront of implementing ERM frameworks. Increasingly, rating agencies, analysts and regulators are starting to look for evidence of ERM when they analyze companies and industries. ERM best practices are still evolving and so far no single profession has been able to claim the ownership of this new discipline. There is a unique window of opportunity for the actuarial profession to champion this new discipline and define the risk profession.

However, this window is closing fast. Other professions and various organizations including PRMIA, GARP and the CFA Institute have been successful in identifying market opportunities and moving to position themselves appropriately. The internal auditors and CPAs are trying to claim ERM and move into this space with their COSO ERM Framework. The current value proposition of these organizations is quite narrow, seeking to provide either 1.) a risk monitoring device (e.g., COSO ERM Framework, influenced by the Sarbanes-Oxley Act), or 2.) fragmented risk analysis (e.g. silos of market, credit and operational risk in banking by GARP, driven by the Basel Accord). These groups deal easily with objective, known quantities and verification, but are less effective addressing ambiguity, correlations, aggregation and disaggregation of risks, long-term uncertainties, and the concept of risk as opportunity for strategic decision-making and leadership at the enterprise level.

To be sure, ERM is a significant subset of the broader risk management field. A further distinction can be made between risk management and risk practice: Financial institutions (and insurance companies in particular) are in the business of taking risks for which they are fairly compensated. Risk practice includes the pricing, valuation, analysis and management of these risks. Risk practice therefore encompasses both risk management and risk taking activities.

Despite a traditional focus on insurance and pensions, the actuarial profession is currently the closest that exists to a bona fide risk management profession. This is not expected to last for long as other organizations will likely continue to move forward toward establishing themselves as bona fide professions complete with more rigorous education and continuing professional development requirements, standards of practice, rules of professional conduct and discipline for their members.

Actuarial organizations around the world have been recognizing the need for actuaries to expand the application of their risk expertise beyond the traditional actuarial boundaries. The International Actuarial Association (IAA) has created a Task Force on Risk Practice to globalize the actuarial profession in the area of risk and to establish the best way forward.

While the importance of risk practice is universally acknowledged, the exact role the actuarial profession should take is the topic of much debate. The IAA Task Force has received input from various actuarial organizations and a number of proposals have been put forth on how we should move forward. These proposals have included discussions regarding the creation of a new Chief Risk Analyst designation, accreditation of universities, governance and coordination within the actuarial profession, cooperation with other organizations and professions as well as other initiatives.

Over the course of these discussions, two distinct visions have emerged.

1) Expand Risk Practice within the Actuarial Profession

The first vision is to further develop and promote the broader application of risk expertise of the actuarial profession and improve coordination internationally. One possible way this might be achieved is through the creation of a Risk Board of the Actuarial Profession. To this end a number of specific initiatives are being proposed aimed at promoting the risk management expertise of the actuarial profession globally.

2) Create a New Risk Profession

Another vision is to form a new profession—the International Risk Institute—jointly with other risk organizations to become the leading professional organization for ERM research, education, and practice, and possibly eventually granting a Chartered Risk Analyst designation. This would also be likely to involve strong strategic alliances with a number of risk organizations.

The prima facie reaction of both the Canadian and United Kingdom actuarial professions is that they do not readily support the creation of a separate risk profession. The CIA provided the following statement to the IAA Task Force:

> *"The CIA view is that actuaries are risk management professionals. It is important for us to ensure that the capabilities that make us a strong profession in this regard continue to be relevant to the changing environment. We must adapt our educational and qualification processes as necessary to ensure that we continue to produce true professionals to work in the financial risk management arena."*

While there are mixed views regarding the creation of a new, separate profession, there is general support for expanding the actuarial profession to encompass risk practice, which will strengthen both the reputation and credibility of the profession in its traditional areas of insurance and pension practice.

The IAA Task Force on Risk Practice will present its report at the IAA meetings in Washington in November. There is indeed a window of opportunity for the actuarial profession to establish itself as a leading risk profession unconstrained by traditional actuarial boundaries. However, decisive action must be taken now before this window of opportunity slams shut. ◻

While there are mixed views regarding the creation of a new, separate profession, there is general support for expanding the actuarial profession to encompass risk practice...

Charles L. Gilbert, FCIA, FSA, CFA, 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. He can be reached at charles.gilbert@CIA.org.

Taking Your Talents Abroad

by John Barnett

Editor's Note: The following article is based on a presentation made by the author at the January 2004 ASNA conference in Toronto.

In September 2003, I completed an 18-month secondment to the United Kingdom. My experience prompted me to accept an invitation to present my views on working internationally, from the point of view of a student.

In this article, I suggest reasons for considering an international posting. There are many pluses and minuses to working abroad, and many lessons to learn. An overseas assignment brings specific skills or acumen to an individual, which a current or potential employer will find valuable.

Why Consider an International Posting?

On a personal level, there is the increased independence as well as the adventure. But let's consider reasons from a work standpoint. Globalization is taking hold. To remain competitive, companies need to expand, and to do so means going outside home borders. International postings are also a form of diversification—greater choice of jobs and working environments. It could mean an increased chance of finding a job. It could also offer a level of job security. With a corporation making an investment by sending you overseas, they want to see a return on that investment.

Views on Working Internationally

On the positive side is the further exposure to people and industry. Just by being out there one can't avoid exposure. Therefore, you're noticed, but realize that you're also an ambassador for your home country, company and department. I found this continued into my current situation. After my work in the United Kingdom was completed, I was still considered as a resource to be tapped, and that consideration extends to my current colleagues as well.

Other pluses include:

- **Real experience** – Despite increases in global communications, video conferencing, e-mails and better phone lines, nothing beats actually being there.
- **Increased knowledge** – A fresher look at the same thing, or getting to dip your elbows into something new. In either case, the learning curve is more enjoyable.
- **Increased confidence** – Dealing with different situations, some of which might not be possible back home, and having to deal with a lot of it on your own. You won't necessarily have friends and colleagues to back you up.
- **Increased network** – As part of an informal group of other non-resident residents, forging ties with other actuaries and non-actuaries alike.

For a balanced view, one must acknowledge the minuses. You have to put your local life on hold, including perhaps exams (depending on where you locate). But I like to think I've gained in other ways. If I found myself looking at things the same way after being overseas for two years, I would consider those two years as wasted.

There are the unavoidable hassles of work visas and permits, and it only gets more complicated when trying to extend the original terms later on (which is more likely to happen than not).

It is remarkable how different tax regimes operate, even in very simple ways. Given two different fiscal tax years, any overlap can create tax effects for each jurisdiction. These can play off each other and you might find yourself dealing with foreign filings for a couple of years after you've returned. A tax advisor can be indispensable.

Consider the numerous health issues, from preparations to depart (vaccinations, insurance), considerations during one's stay (one visit back to Toronto during the SARS outbreak prohibited me from entering the office), to consequences after returning (a length of stay in the United Kingdom can exclude you from donating blood).

Don't forget the actual move. The physical move was handled by professionals, but preparations before each move were tiresome, and nearly impossible those few evenings before leaving, when everyone wants to see you "one last time." Overall, I found the move out, for a temporary stay, easier than the final move back.

Travel counts as both a plus (vacations, weekends) and a minus. Airports are not my favorite place (more of a workout than a rest); and I do not like being cooped up in an aircraft longer than necessary, but if you travel a lot for business, you could find yourself spending 40 percent of your time in an aircraft, and not all of it in the skies.

There is also the culture change. Although best viewed as a positive, it becomes interesting when the unexpected differences appear. like waiting for the bus that has decided on a different route that morning, or the shop that has closed because the local team is playing. Sometimes the shock goes the other way. All the things you end up growing accustomed to are not here when you get back. For example, dependable rail service, local radio broadcasts, quality of news broadcasts, greater selection of music CDs, the local off-license, favorite restaurants, to name a few.

So what lessons have I learned? That nothing beats physically being there. That everybody's the same, everybody's competent and everybody's more or less trying to achieve the same goals, no matter where you go. That many of the same problems still exist; they just look different.

What it Adds to Home Experience

You will find that several of your individual capabilities have been enhanced.

Confidence – You begin by taking home knowledge gained abroad, and that expertise flows into your local work. You build trust with your new colleagues, they increasingly rely on you and that does a lot for your confidence.

- Specific and general knowledge – Whether it be a different software package, local financial standards, or overall company procedures, this allows you to become a central resource, sometimes the local phone directory, sometimes the senior liaison officer.

- Further human contact and exposure—Putting names to faces within the organization. People approaching you with questions: Who's the ALM guru over there? When does so and so leave for the day? How should I go about doing…? What's your opinion on…?

In summary, I hope that I've presented some views that will encourage readers to work abroad, and at the same time provide helpful advice to make it a successful and enjoyable experience. ☐

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All of these pension funds show an actuarial deficit, based on the last actuarial valuation in 1997.

4. Private Retirement Saving Funds

Private retirement savings funds are governed by internal contracts and do not benefit from the legislation. They are not a true pension fund but more an obligatory savings account. Out of all employers, only banks usually offer a retirement savings fund which is administered by the human resources department.

Contributions vary between 8 and 12 percent of salary and are paid by employee and employer in equal proportions. Until 2000, many banks had an agreement with ONA to reduce contributions to ONA (which is compulsory); now ONA states all employers pay the mandatory contributions to the fund.

All contributions are converted into USD and invested in an individual savings account where the interest rate is the highest paid on time-deposits at the bank. The return is around 6 to 7 percent per annum.

At retirement age or earlier cessation of work, the contributions are paid back to the member with accumulated interest: 100 percent employees' portion and a certain percentage of the employer's portion depending on the number of years of service.

In 2000, there were 57,000 subscribers with more than half a billion Haitian Gourdes of accumulated contributions ($23 million USD). ☐

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The Actuary at Risk — Conference Theme in Bali Indonesia

by Fauzi Arfan

The future is full of uncertainty. Some of the events that can happen are undesirable. According to Standard on Risk Management (ASNZS 4360 : 1995), the definition of risk is the change in something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood. Risk management is as much about identifying opportunities as avoiding or mitigating losses.

The actuarial profession deals with risk management. The mismanagement of risk ultimately leads to failures and losses in large and small organizations, public or private. Actuaries are experts in evaluating the likelihood of future events, designing creative ways to reduce the likelihood of undesirable events and decreasing the impact of undesirable events that do occur.

In the current globalizing environment, risk knows no borders.

We can identify two kinds of risk—intrinsic and extrinsic risk.

By intrinsic risk we refer to the risk inherent in the work an actuary performs, in techniques, skills, approaches, data, tools and methodologies, and in the management of our clients or employers.

By extrinsic risk, we refer to the environment in which actuaries work. Extrinsic risk includes moral and ethical questions for individuals in the corporations, institutions, legislative bodies and overseeing agencies. It includes the level of professionalism or lack of it, in legislation that prescribes the prudential framework for actuarial advice and in the methods and procedures of enforcement.

In the current globalized environment, risk knows no borders. Political borders are made more prone by trade agreement and domestic consumers are exposed to imported risk including major financial failures. As Basel pressures for financial stability drive the reform of accounting standards and reporting rules, it is not sufficient for the profession to respond through stronger common education requirements and reciprocal recognition agreements for cross border practice.

The ultimate guarantee for the world consumers of actuarial products are uniformly high quality standards of practice that will need to be supported by the wider use of state-of-the-art techniques and models applicable throughout the actuarial universe.

The Society of Actuaries of Indonesia will hold its 13th East Asian Actuarial Conference at the Westin Hotel in Bali, Indonesia on September 12-15, 2005 with the official opening speech given by the Minister of Finance of Indonesia.

This is an opportunity for the EAAC members to strengthen their relationship with the Indonesian regulator. It is designed to be an interesting and useful conference with well-known international professionals visiting to debate and share their experience in these matters.

One of the highlights of attending the EAAC conference is the extreme beauty of Bali.

Bali is known all over the world as Island of the Gods, for its vibrant culture, the peaceful atmosphere and the local hospitality that will give all participants the warmest welcome. The participants can also try exhibiting rhythm as never experienced before, especially appealing to non-Indonesian participants. They can enjoy breakfast with the birds, a Bali Hai Sunset Dinner Cruise, Kintamani Lake, Monkey Forest wih Sunset Temple and also play golf on the local course with fantastic scenery.

For more information please visit our Web site at *www.eaac13th.com.*

We are looking forward to seeing you at the conference. □

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Singapore Actuarial Society — A Body in Transition

by Andrew Linfoot

Editor's Note: This article first appeared in The Actuary India*, April 2005 and is reprinted with permission.*

A Brief History

The Singapore Actuarial Society (SAS) was formed in 1976 and has the following objectives:

- To uphold the highest professional standards among members,
- To promote the study, discussion, publication and research into the application of economic, financial and statistical principles to practical problems, the actuarial, economic and allied aspects of life assurance, non-life insurance, employee retirement benefits, finance and investment with particular reference to Singapore and the ASEAN region,
- To assist students in the course of their actuarial studies, and
- To foster and encourage social relationship among the members.

Initially the SAS functioned primarily as a social club, but since adopting a new constitution in 1996, it has developed into a fully professional body, including achieving full membership status of the International Actuarial Association (IAA) in 2003, and statutory recognition under Singapore's Insurance Act in 2004.

Professional Developments

After adopting a code of professional conduct in 1997 and a disciplinary scheme in 2002, the SAS issued its first professional guidance notes in 2004, L01–Guidance Note for Appointed Actuaries of Singapore Life Insurance Funds and G01–Guidance Note for Actuaries Investigating Policy Liabilities Relating to General Insurance Business.

Guidance Note L01

- This guidance note was prepared for Appointed Actuaries advising direct insurers carrying out life business.
- Compliance with the guidance note is mandatory by members of Singapore Actuarial Society.
- Guidance is specifically given in the following areas:
  - Accepting the role of appointed actuary
  - Approval of premium rates
  - Financial condition investigation
  - Participating fund allocation investigation
  - Investment policy
  - Report on adverse events

Guidance Note G01

General insurers in Singapore are required to obtain an annual actuarial investigation from an approved actuary into the general insurance liabilities of the company.

- This guidance note was prepared for actuaries advising general insurers on estimation of policy liabilities, including the above-mentioned statutory investigation.
- Compliance with the guidance note is mandatory by members of Singapore Actuarial Society.

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Insurance Market Behavior and Health Insurance Seminar Held in Beijing

by Howard J. Bolnick

March 14-18, 2005 – *The 60 participants gather for a group shot at the Insurance Market Behavior and Health Insurance Seminar held in Beijing, China.*

Sixty Chinese actuaries, health executives and regulators from the China Insurance Regulatory Commission (CIRC) attended the Insurance Market Behavior and Health Seminar held in Beijing at Central University of Finance and Economics (CUFE), March 14-18, 2005. This seminar was developed and taught by Howard Bolnick. He is a former president of the SOA, an experienced health insurance actuary and company executive, adjunct professor of finance at the highly rated Kellogg School of Management and currently, chairman of the IAA Health Section. The seminar was first conceived and developed in 2001 at the request of the three Baltic State actuarial organizations to introduce the special characteristics of health insurance markets and health insurance to actuaries and insurance executives in countries where health insurance products are in their formative stages. Professor Bolnick has taught the seminar in five Eastern European countries. The seminar in China, which was taught in English, is the first one to be held in Asia.

The Beijing seminar was hosted by the China Institute for Actuarial Science at CUFE and its dean, Professor Li Xiaolin. Valuable administrative support was provided by CUFE, the Society of Actuaries of China (Liu Donghong, administrator) and the Society of Actuaries Hong Kong Office (Pat Kum, coordinator and her assistant, Sarah Hui). Funding support was provided by the Society of Actuaries including the International and Health Sections, ASTIN and Munich Re's Beijing office. ASTIN has been a generous and very appreciated supporter for a number of Professor Bolnick's previous health seminars.

The seminar was an intensive learning experience. Classes were held over five consecutive days for five hours per day. In addition, there was reading and a very important economic market-structure exercise that attendees needed to complete in advance of class. The seminar stresses the importance of (nonmathematical) risk management tools over actuarial analyses. Seminar attendees are trained in general nonmathematical tools needed to properly design and manage health insurance portfolios rather than provided with detailed product-by-product design and operating considerations.

Health insurance differs significantly from other areas of actuarial specialization. Success in developing and managing health insurance portfolios depends much more on understanding insurance market dynamics and customer behavior than on being good actuarial mathematicians. The seminar emphasizes this very important theme. It consists of two distinct parts. The first part describes the unusual economic and behavioral characteristics and fundamental problems of insurance markets (which are referred to by economists as markets with asymmetric information). It then uses these characteristics to uncover consequences of market structure for insurance products; and, finally, attendees discover how insurance company risk management tools are used to overcome these problems so that insurance markets are both feasible and viable. The second part applies this framework and risk management tools to a variety of health insurance products found in most insurance markets.

During this second, health insurance product-oriented portion of the seminar, Professor Bolnick was joined by two SOA members, each with extensive experience in the Chinese health insurance market: Song Song Liao, ASA, who is general manager, health for Munich Re in China and Davout Yean, FSA, vice president and head of product development for AIG in Beijing. Their knowledge and help was invaluable in making the seminar a huge success. A rapidly developing and very favorable environment for private health insurance in China explains the large number of seminar attendees and their enthusiasm for the material.

The previous government health care financing and delivery system has been replaced with a mixed public social insurance—private health insurance financing system supporting an evolving health care delivery system. Unlike Eastern and Central Europe, where Communist era government health care systems were transformed into wage-tax based social health insurance systems looking quite like those found throughout the pre-expansion EU, the health care financing system in China is being totally reformulated and reconstructed. Social health insurance to cover some of the cost of hospital care exists only in urban areas, and, even in these areas, it does not even cover all workers. Health care financing in rural areas, where institutional financing no longer exists, is a real problem.

From conversations in China with seminar students, other insurance executives and regulators from CIRC, it appears that the huge "gap" in health care financing between the modest benefits offered by government Social Insurance Bureaus (SIB) and the cost of Chinese citizens' health care needs will be filled in the future largely by new private health insurance companies and managed care plans.

There are currently only a small number of health insurance companies with licenses to operate in China, as well as a limited number of Chinese life and general insurance companies that are exploring the health insurance market as adjuncts to their primary insurance businesses. For the future, CIRC appears to favor encouraging the formation of new insurance companies that specialize in health insurance. Consequently, there is strong interest in developing joint ventures between health insurance specialists from developed countries and new Chinese health insurance companies.

While the general direction of growth in health care financing is clear, the problems and unique characteristics of China and Chinese insurance markets means that there is both great opportunity and great peril to those entering such a new and unformed market. There is a strong sense that opportunity outweighs peril for companies from developed countries that know health insurance and health care delivery and can find appropriate ways to merge their ideas and knowledge with Chinese culture and integrate successfully with China's developing health care delivery system. If this is successfully done, 15 to 20 years from now private health insurance in China will be the largest market in the world!

Past successes, including this recent Beijing seminar, reinforce the attractiveness of this health seminar and others like it to actuarially developing countries where there is a core of well-trained actuarial mathematicians who are seeking guidance from experienced professionals on how to apply their skills to product-specific problems they face on the job. Central and Eastern Europe have been the focus of this type of seminar to date. Interest is now being expressed from Asia. For the future other opportunities exist in a wide range of actuarially developing areas such as Central Asia, India, Southeast Asia, Latin America and Africa. □

While the general direction of growth in health care financing is clear, the problems and unique characteristics of China and Chinese insurance markets means that there is both great opportunity and great peril to those entering such a new and unformed market.

Howard J. Bolnick, FSA, MAAA, HonFIA, is chairman of the Infocus Financial Group, Inc. in Chicago, Ill. He can be reached at hbolnick@kellogg.northwestern.edu.

Investing in the Far East

by Paul Chow

The PRACT Executive Committee and Shirley Shao (president of the Chinese Actuarial Club, New York)

Front row, standing left to right – *Cathy Lyn, Shirley Shao, Cathy Shum-Adams, Nicole Zhu and Tinny Tsun (Ashwin Raiyit - not pictured)*

Back row, standing left to right – *William Lei, Paul Chow, Sylvia Leung, Alienne Wan, Bosco Chan and Alan Wong*

Last February, the Pacific Rim Actuaries' Club of Toronto celebrated the Chinese New Year of the Rooster by inviting Raymond Chang, the chairman of the board of CI Fund Management Inc., to speak about investing in the Far East. CI is one of the three largest mutual fund companies in Canada. Ray also shared with us his story on how CI became successful by investing in the Far East and other countries.

Ray was born in Jamaica, his parents having moved there from southern China in the early 1900s. Later Ray moved to Canada to obtain his university education and start a new life. He joined CI Funds in 1984 as vice president and chief operating officer after a successful career as an accountant with Coopers and Lybrand. At that time, CI was a small company, but within 15 years, Ray and his team turned it into a mutual fund giant. He was appointed chairman of the board in 1999.

Ray said that mutual funds are sold and not bought. The investors must be sold on the products offered. Ray's time was spent primarily on building a solid backroom platform while his partner travelled to remote areas of Canada, sometimes in bitter winter, to sell mutual funds to residents who did not have easy access to them.

As CI already had North American funds, Ray started the international division by setting up the Japan Fund. He then created the first Emerging Markets and Latin American funds to be registered in Canada. With these successes, the Japan Fund was subsequently renamed the Pacific Fund to include investment in securities from "our dragons" (Singapore, Hong Kong, Taiwan and Korea) and later, China and India.

At first, CI wanted to partner with other companies but ended up operating alone. They hired analysts who had experience in these foreign countries and trained them on the CI systems. That approach worked well and families of global funds were developed with a unique structure that allowed the investor to sell one fund and buy another one without triggering any capital gains. CI continued to grow rapidly through its acquisition of other mutual fund companies including BPI, Spectrum and Clarica Diversico, with the sales force at Clarica Life helping to sell the CI funds.

Today, the focus is on the Far East countries again, especially on China. Investors and mutual fund managers must keep a close watch. China is growing and its need for raw materials is affecting world markets. China consumes 7 percent of the world's oil supply and this has helped push the price to over $50 per barrel. China consumes 30 percent of all iron ore output and 27 percent of all steel products, resulting in rising commodity prices which could eventually lead to higher inflation.

There is currently a shortage of electricity in China. Several years ago, China started a massive project in the Yangtze River near Shanghai where the world's largest dam is being built to raise the water level in the Three Gorges by several hundred feet to produce electricity. That project is expected to produce much more electricity within the next five to 10 years, but that may not be enough as China's demand for electricity continues to grow.

The banks are lending money to investors in China too quickly. Some investors are on a borrowing binge to buy up real property in China. To cool things down, there is a need to raise the value of the RMB in comparison to the U.S. dollar. However, that will not happen, as long as China thinks it will lose too many of the jobs created in China by companies in the United States and abroad. There may be a time for revaluing the RMB, but China will do that on its own timetable.

International companies are getting more and more dependent on domestic Chinese demand for new growth. Sales of such items as cars, personal computers and cell phones to Chinese customers have increased significantly in recent years. Investors must watch for any changes in these demands. If the demands start sliding, that would hurt the earnings for international companies, many of which have headquarters in the United States and Canada.

In closing, Ray said that Canada has a good supply of natural resources and we can make good use of them to bring our economy up as well.

The Pacific Rim Actuaries' Club of Toronto hosts a couple of meetings each year, where industry experts give their views on topics of interest to actuaries and related to the Pacific Rim countries. The recent Chinese New Year's meeting had another record turnout of over 150 attendees, including a few actuaries from outside the Greater Toronto Area. In addition, the meeting featured many great door prizes made possible by more than 25 corporate sponsors. The club is very grateful for the many insurance companies, reinsurers, consulting firms, accounting firms and software companies who have been loyal supporters of the club for many years. To learn more about our club and future events, please visit our Web site at *www.pacificrimactuaries.com*. ☐

Standing left to right – *Bosco Chan (president), Ray Chang (guest speaker) and Paul Chow (master of ceremonies) take time to pose for the celebration of the Chinese New Year. Ray Chang was invited to speak about investing in the Far East.*

Paul Chow is the newsletter editor for the Pacific Rim Actuaries' Club of Toronto. He can be reached at paulchow actuary@hotmail.com.

SOA International Experience Survey—Embedded Value Financial Assumptions

by William Horbatt, Dominique Lebel and Ronora Stryker

Introduction

In 2004, the Society of Actuaries conducted a survey of the financial assumptions contained in published 2003 embedded value reports.[1] This article presents an update to the survey conducted last year. The Society of Actuaries intends to conduct this survey on an annual basis.

The purpose of this survey is to provide international actuaries with benchmark assumption data. Since many companies make this information publicly available, no formal data request was issued. Instead, the survey was based on reports published on the Internet by 19 companies centered in Australia, Canada and Europe that are active internationally.

Each financial assumption presented in this article is the average value of the assumption reported by all companies in their 2004 embedded value reports. If no companies reported a specific assumption in a given country, then that assumption is labeled "NA," signifying that data is not available. Some companies vary assumptions by calendar year, while other companies use a single assumption; in the former case, the study was compiled based upon current year data.

Companies Included in Survey

Aegon	Allianz
AMP	Aviva
AXA	Fortis
Generali	Hannover Re
ING	Legal & General
Manulife	Munich Re
Old Mutual	Prudential (UK)
Skandia	Sun Life
Swiss Life	Swiss Re
Zurich	

Limitations

Readers should use judgment when interpreting the results of the survey and note that:

- When comparing one assumption to another it should be noted that different companies might be contributing data to different assumptions, so that differences between variables may reflect differences between companies, rather than differences between the assumptions.
- Some cells include data from many companies, while others may include data from only one company.

Financial Assumptions from the Survey

Financial assumptions presented in this article include:

1) Discount rate – the rate used to calculate the present value of future distributable earnings
2) Equity return – the total return on common stock investments
3) Property return – the total return on investments in real estate
4) Fixed return – the yield on a corporate bond portfolio held by an insurance company
5) Government return – typically the yield on a 10-year bond offered by the local government
6) Inflation – the rate used to increase future expenses and, possibly, revalue policy terms
7) Tax rates – income tax rates by jurisdiction

When reading Table 1, several thoughts should be kept in mind:

- Although practices vary, the discount rate is frequently set based on the Capital Asset Pricing Model (CAPM) methodology; in this case, many companies assume that

1) *International News*, Issue 34, October 2004, Society of Actuaries, page 19, this can be found at *http://library.soa.org/library-pdf/ISN0410.pdf*

their insurance company's volatility matches the market (i.e. Beta is equal to 1), which results in a discount rate that is equal to the risk-free rate plus an average equity risk premium. Companies may also vary discount rates by product line to reflect the higher Beta associated with riskier business.

- Equity and property returns normally include both cash income (that is, stockholder dividends and rental payments) and asset value appreciation (or depreciation), and these yields may be reported net of investment expenses. Alternatively, equity returns may represent a fund appreciation prior to any fees or charges made against the fund. In all cases, equity and property returns will be influenced by company investment strategy.
- Fixed returns reflect the investments in an insurer's bond portfolio. Amortized book yields are typically used in countries where book profits are based on amortized book value, while current market redemption yields are used when profits are calculated using market values. Companies generally do not disclose whether the fixed income returns are net of defaults or investment expenses.
- The inflation assumption may differ from general inflation (for example, the increase in a consumer price index).
- Tax rates are dependent upon individual company circumstances (for example, the existence of tax loss carry forwards) and thus these rates cannot necessarily be applied to other companies.

Finally, it need be noted that some companies use identical assumptions for multiple countries (on the basis that this results in immaterial differences), and this practice would tend to dampen differences between countries.

2) ibid

Countries with Number of Contributing Companies:

Australia (4)	Austria (3)
Belgium (6)	Bulgaria (1)
Canada (5)	Czech Republic (1)
Chile (1)	China (1)
Denmark (1)	Finland (2)
France (10)	Germany (9)
Greece (2)	Hong Kong (3)
Hungary (2)	India (1)
Ireland (4)	Italy (9)
Japan (3)	Luxembourg (5)
Malaysia (1)	Mexico (1)
Netherlands (8)	Norway (1)
New Zealand (1)	Peru (1)
Poland (2)	Portugal (4)
Romania (1)	Russia (1)
South Africa (2)	Slovakia (1)
Spain (10)	South Korea (2)
Switzerland (2)	Sweden (3)
Thailand (1)	Taiwan (2)
United States (13)	United Kingdom (11)

Several observations can be made concerning Table 1 on page 30 when compared to similar data published last year[2]:

- Return assumptions and discount rates generally declined in North America, South Africa and Western Europe. In North America, the differences in the discount rates and return assumptions between Canada and the United States narrowed. The 10-year government bond yield assumption dropped to an average rate of 3.7 percent in Western Europe from an average of 4.3 percent in 2003.
- Outside of these regions, changes in discount rates and return assumptions were mixed.
- Inflation assumptions generally increased, except in Central Europe, Latin America and South Africa.

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Table 1: Average 2004 Financial Assumptions

Country	Discount Rate (1)	Equity Return (2)	Property Return (3)	Fixed Return (4)	Government Return (5)	Inflation (6)	Tax Rates (7)
Africa							
South Africa	11.7%	10.3%	9.3%	8.3%	8.1%	5.3%	37.8%
America Latin							
Chile	10.1%	NA	NA	8.4%	6.9%	2.7%	NA
Mexico	15.3%	NA	NA	10.6%	10.4%	4.2%	NA
Peru	NA	NA	NA	NA	3.5%	2.5%	NA
America North							
Canada	7.9%	7.9%	6.5%	6.0%	4.4%	2.5%	34.8%
United States	7.7%	8.0%	7.6%	5.4%	4.4%	2.5%	34.6%
Asia/Pacific							
Australia	8.8%	9.5%	7.4%	5.6%	5.3%	2.5%	30.0%
China	9.2%	10.7%	NA	5.2%	5.2%	3.5%	NA
Hong Kong	8.5%	9.6%	NA	5.8%	4.7%	2.1%	17.5%
India	12.4%	10.0%	NA	6.8%	6.8%	5.0%	NA
Japan	5.7%	5.9%	NA	2.3%	2.1%	0.3%	36.1%
Malaysia	9.5%	7.0%	NA	6.0%	5.6%	2.5%	28.0%
New Zealand	9.0%	9.0%	8.0%	6.5%	6.0%	2.5%	NA
South Korea	8.0%	7.4%	NA	5.0%	4.5%	3.0%	27.5%
Taiwan	7.2%	7.5%	NA	3.8%	3.4%	1.8%	25.0%
Thailand	10.9%	NA	NA	6.0%	5.6%	2.5%	NA
Europe Central							
Bulgaria	11.3%	NA	NA	6.5%	6.5%	4.4%	NA
Czech Republic	8.5%	NA	NA	5.2%	5.2%	3.2%	NA
Greece	7.3%	6.5%	NA	4.4%	4.3%	3.0%	NA
Hungary	10.0%	10.0%	9.0%	6.8%	6.6%	3.7%	16.0%
Poland	10.4%	9.7%	NA	7.3%	6.7%	2.8%	19.0%
Romania	17.2%	14.0%	NA	12.4%	12.4%	9.0%	NA
Russia	12.6%	NA	NA	6.8%	6.8%	9.0%	NA
Slovakia	8.4%	NA	NA	5.1%	5.1%	3.6%	NA
Europe Western							
Austria	6.9%	6.5%	NA	3.9%	3.7%	1.8%	24.3%
Belgium	7.2%	6.9%	5.8%	4.2%	3.9%	1.9%	26.7%
Denmark	6.3%	6.3%	NA	NA	3.7%	3.0%	NA
Finland	6.6%	6.4%	NA	4.0%	3.7%	3.0%	NA
France	6.8%	6.6%	5.4%	3.9%	3.7%	2.1%	34.6%
Germany	6.8%	6.6%	5.0%	3.9%	3.7%	1.9%	38.7%
Ireland	6.7%	6.5%	5.7%	4.0%	3.7%	3.5%	11.3%
Italy	6.7%	6.7%	4.9%	3.9%	3.7%	2.2%	35.1%
Luxembourg	7.3%	6.9%	5.8%	4.1%	4.0%	1.9%	26.7%
Netherlands	7.2%	6.9%	6.0%	4.2%	3.9%	2.0%	30.9%
Norway	6.3%	6.3%	NA	NA	3.7%	3.0%	NA
Portugal	6.7%	6.5%	NA	4.0%	3.7%	2.4%	35.0%
Spain	6.9%	5.7%	5.7%	4.1%	3.8%	2.1%	34.5%
Sweden	6.9%	6.5%	NA	NA	3.8%	2.8%	28.0%
Switzerland	6.3%	5.4%	3.5%	2.5%	2.3%	1.6%	25.0%
United Kingdom	7.5%	7.2%	6.9%	4.9%	4.5%	3.0%	26.5%

The discount rate may be the most subjective financial variable, and yet company discussions on how it is set are generally sparse, at best. Several comments may be made on how this assumption was determined:

- Of the seven companies that thoroughly explained their methodology, five used a weighted average cost of capital (WACC) approach wherein the company determined the cost of capital based upon their mix of debt and equity financing costs. The other two companies used a CAPM methodology.
- For the WACC companies, the cost of equity capital was determined using the CAPM methodology where the company's cost of equity capital is equal to the risk-free rate plus a risk premium.
- The risk premium varied between 3 and 3.5 percent, while the Beta multiplier varied between 0.9 and 1.6.
- One company will change its methodology next year and intends to base their Beta on their insurance profits, resulting in a 35 basis point margin for systematic non-option risk (Beta of 0.1 and a risk premium of 3.5 percent) and a margin for diversifiable risk of 2.5 percent.

Investment Premiums and Other Marginal Relationships

Investment premiums are the additional yield an investor is expected to receive by purchasing an asset other than a government bond.

- Equity premium – the excess yield from investing in common stock over the return on government bonds
- Property premium – the excess yield from investing in real estate over the return on government bonds
- Credit spread – the excess yield from investing in a mix of corporate and government bonds over the return on government bonds

In addition the following two marginal relationships may be of interest:

- Risk premium – the excess of the embedded value discount rate over the return on government bonds
- Real return – the excess of the government return over inflation

Table 2 presents the marginal relationships derived from Table 1. The column numbering continues the numbering in the prior table.

A few observations can be made when comparing Table 2 to last year's results:

- Risk premiums generally declined, except in Western Europe and Australia, Canada, Mexico, New Zealand and Thailand. In Western Europe risk premiums declined in only four of 16 countries.
- Two-thirds of the time, equity premiums changed in the same direction as risk premiums.
- Property premiums in Western Europe increased in seven countries and decreased in six.
- Outside of Western Europe, credit spreads either decreased or remained constant. In Western Europe, credit spreads most frequently increased.
- Real returns decreased in Western Europe and North America, and generally increased in the rest of the world.

Please note that the data is relatively sparse outside of Western Europe and North America, so observations and conclusions could differ if additional data was available.

Recent Developments

A number of companies have either implemented or are in the process of implementing the European CFO guidelines[3] for embedded value calculations. Among the 19 companies surveyed, four companies reported compliance with them, eight additional companies plan to achieve compliance in either 2005 or 2006, and the remaining companies did not

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3) See *http://www.cfoforum.nl/* for more information on the European CFO embedded value guidelines

Table 2: Investment Premiums and Other Marginal Relationships

Country	Risk Premium (8)=(1)-(5)	Equity Premium (9)=(2)-(5)	Property Premium (10)=(3)-(5)	Credit Spread (11)=(4)-(5)	Real Return (12)=(5)-(6)
Africa					
South Africa	3.6%	2.2%	1.2%	0.2%	2.8%
America Latin					
Chile	3.2%			1.5%	4.2%
Mexico	4.9%			0.2%	6.2%
Peru					1.0%
America North					
Canada	3.5%	3.5%	2.1%	1.6%	1.9%
United States	3.4%	3.7%	3.2%	1.0%	1.8%
Asia / Pacific					
Australia	3.5%	4.2%	2.1%	0.3%	2.8%
China	4.0%	5.5%		0.0%	1.7%
Hong Kong	3.8%	4.9%		1.1%	2.6%
India	5.6%	3.2%		0.0%	1.8%
Japan	3.6%	3.8%		0.2%	1.8%
Malaysia	3.9%	1.4%		0.4%	3.1%
New Zealand	3.0%	3.0%	2.0%	0.5%	3.5%
South Korea	3.5%	3.0%		0.6%	1.5%
Taiwan	3.8%	4.1%		0.4%	1.7%
Thailand	5.3%			0.4%	3.1%
Europe Central					
Bulgaria	4.8%				2.1%
Czech Republic	3.3%				2.0%
Greece	3.1%	2.3%		0.2%	1.3%
Hungary	3.4%	3.5%	2.5%	0.3%	2.9%
Poland	3.8%	3.0%		0.6%	3.9%
Romania	4.8%	1.6%			3.4%
Russia	5.8%				-2.2%
Slovakia	3.3%				1.5%
Europe Western					
Austria	3.2%	2.8%		0.2%	1.9%
Belgium	3.3%	3.0%	1.9%	0.3%	2.0%
Denmark	2.5%	2.5%			0.7%
Finland	2.9%	2.7%		0.3%	0.7%
France	3.1%	2.9%	1.7%	0.1%	1.6%
Germany	3.2%	2.9%	1.3%	0.2%	1.8%
Ireland	3.0%	2.8%	2.0%	0.3%	0.2%
Italy	3.0%	3.0%	1.2%	0.2%	1.5%
Luxembourg	3.3%	2.9%	1.9%	0.1%	2.1%
Netherlands	3.3%	3.0%	2.1%	0.3%	1.9%
Norway	3.1%	2.5%			0.7%
Portugal	3.0%	2.8%		0.3%	1.3%
Spain	3.0%	3.1%	1.9%	0.2%	1.7%
Sweden	3.1%	2.6%			1.0%
Switzerland	3.9%	3.1%	1.2%	0.2%	0.7%
United Kingdom	2.9%	2.7%	2.4%	0.4%	1.6%

Table 3: Sample Stochastic Assumptions

	Stock		Property		Bonds		
	Yield	Volatility	Yield	Volatility	Yield	Volatility	Type
Europe	7.50%	20.18%	6.50%	16.20%	4.42%	3.16%	Government
Japan	4.17%	17.43%			1.60%	8.00%	Government
United Kingdom	7.60%	20.00%	6.60%	15.00%	4.60%	2.50%	Government
United States	8.25%	17.00%			5.75%	3.50%	Corporate

Note that Table 3 was created from a small sample.

discuss compliance with European CFO guidelines.

These guidelines require companies to value the cost of options and guarantees contained in their contracts such as guaranteed minimum death benefits and guaranteed minimum interest rates. Six companies reported that they stochastically valued the costs of options and guarantees for their 2004 embedded value. Four companies have begun to report stochastic modeling assumptions.

Averages of several of these assumptions are shown in Table 3 above (volatility may also be referred to as standard deviation).

Summary

The International Experience Study Working Group (IESWG) has published this survey to enhance the knowledge of actuaries about current international market conditions and practices. Practices continue to evolve and we wish to encourage an open discussion on appropriate methodologies and further disclosure of both assumptions and the thoughts behind their formulation.

The IESWG intends to update this survey annually. We invite additional companies to provide data, on a confidential basis, to be included in this and future surveys. Please contact Ronora Stryker (*rstryker@soa.org*) or Jack Luff (*jluff@soa.org*) at the Society of Actuaries for further information. ☐

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Life Insurance in India

by K.S. Gopalakrishnan

Editor's Note: Any views expressed in this article are purely those of the author.

The Past

Life insurance in its present form came to India with the establishment of a British firm, Oriental Life Insurance Company, in 1823. The first Indian-owned life insurance company, the Bombay Mutual Life Assurance Society, was set up in 1871. The Indian Life Assurance Companies Act, 1912, was the first statutory measure to regulate the life insurance business. The concept of life insurance, thus, is not a new concept to the country of a little over one billion people with a total land area of over 3.2 million square kilometers.

In 1956, India had an entirely privatized life insurance industry with 245 insurers, primarily writing business in the cities and for the better-off segments of the society. Though the Insurance Act of 1938 provided the legislative framework, the large number of insufficiently regulated insurers provided for an increased potential for abuse. The government of India, in September 1956, took over the management of all life insurers and created a nationalized monopoly in the form of the Life Insurance Corporation of India (LIC).

	Life Insurance Company	Foreign Insurer Joint Venture Partner
1	LIC of India	None (Government-owned)
2	ICICI Prudential	Prudential of UK
3	Birla Sun Life	Sun Life Financial (Canada)
4	Aviva	Aviva
5	MetLife	MetLife
6	ING Vysya	ING
7	AMP Sanmar	AMP
8	Tata AIG	AIG
9	SBI Life	Cardiff
10	Kotak Life	Old Mutual
11	Max New York Life	New York Life
12	HDFC Standard Life	Standard Life
13	Bajaj Allianz	Allianz
14	Sahara India Life	None (fully Indian-owned)

The Exciting Present

The wheel turned one full circle when the government, as part of financial sector reforms, opened up the insurance industry for the private sector in 1999. The legislation paved the way for an independent autonomous regulatory body called the Insurance Regulatory and Development Authority (IRDA). Foreign companies, are however, not allowed to own more than 26 percent in the private insurance companies. The IRDA quickly came out with regulations covering several areas including licensing of intermediaries, appointed actuary, financial reporting, solvency and investments. The first private sector life insurance company opened for business in December 2000. Unlike in some other countries, a license to write life insurance business in India allows companies to do business across the country and also write all types of life insurance business.

As of April 2005, there were 14 life insurance companies, including the LIC (see chart in the left column).

It is reported that more foreign insurers are keen on setting foot on India but are perhaps deterred by the maximum of 26 percent they can own. The government has been indicating that the 26 percent could go up to 49 percent, but the timing of this depends to a great extent on how quickly a consensus is arrived at amongst the leading political parties.

The Market

The entry of new players has seen a paradigm shift in the market. The new companies ventured into different distribution channels such as selling through banks. This channel has become so successful in a short span of time that it accounts for almost one-third of the business for the key new players. The approach to selling life insurance, too, underwent a major change when it was made mandatory for every sale to be preceded by a standardized sales illustration.

Until the advent of new players, traditional participating endowment type products ruled the market. The new players brought in contemporary unit-linked (variable universal life) products and also introduced protection products in the form of term products and critical illness riders. The popularity of unit-linked products forced every other player to take another look at their market strategy. In fact, every player now not only has unit-linked products, but also gives greater attention to sales from this product line. Birla Sun Life can claim credit for being the first private player to launch this product line. Interestingly, this company is the only company that does not write any participating business in India. The success of unit-linked products can be seen in that it accounts for a major part of the business for the two leading private players—almost 80 percent for the number one private sector player, ICICI Prudential and almost 100 percent for the number two private sector player, Birla Sun Life.

The potential for life insurance in India is estimated to be huge as the share of life insurance premium to GDP was a low 2.26 percent (2003). A fast growing economy (over 6 percent p.a.), a burgeoning middle class (over 300 million), high per capita savings and low penetration of insurance point toward the opportunities that exist for growth of life insurance.

Four years after the entry of new players, LIC continues to dominate the market but has surprisingly lost market share faster than anticipated. From a 100 percent market share of new premium in the year 2000, the LIC's share has dropped to 78 percent (for the period April 2004 to February 2005). The sheer size of LIC can be seen from these impressive statistics—27 million new individual policies sold in 2003-2004, 157 million in-force individual policies as of March 31, 2004, more than one million agents, over 2000 branches and assets under management of Rs. 3,218 billion (approximately USD 73 billion) as of March 31, 2004.

The Actuarial Profession

A growing actuarial profession in India stagnated after the nationalization in 1956. A single government employer market offered limited career prospects, forcing those qualifying as actuaries to migrate to other countries. The liberalization of financial markets has now revived interest in the actuarial profession.

The profession in India is organized under the Actuarial Society of India (ASI) since 1944. The ASI was primarily a body for research and discussions until 1989 when it started its own examinations leading to qualification as an actuary. The ASI works very closely with the U.K. actuarial profession. As of 31 August 2004, the ASI had 3,769 members, of whom 205 were fellows.

The IRDA regulations have made the appointed actuary system mandatory for life and P&C companies. This move has strengthened the role of actuarial advice within these insurance companies. Further, the government is in the process of liberalizing the pensions market. Efforts are also under way to promote health insurance in the country. All these present tremendous opportunities for actuaries to grow and contribute.

The ASI has become a vibrant body in the last couple of years by coming out with professional guidance notes on various areas, changing its examination course in line with international trends, signing mutual recognition agreements with the United Kingdom and Australia, organizing seminars and actively encouraging research work.

Conclusion

India is a country of several commonalities and contradictions. The wide disparity in income levels of its people is a good example of this. However, as the economic reforms unlock its true potential, it is expected that the country will soon emerge as an economic powerhouse. A high propensity for Indians to save, growing economy and low insurance penetration indicate a huge potential for the life insurance industry. The current shortage of experienced actuarial skills makes it even more attractive for the actuarial profession! ☐

Useful Web sites:
www.irdaindia.org
www.actuariesindia.org

The approach to selling life insurance, too, underwent a major change when it was made mandatory for every sale to be preceded by a standardized sales illustration.

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- Guidance is specifically given in areas such as:
  - Data
  - Assumption setting
  - Methodology
  - Treatment of uncertainty, and
  - Reporting

Further guidance notes are planned in line with the full implementation of a new risk-based capital valuation regime in 2005.

A further development for this year is the introduction in January of an induction course for actuaries who wish to become Appointed Actuaries of Life Insurance Funds in Singapore. The course is intended to add to actuaries' knowledge of the local regulatory and market environment and includes face-to-face discussion with an experienced local practitioner.

Development of continuing professional development (CPD) requirements was broadly supported by members at a recent general meeting, and this is currently underway.

Membership

Unlike many professional actuarial bodies, the SAS is not an examining body. Members are admitted on the basis of their membership in other actuarial bodies, or if they are currently studying a recognized actuarial course.

At last count, SAS had about 240 members, a third of whom were Fellows. The majority of Fellows, just under half, are Fellows of the U.K. Institute.

Slightly more than half of the SAS members work for life insurers, while about 15 percent are employed by reinsurers, and 12 percent by consulting firms.

Office Bearers

The office bearers for the 2005/6 year, which ends with the annual general meeting in March, are as follows:

President	Andrew Linfoot
Vice President	Chew Boon Sym
Honorary Secretary	Mark Birch
Honorary Treasurer	Tim Beardsall

Committees

A number of standing committees were recently established to deal with technical issues. Each committee establishes subcommittees as required to address issues in more detail.

The following committees are currently in place:

Life Insurance
General Insurance
Health Insurance
Membership
Administration
Professionalism

Activities

The Society organizes the following activities for the benefit of members:

- Actuarial seminars and conferences, both on a local and on a regional scale
- Regular actuarial forums, for distinguished speakers in the actuarial field to present topics of interest to members, and for members to discuss and debate actuarial and insurance matters
- Social activities for fellowship

The Society also makes representations to the Monetary Authority of Singapore on various issues affecting the profession and the insurance industry. The Society is well represented by members on a number of the MAS working groups.

From time to time, the Society advises industry associations on matters affecting the industry which have actuarial implications.

A Singapore mortality study was finalized in 2004 by the SAS Mortality Study Workgroup, covering experience from the period 1997-2002. ☐

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