



ACTUARIAL SOCIETY
of
HONG KONG
香港精算學會

Hong Kong Actuaries

Actuarial Society of Hong Kong's Newsletter

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FEATURE ARTICLES:

International Developments in Capital Standards

Update on Hong Kong RBC Developments

Leveraging Solvency II and C-ROSS Experience to Prepare for Hong Kong RBC

COUNCIL UPDATES:

Dual Interview between the Singapore Actuarial Society and ASHK

Revised ASHK Professional Conduct Code

Post-Event Report on ASHK Machine Learning Workshop

Feature Articles:

Updates on Risk-Based Capital

Call for Articles or Views for the next issue of Newsletter

While all articles are welcome, we would especially like to receive articles for the Feature Articles and Knowledge Sharing sections. If you have written any inspiring articles or have read any interesting articles from other actuarial organisation(s), please feel free to let us know. We will try to reprint the article(s) in our newsletter to share with our members. For the above issues, please e-mail your articles or views to Rachel Chu by email at rachelchu@bluecross.com.hk or ASHK Office by email at info@actuaries.org.hk

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Dear Readers,

Welcome to the first issue of the ASHK Newsletter in 2017!

In this issue, we focus on the hot topic of “Hong Kong Risk-based Capital Framework”. As you may be aware, Office of the Commissioner of Insurance (OCI) has commissioned a Consultancy Study on Formulation of Risk-based Capital (RBC) Rules for the Insurance Industry of Hong Kong and formed an Industry Focus Groups (IFGs) for the development of preliminary detailed rules for the RBC regime. We hope our readers can keep abreast of this current topic and get more insight from various aspects with our updates.



It is our honour to have contribution from Mr. Chris Hancorn, Partner of PricewaterhouseCoopers; Mr. Peter Duran, Chairperson of the ASHK RBC Taskforce and Mr. Tze Ping Chng and his team, Ernst & Young Actuarial & Insurance Advisory Services (the names listed in alphabetical order). Mr. Chris Hancorn will talk about the international standards and what it will mean for Hong Kong insurers. Mr. Peter Duran will provide us with an update on the development of Hong Kong RBC and the latest contribution of ASHK RBC Task Force in IFGs. Mr. Tze Ping Chng and his team will compare C-ROSS, Solvency II against current HK solvency regime and highlight what are the possible impacts to Hong Kong insurance industry from the new Hong Kong RBC.

In March and April 2017, we held evening talks on “Hong Kong RBC” with overwhelming response. Thanks for your participation. In the coming year, we will have lots of events coming up for our members. Hope you enjoy the events of ASHK and this issue of newsletter. Happy reading!

Best regards,
Rachel Chu
Editor

Council and Statutory Path Committee – Kevin Lee,
Dicky Lam and Ka-Man Wong

ASHK Strategy Day, 28 March 2017

The Council's annual strategy day was successfully held in late March with the support from the Strategy & Statutory Path Committee [particularly Mr. Roddy Anderson, ASHK Past President (Year 2006) and Committee member] in putting together the agenda. The day enabled Council to gather in a less formal setting allowing for more productive and open discussion of strategic issues.

Performance against membership statistics and planned development for 2016 as well as the 3-year financial projection were reviewed. To ensure Committees' plans are conducted effectively and align with the mission statement that was first introduced in 2016, all of the Committees had been asked to update their Terms of Reference and Council agreed to implement a clearly-defined scope, purposes, powers and deliverables for each Committee.

During the course of discussions, Council also covered issues like the progress on statutory project associated with local examination, organisation of Asian Actuarial Conference and the 50th Anniversary of the ASHK in 2018 where considerable works need to be done in the foreseeable future.



Health Committee – Sam Yeung

ASHK Health Committee Chairperson interviewed by TVB Pearl Programme “Money Magazine”

The Committee Chairperson Mr. Sam Yeung was interviewed by TVB Pearl Programme “Money Magazine” regarding views on insurers offering wellness programme (e.g. smartphone app & reward programme and genetic tests). The programme was broadcasted on 24 March 2017.



International Committee – Sam Yeung

Dual Interview between the Singapore Actuarial Society (SAS) and the Actuarial Society of Hong Kong (ASHK)

Reported by Flora Chan, International Committee Member. With special thanks to Mr. Matthew Maguire, President of the Singapore Actuarial Society and Ms. Ka-Man Wong, Immediate Past President of the Actuarial Society of Hong Kong

The ASHK International (Asia) Committee is established with the objective to keep our ASHK members informed of significant developments in the actuarial profession in Asia through liaison with other professional actuarial bodies in Asia, in particular regulatory and policy changes, market news and career opportunities. We are bringing to you articles about our connections with various Asia actuarial societies as the Committee connects to each of them. Flora Chan (FC), member of the International Committee, conducted a two-way interview with Mr. Matthew Maguire (MM), President of the Singapore Actuarial Society and Ms. Ka-Man Wong (KMW), Immediate Past President of the Actuarial Society of Hong Kong to enhance the mutual understanding of the actuarial bodies in these two cities.

FC: *Thank you Matthew and Ka Man for your time today for our two-way interview. The purpose of the interview is to enhance mutual understanding of the two actuarial bodies, and to explore potential areas which our two societies can work together in the future. Let's start our conversation by a brief introduction of the ASHK and SAS, as well as some of the key initiatives of your society.*

KMW: The ASHK has over 1,050 members working in the fields of life, health, risk management, pensions and non-life. The work of the society is supported by volunteers working in various committees.

In recent years, ASHK has a vision to expand its presence in Asia given the importance of Hong Kong as a central hub for insurance. With many of the Hong Kong members are working outside of Hong Kong or in regional offices, ASHK is looking to expand the scope to also cover Asian matters, and to expand our connections with our counterparts in Asia.

Currently the ASHK is not a statutory body but focuses on upgrading the professional standards in the next few years, enhancing CPD requirements and preparing local examinations so as to be on par with other statutory bodies in the region. We are also working closely with the new Independent Insurance Authority to explore ways to improve the governance of Appointed Actuaries practising in Hong Kong.

Furthermore, we are launching the Young Actuaries Scheme, offering events such as study groups, mentoring and tutoring, with the goal to attract new blood to engage in the industry and profession.

MM: The SAS is a non-examining body with around 1,000 members and membership is more skewed towards Fellow members, but there are also many full-time university students who join the SAS for networking purposes.



▲ Mr. Matthew Maguire
SAS President



▲ Ms. Ka-Man Wong,
ASHK Immediate Past
President

International Committee – Sam Yeung

Dual Interview between the Singapore Actuarial Society (SAS) and the Actuarial Society of Hong Kong (ASHK) - *continued*

In order to be able to sign off in Singapore, the regulator has required the Appointed Actuary or Certifying Actuary to be a member of the SAS. The SAS issues a few Guidance Notes in the life and non-life insurance areas. In order to be a Fellow member of the SAS, the actuary has to be a Fellow member of one of the actuarial bodies – Actuaries Institute Australia, CAS, CIA, IFoA, SOA or other actuarial bodies in which a special application would be required.

A main remit of the SAS is around educating the actuarial profession. Events such as afternoon talks and conferences are held throughout the year for networking and CPD. For example, the SAS organises four major conferences a year for each major field – ERM, general insurance, life, and health & retirement.

FC: *Can you give a brief background on the Singapore and Hong Kong insurance industry? What are the current key hot topics in the market?*



MM: One of the key differences between Singapore and Hong Kong is that Hong Kong is a regional hub for life insurance where Singapore seems to have become a regional hub for general insurance. For the last 5 years, there was also an influx of reinsurance companies setting up regional offices in Singapore. On the life insurance side, there have been a number of hot topics on the management of Par funds. On the health insurance front, Singapore has a quasi-national health insurance scheme (MediShield) administered partly by the private sector. There have been some changes over the last 5 years with the government pushing quite hard for a whole nationalised health insurance scheme.

KMW: On the life side, the regulator has been keen on improving transparency of disclosure to customers. A guidance note which regulates the disclosure and policy illustration of participating products was issued to ensure the sales process is fair and open to customers. The ASHK has been heavily involved in the process, such as the approach in calculating and determining a fair and balanced interest rate used in the illustrations.

For both life and general insurance, an upcoming hot topic is the new RBC regime. Hong Kong has been under a Solvency I regime for many years. The government has issued a consultation paper on RBC and a Quantitative Impact Study is carried out in 2017 for further industry discussion. ASHK is playing an important role in the consultation process, and works closely with the Hong Kong Federation of Insurers (HKFI). Hopefully the new regime will be in place in 2019 or 2020.

On the health front, there is a proposal from the government on a voluntary health insurance scheme. The insurance industry and medical profession have been giving views on the consultation. We are waiting for the new regulation to be framed after the consultations.

MM: On local solvency side, the Singapore government introduced the RBC regime in 2006. About 4 years ago, they embarked on the discussion of RBCII, with the last QIS rolling out in Q3 2016. The process has been delayed partly because Singapore did not want to be too far ahead and wanted to be in line with the RBC developments in the region. The other area of focus in the last few years has been personal data protection, in particular for the life insurance industry in how they deal with personal data.



International Committee – Sam Yeung

Dual Interview between the Singapore Actuarial Society (SAS) and the Actuarial Society of Hong Kong (ASHK) - *continued*

FC: *Both markets have similar key topics on the solvency regime and health insurance. It is definitely useful to enhance information sharing between our two actuarial societies, and is certainly one of the International Committee's objectives. Moving on, can you give an overview about the market dynamics of the industry?*

MM: In the general insurance space in Singapore, the market is dominated by offshore business rather than onshore business. If we split them up, the onshore business is dominated by 4 to 5 big companies of which one is local and the rest foreign (e.g. French, Japanese). On the life side, the majority of companies are foreign, with only one big local player in the market.

KMW: I will focus on the life landscape. Hong Kong used to be dominated by foreign players (e.g. French, British and American). Lately there are a few giants which are local family players that have set up regional and group offices and head offices in Hong Kong. The more interesting dynamics is that we are seeing more venture capital companies or banks from China coming recently to buy the insurance arm of conglomerates. In the past 12 months, we saw a few mega sized acquisitions involving Chinese companies at very high transaction prices. I can see this trend coming as there are more mainland Chinese investors interested in the Hong Kong market especially in the insurance business.

MM: The Singapore market has not seen much M&A activity over the last few years. There have been lots of entry of reinsurers on the general insurance side in Singapore. One exception would be a relatively small health insurer that was bought by a Hong Kong company and converted into a life license as they are looking to expand into the market.

FC: *What are your society's medium and long term goals within the local market and beyond?*

KMW: One of the short to medium term goals of the ASHK is to become a statutory body in Hong Kong. Currently there is no requirement for Appointed Actuaries to be based in Hong Kong and we cannot force actuaries who take on the Appointed Actuaries role to be our members. To get around this, we need to set up a local examination criteria and to become a statutory body. We strongly feel it is necessary for Appointed Actuaries signing off Hong Kong statutory returns to be governed by our guidance notes. Becoming a statutory body would ensure strong governance of the profession as a whole, enhancing the performance, quality and reputation of actuaries practicing in Hong Kong.

MM: The SAS introduced the concept of a practising certificate in 2015. Previously in order to sign-off for life or general insurance statutory returns in Singapore, you need to be a Fellow member of the SAS, and the local regulator (MAS) would have the final say as to whether or not the actuary would be approved to sign-off.

Like the ASHK, there are members with regional roles as well as Appointed Actuaries who are Fellows but not based in Singapore. To help ensure that these actuaries are keeping up-to-date with the local regulations, the SAS introduced the concept of practising certificate which is something the ASHK could consider. It is a one day seminar with the regulator representative covering their expectations of the Appointed Actuaries, and some speakers to cover ethics and professionalism matters. Actuaries with sign-off duties need to attend the seminar once every three years.

KMW: After securing the practising certificate, does it mean the actuary will be mandatorily subjected to all the guidance notes issued by the SAS?

MM: The actuary needs to show the practising certificate to the MAS to prove that he/she has understood and is aware of the local regulations and conditions. Unless the actuary has the practising certificate, the actuary would not be approved by the MAS to be the Appointed Actuary. As for the aspirations of the SAS regionally, we are looking to help develop the actuarial profession in the ASEAN region. For example, SAS members made a trip to a conference in Myanmar with the aim to provide help in developing the local profession.

International Committee – Sam Yeung

Dual Interview between the Singapore Actuarial Society (SAS) and the Actuarial Society of Hong Kong (ASHK) - *continued*

FC: In your view, what are the key risks that insurers are facing at the moment?

KMW: First of all it is related to the digital space. Many companies are thinking of transforming themselves into digital players. As the industry grown in the past decade due to the expansion of the bancassurance channels, many players are considering to use the cloud system and digitizing the sales platform of traditional channels. One of the key challenges faced is whether the insurers are aware of the risks related to policyholder privacy and IT security issues.

Another risk is related to the mainland visitors. In recent years, many products are sold to mainland Chinese visitors who come to Hong Kong, and this generated a large volume of business for some of the big players in Hong Kong. Should the Hong Kong and Chinese regulations change, new business growth would be greatly affected.

The third risk is about retaining talents in the market, which is why we have set up the Young Actuaries Scheme. We noted that there are many new comers to the actuarial profession who are involved in non-traditional areas like finance, risk management and capital asset management. Actuaries today are no longer just number-crunchers, but can also be found working in product roles, front line and CFO roles. As actuaries are taking more responsibilities for the general public, how we represent actuaries, how we ensure that our members are aware of Hong Kong guidance and regulations and how we ensure our members maintain international standards and uphold the reputation of the actuarial profession, are the issues we as a profession are concerned about.

MM: Echoing some of Ka Man's points, cyber risk is a hot topic for the local regulator. The MAS has introduced a stress-testing requirement on cyber risk and has been pressing companies to test their systems to make sure they are aware of the risks.

On the product side, general insurers continue to face competitive pressure on premium rates, while there is a product shift to protection products as investment products loses their attractiveness due to the prolonged low interest rate environment. Some legacy policies have substantial guarantees or implied rates which would lead to lapses if they fail to meet premium requirements. These are some of the key challenges faced by the insurers in Singapore.

FC: To wrap up our discussion today, what do you think we can do to improve the collaboration between ASHK and SAS going forward? What are the potential things we can collaborate to improve information sharing among our members?

KMW: Would actuaries in Singapore be interested in working in Hong Kong? I know of many Hong Kong actuaries who work in Singapore, so information such as local requirements, industry landscape, career opportunities etc., would be something that our members would be interested in.

MM: Since most of the life regional offices are happening in Hong Kong, life actuaries may find it attractive to work in Hong Kong, and vice versa for general insurance in Singapore. Also, for actuaries in a regional role, either in Hong Kong or Singapore, they will be interested to find out what is happening in the region.

Hong Kong is very much north Asia focused whereas Singapore is Southeast Asia focused. There is a lot going on in general insurance in China, so general insurance actuaries in Singapore who are interested in the Chinese market may aspire to a career in Hong Kong. The two cities have different focus and different areas of specialty and there is certainly interest among members in sharing information among the two cities.

KMW: As a first step, we can encourage our members to join each other's events.

MM: Also, we should make sure that the International Committees of SAS and ASHK know their counterparts and try to engage in more frequent dialogue. We can continue to think how to develop the relationship.

FC: Thank you all for taking part in this two-way interview. It is a very useful conversation to kick-start the collaborative relationship with the SAS and ASHK.

Life Committee – Sai-Cheong Foong and Simon Lam

Consultation on “Notice for Appointed Actuaries: Chapter 41E - Reinvestment Yield for Reserving”

From 2009 to 2015, the Office of the Commissioner of Insurance (OCI) issued circular notes on reinvestment yield for reserving in which it stated that: ASHK’s recommended approach (the sample approach and parameters) may be adopted for determining the reinvestment yield in the actuarial valuation reports in respect of financial years up to 2016. Administrative experience gathered in those years shall be reviewed with regards to the evolving interest rate environment with a view to determining the robustness of the approach for the purposes of the Regulation.

In April 2017, the Life Committee conducted another review of the approach and sought views from members (specifically from Appointed Actuaries, consultants and audit firms) by 5 May 2017. Taking into account the feedback received, the Committee concludes that the approach remains robust and valid and will set up a meeting to discuss this with the Insurance Authority.

Professional Matters Committee – Peter Duran

Revised Professional Conduct Code (Effective 1 June 2017)

In January 2017, the Professional Matters Committee circulated a draft revised Professional Conduct Code to members for consultation. A summary of the feedback received and the Committee’s conclusions is set out below:

- A member recommended that the code of conduct should only apply to Fellow members, not Associates. The Committee noted that the Associates are regarded by the ASHK and by major overseas Actuarial bodies as professionals, being required to complete a professionalism course prior to being awarded Associateship and subject to on-going CPD requirements. Hence the Committee decided to make no change to the draft Code in relation to this point.
- A member recommended that the second bullet point of paragraph 4.2.2 of the draft Code be expanded to cover member actions which adversely affect principals or the public, the reason being to avoid creating an impression that the profession is focused solely on its own benefit. The Committee observed that there are other sections of the Code which cover the profession’s responsibilities and standards of conduct in relation to the public and to principals. The Committee decided to make no change to the draft Code in relation to this point.
- A member observed that paragraph 7.2.4 may be misinterpreted and may, in any event, be redundant because it is already covered by the general principle of confidentiality. The Committee agreed with this point and decided to remove paragraph 7.2.4 from the revised Code.
- A member recommended to revise the first bullet point of paragraph 8.2.1 to make reference to communication being “appropriate in content, format and channel”. The Committee felt that the current elaboration is sufficient and hence decided to make no change in regard to this point.
- A member recommended that the Code include an explicit requirement of competence. The Committee agreed to change paragraph 4.2.1 of the draft Code to read: “A member shall perform his/her duties with reasonable skill, competence and care.”



The Committee would like to thank the respondents for their thoughtful comments.

The revised Professional Conduct Code will become effective 1 June 2017. A copy of the revised Code can be downloaded from the ASHK website at www.actuaries.org.hk (Professional Standards & Actuarial Guidance Notes > Professional Conduct Code).

Risk-Based Capital Taskforce – Peter Duran

Views on Risk-based Capital Development Process in Hong Kong

The ASHK has taken collaborative approach with the OCI on the development of the specifications for first Quantitative Impact Study (QIS1) for the future revised RBC framework. Consisting of 24 members in both life and general insurance, the ASHK's RBC Taskforce serves on all the four Industry Focus Groups (IFGs) established by the OCI and offers detailed written responses to all the questions posed during all IFGs.

Recently, the OCI has issued complete technical specifications for Pillar 1 General Insurance and specifications for the solvency balance sheet for Pillar 1 Life. ASHK has submitted detailed comments to the OCI highlighting major comments on some of the most important aspects of the QIS for Pillar 1.

Strategy & Statutory Path Committee – Dicky Lam and Ka-Man Wong

Views on Independent Insurance Authority's Draft Updated Guidelines on "Fit & Proper" Criteria (GL4)

The Independent Insurance Authority (IIA) has recently conducted consultation on a set of proposed guidelines of proper conduct for anyone engaged in regulated activities.

The Committee has submitted a response advocating the IIA to include as an additional requirement to be regarded as "Fit and Proper" the Appointed Actuary should be a Fellow member of the ASHK in conjunction with the overseas actuarial qualifications presently listed. The ASHK is of the view that it there is a public interest in having a local body such as the ASHK responsible for supervising the profession in Hong Kong.

To Whom do the ASHK's CPD Requirements apply?

The CPD Requirements apply to **all non-retired Fellow and Associate members of the ASHK**:

- For **Fellow Members WITH a statutory role in Hong Kong** (e.g. Appointed Actuary, Pensions Actuary, General Insurance Reserve signing Actuary), the minimum requirement is 30 hours per calendar year. There must be at least 20 hours in the member's main practice area (of which at least 10 hours should be gained at external events and at least 6 hours must be Hong Kong specific) and 2 hours of professionalism.
- For **other Fellow Members and Associates**, the minimum requirement is 20 hours per calendar year. There must be 15 hours in the member's main practice area and 1 hour of professionalism.

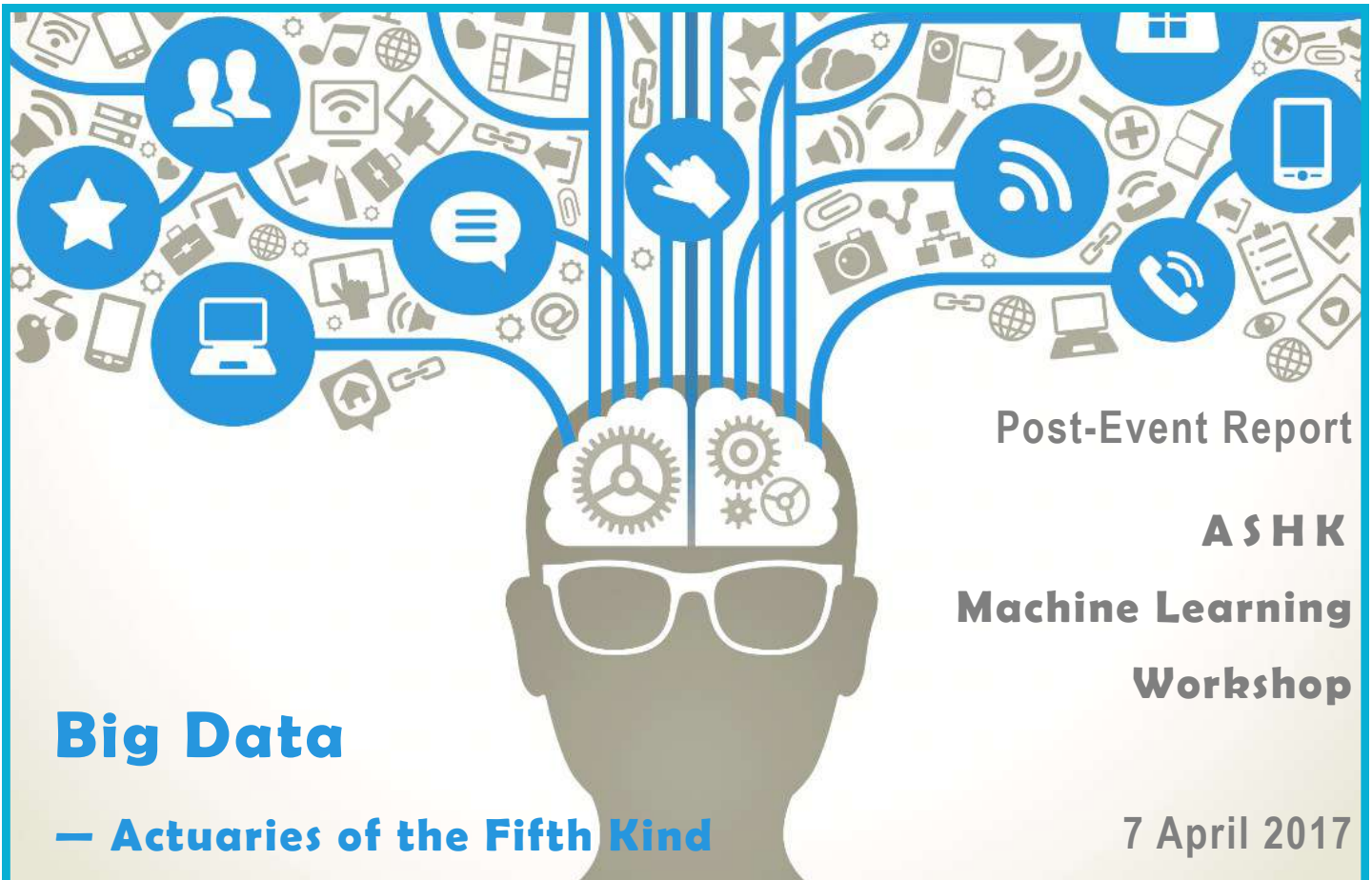
Check the details by referring to the CPD By-Law and FAQs at the ASHK website at www.actuaries.org.hk (Professional Standard & Actuarial Guidance Notes > ASHK By-Laws / CPD Declaration Form).

Submitting a CPD declaration is an annual requirement for ASHK members (by 31 December of each calendar year). To support members to meet the CPD requirements, please find out latest CPD opportunities on Page 30 of this newsletter.

Meanwhile the ASHK is now conducting a CPD random audit and would be grateful for members' cooperation in this matter.

FIND OUT LATEST CPD OPPORTUNITIES ON PAGE 30





Post-Event Report

ASHK

Machine Learning

Workshop

Big Data

— Actuaries of the Fifth Kind

7 April 2017

'Big data' is probably one of the hottest topic at actuarial seminars in recent years. It is becoming increasingly important for actuaries, and said to be the main focus area for actuaries of the fifth kind. ASHK identifies big data and analytics as exciting new areas of focus for the actuarial profession. On 7 April 2017, ASHK hosted its first Machine Learning Workshop.

About the Machine Learning Workshop

ASHK Non-Life Committee invited Mr. Colin Priest, Director, Customer Success, APAC of Data Robot, who is at the forefront of the expertise, to share diverse machine learning tools and techniques to deal with big and unstructured data with the workshop participants. The main learning objectives of the workshop are:

- ◆ Understand fundamental differences in modelling paradigms under normal data and big data
- ◆ Gain knowledge of how to apply simple model types in R with basic mathematical understanding
- ◆ Ability to choose between models, set up models, analyse results, and make modelling decisions

<p>Actuaries of the First Kind 17th century: Life insurance, Deterministic methods</p>
<p>Actuaries of the Second Kind Early 20th century: General insurance, Probabilistic methods</p>
<p>Actuaries of the Third Kind 1980s: Assets/derivatives, Contingencies Stochastic processes</p>
<p>Actuaries of the Fourth Kind Early 21st century: ERM</p>
<p>Actuaries of the Fifth Kind Second decade of 21st century: Big Data</p>



▲ Mr. Colin Priest (Standing), an Australian actuary with more than 25 years of experience in general insurance, Director, Customer Success, APAC of Data Robot, shared his expertise on the new trend of actuarial science: Machine Learning.

ASHK Machine Learning Workshop

During the Workshop



▲ More than 60 actuaries with Life, GI or Health backgrounds participated the full-day workshop held on Friday, 7 April 2017.



▲ It was a very hands-on workshop where the participants used the "R" modelling software to build a number of predictive models using machine learning techniques.



▲ Ms. Trinity Pong, ASHK Council Member & Non-Life Committee Chairperson presenting souvenir to Mr. Colin Priest, Guest Speaker

Special Thanks



- ◆ Singapore Actuarial Society Big Data Workshop Party which developed the workshop and presentation materials;
- ◆ Deloitte Hong Kong Office which offered the meeting venue and facilities;
- ◆ Facilitators (Mr. Frankie Chan, Mr. David Menezes and Mr. Colin Priest) and Organising Committee / Non-Life Committee of the ASHK (Mr. Hillman Hsu and Ms. Trinity Pong) who brought the workshop to Hong Kong; and
- ◆ All participants who took part in the event!

Participants' Feedback



4.4 / 5

Participants rated the workshop overall 4.4 out of 5 stars and expressed their satisfaction on the workshop. Below are some of the participants' testimonials recorded from the workshop evaluations:

'The workshop offered a practical approach to getting started with Machine Learning, starting with linear models and going all the way to Random Forests and Gradient Boost Machines. Although scary at first, the journey was smooth and lively. Hands-on "pop quizzes" kept our attention on the discussion and offered ways to apply our new knowledge. I sincerely hope there will be a follow-up workshop on text mining!'

— Anna Baburina of Conning

'A very practical workshop in machine learning that got the full house of actuaries' hands dirty in writing R programs for building and evaluating predictive analytics algorithms. It was fascinating to exchange ideas with actuaries from various practices and backgrounds on the use of these non-traditional techniques to triage claims and predict customer behaviour, among other countless uses of machine learning. A must-attend event for actuaries looking for "upgrading" themselves to the "latest generation"!'

— Taylor Chan of Manulife

'This course provided an excellent introduction to machine learning for actuaries as R and R studio are available on-line for free. The facilitator has demonstrated his full-competence in mastering the R language and relevant techniques. He was very knowledgeable and provided useful answers to the curious actuaries in comparing the differences between traditional statistics approaches versus machine learning techniques (e.g. principal component analysis vs. classification and regression tree). I highly recommend any interested actuaries to join such workshops and hope that this kind of workshops could be organised more frequently.'

— Kam Leung of Hannover Re

What's Next ?

Many participants of this workshop expressed their strong desire to join a follow-up workshop on **Text Mining**, which is the process of deriving high-quality information from text. ASHK will continue to present more big data and analytics events to expand the reach of actuaries in these new practice areas.

The ASHK looks forward to members' continuous support to this initiative!



International Developments in Capital Standards

The development of RBC regulations for Hong Kong insurers takes place in the context of evolving international regulatory capital standards



Chris Hancorn
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The development of Hong Kong's RBC framework is one of the most significant regulatory changes ever made for Hong Kong-regulated insurers. It will have far-reaching impacts on the financial management and business strategy of Hong Kong insurers and on how they are supervised.

For insurers that are headquartered in Hong Kong and write most of their business in Hong Kong, the impact is likely to be significant given the fundamental changes in the measurement basis for reserves and capital requirements. For multi-national insurers which are already subject to other capital standards applying across their business, such as Solvency II or C-ROSS, the effort required to implement the new framework and the strategic impacts could be somewhat less significant – there are expected to be similarities in the new Hong Kong regime to other risk-based solvency regimes, though the detailed rules will determine just how much of an operational and financial impact there is to insurers already subject to those regimes.

Regulation of international insurance groups is complex

As was clear from the Hong Kong Insurance Authority's 2014 consultation paper, the regulation of the capital requirements of insurance groups that operate across multiple regulatory jurisdictions is complex. While it will be important to reflect the specific features of Hong Kong businesses in the new regime, the treatment of such groups must look wider to other regimes.

This question of group-supervision of capital requirements is a worldwide issue for insurance regulators, and, since the 2008 global financial crisis governments have been determined that the increasing internationalisation of insurance business is made more resilient to systematic shocks.

One of the responses to this challenge is the development by the International Association of Insurance Supervisors (IAIS) of the global insurance capital standard (ICS) and the common framework for the supervision of internationally active insurance groups (also known as ComFrame). The ICS specifically is a development that the Hong Kong Insurance Authority – along with internationally active insurers based in Hong Kong (as well as international groups around the world) – is watching extremely closely.

The development of the ICS arises from the G20's push for a more harmonised, risk-based framework for international capital regulation within the insurance industry worldwide, which mirrors its approach to banking in the wake of the global financial crisis.

While the G20 and Financial Stability Board (FSB) have delegated the development of new supervisory accords and capital standards to the IAIS, they are keeping a close eye on progress. And while the IAIS does not have the authority to make individual countries implement the new regulatory standards, it can rely on pressure from the G20 to make change happen, if it has not already taken place at a local or regional level.

Packed agenda

The IAIS has a packed agenda at present, which includes the following prudential regulatory developments:

- Further updates to the common framework (ComFrame) for the supervision of internationally active insurance groups (IAIGs)¹, with further public consultations expected during 2017
- Ongoing updates to a range of the IAIS Insurance Core Principles (ICP)
- Work on the integration of the ComFrame within the ICPs
- Ongoing developments and field testing of the risk-based International Capital Standard (ICS) for IAIGs and the completion of version 1.0²
- Ongoing developments in recovery and resolution planning (RRP), including the IAIS Resolution Working Group and draft RRP provisions in ComFrame

On top of this, a new Secretary General (Jonathan Dixon) will begin in November this year and the IAIS will have to contend with the loss of some key personnel in the Secretariat.

Given these developments, and the RBC developments in Hong Kong and other Asian markets, it is therefore little wonder that two thirds of the insurance leaders taking part in our latest Annual Global CEO Survey see overregulation as a threat to their growth prospects, more than any other sector in the survey, including banking.³ At some point though, focus will shift from regulatory developments to supervision and enforcement as the policy makers assess how their new rules are being implemented.

Global regulation for a globalised sector

So why does international regulation matter? With the exception of the EU, insurance regulation is and will continue to be a primarily domestic matter. But this is also an increasingly global market. For example, AIG operates in more than 100 countries worldwide.⁴ The top 25 EU-based insurers generate nearly 60% of their revenue outside their home territory, much of it in the US and, increasingly, fast growth Asian markets.⁵ In turn, a number of large emerging market groups are looking to develop a global footprint.



Some within the industry believe that the move to an agreed risk-based system under the ICS would make capital management across an IAIG more straightforward and reward effective risk management. They also believe it could improve comparability and make it easier for IAIGs to develop and market common products across different territories. As many of today's formulaic solvency systems are accompanied by tight controls on product design and investments, the ICS may in turn provide a catalyst for greater commercial freedom.

But harmonisation and change in international capital regulation could also have significant implications for both the level of capital requirements and how easily funds can be moved around groups. For example, how would multinational insurers with Hong Kong operations manage the international versus local capital requirements? Are there areas of the business that could become more capital-intensive or even unviable under the new regime? The potential for divergence from the Hong Kong developments, and for unintended consequences, is a significant risk to the industry.

Uneasy compromise

The big question is what this final harmonised international framework will look like and how it will be adopted by the Hong Kong Insurance Authority and other regulators around the world. One complication is that the search for equivalence and ongoing discussions regarding the 'covered agreement' between the US and Europe highlight the conceptual and philosophical differences between the US and other markets, including Asia, around the valuation approaches adopted by regulators. The variance in view has necessitated two very different proposed approaches

¹ The IAIS defines an IAIG as an insurance group that has total assets of at least US\$50bn or gross written premium of at least US\$10bn of premiums written in three or more jurisdictions (on a rolling three year average basis), and at least 10% of the group's total gross written premium is written outside the home jurisdiction.

² From 2019, G-SIIs will be expected to hold qualifying regulatory capital that is not less than the sum of the required capital amounts from the BCR and HLA. For an overview of the workings of the BCR and HLA see the FAQ section on the IAIS website (<http://iaisweb.org/index.cfm?event=getPage&persistId=9F7EACC2155D89A406627C6FDB286103#>)

³ PwC's 20th CEO Survey – key findings from the insurance industry – <http://www.pwc.com/gx/en/ceo-agenda/ceosurvey/2017/gx/industries/insurance.html>

⁴ About AIG (<http://www-154.aig.com/en/about-us>)

⁵ Cross-border insurance in Europe, Duisenberg School of Finance, 2014

for the valuation aspects of the ICS from the IAIS, though it eventually plans to bring the two together. The risk is that in seeking to bridge the divide, the eventual ICS will be an awkward and difficult to apply compromise, or necessarily pitched at such a high level as to have little practical impact or value.

Further questions centre on how to make sure that the ICS fits both mature markets, as well as the fast-growth markets prevalent here in Asia. Some less well-resourced national supervisors may not be equipped to implement and oversee a highly sophisticated risk-based system. Given the double-digit market growth and often highly volatile equity markets in many emerging markets, fixed point in time solvency evaluations can give a distorted view of the capital requirements. Could stress testing address this and can we expect it to be a feature of the ICS?

The search for consensus

The IAIS developments for prudential regulation broadly fall into two main strands (excluding developments around the ICPs). One relates to the nine designated global systemically important insurers (G-SII) and the other to the some 50 IAIGs. However, experience of comparable developments in banking suggests that regulations developed for global systemically important institutions can soon trickle down to their national systemically important counterparts, and eventually the market as a whole.

Through a combination of more sophisticated and focused capital standards, recovery and resolution plans (RRPs) and enhanced supervision, the IAIS wants to ensure that G-SIIs have a combination of sufficient capital cushions and well-developed scenario analysis and response plans to manage the impact of a severe economic event. The capital aspect of this vision, the HLA and BCR, is expected to begin to be reported (in private) to group supervisors on an annual basis from 2017 onwards. RRPs (the 'living wills' required by insurers to ensure an orderly wind-up) are already well established in the majority of the G-SIIs and several other IAIGs. Several regulators around the world are also looking to introduce rules around RRPs for their own domestic markets.

ICS aims

The ICS is designed to improve comparability of outcomes across jurisdictions. The IAIS wants it to foster mutual understanding and increase confidence in cross-border analysis of IAIGs among group-wide and host supervisors.

Once finalised and agreed, the ICS will be a measure of capital adequacy for IAIGs. The ICS will be the minimum standard and one which the supervisors represented in the IAIS are expected to implement in their respective jurisdictions (implementation issues are still under discussion). Supervisors will have the option to adopt additional arrangements that set higher standards or higher levels of minimum capital to the IAIS ICS.

Competing approaches

There are currently two proposed approaches for the ICS framework:

1. Market-adjusted basis

A market-adjusted approach broadly comparable to Solvency II, in which some major parts of the balance sheet, including long-term life insurance liabilities, would be revalued and most margins transferred from reserves to capital.

The approach has the virtue of being broadly in line with the economic capital modelling used by many G-SIIs and IAIGs.

Insurers headquartered in the EU would see little change from this proposed basis for the ICS compared to Solvency II, though EIOPA has signalled its readiness to make adjustments to Solvency II in the future if necessary. There are also some concerns within Europe over whether the IAIS measures would sufficiently address macro-prudential risks, including measures to reduce procyclicality.⁷

Meanwhile, some insurers and the Insurance Authority in Hong Kong and other Asian markets will face considerable operational challenges in bringing their capital reporting systems and processes up to speed with a risk-based ICS. This includes the development and embedding of sophisticated risk and capital modelling capabilities and the supervisory scope and expertise to oversee them. But given the growing level of cross-border business and M&A in Asia, there may be advantages to a more harmonised model across this region, including bringing solvency systems into line with the giant Chinese market, which under C-ROSS has some comparable features to the proposed ICS standards.

⁶ IAIS presentation to IAIS Capital, Solvency and Field Testing Working Group, Singapore, 11 March 2016

⁷ Report on systemic risks in the insurance sector, European Systemic Risk Board, December 2015 (http://www.esrb.europa.eu/pub/pdf/other/2015-12-16-esrb_report_systemic_risks_EU_insurance_sector.en.pdf?a1fd7fedf064241eb7f3b3304c7d691b)

The C-ROSS regime seeks to address some of the asset price volatility and pace of growth in the market through modifications to the yield curve and basing solvency evaluations on a three-year average. As the risk-based system opens up greater flexibility in pricing and investments, insurers face the challenge of how to strengthen risk management. For managers who've been used to the fixed prices and conservative investment strategies dictated by regulation, the greater flexibility ushered in by C-ROSS also highlights the shift in mind-set needed to build key risk indicators into decision making, and align capital and financial considerations within a risk-adjusted view of performance.

At a time of sustained low and even negative interest rates within mature markets, many insurers are concerned about the impact of the balance sheet rules on guarantees and other long-term liabilities. The move to Solvency II in the EU highlighted the capital impact on these types of products – hence the need for the long term guarantee package⁸ to iron out some of the balance sheet volatility and ease the transition into the new regime. Japan is one of the countries that is looking to update its solvency system following an earlier review of its application to the applicable ICPs. The treatment of the duration gap and other adjustments within the system are likely to provide an important marker for how regulators and insurers address the vexed issue of guarantees.

2. GAAP+ basis

The US National Association of Insurance Commissioners (NAIC) has reservations about a market-adjusted framework. The IAIS has responded to NAIC concerns through a second proposed framework, known as 'GAAP +' which would use GAAP accounting values for the opening balance sheet, but would project cash flows on an economic basis thereafter. By avoiding revaluation, GAAP+ would largely negate the potential capital 'shocks' for long-term liabilities.

The industry within the US is more equivocal about ICS than their regulatory community. Some insurers have misgivings over the impact on the opening balance sheet, while others see an opportunity to develop a more consistent approach across their international operations.

The third and highly influential stakeholder is the Federal Reserve, which faces the challenge of how to reconcile its international responsibilities as a member of the FSB with the practical need to align domestic prudential regulation with its Comprehensive Capital Analysis and Review (CCAR) programme. The Federal Reserve is likely to have the final say over both the timing and nature of the eventual response to the IAIS developments within the US. And there's unlikely to be any resolution until legal challenges over the systemic risk designation are resolved. Further procedural hurdles could come from proposed legislation that would increase the requirements for public notification, review and approval of international insurance regulations impacting the US market.

Developments ahead

ICS Version 1.0

The next milestone (ICS Version 1.0, adopted by June 2017) is the imminent delivery of an ICS for confidential reporting purposes, which would be based on the two identified valuation approaches and a standard method for calculating the ICS capital requirement.

Upon completion of ICS Version 1.0, there are plans to consider other methods of calculation of the ICS capital requirement. Notably, this includes the use of internal models (partial or full), external models or variations of the standard method.

The IAIS wants all IAIGs to participate in the 2017 round of field tests. To maximise the input, group-wide supervisors will be encouraged to identify IAIGs in their jurisdiction and require them to participate.

ICS Version 2.0

The next milestone (ICS Version 2.0, to be completed by 2019) is the delivery of a more complete version of the ICS, which is ready for implementation by supervisors. ICS Version 2.0 may still include the two valuation approaches, but would aim to reduce differences in valuation. It may also allow for both the standard method for calculating the ICS capital requirement and other methods of calculation including the use of internal models (partial or full), external models or variations of the standard method (subject to ongoing discussions in these topics).

⁸ Solvency II long-term guarantee package, PwC, 2015 (<http://www.pwc.co.uk/assets/pdf/olpapp/hot-topic-solvency-ii-long-term-guarantee-package.pdf>)

End goal

The ultimate goal (no final date as yet proposed) is a single comparable ICS based on a common methodology. The ongoing work is intended to lead to improved convergence over time on the key elements of the ICS.

***Bringing it all together***

The central challenge for the development of the ICS is how to bring the seemingly polarised market-adjusted and GAAP + approaches together. But there may be more grounds for constructive compromise than many presume. A clear starting point is the ORSA, which regulators see as a strong basis for aligning solvency and strategic management, and which is employed in the EU, the US and some Asian markets (and expected to be a key component of the new Hong Kong RBC regime). Other avenues for convergence include risk quantification and projection, with the cash flow approaches within GAAP + creating room for the use of internal models. In addition, a number of insurers have been working

alternative approaches including a proposal for a coherent approach to discounting through an 'own assets with guard rails' approach. It is too early to tell whether this alternative approach will be embraced by the IAIS, but the message is clear: we are still some way off a standard that can be accepted by all in the industry.

Gauging the strategic and operational implications

It is important to make your voice count not only on the development of the Hong Kong RBC regime, but also on the ICS. As a lot of the business Hong Kong insurers write today may be affected by the eventual ICS, it is also important to assess the impact of the different outcomes on prices and future capital.

Deliberations over the ICS are continuing. It is important to look at the impact of the different potential outcomes on particular portfolios and business strategy, and then use all the opportunities to constructively engage with supervisors and influence the shape of the eventual standard. This includes looking at the interactions with other capital metrics and assessing the need for any additional capital. Participating in the field tests would also provide a useful indication of both the operational and capital implications. We at PwC are doing all we can to gauge the impact of the different scenarios and put the views of our clients to people within the regulatory community.

With so much of the controversy over ICS – and one of the key areas of expected focus of forthcoming QIS discussions in Hong Kong for the new RBC regime – centring on the valuation of long-term liabilities. It is also important to assess the potential capital implications of the different ICS and RBC outcomes on the business being written now. Will prices need to change to ensure that the business still generates an acceptable return on required capital? Will you need to raise additional capital to remain viable?

It is also important to assess the operational implications of the move to more sophisticated risk-based capital evaluation. The moves to C-ROSS and Solvency II have not only highlight the systems challenges, but also the work needed to source the necessary data and develop valid management judgements. The underlying challenge is how to industrialise capital evaluation, validation and reporting and embed the new capital metrics into your business behaviours. And even after the eventual roll-out of the Hong Kong RBC regime, the IAIS developments will require you to think more about capital supervision at a group as well as entity level.

Conclusion: ICS is at a critical juncture

ICS could be yet another hurdle in an already crowded regulatory agenda – particularly here in Hong Kong. But it could also be an opportunity for greater consistency in the regulation and supervision of the insurance industry. While a harmonised approach to global capital standards may make capital management within an IAIG more straightforward, it is important that regulatory developments minimise significant capital and operational burdens.

The challenge for insurers, and for the Hong Kong Insurance Authority, is how to ensure that the ICS is workable alongside the new RBC regime, and useful rather than a costly headache. This includes ensuring that both regimes are proportionate enough to minimise implementation costs, consistent where possible and appropriate, and avoid needlessly tying up capital.

It is vital that multi-national insurers in Hong Kong take the time to understand and engage with these important developments by contributing to consultations and taking part in the field tests, and to bring the insights gained to the development of a Hong Kong RBC regime that is as aligned as possible and minimises disruption to the thriving Hong Kong and broader Asian insurance markets. 🚫

Update on Hong Kong RBC Developments



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Background

The Insurance Authority's (IA's) current project to update the Hong Kong's reserving, capital and risk management framework is the direct result of a report issued by the International Monetary Fund (IMF). Hong Kong's entire system of financial regulation was evaluated under the IMF's Financial Sector Assessment Program (FSAP) in 2013 and a report was issued in March 2014. The report found that Hong Kong's financial sector - banking, securities and insurance - "is very well regulated, with the capacity to withstand a diversity of shocks". However, it also made numerous recommendations for improvement. In the insurance sector, one of the key recommendations was in the area of capital requirements, where the IMF recommended the establishment of "a clear and consistent valuation standard and risk sensitive capital requirements". It also recommended that risk management requirements be updated and that a regulatory regime be established for insurance groups.

In the insurance sector the standard used by the IMF to evaluate the system of supervision is compliance with the Insurance Core Principles (ICP's) established by the International Association of Insurance Supervisors. The ICP's set out principles of insurance regulation covering all aspects of insurance supervision. Key among the ICP's are ICP 14 *Valuation*, ICP 16 *Enterprise Risk Management for Solvency Purposes* and ICP 17 *Capital Adequacy*.

Phase 1: 2013 Consultation

In response to the recommendations of the FSAP, the IA undertook a project to update and modernise the Hong Kong RBC Framework, covering both quantitative capital requirements (Pillar 1) and qualitative risk management requirements (Pillar 2). Phase I of the project was a consultation on the high level architecture of the new framework. A Consultation Paper was published in September 2014 with a comment deadline of December 15, 2014. 51 written responses were received, including one from the ASHK. The IA published the Consultation Conclusions on September 30, 2015. This concluded Phase I of the project. The Consultation Paper and the Consultation Conclusions are at the IA's website at www.oci.gov.hk (Publications and Press Release > Consultation Documents). The ASHK response is at the ASHK website at www.actuaries.org.hk (Publications > Industry News & Press Release).



Phase 2: Development of Detailed Rules

In October 2016, the IA commenced Phase II of the project, Development of Detailed Rules. The initial objective for Pillar 1 is to develop specifications for a Quantitative Impact Study (QIS) under which all Hong Kong insurers would be required to calculate a solvency balance sheet and associated capital requirements using principles consistent with ICP's 14 and 17. The objective for Pillar 2 is to establish proposed requirements for risk management, including especially the requirement to produce an Own Risk and Solvency Assessment (ORSA) report. The IA hopes to implement the Pillar 2 requirements by issuing regulations well before the Pillar 1 requirements have been finalised.

The process undertaken by the IA to develop the QIS and ORSA requirements is extremely consultative. Four Industry Focus Groups (IFGs) have been established to consult with affected stakeholders. The IFGs are for Pillar 1 – Life Insurance, Pillar 1 – General Insurance, Pillar 2 and Groups. Each IFG consists of about 15 company representatives and two ASHK representatives. The ASHK representatives are members of the ASHK RBC Taskforce. IFG meetings take place about every three weeks and are scheduled to last until April. Prior to each IFG meeting papers on various topics are distributed to the attendees. Each paper is similar to a “mini consultation paper” and poses questions that will be discussed at the meeting. The meetings themselves are led by the IA’s consultant, KPMG, with key IA officials including the Insurance Commissioner and the Assistant Commissioners for Long Term Insurance, General Insurance and Policy also in attendance. Discussions are open and constructive.

After each IFG meeting the ASHK RBC Taskforce prepares formal responses to the questions posed in the mini consultation documents. All draft responses are shared with all task force members and all members are encouraged to review and comment on them. There is generally a high level of agreement among taskforce members. In the few cases where there is a divergence, both points of view are given.

The ASHK has offered its assistance to the IA on technical matters. We have been asked to help with the development of some of the technical specifications and we are very pleased to do so.

The Solvency Balance Sheet

Under the new system, the solvency balance sheet will start from the company’s balance sheet used for HKFRS reporting and adjustments will be made. The major adjustments are the following:

- A policy liabilities and related balances, including reserves, deferred acquisition costs, value of business acquired, sales inducement assets and liabilities, etc. will be eliminated and replaced by policy liabilities based on “current estimates”.
- Assets that have no realisable value such as goodwill and intangible assets will be eliminated.
- All invested assets will be revalued to fair value if they are not already at fair value.
- Deferred tax assets and liabilities will be revalued consistent with the revaluation of the pre-tax balance sheet.

The policy liabilities will use a gross premium reserve approach. Future policy-related cash flows will be projected on a best estimate basis discounted at current interest rates. There has been considerable discussion over the approach to discounting. The ASHK has suggested that two approaches be tested:

- An “Illiquidity Premium” (IP) approach where a fixed number of basis points is added to the risk-free spot rate discount curve. The IP approach is taken from Solvency II; and
- An approach referred to as the “Own Assets with Guardrails” (OAG) approach where discount rates are derived from the rates being earned on the company’s asset portfolio, less a charge for expected default. The OAG is one of the approaches that the International Association of Insurance Supervisors will test for the 2017 field testing of the Insurance Capital Standard that it is developing.

It is not clear yet whether the IA will also choose to test using risk-free discount rates.

It is likely that all discounting approaches will incorporate a concept of a “long term reinvestment rate” (LTRR) or an “ultimate forward rate” (UFR) to discount cash flows beyond the point at which there is a deep and liquid market. Conceptually, there are two views of the LTRR/UFR that are not mutually exclusive. One view is that it is a rate that all economies will converge to in a stable economic environment in the distant future. Another view is that it is simply a mechanism to standardise the discount rates and stabilise the valuation at durations where there is no market information. The value of LTRR/UFR that will be used in the QIS has not been determined. Solvency II uses 4.2%, while the ICS field testing has used 3.5% for USD and HKD denominated liabilities. Conceptually, both of these are intended to represent risk-free rates. ASHK has suggested that the LTRR/UFR should include some type of spread over risk free rates.

For participating, universal life and unit-linked products future best estimate cash flows need to be adjusted consistent with the discount rates.

The time value of options and guarantees should also be valued. This would require stochastic valuation and may represent a challenge for some companies who have not yet developed the capability.

In addition to the best estimate liability (BEL), a margin over current estimates (MOCE) may be included in the liability. However, as of this writing, the intention was not to include MOCE in the QIS on the grounds that it is likely to be based on a cost of capital approach and that approach requires knowing what the capital requirements are.

But capital requirements have not yet been set. ASHK has recommended that if MOCE is to be included in the framework that they be tested in this first QIS.

Capital Requirements

Capital requirements will be set for most of the “standard” quantifiable risks. These include market risk (interest rate, equity and property prices and credit spread risk), credit risk (default and counterparty risk), insurance risk (mortality, longevity, morbidity, lapse and expense risk), and operational risk. The capital requirement for each type of risk will be set either by a “shock” approach or a “factor” approach. The shock approach involves recalculating assets or liabilities or both under stressed conditions and setting the capital requirement as the decrease in equity caused by the stress. The factor approach involves applying factors to various items, e.g. a factor that varies by bond credit rating applied to bond values to calculate the capital requirement for bond default risk. The general approach is fairly standard, but the actual factors and shocks that will be proposed are not known as of the writing of this article.



It is not clear how the shocks and factors will be developed; whether a standard such as value at risk will be used or whether there will be any standard at all. ASHK has recommended that there be a standard, (e.g. 99.5% value at risk) used as a benchmark to set capital requirements. More than one standard could also be tested.

The ultimate goal is of course to develop a prescribed capital requirement (PCR), i.e. a level of capital below which the IA could intervene in a company’s business on solvency grounds. To do that the individual risk requirements must be combined into an overall requirement, probably using a correlation matrix approach. The IA’s intention has been to leave the combination of risks to a later QIS. The ASHK has recommended that this be tested in the first QIS so both the IA and the industry have a better understanding of the potential impact of the new requirements.

Pillar 2

The Pillar 2 requirements are intended to be implemented well before the Pillar 1 requirements by means of a new regulation developed by the IA. The IA believes that the main gap in the current regime is the lack of a requirement for companies to perform an ORSA and it is clear that this will become a requirement under the new system. The new regulation will likely replace the current Guidance Notes 10 and 13 as well as require an ORSA. It also appears likely that the new regulation will require that the ORSA specifically address conduct risk. This would be a worldwide first. The IA’s consultant will recommend what the new requirements will be in consultation with the IFGs.

Next Steps

After the IFG process is completed in April, the next step in the Pillar 1 process will be to conduct the QIS itself. This will be carried out by the soon to be established Independent Insurance Authority (IIA) that will replace the current Office of the Commissioner of Insurance. The announced timing for the QIS is the second half of 2017. This will of course need to be reconfirmed by the IIA. It is recognised that one QIS will not be sufficient to develop the detailed rules for the new RBC framework. The nature and timing of additional QIS’s has not yet been announced. For Pillar 2, the IIA will draw up a revised regulation and this will be formally exposed for consultation.

Phases 3 and 4

After Phase 2, Development of Detailed Rules, Phase 3 of the project will be to amend current law and regulations in line with the conclusions reached in Phase 2. Phase 4 is implementation. As noted earlier the IA is aiming to implement Pillar 2 by regulation before Pillar 1 as this is within the power of the IA. Pillar 1, on the other hand will take longer to develop and will also require that Legco amend the current law.

Acknowledgement

The ASHK would like to publicly express our appreciation to the IA for the extremely constructive and consultative process that has been undertaken in the current phase of the project. The new RBC framework will have a significant impact on the insurance market in Hong Kong, including the types and affordability of products that will be offered in the future, the further development of the Hong Kong financial markets and the attractiveness of Hong Kong as a leading global financial centre. The ASHK stands ready to support the IA in developing a risk-based approach that promotes the sound and sustainable development of the Hong Kong insurance industry. 🌱

Leveraging Solvency II and C-ROSS Experience to Prepare for Hong Kong RBC



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Introduction

The Office of the Commissioner of Insurance (OCI) in Hong Kong has started developing the new RBC regime since 2013 and released response to the questions collected from consultation on the RBC framework in 2015. The new Hong Kong RBC will have 3 pillars similar to Solvency II (SII) and China Risk Oriented Solvency System (C-ROSS), split into (i) quantitative requirements, (ii) governance and supervision and (iii) disclosure and transparency.

In regards to the status of the Hong Kong RBC development, the working group on this is currently focused on the technical details for calculation and related reporting on governance and supervision. Little has been discussed about the disclosure requirements. The first Quantitative Impact Study (QIS) is expected to be conducted this year.

The level of challenges to implement the new Hong Kong RBC regime will be different among insurance companies. Companies which have already started reporting SII or C-ROSS are seen to be more prepared than the others. Quantification of the impact on the new Hong Kong RBC cannot be performed at this stage as the technical specification has yet to be released. However local insurers can prepare through referencing the impacts on companies from adopting SII or C-ROSS.

Comparison of Hong Kong's RBC to Solvency II and C-ROSS

Pillar 1 - Quantitative aspects

Capital requirements for SII, C-ROSS and proposed Hong Kong RBC is the total balance sheet approach. The level of solvency adequacy is assessed by two levels of solvency control which includes a target capital requirement known as Prescribed Capital Requirement (PCR) and Minimum Capital Requirement (MCR) in the Hong Kong RBC context. Prescribed Capital Requirement is set as a 1-year VaR at 99.5% confidence level, i.e. the insurance company shall have non-negative net assets at the end of a one-year time horizon under a 1-in-200 event. Tiering approach is used to control the quality of capital.

In all three regimes, the technical provisions include best estimate liabilities, risk margin and allowance for time value of option and guarantees (TVOG). Although a market consistent approach was adopted in both SII and C-ROSS, the discounting methodology varies. SII uses risk-free interest term structure including matching adjustment or volatility adjustment; while C-ROSS uses risk-free interest term structure including a margin for adjustment which varies by product. The working group to develop Hong Kong RBC has split views between market consistent approach and market-adjusted approach in the first consultation on RBC framework and is still a major topic that is being discussed. OCI considers further analysis based on the QIS results is essential before drawing conclusion.

In regards to the modelling approach for Hong Kong RBC, it is agreed that a standard formula approach is the appropriate starting point to determine regulatory capital requirements from the published response to the consultation paper on RBC framework. For companies which have already adopted SII and has their internal model approved by home regulator, that internal model may be used subject to Insurance Authority (IA) approval. Going forward, internal model is encouraged, when guidelines for validation, approvals and procedures are in place.

Pillar 2 – Qualitative aspects

The requirements of Own Risk and Solvency Assessment (ORSA) are similar across SII, C-ROSS and the proposed Hong Kong RBC, which includes stress testing and scenario testing. Insurance companies are required to perform ORSA and submit to regulator on an annual basis. *Table 1* below shows a comparison of the ORSA requirements across SII, C-ROSS and the proposed Hong Kong RBC.

Table 1: ORSA requirement comparison between SII, C-ROSS and the Proposed Hong Kong RBC

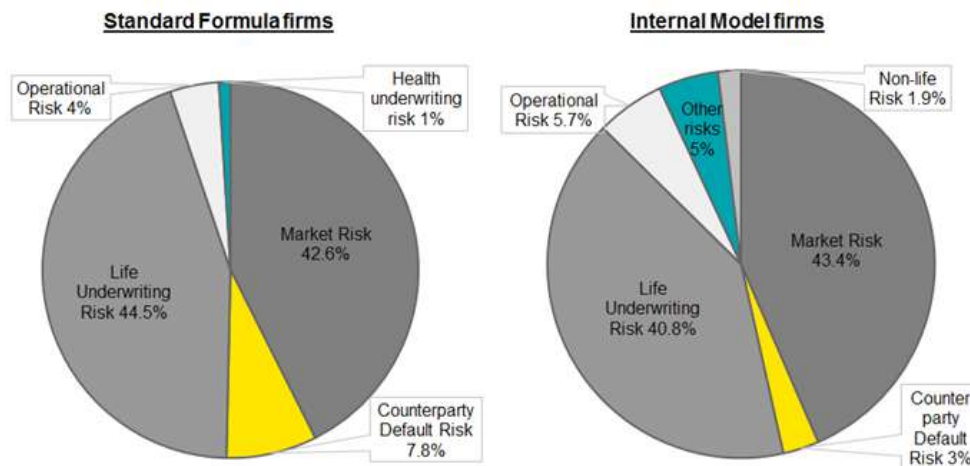
	SII	C-ROSS	Proposed Hong Kong RBC
Requirement	Overall solvency needs considering risk profiles, stress and scenario testing	Forecast and assessment of the solvency ratio under different stressed scenarios	Continuity analysis Stress and scenario testing
Application of principles of proportionality	✓	✗	✓

Regarding the contents to be included in the ORSA report, there is consideration by OCI to create a list of minimum risks to be considered. However concrete details have yet been decided.

Impact to asset and liability management after moving to RBC framework

Insight can be drawn from SII and C-ROSS implementation on the impact to the industry when moving from a rule based to a risk based capital regime. From the EY benchmark survey on year-end 2014 SII result over 20 life insurers in UK, market risk is slightly larger than life risk as shown in *Table 2* below .

Table 2: Average Total Pillar 1 Capital Requirements (pre diversification) Split by Risk Type



Source: EY UK Solvency II Pillar 1 survey 2015

Similarly, under C-ROSS, market risk appears to be the largest contributor to required capital based on our internal 2016 Q1 result collections over ten Chinese insurance companies.

Hong Kong RBC framework shares similarities with SII and C-ROSS in terms of having asset type specific risk charges and best estimate liabilities. Although risk charges and discounting approach would differ, the impact on capital requirements is expected not to deviate largely from SII and C-ROSS given the principle is to be “consistent with international practice, to make capital requirements more sensitive to the level of risk that individual insurers and insurance groups are bearing”. The significance of market risk in SII and C-ROSS highlight the importance to manage asset and liability in an attempt to reduce required capital.

SII

Previously under Solvency I, there is little incentive for companies to manage risks as capital charge is independent of the actual levels of risks and the risk mitigation strategies employed by the company. Under Solvency II, both asset and liabilities are valued at market consistent basis which creates greater incentive for companies to align their pricing, risk and capital management decisions.

The introduction of risk based capital will create greater need for insurance companies to align its asset and liability matching. Based on our insight, the duration gap could be as large as 20 years or more due to the limited availability of long term assets, and the long term duration of the insurance products in Hong Kong. The large duration gap could attract higher required capital than the existing resilience reserve calculated under the current Hong Kong regime. However under the current Hong Kong capital regime where liabilities are calculated on a prudent basis, additional capital might not be significantly higher. Clearer impact could be assessed when the technical specification for Hong Kong RBC QIS is available.

To manage the potential increase in required capital, insurance companies could de-risk its balance sheet from both the asset and liability end. From the asset side, insurers could enter into swaps, swaptions to manage interest rate risk; invest in corporate bonds that has a deeper market and higher return compared with government bonds. On the liability side, companies could cede its risks to reinsurers. For large multinational companies, there could be opportunity to swap insurance risks between entities e.g. an entity that is more heavily concentrated in mortality risk can exchange with entities that is more longevity risk heavy. Furthermore, insurance companies could diversify its long tailed life risk by reducing products with guarantee or lowering the guaranteed rate, increasing yearly renewable products etc.

C-ROSS

The capital requirement of market risk in C-ROSS is directly proportional to (i) risk exposure, i.e. value of the asset and (ii) risk factor. An example is drawn on how the implementation of C-ROSS posed impact to the PRC insurance industry.

Different risk factors are imposed to common stocks, equity funds and commingled funds, which are summarised in *Table 3* below.

Table 3: C-ROSS risk factors on different types of securities

Securities	Risk factor in C-ROSS
Stocks in main board of Shanghai stock exchange (SSE) and Shenzhen stock exchange (SZSE)	0.31
Stocks in small and medium enterprise board	0.41
Stocks in ChiNext	0.48
Equity funds	0.25
Commingled funds	0.20

The risk factors of equity funds and commingled funds are much lower than that of common stocks in SSE and SZSE. Undoubtedly, the insurance industry has great incentive to invest in the equity funds or commingled funds with high equity exposure instead of common stock to relieve the capital requirement even though the underlying risk may remain the same. The difference in risk charges applied on different types of assets in C-ROSS is an example of how risk charges would alter the asset management in the PRC insurance industry. We believe the ALM of Hong Kong insurance industry will also be impacted once the details of risk charges is available.



Actions can be taken before QIS

Apart from the asset and liability matching that would have the largest impact from the change in Solvency I to risk based capital, there are other non-technical aspects such as documentation and data collection that are of fundamental importance to the calculation and support for the output.

By referring to SII, risk charges could be differentiated by indicators such as credit rating, country of issuance, duration, asset type etc. Companies need to review the asset information collected to assess whether they have enough information to apply risk charges in case the new Hong Kong RBC takes a similar approach used in SII. Besides from asset data, insurance companies should review policy data such as number of years of claims experience accumulated, granularity of policy data, in preparation for the anticipated internal model approach.

Apart from reviewing databases on asset and liability side, companies could strengthen its documentation such as clearly documenting policyholder behavior and management action that is implemented in the model. Furthermore, documentation on the valuation process with the controls embedded would demonstrate the strength in the first line of defense.

Conclusion

Given some companies have already spent significant amount of effort over the years to implement SII or C-ROSS, the level of maturity and readiness to implement Hong Kong RBC and embedding into their existing business model will vary. For companies who have yet to adopt a risk based capital framework, they could start by analyzing their own asset and inforce portfolio. Studies could be done on the sensitivity of asset and liabilities. Inforce business mix, duration etc. can be analysed to assess the type of new products to offer that could diversify the insurance risks (e.g. launching protection products that are less capital intensive compared to savings products). This helps to gradually minimise required capital. On the management and monitoring front, risk controls and indicators can be developed to satisfy the coming needs from ORSA report.

Although it is a long journey to implement Hong Kong RBC, companies could start thinking about the change at an operational and strategic angle, rather than to respond mechanically on the technical details after the QIS release to be compliant. 🔄



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Market Update

Independent Insurance Authority to start regulating insurance companies from 26 June 2017


The new Independent Insurance Authority (IIA) will officially take over from the OCI on 26 June 2017. The existing self-regulatory system for insurance intermediaries will continue until the IIA takes over the direct supervision of insurance intermediaries in about two years.

In the long-run, the IIA will be financially independent of the Government. In addition to the two pieces of subsidiary legislation on the collection of authorisation fees from insurance companies and user fees, the Government will submit separate subsidiary legislation for the collection of a levy on insurance premiums from policyholders to the Legislative Council at a later stage. 

FSDC releases report on Re-insurance, Marine Insurance and Captive

The Financial Services Development Council (FSDC) has recently released a report entitled “Turning Crisis into Opportunities: Hong Kong as an Insurance Hub with Development Focuses on Reinsurance, Marine and Captive”.

The report noted that, as a major Asian insurance centre, Hong Kong is facing challenge from its Asian competitors in many areas, especially in reinsurance, marine insurance and captives, which are crucial elements for Hong Kong’s development as a comprehensive financial centre and as a super-connector in the Belt and Road Initiative. It also recommended policy review in relation to the China Risk Oriented Solvency System (C-ROSS), potential tax incentive scheme and the insurance regulatory framework in Hong Kong. The report also highlighted the need for the Government and industry to work together on business promotion and talent development.

The full version of the report can be downloaded from the FSDC website at http://www.fsd.org.hk/sites/default/files/FSDC%20Paper%2027%20-%20Reinsurance%2C%20Marine%20and%20Captive%28e%29_1.pdf. The ASHK has been requested to circulate the information with a view to generating more awareness and discussion on the subject matter. Members may send in any feedback to Mr. C F Yam (email: yamcf@netvigator.com) who serves on the Policy Research Committee of FSDC and will consolidate feedback for FSDC’s consideration. 

Market Update

New and Revised MPF Guidelines

The Mandatory Provident Fund Schemes (Amendment) Ordinance 2016 (the Amendment Ordinance) was gazetted in June 2016. To support the implementation of the Amendment Ordinance, the Mandatory Provident Fund Schemes Authority (MPFA) has recently approved one set of new Guidelines and 11 sets of revised Guidelines:

1. Guidelines on Monthly Returns of Registered Schemes (Guidelines II.1)
2. Guidelines on Monthly Returns of Approved Pooled Investment Funds being Capital Preservation Funds (Guidelines II.2)
3. Guidelines on Annual Statements of Registered Schemes (Guidelines II.4)
4. Guidelines on Internal Control Report for Each Registered Scheme (Guidelines II.6)
5. Guidelines on Notification of Events of Significant Nature (Guidelines II.9)
6. Guidelines on Quarterly Statistical Returns of the Default Investment Strategy of Registered Schemes (Guidelines II.10) (*New*)
7. Guidelines on Capital Preservation Funds (Guidelines III.6)
8. Guidelines on Election for Transfer of Accrued Benefits (Guidelines IV.3)
9. Guidelines on Payment of Accrued Benefits – Documents to be Submitted to Approved Trustees (Guidelines IV.4)
10. Guidelines on Unclaimed Benefits (Guidelines IV.21)
11. Guidelines on Transfer Process under Sections 148A and 148B of the Mandatory Provident Fund Schemes (General) Regulation (Guidelines IV.24)
12. Guidelines on MPF Exempted ORSO Schemes – Withdrawal of Minimum MPF Benefits (Guidelines V.11)

The Amendment Ordinance adds a requirement for all approved trustees to provide a highly standardised and fee-controlled default investment strategy (DIS) in each registered scheme and prescribes the requirements for the DIS. In this regard, in addition to the new Guidelines (Guidelines III.14) and the revised Code on Disclosure for MPF Investment Funds issued in December 2016, the MPFA has approved another set of new Guidelines (Guidelines II.10) and has revised four more sets of Guidelines (Guidelines II.4, II.6, IV.3 & IV.4) to support the implementation of DIS. Moreover, there are non-DIS related amendments covered in the Amendment Ordinance, including those which aim at facilitating approved trustees' daily administration. To this end, the MPFA has revised seven sets of Guidelines (Guidelines II.1, II.2, II.9, III.6, IV.21, IV.24 & V.11) to support the implementation of these amendments.

The new and revised Guidelines have become effective on the commencement date of operation of the Amendment Ordinance, i.e. 1 April 2017.

Copies of the new and revised Guidelines can be downloaded from the MPFA website at http://www.mpfa.org.hk/eng/legislation_regulations/legulations_ordinance/guidelines/index.jsp. 

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Hong Kong Market Opportunities

Regional Business Development Lead – HK
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Jason Strachan

Structuring Actuary – HK
Up to HKD\$1.5m + Bonus

Rapidly expanding insurance business seeking a motivated and dynamic actuary to support the structuring and execution of hybrid and innovative capital management solutions for top-tier clients across the Asia region and learn how the latest regulations and accounting standards are impacting business decision-making.

Hamza Mush

Head of Pricing – Hong Kong
Up to HK\$2m + Bonus

Specialist P&C insurer seeks Qualified actuary with strong technical pricing experience in multiple classes of treaty business. Reporting in at C Level we are seeking a highly commercial individual who can influence underwriters, and lead a team. International applicants welcome.

Toby Weston

Head of Reporting – Singapore
Up to \$220k SG + Bonus

Global direct life insurer seek a qualified actuary to manage a team of 10+ actuaries across local reporting and solvency and report directly to the Chief Actuary. Singapore experience preferred but not essential. Minimum 10 years' experience.

Daniel Kirk

Pricing Director – HK
Up to HKD\$1.2m Base

Leading multinational insurer looking for a Pricing Director to spearhead the team, working across all products on project basis. You must be qualified with above 10 years of experience.

Philip Chau

Regional Reporting Actuary - HK
Up to HKD\$65k + Bonus

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Sharon Yuen

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Events Highlights

ASHK Asia Conference, 13 January 2017



Ms. Sofia Liang, ICBC International

Ms. Mancy Sun, Goldman Sachs

Mr. Wilson Ho, SAS Hong Kong

Mr. Justin Hareb, AXA Asia



Panel Discussion (from left to right): Mr. Edwin Northover, Debevoise & Plimpton, Mr. Alexander Moore, Morgan Stanley and Mr. Mark Saunders, AIA Group

HKU Career Talk, 21 February 2017



Experience Sharing (from left to right): Mr. Sean Deehan (ASHK Professional Development Committee member) & Mr. Stanley Wang, Standard Life and Ms. Olivia Tsang & Mr. Billy Wong, RGA

Events Highlights

ASHK Evening Talk, 21 March & 11 April 2017 - "Hong Kong Risk-Based Capital"



Mr. Rob Curtis, Mr. Fei Fei Zhang, Mr. Syed Haider and Mr. Jonathan Ko, KPMG

Speakers and Ms. Mary Kwan, ASHK Membership & Communications Committee Chairperson



Speakers and Ms. Cathy Lin, ASHK Professional Matters Committee Member

ASHK Machine Learning Workshop, 7 April



Ms. Trinity Pong, ASHK Non-Life Committee Chairperson and facilitators (Mr. Colin Priest, Mr. Frankie Chan and Mr. David Menezes)

Events Highlights

ASHK Professionalism Course, 24 April 2017



Mr. Roddy Anderson, ASHK Professional Matters Committee Member presenting new Professional Conduct Code



Ms. Rani Rajasingham and Mr. John Williamson, ASHK Professional Matters Committee Members leading case studies

ASHK Evening Talk, 26 April 2017 - "Integration of Financial Markets, Fintech, and Opportunities for Financial Services in Hong Kong"



Mr. Esmond Lee, FSDC

Mr. Esmond Lee and Mr. Sam Yeung, ASHK Health and International Committees' Chairperson



Events Highlights

IFoA Asia Conference, 11 - 12 May 2017



Dr. Moses Cheng,
IIA Chairman



Mr. Colin Wilson,
IFoA President

Mr. Stuart Leckie,
IFoA Asia Conference
Organising Chairperson

Mr. Kevin Lee, ASHK President joining Panel Discussion on "The Future of the Actuarial Profession in Asia" and other panelists (names listed in alphabetical order) included Mr. Brian Brown, CAS President- elect, Mr. Colin Wilson, IFoA President, Mr. Derek Cribb, IFoA CEO, Ms. Jenny Lyon, Actuaries Institute Australia President and Mr. Tom Terry, IAA President

ASHK Evening Talk, 16 May 2017 -

"Blockchain Truth - Digital Identity in the Insurance Industry Transformation"



Mr. David Piesse, Guardtime



Ms. Trinity Pong, ASHK Non-Life Committee
Chairperson and Mr. David Piesse

Upcoming Events

Date	Event
5-7 Jun 2016	11th Asian Insurance CFO Summit 2017, Hong Kong (Organised by Asia Insurance Review; ASHK is one of the supporting organisations)
13 Jun 2017	ASHK Evening Talk (1.5 CPD at maximum) Speakers: Thomas Taw and Ben Garland, BlackRock Topic: Economic Outlook and Smart Beta Investments with ETFs
28 Jun 2017	ASHK Soft Skills Course Part I
29-30 Jun 2017	SOA China Annual Symposium, Shanghai
5 Jul 2017	ASHK Soft Skills Course Part II
6-7 Jul 2017	SOA China Annual Symposium, Kuala Lumpur
10-12 Jul 2017	SOA FAC, Kuala Lumpur
14 Jul 2017	SOA APC, Kuala Lumpur
31 Jul - 8 Aug 2017	Joint Regional Seminar in Asia Theme: "Divergent - The Devil is in the Details" 31 July - 1 August, Taipei (1.5 days) 2 August, Hong Kong 4 August, Bangkok 7 - 8 August, Kuala Lumpur (1.5 days)
1 Sep 2017	SOA APC, Hong Kong
4 Sep 2017	SOA APC, Beijing
11-12 Sep 2017	ASHK IFRS Seminar, Hong Kong
Sep 2017	ASHK Pension Seminar
Sep 2017	ASHK Professionalism Course (AM Session)
Sep / Oct 2017	ASHK Health Seminar
6 Nov 2017	ASHK Annual Dinner
7 Nov 2017	ASHK Appointed Actuaries Symposium
Nov 2017	SOA APC, Hong Kong and Shanghai
12 Dec 2017	ASHK AGM

Make time for these!

Membership Update

New Members

Fellow

Cao Yan Rong	Manulife Financial
Tony Jin-Keat Cheong	AIA
Chua Han	Ernst & Young
Cherie Minghang Huang	AXA Asia
Tomomi Ko	Standard Life
Kathleen Kong	BOC Group
John Weng-Kong Lee	Prudential
Marcus Tze-Yuen Leung	Swiss Reinsurance
Erik Jen-Houg Lie	Deloitte
Rachel Seok-Yee Lim	Prudential
Lin Yi	Manulife Financial
Felicity Ngo-Hei Mui	AIA
Sonic Ming-Fai Siu	Prudential
Michael van Vuuren	KPMG
Yong Yee Yung	Deloitte
Cindy Yue Zhao	AIA

Fellow [FSA (2011)]
Fellow [FIA (1991)]
Fellow [FIA (2016)]
Fellow [FSA (2015)]
Fellow [FSA (2007)]
Fellow [FIAA (2009)]
Fellow [FSA (2014)]
Fellow [FIA (2015)]
Fellow [FSA (2016)]
Fellow [FIA (2009)]
Fellow [FIA (2016)]
Fellow [FSA(2014)]
Fellow [FSA (2015)]
Fellow [FIA (2005)]
Fellow [FIA (2012)]
Fellow [FSA (2015)]

Associate

Alexander Aeberli	Ernst & Young	Associate [Actuary SAA (2015)]
Kermit Xiao Yang Pan	Ernst & Young	Associate [ASA (2016)]
Tan Fong Siong	AXA	Associate [ASA (2008)]
Jessica Su-Xin Sun	AXA	Associate [ASA (2015)]
Harry Fengyang Zou	Ernst & Young	Associate [ASA (2016)]

Student

Amy Ming Yuk Chan	Milliman	Student (SOA Student)
Cheng Nga Man	Deloitte	Student (SOA Student)
Eric Ka-Hung Hui	General Reinsurance	Student (SOA Student)
Hung Wai Kit	HSBC Life	Student (IFoA)
Chris Chi Fung lu	--	Student (SOA Student)

Membership Update

New Members

Student

Aaron Kin On Lai	Willis Towers Watson	Student (SOA Student)
Gregory Kwan-Wun Lo	Swiss Reinsurance	Student (SOA Student)
Feng Zi Sheng	--	Student (SOA Student)
Katie Hiu-Ying Sung	FTLife Insurance	Student (SOA Student)
Janice Mengyue Wang	Milliman	Student (SOA Student)
Michael Hiu-Chak Wu	--	Student (SOA Student)
Zhang Yixuan	Munich Reinsurance	Student (SOA Student)
Ricky Sill-Wang Yu	RGA Reinsurance	Student (SOA Student)
Rebecca Wenji Zhang	Willis Towers Watson	Student (SOA Student)
Cecily Yan Zhong	Standard Life	Student (Actuaries Institute Australia & IFoA Student)
Fred Weiming Zhuo	Prudential	Student (SOA Student)

Membership Advancement

Fellow

Alison Sin-Yiu Ho	Manulife	Fellow [FSA (2016)]
Dion Heijinen	Willis Towers Watson	Fellow [Actuarial Association of the Netherlands (2010)]
Jackie Pui-Hang Lam	AIA	Fellow [FSA (2015)]
Brian Shek-Lun Mak	Prudential	Fellow [FSA (2015)]
Ivan Kin-Chung Wong	Manulife	Fellow [FSA (2016)]

Associate

Cyrus Chun-Yuen Cheng	AIA	Associate [ASA (2016)]
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Membership Update

Reinstated Members

Fellow

Tony Chi-Kin Chau	AXA
Noel Yik Yu Chiu	FWD
Sylvia Wing-Yee Law	AIA
Bonita Leong	Prudential
Paul Melody	KPMG
Richard Payne	Prudential
Joanne Chin-Wen Yeo	Pacific Life
Yeung Yin Wa	BOC Group
Charlotte Suet-Yee Yim	AIA

Fellow [FSA (2007)]
Fellow [FSA (2013)]
Fellow [FSA (2004)]
Fellow [FIA (1999)]
Fellow [FSA (2003)]
Fellow [FFA (2002)]
Fellow [FIA (2005)]
Fellow [FSA (2008)]
Fellow [FSA (2009)]

Associate

Carmen Suet-Wa Lau	Taiping Life Insurance
Stanley Tian	Goldman Sachs

Associate [ASA (2010)]
Associate [ASA (2015)]

Candy Chan
 Chan Ka Ki
 Flora Chan
 Wilson Chan
 Enoch Chow
 Jackie Chu
 May Chun
 Kim Hui
 Phil Joubert
 Angela Lau
 Raymond Li
 Allen Shao
 Cheryl Sin
 Stanley Tian
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 Carson Wong
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We welcome members' contribution to the "Hong Kong Actuaries" Newsletter, especially, the Feature Articles and Knowledge Sharing sections. If you have written any inspiring articles or have read any interesting articles from other actuarial organisation(s), please feel free to let us know. We will try to reprint the article(s) in our newsletter to share with our members.

For the above issues, please e-mail your articles or views to Rachel Chu by email at rachelchu@bluecross.com.hk or ASHK Office by email at info@actuaries.org.hk. Publication of contributions will be at editor's discretion.