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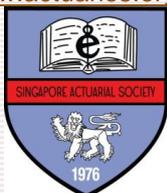
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Editorial

A special thanks to the Life committee (under Koo Chung Chang) for organising the excellent inaugural Life Insurance Conference. It was great to see such a range of speakers and topics over the two days. A special thanks to the Institute of Actuaries UK for helping to fund a speaker from the UK who was able to update us on developments in Europe on Solvency II and Risk Management. Raymond again weaved his magic and entertained us with puzzles over dinner. Just remember to pick Mark Birch for your team and table the next time you attend something similar. Well done Mark.

As we approach the end of the year a special thanks to all those that have contributed to the many events. The SAS has certainly grown and continued to enhance its profile in 2012 in what can only be described as a very successful year. We look forward to further developments in 2013.

Richard Holloway

Message from the President

The Life Insurance Conference was a big success with many interesting talks and very hard quizzes at the dinner. A big round of thanks to the Life Insurance Committee for organizing. We are now through for the year with the big conferences and it is on to the social events!

I'm pleased to announce that Council voted no increase to the annual membership fees for 2013. Please keep an eye open for the subscription notice in December in order to qualify for the early bird special! It also means that the AGM is coming up, which means election time. I would like to reiterate that all Council positions are elected annually, which means that they are all up for grabs. If you are interested in serving on Council (there is a free lunch!), please don't hesitate to contact me or Raymond to find out more.

Jill Hoffman

Upcoming Events

| Date | Event | Location | Contact |
|---|---|---------------------------------------|---|
| 217 th – 19 th Feb 2013 | 2013 AGFA & Global Conference of Actuaries | Hotel Grand Hyatt, Santa Cruz, Mumbai | IAA India: http://gca.actuariesindia.org/ |
| 15 th – 18 th Oct 2013 | 17 th East Asia Actuarial Conference | Resort World Sentosa | Wil Chong: Wil.chong@allianzre.com |

Recent Events

SAS Life Insurance Conference



In place of the annual Appointed Actuaries' Symposium, the Singapore Actuarial Society organised the inaugural Life Insurance Conference, to cater to the growing interest from other insurance professionals. The theme was "Change, Uncertainties and Opportunities" and the conference was held on the 8th and 9th of November at Amara Sanctuary Resort, Sentosa, Singapore. The conference was attended by CEOs, CFOs, Appointed Actuaries, other actuaries, as well as other insurance professionals. We received an overwhelming response of around 140 applications for this conference, with participants from all around the region.

The conference featured both international as well as local speakers to discuss various topical issues over the two days. Some highlights included two panel discussions amongst the CEOs of life insurers as well

as High Net Worth players to discuss some of the current challenges as well as opportunities in the current macroeconomic environment and market. The guest speaker, Mr. Elliot Varnell, invited from the Institute of Actuaries, UK, spoke on Solvency II and its implementation in Europe as well as shared his insight on Enterprise Risk Management. Of particular interest, was the eye-opening topic on Takaful Insurance, shared by Hans de Cuyper, CEO of Etiqa.

Other presentations included the annual update from the regulator, as well as results from the Dread Disease Survey, presented by GenRe and the recent Protection Gap Survey, commissioned by the LIA and presented by Towers Watson. A complete list of topics as well as selected slides can be found on the website.



After all presentations had been concluded on the first day, a cocktail session had been organised, providing the perfect networking opportunity for the attendees to make new friends and reconnect with existing ones. The scrumptious Gala Dinner, generously sponsored by RGA, was made even more interesting, courtesy of Raymond Cheung's mind-boggling games. A surprise lucky draw was also held at the close of dinner, where five lucky participants walked away with one iPad Mini,

one iPad with Retina Display and three iPhone 5s. Some lucky participants walked away with shopping vouchers too.

In conclusion, we are pleased with the overall turnout for the event, and would like to thank the speakers and organising committee for this time as well as the generous sponsors. We look forward to seeing you all at next year's Life Insurance Conference.

Tan Yue Li

Vertical Marathon, 25th Nov 2012

On 25 Nov 2012, a group of SAS members took part in Swissôtel Vertical Marathon 2012, and conquered 73 storeys of a height of 226 meters skyscraper -

Swissôtel The Stanford. The game starts with a Gangnam Style warm-up, and ends with champagne celebration. Well done team!



Joey Zhou



Council Update

Our very first SAS Life Insurance Conference (LIC) was held on the 8 & 9 November, attended by more than 140 delegates. We have received many positive feedbacks once again and the Life Insurance Committee will be looking to organize such large scale conference on an annual basis. I would also like to congratulate the young and energetic LIC organizing committee for the efforts they have put in to make the event a great success.

In the month of November, the SAS was pleased to host a forum discussion on the Direct Insurers' Stress Test Exercise for General Insurers on the 22 November. This talk follows the discussion held last year to provide an update of the results from the 2011 exercise. The SAS Stress Testing working party is looking to produce a technical note to assist the actuaries in the 2012 exercise.

Raymond Cheung

Committee Reports

• Life Insurance Committee

Industry Dialogue Session with MAS

On the 17th of October, SAS Life Subcommittee has arranged for a sharing session with MAS to discuss on the 2012 Stress Testing Exercise completed this year. The turnout was good with most companies sending their Appointed Actuaries and Senior Actuaries involved in the Stress Testing Exercise to attend the session.

Tan Yue Li

Besides the Stress Testing forum, the SAS PR Committee successfully planned a Vertical Marathon event and a Quiz Night for our members in November. Through these events, we want to show the world that actuaries are not just good at numbers alone! More importantly, we want to encourage healthier living and promote networking among our members. To find out more information about these events, please visit our website at www.actuaries.org.sg.

We welcome any feedback and suggestions on how we can serve you better in the SAS. Please email me at secretary@actuaries.org.sg or Patsy Lau, our Administrative Executive, at patsy@actuaries.org.sg for any SAS matters.

MAS presented on the key issues identified in the Stress Testing results and reports, and also took the opportunity to address some of the concerns and feedback that the industry has provided prior to the meeting. The session was well-received and we look forward to arranging similar sessions in the future to discuss on key developments in the insurance industry.



• GI Committee

This month the focus for the committee has been on working towards our two Technical or Practice Notes on the Liability Valuations and the Stress Test in Singapore. By the time this newsletter is released the SAS would have hosted a discussion on the Stress Test at the Peach Garden to assist the working party on issues to cover in the guidance.

Other topics discussed by the committee included preliminary discussions for the conference next year. So time for everyone to be thinking about possible

Matthew Maguire

• Retirement Committee

The Retirement Committee of the SAS is continuing to investigate and discuss a number of key issues related to improving retirement security in Singapore. In order to make progress on a few key issues at the same time, the Committee has set up four task forces, each charged with investigating a specific topic. The four task forces currently active are:

1. Integration of various government schemes for overall Retirement Planning - to review how the various schemes (including MediShield, ElderShield, and CPF Life) are or should be integrated for overall retirement planning.

2. Investing for retirement - to consider the principles and approaches that are appropriate for investment

Keith Walter

New Members

Fellow Membership:

Pauline KHONG Kit Yee, *Towers Watson*

Ken SU, *RGA Asia Pacific*

Gaston NOSSITER, *RGA Reinsurance Co*

Craig FOTHERGILL, *RGA Group*

Stanley LAU Shing-Hei, *Swiss Reinsurance Co*

Gareth JONES, *Towers Watson Risk Consulting*

Ordinary Membership:

ANG Ai Tee Arina, *Prudential Assurance Co*

CHAN Meow Chin, *Prudential Assurance Co*

CHUA Wei Ling Ginny, *Prudential Assurance Co*

topics for presentations and if they would like to run or join a working party with a view to presenting at the conference next year. More formal invitations for the conference (including details like dates and location) to be out soon, so if you have any last minute suggestions that were not included in the feedback forms last year then it isn't too late to send them through.

Other than that, I wish everyone the best in their preparations for the year-end – be that reserving, pricing, broking or dealing with family gatherings

programs for long term retirement planning, comparing the use of different investment strategies in other countries to those typically used in Singapore.

3. Corporate Retirement Plans, including Section 5 Plans – consider possible improvements to the regulatory and tax environment in Singapore for Corporate Retirement Plans.

4. Longevity protection and risk transfer – to consider ideas to manage or transfer longevity risk for insurance companies.

These task forces will report their findings to the Retirement Committee and also to the membership of the SAS for further discussion in the coming months..

JAIN Kapil, *Prudential Assurance Co*

LEE Beng Hui, *Prudential Assurance Co*

LEE Chee Woon, *Prudential Assurance Co*

LEE Hyein, *Prudential Assurance Co*

MOK Li Jin, *Prudential Assurance Co*

TEE Jin Yong, *Prudential Assurance Co*

TSE Ho Yuen, *Prudential Assurance Co*

Student Membership:

YANG Bohan, *Singapore Management University*



News & Articles

• General News

Foreign insurers enter Myanmar market with hope, caution

Reuters, 7 Nov 2012

The world's top insurance firms are setting their sights on Myanmar, steeling themselves for a fight with corruption and ghosts from the nation's political past.

Prudential Plc, AIA Group Ltd and Manulife Financial Corp are among the global insurance giants preparing to enter Myanmar as the government rolls out a framework for the sector's development with the lifting of European and U.S. sanctions.

The opportunities are many. A large population, economic reforms and a natural resources industry could combine to create rising wealth among Myanmar's people. There is also money to be made by general insurers providing cover for the impending boom in construction projects.

"A few years ago everybody needed to have a China story and India as well," said Michael Daly, a director and consulting actuary for the China and Southeast Asia life insurance practice at Milliman Inc. "Now the attention has shifted to Southeast Asia."

Myanmar could produce \$1.6 billion in annual premium revenues, according to Reuters calculations based on economic data and comparisons with neighboring markets. That would be less than 10 percent of what Singapore premiums bring in now, but in line with Vietnam's current insurance market.

With the opportunities come obstacles, including new rules governing foreign insurers that are yet to be tested.

In addition, the country's one sole established insurer - state-backed Myanma Insurance - is guaranteed certain contracts, effectively closing off portions of the market.

Other challenges include competition from a handful of regional players and corruption.

The country's political history may also pose problems for insurers looking to sell products to high net worth individuals who may have ties to the former junta or be on blacklists.

And yet the early enthusiasm among global insurers shows how tough things have become in their home markets and how crucial they see their position in Southeast Asia's growth story.

SOUTHEAST ASIA

Global insurers have had their eyes on Southeast Asia, buying up assets and opening offices in Indonesia, Cambodia, Sri Lanka, Malaysia and Thailand as growth rates in the developing world far-outpaced developed markets.

Premiums in Singapore, Indonesia, Malaysia, the Philippines, Thailand and Vietnam are expected to rise an average of 7.9 percent next year, according to a report by Swiss Re, more than double the global life insurance average.

Myanmar is attractive to insurance executives as its population of nearly 60 million makes it one of the largest in the region. Per capita gross domestic product is also over \$850, near the \$1,000 mark that insurers say is the threshold where individuals begin buying insurance.

Tokio Marine Holdings Inc, Sampo Japan Insurance Inc, Mitsui Sumitomo Insurance Co Ltd and United Overseas Bank Ltd have already established representative offices in Myanmar.

Before nationalization in 1963, there were more than 70 local and foreign private insurance companies in Myanmar.

"Myanmar is an economic rising star," said David Wong, who runs Manulife's Southeast Asian operations



and who travelled to Myanmar this fall as part of a Canadian delegation. "It's not far behind Vietnam."

MYANMAR VS. VIETNAM

Analysts and executives interviewed by Reuters struggled to put an exact dollar figure on Myanmar's insurance market.

Using Vietnam as a model, Myanmar may eventually generate between \$1 billion and \$2 billion in premiums a year, according to a Reuters analysis, based on sources and economic data.

Vietnam last year had a GDP of \$120 billion and generated just over \$1.8 billion worth of premiums. That meant an insurance penetration of 1.5 percent of GDP.

If Myanmar's economy grows 7 percent annually in the next decade - the lower end of the rate estimated by the Asian Development Bank - it will double in size in 10 years' time to over \$100 billion. If its insurance penetration matches or comes close to that of Vietnam, Myanmar could generate around \$1.6 billion in premiums.

Singapore brings in around \$19.5 billion in premiums, the highest in Southeast Asia.

DARK PASTS, LOCAL LAWS

The clearest obstacle for a foreign insurer in Myanmar is corruption.

Transparency International ranks Myanmar as one of the four most-corrupt nations, on par with Afghanistan and only half a point better than North Korea and Somalia.

Rampant corruption would make it nearly impossible for global insurers to run proper background and business checks on policies for individuals and corporations.

Even worse, corruption could get an insurer in trouble if the company backs a person or entity that later becomes a criminal liability, a not-too-distant possibility in a country such as Myanmar.

"Many businessmen with close links to the military are now keen to reposition themselves as business friendly and compliant," said Richard Dailly, managing director at consulting firm Kroll Inc. "However, many of them still appear on blacklists either because of their close link to the regime or their proximity to narcotics production."

Detailed market information is also hard to come by, with debt and equity analysts and ratings agencies yet to begin covering Myanmar's insurance sector. Performing due diligence is difficult, Daly adds.

The laws governing Myanmar's insurance sector are loosely-worded and don't apply to the state's monopoly, though some parts of the law could be attractive to foreign insurers.

Insurers can get licenses from the Central Bank of Myanmar that allow them to write policies in foreign currencies. Other parts of existing laws could prove worrisome.

So far, government officials are saying foreign insurers will be kept at arms-length until around 2015. That's when they will be granted licenses and allowed to do business, the deputy minister of finance and revenue told Reuters in September.

"For those who invest the time and energy and know-how to actually help it develop, those people are going to get a once-in-a-lifetime opportunity," said Ince & Co partner Iain Anderson, an industry lawyer who recently travelled to Myanmar.

New insurance-linked securities fund targets Asian investors

Reuters, 25 Oct 2012

Tokyo-based hedge fund Asuka Asset Management has launched a new insurance-linked securities (ILS) fund with \$40 million of capital, targeting investors in Japan and Asia, the firm said in a statement.

Insurance-linked securities allow insurers, reinsurers or governments to manage their exposure to risks by passing on potential losses to investors via the capital markets. The most common form of ILS is the



catastrophe bond, used by insurers to reduce their potential losses from natural disasters.

Earlier this month, Asuka - which has assets worth about \$800 million - set up a Bermuda-based fund, Eastpoint Asset Management Ltd, to invest in products such as catastrophe bonds.

Asuka and Eastpoint have now formed a second fund together, Asuka ILS Opportunities Fund/Trust, which will invest in a range of ILS products, including cat bonds, industry loss warranties and collateralised reinsurance programmes.

"We are targeting Japanese and Asian investors," said Masahide Kitade, chief executive officer of Eastpoint Asset Management in a statement on Monday.

Asian investors currently hold less than 5 percent share of ILS assets, Kitade said, but are becoming more interested in ILS even though "they have to look across the world to find the best opportunities".

Asuka is one of several hedge fund managers dipping a toe into the reinsurance industry, which effectively provides insurance for primary insurance companies. The sector provides a new source of investment capital, as reinsurers take in premiums and hedge funds manage their investment accounts, collecting fees along the way.

Earlier this month, Third Point Re, a hedge fund backed by big-name fund manager Dan Loeb launched a cat fund with Bermudian insurer Hiscox to underwrite more traditional kinds of catastrophe cover.

Prominent hedge fund managers like David Einhorn, Kenneth Griffin and George Soros have also been involved in reinsurance over the last few years.

The world's biggest reinsurer Munich Re said it was considering launching an ILS fund in September, while rival firms such as SCOR and Hannover Re have already entered into the ILS space with their own funds.

Richard Li's Goal: Pan-Asian Insurer

Wallstreet Journal, 21 Oct 2012

Richard Li, the son of Asia's richest man, hopes to create a new pan-Asian insurance empire partly out of the businesses sold by crisis-stricken Western firms such as ING Group.

The Hong Kong-based entrepreneur laid the foundations for this new insurer Friday by buying ING Group's Hong Kong, Macau and Thai insurance units for US\$2.14 billion in cash.

"We are confident we can continue to offer excellent service and products to existing customers, and develop a strong regional insurance champion to reach many more," Mr. Li said in a statement.

Mr. Li is actively looking at deals in the fast-growing economies of Indonesia and Malaysia to build his budding regional insurer, said a person familiar with his thinking. He already has a management team in place to lead the regional push, the person added. Growth could come via acquisitions from Western companies retreating from the region, as well as through purchases of small local companies and by organic expansion.

Mr. Li's ambitions put him up against global insurers such as Canada's Manulife Financial Corp and Britain's Prudential that are also looking to bulk up in Southeast Asia's fast-growing economies. As an expanding middle class seeks to protect rising living standards, life-insurance premiums in Southeast Asia are expected to increase 6.6% next year, compared with 2.3% growth in the U.S., according to estimates from reinsurer Swiss Re.

Mr. Li, 45 years old, is likely to have little trouble funding the creation of this pan-Asian insurer. His father, Li Ka-shing, detailed his succession plans in May, saying he would give his elder son, Victor, ownership of his global business empire. The patriarch promised Richard Li, the younger son, money to fund new investments.

That funding gives him an advantage over some North American insurers that have struggled to come up with enough capital to win recent battles for assets in Asia as they have shied away from diluting shareholders by selling new stock to raise funds.



Mr. Li's victory in the auction for the ING units gives him a network in Hong Kong to sell general- and life-insurance products as well as pension and financial-planning services to 270,000 customers via 400 employees and 1,600 agents. He is likely to bolster the higher-margin agency sales channel further, said a person familiar with the business. The deal doesn't include the 100 or so people in ING's regional headquarters in Hong Kong, which houses support staff for ING's wider Asian franchise, according to people familiar with the matter.

In Thailand, ING sells life insurance as well as pension products to more than 300,000 customers with 480 staff and more than 4,000 agents. In both Hong Kong and Thailand, ING ranked ninth in terms of market share of premiums written, according to analysts.

HSBC Holdings advised Mr. Li on the acquisition, while J.P. Morgan Chase & Co. and Goldman Sachs Group Inc advised ING.

Mr. Li's latest purchase marks his return to the insurance industry. He previously owned an insurer in Hong Kong called Pacific Century Insurance, which he sold for a profit to Dutch and Belgian financial-services firm Fortis NV in 2007. The business wasn't easily scalable beyond Hong Kong and Mr. Li's group lacked investment products to sell via the insurer.

But in 2010 he bought asset manager PineBridge—then named AIG Investment—for about US\$500 million from American International Group Inc. after the global financial crisis hit the U.S. insurance company and it had to sell assets to repay a bailout package from the U.S. government.

"Last time we were not looking beyond Hong Kong's borders. Now we have PineBridge, we feel much more confident to go back into the life-insurance business but on a regional basis," Mr. Li said in an interview. His new insurer will also sell products from other companies, he said.

Mr. Li has been rebuilding his reputation as a deal maker after failing in repeated attempts to sell all or part of telecom company PCCW Ltd. Late last year, Mr. Li succeeded in listing PCCW's core telecom assets as a business trust, raising \$1.4 billion. The listing took place 11 years after Mr. Li overpaid for Hong Kong's dominant fixed-line telecom provider in a US\$38 billion deal that was then Asia's biggest corporate merger. The company's value is now a fraction of what he paid.

For ING, the sale represents another step in the dismantling of its Asian insurance business. ING agreed to sell its Malaysian life insurer to Asian insurer AIA Group Ltd. for €1.3 billion (\$1.7 billion) earlier this month. ING's bigger but more mature South Korean business likely will be sold to KB Financial Group Inc. one of the country's largest financial conglomerates, according to people with knowledge of the negotiations. An agreement might come before the end of the month, they said.

European regulators made asset sales a condition of ING winning retroactive approval for a €10 billion bailout it received from the Dutch state in 2008.

"This transaction underscores the steady progress we continue to make in our restructuring," said ING Chief Executive Jan Hommen in a statement.



Brain teasers

#1

An airplane flying with constant velocity releases a bomb. What will be the motion of the bomb as seen by the pilot? (neglect wind velocity)

- (1) It will fall vertically below the airplane following a parabolic path.
- (2) It will fall vertically below the airplane in a straight line.
- (3) It will follow a parabolic path and fall vertically below the exact place at which it was released from the airplane.
- (4) It will follow an elliptical path.

#2

If the puzzle you solved before you solved the puzzle you solved after you solved the puzzle you solved before you solved this one, was harder than the puzzle you solved after you solved the puzzle you solved before you solved this one, was the puzzle you solved before you solved this one harder than this one?

Yes or no?

Note: If you have a fun brainteaser that you would like to share, please feel free to email Zi at ZiXiang.Low@milliman.com

Answers for last month's brainteasers:

#1

So we have the fractions

1/2, 1/3 and 1/9

The least common denominator of two or more non-zero denominators is actually the smallest whole number that is divisible by each of the denominators.

Actually, this is the same basic idea behind finding the Least Common Multiple (LCM) for whole numbers (without the fractional parts).

Multiples of 2 are 2, 4, 6, 8, 10, 12, 14, 16, 18, ...

Multiples of 3 are 3, 6, 9, 12, 15, 18,...

Multiples of 9 are 9, 18,...

Note that 18 is the smallest multiple that will do.

So, the wise man knowing basic arithmetic would add his own camel to the original 17, hence making the division easy:

$$1/2 * 18 = 9$$

$$1/3 * 18 = 6$$

$$1/9 * 18 = 2$$

Since the total is 17, the wise man was then able to take back his own camel.

#2

Daughter.