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ACTUZINE 精誌

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ACTUARIAL SOCIETY of HONG KONG 香港精算學會

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While all contributions are welcome, we would especially like to receive submissions for the Feature Articles section. If you have written anything inspiring or have read any interesting articles from other actuarial organisations, feel free to let us know. We will try to reprint them in our magazine.

Email your articles or views at info@actuaries.org.hk.

Message from the editor

As we step into the second quarter of 2026, we're thrilled to bring you another insightful edition packed with some of the most pressing topics shaping our industry today.

We open with a timely examination of Private Assets Crisis Implication to HK Insurers by Annie Cheng, followed by a detailed analysis on Optimising the Matching Adjustment under HK RBC by James Sharpe from Sharpe Actuarial Ltd; and AI in the Actuarial Function: From Automation to Augmented Intelligence shared by Oi San Choo from WTW. You'll also find valuable perspectives on Asset-Intensive Reinsurance in Hong Kong: Opportunities, risks and regulation by David Wang and Julian Man from Milliman.

We're especially pleased to feature our popular pieces: Celebrity Actuary Interview with Stuart Leckie and the Throwback Special on Peter Luk - two inspiring pieces you won't want to miss.

As always, we highly encourage you to participate in the upcoming ASHK events and conferences. All event details and latest updates can be found on the ASHK website.

Happy reading, and here's to a productive and inspiring Q2!

ARE PRIVATE ASSETS MORE OF A RISK OR AN OPPORTUNITY FOR INSURERS?

A Hong Kong Perspective

Background

Since Q4 2025, the global private credit market with assets under management (AUM) reaching US$3.5 trillion[1] has faced heightened scrutiny. The high-profile bankruptcies of two US auto-related firms Tricolor and First Brands, both of which are heavily financed by private credit, highlighted vulnerabilities in underwriting standards, highly risky and low quality loans and insufficient due diligence.

These events triggered waves of early redemptions and fund-level liquidity pressures signalled from the investments sell-off (e.g., sell-off of shares of private assets by Blue Owl with significant exposure to private credit). Concerns escalated further with Artificial Intelligence (AI) -driven disruptions to software borrowers as AI compresses margin for legacy software companies, a sector representing around 40%[2] of private equity-backed loans. Payment-in-kind (PIK) toggles and restructuring activities have increased, prompting uncertainty in the private credit market.

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[1] As per latest industry research "Financing the Economy 2025" by the Alternative Credit Council (ACC), the private credit arm of the Alternative Investment Management Association (AIMA)
[2] Source: Bloomberg

Subsequent gating incidents, such as withdrawal caps and redemption limits at major funds and the collapse of London-based Market Financial Solutions (MFS) amid double-pledging allegations and a £1.3 billion collateral shortfall, have amplified fears of opacity, illiquidity, and potential contagion risk.

Fig.1 Timeline of private credit market stress

While the intersection of high-profile credit failures, systemic fraud allegations and disruptive potential of AI has brought challenges to the private asset market, this article identifies the features of private assets, the implications of recent market sentiment to Hong Kong insurance market, and actions insurers can take to optimize the deployment of private assets under a robust risk management framework.

Private assets distinguished from traditional assets

What are private assets?

Private assets encompass a broad range of non-publicly traded asset classes, including private credit, private equity, real assets like real estate, infrastructure, structured products. Funds are dominant vehicle in private assets which are pooled investments that allow investors to have access to a securitized portfolio instead of an individual asset. They provide investors access to niche investment opportunities in emerging sectors like innovative industries which offer attractive returns not available in public assets. Complex assets, while with proper expertise and management, can contribute to a more diversified portfolio with enhanced returns. The illiquid nature of private assets also adds premium to the potential returns over public assets. Private assets often have low correlation with traditional assets, providing portfolio diversification to the asset portfolio.

What are the associated risks?

Unlike traditional public assets, private assets are not traded on public exchanges and therefore come with lower liquidity. These assets are usually valuated quarterly or less frequently using models with subjective assumptions as there are no observable market prices and infrequent transactions. The volatility may appear to be smoothed out due to infrequent valuation and

model parameters which may not effectively reflect reality. While not all private assets are rated, some get private credit ratings, which regulatory acceptance varies by jurisdiction due to the potential "credit rating shopping"[3] by issuers.

For private assets with fund structure, investors have high reliance on the fund management, and the disclosure may be limited. Funds may involve many layers of financial instruments and derivatives, with its own risks and risk mitigating profile. Investors may not have full understanding on the underlying fund(s) given the complexity and opacity of the fund structure.

Funds have redemption limitations and gating mechanism which result in lower liquidity and higher uncertainty on withdrawals when investors need cashflows to cover liability. Private assets often employ higher leverage to amplify returns which bring higher risk and volatility under market downturn as margin calls may kick in. Exposure to leverage can be hidden within private funds with pooled credits for assets where the leveraged financial conditions are hard to fully reveal.

Implications for the Hong Kong Insurance Market

While Hong Kong insurers have historically maintained a relatively conservative stance by allocating the majority of their asset portfolio to public debt securities, the dynamic changed as insurers look for yield and spread pick-up in low-interest rate environment and compressed bond yields period, together with diversification with public assets. There is also a noticeable trend in Asia-Pac including Hong Kong where private equity firms are increasing involvement with insurance business.

Private equity firms make investments into (re)insurance business by participating in asset-intensive reinsurance (AIR) or acquiring fully the insurance company, followed by the increased allocation into private assets on (re)insurers' balance sheet. In view of the growing popularity to private asset investment, the Insurance Authority (IA) in Hong Kong tightened reporting data requirements and enforced a look-through approach for balance-sheet transparency.

With the growing portfolio on private assets, the global private market stress carries three key implications to Hong Kong insurance market:

1. Valuation risk on balance-sheet exposure

The recent market events revealed issues in private assets like opaque collateral structures, distorted pricing valuation, etc, which infer high default risk stemmed from poor underwriting discipline and more severe price haircuts which may be underestimated or overlooked in valuation. Net-asset-value (NAV) haircut on illiquid holdings erode surplus and results in higher earnings volatility if the risk is not carefully factored in. This risk is rare for balance sheets with majority of public assets due to daily mark-to-market pricing, high transparency and liquidity, and strict disclosure regulatory rules.

2. Liquidity and Asset Liability Management (ALM) risk

Insurers face liquidity demands from policy surrenders, embedded optionality allowed

[3] Refer to issuers seek the most favourable ratings from rating agencies

in product design and benefit payments like guaranteed withdrawal benefits. Insurers who hold assets like derivatives, repurchase agreements (repos), reverse repos, etc, require strong liquidity buffers to prepare for additional liquidity needs in potential margin calls and rollover under stressed market conditions. In a stressed environment, reduced redemption flexibility creates cash-flow mismatches and cash shortages against the liability. If a significant portion of the asset portfolio is locked up in funds, insurers may be forced to sell more liquid assets in market downturn at a loss. These are risks that traditional valuation models may not yet fully capture.

3. Regulatory scrutiny

Heightened supervisory attention is likely under the global spotlight on private credit issues to ensure insurance market stability. In the recent issues paper by the International Association of Insurance Supervisors (IAIS)[4], it points out that supervisors regularly review solvency regimes to respond to new types of assets and new structures which may challenge existing capital framework. The National Association of Insurance Commissioners in the US is revising capital charges for collateralized loan obligation (CLO), with plans to review all structured securities. The Bermuda Monetary Authority also introduced detailed approval requirements for affiliated assets, including expanding the definition to cover all connected assets that pose conflict of interest risk. Potential regulatory updates may incentivize/ disincentivize investments to certain asset allocations and require sound and robust governance on private assets holding.

Preparing for What's Next

We believe that with disciplined preparation and in-depth review, insurers can enjoy the benefits from private assets while mitigating the potential downside. Our actuarial and risk advisory teams can support insurers in this area through a structured approach which covers five key aspects:

1. Portfolio assessment and ALM optimisation

- Conduct a holistic review of asset allocations, duration gaps, and liquidity buffers to reassess and rationalize the strategic asset allocation (SAA) and ALM.
- Consider alternatives (like reinsurance solutions for tail risks, product design) that best fit the portfolio while retaining the reasonable level of investments into private assets to preserve yield advantages while ensuring optimisation.

2. Look-through and detailed due diligence

- Focus on large private asset exposures and analyse underlying fund data for detailed look-through into the investments: Granular data on fund underlying assets should be maintained to capture the complexity of the structure. There can be occasions when a private equity firm is the sponsor of the private credit loan while also managing other parts in the insurer's portfolio, prompting to concentration risk. Similar risk can happen to the concentration on underlying sectors.
- Perform rigorous assessment and risk-weighting on concentration (e.g., attention to be paid to AI-vulnerable sectors such as software) and collateral quality: There can be sizeable amount of

[4] "Issues Paper on structural shifts in the life insurance sector" issued by IAIS in November 2025

private assets within the collateral in AIR arrangement, which need careful assessment. In structures which the underlying exposures may be obfuscated, extra efforts are needed to identify the areas of concentration in the portfolio. External due diligence on material private assets investment can be useful as an independent assessment of the risk and returns, providing higher transparency to insurers.

3. Independent valuation and fair value review

- Perform independent valuation on the private assets, using Discounted Cash Flow models, scenario-based haircuts and recoveries (e.g., for disrupted sectors where the recoveries can drop to very low level if the business model becomes obsolete), and public-comparable benchmarks: We challenge inputs, assumptions and valuations for illiquidity and uncertainty.
- Review on the valuation methodology and frequency can be conducted: We can define the circumstances that trigger revaluation outside of regular valuation cycles. We target to deliver audit- and regulator-ready assessments.

4. Capital modelling optimisation and risk appetite updates

- Refine internal models and parameters for private assets modelling (e.g., volatility, correlations, diversification benefits).
- Enhance scenario and stress-testing capabilities (e.g., high-default, prolonged illiquidity, rate volatility) and incorporate into Enterprise Risk Management (ERM) and Own Risk and Solvency Assessment (ORSA) framework: This helps management to better understand the risks that regulatory capital requirements may not respond to and manage the risks in a forward-looking view.
- Present the analysis with executive dashboard outputs which clearly outline any contingency triggers.

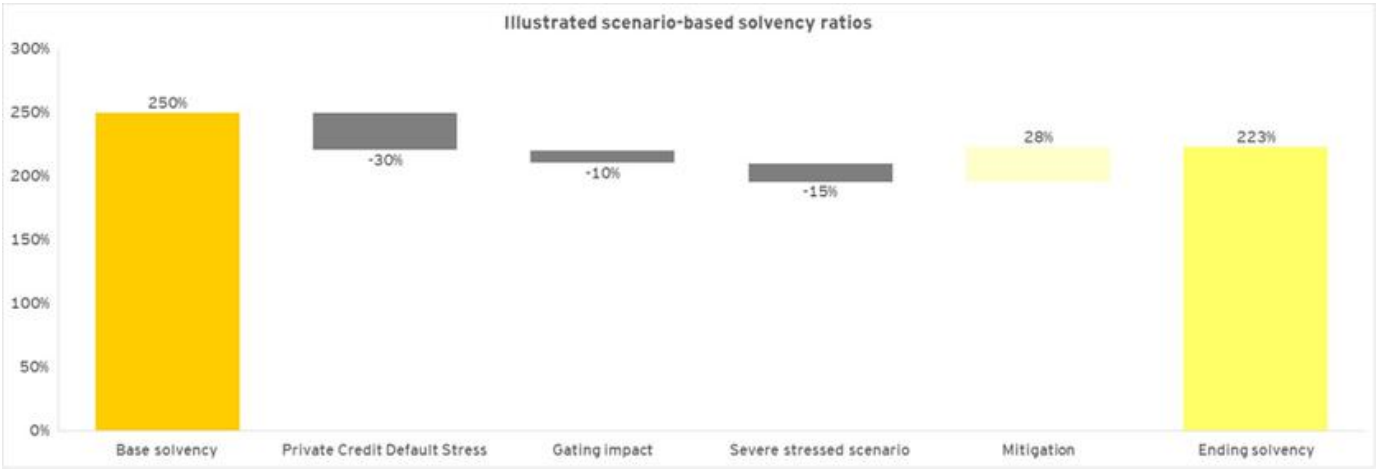

Fig.2 Illustrated assessments on solvency ratios across various key macroeconomic drivers and mitigation

5. Regulatory intelligence and corporate governance enhancement

- Stay abreast with the evolving regulatory requirements to ensure compliance and timely response on strategies to achieve capital efficiency: We can assist insurers in channelling hurdles and limitations in public consultation, ensuring regulatory compliance and disclosure enhancements, and reacting with optimized capital strategies.
- Advise on an enhanced investment governance with prudent limits and continuous monitoring to ensure sufficient oversight to promote a more transparent understanding for both senior management and regulator.

Conclusion

Financial institutions enter this period of private asset market volatility which serves as a timely reminder that private assets demand rigorous governance. These assets continue to offer attractive, capital-efficient yields and diversification when approached strategically.

With the right combination of portfolio strategy, enhanced visibility, forward-looking risk modelling and robust governance, private assets can deliver sustainable value and resilience against volatility rather than unwelcome surprises.

EY is ready to collaborate with you — turning potential risk into a well-managed opportunity. 

OPTIMISING THE MATCHING ADJUSTMENT UNDER HK RBC

Mathematical Optimisation can be used for Matching Adjustment Portfolios under Hong Kong's Risk-Based Capital Regime

Introduction

The higher the discount rate, the lower the liabilities, thus improving a company's solvency. However, since most regulatory frameworks have rules around determining these discount rates, this is not a "free ticket" to use arbitrarily high rates.

There are, however, legitimate mechanisms that allow companies to increase their discount rates. For example, the Matching Adjustment (MA) framework introduced under HK's RBC regime provides insurers with an opportunity to recognise a portion of the spread earned on eligible assets when valuing long-term liabilities. While the mechanics of the calculation are set out clearly in Cap. 41R and Guideline GL36, determining the portfolio that maximises the benefit is a considerably more complex exercise. The interaction between asset spreads, credit quality, duration matching and accumulated shortfall between assets and liabilities creates a multidimensional optimisation problem that is well suited to modern mathematical programming techniques.

The Solvency II matching adjustment was introduced in 2016, and firms are further ahead with implementation of mathematical optimisation. Typically, UK companies achieved reductions in Best Estimate Liabilities (BEL) of between 0.5% and 1% when implementing mathematical optimisation.

The HK MA formula

The MA consists of three primary components, as defined in Cap 41R. Schedule 5:

1. Adjusted Spread × Application Ratio
- This captures the asset market credit spread less a default allowance; reduced by the application ratio.
- Where the Application ratio is the portfolio level (1 – Accumulated Shortfall) multiplied by portfolio level asset duration / liability duration with minimum 1.

2. Constant Prescribed Spread Component
- A prescribed spread by credit rating less a prescribed risk correction
- Again adjusted downwards by (1 –Accumulated Shortfall)
- Again multiplied by portfolio level asset duration / liability duration with minimum 1

3. Qualified LTA (where applicable)
- 100bps * equity and property proportion

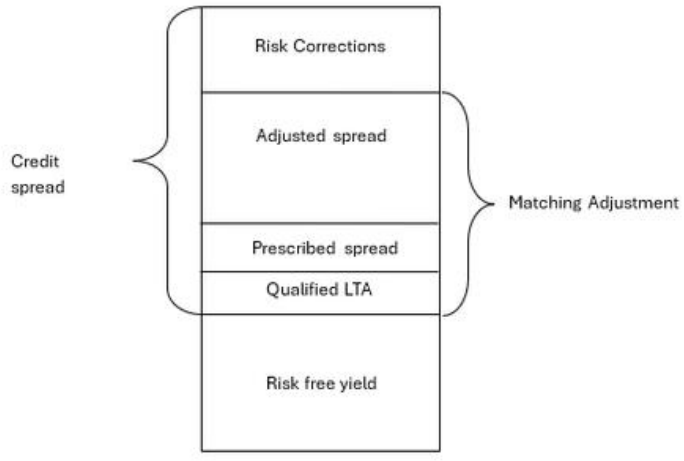

Figure 1 – the Matching Adjustment relative to other components of the asset yield.

What Drives the MA?

This section describes the key drivers for the size of the MA.

Driver 1: Asset Spread

The adjusted spread, weighted across assets, is:

Asset Spread – Risk Correction

The risk correction varies by credit rating band as shown in the table below:

Rating Band	Risk Correction
1	11%
2	14%
3	20%
4+	22%

Due to the risk correction, a higher spread asset does not necessarily produce a higher MA contribution once risk corrections are applied.

Driver 2: Application Ratio

The Application Ratio is:

Predictability Factor × Duration Factor
- predictability factor = (1 – accumulated shortfall between portfolio asset and liability cashflows)
- Duration factor = min(100%, asset duration/liability duration) at portfolio level

This means an insurer's adjusted spread is updated by how well matched the asset and liability cashflows are:

1. A low accumulated shortfall will improve the MA value
2. Asset duration is greater than liability duration will improve the MA benefits

These two factors tend to counteract each other. A lower accumulated shortfall is usually achieved when more of the asset cashflows are earlier than liability cashflows, and so asset duration is also lower than liability duration. But this is exactly offset in the duration factor where a higher asset duration is rewarded.

Why Optimisation Matters

At a high level the higher the asset spread the higher the MA. However, the relative asset and liability portfolio level duration and accumulated shortfall also matter. This means the highest asset spread portfolio may not give the highest MA.

A combination of high asset spread with optimally balanced asset liability matching will deliver the highest MA. This is where mathematical optimisation can be implemented to pick exactly the best assets for the liability cashflows being matched.

Typically, mathematical optimisation involves:

- Maximizing or minimizing some value (in this case, the size of the MA)
- Subject to a number of constraints

The duration factor and predictability factor are not explicit constraints, but they can reduce the value of the MA if not properly selected.

A firm may have its own internal investment and concentration risk constraints on limiting the investment of assets in a particular rating or sector, which could be added as optimisation constraints the MA value is subject to.

Indeed, the more constraints there are, the harder it is to do intuitive or heuristic optimisation, and the more valuable a formal mathematical optimisation algorithm could be.

Practically a mathematical optimisation of the MA portfolio will mean the best assets are used and the BEL is minimised. This has a one off implementation process for a reduction in BEL, which in the UK has been between 0.5%-1% of BEL.

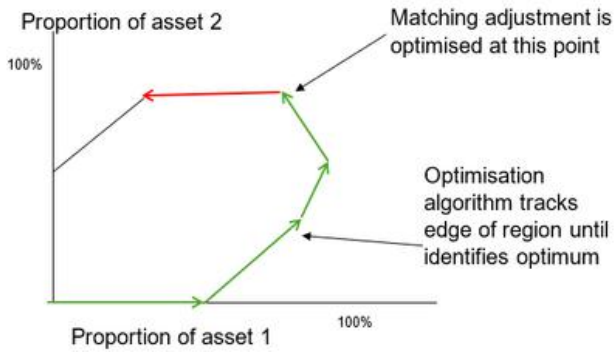

Figure 2 – example numerical optimisation with two assets – identifying a region which meets all constraints; then identifying the combination of assets which maximises the MA

Practical use of MA Optimisation for Insurers

The main use of the MA optimiser is simply to maximise the MA for a given portfolio. However, there will be wider uses also:

- To identify the best assets across the whole company for the MA portfolio
- To identify the best external assets to purchase for the MA portfolio
- To manage the best asset portfolio subject to own internal constraints and risk management requirements

The company is likely to have:

- Concentration risk limits
- Limits on specific asset ratings
- Requirements for minimum accumulated shortfall in matching
- Requirements for minimum duration differences

All of which can be precisely specified in the MA optimisation process. Not only will assets be selected that increase the MA, but it will also improve the asset liability cashflow matching, which are specifically rewarded in the HK MA calculation.

It is known that private credit assets do provide a boost to MA, while also introducing additional liquidity risk, credit risk, and systemic risk. A strong algorithm with relevant constraints built in can optimise in this context too.

In my work, I have found that in practice, most insurers will discover that:

1. Their current MA portfolios are not MA efficient and with some rebalancing, a higher MA can be achieved (i.e. there is existing untapped free capital being ignored)
2. Their processes for purchasing new assets are not optimal and could be improved

Conclusion

The HK Matching Adjustment framework introduces a sophisticated mechanism for recognising long-term investment returns in liability valuation. While the regulations define how the adjustment is calculated, determining the portfolio that maximises the benefit remains an optimisation problem. As insurers continue to develop their RBC capabilities, optimisation techniques offer a practical way to enhance MA benefits while remaining fully compliant with the regulatory framework.

Where I have applied mathematical optimisation for MA calculations in the UK under Solvency II, material reductions in BEL have been achieved quickly.Further, the portfolios can be closer cashflow matched to the liabilities they are backing.

As HK insurers continue to build RBC capabilities, MA optimisation represents one of the few areas where economic value can be extracted without increasing risk. Firms that treat the MA as only a regulatory calculation may leave value on the table, whereas firms that view it as an optimisation problem can improve liability valuation and capital efficiency.

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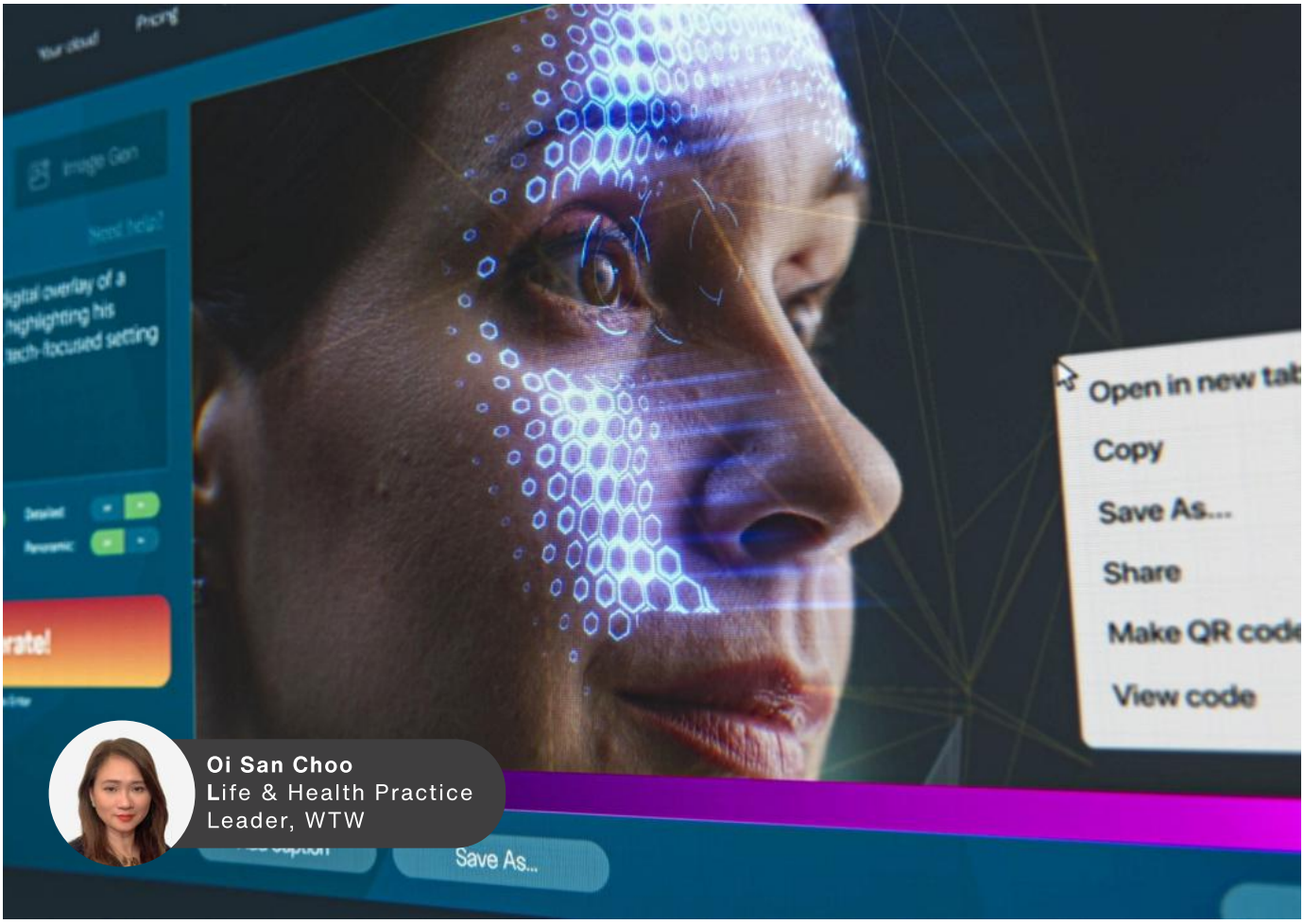


AI IN THE ACTUARIAL FUNCTION:

From Automation to Augmented Intelligence

The actuarial profession has historically been at the forefront of analytical rigor, combining statistical expertise with deep business insight. Today, the rapid evolution of artificial intelligence (AI), particularly Generative AI (GenAI) and agent-based systems, is reshaping how actuarial and finance teams operate.

GenAI Is Powerful — But Not a Calculator

Large Language Models (LLMs) are increasingly embedded in actuarial workflows, but their role must be clearly understood. While they are highly effective at explaining concepts, structuring calculations, and generating insights, they are not inherently reliable for complex numerical computation.

For actuaries, this distinction is critical.

Precision is non-negotiable in tasks like financial reporting, pricing, or capital calculations. As such, the emerging best practice is to combine GenAI with robust, AI-enabled calculation engines.

This separation of responsibilities gives rise to a hybrid model:

- GenAI handles interpretation, querying, and narrative generation
- Calculation engines perform deterministic, auditable computations

This paradigm ensures both efficiency and accuracy while maintaining governance standards expected in actuarial work.

The AI-Enabled Actuarial Framework
A modern actuarial and finance function is increasingly built on a layered AI framework:

1. Foundation Layer: Data and Automation
At the base is a **data lake and end-to-end automation infrastructure**.
This automation layer focuses on:
- Dramatically reducing manual interventions
- Auto-tagging data, adding metadata to input and outputs, to create searchable libraries
- Enabling traceability and governance

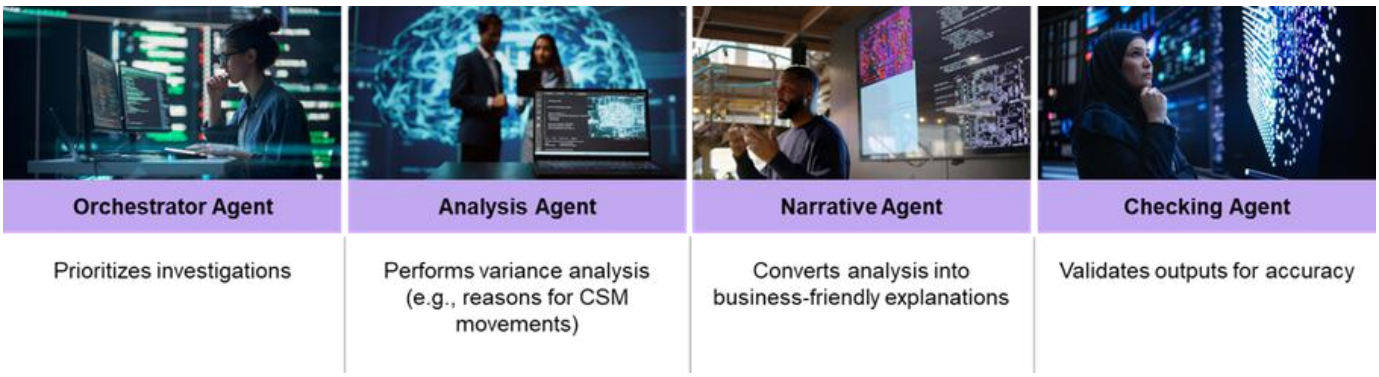
This foundational capability is essential for scaling AI. Without clean, structured, and well-tagged data, advanced AI applications cannot function effectively.

2. Calculation Engine ("AI-Ready Calculators")
Above the data layer sits the **"brains" of the actuarial system:**
- Producing actuarial results and analytics
- Generating outputs for reporting and AI consumption
- Supporting regular valuation and financial reporting cycles and other actuarial processes

More importantly, these calculators need to be able communicate natively with GenAI, receiving execution instructions from other agents and sharing back results, thus forming part of an agentic ecosystem. Not only will these calculators need to execute runs but will need to be able to model products and assets autonomously and explain the results coming out from the model. These engines remain the backbone of actuarial operations, ensuring numerical accuracy while integrating seamlessly with AI components.

3. Agentic AI and Point Solutions
The next layer introduces Agentic AI, which can identify anomalies (e.g., claims variances), investigate root causes and execute parts of workflows autonomously.

This is delivered through a **multi-agent AI system**, for example:



This layered approach mimics the traditional actuarial workflow — junior analysts, senior reviewers, and reporting teams — but executes it at machine speed. The Agentic AI component shift actuarial processes from static pipelines to dynamic, self-improving systems.

4. Management Chatbots and AI Intelligence

At the top of the stack are user-facing AI tools:

- Management chatbots providing instant observations and business insights
- Benchmarking tools comparing performance to competitors
- Scenario-testing capabilities to explore sensitivities

This layer democratizes analytics, enabling senior stakeholders (CFOs, CEOs, product teams) to interact directly with actuarial insights in real time.

A New Way of Working

The integration of AI fundamentally changes how actuarial teams operate. The emergence of specialized AI-driven tools such as will dramatically improve efficiency and eliminate low value, repetitive tasks.

Beyond efficiency, organizations benefit from:

- Faster speed to market
- Real-time execution
- Enhanced governance and auditability

This marks a shift from manual, batch-driven processes to **continuous, automated, and insight-driven operations.**

Implications for Actuaries

The rise of AI does not replace actuaries—it redefines their role. Actuaries will spend less time running models and more time on interpreting outputs, challenging assumptions and providing strategic insights. With AI heavily reliant on data quality, actuaries must ensure robust data pipelines, define tagging and metadata standards and maintain model governance.

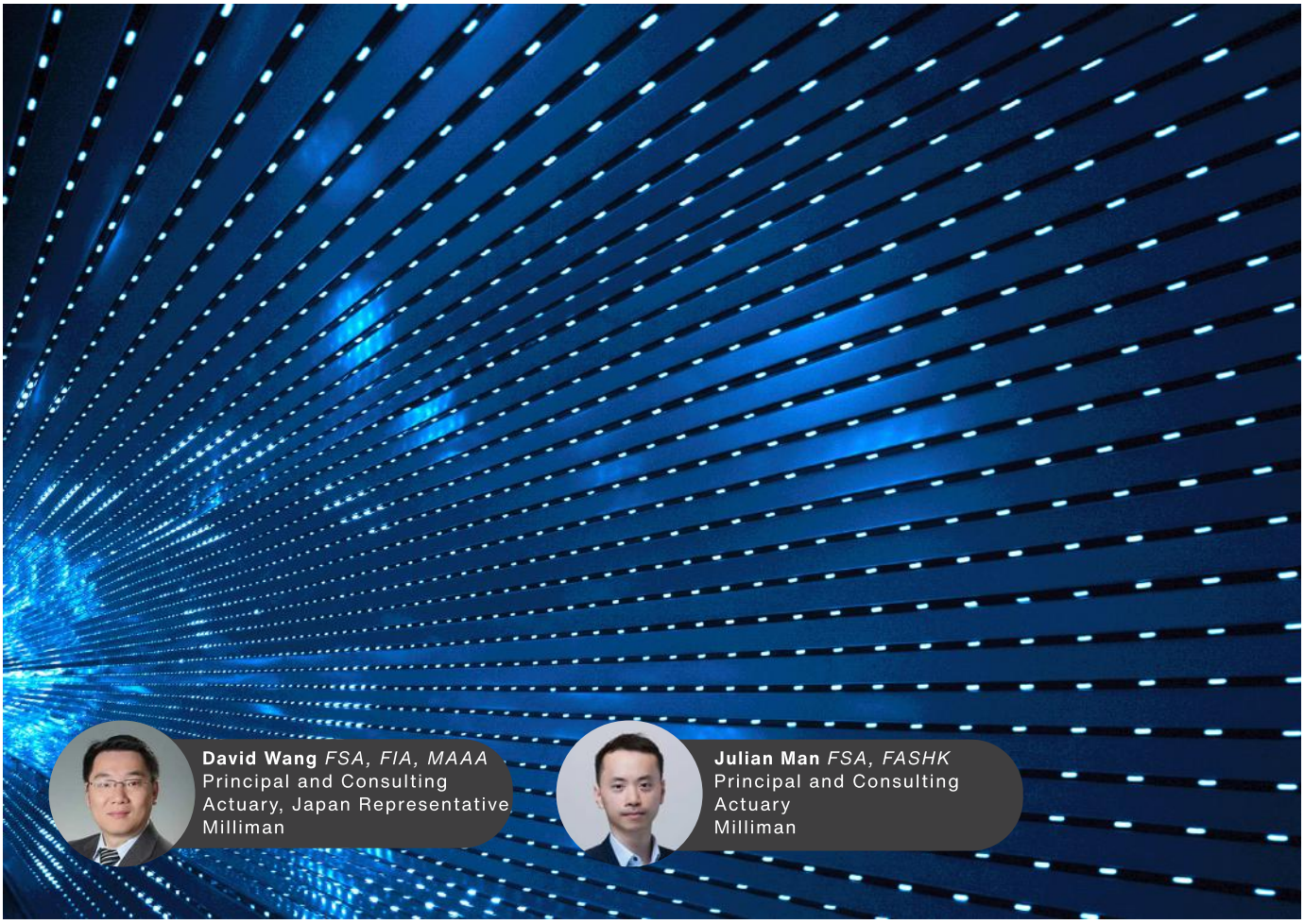
Actuaries will also need to re-skill towards prompt engineering, AI system design and oversight and understanding of agent-based workflows. With this, AI enables actuaries to deliver real-time insights to leadership, scenario and data driven decision support and continuous monitoring of business performance.

Conclusion

AI is ushering in a new era for the actuarial profession — one defined not just by automation, but by augmentation. By combining GenAI with robust calculation engines, leveraging agentic workflows, and building strong data foundations, actuarial functions can achieve unprecedented levels of efficiency and insight.

The future actuary will not simply build models, they will orchestrate intelligent systems, bridging the gap between data, technology, and business strategy. Those who embrace this transformation will position themselves — and their organizations — at the forefront of a rapidly evolving industry.

While AI offers transformative potential, actuarial credibility will continue to depend on disciplined governance, robust validation and professional judgement. As actuaries, we ultimately still have the professional responsibility over the outcomes and decisions made. These are areas where human oversight remains indispensable.



ASSET-INTENSIVE REINSURANCE IN HONG KONG:

Opportunities, risks and regulation

Introduction

The global life insurance industry is undergoing a structural transformation. Long-duration liabilities are increasingly managed through a mix of reinsurance, external capital and more sophisticated asset strategies.

This shift reflects a broader change in how insurance balance sheets are viewed. Historically, liabilities were assessed mainly in terms of underwriting risk, reserve adequacy and capital strain. Today, they are also seen as a source of stable, long-term funding that can support investment optimisation. This has created new strategic opportunities for firms with strong investment capabilities, particularly as private equity firms show growing interest in the insurance sector. One such strategy is asset-intensive reinsurance (AIR), which has become a popular structured solution for aligning investment strategy and long-duration liabilities.

As a result, the market has become more complex. These transactions increasingly involve cross-border structures, affiliated asset managers, private credit strategies and collateralised arrangements.

Following developments in the United States and the United Kingdom, Japan has become the centre for AIR in Asia. In recent years, these structured transactions have also gained traction in Hong Kong following several AIR deals. Regulators are giving an increasing amount of attention to these transactions.

AG55 was introduced in the US to help regulators better assess the reserve adequacy associated with US-originated AIR. In the past few months, several regulators across the world have published their proposals to potentially tighten the scrutiny of AIR transactions. Among them, the Hong Kong Insurance Authority (HKIA) released a consultation paper on the potential implementation of a revised Guideline 17 on Reinsurance, which would increase regulatory scrutiny of AIR.

In this article, we explore the motivations and considerations for both cedents (with a particular focus on Hong Kong insurers) and reinsurers in entering into these types of transactions. We also examine the regulatory landscape in Hong Kong and the implications it presents.

How AIR became popular

AIR refers to reinsurance arrangements in which the reinsurer assumes a significant portion of both the liabilities and the associated investment risk. It is most commonly used for products in which the value of the liabilities is closely linked to asset performance, spread income, or long-term cash flow management. It is usually structured as a co-insurance arrangement, but with different forms of asset treatment, such as funds withheld or modified co-insurance, where the assets are not physically transferred. The transactions in Asia (including Hong Kong) have so far been pure co-insurance, where the assets were transferred to the reinsurers' jurisdictions. In very simple terms, the reinsurer assumes the investment risk as well as biometric and policyholder behaviour risks, such as lapse and mortality/longevity risk, typically on a quota-share basis, in exchange for a single premium.

AIR can take the form of either a block deal, which transfers a block of in-force business, or a flow deal, which covers ongoing new business under a quota-share arrangement.

What distinguishes AIR, say, from more traditional mortality-only reinsurance is the central role of investment management. The economics of these transactions depend heavily on asset–liability matching, spread generation, liquidity planning, collateral design and the reinsurer's ability to manage complex portfolios over long horizons, which we discuss in a later section.

The growth of AIR is not merely cyclical. It reflects deeper structural changes in demographics, capital markets, insurer strategy and the role of private capital in insurance. Population aging is increasing the demand for retirement income products and long-duration savings solutions, as seen in the US, the UK and Japan. This is also becoming increasingly relevant to Hong Kong. These products, in turn, rely heavily on asset origination to generate sufficient yield, which typical insurers may not be able to access because of investment-appetite constraints, access to certain private asset classes or capital

limitations.

Institutional investors, however, continue to seek assets that offer stable cash flows, spread income and long-duration characteristics and insurance liabilities provide a natural funding base for these strategies. As a result, reinsurers backed by institutional investors or those with access to private credit, infrastructure debt, structured finance and other alternative assets have garnered a strategic advantage. This broader partnership model has gained momentum through the AIR framework.

How AIR benefits both cedents and reinsurers

Benefits to cedents

Although AIR is a global phenomenon, its development varies significantly across regions. Differences in product design, solvency rules, tax regimes and market structure shape how transactions are executed and where opportunities are most active.

Removing difficult-to-manage risks from the balance sheet while maintaining sufficient risk-adjusted investment yield is one of the main benefits of a block deal from the cedent's perspective. For example, an AIR block deal can help address the chronic challenges faced by universal life insurers in the US that underwrote these policies through ~2012 under significant competitive pressure and based on aggressive assumptions, and that now face increasing profit pressure as well as poor capital efficiency. It can also be an attractive solution to the longevity risk faced by annuity writers in the UK, or to the challenge of sustaining yields for savings products in Japan due to the conservative asset allocation of domestic players.

This is particularly true in Hong Kong, where whole life products written a couple of decades ago in a prolonged high-interest-rate environment offered policyholders high guaranteed rates that are becoming increasingly unsustainable under current interest-rate conditions. Insurers are also seeking to secure guaranteed yield to support participating products and maintain stable fulfilment ratios. These benefits can also be realised through capital relief and solvency optimisation, particularly where a specific block of in-force business is not being managed efficiently on the insurer's balance sheet.

With reinsurers having access to broader sources of asset origination, a flow deal can enable insurers to launch more competitive products and increase underwriting capacity, as seen in Hong Kong with the recent launch of short-term endowment products offering relatively attractive guaranteed returns to policyholders.

Benefits to reinsurers

AIR offers a compelling proposition for reinsurers, particularly private equity firms, institutional investors and specialist asset managers seeking stable, long-duration capital to support their investment strategies. By assuming blocks of life insurance liabilities, reinsurers gain access to predictable liability funding and a growing base of assets-under-management, which can be deployed across a

broader range of investment opportunities. This model also generates attractive and scalable fee income linked to assets-under-management through affiliated asset management platforms while providing access to long-duration asset origination that aligns well with insurance liabilities.

Take the US–Bermuda reinsurance corridor as an example. The US remains the largest and most developed market for AIR, supported by several structural advantages: A large and expanding annuity market, substantial retirement asset flows, deep and liquid capital markets, a well-established offshore reinsurance ecosystem and strong participation from private capital and alternative asset managers. The well-established offshore reinsurance ecosystem is particularly important for Bermuda-based reinsurers, as it provides strong access to investment and capital markets and supports an attractive fee-income model while helping US insurers improve capital efficiency and meet their risk-management objectives.

Beyond the well-established US–Bermuda and Japan–Bermuda reinsurance corridors, interest in Asia is also rising, supported by the continued growth of long-term savings products in markets such as Hong Kong. Global reinsurers are increasingly pursuing AIR transactions in the region to expand assets-under-management, while benefiting from greater diversification through exposure to a broader range of geographies and risk pools.

Key considerations for cedents and reinsurers

Key considerations for cedents

For cedents, one of the most significant considerations in an AIR transaction is how counterparty risk is addressed within the structure. Entering into such arrangements requires confidence not only in the reinsurer's financial strength but also in its risk-management capabilities, investment approach, governance standards and long-term strategic commitment. As a result, careful and disciplined due diligence is a critical first step, with cedents applying rigorous scrutiny to ensure that the reinsurer is an appropriate and reliable counterparty.

Cedents should also be highly focused on the specific mechanisms built into the transaction to mitigate risk. Since assets are effectively transferred off the insurer's balance sheet, it is essential to ensure that the cedent remains adequately protected if the reinsurer were to experience financial stress or default. A central safeguard is typically a collateralised trust arrangement, under which assets supporting the reinsured liabilities are held in trust for the benefit of the cedent. This makes the quality, valuation, sufficiency and liquidity of the collateral especially important, as these factors determine how effectively the cedent can be protected under stressed conditions. An important consideration for cedents is the investment guidelines they would require the reinsurers to comply with (when deal structure involves a trust or funds withheld). While more investment flexibility can enhance the yield, restrictions should be considered on the selection of assets to protect against credit and liquidity risks.

Accordingly, cedents will usually work closely with reinsurers to negotiate and assess the full range of structural protections embedded in the treaty. These may include collateral eligibility criteria, over-collateralisation requirements, substitution rules, reporting obligations, recapture rights and other contractual fail-safe mechanisms. Taken together, these protections are designed to reduce counterparty exposure and provide cedents with greater confidence that the transaction will continue to meet its intended capital, solvency and risk-management objectives over time.

Key considerations for reinsurers

A distinctive feature of AIR is the importance of asset-related risk. For many offshore reinsurers, asset strategy is a key source of competitive advantage. This often involves investing in non-traditional or more complex assets, such as private credit or alternatives, which can enhance yield but also introduce additional complexity, illiquidity and risk. In a competitive market, the pressure to generate higher returns may encourage greater exposure to illiquid assets, making liquidity management especially important. Reinsurers must also manage fluctuations in collateral value. This makes asset–liability management critical both when pricing the transaction and throughout its life. Reinsurers need to understand how changes in policyholder behaviour can alter the liability profile. For example, higher-than-expected lapse rates may shorten liability duration and expose duration mismatches that were previously manageable. Similarly, a mass lapse event during economic stress could create an immediate need for liquidity.

As in traditional co-insurance, reinsurers in AIR assume biometric risks and policyholder behaviour risks. Hence, an equally important consideration is the characteristics of the ceded liabilities. Reinsurers must conduct thorough due diligence on the block of business, including whether assumptions reflect recent experience and expected future trends, whether there are embedded policyholder options or guarantees and whether any third-party reinsurance arrangements apply. There are also cases where the AIR reinsurer would partner with a traditional reinsurer, where the AIR reinsurer manages the asset investment risk and the traditional reinsurer manages the biometric risk. This, however, can create new counterparty exposures.

Trend in Hong Kong

Hong Kong has seen more selective use of AIR. Its product mix, particularly the large share of participating business with significant non-guaranteed elements, has in some cases reduced the need for broad-based risk transfer. As noted in a recent Milliman publication[1], market risk charges under the Hong Kong risk-based capital regime remain relatively low at the industry level, around 5% of total assets for the top ten life insurers, largely because participating products benefit from loss-absorbing capacity under the capital regime. In addition, many insurers continue to have substantial balance sheet capacity.

[1] Analysis of HKRBC: Life insurance industry solvency ratio as of year-end 2024, Milliman

One of the main technical challenges in reinsuring participating business is the treatment of non-guaranteed components. Reinsurers are in an asymmetric position because dividend and bonus declarations remain under the cedent's control, while the reinsurer may have limited ability to influence those decisions. This creates uncertainty, as liability outgo may ultimately depend on actions taken by the cedent. Although reinsurers can address this by "fixing" the non-guaranteed component through a predefined schedule, this effectively passes part of the non-guaranteed risk back to the cedent. As a result, past AIR transactions have tended to focus primarily on guaranteed components.

That said, opportunities remain in areas such as closed blocks with higher guarantees, IFRS 17 earnings management and the strategic use of external asset management expertise.

Looking forward

The new consulting paper from the HKIA would subject AIR to closer regulatory scrutiny. While the proposed framework would impose specific approval and governance requirements for these transactions, it does not appear intended to make them uneconomic—for example, by materially increasing counterparty capital charges to the point of discouraging their use, as in the case of the UK.

HKIA's message is clear: Insurers must "know their risks and know their counterparty." In AIR, strong internal risk management and governance are essential, given the long-duration liabilities, complex assets, cross-border structures and multiple counterparties involved. Boards and senior management should understand the purpose, risk profile and operational implications of each transaction, with oversight covering transaction objectives, risk appetite, collateral and recapture arrangements, ongoing monitoring, and escalation procedures. Counterparty assessment should extend beyond credit ratings to include asset quality, liquidity, affiliated asset managers, retrocession arrangements, legal structure, jurisdictional exposure and operational resilience.

Governance should also reflect the full dependency chain, including reinsurers, custodians, administrators and investment managers. Collateral frameworks need to address eligible assets, valuation, margining, haircuts, concentration limits, access rights under stress and operational control, while recapture rights are meaningful only if they are practically executable through adequate systems, staffing, asset-transfer capability, administration and liquidity.

Looking further ahead, AIR transactions are likely to become more common as the boundaries between insurance, reinsurance, asset managers and institutional investors continue to converge. As populations live longer and healthier lives, the demand for long-term savings solutions will continue to grow. AIR reinsurance is likely to remain an important and evolving response to that need. ■

CELEBRITY ACTUARY INTERVIEW

Stuart Leckie, OBE, JP, *FASHK*
Honourary Member and ASHK Past President of 1981 and 1999

Stuart Leckie, a foundational figure in Hong Kong's actuarial landscape, recently sat down to share reflections on a career that has spanned the evolution of the profession in Asia. From being one of fewer than ten qualified actuaries in 1970s Hong Kong to his recent election as an ASHK Honorary Member, Stuart offers a unique perspective on where the profession has been and where it must go.

1. From Adviser to Architect

ASHK: **You were directly involved in advising both the Hong Kong Government on the Mandatory Provident Fund and the Chinese Government on pension reform. Looking back, what do you consider the most difficult trade-off policymakers had to make—and what compromise proved most enduring?**

Stuart: The Chinese pension system and the Hong Kong system (principally the MPF) are very different things. Mainland China faces a much bigger challenge in organising good pensions for both the rural and urban populations. By contrast, the MPF in Hong Kong is relatively straightforward, serving a much smaller population of about 7 million people/(5 million approx. eligible) compared to China's 1.4 billion.

Hong Kong was happy to help Mainland China with its pension reform, but it is still not an easy task. The entire population in China is divided into rural and urban, with significant differences in standards of living. Therefore, the amounts for social security benefits and contributions—those quantum amounts—were very difficult, particularly for rural China, to get to grips with. To some extent, this has improved, but there is still a big gap between rural and urban China. Interestingly, both systems still provide benefits that are well ahead of those in Hong Kong.

2. The Actuary Beyond the Spreadsheet

ASHK: **Across your leadership roles—actuarial president, adviser, trustee, investment chairman—what non-technical skill has mattered most in your actuarial career, and why?**

Stuart: As actuaries progress in their careers, many eventually move beyond pure actuarial work into management, investment work, trustee responsibilities, and so on. This is perfectly normal and good for many actuaries.

That is a very good thing for many actuaries to do. Once they have qualified and passed all their exams, it is beneficial both for the actuaries themselves and for the organisations they work for. In fact, if an actuary wants to become a good leader and a respected professional, they would be well advised to build a strong technical foundation first before moving into broader leadership roles.

3. Honorary Membership Reflection

ASHK: **You have just received honorary membership from the Actuarial Society of Hong Kong. When you reflect on your decades with ASHK, what change in the profession gives you the most confidence about its future—and what still concerns you?**

Stuart: When I came to Hong Kong in the 1970s, there were fewer than 10 qualified actuaries. There were no local actuarial exams at that time—candidates had to sit for the UK, US or Australian exams. If someone had told me back then how rapidly the profession would grow, it would have seemed quite totally breathtaking.

I was absolutely delighted when I was invited to become an Honorary Member just a couple of months ago. To be recognised by fellow actuaries means a great deal. I am very happy to help the profession in any way I can—perhaps by talking to younger actuaries and encouraging them to get involved in non-actuarial work, such as investments, which has always been a particular interest of mine. One area where senior actuaries can contribute significantly is in the area of risk. All actuaries should be involved in risk to some extent, as it is an area where senior professionals can add particular value.

4. The MPF: What Would You Change Today?

ASHK: **If you were asked today to redesign the MPF system with a blank sheet of paper, what is one feature you would keep unchanged—and one you would fundamentally rethink?**

Stuart: The MPF is really a savings system rather than a true insurance or pension system. That is not necessarily bad, but it means that when people reach 60 or 65, they have accumulated a large lump sum. The big problem with the MPF is that benefits are paid out in lump-sum form rather than as regular monthly income.

Stuart: Everyone who participates in the MPF will eventually stop contributing and start withdrawing. While people may try to draw down the money gradually to create income, it would be much better if there was a pension component to the MPF—so that at retirement age, people could receive a regular monthly or quarterly pension.

I think this will probably happen at some stage, especially as Hong Kong's population ages. This is what I would most like to see being developed—to convert the MPF into a system that can genuinely provide reliable retirement income.

5. Advice to the Next Generation

ASHK: **For young actuaries in Hong Kong and Asia who want to shape society — not just calculate liabilities—what career choices or mindsets would you most strongly encourage?**

Stuart: In the past, actuaries spent most of their time on individual life insurance and did not give enough thought to other important areas. If we look at the full spectrum—individual life insurance, group life insurance, pensions, demographics, trustee work, and investments—then for someone who wants a very serious and impactful career, it would be best to deliberately sit the investment exams, among others.

This equips them for the widest range of opportunities. The goal should not just to be a competent technician, but to become a highly regarded professional who can contribute across this broader spectrum of the profession.

Beyond conventional actuarial work, I also believe it would be very worthwhile for actuaries to become more involved in public policy. This includes social security, poverty alleviation, and helping generate income for people to live a better minimum standard of living.

These areas—social security and poverty alleviation—should perhaps even become one of the formal subcommittees of the ASHK. ■

THE THROWBACK SPECIAL

"Some Practical Observations About The Role of Actuaries in Merger and Acquisition" by Peter Luk

My acquaintance with Peter Luk began in 1968 at an actuarial exam center. On that occasion, he successfully passed three subjects while I failed all. This marked the beginning of a lifelong friendship, which grew even closer after his later move to AIA.

Peter's contributions to the actuarial profession are well-known. His prolific writing and presentations at Chinese actuarial forums earned high esteem from both regulators and academics—an impact highlighted by Xie Zhigang in Actuzine (June 2025, page 44 and page 73).

Having fortunately collected a number of Peter's articles, I am pleased to present one of his most accessible pieces here. This publication stands as a tribute to commemorate his passing in July of last year, and aims to offer readers a clearer understanding of his actuarial insights.

Dominic Lee

SOME PRACTICAL OBSERVATIONS ABOUT THE ROLE OF ACTUARIES IN MERGER AND ACQUISITION

I. INTRODUCTION

The traditional roles of an actuary in the life insurance business consist of mainly valuation and determination of premium rates. These two important functions still represent a typical life insurance actuary's main area of focus and probably will continue to be so for many years to come.

However, as the business world becomes more and more complex, many of the traditional actuarial disciplines and techniques have found new applications. Three notable examples are (1) asset/liability management, (2) the use of option pricing theory in the pricing and valuation work and (3) involvement in the merger and acquisition.

It is now universally recognised that the first (actuarial) paper describing the subject of asset/liability matching was Redington's famous "Review of the principles of life-office valuations" in 1952. The complexity and in-depth research of the subject has since grown so much that today we see many of the major banks in the world are one way or another applying the techniques to their businesses.

The foundation work on the option pricing theory was probably Black & Scholes' paper entitled "The pricing of options and corporate liabilities" in 1973. Neither of them is actuary. But pretty soon actuaries found good use of the theory and one can find today a great deal of actuarial literature on the subject as well as some application of it in the day-to-day business of the life insurance.

There is no actuarial theory as such in the field of merger and acquisition. Actuaries became involved more out of necessity than out of choice. When a life insurance company becomes the subject of merger or take-over, which is not uncommon these days, it is only logical to call on the actuaries for the determination of the value of the business, which involves the projection of all the inter-related cash flow many decades into the future.

This paper is to give a very brief outline of some of the issues to be taken into consideration when an actuary gets involved in the merger and acquisition. It is not intended to be a comprehensive coverage of the subject.

It is worth pointing out at the very outset the fundamental difference between an actuary in his/her traditional role and an actuary engaged in M & A. In his (we shall drop the word "her" for the sake of brevity) traditional role, an actuary is generally solvency-oriented. In determining the premium rates, he very often incorporates a small, either implicit or explicit margin in his assumptions. I say small here simply because the competitiveness of the business normally does not permit him to build in a large margin and one can be quite confident that most actuaries will love to be able to build in a large margin whenever they believe they can get away with it. In valuation work, however, it is the order of the day to allow for huge margins in the various assumptions. One can still find actuaries even in today's ultra-modern business environment who think nothing will be amiss so long as conservative assumptions are used.

In merger and acquisition, a valuer, whether an actuary, an accountant or any other professional, is faced with the task of finding the most realistic appraisal value. Conservativeness has no role to play here.

While an actuary in M & A is not the usual conservative actuary it is also wrong to think all the actuaries in M & A are independent actuaries. In fact, very few actuaries in M & A are working in their independent capacity. It is also true to say that an actuary's attitude and involvement can be quite different depending on the angle from which he approaches the subject.

1. <u>From the Seller's Side</u>:

   An actuary representing the seller will not be regarded as totally unbiased. While it is safe to say that he will not deliberately distort the figure so as to produce a higher value for the seller, it is only natural to assume that when there is scope for honest difference of opinion he will prefer to err on the side in favour of the seller.

   The result of his work can also vary depending on which of the following three categories he belongs to:

   (a) In-house actuary

   - An in-house actuary is best positioned in that he has all the necessary information to do the technical part of the work. In most cases, he may also have plenty of time to do his work. General speaking, one can count on the in-house actuary's work on the appraisal of the business to be a most valuable piece of information. On the other hand, one should always watch out for areas where bias may be legitimately expected.

(b) Retained consultant

The fact that an actuary is a consultant does not necessarily mean that he acts independently. This is a point often missed by the unwary. A consultant may be retained for many reasons including the following:

(i) The company does not have an in-house actuary.

(ii) Selling the company is a very delicate process. Quite often, a consultant is retained to do the work purely for confidential reasons.

(iii) To give the outside parties a professional appearance.

With access to the top management, a consultant will normally have all the material information at his disposal. Compared to the in-house actuary, he will have a lot less detailed information and a lot less time to do his work. Nevertheless, a consultant in such circumstance will generally have enough time and information to do an adequate job and his appraisal report is something to be relied upon.

(c) Through the merchant bank

In complicated deals, a selling company may retain a merchant bank who in turn retains an outside consulting actuary for the technical part of the work.

A consulting actuary in such cases is not unlike the consultant mentioned above except that, for lack of access to the top management, he will have to rely more on his own experience and other sources of information.

2. From the Buyer's Side:

Except in the case of hostile take-over, a buyer often works under the time constraint as determined by the seller. In any case, an actuary representing the buyer does not have the ready access to information as his counterpart representing the seller may have, and he will have to resort to information available through industry-wide associations or regulatory authorities.

Sometimes the deal is done through negotiation, sometimes it is by tender. In the latter case, the actuary is under the additional stress of trying to perform the impossible - beat his fellow actuaries by a very thin margin.

While one may like to think that an actuary's experience and expertise will have some bearing on the outcome of the deal, it is not very gratifying to learn that in reality this is rarely the case. A simple example is the case where the buyer, being a new entrant, is willing to pay a high entrance fee and, in addition, can easily afford it. A license to transact life insurance business in a closed market can also be worth a lot more than can be justified by actuarial mathematics.

3. As Independent Actuary:

This is a relatively rare occurrence. An independent actuary is either appointed by the Court or the result of an arbitration process.

One should not necessarily assume that an independent actuary is an unbiased actuary. While an independent actuary may not be biased on account of vested interest, it is quite possible for him to be biased because of background or experience. Witnessing the fact, it is not unusual for two independent actuaries to produce substantially different results.

For instance, an actuary who has spent most of his working life in South East Asia probably will not take AIDS seriously in advising a deal regarding a Hongkong life insurance company, whereas another actuary who has been working in California for the last ten years may feel it is just a matter of time before AIDS will strike Hongkong. Only time can tell who is right. Similarly a North American actuary and a Hongkong actuary may hold totally different views regarding disability claims.

II. APPRAISAL VALUE

Regardless from which angle an actuary looks at the subject company, his primary role in M & A is to determine the appraisal value of the company. A systematic approach as described below often proves helpful.

1. Determine the Net Asset Value

This is often accomplished by a thorough evaluation of the subject company's latest balance sheet. The actuary's valuation report, if one is available, should prove extremely valuable.

It is at this stage that one should watch out for hidden values. A checklist is compiled and shown below for easy reference although it is by no means intended to be exhaustive.

(a) Unrealized Gains & Losses

Market value of the assets should always be used for appraisal purpose. Where the assets are carried at book value in the balance sheet (very often the case for real estate and not uncommon for ordinary shares) an allowance should be made for the unrealized gains or losses. Deferred tax should also be taken into account at the same time. Since deferred tax is not payable until sometime in the future, a discounted value should be used. While opinions vary as to whether deferred tax should be discounted in the formal balance sheet, the case for discounting is very strong in the appraisal work.

(b) Valuation Bases

A strong valuation basis suggests hidden value, particularly if a rule-of-thumb method is employed for the valuation of the in-force business. Where the in-force business is valued by the model office method (see 2(a) below), the valuation bases are automatically taken into account and no hidden value arises.

(c) Par Surplus

It is not unusual for one to find out that, where the subject company is a stock company transacting participating business, only a limited portion of surplus arising from participating business may be distributed to the shareholders, the limit being set by the local legislation or by the company's Articles. For this reason, it is good practice for the actuary to always ask for a copy of the Articles or at least seek confirmation of the existence or non-existence of such limits in the Articles.

(d) Reinsurance Arrangement

For obvious reasons, reinsurance arrangements with the parent company should deserve a bit more than usual attention.

(e) Unexpired Long-Term Contract/Contingent Liabilities

While the importance of this item is suggested by the title itself, it can easily be missed if one does not watch out for it.

(f) Pension Fund Status

Another item that is often missed. Huge surplus can arise in a defined-benefit scheme if the stock market has had a few good years. Watch out for the possibility of contribution holiday.

(g) Computer System

Very few life insurance companies can survive these days without a good computer system (and very few companies have good systems!). A computer system can be worth a great deal if the intending buyer needs it. The same system can be virtually worthless if the intending buyer has its own system and does not want a new one.

2. Determine the Value of the In-force Business

This is probably the most "actuarial" part of the whole exercise. Two commonly used techniques are described here:

(a) Model Office Method

Under this method, a model office is constructed to represent the company and real-life experience can be simulated by changing the assumptions regarding mortality, lapse, interest, expense, etc. Depending on the time and information available, the model can consist of as few as 20 cells or as many as 1,000 cells. It is essential that the total in-force premiums and reserves of the model agree with those of the company.

Once the assumptions are set, the cash flow should be projected forward for at least 20 years, preferably longer. After taking into account the incidence of tax, the resulting emerging surpluses (the part attributable to the shareholders) should be discounted to give the value of the in-force business.

The choice of the assumptions is critical in arriving at the "right" value. They should represent the actuary's best estimate and contain no margin for adverse deviation. A few general observations are listed below:

(i) Mortality and other claims

While claim experience often fluctuates widely from year to year, its general level is influenced by the company's underwriting and claim practice. Any internal claim study, if available, should prove helpful. Otherwise, the intending buyer will have to report to the industry-wide information. It is also to be remembered that, other things being equal, competitive premium rates will tend to lead to higher loss ratios.

(ii) Lapse rate

It is not unusual for the lapse experience to worsen after the merger. This is probably due to high turnover of staff and agents immediately following a merger. On a long-term basis, a lot will depend on the preservation program of the purchaser.

(iii) Expense

This is one of the most important elements affecting the value of the business. It follows that one should be very careful in analyzing the selling company's expenses, particularly the maintenance expenses since the acquisition expenses of the existing block of business represent money already spent and therefore have no bearing on the future cash flow of the business.

Possible scale of economy following the merger should also be taken into consideration.

(iv) Interest

this is an area where the selling company's experience can be completely ignored, since theoretically speaking one can assume that all the existing assets will be converted into cash and the purchaser is free to invest the money anywhere they want to. Consistent with this assumption, the assets should be valued at market.

(v) Sensitivity test

Sensitivity test is very useful and highly desirable for such an exercise since it provides one with a good idea about the margin of error contained in the appraisal value. An alternative is to bracket the result with a high estimate and a low estimate. It is a great tool for the party who handles the negotiation.

(vi) Discount rate

This is a most difficult but often crucial choice. A change looking innocently small can have an enormous effect on the final results. Extreme caution is therefore warranted. Apart from the several commonly used methods, which are briefly described below, bracketing is also a useful tool in helping determining the discount rate.

To be realistic, it is preferable to use after-tax cash flow and after-tax discount rate although pre-tax basis is also often used, particularly in the U.S.

The commonly used methods include:

** The traditional risk premium method

This method first assumes there exists a risk-free rate, which will be increased by a premium for risk assumption to arrive at the risk-adjusted discount rate. The higher the risk the higher the risk premium and therefore the higher the discount rate.

** Capital Asset Pricing Model (CAPM)

This method was introduced in 1964/5 by Sharpe/Lintner and came into wide use during the last 15 years. In simplistic terms, it attempts to find the risk premium by using market information. If one considers the traditional risk premium method as a tool to estimate the subjective value, CAPM can be regarded as an instrument designed to find the objective price.

** Arbitrage Pricing Theory (APT)

This is a multi-factor refinement of CAPM. It was introduced in 1976 by Stephen Ross. Its use has not yet gained universal acceptance.

Determining the appraisal value is a very complex and speculative enterprise. Apart from the difficulty one may encounter in choosing the right assumptions as outlined above, there are so many non-actuarial commercial factors, any one of which can have such a significant impact on the final outcome that meticulous accuracy in the actuarial calculations seems hardly warranted. Other things being equal, a simpler model is to be preferred. This will have the added advantage of being more flexible to handle for sensitively test.

When the time or information available is severely restricted, a rule-of-thumb method can be used, which in many cases can produce surprisingly good results.

(b) Rule-of-thumb Method

This method often expresses the value of an in-force block of business as a multiple (or percentage) of the in-force premiums. Sum Assured or Reserves are also used sometimes. The method rests on the assumption that the pricing assumptions are realistic, particularly in regard to the recoverability of the acquisition expenses through future premium margins and surrender profits. For instance, if the acquisition expenses amount to 100% of the first-year premiums, it follows that a newly-sold block of business is worth at least 100% of the first-year premiums.

Most rule-of-thumb methods are devised based on industry-wide experience. In applying such a method to a particular company it is essential to verify the expense experience of the company is not grossly out of line with the assumptions employed in the method. Otherwise suitable adjustments will be required.

3. Determine the Value of the Future Business/Scale Force

While this is admittedly the most subjective and controversial element, its magnitude is such that one can hardly ignore it. Anybody who has had some experience in stock market trading will have learned the term "P/E ratio". A P/E ratio is really a capitalisation factor for the future earnings. Since for most companies future earnings come from the future sales, this is in fact also a valuation factor for the future business. This analogy is intended to expel any lingering doubt as to the appropriateness to include the future sales in the appraisal process.

One obvious method to value the future sales is to project the future sales from the current year base assuming a certain growth rate. The value for each year's new business is then calculated using the method described in the previous sections and then discounted back to arrive at the present value. It is appropriate here to use a higher discount rate than for the existing block of business to reflect the greater uncertainty of the future business.

Rule-of-thumb methods can also be used for valuing the future business. In fact, one may argue that given the great uncertainty about the future business a rule-of-thumb method is probably just as good as any other seemingly more sophisticated method.

4. Goodwill and Other Intangible

A name, a licence, etc. can often be worth a lot more than is shown on the company's books. A geographically or otherwise complimentary distribution network is sometimes the deciding factor in the decision to purchase. On the other hand, culture incompatibility would be a minus factor.

The intangible is not subject to actuarial valuation in the sense that it does not have any apparent cash flow implication. Just as a Van Gough painting can be worth hundreds of millions of dollars without the benefit of positive cash flow, such assets should never be neglected in the appraisal process.

CANCER IN HONG KONG: UNDERSTANDING THE RISK AND THE NUMBERS

The 14-minute reality

Whilst we sleep tonight, 35 more people in Hong Kong will wake up tomorrow morning diagnosed with cancer; you could be one of them. To understand the scale of cancer in Hong Kong, we look at how often a new diagnosis occurs. Based on the most recent data, more than 37,900[1] new cases were recorded in a single year. This means that **every 14 minutes, a person in Hong Kong is diagnosed with cancer**; that's more than 100 Hong Kongers every single day of the year. It is a reminder that cancer is not a distant possibility, but a constant reality in our healthcare landscape.

1 in 4 vs. 1 in 5 – Will you be the unlucky one?

Cancer can strike at any age. When we look at the probability of being diagnosed before the age of 75, the statistics offer a clear wake-up call for financial and health planning:

- **For Males:** 1 in 4 will develop cancer before age 75.[1]
- **For Females:** 1 in 5 will develop cancer before age 75.[1]

These odds suggest that cancer is a foreseeable life event for a significant portion of our population. Actuaries assess risks to help design affordable protection plans so that a diagnosis doesn't lead to a major financial burden for a family.

What are the trends?

As our population ages, cancer diagnoses continue to increase gradually. One of the most striking trends we've identified is that cancer is affecting men and women differently over time. When we adjust for the effects of an ageing population, a clear split emerges:

- **For Men:** The overall incidence rate has been relatively stable.[1]
- **For Women:** The trend is deteriorating, with an increasing rate of new cases observed over the last decade.[1]

Incident rates are still high for both groups, but women have recently surpassed men in the total number of new cancer cases diagnosed annually in Hong Kong.[1]

Is it this simple for all cancers?

While the average (adjusted for the ageing population) shows these trends, the reality beneath the surface is more complex. While some types of cancer are in retreat, others are rising sharply—often linked to modern lifestyles in a high-density city.

Survival: The power of early detection

The final, and highly important, number we track is survival. Data consistently shows that cancer is not a single outcome, but a race against time.

Survival rates by stage tell a powerful story: for many common cancers, the 5-year survival rate for patients diagnosed at Stage I is 90% or higher[2]. At this early stage, survival is often relatively close to that of the general population. However, that survival rate drops drastically—sometimes to below 10%—if the cancer is not caught until Stage IV[2].

From an actuarial perspective, this "survival gap" is why we strongly advocate for early detection. It doesn't just save lives; it reduces the complexity and cost of treatment, keeping the entire healthcare system more affordable for everyone.

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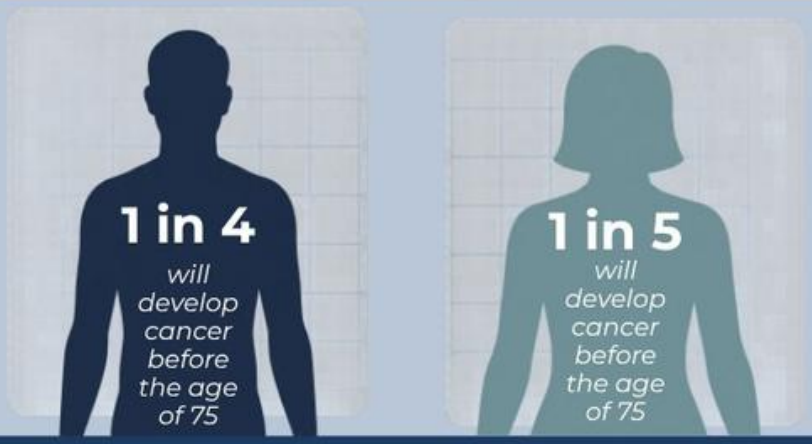
[1] Overview of Cancer Statistics in Hong Kong, accessed on May 9, 2026, https://www.cancer.gov.hk/en/hong_kong_cancer/overview_of_cancer_statistics_in_hong_kong.html
[2] Overview of Hong Kong Cancer Statistics of 2023 About the Hong ..., accessed on May 9, 2026, https://www3.ha.org.hk/cancereg/pdf/overview/Overview%20of%20HK%20Cancer%20Stat%202023.pdf

THE 14-MINUTE REALITY

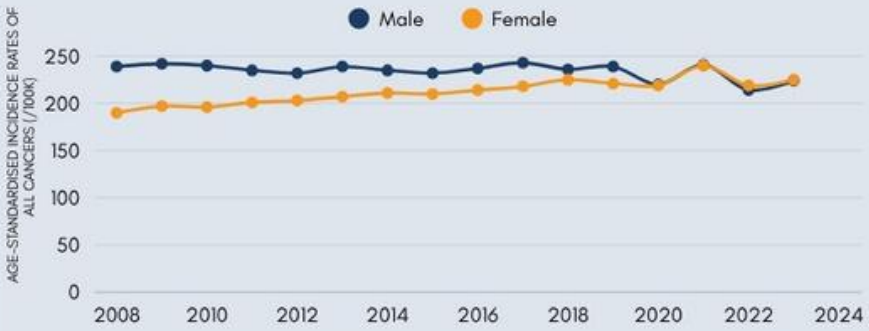
37,900+
new cases per year

1 person diagnosed every **14 minutes**

WILL YOU BE THE UNLUCKY ONE?



WHAT ARE THE TRENDS?



Women now surpass men in total annual cases

SURVIVAL: THE POWER OF EARLY DETECTION

Sources: Cancer Online Resource Hub www.cancer.gov.hk. Hong Kong Cancer Registry. Overview of Hong Kong Cancer Statistics of 2023. Hong Kong Hospital Authority; Aug 2025.

UNIVERSITY TALK RECAP

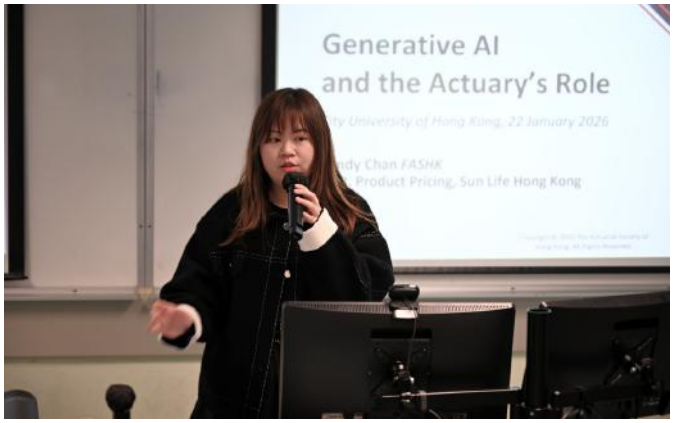
Linking Technology and Risk Thinking for Tomorrow's Talent

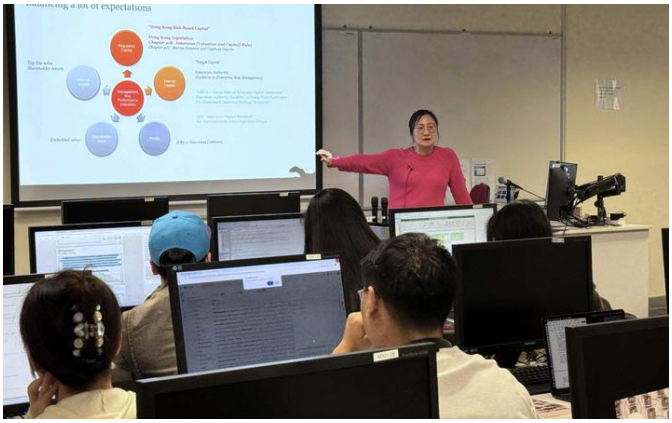
The ASHK recently hosted a series of career talks for university students in Data Science and Mathematics.

Across these sessions, we explored how actuaries connect data processing, generative AI, and risk-based capital - turning advanced analytics into real-world risk insights. Students also learned how these skills can translate into future roles across actuarial practice, modelling, and broader financial risk management.

We're grateful to our speakers Candy Chan, Joey Yu, Terry Chen and student participants for thoughtful questions and active engagement. Your curiosity - and commitment to combining technical expertise with responsible risk thinking - truly stood out.

Thank you to everyone involved in making these talks a success. We look forward to supporting the next generation of talent in the actuarial profession.





Building Practical Skills for Actuarial Careers

Career conversations in action: our latest university talks explored how actuaries contribute to financial reporting and how automation is reshaping actuarial workflows. Through practical discussion, students gained insight into how technical skills translate into clear reporting, effective controls, and scalable processes - while maintaining strong professional judgment.

Thank you to our speakers Matsuta Ng, Terry Chen and actuarial science students for sharing ideas.

We look forward to continuing to support future actuaries with learning opportunities that connect classroom knowledge to industry practice. ■

EVENTS HIGHLIGHTS

10 Apr | ASHK GI Forum Networking Event – Building Property Insurance: Multi-Perspective Deep Dive

The latest GI forum and networking session was jointly organised with the CAS on 10 April. The evening brought together CAS and ASHK members for networking and contributing to meaningful conversations over drinks and snacks. We'd like to thank Wei Ding, Kelvin Tam, and Steve Hutchinson for sharing their valuable insights on building property insurance at our evening talk, which included

- Broker perspective: risk management strategies, customer demand, and how value-added service can strengthen insurance outcomes.
- Underwriting perspective: market opportunities, emerging challenges, latest industry trends, and key aspects of regulatory compliance.
- Claims handling perspective: best practices and the claims process, emphasising effective execution and customer experience.
- Actuarial perspective: pricing, risk assessment, and the actuarial support needed for product development.

Also, thanks to WTW for sponsoring their new office in Quarry Bay.

More photos from the event.

Please stay tuned for the next ASHK GI Forum!

(From left) Wei Ding, Kelvin Tam, Steve Hutchinson, Jenny Lai and Trinity Pong

Networking

Speaker Wei Ding giving presentation

EVENTS HIGHLIGHTS

05 May | ASHK Professionalism Webinar

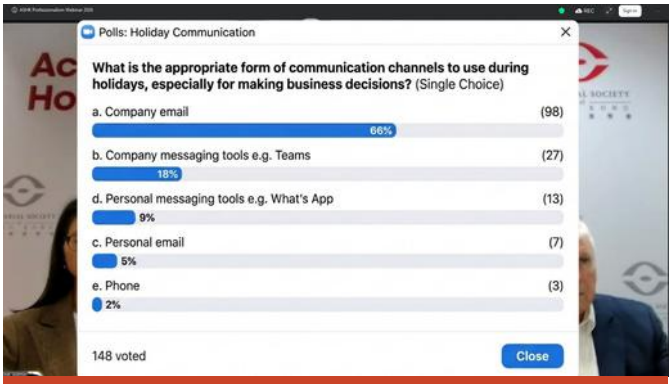
The recent ASHK Professionalism Webinar held on 6 May, attracting over 130 registrations - one of the highest participation to date. The webinar presented two practical case studies to highlight how casual communications and insufficient oversight in AI usage can cause significant professional and operational risks.

As actuaries, it is important to cultivate strong professional scepticism, robust governance, and maintain clear documentation to safeguard our work and uphold the highest standards of risk management.

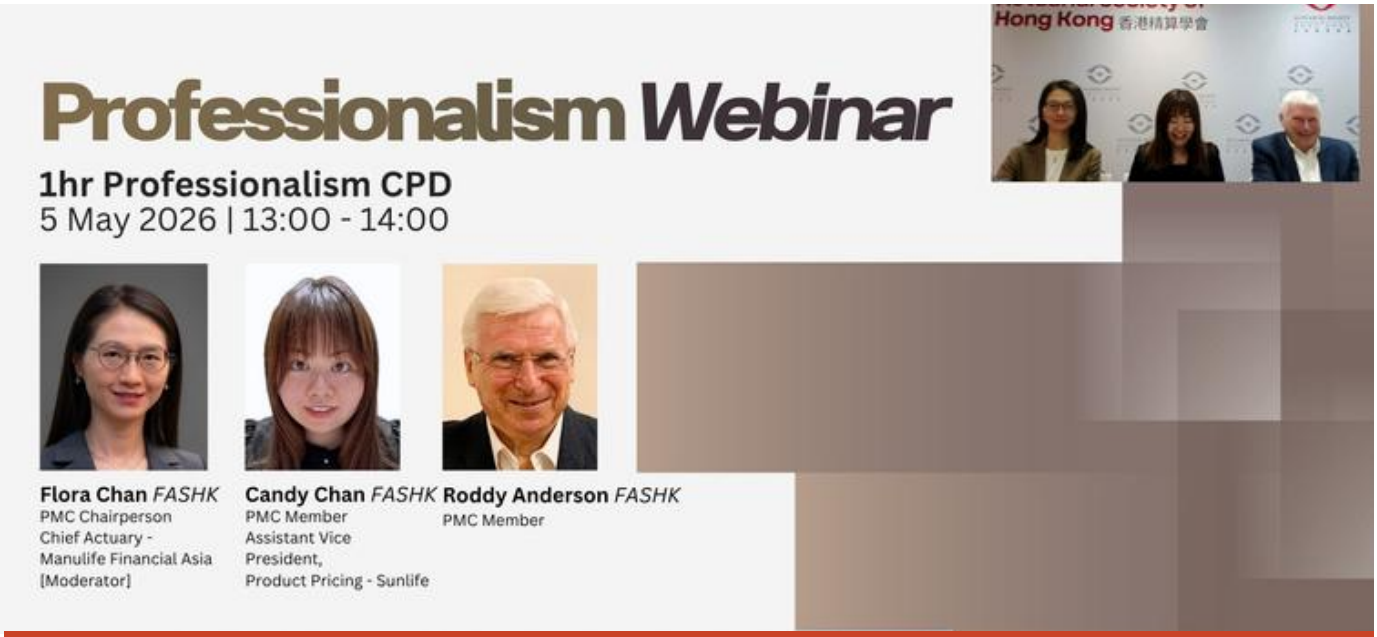
A big thank you to the Professional Matters Committee (Flora Chan *FASHK*, Candy Chan *FASHK* and Roddy Anderson *FASHK*) for delivering such a well-received, lively, and insightful discussion.

Please stay tuned for the next ASHK Professionalism event!

(From left) Flora Chan, Candy Chan and Roddy Anderson



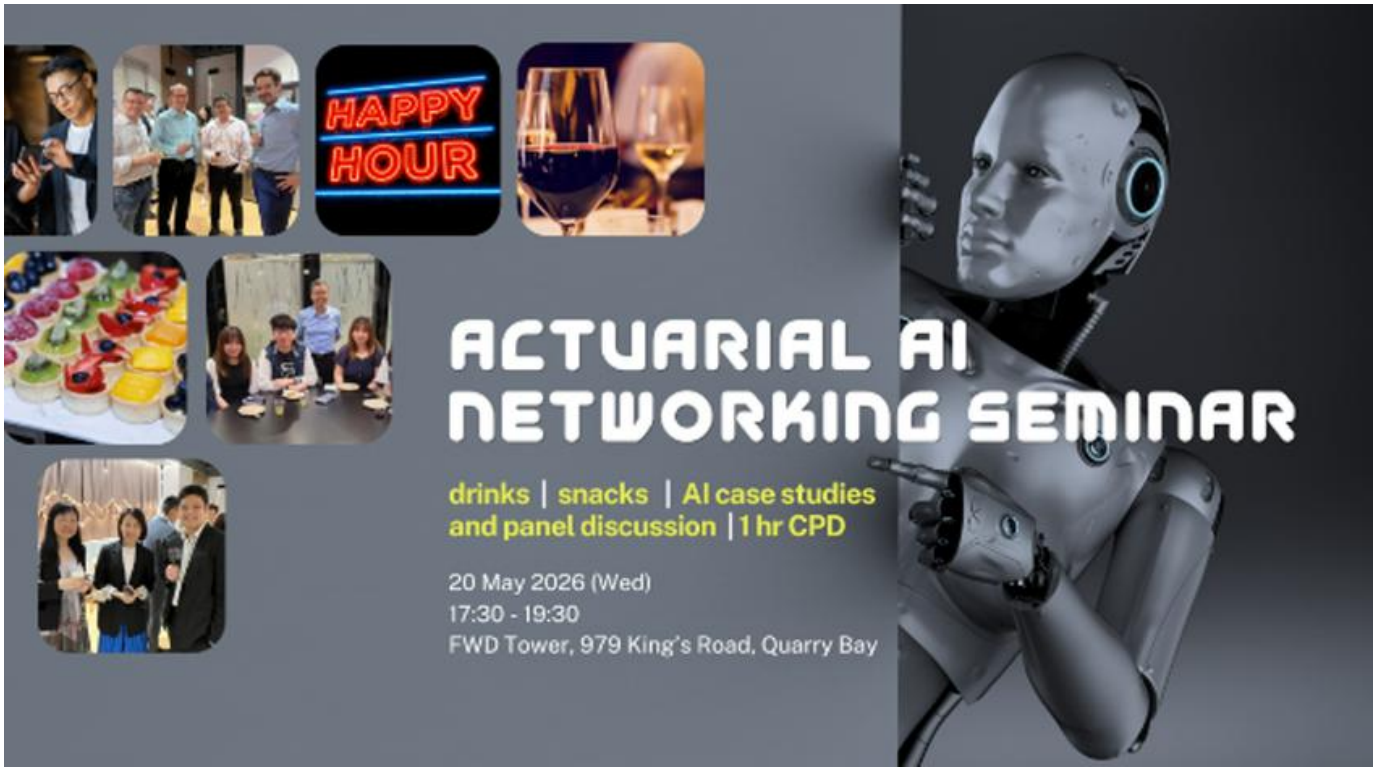
The polling was followed up after the video of Case 1 Project Alaska



Q&A session to wrap up the webinar

EVENTS HIGHLIGHTS

20 May | Actuarial AI Networking Seminar: Highlights and the Road Ahead



The Actuarial AI Networking Seminar, held on 20 May 2026 evening, brought actuarial professionals together for an engaging look at how artificial intelligence is reshaping the field. With a record-breaking turnout, the event set an upbeat tone - one that balanced curiosity with practical insight into what "next" might mean for the profession.

A key highlight was the AI Panel Discussion, moderated by Chadwick Cheung, with panellists Allan Wong, Jacky Ng, and Leandro Ao. Their discussion explored the opportunities AI may unlock across actuarial work, while also prompting deeper questions about adoption, skills, and how practitioners can keep pace with evolving tools.

Adding a concrete, research-led perspective, the program welcomed Dr Simon Hatzesberger from the IAA AI Taskforce. He presented live from Germany, two case studies, demonstrating how AI can be applied in real actuarial contexts. The first showed how large language models can extract relevant information from unstructured claim descriptions to strengthen predictive modelling - delivering an impressive 80% decrease in root mean squared error. The second case study showcased a multi-agent system using five large language models to migrate R code to Python, successfully translating and validating outputs against test suites. You can review his presentation here.

We extend our thanks to speakers and attendees alike, with special appreciation to FWD for providing the venue.

More photos can be found in the event page. ■

Thank you to our speakers and venue sponsor representatives: (from left to right):
Steve Hui, Alexander Wong, Chadwick Cheung, Allan Wong, Jacky Ng, Leandro Ao, Alvin Siu

Participants enjoying the networking moments before seminar began

Speakers and attendees were getting ready for the seminar

Speaker Allan Wong sharing during panel session

AI Group Advisor Alex Wong giving closing speech

EVENTS HIGHLIGHTS

23 Jun | ASHK GI Networking Seminar

Another excellent GI Technical Forum networking event was held on 23 Jun. The session provided an in-depth review of 2025 regulatory policy directions and key market data of the mainland China health insurance market. The speaker explored the key product trends: Medical Insurance, Critical Illness, Long-term Care, and Disability Insurance.

Thank you to everyone who attended and contributed to the insightful discussions.

A big thank you to our venue sponsor FuSure Reinsurance and to our speaker Rebecca Chen for delivering a great speech.

More photos from the event.

We look forward to seeing you again at our next event.

Speakers and attendees were getting ready for the seminar

(From left) Rebecca Chen, Trinity Pong, Steve Hui, Victor Shi and Jenny Lai

GI committee co-chair Jenny giving opening speech

Speaker Rebecca Chen giving presentation

EVENTS HIGHLIGHTS

23 Jun | GAIP 2026 Insurance Innovation Competition – Hong Kong Local Final

The ASHK is pleased to have supported the Hong Kong finale of the Global Asia Insurance Partnership (GAIP) Insurance Innovation Competition 2026 (Hong Kong Station) on 23 June 2026, which was hosted by The University of Hong Kong and sponsored by Prudential Hong Kong. The topic this year was Insurance Innovation, and student participants presented their proposals for insurance-related innovations.

ASHK members (Steve Hui, Trinity Pong, Jenny Lai, Perkin Shek, Piet Maree) shortlisted the five finalist teams who showed their innovative solutions. Their inventiveness shines through in everything from smart pet insurance to student micro-insurance.

ASHK President, Mark Saunders, who served on the judging panel, stated “The finalists were so strong that the scores were neck-and-neck”.

Congratulations to the winning team, who will represent Hong Kong at the global finale in Singapore this August.

For more details and photos, please view here.

SPORTS AND SOCIAL SERVICES GROUP (SSSG)

ASHK speaks at Heart to Heart, Love Without Borders event

The ASHK was pleased to be invited by the Lions Clubs International District 303 to speak at the event on 24 May 2026. ASHK Council members Chris Hancorn and Dr. KP Wat, together with members Wing Ki Chan and Jason Li, participated as a panel.

In his opening remarks, Chris said, “ASHK's purpose is to provide a platform for our members to improve sustainability by helping people and organisations be more financially resilient with positive social impact.” He concluded by saying, “ but we realise that we can have a big positive impact beyond our professional work. Small actions by small teams can have big positive impacts. Many small actions by many small teams have an even bigger impact. And for those of us who have been fortunate enough to be involved in ASHK's charitable work, well, I can only say from my personal experience how heart-warming it has been to see first-hand the kindness of Hong Kong people who are willing to help others who are less fortunate than themselves.This is what makes Hong Kong such a special place in the world.”

The other members followed by giving a few examples of what ASHK has done to support charitable organisations. The meaningful event was aimed at promoting women’s participation in community service and highlighting the power of family involvement. Centred on the theme “Family and Growth”, it encourages parents to engage in service alongside their children, fostering compassion, responsibility, and stronger family bonds through shared experiences.

姚至人 *FSA, FASHK, FLMI*
國際獅子會中國港澳三菱三區
二十分域主席

獅友故事投稿 —— 姚至人@香港沙田獅子會

過去三十載，我以精算師專業的視野衡量世界，萬物皆可量化。直至四年前輔助女兒創立沙田少獅會，生命的公式從此改寫。

旅程始於走近有特殊教育需要的孩子。我精於計算風險，量化企業價值，卻在他們的藝術天份中，看見無法被數字量度的光彩。原來生命最珍貴的價值，在於其「不確定性」中綻放的獨特可能。

隨後認識神經肌肉疾病朋友。一位青年僅憑數指連線世界，臥床的 身軀裡躍動著不屈的靈魂。我慣常建立的風險模型全然失效——真正的勇氣，是在確知的局限中，依然全力擁抱 每一天。

最深的啟發，源自一次家訪。病友的太太以驚人樂觀支撐全家，她鼓勵有志從醫的少獅：「志向偉大，請堅持。」那一刻我恍然：奉獻從來不是單向輸出，而是心與心相遇 時激盪出的光芒，彼此照亮前路。

從計算風險到擁抱生命，我不再只相信數字。這旅程讓我領悟：人生最豐盛的回報， 是那顆被觸動後，願意持續為他人傳達溫暖跳動的心——而這份心跳，正是獅子會日 復日在社區默默耕耘下「愛的足印」。

Norman Yao *FSA, FASHK, FLMI*
Lions Clubs International District
303 Hong Kong and Macao,
China Zone 20 Chairperson

This is an English translation of the original Chinese version.

Lions Story: Contributed by Norman Yao, Lions Club of Shatin HK

For the past thirty years, I viewed the world through the professional lens of an actuary, a perspective from which everything could be quantified. It wasn't until four years ago, when I helped my daughter establish the Alpha Leo Club of Shatin HK, that the formula of my life was completely rewritten.

The journey began by stepping into the world of children with special educational needs (SEN). I am highly adept at calculating risks and quantifying corporate values, yet in the artistic talents of these children, I witnessed a brilliance that no number could ever measure. I realized that the most precious value in life lies in the unique possibilities that blossom from its very "uncertainty."

Later, I came to know friends living with neuromuscular diseases. One young man connected with the world using only a few fingers, his bedridden body harboring an unyielding soul. The risk models I was so accustomed to building became entirely obsolete —true courage, I learned, means wholeheartedly embracing every single day despite knowing with certainty your limitations.

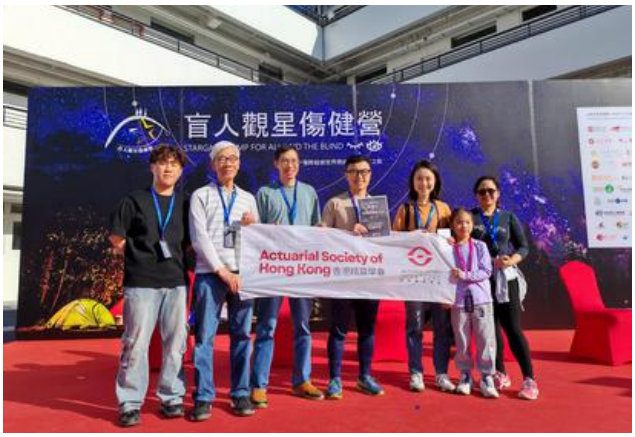
The most profound inspiration, however, came during a home visit. A patient's wife supported her entire family with astonishing optimism. She encouraged one of our Alpha Leos who aspired to practice medicine, saying, "Your ambition is noble; please persevere." In that moment, it suddenly dawned on me: dedication is never a one-way street. Instead, it is the spark ignited when hearts meet, illuminating the path forward for one another.

Moving from calculating risk to embracing life, I no longer put my faith solely in numbers. This journey has taught me that life's richest reward is a heart that, once touched, remains willing to continuously pass on warmth to others. And this very heartbeat is the "footprint of love" that the Lions Clubs leave behind through its unsung, day-to-day dedication to the community. ■

Stargaze for All 2026

Hung Sing Yin, Crosby
Analyst, Oliver Wyman

The camping event “Stargaze for All 2026” (13-14 March 2026) was an incredible opportunity to connect with the community under the open sky. The inclusive stargazing session was a beautiful reminder that we can all share and appreciate the night sky together. On the second day, our ASHK participants successfully tackled the outdoor cooking challenge. It was our first time making cardboard box chicken, and not only did it turn out surprisingly delicious, but it also proved to be a fantastic teamwork exercise. Looking forward to the next one! ■



Acknowledgement:
The ASHK would like to express our gratitude to our founding member and SSSG founding chairman Dominic Lee for sponsoring this event.

ASHK Volunteers Bring Joy to ACA Family Cohesion Day

Wing Ki Chan *FSA, FASHK*
SSSG Member

On 28 March 2026, the ASHK volunteer team joined hands to support Against Child Abuse (ACA) at their "Service Users' Cohesion Day" at the Tso Kung Tam Outdoor Recreation Centre. Following a morning of lively games with families around the camp, the team joined the event luncheon and wrapped up the afternoon with a fun and engaging mini-game session among ASHK volunteers. Surrounded by laughter, our members enjoyed a refreshing day in nature while bonding and fostering fellowship within the ASHK community.

The day's core activity featured a dynamic outdoor orienteering challenge to help families build mutual trust and confidence. For this initiative, we were delighted to assemble a full team as required, forming an enthusiastic squad. This fully-staffed group, which brought together practicing, retired, and student members alongside friends and family, managed the mission checkpoints and guided participants through their challenges.

I am grateful for the support of all the teammates who participated in this event. If you would like to take part in enjoyable and meaningful events like this to bond with fellow members, don't miss our upcoming volunteering opportunities. We look forward to seeing you next time! ■

Event Recap: Beyond Race and Cultural Show

Amy Chan
Consulting Actuary, Milliman
SSSG Member

In continued collaboration with ISS HOPE, a team of ASHK members volunteered in support of its annual flagship event, "Beyond Race and Cultural Show 2026", held on 29 March 2026. The event featured a citywide race in which participating teams travelled across different districts of Hong Kong, completing organised tasks at designated pit stops along the way. Running alongside the race, cultural booths were set up to promote cross-community learning, while live multicultural performances were presented at Kowloon City Plaza. ASHK volunteers were stationed at the HOPE booths to welcome racers and the public, while also helping to ensure the smooth execution of the event. It was a remarkable moment in witnessing the completion of the race and celebrating the winning teams in an atmosphere filled with joy and enthusiasm.

Guests officiating the opening of the event

Dominic Lee experiencing henna painting

(From left) Danny Choi, Qingyun Zhou, Dr. KP Wat and Amy Chan

(From left) Danny Choi, Amy Chan, Dominic Lee and Dr. KP Wat

Group photo with fellow volunteers

Participants taking photos at the instant photo-taking booth

Event Recap: Table Tennis Gathering in April

Dominic Lee *FASHK*
SSSG Member

On 26 April 2026, two squash courts were rented at the venue, with seven participants taking part—three members and four non-members. Players rotated to compete with one another, and the overall standard of play was quite high. No scores were recorded, as the focus was on practice rather than competition.

It was somewhat disappointing that all participants were retirees. We are keen to explore ways to attract working professionals to join future activities, and we would greatly appreciate your suggestions.

Event Recap: Actuarial Society Tennis & Networking in May

Brian Chan *FCAS*
Director, Howden Re
SSSG Member

We had a fantastic time at Sai Sha GO PARK on 16 May 2026! Despite the unpredictable weather, our recent event turned out to be a unique and memorable experience.

We started the afternoon on the courts, making the most of the weather to get in some great rallies. While the forecast was unstable, we managed to get about 30 minutes of high-energy tennis in before the rain arrived.

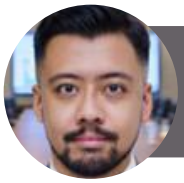
True to our “Plan B” strategy, we didn't let the weather dampen our spirits! We made a seamless transition from the courts to a cozy spot within GO PARK for an impromptu coffee networking session.

The change of pace actually worked in our favor, providing a more relaxed environment for everyone to connect, discuss industry insights, and catch up with colleagues without the distractions of the game. It ended up being a perfect hybrid of Tennis + Coffee Networking.

A huge thank you to everyone who braved the weather and joined us. Your adaptability and great company are what make these events so successful. We hope you enjoyed the chance to unwind and build connections, regardless of the court time!

We look forward to seeing you at our next event. Stay tuned for details!

A Heartfelt Bridge Game across Generations



Timothy Shum
SSSG Member

Afternoon sunlight filled Dr. Kin Lam's home as ASHK members gathered for a visit on 25 May 2026. Dr. Lam, an old friend of our SSSG founding chairman Dominic Lee and a keen bridge player, studied with him at HKU Science Faculty in 1964. He later became a statistics professor at HKU and also Hong Kong Baptist University, and remains an Honorary Professor at HKU.

With mobility now limited, Dr. Lam welcomed colleagues and students into his living room. The bridge session became a reunion across three generations: mentors, mid-career professionals, and emerging talents.

Members of the ASHK posed for a commemorative group photo during this home visit to Dr. Kin Lam.

Risk and Reward

The highlight came when Danny Choi, Chairman of SSSG, boldly bid 6♥. With Dr. Lam's steady play, the ♥Q and ♣J fell neatly, securing twelve tricks. Applause followed, not just for the win, but for the trust shared across generations.

Dr. Lam (North)	Danny Choi (South)
♠ AQ10	♠ K64
♥ A6	♥ KJ9842
♦ 9872	♦ A3
♣ AK105	♣ Q9

North	South
1NT	2♦
2♥	6♥

Invitation

Looking for social bridge?
Join our quarterly practice.
Email: ASHK.sssg@gmail.com

Dinner with laughter

As evening settled, the bridge table gave way to a feast of home-style Cantonese dishes. Dinner conversation spanned actuarial education's early days and modern practice. Veterans recalled handwritten calculations; younger actuaries spoke of digital speed and global reach. By dessert, the dialogue turned reflective, and knowledge, like Bridge, passed hand to hand, generation to generation. ■

Dr. Lam and Danny Choi exchanged a winning smile after making a bold 6♥ slam.

Dinner conversation around the table brought together bridge, friendship, and generations of actuarial experience.

Drama at Trick One – The 4♥ Story

Winky Lai (HKU Student)
University Student Member

Board 2 NS Game Dealer E		
	♠QT652 ♥T5 ♦AQJT96 ♣-	
♠A7 ♥Q93 ♦K753 ♣K832		♠K93 ♥AKJ764 ♦2 ♣764
9 12 HCP 11 8	♠J84 ♥82 ♦84 ♣AQJT95	N ♠ ♥ ♦ ♣ N - 2 - 1 - S - 2 - 1 - E 3 - 3 - 1 W 3 - 4 - 1

East	South	West	North
1♥	3♠	4♥	Pass
Pass	Pass	Pass	

The final contract rested at 4♥ by East. The auction was straightforward, but the play provided plenty of amusement. Three players could have improved matters simply by pulling the right card.

Play of the Hand
South led the ♦8. Declarer played small ♦ in dummy, North won with the ♦ Q, then switched to hearts. Declarer drew all the trumps and claimed the rest, losing only two clubs and one diamond. However, the defenders could have secured four tricks with accurate defense.

#Mistake 1 - Opening lead
South would have done better to start with the ♣A. After seeing North's discard, continuing with the ♣Q would have forced declarer to lose three club tricks no matter how he played via a ruffing finesse.

#Mistake 2 - Declarer's choice at trick one
South led the ♦ 8. Declarer assumed North held the ♦A and played low. A stronger choice was to cover with the ♦ K, which would have secured the contract. North would win the trick, but with a void in clubs, he could not switch to clubs.

The absence of a club in North could have been foreseen by East: South had six clubs as suggested by 3♣ , and as a result, North should be void in the suit. By playing ♦ K at trick one, East could have put North on lead to secure the contract.

#Mistake 3 - North's defense
North could have played ♦6 at trick one and allowed South to win with the ♦ 8. South would then count North's initial holding as ♦ AQJT96. after recognizing East's shortness in ♦, he would play ♣A and find the club ruff to beat the contract. Overtaking the ♦8 with the ♦Q was the mistake.

Manner before competition
Even with a less-than-ideal opening lead, there were still several chances for the defense to recover. Success depends not only on the first card but on how both players work together to find the best continuation.

After the drama at trick one, South broke the silence with humility: "If I had led the ♣A, the contract would have gone down. Sorry, partner."

Bridge is not only about technical precision, but also about partnership, accountability, and respect at the table. ■

STUDENT CORNER - PREPARE FOR YOUR ACTUARIAL CAREER

Insurers' Evolving Investment Portfolio: From Traditional to Alternative Assets

Welcome to Student Corner – A section specifically designed for our student members!

Imagine you purchase a saving insurance policy. You pay premiums today in exchange for protection and future benefits, usually many years later. Have you ever wondered what happens to your premium after you pay it?

Insurers do not simply keep premiums idle in a bank account. After allowing for expenses, reserves and liquidity needs, insurers carefully invest a significant portion of their assets to support future claims and policyholder benefits. Insurers are not only claim payers. They are also long-term investors.

This article provides a simple introduction to why more insurers are considering alternative assets as part of their investment portfolios.

What are Alternative Assets?

Traditionally, many life insurers have invested in a mix of publicly traded assets, such as government bonds, corporate bonds, and listed equities. However, as markets evolve, there has been growing interest in looking beyond traditional investments. This is where alternative assets come in.

In simple terms, traditional assets are more like items on a public shelf, while alternative assets are less publicly traded and more customized. They may offer attractive features but also require more careful assessment. Common types of alternative assets include real estate, infrastructure, private credit and private equity.

Why are Alternative Assets Attractive?

Alternative assets may offer a higher expected yield than some traditional fixed income investments, but this may come with additional risks, lower liquidity, greater complexity and the need for specialist expertise.

Alternative assets may also help diversify an insurer's investment portfolio. Some alternative assets may behave differently from public equity or bond markets, although they can still be affected by common economic factors such as interest rates, credit conditions and market stress.

In addition, some alternative assets can provide long-term and predictable cash flows. This is particularly useful for life insurers, because many insurance liabilities stretch far into the future. For example, certain infrastructure debt investments may generate contractual payments over a long period, which can potentially help insurers match long-term policyholder obligations.

What Could Go Wrong?

Alternative assets can be useful, but they also involve important risks and trade-offs.

The first is illiquidity risk. Many alternative assets cannot be sold quickly. In normal market conditions, selling a public bond is generally easier than selling a private credit or real estate investment. This matters because insurers need sufficient liquid assets to pay claims, surrender benefits and other policyholder obligations when they fall due. If an insurer needs to meet these obligations at short notice, it may not be able to sell illiquid assets at the right time or at a reasonable price.

The second is valuation uncertainty. Alternative assets often have fewer observable market prices. Their value may depend more heavily on models, assumptions, or estimates, making valuations more dependent on judgement.

The third is data limitations. For private credit investments, information about the borrower may be less readily available than for listed bonds. Insurers therefore may need to conduct more careful credit assessment and ongoing monitoring.

Regulatory Considerations

For insurers, investment decisions are not only about asking, "How much return can this asset earn?". They also need to ask, "How much risk does this asset bring, and how much capital do we need to hold for it?" This is where regulatory considerations become important.

Under Hong Kong's Risk-Based Capital regime, insurers need to hold capital based on the risks they take. Asset capital requirements may depend on factors such as asset type, credit quality, duration, structure and underlying risk exposure.

This means two assets with similar expected returns may not be equally attractive after considering capital requirements. An asset with a higher yield may also require more capital, which could make it less attractive after taking capital requirements into account.

Find Out More

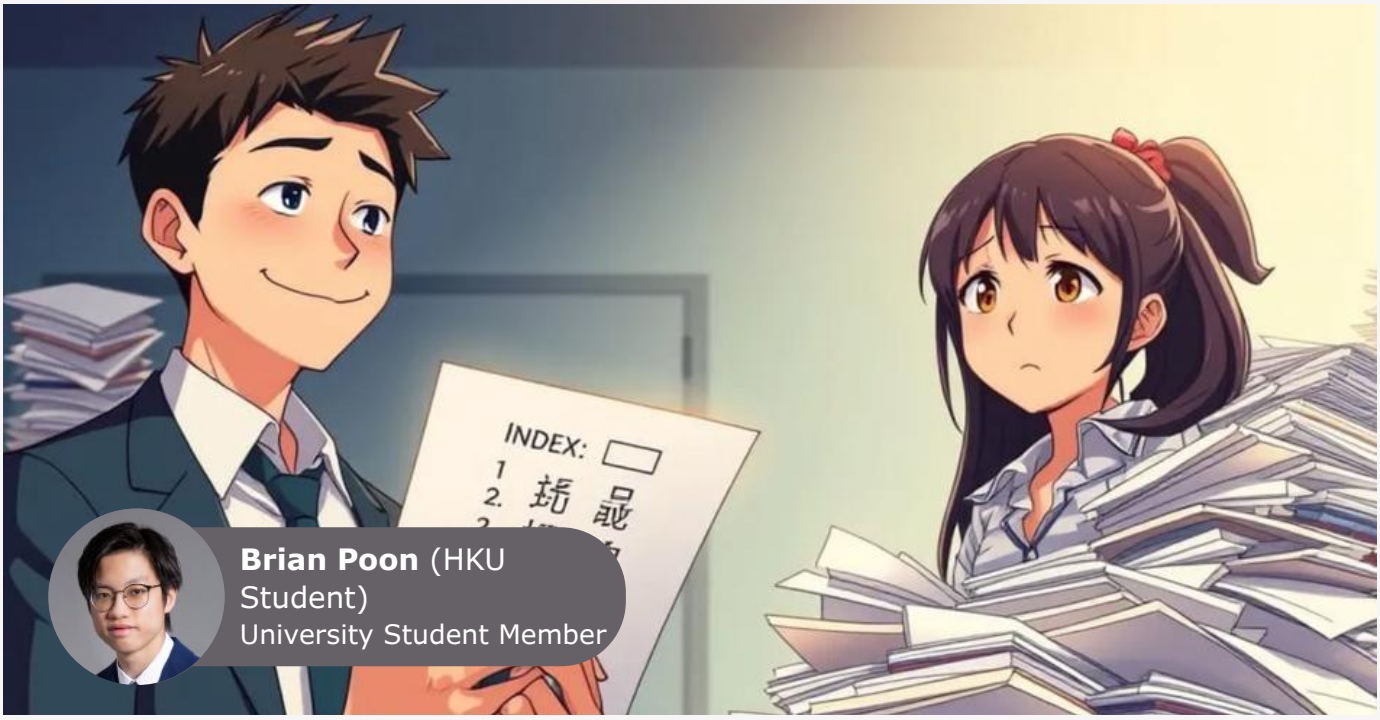
This article provides a high-level introduction to alternative assets.

For a deeper dive, check out 25Q3 Actuzine 精誌 feature article “Alternative Assets for Life Insurers in HK”, which explains the major types of alternative assets, their benefits, risks and Hong Kong regulatory considerations; 26Q1 Actuzine 精誌 feature article “Private Credit – Regulatory Treatment in Various Jurisdictions”, which focuses more specifically on private credit and how different regulatory regimes treat it.

You can also read 26Q2 Actuzine 精誌 feature article “Are Private Assets More of a Risk or an Opportunity for Insurers? - A Hong Kong Perspective”, which discuss the associated risks and implications for the Hong Kong Insurance Market.

Together, these articles show that insurer investment is not simply about seeking higher returns. It is about balancing policyholder obligations, risk, capital, liquidity and long-term financial stability.

Stay tuned for future volumes for more sharing on interesting actuarial topics. Please also let us know if there are any particular topics you would like us to cover! 🟥



THE NEW ACTUZINE ARTICLE SEARCH ENGINE

Instantly Finding Relevant Articles

The new **Actuzine Search Engine** is a treasure for finding useful articles in the magazine, with a central focus on the insurance industry and the actuarial community in Hong Kong, but also covering Asian and global topics.

The Purpose

From the old ASHK newsletter to the rebranded Actuzine, there were many past articles that contain decades of practical wisdom from seasoned actuaries. Yet, when we wish to navigate to a specific article, we have to flip through dozens of PDFs manually, a painful process which would have held many members back.

The search tool was built by a team of ASHK student volunteers, and the working team is now happy to announce that the tool is officially launched. We hope the tool helps you track down these hidden gems that lie within the Actuzine.

The team members are five soon-to-be actuaries from HKU, namely Brian Poon, Winky Lai, Mimi Tse, Aiden Wan, and Hannah Chiu. Moreover, we would like to show great appreciation to **Greg Solomon**, the project advisor who has supported us with this project.

How to use the tool

Click the link to access the search tool. Type a keyword or topic (e.g., HKRBC, insurtech, COVID-19). The tool will return articles associated with the chosen keywords.

A few searching tips:

- The words you enter will be checked against article titles & subtitles, related content, keywords, and author names.
- The search is NOT case-sensitive.
- Try synonyms if your first search returns nothing (e.g., “compliance” instead of “regulations”).
- Try different acronyms: “HKRBC” works; “HK RBC” may not.
- The tool uses AND logic, which means entering more keywords narrows your search.
- Students: search “Student Corner” for your exclusive starter pack.

In designing the search mechanism, we try to anticipate how people would use the tool. However, it is not perfect, nor can it be without the participation of end users. If you try the tool and find the search unsuccessful, or would prefer an article to be categorised differently, please tell us. Your feedback will shape the next iteration.

UPCOMING EVENTS

7 Jul 2026

AI Hackathon (details)
(FULL HOUSE)

16 Jul 2026

IFoA ASHK Actuarial Insights 2026 Conference
(details)

6 Oct 2026

ASHK Certificate Equivalent Course (details)

21-22 Oct 2026

Ageing Well Hong Kong Conference (details)

MEMBERSHIP UPDATE

New Members

Name	Company/University	Membership
Alexander Inggih	Manulife (International)	Chartered Member
Chi Hang Hui	Prudential HK	Chartered Member
Chi Yiu Chan	Manulife	Chartered Member
Chong Yang	China Taiping Life Insurance (Hong Kong)	Chartered Member
Chun Fung So	Manulife	Chartered Member
Chun Hei Mak	Manulife	Chartered Member
Chun Wai Liu	AXA Hong Kong and Macau	Chartered Member
Chung Sing Ng	AIA	Chartered Member
Francois Coenraad Strydom	KPMG	Chartered Member
Hau Yip Brian Tu	Hang Seng Insurance	Chartered Member
Hoi Yin Chan	Prudential HK	Chartered Member
Hyunjong Baek	WTW	Chartered Member
I-Wen Liu	Chubb	Chartered Member
Ka Chun Ho	Chow Tai Fook Life Insurance	Chartered Member
Ka Hung Hui	Prudential HK	Chartered Member
Kam Shing Cheung	Assicurazioni GeneraliS.p.A.	Chartered Member
Kwan Yiu Chris Cheng	AIA	Chartered Member
Kwok Ho Chung	Prudential HK	Chartered Member
Kwui Ying Teoh	NIL	Chartered Member
Lihua Yu	Juntian Insurance Brokers	Chartered Member
Long Hang Kong	Hang Seng Insurance	Chartered Member
Man Chun Wong	AXA China Region Insurance	Chartered Member
Man To Tang	Manulife (International)	Chartered Member
Ming Fung Lee	Manulife	Chartered Member
Ming Wai Mak	AXA China Region Insurance	Chartered Member
Nori Chan	Hang Seng Insurance	Chartered Member
Pak Long Yip	AIA	Chartered Member
Pan Fan Chu	Manulife	Chartered Member
Qiaoyu Yang	AIA	Chartered Member

MEMBERSHIP UPDATE

New Members

Name	Company/University	Membership
Sheung Ngai Au Yeung	Hang Seng Insurance	Chartered Member
Stavros Karygiannis	HSBC	Chartered Member
Tsz Hei Chan	Manulife	Chartered Member
Wai Hoi Law	Hang Seng Insurance	Chartered Member
Wai Hung Pin	AXA China Region	Chartered Member
Wei Hao	AIXIN Life Insurance	Chartered Member
Yanxu Li	KPMG China	Chartered Member
Yiu Kong Ma	HSBC	Chartered Member
Yuet Shing Tai	HSBC	Chartered Member
Ka Chun Yam	Manulife	Associate Member
Sung Hei Tsang	Hang Seng Insurance	Associate Member
Feihong Wang	University of Windsor	Ordinary Student Member
Tin Nok Liu	Manulife (International)	Ordinary Student Member
Wai Lam Cheung	Manulife (International)	Ordinary Student Member
Abhay Amit Gupta	The University of Hong Kong	University Student Member
Aicong Lyu	Lingnan University	University Student Member
Alen Irsembetov	The Chinese University of Hong Kong	University Student Member
Boyue Jiang	The Hong Kong Polytechnic University	University Student Member
Cham San Yu	The Chinese University of Hong Kong	University Student Member
Chang Gao	University of California, Santa Barbara	University Student Member
Cheuk Hei Yu	The Hong Kong University of Science and Technology	University Student Member
Cheuk Lam Chan	The Chinese University of Hong Kong	University Student Member
Cho Wing Lam	The Hang Seng University of Hong Kong	University Student Member
Chris Tianchen Liu	The University of Waterloo	University Student Member
Chun Kit Ho	City University of Hong Kong	University Student Member
Chun Ming Wu	The Chinese University of Hong Kong	University Student Member
Chung Shun Woo	The University of Hong Kong	University Student Member

MEMBERSHIP UPDATE

New Members

Name	Company/University	Membership
Dahyeon Kim	The University of Waterloo	University Student Member
Dehao Li	The Chinese University of Hong Kong	University Student Member
Efim Yakubov	The University of Waterloo	University Student Member
Elizabeth Li	UCLA	University Student Member
Ethan Lee	University of California, Santa Barbara	University Student Member
Feichao Fan	The University of Melbourne	University Student Member
Gao Yue	The University of Waterloo	University Student Member
Haojun Cui	The University of Melbourne	University Student Member
Harley Huang	The University of Melbourne	University Student Member
Hongtao Zhan	The University of Melbourne	University Student Member
Hongxuan Chen	The Chinese University of Hong Kong	University Student Member
Huiqing Peng	University of California, Santa Barbara	University Student Member
Huiyan Zhou	The Hong Kong Polytechnic University	University Student Member
Jake Tapia	Binghamton University	University Student Member
Jiani Wang	The University of Hong Kong	University Student Member
Jiaqi Chen	The Hong Kong Polytechnic University	University Student Member
Joanne Zhou	University at Buffalo	University Student Member
Junbin Fang	The Hong Kong Polytechnic University	University Student Member
Junhao Yang	The University of Waterloo	University Student Member
Justin Wen Zheng Li	The University of Melbourne	University Student Member
Ka Hei Cheung	The Hang Seng University of Hong Kong	University Student Member
Ka Ki Wong	The Hang Seng University of Hong Kong	University Student Member
Kaixin Zhang	The Hong Kong Polytechnic University	University Student Member
Kan Ming Wong	The University of Hong Kong	University Student Member
Ke Cheng Rong	City University of Hong Kong	University Student Member
Kin Fung Wong	The Hong Kong University of Science and Technology	University Student Member
Kin Hang Chiu	The Hong Kong University of Science and Technology	University Student Member
Kin Ho Chan	The Chinese University of Hong Kong	University Student Member

MEMBERSHIP UPDATE

New Members

Name	Company/University	Membership
Kwan Chun Kenny Tam	The Chinese University of Hong Kong	University Student Member
Lai Evelyn Lau	The University of Hong Kong	University Student Member
Leung Wing To	The Chinese University of Hong Kong	University Student Member
Lexuan Ye	The Hong Kong Polytechnic University	University Student Member
Lo Wing Yu	The Hang Seng University of Hong Kong	University Student Member
Lok Ching Fong	The University of Hong Kong	University Student Member
Lok Ngei Chan	The University of Hong Kong	University Student Member
Lok Yiu Lam	The Hang Seng University of Hong Kong	University Student Member
Luke Brenner	Texas A&M	University Student Member
Mai Tien Thang	The University of Melbourne	University Student Member
Mengkai Han	City University of Hong Kong	University Student Member
Mengyun Yang	The Hong Kong Polytechnic University	University Student Member
Michael Weijia Chen	The University of Melbourne	University Student Member
Miras Amirbekov	City University of Hong Kong	University Student Member
Niki Lin	The University of Hong Kong	University Student Member
Ouyang Yu	Lingnan University	University Student Member
Pengyuan Chen	The University of Melbourne	University Student Member
Pui Lam Leung	The Hang Seng University of Hong Kong	University Student Member
Qinyuan Mai	The Hong Kong University of Science and Technology	University Student Member
Rachel Xie	University of Toronto	University Student Member
Rewa Shukla	The University of Waterloo	University Student Member
Ryan Dang	The University of Melbourne	University Student Member
Sebastian Lok Hein Chung	The University of Surrey	University Student Member
Sebastien Rivalland	The University of Melbourne	University Student Member
Shing Hei Hui	The Hang Seng University of Hong Kong	University Student Member
Shudan Liu	Binghamton University	University Student Member
Shumin Qiu	The Hong Kong Polytechnic University	University Student Member
Sirikorn Dansiri	University of Toronto	University Student Member

MEMBERSHIP UPDATE

New Members

Name	Company/University	Membership
Siu Hang Au	The University of Hong Kong	University Student Member
Steven Sie Santosa	The City University of Hong Kong	University Student Member
Sun Qihao	The University of Melbourne	University Student Member
Sze Yuet Cheryl Cheng	The University of Melbourne	University Student Member
Tianyu Huang	University of Toronto	University Student Member
Trung Kien Le	The University of Melbourne	University Student Member
Tsz Yeung Hung	The University of Hong Kong	University Student Member
Tsz Yin Ng	The University of Hong Kong	University Student Member
Wai Dick Feng	The University of Melbourne	University Student Member
Wai Kwan Wong	The University of Hong Kong	University Student Member
Wang Jieying	The Chinese University of Hong Kong	University Student Member
Weiqi Ma	University of Toronto	University Student Member
Wui Hin Chow	City University of Hong Kong	University Student Member
Xiangyi Gu	The University of Hong Kong	University Student Member
Xintong Chen	The University of Melbourne	University Student Member
Xinyi Liu	The Hang Seng University of Hong Kong	University Student Member
Xinyue Zhang	The Hang Seng University of Hong Kong	University Student Member
Xiyu Chen	University of New South Wales	University Student Member
Yan Ho Chan	University of Toronto	University Student Member
Yaoyu Wang	The Hong Kong Polytechnic University	University Student Member
Yaqi Cui	The Chinese University of Hong Kong	University Student Member
Yilin Liu	The University of Melbourne	University Student Member
Yiu Chung Lui	The University of Melbourne	University Student Member
Yongren Mao	University of California, Los Angeles	University Student Member
Yu Chen	University of Toronto	University Student Member
Yu Fei Wu	The Hang Seng University of Hong Kong	University Student Member
Yuanjie Li	The University of Melbourne	University Student Member
Yuxuan Ouyang	The Hong Kong Polytechnic University	University Student Member
Yuze Liu	The University of Waterloo	University Student Member

MEMBERSHIP UPDATE

New Members

Name	Company/University	Membership
Zhaotian Huang	The University of Waterloo	University Student Member
Zhuorui Li	The University of Hong Kong	University Student Member
Zichuan Zou	The University of Melbourne	University Student Member
Zijun Zhou	The University of Melbourne	University Student Member
Ziru Song	The University of Hong Kong	University Student Member

Membership Advancement

Name	Company/University	Membership
Hing Wai Vincent Chan	AXA China Region Insurance	Fellow Member
Lydia Pui Yue Chan	AXA China Region Insurance	Fellow Member
Jason Chung Sing Ng	NIL	Chartered Member
Ben Ho Tai Wong	Manulife	Chartered Member
Piet Maree	Insight Actuarial Solutions	Chartered Member

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.

- Chirag Rathod *FASHK*, Chief Executive Officer, Global High Net Worth, AIA
- Christine Wu *FASHK*, Interim Hong Kong Market Lead, ICT, WTW
- Dhiran Dookhi *FASHK*, Director, Blackrock
- Dicky Lam *FASHK*, Chief Financial Officer, Chubb Life Hong Kong
- Mark Coleman *FASHK*, Partner, KPMG China
- Sean Deehan *FASHK*, APAC Chief Executive Officer, Strategy & Technology Group, Aon
- Wilton Kee *FASHK*, Chief Executive Officer, Manulife Hong Kong and Macau

Congratulations to them for their great achievements in their careers!

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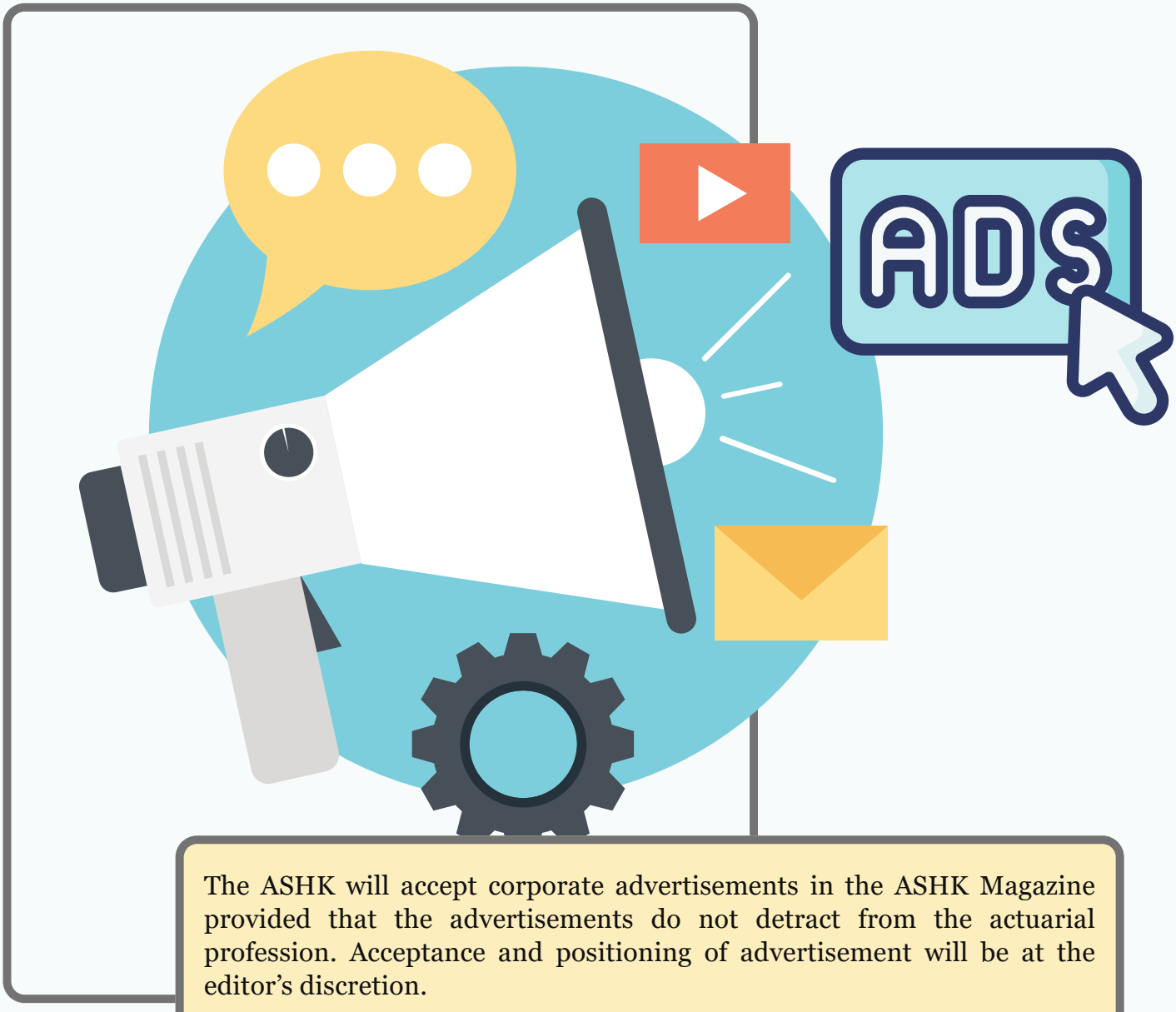

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