ISSUE 03 NOVEMBER 2024

ACTUZINE 精誌

This Edition Includes:

AI, IFRS, Insurtech, RBC, AAC, and more

The official magazine of the Actuarial Society of Hong Kong

www.Actuaries.org.hk

ACTUARIAL SOCIETY of HONG KONG 香港精算學會

Message

Welcome to the first-ever ASHK Magazine!

Dear Readers,

Welcome to the first-ever ASHK Magazine for 2024. On behalf of the Membership and Communications Committee, we are honored to introduce this latest issue. This new release would not have been possible without the tremendous and selfless voluntary contributions of our dedicated Committee members.

In this debut issue, we bring you a selection of thought-provoking feature articles from Insurtech regulations, healthcare topic, HK Risk-Based Capital & GL34, IFRS 17 to AAC Summary.

What's more! We're thrilled to feature a special section dedicated to the ASHK Volunteer Awardees. These exceptional volunteers have made significant contributions to the growth and development of ASHK, and we are honoured to showcase their amazing experiences. The awardees include Billy Wong, Bob Charles, Candy Chan, Christopher Tam, George Tang, Jenny Lai, Jiang Bin Lai, Louis Lee, Mary Kwan, Matsuta Ng, Orchis Li, Scott Chow, Terry Chen, Wilson Wu and Xavier Lo. Their voluntary contributions have played a vital role in shaping the success of ASHK, and we extend our heartfelt congratulations to each of them.

We invite you to engage with the content and contribute your thoughts as we strive to create a vibrant community around actuarial science. Your involvement is vital to our collective growth and understanding of the industry.

Enjoy Reading!

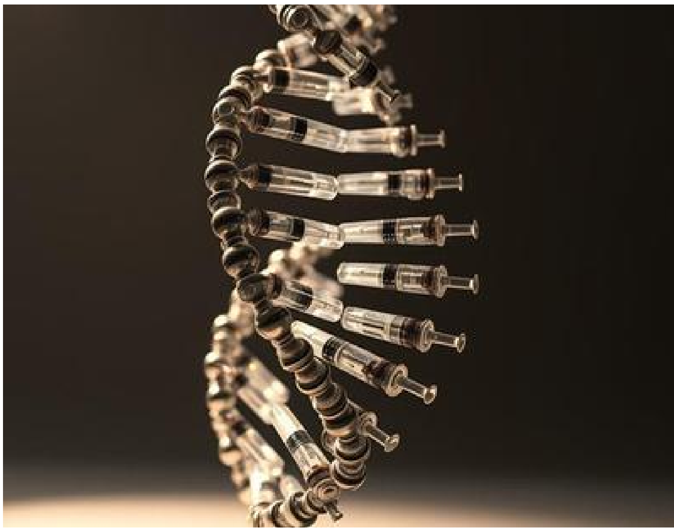
Best Regards,
ASHK Newsletter Editorial Team

Table of Contents

Feature Articles

Council & Committee Update

Others



Wendy Lai
Member
ASHK Membership & Communications Committee

"I HAVE NEW NAMES!" SAID THE ASHK NEWSLETTER. WELCOME TO ACTUZINE 精誌！

We are excited to announce a new chapter for our ASHK Newsletter - rebranding from a newsletter to a magazine called 精誌/ Actuzine!

A huge thank you to all members who took part in the rebranding competition. This rebranding marks a crucial step in our ongoing evolution – providing a more vibrant platform for the actuarial community.

Why the Change?

Over the years, our newsletter has grown in scope and quality, and we felt it's time for its name and style to reflect the enhanced sophistication of its content.

The Chinese name 精誌 holds a profound implication as it's a homophone of 精緻 in both Cantonese and Mandarin, reflecting the beauty and delicacy of its professional content. The character 誌 intuitively signifies its identity as a magazine, while aligning seamlessly with the English name of Actuzine (which is intuitively a magazine!). We hope the new names show our dedication to delivering high-quality and engaging content.
(For our non-Chinese members, note that 精誌 is pronounced "zing zi".)

What Readers Can Expect

With this rebrand, we aren't just changing the name, but also further enhancing its content in different ways:

- More Thought-Provoking Content: We will continue offering stimulating content on a diverse range of topics related to the industry – which will make you think, question, learn, and engage.
- A Broader Perspective: We expect more diverse voices and innovative ideas from all of you!
- A More Professional Look: Alongside the new name, we're enhancing the design and layout to introduce a more enticing and polished reading experience.

Looking to the Future...

As we turn the page to this exciting new chapter, we look forward to your loyal support, whether as a reader or even sharing your own insights via article submission. Together, let's make 精誌 / Actuzine a professional hub of actuarial knowledge, innovation, and inspiration!

Greg Solomon *FASHK*
Consulting Actuary
Eigengrey

INSURTECH REGULATIONS IN HK

Unlike many other markets where rapid innovation sometimes outpaces regulations, Hong Kong through the Insurance Authority ("HKIA") has taken steps to create and support an insurtech environment which balances innovation with consumer protection.

This short article summarises various aspects of our insurtech ecosystem.

Facilitation Team

Firstly, within the HKIA, an Insurtech Facilitation Team has been set up, specifically to work with the business that are innovating in the insurtech space. Their work includes project implementation, but also facilitation, exchange of ideas, and promotion.

Sandbox

Given we are dealing with new technologies and use cases, the HKIA decided to adopt some flexibility in the supervisory requirements of insurtech, and thus in 2017 created a so-called "Sandbox" to allow approved companies to test their innovations in a controlled environment where they can experiment with new products and services while ensuring regulatory compliance and public protection.

Authorised insurers and licensed insurance broker companies can apply to run a pilot in the Sandbox, where they would have to comply with a series of principles in order for the pilot to be approved, including:

- There should be *well-defined boundaries & conditions* specified, including time & duration, size & type of insurance, target users, tech description, and expected outcomes
- There should be adequate *risk management controls* to ensure the objectives are reached
- The *interests of customers* should be protected throughout, including allowing customers to withdraw early, possibly with a full premium refund or other compensation
- An exit strategy needs to be pre-specified, to deal with the situation where the pilot has to be terminated, either early or because the objective was not achieved
- A number of other principles need to be followed, and the HKIA has flexibility to add or alter items as required by the nature of the pilot.

Overall, Sandbox pilots allow new tech and processes to be tested, giving the parties access to real world data (including user experiences). The company can then refine its offering while the HKIA adjusts its regulations, so the market is ready if and when a large-scale implementation takes place.

Fast Track

Also in 2017, the HKIA established an expedited process of authorisation, for companies which would solely use digital distribution channels – no banks, brokers or agents.

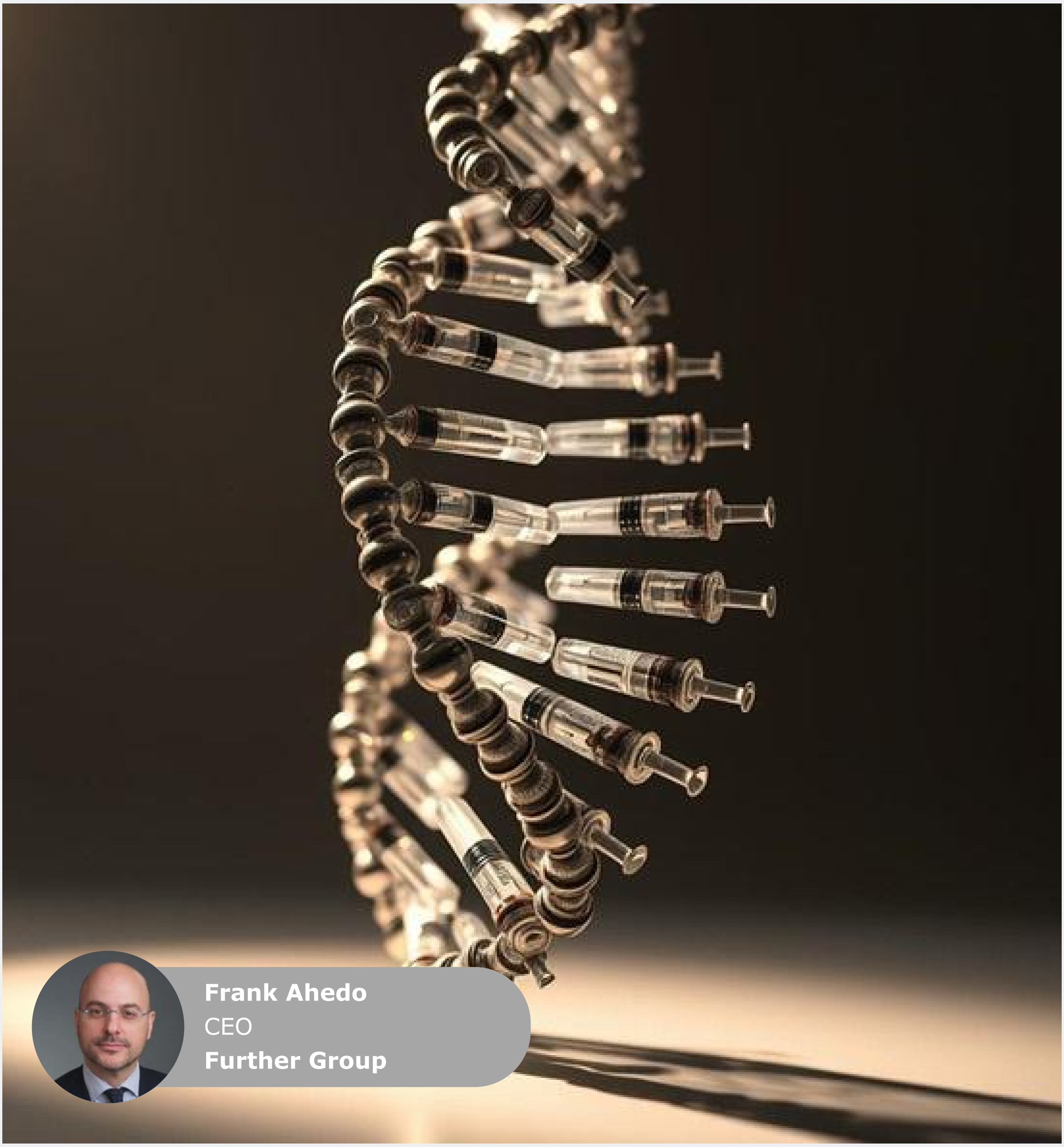
Of course, any such fast tracking should not leave policyholders at risk, and therefore certain principles govern this accelerated authorisation process:

- All solvency, capital and local asset requirements must be met
- All other regulations still apply, unless exempted or modified
- Not all products will be approved as suitable for online sales
- For long-term business, at least one of the shareholder controllers must be an insurer (or subsidiary or affiliate of an insurer) authorised to write insurance in HK (or a connected jurisdiction).

Conclusion

By creating specific frameworks that are supportive of innovation in the insurance space, the HKIA aims to keep Hong Kong as a leading insurance hub, and an excellent home for insurers looking to significantly advance their offerings – to the benefit of insurers and policyholders.

Some simplifications were made in this article. More details can be found at the HKIA insurtech page here: https://www.ia.org.hk/en/aboutus/insurtech_corner.html



Frank Ahedo
CEO
Further Group

PRECISION MEDICINE

Treatments Built Around Your DNA

We are starting to discover that the effectiveness of drug regimes, their speed to success, and the number of side-effects, can all be improved when we design treatments to take into account the genetics of the patient. The implications for insurance are significant.

Underlying Cancer

Cancer is a major cause of morbidity and mortality across all age groups in both developed and transitioning economies. Over 35 million new cancer cases are predicted in 2050, a 77% increase from the estimated 20 million cases in 2022. The rapidly growing global cancer burden reflects both population ageing and growth, as well as changes to people's exposure to risk factors, several of which are associated with socioeconomic development.

Up to 40% of cancers are potentially preventable due to modifiable factors such as smoking, obesity, diet, alcohol consumption and physical activity. The changes in habits related with these risk factors are now determining generational shifts in cancer risk. Researchers observed a "birth cohort effect", where each successive group of people born at a later time seems to have a higher risk of developing cancer later in life. Studies from the past thirty years revealed nearly 80% increase in cancer cases globally in people under 50 years old. Although under-50s still account for less than 10% of all cancer cases, these represent a much larger proportion of years of healthy life lost to the disease.

Challenges with Diagnosis and Treatment

Cancer is a complex disease of the genome, challenging traditional pathways of diagnosis and treatment protocols. This complexity is revealed through suboptimal results on cancer management:

- it has one of the highest rates of failure of first-line treatment of all diseases
- misdiagnosed cancers account for 38% of diagnostic errors, leading to death or serious permanent disability
- adverse drug reactions and cardiotoxicity occur in one in five hospitalizations
- up to 11% of people with cancer die prematurely of cardiovascular disease.

Additionally, the COVID-19 pandemic delayed diagnosis, with more than 50% of all cancers being diagnosed at a later metastatic stage, which had dramatic impact on quality of life and survival rates and, consequently, on the type and cost of treatments. Health care costs for large employers spiked sharply in 2021 after remaining flat in 2020 due to nonemergency care being delayed and cancer has in many places overtaken musculoskeletal conditions as the top driver of large companies' health care costs.

Contrastingly, the COVID-19 pandemic did not negatively affect the annual oncology therapeutic product approval rate, and drug development has been experiencing an unprecedent increasing rate of approval – up to 700% compared with 25 years ago, mostly driven by targeted drugs and biologics with a slower pace on the development of the traditional cytotoxic drugs.

Forty per cent of all pharmaceutical R&D investment is directed at clinical oncology, which is making remarkable advances understanding the molecular basis of disease and approving new effective rationally-designed treatments at accelerating rate. At the same time, this means that only patients with access to comprehensive genomic profiling tests can access most of these lifesaving therapies.

These science advances keep widening the access gap, creating an unprecedent crisis in the affordability of equitable health care. Health expenditure as a fraction of gross domestic product (GDP) has been rising year-on-year in all higher-income countries, reaching 17% in the US and 10% in Australia in 2019, with cancer drug development being a major contributor. In addition, cancer has a significant impact on productivity, unemployment, labour losses, and disability-adjusted life-years. This trend emphasizes the growing cancer burden and raises concerns for public and private health, with urgent need for innovative strategies to address modifiable risk factors, access to diagnostic tests and access to the right treatment management with best predictive success for that person with cancer.

Precision Medicine

Precision Medicine has been propelled by developments in genomics and the target drugs development pipeline, represent the biggest shift in oncology medicine from the "one size fits all" approach to one of personalized treatments.

Precision Medicine personalizes treatment based on the genetic make-up that drive the cancer, thus optimizing treatment success and minimizing adverse drug reactions – the right drug at the right time to the right person, for potentially better and faster recovery. It has the potential to curb the economical and human burden of cancer.

Precision medicine showed improvement on refractory cancers survival (target therapies versus standard therapies) with up to 40% less health services resources used. Although in general can show higher upfront prescription drug costs and sequencing charges, overtime it becomes lower comparing with the non-precision groups mostly due to less cost of hospitalizations and management of adverse effects.

Precision Medicine holds a lot of potential to serve the population and the sustainability of the system, however equitable access requires significant changes in infrastructure before these ambitions can be achieved.

The current situation, although increasingly complex, represents an important opportunity for private organizations such as insurers and employers to add a cancer expert service of precision medicine. These services will allow companies to go beyond the traditional measures of cost containment and follow the inevitable shift in medicine using precision oncology in each cancer case to reassess the case, steer to appropriate treatment and add quality of life to the person with cancer.

These services must include, among others, comprehensive genomic testing of the tumor, family hereditary risk assessment and germline testing, access to a medical network with multiple disciplines and molecular tumor boards, a system of data collection and reporting, a strategy to liaise with medical treating teams and ultimately to steer to appropriate care.

Future Trends

Although there are recent national genomic initiatives across several countries, the utilization of precision medicine embedded in routine medical practice faces a variety of structural challenges. Access is therefore likely to lag the scientific advances, leaving the majority of people to receive treatments which are substantially less effective than what science has created.

Liquid biopsies against ctDNA (circulating tumor DNA) is an area in development which could further facilitate the practice of precision medicine from early detection to understanding the tumor, monitor treatment response and resistance, minimal residual disease and reoccurrence.

On drug development, the trend will continue with increased approval of targeted drugs and targeted biologicals, and a slower rate of approval for cytotoxic drugs. We will also see the shift to tissue-agnostic therapies, where drug approval is for a specific biomarker regardless of cancer type or location. We anticipate seeing also an increase in combination therapies. Although approvals from a single-agent indication account for two thirds of oncology product approvals, we should expect to see an increase in treatments with drug combination taking the complexity of cancer driving factors, the need to mitigate resistance risk since the beginning of the therapies and based on the drug development pipeline.

There are also numerous promising novel therapeutic approaches under development, some transformative such as the autologous cell therapies and CAR-T with added indications including recently for solid tumors.

Over the past three decades, genomic medicine has determined a transformative shift in oncology, driven by groundbreaking technologies such as the Next Generation Sequencing (massive parallel sequencing) and CRISPR-based genome engineering.

Now we see artificial intelligence (AI) taking center stage, offering a computational basis to integrate and synthesize this multi-dimensional data, identify patterns, and predict outcomes to improve shared patient and clinician decision making.

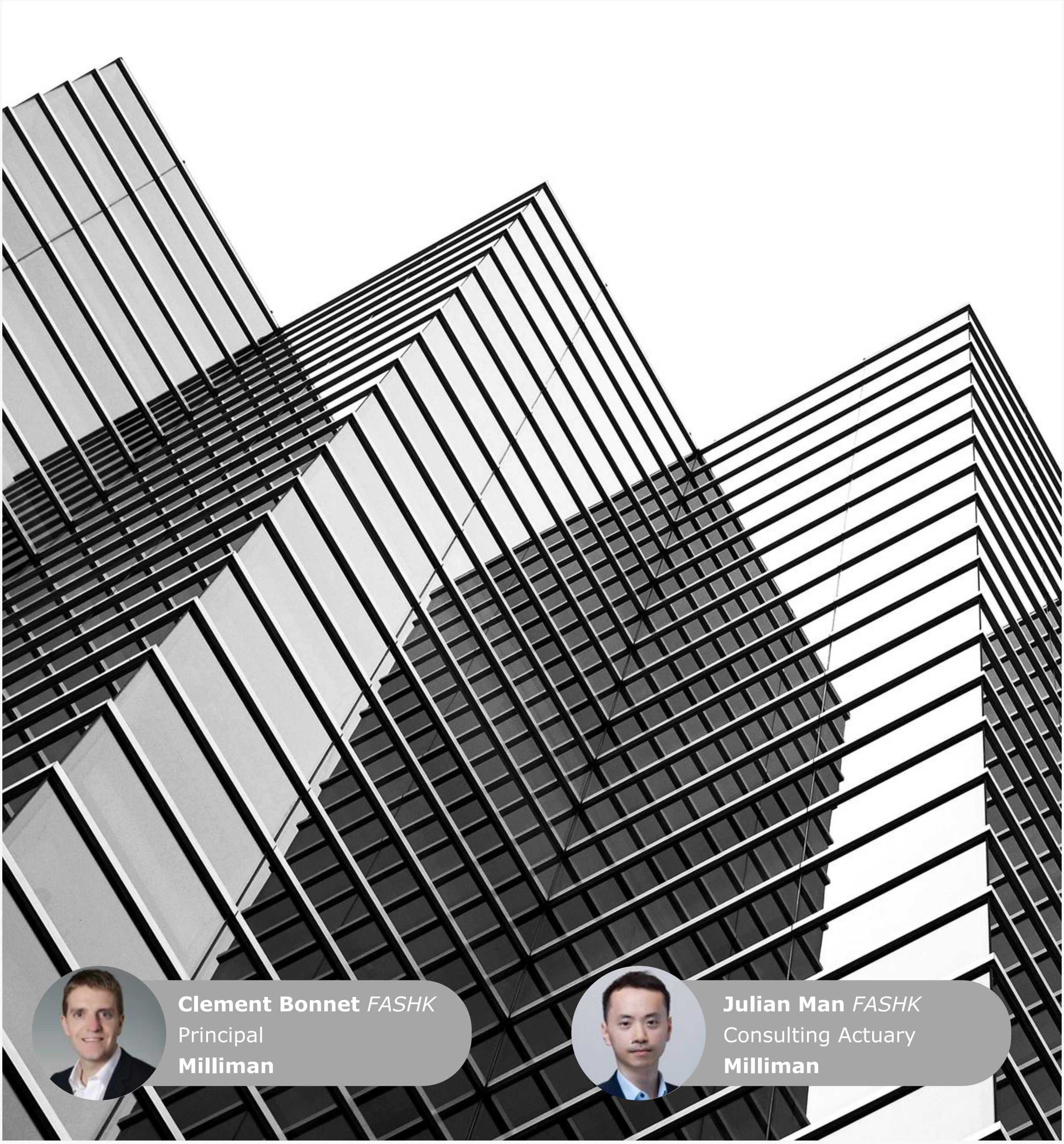
Specifically, deep learning has the ability to learn patterns from raw, unstructured input data by incorporating layered neural networks. AI integration with genomic data will accelerate the shift toward predictive medicine, revolutionizing the understanding of diseases, facilitating drug design, and further enabling personalized therapies.

Insurance Adoption

While much of what we have written sounds like medical technology for the future, it's important to appreciate a lot of it exists now already.

Insurance companies must be ready to deal with these new treatment options, balancing access with the conservative default of labelling this "experimental". The cost implications, whether it's an increase in the short-run, or a long-run cost savings as treatments prove more effective, will have to be allowed for. And of course, death claims prevented.

This will be good for insurers, but more importantly it will be great for society.



Clement Bonnet *FASHK*
Principal
Milliman

Julian Man *FASHK*
Consulting Actuary
Milliman

ASIA E-ALERT - HONG KONG: OPTIMISATION UNDER HK RISK-BASED CAPITAL AND GL34 FOR PAR BUSINESS

The Hong Kong Risk-Based Capital (HKRBC) framework came into full operation on 1 July 2024. The rules outlined in the final version of the HKRBC Insurance (Valuation and Capital) Rule (HKRBC Insurance Rule) are largely consistent with the technical specifications established for the Early Adoption of HKRBC in 2021 (Early Adoption Spec), with minor changes to specific items such as the treatment of negative reserves and the “look-through approach” for portfolio investment.

Additionally, the Guideline on Establishment and Maintenance of Fund(s) in Respect of Participating Business (GL34) also became effective on 1 July 2024, setting out additional requirements for participating (par) business sold in Hong Kong. Par is the most prevalent product type in Hong Kong.

The implementation of HKRBC and GL34 presents both challenges and opportunities for insurers. Proactive planning and continuous optimisation will be key to thriving under HKRBC and GL34, as insurers should not only ensure compliance but also seek to optimise their balance sheets.

In this e-Alert, we highlight some of the key changes of the HKRBC Insurance Rule compared to the Early Adoption Spec and some of the key requirements set out in the GL34. We then discuss potential areas of optimisation under this new regulatory environment.

HKRBC Insurance Rule

Figure 1 provides a high-level overview of the HKRBC Insurance Rule, while Figure 2 provides a comparison between the Early Adoption Spec and the HKRBC Insurance Rule. They are not intended to be a comprehensive summaries of all the changes under the HKRBC Insurance Rule.

Figure 1: HKRBC Insurance Rule Overview

ITEM	DESCRIPTION
REGULATORY BODY	Hong Kong Insurance Authority (IA).
MINIMUM AMOUNT OF CAPITAL REQUIRED	HKD 20 million (under current regulation).
MINIMUM SOLVENCY CAPITAL ADEQUACY RATIO	The company is required to hold 100% of the Prescribed Capital Amount (PCR) calibrated with reference to a value-at-risk at a 99.5th percentile over a one-year period. A restoration plan may need to be provided and executed if capital falls below the PCR, and a financial scheme may be needed if capital falls below the Minimum Capital Requirement (MCR), which is defined as 50% of PCR, reflecting a similar metric to PCR but at a 90th percentile.
APPROACH USED TO DETERMINE CAPITAL REQUIREMENT	Risk-based.
ALLOWANCE FOR INTERNAL MODEL	Not allowed.

Figure 2: Comparison between early adoption spec and HKRBC insurance rule

AREA	ITEM	DESCRIPTION
AVAILABLE CAPITAL RESOURCES	Tier capital	▪ For early adoption, there are no specific rules on the treatment of negative reserves. ▪ In the HKRBC Insurance Rule, the total negative reserves of long-term business are classified as Tier 2 capital.
LIABILITY BASIS	Tax	▪ The effective tax rate for both the Early Adoption Spec and the HKRBC Insurance Rule is surplus-based. ▪ The effective tax rate is based on the previous year's experience in the Early Adoption Spec but the prior three-year average experience in the HKRBC Insurance Rule.
LIABILITY BASIS	Management actions	▪ There are two types of management actions in the Early Adoption Spec: 1) business-as-usual (BAU) management actions. 2) stressed management actions. ▪ BAU management actions are part of the product design or the BAU routine under normal economic conditions, while stressed management actions are restricted to changes in future non-guaranteed benefits (i.e., additional non-BAU premium adjustments are not allowed).

AREA	ITEM	DESCRIPTION
LIABILITY BASIS (CONTINUED)	Management actions	▪ There is no explicit separation of BAU and stressed management actions under the HKRBC Insurance Rule. The management actions could be applied if they fulfil the conditions described in the HKRBC Insurance Rule.
CAPITAL REQUIREMENT	Market risk	▪ There is no specification on transition arrangements in the Early Adoption Spec. ▪ In the HKRBC Insurance Rule, a transitional arrangement is allowed, subject to approval by the IA on a case-by-case basis, to allow companies to reduce market risk capital within three years from the HKRBC commencement date.*
CAPITAL REQUIREMENT	Credit spread risk	▪ The credit spread shock for green bond investment is reduced by applying a 90% multiplication factor to the credit spread shock factors in the HKRBC Insurance Rule.
CAPITAL REQUIREMENT	Look-through approach for portfolio investment	▪ Look-through approaches determine the required capital of the investments underlying an investment portfolio. ▪ In the Early Adoption Spec, there are only two look-through approaches, namely the full look-through and the mandate-based look-through. ▪ In the HKRBC Insurance Rule, a new look-through approach, referred to as the actual allocation-based look-through, is included. This new approach treats all underlying debt securities as a single investment with weighted average duration and maturity and credit ratings for the underlying debt securities for the calculation of risk capital.

* A transitional measure is offered through the amendment to the Inland Revenue Ordinance gazette in 2023, allowing insurance companies the option to spread tax liabilities as a result of HKRBC implementation over five years from the date of adoption of HKRBC.

GL34 for par business

GL34 also came into effect on 1 July 2024. The guideline, primarily principle-based, outlines the minimum standard for establishing and managing par business in Hong Kong, in addition to another existing guideline on managing par business (the Guideline on Underwriting Long-Term Business, or GL16).

Notably, GL34 addresses a number of aspects, including the requisite opening balance of assets at the effective date, which must not fall below the value of assets attributed to par business, and with additional assets required for any future deficiency. Furthermore, GL34 covers areas such as the allocation of expenses, charges and surplus. The allocation of surplus should follow the principles set out by the IA and be documented by the company to demonstrate compliance with the principles, including sustainability and the balance of interest between policyholders and shareholders. Within nine months from the commencement date (i.e., by 31 March 2025), the insurer should submit an independent report on the establishment of its par fund(s) covering items such as the identification of assets and liabilities, the sufficiency of the opening balance and expense, charge and surplus allocation. The Insurance Authority (IA) is developing further guidelines on the establishment of a Participating Business Committee and other governance matters, as well as disclosure requirements. Figure 3 provides a summary of key additional requirements of GL34 in addition to those set out in GL16.

Figure 3: Key additional requirements on Par Fund Management in GL34

ITEM	DESCRIPTION
PHYSICAL SEGREGATION OF ASSETS	At minimum, the physical segregation requirement from other long-term business applies to each of the applicable par funds (exempted if the total amount of gross insurance liabilities of all applicable par funds is less than HKD 1 billion as at the effective date).
IDENTIFICATION OF ASSETS AND LIABILITIES	It is required to be able to identify the attributable assets and liabilities for each applicable par fund from other long-term business.
OPENING BALANCE	An opening balance of assets at the effective date needs to be determined, which must not fall below the assets attributed to par business, with additional assets required for any future deficiency.
EXPENSES AND CHARGES	Expenses and charges should be allocated to each applicable par fund in a fair, equitable and reasonable manner. Appropriate analysis should be performed to justify any allocated costs.
DISTRIBUTABLE SURPLUS/PROFITS	Allocation of distributable surplus or profits between policyholders and shareholders should comply with corporate policy on governance of par business approved by the company's board of directors.
CAPITAL SUPPORT	The use and withdrawal condition of capital support for each applicable par fund should be clearly documented, with appropriate oversight and governance by the board.
INDEPENDENT REPORT OF THE ESTABLISHMENT OF PAR FUND	By 31 March 2025, insurers should submit an independent report covering areas such as the identification of assets and liabilities, sufficiency of the opening balance and expense, charge and surplus allocation.

Potential areas of optimisation under HKRBC and GL34

Under the change to the HKRBC framework, life insurance companies in Hong Kong need to transition from managing their balance sheets under the prior Hong Kong Insurance Ordinance (HKIO) basis (similar to Solvency I) to a more economically grounded approach closer to the International Capital Standard (ICS) basis. This shift necessitates a comprehensive reevaluation of balance sheet management strategies. After completing the initial implementation phase of HKRBC, companies need to focus on optimising their HKRBC balance sheets to enhance financial performance and stability.

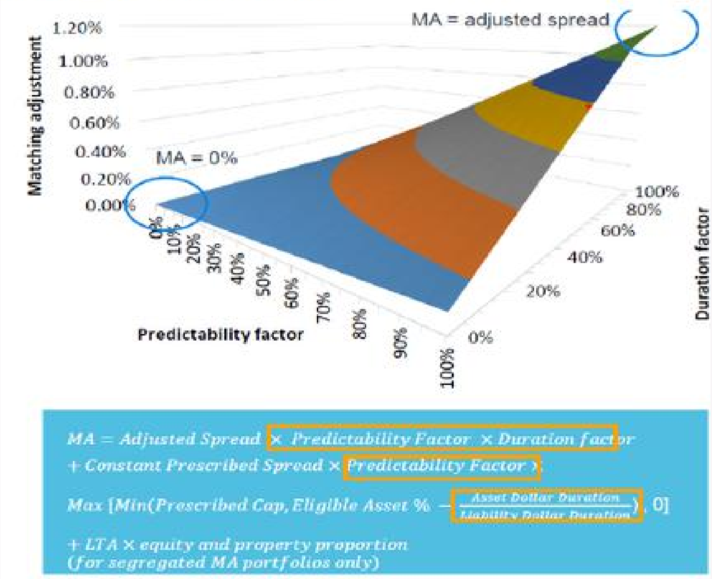
In this section, we outline key areas for potential optimisation under HKRBC and GL34. These optimisation strategies are based on industry observations and are designed to address the unique challenges posed by the new regulatory environment. However, it is important to note that these examples are not exhaustive, and any optimisation approach should be tailored to the specific risk profile of each company.

Optimisation of Matching Adjustment (MA) and asset portfolio through different initiatives

- Optimisation of the key parameters of the MA formula (i.e., predictability factor and duration factor), with a particular focus on net cash flows up to the last liquid point (i.e., 30 years for US dollars and 15 years for Hong Kong dollars) is key to achieve an optimal MA. The improvement of the Asset-Liability Management (ALM) framework (e.g., more focus on cash flow matching) aims to reduce the volatility of the HKRBC balance sheet and reallocate capital away from interest rate risk to risks with potential for greater returns (so as to allow more investment in growth assets). The hypothetical example[1] in Figure 4 is used to illustrate MA optimisation for a given adjusted spread and set of other parameters based on the MA formula.

[1] Based on adjusted spread = 120 basis points (bps), eligible assets = 100%, constant prescribed spread = 60 bps.

FIGURE 4: MA OPTIMISATION



- Long-Term Adjustment (LTA) utilisation helps to optimise MA. The LTA is only applicable to MA portfolios that meet the eligibility criteria (typically par business, as one of the key requirements is to have the assets and liabilities managed under a physically segregated fund). It is calculated as 100 basis points multiplied by the proportion of equity and property in the portfolio, subject to a cap. Given the requirements under GL34 for insurers to physically segregate par funds, these segregated funds can apply for the LTA. A potential approach to uplifting the MA by utilising the LTA could be via dynamic Strategic Asset Allocation (SAA).

- Optimisation of the look-through approach of collective investment schemes or other similar assets could also be utilised to improve MA. By thoroughly analysing the underlying assets within collective investment schemes, insurers can better align these investments with the MA criteria. This not only improves the effectiveness of the MA but also helps in mitigating capital charges associated with equity and interest rate risks compared to the full application of equity risk charges for a non-look-through portfolio.

- A thorough review of the granularity of the SAA within the context of the MA portfolio (i.e., the credit profile and the tenor of the MA-eligible assets) is essential for understanding the impact of SAA on the MA and optimising the SAA framework. The objective is to transition from a traditional asset return versus asset volatility framework to a return on capital framework, which places additional focus on capital efficiency of the underlying assets. For more advanced companies, this may involve updating the return on capital framework to incorporate HKRBC-specific considerations. Additionally, special attention should be given to reviewing and optimising the credit and alternative assets portfolios. This ensures that the asset allocation is not only aligned with the MA criteria but also maximises the return on capital, while adhering to regulatory requirements.

Balance sheet management through hedging programmes

- Historically, the use of derivatives for hedging purposes has been relatively limited among life insurers in Hong Kong, with the primary exception being the management of currency (FX) risk. However, with the introduction of the HKRBC framework, some companies are now developing, or enhancing, their hedging programmes in order to minimise capital requirements, reduce their time value of options and guarantees (TVOG) and ultimately reduce the volatility of their balance sheets and allow better allocation of capital. By effectively utilising derivatives, insurers can better manage their risk exposures and improve their overall capital efficiency under the new regulatory regime.

- There is a growing emphasis on enhancing interest rate hedging using derivatives as a tool for managing duration and convexity gaps. Specifically, some insurers are using derivatives such as bond forwards and interest rate swaps to reduce their duration gap and pre-fund expected future net cash flows allocated to fixed income over the coming years. The HKRBC capital resource is typically not a linear function of the underlying interest rate, primarily due to the cost of "burn-through" for par products.

- Burn-through refers to the situation where the guaranteed returns on par products exceed the actual investment returns, leading to a shortfall that the insurer must cover, and this cost increases more significantly when interest rates are close to the guaranteed level of the par fund. Although hedging second-order interest rate risk is often not considered by life insurers in Hong Kong, as it is frequently perceived as overly complex, we may see an increased focus in the future.
- Apart from interest rate hedging programmes, insurers have been more active in considering a broader range of advanced hedging strategies to manage various risks. These include equity derivatives (e.g., options), credit spread derivatives (e.g. credit default swaps [CDS]), and even nonlinear derivatives such as constant maturity swaps for hedging mass lapse risk. While these advanced hedging strategies are not yet commonly used in Hong Kong, they present potential avenues for enhanced risk management that may warrant further study. Equity derivatives, for instance, are typically not deemed efficient for companies that focus on long-term value metrics such as the Value of New Business (VNB) or long-term operating profit. Consequently, these derivatives are more commonly employed for tactical asset allocation or short-term risk management purposes rather than long-term strategic objectives.

- In summary, while there is growing consideration among insurers for exploring advanced hedging programmes under the HKRBC framework, it is essential to carefully evaluate their suitability and efficiency, as well as their alignment with the business objective of the company.

Enhancements of modelling of dynamic management actions and policyholder behaviour

- Given the introduction of the new GL34 par fund management requirement, many insurers are focussing on enhancing dynamic management actions to optimise financial outcomes while meeting policyholder expectations. This includes reviewing and enhancing the dynamic dividend adjustment mechanism for par business using an asset share approach. This could become a more common approach under GL34. Additionally, developing a dynamic asset share charge and dynamic SAA framework aims to maximise returns while minimising asset and liability mismatches, thereby optimising capital requirements under HKRBC. Specific strategies such as dynamic equity backing ratio (EBR) investment strategies for par products and dynamic crediting rate mechanisms for universal life business are also being explored by some companies to mitigate risks such as disintermediation, reinvestment and default risk.

- In parallel, some insurers are also enhancing dynamic policyholder behaviour modelling to allow more accurate representation and management of policyholder behaviour. This involves reviewing the scope and impact of dynamic policyholder behaviour modelling rules, particularly dynamic lapse modelling for universal life products, which is commonly used in the Hong Kong market despite a general lack of extensive historical data. By refining these models, insurers aim to better understand and predict policyholder behaviors, thereby minimising their TVOG and improving overall financial stability under the HKRBC framework.

Risk transfer through reinsurance arrangements

- A thorough review of traditional mortality and morbidity (e.g., critical illness) reinsurance treaties is important for life insurers to help them to better manage their risk exposures. Appropriate utilisation of these reinsurance treaties may lead to reductions in capital requirements under HKRBC, thereby improving financial positions.

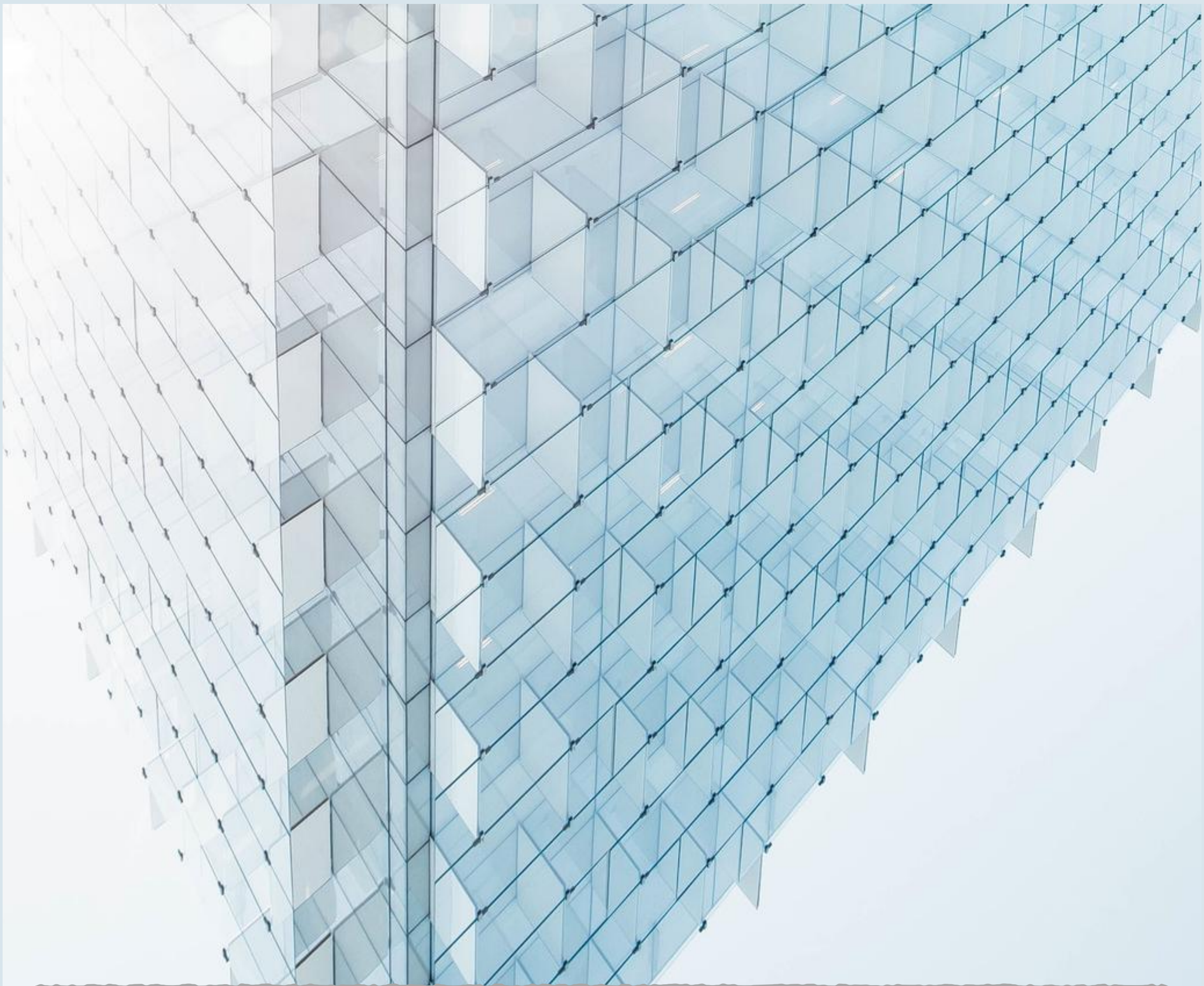
- In addition to traditional reinsurance, life insurance companies should evaluate the potential benefits of nontraditional reinsurance transactions for closed blocks of business, where the particular block of business will be transferred to a third party. These transactions are increasingly being explored to optimise financial outcomes under both HKRBC and International Financial Reporting Standard (IFRS) 17. Such nontraditional reinsurance arrangements aim to provide strategic approaches to effectively manage closed blocks of business.
- While the lapse risk charge (defined as the maximum between level and trend lapse risk and mass lapse risk) is generally not linked to mass lapse risk for most insurers in Hong Kong, it remains a significant concern for some companies. Although some insurers have evaluated the costs and benefits of mass lapse reinsurance, there are few documented cases of successful implementation to date. Moreover, insurers may look to consider other forms of lapse reinsurance (apart from mass lapse reinsurance), where a portfolio is reinsured against a +/-50% change in lapses, to further reduce their capital requirements for lapse risk. This may offer a potential method for better managing lapse risk under the HKRBC framework.

Conclusion

The full implementation from 1 July 2024 of the HKRBC framework and GL34 represents a significant milestone for the insurance industry in Hong Kong, marking the start of a new journey for many insurers. They must now move beyond mere compliance and process implementation to focus on optimising their solvency balance sheets under a more economically grounded approach. This optimisation exercise necessitates a thorough approach, beginning with an initial gap analysis to identify areas of improvement, a subsequent proof-of-concept test to validate the proposed strategies and then a comprehensive implementation plan to ensure seamless execution.

Moreover, the complexities introduced by the new regulatory regime mean that various functions within an insurance company are now more interconnected than ever before. As a result, there is a pressing need to adopt a holistic approach to overall financial management. This integrated strategy will help insurers to navigate the challenges of the HKRBC framework and GL34 effectively, ensuring not only compliance but also enhanced financial stability and performance.

For further information, please contact the authors of this e-Alert or your usual Milliman consultant.



Clement Bonnet *FASHK*, Principal, **Milliman**

Joshua Ho, Actuarial Associate, **Milliman**

Julian Man *FASHK*, Consulting Actuary, **Milliman**

Chong Wen Ang, Principal and Consulting Actuary, **Milliman**

Linda Jin, Consulting Actuary, **Milliman**

Yu Wei Lim, Consulting Actuary, **Milliman**

2023 IFRS 17

Disclosure Report: Asia

Introduction

Globally, International Financial Reporting Standard (IFRS) 17 became effective on 1 January 2023. For some Asian insurance markets such as South Korea, Hong Kong, Singapore and Malaysia, the standard also became effective from the same date. In Mainland China, the same effective date only applies for companies that are listed overseas and have adopted international accounting standards. For Mainland China domestic insures that are not listed, the effective date is 1 January 2026. The application of IFRS 17 in other markets such as India, Taiwan, Thailand and Indonesia has been deferred.

The IFRS 17 standard requires an assessment of the profitability of insurance contracts when they are first issued and, if positive, recognition of profit over the lifetime of the contracts in a manner that reflects the timing of the insurance services provided by the insurer. Specifically, the main features of the new accounting framework for insurance contracts include:

- A fair value measurement of future expected cash flows, incorporating an explicit risk adjustment. Assumptions used in the projection need to be the current best estimate.
- A contractual service margin (CSM), which represents the unearned profits of the insurance contract to be recognised in profit and loss as service is provided over the coverage period of the insurance contract (any loss is recognised immediately). The CSM is calculated at inception of the contract and then released in a systematic way that best reflects the transfer of services provided under the contract. The CSM cannot be negative, so losses from unprofitable contracts are immediately booked in the profit and loss (P&L) statements.
- Companies are required to identify contracts that are onerous (loss-making) at inception and group them separately from non-onerous contracts. Companies are also required to group contracts written one year apart, although exemptions exist in some jurisdictions due to mutualisation effects across insurance contracts.
- Compared to the previous IFRS 4 framework (called Phase 1, implemented in 2014), the presentation of results in the income statement and balance sheet has changed significantly. In particular, the key drivers of profit are shown in the P&L with the presentation of insurance revenue and insurance service expenses in the statement of comprehensive income based on the concept of services provided during the period.

Based on IFRS 17 disclosures of insurance companies, we have produced a report giving a comparative analysis of key aspects of the IFRS 17 methodology and financial results. In particular, the full report aims to provide inputs to the following questions:

- What are the key commonalities and differences in IFRS 17 methodology among the companies considered in the scope of the analysis?
- How does IFRS 17 impact the adjusted equity as at 31 December 2022 and 31 December 2023, and how does this compare against embedded values?
- What is the impact of IFRS 17 on companies' profitability, including IFRS 17 net profit and non-GAAP operating profit metrics?
- What are the key drivers impacting IFRS 17 profitability, how do they compare across companies and how have they evolved over time?

- How does new business value creation look under IFRS 17, and how does this compare against a traditional embedded value new business creation metric as at year-end 2022 and year-end 2023?
- What are the key drivers impacting companies' new business value creation under IFRS 17?

The information contained in the report is based on information publicly disclosed by selected companies as part of their normal disclosure process. Companies included in the analysis are selected global or domestic companies with material business in Asia. For those companies with both life and non-life business, the analysis primarily focuses on their life business. In particular, the following companies have been included:

- **Multinational companies with material insurance business in Asia (Regional companies):** AIA Group Limited (AIA), FWD Group Holdings Limited (FWD), HSBC Life Insurance (HSBC) and Prudential Plc (Prudential), two Canadian multinational insurers—namely Manulife Financial Corporation (Manulife) and Sun Life Financial Inc. (Sun Life)—and one European insurer (AXA).
- **Companies with their main focus on Mainland China (China companies):** China Pacific Life Insurance Co., Ltd (CPIC), New China Life Insurance Co., Ltd (NCI), The People's Insurance Company (Group) of China Limited (PICC), Ping An Life Insurance Company of China, Ltd. (Ping An) and China Taiping Life Insurance (Hong Kong) Company Limited (Taiping).
- **Companies operating either in Singapore or in Malaysia (Singapore and Malaysia companies):** Allianz Life Insurance Malaysia Berhad (Allianz), Maybank Ageas Holdings Berhad (Etiqa), Great Eastern Holdings Limited (Great Eastern) and Hong Leong Assurance Berhad (results based on end of June 2023)

The report aims to provide initial insights into IFRS 17 financials and the impact on life insurance companies, based on publicly available information and our internal assessment. The observations do not attempt to be exhaustive. Approximations have been made in some areas, and the results would differ from those presented in this report should a different approach be used. It is also important to recognise that insurance companies have only recently started communicating on the impact of IFRS 17 on their business and, consequently, the information contained in this report is time-sensitive and could evolve over time.

We have produced an executive summary of the full report, which we are sharing here. If you would like to request a copy of the full report or discuss the IFRS 17 disclosure in any of the markets covered in this report in more detail, please contact one of the Milliman consultants listed at the end of the report.

Executive Summary

We examine IFRS 17 disclosures from selected global and domestic insurance companies with substantial operations in Asia, emphasising the underlying methodologies and key financial results, including base case performance and sensitivity disclosures to various risks. It is important to note that our analysis does not aim to provide an exhaustive list of companies. Instead, we have selected representative companies for this study, acknowledging that methodologies and results for companies outside this scope may vary significantly.

In the methodology section, we conduct a comparative analysis based on the disclosed information across different regions and different companies, covering measurement models, risk adjustments, discount rates, coverage units and transition approaches.

Although IFRS 17 is largely principle-based, allowing companies to develop their own internal calculation methodologies based on their interpretations of the standard, certain similarities and differences are evident among the companies. For instance, there is a consistent application of the variable fee approach (VFA) for participating business and unit-linked products across regions, while both the general measurement model (GMM) and VFA are used for universal life contracts. The value at risk (VaR) approach is commonly employed for calculation of risk adjustments, although the confidence intervals vary among companies. The tables below provide a high-level view of the companies selected across the regions. Overall, while there are consistent trends in certain areas, the underlying methodologies exhibit significant diversity, contributing to variations in results among the companies.

EXEXUTIVE SUMMARY OF KEY DISCLOSED METHODOLOGY OF SELECTED COMPANIES ACROSS REGIONS

	REGIONAL	CHINA	SINGAPORE AND MALAYSIA
Measurement Model	Largely consistent for key products, with participating and unit-linked under VFA		
Valuation Technique	All use a method similar to typical economic balance sheet calculations		
Risk Adjustment	Primarily use VaR, except for two that use a margin approach	Mainly use VaR except for two companies that use a Cost of Capital (CoC) approach	
Discount Rate	The majority use the bottom-up approach, except for three	All use the bottom-up approach	
Coverage Unit	More information on the insurance services compared to the investment services		
Disaggregation of Insurance Finance Expense	Primarily choose the OCI option for certain business lines, with one exception		
Transition Approach	All three approaches are utilised, but the Modified Retrospective Approach (MRA) is less common among regional companies.		

We have analysed the key results from the IFRS 17 disclosures and compared them to other metrics from supplementary information disclosed by companies, where applicable. The results appear to be region-specific, prompting us to compare key selected financials among companies within each region and conduct a regional comparative analysis, which is summarised in the table below.

Notable differences in asset classification under IFRS 9 are observed for debt and equity securities with the use of fair value through other comprehensive income (FVOCI) and fair value through profit or loss (FVTPL).

Adjusted equity, defined as the sum of IFRS 17 shareholders' equity and net of tax CSM, is disclosed by regional companies but not by China companies or Singapore and Malaysia companies.

While IFRS 17 net profit remains a crucial metric for all, regional companies also use non-GAAP operating profit measures to provide a more long-term perspective on profitability, excluding short-term market fluctuations.

In terms of new business value creation, our analysis of new business CSM (NB CSM) versus traditional embedded value metrics such as value of new business (VNB) indicates no consistent trend among companies or within one geography, as they are driven by valuation basis differences that may vary significantly across different companies or regions.

EXEXUTIVE SUMMARY OF KEY DISCLOSED RESULTS AS AT YEAR-END 2023 OF SELECTED COMPANIES ACROSS REGIONS

		REGIONAL	CHINA	SINGAPORE AND MALAYSIA
Asset classification	Debt	Mainly FVOCI		Mix of FVOCI and FVTPL
	Equity	Mainly FVTPL	Mix of FVOCI and FVTPL	
Nonattributable expense to total expense		10% to 50%	30% to 40%	Less than 20%
Adjusted equity^ to embedded value		83% to 122%	108% to 141%	86%
Profitability		Stable net profit except two. Non-GAAP performance metrics also are disclosed.	Relatively stable net profit.	Less stable net profit.
New business CSM to VNB		75% to 176%	107% to 426%	74% to 137%
Implied CSM release rate^		8% - 11%	7% -10%	9% to 13%
Discount rate (implied illiquidity premium)		USD:60bps to 100bps HKD:50bps to 100bps CNY: 20bps to 50bps	Not disclosed	USD: 55bps to 100bps SGD: 80bps to 140bps MYR: 20bps to 75bps
Sensitivities	Insurance	Most sensitive to mortality and morbidity risks		
	Market	Company-specific and highly affected by risk management practices		

^ Gross of tax CSM is used for the adjusted equity for China companies and Singapore and Malaysia companies because they do not disclose net of tax CSM. Implied CSM release rate is defined as CSM release / (NB CSM + Gross CSM BOP).

Our sensitivity analysis indicates that all companies within the scope disclose the impacts of insurance and market risks on P&L and shareholders' equity. However, only regional companies also report the impacts on the CSM. Among insurance risks, the companies in scope are most sensitive to mortality and morbidity risks, with varying degrees of impact from lapse and expense risks. Regarding market risks, the effects on equity or P&L due to interest rate and equity price fluctuations differ. Additionally, we observe that the P&L impact from market risks can be mitigated by using the other comprehensive income (OCI) option for both assets and liabilities.

We hope you find this information useful and would welcome feedback or a conversation about the topics above, and how they may align with your business objectives.

For further information, please contact Milliman for the full report.

Greg Soloman *FASHK*
Member
ASHK Membership & Communications Committee

ASIAN ACTUARIAL CONFERENCE – AAC 2024
A Resounding Success for host city Hong Kong

I had only been at the AAC for 10 minutes, when I knew it was going to be an excellent event.

In that short time, I had already registered quickly and efficiently, received my generous goodies bag, bumped into someone that I used to work with 25 years ago, and started sipping on a very professional coffee from GenRe.

And the next couple of days did not disappoint … high quality lectures, non-stop networking, and great catering.

(AAC Committee: Billy Wong, Minnie Yu, Timothy Wong, Simon Lam, Alex Wong, Mark Saunders, Orchis Li, Iris Lun, Steve Hui, Sherry Du, Chris Tam, Sean Deehan; Missing: Yen Liu, Kevin Li)

AAC by Numbers

The AAC is the headline event for the Asian Actuaries Association.

This is made up of Asia-Pac actuarial organisations including Australia, China,Hong Kong, Malaysia, Philippines, India, Indonesia, Japan, Korea, Singapore, Taiwan and Thailand. There is also close collaboration with international organisations including the Casualty Actuarial Society, Institute & Faculty of Actuaries, International Actuarial Association, and Society of Actuaries.

This year, Hong Kong hosted the AAC for over 1000 participants from 32 regions – which included more than 100 presenters and panellists, and over 40 sponsors and supporting organizations.

Next year, the AAC will be held in Bangkok.

Activities & Events

The event began with cocktails on Tuesday night, bringing together hundreds of people from different countries, all with a common interest in the actuarial profession (and a drink or two).

Day 1 began with a session that included Joseph Chan, Under Secretary for Financial Services and the Treasury for Hong Kong SAR, and Stephen Yiu, Chairman of the Insurance Authority.

This was followed by a high-powered panel of regional insurance CEOs, and then many other interesting sessions that covered technology, investment strategy, retirement, climate risks, ALM, and more.

Day 2 continued with even more top-quality sessions, addressing the interests of a wide range of actuaries, covering emerging Asia, HK as an insurance hub, net zero, sustainable healthcare, talent management, ESG, machine learning, distribution strategies, and the actuarial advantage in a VUCA (Volatility, Uncertainty, Complexity, Ambiguity) world.

(AAC Committee members leading the GBA excursion: Yen Liu (front, 6th from left) and Alex Wong (front, 8th from left))

Day 3's sessions included innovation and technology, digital transformation, and professionalism.

To close, the AAC Organising Committee arranged four optional tours, including the Asia Ins. x Avo Ins. **Cyberport FinTech Tour**, the Deloitte **Science Park FinTech Tour**, the PingAn & Tencent **GBA Tour**, and the **Palace Museum Private Tour**.

At the end, everyone agreed … the event was a tremendous success.

People spoke excitedly about networking with so many interesting attendees, about learning from sessions with such a high standard (both in terms of speakers and subjects), and the flawless implementation of such a big event – which must have taken significant effort from everyone involved.

(AAC Committee member with sustainable healthcare panel: Kevin Lee (right))

Thank You!

Thanks to the many people who made this year's event such a big success.

- Event Co-chairs: Simon Lam, Alexander Wong, Billy Wong
- Program Co-chairs: Sherry Du, Orchis Li
- AAC Committee Members: Sean Deehan, Steve Hui, Kevin Li, Yen Liu, Iris Lun, Mark Saunders, Chris Tam, Timothy Wong, Minnie Yu
- ASHK team: Damian Yip, Joanna Cheung, Mandy Wong, Renee Tang, Theresa Lam
- Sponsors: Swiss Re (platinum); AIA, Aon, Hannover Re, HSBC Asset Management, HSBC Life, KPMG, Munich Re, RGA, SCOR, Sun Life (Gold), and many others

Photos of the event are available here.
See you at next year in Bangkok!

(Members of the Thai Actuarial Society giving a cultural teaser for next year's AAC event)

We would like to thank all the AAC sponsors.

Platinum Sponsor

Swiss Re

Gold Sponsors

AIA HEALTHIER, LONGER, BETTER LIVES
AON
hannover re
HSBC Asset Management
HSBC Life
KPMG
Munich RE
RGA
SCOR The Art & Science of Risk
Sun Life 永明金融

Silver Sponsors

Canada Life Reinsurance
CASUALTY ACTUARIAL SOCIETY
中国再保 CHINA RE
FWD insurance
Institute and Faculty of Actuaries
Manulife
Milliman
PRUDENTIAL 保誠保險
Resolution Life
SOCIETY OF ACTUARIES
wtw

Bronze Sponsors

Actuaries Institute.
avo
AXA 安盛
CTF Life 周大福人壽
Deloitte.
EY 安永 Building a better working world
Gen Re
M&G Investments 英卓
NOMURA NOMURA ASSET MANAGEMENT
PartnerRe
TALCOTT FINANCIAL GROUP

Exhibitors

CASUALTY ACTUARIAL SOCIETY
中國太平 | 太平人壽(香港)
coherent spark
CONNING
FIS
FORTRESS INNOVATION
MACQUARIE
MOODY'S
OliverJames
PACIFIC LIFE RE

Supporting Organisation

政府資助計劃 Government-funded programme
HONG KONG TOURISM BOARD 香港旅遊發展局
HONG KONG ACADEMY OF FINANCE 金融學院
actuview

Official Media Partner

ASIA INSURANCE REVIEW

Official Carrier and Prize Sponsor

CATHAY PACIFIC

Event App Sponsor

RGA

Power Bank Sponsor

UBS

Tour Host

數碼港 Cyberport

INTERVIEW WITH 2023 ASHK VOLUNTEER AWARDEES

The ASHK has always been driven by a shared purpose: To provide a platform for our members to improve sustainability by helping people and organisations be more financially resilient with positive social impact. We believe that the success of ASHK rests upon the selfless dedication of our volunteers. These individuals give their time, expertise, and unwavering commitment to support our initiatives, foster professional growth, and contribute to the wider actuarial community.

In 2023, more than 100 members volunteered to serve the society on committees, task forces, projects, and events. This year the ASHK Volunteer Awards were presented at the ASHK Volunteers Appreciation Lunch held in March this year. Every year the council receives nominations from Council and Committee Members for ASHK members that have provided exceptional service to the society during the year. Below are our 2023 awardees and their sharing of their amazing experience as ASHK volunteers. You are encouraged to sign up as our volunteers for our committees, task forces, projects, and events! Opportunity to do so when you renew your membership. It will be an excellent opportunity to increase your personal network while also contributing to our society!

ASHK Volunteer Awardee	Company/ Organisation	ASHK Committee
Billy Wong	BCT	Co-Chair of AAC Organising Committee
Bob Charles	Coherent	Member of Health Committee, and Innovation Committee
Candy Chan	Manulife	Member of Appointed Actuary Symposium Organising Committee
Christopher Tam	Deloitte	Member of AAC Organising Committee
George Tang	AIA	Member of Life Committee Member of Appointed Actuary Symposium Organising Committee
Jenny Lai		Member of GI Committee
Jiang Bin Lai	HSBC	Member of Life Committee
Louis Lee		Member of Actuarial Innovation Committee
Mary Kwan	Fu Bon	Member of M&C Committee
Matsuta Ng	AIA	Member of Financial Reporting Committee
Orchis Li	Gen Re	Member of Health Committee, Innovation Committee, and Programme Chair of AAC Organising Committee
Scott Chow	Milliman	Member of Actuarial Innovation Committee
Terry Chen	PwC	Member of Curriculum & Examination Taskforce
Wilson Wu	Generali	Member of Curriculum & Examination Taskforce, and Financial Reporting Committee
Xavier Lo	AXA	Vice-Chairperson of GI Committee Member of Curriculum & Examination Taskforce

Billy Wong *FASHK*

ASHK: Tell us a bit about you

Billy: I am now working at BCT, the Top 6 MPF provider.I am currently focusing on business, sales and marketing.

ASHK: What volunteering are you doing at ASHK?

Billy: I'm focused on the preparation of 2024 Asian Actuarial Conference, which is targeting 1,000+ participants from all over the world and this is fundamental to enhance Hong Kong actuaries' profile in the world. I learnt a lot on how to influence others and this helps a lot to build my personal profile as well. I encourage everyone to try volunteering to learn and to contribute!!!

Bob Charles *FASHK*

ASHK: Tell us a little bit about yourself.

Bob: Over my career as an actuary there have been dramatic changes in technology, regulations, and financial markets. Yet surprisingly many aspects of working as an actuary still feel familiar – because our professional culture hasn't changed. This gives me a lot of optimism for the future careers of young actuaries today.

ASHK: Are there any highlights during your volunteering experience?

Bob: As a member of the Health, Strategy and Innovation Committees I have participated in events as a speaker, panellist, and panel facilitator. It's not at all easy to organise events that will be more than just CPD hours machines. The ASHK's staff and committees are doing a brilliant job of consistently creating events that are interesting, useful and feel full of energy!

Candy Chan *FASHK*

ASHK: Tell us a little bit about yourself.

Candy: I'm Senior Actuarial Director in Manulife, with latest focus on in force management as well as strategy and analytics projects. With the fast evolution of new technology and AI, as actuaries, we have more opportunities to leverage on new techs to challenge status quo and provide professional advice to the business.

ASHK: Tell us about your volunteering at ASHK.

Candy: I supported in the Appointed Actuary Symposium Organising Committee and joined ASHK in inspiring new gen. through university career talk. Volunteering at ASHK is a great experience, especially when I got the chance to listen and speak to a group of university students. I was really impressed by how eager they were to hear more on the career journey of being an actuary and how to get themselves well equipped beforehand.

Christopher Tam

ASHK: Can you give us your background

Chris: I am a director in Deloitte Consulting who is specialized in actuarial & finance target operating model advisory, process & system transformation, risk & capital optimization. Meanwhile, I am a qualified actuary, a certified public accountant and a qualified financial risk manager.

ASHK: Why is volunteering important to you?

Chris: Being volunteering with ASHK is strategically important to me, which gives me an opportunity to promote Hong Kong actuarial profession & insurance practices not only within Hong Kong, but also Asia Pacific region and the rest of the world. On the other hand, it is an effective channel for me to expand my professional network to a variety of insurance practitioners coming from insurer, reinsurer, consulting firm and software vendors.

George Tang *FASHK*

ASHK: Hi George, what do you do?

George: I am the Chief Corporate Actuary of AIA International and also serve as the Appointed Actuary of AIA Everest, where I am responsible for overseeing a wide range of actuarial activities including participating and universal life business management, reinsurance management, experience management, solvency management, and actuarial modelling.

ASHK: How are you involved in ASHK?

George: Since my graduation, I have been an active member of ASHK, engaging in a variety of events they've organised. More recently, my involvement has deepened, particularly in regulatory developments. For instance, I served as a member on the RBC Taskforce, providing insights to the HKIA regarding the HK RBC Framework. It's a rewarding experience that enriches both our professional lives and the actuarial community at large.

Jenny Lai *FASHK*

ASHK: Tell us a bit about yourself

Jenny: I have held chief actuary roles in insurance companies and consulting positions in consulting and auditing firms. In 2007, I relocated to Hong Kong to oversee Asian business operations.

ASHK: What volunteering are you involved in?

Jenny: In addition to her professional roles, I actively participated in various actuarial professional activities. I collaborate with organisations such as ASHK, CAS (Casualty Actuarial Society), and CAA (Chinese Actuarial Association). I find great enjoyment in these volunteering opportunities, which have also had a significant impact on my career development. Through volunteering, I have been able to expand my network within the industry and contribute to the actuarial profession.

Jiang Bin Lai *FASHK*

ASHK: Tell us about yourself.

JB: I am currently the Chief Actuary for HSBC Life. I have had the opportunities to work with colleagues from different areas in and out of my organisation. Being able to get exposure to different ways of thinking and to learn from others make this job very interesting.

ASHK: Why do you think volunteering with ASHK is important?

JB: Many volunteers use their personal time to support the events organized by the ASHK. Without these volunteers, many of the events and conferences would not be run effectively. For the volunteers themselves, not only volunteering is a good way to give back to the community and share ones' experience, but also this provides opportunities for networking and knowledge refresh.

Louis Lee *FASHK*

ASHK: What is your main area of work?

Louis: I am a strong advocate for digitization of insurance, whereby it provides more transparency for consumers, and to allow better matching of consumers' needs with what the insurance product can offer.

ASHK: Why do you think volunteer at ASHK is important

Louis: Volunteering with ASHK is a great way for us as professionals to provide what we have learnt in our careers back to the society, to keep the society contemporary, and to pass the experiences and lessons learnt to our members. It is a very rewarding experience, and you get to learn a lot of soft skills, as well as meeting a lot of great individuals.

Mary Kwan *FASHK*

ASHK: Hi Mary, what do you do?

Mary: Professionally I'm working in the Risk Management field. I'm the Head of Risk Management of Fubon Life HK in the past 8 years. I do believe that my actuarial background helps in my daily work and adds value to the Company.

ASHK: How did you start being involved with ASHK?

Mary: I came back from the UK that time and I didn't know many people from the HK Actuarial field. I was glad to have the chance to volunteer at the ASHK and meet new people. I became friends with so many actuaries that I would otherwise never meet if I had not volunteer at the ASHK. I encourage ASHK members to consider volunteering and to help grow ASHK in whichever way you can think of.

Matsuta Ng *FASHK*

ASHK: Hi Matsuta, what do you do

Matsuta: I am the Chief Valuation Actuary, Integrated Reporting Team of AIA International. I am responsible for overseeing the actuarial reporting function including statutory, capital and financial reporting, financial management & initiatives and process transformation.

ASHK: What is your volunteering experience with ASHK?

Matsuta: As a committee member, we discussed the latest development of financial reporting. I am very impressed that each of us have contributed new ideas and own thoughts to ensure that we are striving the best. Volunteering at ASHK allows me to give back to the actuarial community and I am also able to connect with different individuals with same passion.

Orchis Li *FASHK*

ASHK: Can you give us a brief background

Orchis: I manage Gen Re's Hong Kong Branch, and I also have some regional responsibilities for Asia. Managing a relatively small-scale company encompasses business operations, legal matters, compliance, finance, HR, and even administration. I'd say my actuarial knowledge and judgment are still indispensable in the multifaceted roles I undertake even though I have not been doing technical actuarial work for a while.

ASHK: What volunteering work do you do at ASHK?

Orchis: This year, my volunteer work is focused on two areas, the first being organising the AAC. It is a fantastic opportunity to engage with your peers so secure your spot now and be part of the future of insurance and beyond. The second area relates to the sustainability of medical insurance. With soaring medical inflation, it's imperative that we leverage our expertise in data analytics to enhance the affordability and accessibility of medical insurance for all.

Scott Chow *FASHK*

ASHK: Tell us about yourself.

Scott: I am a Principal at Milliman. I relocated to Taiwan to lead our local consulting team following an internal restructuring within the firm. In my role, the most interesting aspect is perhaps the opportunity to explore new subject matters, meet new people, and work in different locations.

ASHK: Any highlights when help out at ASHK?

Scott: My service extended across several groups, including the Actuarial Innovation Committee, Membership & Communications Committee, and the RBC Task Force. Together with fellow committee members, we transformed our initial discussions about the committee's goals into a series of successful events, in particular our flagship Actuarial Innovation Conference. Having the opportunity to work with incredible people, whom I might not have met if not for the volunteering opportunities at the ASHK, is something I truly cherish.

Terry Chen *FASHK*

ASHK: Tell us something about you

Terry: I am a senior manager at PwC's actuarial services team. My job duty includes performing year end audit for insurance companies, as well as delivering consulting work on topics such as modernisation, regulatory compliance, M&A due diligence, model validation, liability valuation etc.

ASHK: What volunteering experience that had a strong impression on you.

Terry: I have two main volunteer responsibilities with ASHK. One is on the exam committee, helping to update the syllabus and exam question for every exam sitting. The other one is to speak at universities on behalf of ASHK to promote actuarial profession and expand on student membership base.

Wilson Wu *FASHK*

ASHK: Hi Wilson, what do you do?

Wilson: I'm currently working at Generali Asia Regional Office, focusing on financial reporting. One of the most interesting aspects of my work is effectively conveying technical concepts and analyses to non-actuarial audiences.

ASHK: What volunteering do you do at ASHK?

Wilson: I've been volunteering with the ASHK's examination and financial reporting committees. I'm proud to have contributed to the development of the ASHK examination, which enhances the credibility and official status of actuaries in showcasing their understanding of the Hong Kong insurance market and regulations.

Xavier Lo *FASHK*

ASHK: Tell us about your background

Xavier: I'm working for AXA Hong Kong. I've recently changed roles and am now the Operational, Information Risk Management and Internal Controls Director, which is not traditionally a job for an actuary, but utilises some of the skills that I've developed during my actuarial upbringing.

ASHK: What is your involvement at ASHK?

Xavier: As the vice president of the ASHK GI Committee, my main involvement is with the reviewing of the GI exam syllabus, study guide and the exam paper. I have also helped with drafting the updates to latest actuarial guidance notes. Volunteering at the ASHK allows me to network and meet other actuaries who are passionate about developing the industry.

2024 EXAM RESULTS ANNOUNCEMENT

ASHK congratulates the below members who have passed the ASHK Exam in 2024:

2024 June diet

Core Paper

Benedict Muel Keen SHIM
BIZOUARD Yacine Denys Francois
CHAN Kwun Pan Andrew
CHAN Tsz Lam
CHEN Liujia
Cheuk Him LEE
CHEUNG Kai Pong
CHOW Ka Yin Kevin
DuoDuo Delvin CAI
En Lun CHOO
FANG ShuYuan
Fang YUAN
FONG Tin Long
HO Chi Yan, Terry
Jo Yee Dominic CHAN
Kai Lok Fernando WONG
Karen Kam On CHANG
Leandro AO
LEONG Chou Chio
LIAO Ao Laura
LIU Jinhao, Barnaby
LIU Weichen
Louis Lulu CHEN
LU Hoi Ching, Catherine
Mehul DAVE
Nasir Hai KHAN
Samantha Shiaw Yun CHEW
Shaodi WANG
SHU Tong
Shuang QIU
Stephen DONG
TSE Tsz Wah, Valerie
Verne Selwyn BAKER
WANG Yining
Wing LAM
WONG Chi Yee Davey
XIE, Junfeng
Xuan FANG
Yong ZHANG
ZHANG Yan
ZHOU Rui
ZHU Yuanli

Life Insurance Paper

Benedict Muel Keen SHIM
CHEN Liujia
CHEUNG Kai Pong
Fang YUAN
HO Chi Yan, Terry
Jo Yee Dominic CHAN
Leandro AO
LIU Jinhao, Barnaby
Shaodi WANG
SHU Tong
Shuang QIU
WONG Chi Yee Davey
XIE, Junfeng

General Insurance Paper

BIZOUARD Yacine Denys Francois
CHEN XinYing
Cheuk Him LEE
DuoDuo Delvin CAI
FANG ShuYuan
Kai Lok Fernando WONG
Karen Kam On CHANG
LEONG Chou Chio
LIAO Ao Laura
LIU Weichen
Louis Lulu CHEN
Mehul DAVE
Samantha Shiaw Yun CHEW
Stephen DONG
Verne Selwyn BAKER
Wing LAM
Xuan FANG
YEUNG Chi Yan
Yong ZHANG
ZHU Yuanli

2024 September diet

Core Paper		General Insurance Paper
CHAN Ka Tsun	LAM Ka Nor	CHAN Chi Toeh, Wilson
CHAN Chi Toeh, Wilson	LI Will	CHAN James Vincent, CHUN Yen
CHAN James Vincent, Chun Yen	LI Che Ngai	CHANG Zhen Zhou
CHAN Ka Chun Kelvin	MA Kok Wye Darren	FONG Tyler
CHAN Lo Yi, Becky	MAKRIS Kon	LAM Ka Nor
CHANG Zhen Zhou	MENG Ye Cheng	LI Will
CHENG Kwan Lok	POON Ka Hei, Anthony	MA Kok Wye Darren
CHEUNG Ko Chi Chadwick	SHANG Gang	MAKRIS Kon
CHEUNG Lok Chun	SUN Guangxu, Brooking	MENG Ye Cheng
DOOKHI Dhiran	TO Chun Yuen	TO Chun Yuen
FONG Tyler	WAN Tze Wah, Garrick	
HO Tung Hei Logan	WONG Chi Chuen	
HO Man Tat Henry	ZHANG George	
HUNG Sing Yin		

GENERATIVE AI

Actuaries Networking Evening

During the networking event, three members shared their recent work on apply Gen AI. Roger Chan from WTW did a demonstration on how automated workflow for experience analysis/valuation where cashflow results can be sent to ChatGPT for initial draft of commentary towards the end of the workflow. Chadwick Cheung from Oliver Wyman then followed by a demonstration on prompt engineering. The event was concluded by Allan Wong of FWD with sharing on function calling.

ASHK's members also took the opportunity to celebrate the International Actuaries Day. The night was full of intriguing conversations and great connections for everyone. More photos of the event can be found here.

On 2nd Sep 1895, the first International Congress of Actuaries was first held in Brussels to demonstrate that actuaries existed and performed a valid and necessary field of work. Since then, the profession has celebrated International Actuarial Day on the same day each year.

Special thanks to WTW for sponsoring the event!

EMPOWERING THE NEXT GENERATION:

Insights for aspiring actuaries

Being an actuary goes beyond numbers; it's about using data to address critical global challenges such as climate change, healthcare, and financial stability. This is why nurturing talent in the actuarial field is essential for the future.

ASHK plays a pivotal role in shaping the future of aspiring actuaries and nurturing the next generation of leaders in this field. We express our appreciation to our members who generously contributed their time amidst busy schedules for the recent Actuarial Career Talks at universities during the start of new academic year. These talks not only highlight the technical skills required but also emphasize the broader social impact that actuaries can make, inspiring students to see beyond the numbers and formulas, encouraging them to embrace their potential to effect real change in society.

Steve Hui, ASHK Vice President was also invited by The University of Hong Kong's Statistics and Actuarial Science Society to their annual dinner. He was able to inspire the students on the importance of being an active member of ASHK and how it lays as an investment in their professional future.

All these sessions foster a sense of community among students, creating a network of aspiring actuaries who can support one another on their paths. By connecting with established leaders in the field, students gain insights into career opportunities and the various ways they can contribute to societal well-being. Ultimately, ASHK not only informs but also inspires, cultivating the next wave of actuaries dedicated to making a positive impact in the world.

By fostering a strong community, we can cultivate innovative ideas that will propel our profession forward. If you would like to help engaging with university students, please get in contact with the ASHK office.

By fostering a strong community, we can cultivate innovative ideas that will propel our profession forward. If you would like to help engaging with university students, please get in contact with the ASHK office.

(Steve Hui, ASHK Vice President delivering the Keynote address at Statistics and Actuarial Science Society annual dinner.)

((from top left) Isabella Chan from HSBC Life, Brian Chan from Sun Life, and Candy Chan from Manulife sharing their experience at The University of Hong Kong with actuarial science students.)

(from left) George Tang from AIA, Erin Fan and Chadwick Cheung from Oliver Wyman speaking to students at the Hong Kong University of Science and Technology about the latest issues facing actuaries.)

((from left) Matsuta Ng from AIA and Catherine Lu from Milliman highlighting the importance of actuarial profession to students at City University of Hong Kong.)

(The Hang Seng University of Hong Kong students listening to Terry Chen from PwC about actuarial careers in Hong Kong.)

(Flora Chan from Manulife speaking to students at the Chinese University of Hong Kong about the issues affecting actuaries with Generative AI.)

STUDENT CORNER - PREPARE FOR YOUR ACTUARIAL CAREER:

Applying Textbook Knowledge in the Workspace: Cash Flow Projection

Welcome to this exclusive section prepared for our student members as target audience!

In this volume, we will illustrate an example of applying textbook knowledge in the actuarial workspace. If you have taken life contingencies courses or examinations, you should be familiar with cash flow discounting. Have you ever thought of how this knowledge foundation could be applied in the actuarial work?

When an insurance contract is sold, the insurance company receives premium income from the policyholder. At the same time, liability for future outgo is established because of the long-term and uncertain nature of contractual outgoes. The liability amount would be the sum of all actuarial discounted cash flows throughout the remaining policy term. An actuarial discounted cash flow is the product of cash flow amount (such as surrender outgo, maintenance expenses, maturity outgo, …), discounting factor, and the probability of the occurrence of that cash flow (such as mortality rate, morbidity rate, incidence rate, …).

You may find the above familiar as you must have performed similar calculations for hypothetical premium inflow, claim outgo, and expenses. The difference is that there are many more cash flow types and payout scenarios in the real world. In textbooks, we deal with cash flow projection with single scenarios. But in the real workspace, we usually work with stochastic cash flows forecasted under different economic conditions. With stochastic modeling, management actions, which are changes in assumptions at the company's discretion, could be considered in the cash flow projection. Common types of management actions include:

- Reducing bonus rates in case of lower investment return. However, the bonus level should always meet the policyholders' reasonable expectations.
- Increasing premiums for medical products to cover the escalating claim costs.
- Changing the asset allocation in response to the market condition in order to maintain the security of the fund covering cash flow outgo.
- Adjusting the guaranteed profit charges in response to the change in risk drivers, such as interest rate and equity level.

There are many sophisticated management actions introduced here, however, the underlying cashflow projection logic is indeed the same as what you have learnt in university courses or examinations.

Hope that this example provides you a sense of how important and relevant the textbook knowledge is for your future actuarial career. Stay tuned for future volumes for more workspace illustrations!

Enjoy reading the Student Corner? It's now your chance to express your views!

We would like to invite you to submit articles related to your own perspectives about the actuarial industry, your personal exam preparation tips, creative thoughts for future actuarial development, ... We welcome any topics that you may have in your mind!

Your articles may get published in the Student Corner of the ASHK Magazine. The publication could bring many advantages to you, including career advancement, professional recognition, inspiration for the industry, and contribution to the actuarial field.

To submit your article, please send your write-up to the ASHK Office via e-mail: info@actuaries.org.hk. Looking forward to your submission!

B D BB B

Associate		
James Vincent Chun Yen CHAN	AIG	Associate Member
Kam Wing CHEUNG	AIA International Ltd	Associate Member
On Tung CHEUNG	YF Life Insurance International Ltd.	Associate Member
Chaiyarrit CHINDALATTA	Milliman Hong Kong	Associate Member
Ka Nor LAM	PwC	Associate Member
Will LI	EY	Associate Member
Darren Kok Wye MA	Berkley Insurance Company	Associate Member
YeCheng MENG	Allianz Jingdong General Insurance	Associate Member
Kwui Ying TEOH	nil	Associate Member
Tze Wah Garrick WAN	AIA International Ltd	Associate Member
Michael Wai Ho WONG	Deloitte LLP	Associate Member
Kin Cheung WONG	Milliman Hong Kong	Associate Member
Tsz Ho YAN	Sun Life Hong Kong Ltd.	Associate Member
Chong Wey YANG	Fubon Hyundai Life Insurance Co. Ltd.	Associate Member

B D BB B

Student		
Ka Yu CAI	The University of Hong Kong	University Student Member
Tianxi CAO	The University of Hong Kong	University Student Member
Sheung Shing Ricky CHAN	The Hong Kong University of Science and Technology	University Student Member
Ching Man CHAN	City University of Hong Kong	University Student Member
Kai Hei CHAN	The University of Hong Kong	University Student Member
Wing Fung CHAN	The University of Hong Kong	University Student Member
Jiaxin CHE	The Hong Kong University of Science and Technology	University Student Member
Jiaxuan CHEN	The Hong Kong University of Science and Technology	University Student Member
Siyu CHEN	City University of Hong Kong	University Student Member
Terry CHENG	The University of Hong Kong	University Student Member
Shing Chi CHIU	The Hong Kong University of Science and Technology	University Student Member
Chi Pan CHOI	The University of Hong Kong	University Student Member
Tsz Ho CHOW	The Hong Kong University of Science and Technology	University Student Member
Chun Yin CHU	The University of Hong Kong	University Student Member
Yeung Lam CHUNG	The Hong Kong University of Science and Technology	University Student Member
Man Hin CHUNG	The Hong Kong University of Science and Technology	University Student Member
Nianqi DONG	The Hong Kong University of Science and Technology	University Student Member
Erin FAN	Oliver Wyman	Ordinary Student Member
King Him FONG	The University of Hong Kong	University Student Member
Lok Hang HO	The University of Hong Kong	University Student Member

B D BB B

Student		
Valensis JUSTIANI	Milliman Hong Kong	Ordinary Student Member
Joshuandy JUSUF	Sun Life Hong Kong Ltd.	Ordinary Student Member
Siu Wa LAU	The Hong Kong University of Science and Technology	University Student Member
Ho Wun LAU	The Hong Kong University of Science and Technology	University Student Member
Man Lap LEE	The Hong Kong University of Science and Technology	University Student Member
Chun Lung LEUNG	City University of Hong Kong	University Student Member
Chi Shun LEUNG	Milliman Hong Kong	Ordinary Student Member
Ho Cheung Thomas LEUNG	The Chinese University of Hong Kong	University Student Member
Guanren LI	The University of Hong Kong	University Student Member
Ming Fung LI	The University of Hong Kong	University Student Member
Yinuo LIN	The University of Hong Kong	University Student Member
Ludwig LIN	The University of Hong Kong	University Student Member
Mandy Pei Yi LOW	The University of Hong Kong	University Student Member
Paak Yuen MAK	The Hong Kong University of Science and Technology	University Student Member
Tsz Tsun MAN	The Hong Kong University of Science and Technology	University Student Member
Ka Wang MUI	The Hong Kong University of Science and Technology	University Student Member
Mikael Alden NURJADI	The Hong Kong University of Science and Technology	University Student Member
Yin Lam SHUNG	London School of Economics & Political Science	University Student Member
Xinyi SUN	The University of Hong Kong	University Student Member
Yu Sum Keith TAM	University of Southampton	University Student Member

B D BB B

Student		
Ho Yeung TANG	The Hong Kong University of Science and Technology	University Student Member
Dennis Ho Lam TANG	The Hong Kong University of Science and Technology	University Student Member
Lik Yee TOO	The University of Hong Kong	University Student Member
Wing Kei TSE	The University of Hong Kong	University Student Member
Ka Wai TSE	The University of Hong Kong	University Student Member
Yuqin WANG	University of Waterloo	University Student Member
Hong Kai WANG	The University of Hong Kong	University Student Member
Yik Cheung WONG	The Hong Kong University of Science and Technology	University Student Member
Hin Ho Leo WONG	City University of Hong Kong	University Student Member
Shuang WU	Hong Kong University of Science & Technology	University Student Member
Junyao XIONG	The Chinese University of Hong Kong	University Student Member
Xinru XU	The Hong Kong Polytechnic University	University Student Member
Yan Yi YANG	City University of Hong Kong	University Student Member
Sik Wai YANG	The University of Hong Kong	University Student Member
Ho Wan YEUNG	SPAR AI	Ordinary Student Member
Shiying YU	The Chinese University of Hong Kong	University Student Member
Tsz Cheuk YUEN	The Hong Kong University of Science and Technology	University Student Member
Pei ZENG	The University of Hong Kong	University Student Member
Lok Hang ZHUANG	The Hong Kong University of Science and Technology	University Student Member
Boan ZHUANG	Hong Kong University of Science & Technology	University Student Member

MEMBERSHIP UPDATE - REINSTATE

Associate		
Tyler FONG	AIA International Ltd	Associate Member
Henry Man Tat HO	FWD	Associate Member

MEMBERSHIP UPDATE - MEMBERSHIP ADVANCEMENT

Fellow		
Verne BAKER	KPMG	Fellow Member
Yacine BIZOUARD	Insurance Authority	Fellow Member
Delvin CAI	PWC	Fellow Member
Dominic Jo Yee CHAN	Deloitte	Fellow Member
Kwun Pan Andrew CHAN	TransRE	Fellow Member
James Vincent Chun Yen CHAN	AIG	Fellow Member
Kam On Karen CHANG	AIG	Fellow Member
Zhen Zhou CHANG	CPIC	Fellow Member
Lulu CHEN	Prudential	Fellow Member
XinYing CHEN	Deloitte Advisory	Fellow Member
Samantha Shiaw Yun CHEW	Bupa Asia	Fellow Member
En Lun CHOO	Milliman	Fellow Member
Mehul DAVE	WTW	Fellow Member
Stephen DONG	PWC	Fellow Member
Xuan FANG	Bank of China	Fellow Member
Yuan FANG	Zurich Insurance Group	Fellow Member
Shu Yuan, Cathy FANG	Bershire Hathaway Specialty Insurance Co.	Fellow Member

UPCOMING EVENTS

29 November 2024

Appointed Actuaries Symposium (by invitation only)

11 December 2024

2024 Annual General Meeting cum Professionalism seminar and cocktail reception (details)

15 January 2025

ASHK Certificate Equivalent Course (details)

15 January 2025

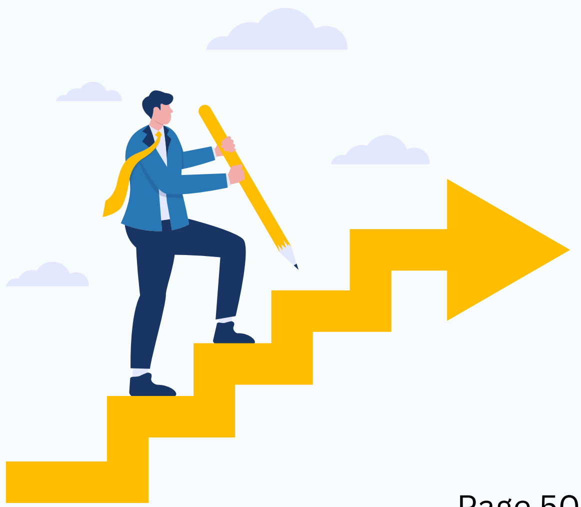
GI forum

MEMBERS ON THE MOVE

We're very proud to share with you the following ASHK members who have advanced to top management positions at their companies.

- Betty Lee *FASHK*, Chief Capital Officer, Chow Tai Fook Life Insurance Company Limited
- Jiang Bin Lai *FASHK*, Chief Actuary, HSBC Life Hong Kong
- Louis Lee *FASHK*, Managing Director, APAC, CoverGo

Congratulations to them for their great achievements in their careers!



CORPORATE ADVERTISEMENT

The ASHK will accept corporate advertisements in the ASHK Newsletter provided that the advertisements do not detract from the actuarial profession. Acceptance and positioning of advertisement will be at the editor's discretion.

File Formats
Advertisers have to supply the artworks which should be created in MS Word/PowerPoint/JPEG/PDF formats.
Advertising Rate

	One issue	Whole Year (4 issues)
Full page (A4-size)	HK$6,000	HK$5,000 each

FOR MORE INFORMATION, PLEASE CONTACT ASHK OFFICE AT 2147 9168
OR EMAIL INFO@ACTUARIES.ORG.HK

ACTUZINE 精誌

ACTUARIAL SOCIETY of HONG KONG 香港精算學會

COMMUNICATION COMMITTEE:

DICKY LAM	E-MAIL: DICKY.MC.LAM@PRUDENTIAL.COM.HK
KP WAT (DR)	E-MAIL: WATKP@HKU.HK
MARY KWAN	E-MAIL: MARY.KWAN@FUBON.COM
AMY CHAN	E-MAIL: AMY.CHAN@MILLIMAN.COM
DONALD CHAN	E-MAIL: DONALD.CHAN@FWD.COM
GREG SOLOMON	E-MAIL: GREG@EIGENGREY.NET
SHIRLEY FONG	E-MAIL: SHIRLEYFONG@YFLIFE.COM

COORDINATORS:

DAMIAN YIP
THERESA LAM
MANDY WONG
JOANNA CHEUNG
RENEE TANG

FOR MORE INFORMATION

+852 2147 9278

www.actuaries.org.hk

1202 Tower Two, Lippo Centre,
89 Queensway, Hong Kong