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ACTUZINE 精誌

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ACTUARIAL SOCIETY of HONG KONG 香港精算學會

Message from the editor

Dear readers,

We take great pleasure in welcoming you to our second edition of ACTUZINE 精誌 in 2025!

We're thrilled to bring you the latest updates and highlights from ASHK. In this issue, we are very honoured to feature articles from Jateen Vaghela and Richard Chan of CTF Life to further delve into the hot topics about ALM Control Cycles and Par Products under an Economic Perspective. We are also glad to have Syed Danish Ali of PKF Albassam & Partners discussing the critical issue of Digital Asset Insurance to secure HK's Crypto Hub Status. You may probably not want to miss the article of CAS Research on IFRS 17 Implementation for P&C Insurers in Asia, as it marks a significant event in the industry's history.

In addition , we have the "Celebrity Actuary Interview" with K.C.Chan, past president of 2001, to share his valuable actuarial experience. Further, we have included a special article from Xie Zhigang highlighting his interesting memories with Peter Luk, our previous interview guest in Celebrity Actuary. You may get to know more about Peter in a different way.

The ASHK Sports and Social Services Group has been actively organising social events over the past three months, and we are thrilled to see double the participation in our sports events and social service initiatives. Our networking events and university talks have also been successful in promoting ASHK to the young actuary community.

As always, don't forget to check out our upcoming events, as we have three significant conferences coming soon. Be sure to secure your seats if you're interested!

Happy reading! ■

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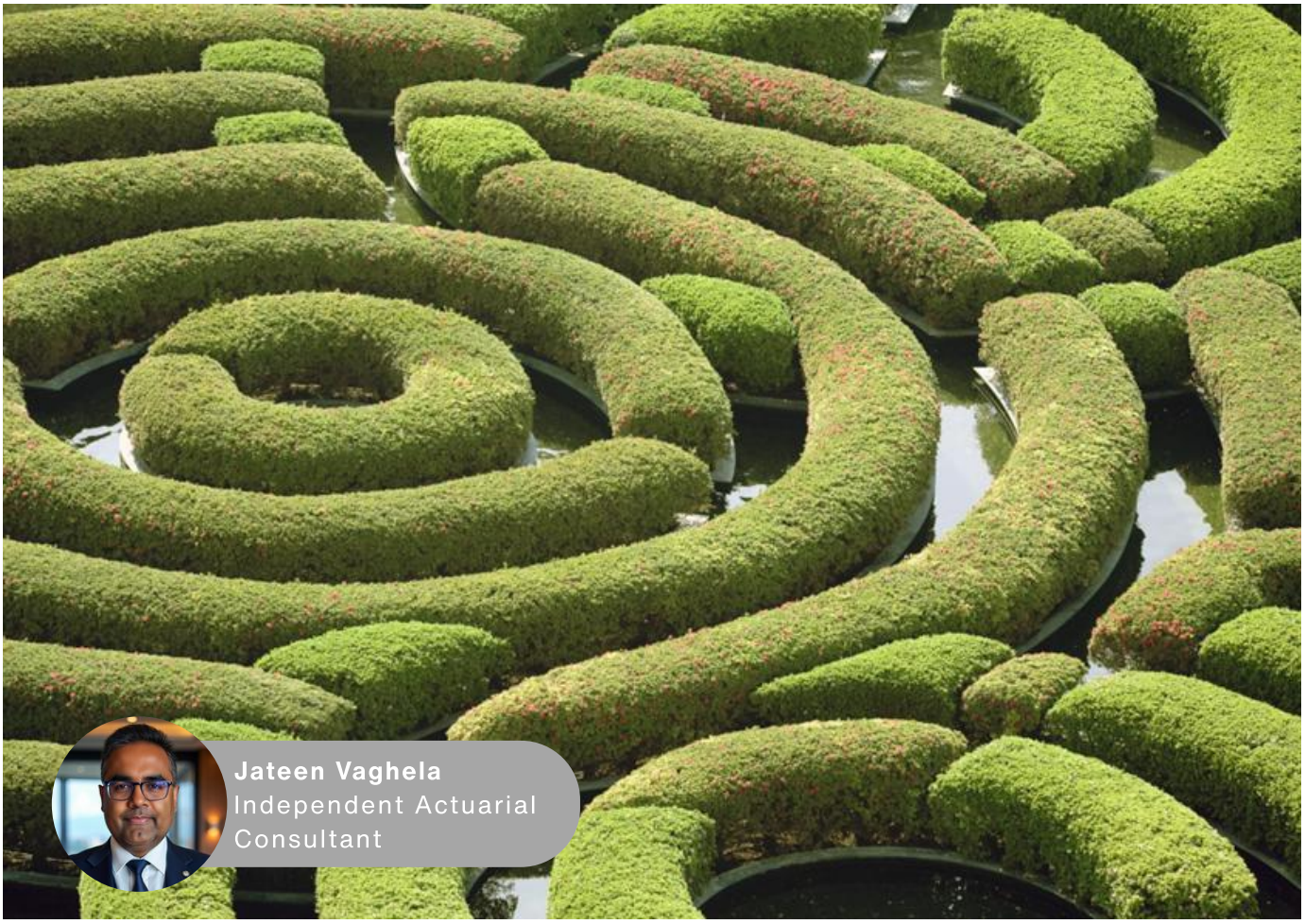
While all articles are welcome, we would especially like to receive submissions for the Feature Articles and Knowledge Sharing sections. If you have written any inspiring articles or have read any interesting articles from other actuarial organisation(s), please feel free to let us know. We will try to reprint them in our magazine.

Welcome to email your articles or views at info@actuaries.org.hk.



ALM CONTROL CYCLE – 4 PILLARS

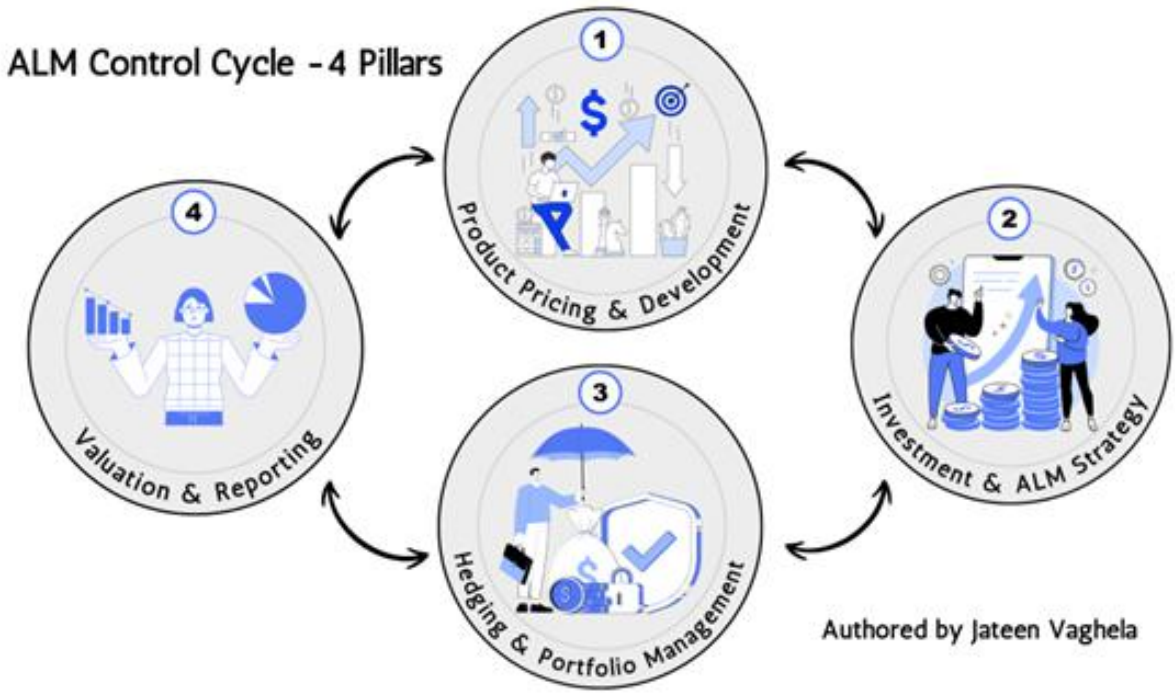
Hedging and Portfolio Management – Part II

Asset-Liability Management (ALM) is a huge subject across financial services, with significant impact on a company's profitability, risk profile, and solvency. For insurance companies this is even more significant given the regulatory changes and product demands.

Within this space, it's important to understand that the use of derivatives is both cost-effective and results-effective, and that is our topic in Part 2 of this ALM series.

In my previous paper, I presented the 4 key pillars that underlie effective management practices:

1. **Product Pricing and Development**
2. **Investment and Asset-Liability Management Strategy**
3. **Hedging and Portfolio Management**
4. **Valuation and Reporting**



As shown above, these 4 pillars are an iterative process, I have termed the ALM Control Cycle. Implementing this effectively will allow firms to take and manage risks in a disciplined way and help deliver sustainable value to policyholders and shareholders.

Part 2 of this series is about best practice use of derivatives for hedging and portfolio management. The term hedging, as used in this paper, describes both the use of derivative instruments for portfolio construction (e.g. generating yield) and portfolio risk management (e.g. mitigating risks).

Using derivatives strategically is crucial for insurers because it allows them to price and develop insurance products that are both competitive and aligned with the companies' risk appetite. Within the ALM Control Cycle, these activities primarily relate to Product Pricing and Development (Pillar 1) and Hedging and Portfolio management (Pillar 3).

Pillar 1 – Hedge Techniques within New Business

It's helpful to consider the old saying that says the best way to manage your risk is to avoid it from the start.

However, due to market dynamics, distribution needs and competitor pressures, insurers must take a certain degree of market risk. This can lead to two types of ALM risks profiles within a product: Structural ALM Mismatch Risk and Financial Guarantee Risks.

Structural Mismatch Risk: As an example of structural mismatch risk, Taiwanese insurers in 2025 to date have experienced foreign exchange ('FX') mismatch volatility as a result of heavily investing in USD-denominated assets for the support of New Taiwanese Dollar ('NTD') denominated liabilities. Companies actively took material FX mismatches to seek higher yields to 'make the product work'. Given the recent USD-NTD FX volatility, likely exacerbated by geopolitical risk, their ALM process and risk positions are strained.

Financial Guarantee Risks: Participating products that offers customers an ability to save and seek insurance protection would typically carry some form of underlying guarantees written within the product. These could be in the form of an explicit guaranteed return or implicitly via large insurance coverage over the life (measured by the break-even interest rate of the product).

Whilst the expected profit margin of such products may appear attractive; they are typically more volatile as the products carry significant asset-liability mismatch risks, depending on the investment strategy or financial risk guarantees embedded in the product that could cost far more than priced.

Identifying the financial risks that insurers are willing to accept and establishing the appropriate pricing based on those risks requires a disciplined approach. Hedging techniques and analyses are helpful during Product Design and Pricing. This is a growing trend likely due to several reasons (1) meaningful failures in product design and not appropriately capturing the depth of these risks, (2) the demand for higher returns to make products competitive and attractive, (3) increasing market risk volatility tripping risk limits, and importantly (4) changes in regulations. The introduction of Risk-Based Capital regimes and the implementation of IFRS17 have somewhat mitigated misplaced beliefs about any 'free lunch', as capital requirements are generally higher for products carrying greater Structural Mismatch or Guarantee risks.

Advanced ALM would reserve money for hedging and risk mitigation costs at the outset during product pricing and within customer illustrations (these could be over and above the accounting minimums). The necessity of these considerations' hinges on the nature of the products.

Let me briefly cover some hedging strategies that can be used to help address ALM risks:

1. **Replicating Asset Strategies**

A starting point is to identify investment strategies that 'perfectly match' the expected liability profile of the product. Applying this 'replicating portfolio', we can assess the profitability, market risk utilization, and competitiveness of the product. However, such strategies often prove unsuitable due to their low risk and low return profile, lack of commercial viability, and could be impractical to execute the asset strategies given limitations within capital markets. Hence, product teams tend not to begin here. Nevertheless, I have found they provide a baseline foundation in analysing

the risk-reward dynamics of other strategies (higher risk/return) across the risk spectrum. And at the same time keep the Actuaries grounded.

2. Dynamic Hedging Strategies

The traditional insurance investment portfolio has been characterized by buy-and-hold strategies, managed passively and gradually. To minimise Financial Guarantee Risk and improve ALM, there is an increasing use of dynamic asset allocation strategies. The asset allocations actively change based on prevailing market conditions, the financial strength of the Fund, or other factors. This approach is typically built into Participating and Universal Life products. A number of factors, including the diminishing risk of guarantee triggers, or the need to match the duration of liabilities as market yields change, may alter the asset mix between return-generating assets (such as equities and private assets) and matching asset strategies (such as high quality corporate bonds and Government bonds).

3. Macro or Static Hedging

By using advanced ALM practices, companies can anticipate when specific ALM risks increase, resulting in significant mismatch risks that may exceed their risk appetite. Macro hedging strategies can be designed and priced at the outset. It would look at variations in market conditions (yields, volatility) or increased risk utilisation maybe due to unexpected product mix sales. Any hedging would be triggered in response to increased risk utilisation and a breach of early warning signals.

Whilst hedging strategies noted above may differ, there are some common things to consider in design:

- Access to appropriate hedging instruments, on or off exchange.
- The depth and liquidity of the market for these hedge instruments.
- Second-order risks, such as counterparty risks and collateral requirements, which impact hedge costs and capital requirements.
- Including hedge costs when assessing product profitability or within client illustrations. Such costs should be measured under both a baseline best estimate view as well as under more volatile market conditions.

Incorporating hedge techniques during the product design and development helps to better assess the product risks and enhances the likelihood of achieving desired financial outcomes. Another very useful benefit, is this approach fosters a robust feedback loop with Product Actuaries, enabling teams to pivot during product design more effectively or gain a clearer understanding of risk-reward by better recognizing the structural economic ALM mismatch risks. This is a fundamental objective of the ALM Control Cycle.

Pillar 3 – Hedging and Portfolio Management

Hedging can be a key strategy in balance sheet management be it for capital management, earnings stability or general market risk management. However, it is often considered only after a risk event materializes or an accumulation of

unwanted risks. This pillar emphasizes developing strategies for optimized portfolio management of the portfolios throughout a typical business cycle, rather than relying on ad hoc approaches.

In my experience, balance sheet hedging has typically been far more challenging for insurers to get right. This is generally because of lagging behavior to execute hedges i.e. post 'the crash' and at times the inability to better coordinate its financial discipline. The ability to manage successful hedges and manage asset portfolios requires an investor mindset - one that understands the complexities of insurance balance sheets and can blend Actuarial with Investment and Capital market expertise.

Long-term life insurers are not 'actively trading' the assets on balance sheets in the same way as hedge funds or absolute return players, but effective risk management under Pillar 3 requires a trader-like approach, emphasizing **active monitoring and ongoing collaboration** with stakeholders to reassess risk positions on balance sheets.

Fortunately, substantial existing data is often available to create reliable risk dashboards. One key source is the extensive Stress and Scenario Testing (SST), typically initiated by the CRO office. This data must be accessible, relevant, clearly understood, and carefully reviewed in the context of the existing risk environment. Using existing SST and coupled with capital markets understanding will allow companies to identify tradeable risk mitigation scenarios. Some case studies I have been involved in are noted below.

Example 1: Brexit Hedging

In 2016, the United Kingdom conducted the Brexit referendum to decide whether to stay in the European Union. For those of us who experienced it, the outcome felt as uncertain as the flip of a coin (i.e. 50% likelihood). Nonetheless, financial markets greatly underestimated the likelihood and associated impact of Brexit in the years that followed. The likelihood of Brexit priced in the markets was 4 to 1 against, implying a 20% probability.

There were compelling arguments to consider hedging, regardless of political opinions on the matter, as it was mispriced and posed substantial downside risk to insurance companies' capital and solvency. The market experienced significant disruption as Brexit happened. Some companies that were at the forefront of risk management managed to put on hedging against the impact of the event. These actions provided a sense of calm within the boardrooms as the markets crashed in the subsequent days post the vote.

Example 2: Hedging Hang Seng Index in abnormal conditions

During 2021-22, various factors kept uncertainty within Hong Kong equity market relatively high e.g. property weakness in Mainland China, aggressive hiking by the US Fed to counter inflation, and geopolitical risks in Eastern Europe.

For those looking to manage their tail risk against further falls in HK stocks, there were opportunities where the Implied Volatility (particularly for 5-year tenor) fell below

historical volatility. Such market conditions make equity hedging relatively cheap. But the need for hedging would be driven by both market views and risk appetite i.e. the ability to withstand further falls in HK equities given product performance and/or balance sheet strength. If appetite is low, then it was a compelling time to use options (particularly longer dated out of money strikes).

Example 3: HKD-USD Cross Currency Swaps

Hong Kong insurers typically take material FX mismatch risk including interest rate mismatch risk along the curve i.e. match long dated HKD liabilities with long dated USD assets. Hedging this risk using Cross Currency Swaps has tended to cost money measured by the differential between HKD less USD swap rate. Typically, the spread has been negative suggesting a fixed annual locked in cost to hedging this risk. However, during the periods arising from HK Protests, COVID and other macro risks events within Hong Kong,there were dislocations in the market allowing one to improve FX hedging at materially better rates than historical averages

Markets don't always offer easy wins like those outlined above. Identifying, evaluating, and executing hedges like these require advanced portfolio management skills. It cannot be accomplished piecemeal with long-term success and such activity needs to be integrated into the risk culture of a company.

Pillar 3-like risk-management processes, active monitoring of balance sheet risks, and thorough risk/reward analyses were all key factors in achieving success. To do so requires robust risk management processes developed and implemented by functions with experience at managing risk and with a 'trader like' understanding of the financial markets. Within such a process, it is key to assess the market conditions under which we intend to enter the hedge (e.g. the financial conditions of the firm or the market price) as well as the conditions under which the hedges are monetised. For more advanced ALM, clearly delegated pre-approval to execute will further support proactive decision making and hedge management.

Conclusion

As Asian capital markets advance, the use of hedging and portfolio management will grow. I believe some of the techniques discussed in this paper will be essential to grow a successful and stable insurance portfolio. There is no single solution or the right way to do this, as it depends on your business trajectory and needs, the material ALM risks you generate, and your risk appetite/culture. However, having due discussions and regard for these tools within your Investment and Asset-Liability working groups and Committees would aid both your risk management and value generating capabilities.

In our third instalment in this series, I will present insights on how a company can develop its own ALM Strategy and interplay with its Business and Financial strategy. ■

HK PARTICIPATING PRODUCTS

Asset-Liability Management Under an Economic Perspective (Part II)

(A) Introduction

In the first article of this series, we introduced the Asset Share mechanism of participating ("Par") products. This includes, for example, how the waterfall of economic benefits is split between the policyholders' guaranteed and non-guaranteed benefits, company profit, as well as different charges to cover expenses and the cost of guarantees. It also includes a brief consideration of how the non-guaranteed policyholder bonus should be declared over time, to ensure fairness while managing how the cost of guarantees may evolve over time.

We now proceed to discuss the **economic nature** of Par products, by examining how the market and investment risk portion of the Par liabilities and surplus resemble a financial derivative. Once such relationship is understood, we will consider all the well-established trading and hedging strategies used by the broader financial industry to manage the risk of Par products.

(B) A Common Mistake

The most common mistake people make when thinking about Par business, particularly when they don't understand this economic perspective, **is to see the liability cashflow "as given"**, and underestimate how the liability cashflows are dependent on: (a) the investment strategy: and (b) market outcome under different scenarios.

It is, for example, not uncommon to see the investment or ALM teams asking for "the" best estimate cash flows from their actuarial counterparts, to support them to derive the investment strategy by matching such single "given" liability cashflow and the resulting Macaulay duration (basically, the Discounted Mean Term). The problems are:

1. It does not factor in the non-linearity feature of Par products. The ALM risks can be small in a scenario when there is a large buffer between the accumulated assets and the guarantees, while very material when the guarantees start to bite – i.e. the "gamma" or "convexity" of the Par liabilities.
2. There will be a circularity of analysis. To project the liability cashflow correctly, the actuarial team would need to know what investment strategy should be assumed in the projection, resulting in a back-and-forth discussion between the two teams.
3. Lastly, such an approach that takes the liability cashflows "as given" does not consider the fact that any investment or ALM decision will have an impact on the policyholder's risk and return. It may result in company-centric strategies that are not fair to the policyholders.

(C) Dynamics of Assets and Liabilities in Totality under An Option-Based Picture

In the rest of this article, we will present how the economic nature of Par liabilities can be viewed, equivalently, as either a call option or a put option.

The *call* option picture (policyholder cashflow perspective) follows directly from the waterfall nature of the Par mechanism. The policy guarantees and fixed costs, expenses, etc., are the "strikes", while the non-guaranteed bonus is the "payoff" of the call option. This picture connects the investment strategy of the Par fund (the "underlying asset" of the call option) with the outcome to the policyholders (bonus modelled as the call option "payoff") and enables a more policyholder-centric ALM analysis.

The *put* option picture (company cashflow perspective) considers the insurance premium and hence the resulting accumulated assets as a deposit by the policyholders into a "separate account" and considers the cost of guarantees ("payoff" of a put option) and the fee, charges and profit sharing received (the "option premium" of a put) as the net liabilities to the company. This picture helps the company understand the non-linearity of the risk, and to derive the risk management strategies accordingly, either in the asset share fund or via a hedge overlay outside of the asset share.

In both pictures below, we are moving away from seeing the liability cashflow "as given", and instead we look at the assets and liabilities

simultaneously as being the outcome of the investment strategy under different economic scenarios.

(D) Put-Call Parity

To truly understand the economic perspective, it's useful to introduce a derivatives-based concept based on highly liquid and arbitrage-free capital markets.

We start by highlighting a well-known dynamic in options, namely the **put-call parity**. Such a result enables us to understand the embedded options in a Par product either as a call option or a put option, depending on which is more useful in the context of analysis.

The put-call parity formula says that, for a European option, which can only be exercised at maturity:

Cash (or Bond) + Call Option

= Underlying Assets + Put Option

As in Figure 1, the payoff of the left-hand-side and right-hand-side of the above equation is the same at the maturity date. And hence for the case of a European option which does not have other features like early exercise, knock in/out and look-back, the fair values of both side sides of the equation need to be the same throughout the life of the option.

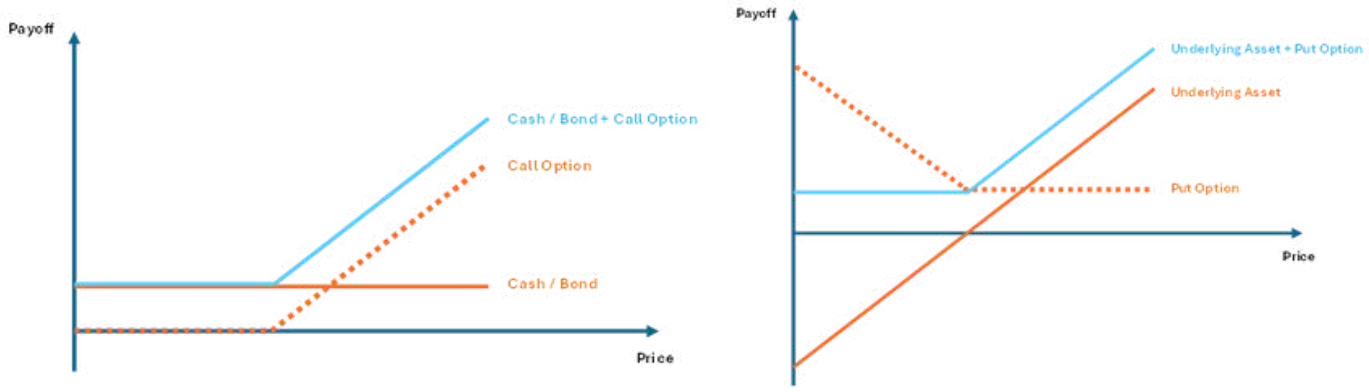


Figure 1: Graphic Illustration of the Put-Call Parity Relationship

The relationship, however, only holds approximately for other options and derivatives, depending on the chance of early exercise and the availability of the other features mentioned above.

(E) Two Ways of Describing the Par Liabilities

When applying such equivalency in the context of insurance liabilities, we can see that there are two ways of breaking down the fair value of the (best estimate) liabilities ("BEL"):

(i) The Call Option Perspective

BEL is the sum of:

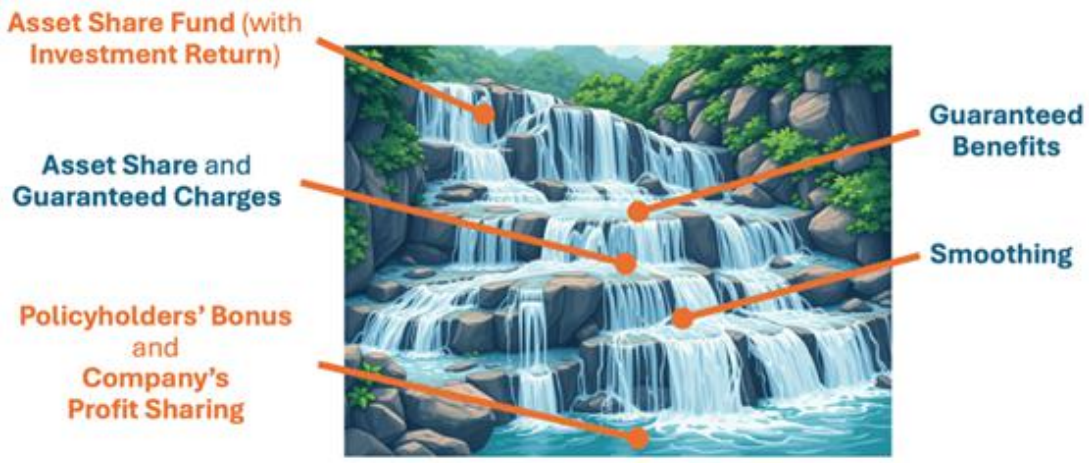


Figure 2: The Waterfall of Par Benefits

(a) Guaranteed Liabilities (present value of guaranteed cashflows (minimum sum assured, plus bonuses already declared) which behave like a bond); and

(b) Non-Guaranteed Benefits (e.g. the future policyholder bonuses) that can be seen as call options on the underlying investment in the participating fund).

The "call option perspective" can also be interpreted as the "**policyholders' cashflow perspective**", as the 2 components of the breakdown of the BEL resembles the guaranteed and non-guaranteed cashflows that the policyholders may receive under the relevant economic scenarios.

(ii) The Put Option Perspective

BEL is the sum of

(a) The market value of assets in the **Asset Share.**
(b) **Net Cost of Guarantee and Smoothing** ("NCoGS"), which is the (stochastic) present value of the **gross cost of guarantees and smoothing** (i.e. the amount that the company needs to top up to pay the policyholders, on top of the amount funded by the Asset Share) minus the (stochastic present value of) **future fees, charges and profit-sharing** that the company can collect from the underlying assets.

The "put option perspective" can also be interpreted as the **company cashflow perspective**.

The first component can be viewed as the fact that the premium received is just the deposit from the policyholder into the Asset Share, instead of the insurer's revenue, being both an asset and liability of the insurer.

The second component is the net cashflow of the company. The company is responsible for supporting the benefits in excess of the Asset Share, which is primarily the (gross) cost of guarantee and smoothing. On the other hand, the company receives revenue in the form of fees, charges and profit-sharing.

This net company cash flow perspective is illustrated in Figure 3.

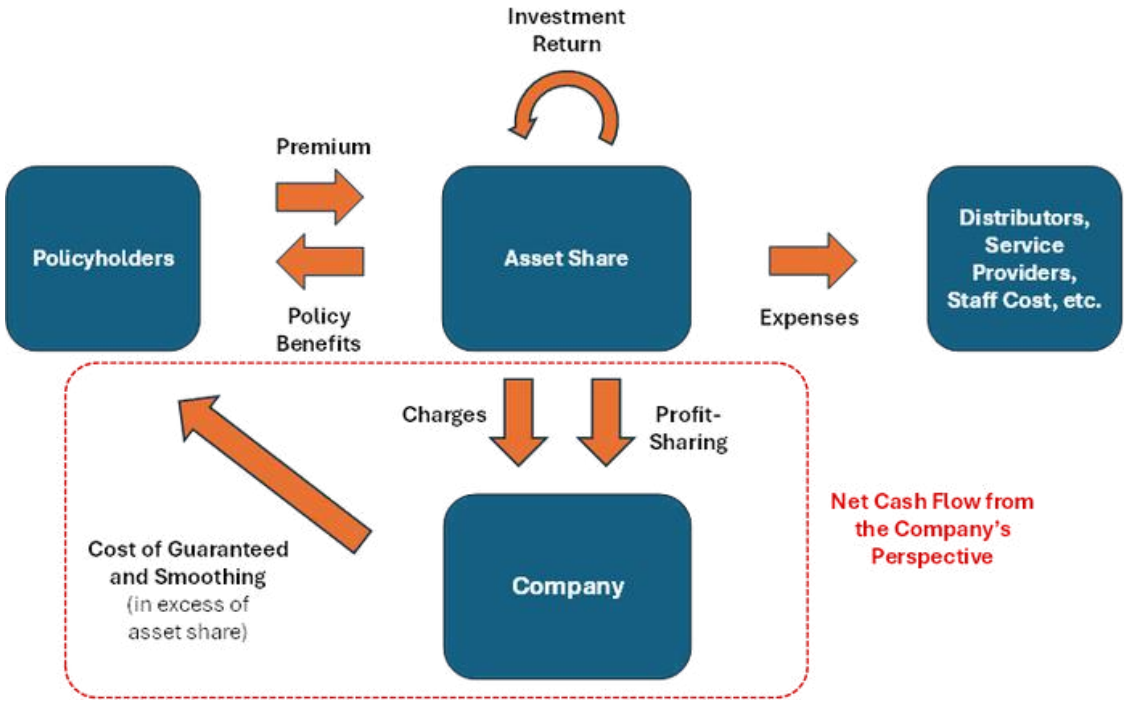


Figure 3: Par product cashflow from the company's perspective.

(F) Using the Call Option Picture to Understand the Policyholder Benefits

Due to the reasons mentioned above, the call option picture is useful for understanding the policyholder benefits.

For example, by replacing the risk-neutral probabilities with the real-world probabilities, we can obtain the distribution of the non-guaranteed benefits, that can be used to derive the central and high/low policyholder illustrations.

Moreover, by studying the expected value and dispersion of the projected non-guaranteed benefits, we can perform a **policyholder's efficiency frontier analysis**, to understand the risk and return trade-off of different proposed strategic asset allocation ("SAA") for a Par product, and whether such SAA can fulfill the policyholder reasonable expectation ("PRE") principles.

(G) Using the Put Option Picture to Understand the Company Risk and Return

The put option picture, on the other hand, is useful for **understanding the risk and reward exposure of the insurer due to the Par liabilities.** As will be explained in the next article, this is not just useful for comparing different potential SAAs, but also useful for the company to derive the Value-in-Force ("VIF") hedging overlap program.

For a product that is reasonably profitable with fees, charges and profit-sharing that is not too front-loaded, the NCoGS is usually negative. That is, the future fees, charges and profit-sharing are sufficient to cover the future cost of guarantee and smoothing.

The negative of NCoGS (which is a positive number) is referred as the VIF arose from the block of Par liabilities, as per the calculation below:

Available Surplus at Total Company Level

= Total Asset – Total Liabilities
= (Surplus Fund Assets + Asset Share)
– (BEL + Other Liabilities)
= (Surplus Fund Asset + Asset Share
– (Asset Share + NCoGS + Other Liabilities)
= (**Surplus Fund Asset** – Other Liab) – **NCoGS**
= (**Surplus Fund Asset** – Other Liab) + **VIF**

Once we can understand and describe the effective put options that represent the NCoGS (and hence VIF), we will be able to quantify all the relevant option Greeks, like effective duration, convexity, equity Delta, Gamma, equity and interest rate Vega (sensitivity to implied vol), theta (speed of time decay), etc. This in turn can help us derive an optimal investment and hedging strategy in the surplus asset portfolio (hedging overlay portfolio) to diversify or offset (hedge) the relevant risks from the Par liabilities (the NCoGS).

Example 1 of Using the Put Option Picture: Implication to the Shareholder Fund Strategy

With this dynamic in place, we can easily spot out another common mistake: Many people think that the "shareholder fund" or "surplus fund" is an asset-only portfolio that the shareholder can decide on whatever investment strategy is appropriate, without considering the ALM implications. In reality, such a portfolio (or at least part of the portfolio ringfenced) is still used for managing the liabilities – for example, to offset the unwanted risk and sensitivities due to the NCoGS or VIF. Any investment strategies of the shareholder or surplus fund derived without considering the liabilities will likely result in a sub-optimal outcome in a company total balance sheet perspective[1].

[1] A good example is the equity risk exposure. The VIF of most Par products has a positive correlation with listed equity returns due to the cost of guarantee and the profit sharing. This may imply that the company surplus may already have too much equity exposure due to the VIF; without considering the additional investment in the surplus fund. In this case, a simple 60/40 asset-only optimization in the surplus fund will result in too much equity exposure, on top of that embedded in the VIF. An optimal investment strategy may short listed equities in the surplus portfolio instead.

Example 2 of Using the Put Option Picture: Implication for Effective Duration Gap Dynamics

Using the same equation, i.e.

Available Surplus at Total Company Level = Surplus Fund Asset – Other Liab – NCoGS,

we can also understand why it is difficult to fully eliminate the effective duration gap by extending the asset duration in the Asset Share Fund (i.e., the investment portfolio backing the Asset Share).

For example, when we increase the asset duration in the Asset Share Fund by 1 year, the duration of the Asset Share component of the BEL will also increase by 1 year, offsetting the net impact.

The net impact of such action is indirect: By extending the asset duration in the Asset Share Fund, and under a range of different stochastic scenarios, in particular on those with lower simulated interest rates, the chance of the guarantees biting will decrease slightly. The effect is a smaller amount and a lower interest rate sensitivity (effective dollar duration) in the NCoGS component of BEL, and hence the company overall duration gap will be lowered, but by much less than 1 year.

As a rule of thumb, it is generally found that for a Par product with a reasonable (i.e. not too high) level of guarantee, and with a portfolio of medium-to-long tenor assets, the resulting duration gap contribution to the company will be roughly 1-2 years, and not very sensitive to the exact duration of the Asset Share Fund.

(H) Two Confusing Concepts: NCoGS vs TVoG

I end this article by highlighting another common point of confusion, which is mixing up the concept of NCoGS above with the concept Time Value of Options and Guarantees ("TVoG"). They represent different ways of splitting the BEL into components.

As mentioned above, the NCoGS is a way of splitting the BEL between the **(a) underlying assets built up** (i.e. the Asset Share) and **(b) the net liabilities of the insurer** due to the cost of guarantees and smoothing, offset by the future fees, charges and profit sharing. This split is useful for understanding which portion of the liabilities and risk is borne by the company.

The TVoG is a way of splitting the BEL between the deterministic components, i.e. the **(i) Intrinsic Value**, against the additional liabilities from the stochastic component, i.e. the **(ii) Time Value**. Such split is useful for understanding the time decay characteristic of the liabilities. The more the BEL contributed by the time value, the quicker the BEL will decay over time, which contributes to the future profit of the company[2].

We can in theory further break down the BEL and the economic balance sheet under a combination of both schemes – i.e. intrinsic value of the gross cost of guaranteed and smoothing; time value of the gross cost of guaranteed and smoothing; intrinsic value of the fee, charges and profit sharing; time value of the fees, charges and profit sharing; etc. This is illustrated in Figure 4.

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[2] Yet please note that the time decay of TVoG is not a free profit. Due to the Theta-Gamma relationship, a higher TVoG also means a higher liability Gamma convexity, which reasons to a more volatile and asymmetrical cost upon large market movement in either direction.

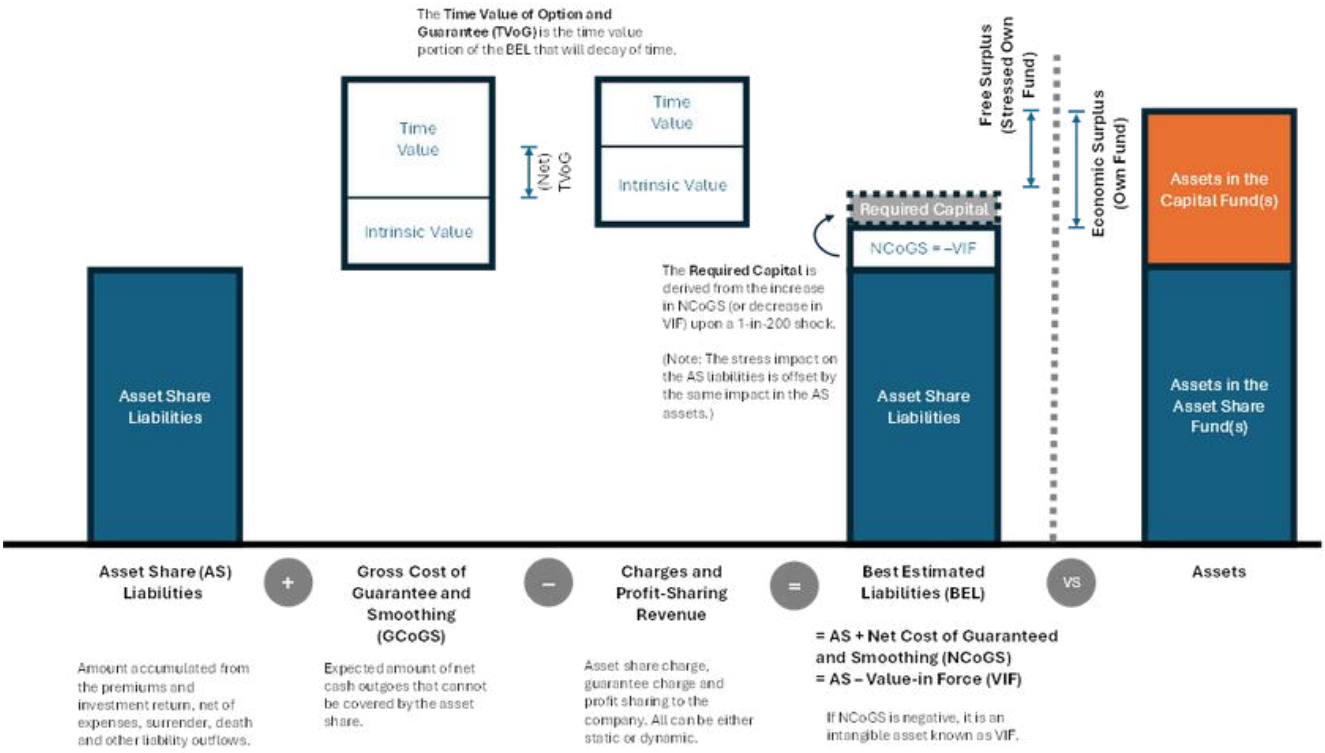

Figure 4: Detailed breakdown of the Par liabilities.

(I) Conclusion

Instead of viewing the liability cashflows as static and given, a proper ALM analysis of Par products needs to consider both the assets and liabilities at the same time, and to understand their respective behaviors under different economic scenarios via financial options (either a call option under the policyholder's cashflow perspective, or a put option under the company cashflow perspective).

(J) Next Step

After introducing all these (complicated) actuarial and option-based concepts, we will have a last article outlying how to use these concepts to derive the liability-driven investment and hedging strategies for managing Par business.

We will talk about:

- How both the policyholder's and company's risk and return considerations can be reflected in the SAA studies for the Asset Share funds, and
- How to use the SAA and VIF hedging overlay in the surplus portfolio to solve the company's ALM problem, without affecting the risk/return characteristics and Policyholder Reasonable Expectations of the Par business. ■

DOLLAR DRIFT?

Implications of a HKD / USD De-peg for the Insurance Sector

Executive Summary

As of May 2025, the Hong Kong dollar (HKD) continues to operate under its longstanding peg to the U.S. dollar (USD), maintained within a narrow trading band of 7.75–7.85. This currency arrangement, in place since 1983, has been a cornerstone of Hong Kong's monetary stability and financial market credibility. However, in recent months, a combination of shifting global financial conditions, rising geopolitical uncertainty—particularly following developments under the new U.S. administration—and increasing economic integration with Mainland China has led to renewed discussion around the long-term sustainability of the peg.

While the Hong Kong Monetary Authority (HKMA) has reiterated its firm commitment to defending the existing system, these broader macroeconomic and policy trends warrant careful consideration. For financial institutions—and insurers in particular—understanding the potential implications of any changes to the currency regime is becoming increasingly important from many perspectives including risk management, capital planning, ALM, strategic asset allocation and product strategy.

This paper explores the potential consequences of both maintaining and adjusting the peg, with a focus on the key issues facing the insurance sector.

Current Status of the HKD-USD Peg

The HKMA has consistently defended the currency peg, emphasising its role in ensuring financial stability. Recent interventions include the sale of HKD 129 billion between 5th and 7th May to purchase USD, highlighting the authority's intent in countering market pressures. This despite foreign reserves exceeding USD 420 billion.

Maintaining exchange rate stability fosters predictability in the economic and business environments and helps to anchor inflation expectations. The monetary discipline also reinforces Hong Kong's status as a financial hub for attracting foreign investors.

There are several factors that could influence potential de-pegging, however.

Geopolitical tensions: The re-election of President Trump has ushered in renewed U.S.-China tensions. The ongoing trade sanctions through tariffs, although very fluid (and we are already seeing some backtracking), could undermine confidence in the peg.

Economic divergence: The U.S. Federal Reserve's monetary policies, especially interest rate decisions, directly impact Hong Kong due to the peg. This alignment can lead to economic challenges, particularly if U.S. policies don't align with Hong Kong's economic conditions.

Tail Risk: Policy uncertainty from Trump's trade war with China could cause collateral effects that might impinge on HK's economy and by extension its currency board arrangement. This calls for greater vigilance.

Shift towards RMB: Hong Kong's increasing economic integration with Mainland China and the growing prominence of the RMB in trade settlements raise questions about the long-term viability of the USD peg. Currency pegs tend to cause inflation convergence involving the countries of that FX arrangement.

It is clear today that HK's inflation rate is more correlated to China's than that of the US (see fig. 1). However the divergence between US and HK inflation rates has not yet reached a point that would begin to significantly impact the currency board – a useful early warning is if inflation correlations push into the negative zone.

This indicates that while Hong Kong's inflation rate is more closely tied to China's economic conditions, despite the divergences, the peg to the U.S. dollar necessitates alignment with U.S. monetary policies. This can create challenges for Hong Kong, particularly if U.S. interest rate decisions do not align with local economic needs. It's a delicate balancing act between economic policies and external influences.

For now, China CCP policy of 'one nation, two systems' still holds regarding HK's status as a financial and business hub.

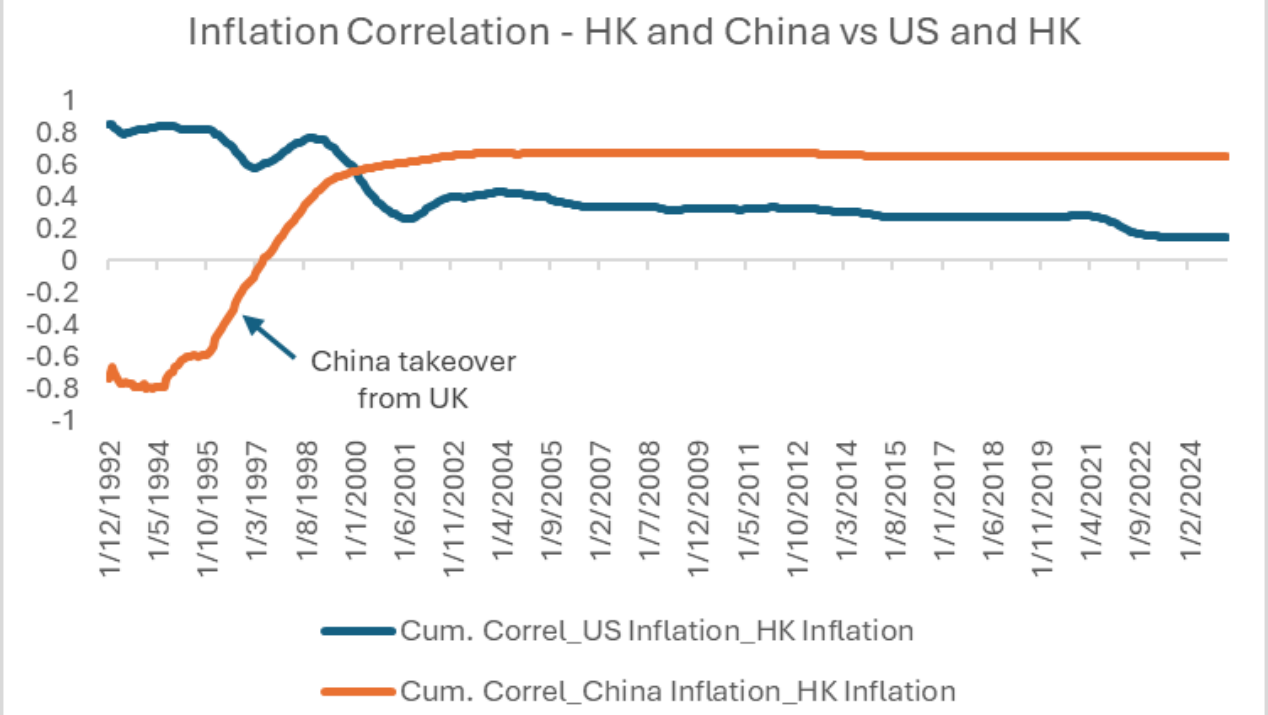

Figure 1: Inflation correlation
Source: Macquarie Asset Management Fixed Income analysis

One other consideration (supporting the peg): it is highly unlikely that HK can be 'forced' into a de-peg by currency speculators as per a traditional fixed exchange rate currency devaluation situation. In addition to its large FX intervention reserves (about 8 months import cover as opposed to about 5-6 months during the Asian financial crisis where it successfully withstood speculative attacks), China will likely bring about its even larger arsenal of FX reserves (12+ months import cover) to defend HK's peg.

Implications for the Insurance Sector

The choice between maintaining the HKD peg to the USD and transitioning to a floating or other exchange rate regime , has material implications for insurance companies operating in Hong Kong. 'Other' here could for example include a peg to a basket of currencies, or a peg to the RMB. Any change would have far-reaching with ramifications for investment management policy, liability valuation, capital adequacy and risk governance, amongst others. Below we consider some of these implications under both scenarios.

<u>Peg remains in place</u>

Asset-liability matching: a stable environment for matching HKD denominated liabilities with HKD or USD is maintained. The USD corporate bond market is the deepest and most liquid globally, enhancing ALM options, and can be accessed with a much-reduced exchange risk.

Portfolio construction: although economic conditions may diverge, exchange rate predictability supports long term investment assumptions for portfolio construction using the wider opportunity set. Preserving structural relationships supports continuity in modelling scenarios and other quantitative investment processes, so that prior estimates, benchmarks and findings can continue to be used to guide future decisions.

Pricing and valuation assumptions: more stable expectations can be factored into long-term assumptions for discount rates and inflation, resulting in fewer adjustments due to currency fluctuations. Monetary policy considerations including the interest rate term structure will be tied to FED policy.

Capital adequacy: as a result of the peg the FX risk charge is limited to 1% compared with 25% for AUD, GBP and EUR (amongst others).

<u>De-pegging scenario</u>

Asset-liability matching: insurers with significant USD investment exposure backing HKD assets would be subject to currency exchange volatility and this risk would need to be actively managed e.g. with FX hedging which comes at a cost.

Portfolio construction: interest rates would respond more dynamically to local economic conditions, which would increase the frequency of portfolio rebalancing and call for greater monitoring. However, policyholder outcomes would be better aligned with the local market yields.

Pricing and valuation assumptions: liabilities would be more sensitive to local economic conditions. This could afford greater flexibility in product design and pricing but would require more frequent recalibration of assumptions. If the result is a reversion to a lower rate environment it will be difficult to manufacture attractive spread-based and / or participating products.

Capital management: a change in the peg could result in an adverse impact on capital requirements across the industry with a simultaneous hit to solvency if the change adversely impacts USD asset holdings backing capital requirements. Actuaries would need to incorporate enhanced stress testing and scenario analysis to account for potential currency volatility and its impact on solvency.

Risk management and hedging: operational complexity would increase, along with the associated enhanced management attention and increased costs that this implies. De-pegging is effectively a structural break and prior counterparts will no longer hold. Some short-term business and financial uncertainty will arise as fresh models, processes, estimates and benchmarks need to be developed. Regulatory uncertainty would create business risk which would need to be captured here (and also within capital requirements).

What should insurers be doing?

Insurers already manage risk and uncertainty as part of their day-to-day operations and the de-pegging scenario is no different in that steps can be taken to mitigate adverse impacts if the scenario does occur. Some insurers already have de-peg contingency plans as part of their risk management policy, others may need to refine / develop further.

Hedging: insurers should develop robust hedging mechanisms to mitigate potential currency risks arising in the event of de-pegging or adjusting to alternative mechanisms.

Investment: a diversified investment approach can help cushion potential shocks from currency fluctuations. Capital efficiency under a potential de-peg also needs to be considered in asset selection.

Scenario analysis: Conducting frequent analyses can aid in understanding potential impacts of de-pegging or alternative scenarios, and in preparing contingency plans. Scenarios could include sharp depreciation or appreciation of the HKD, prolonged exchange rate volatility between the HKD and the USD, loss of confidence in the HKD causing capital flight, adverse impact on new business volumes.

Conclusion

The HKD – USD peg maintenance provides insurers with a stable and predictable operating environment, albeit with some misalignment due to divergence of US monetary policy with local needs. A move to de-peg would offer greater monetary independence but would come at the cost of heightened volatility, operational complexity and capital management challenge.

While the HKMA's commitment to the USD peg remains steadfast, proactive risk management and strategic planning are essential to navigate potential challenges arising from any changes to the currency peg.

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- "Are investors making another run at Hong Kong's dollar peg?" Financial Times, May 2025.
- "Hong Kong dollar peg at risk in Trump's coming fight with China." Asia Times, December 2024.
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Note: This article is based on information available as of May 2025 and aims to provide insights into potential scenarios and their implications. Readers are encouraged to conduct further analyses tailored to their specific interests.

AI TOOLS FOR ACTUARIES
A free book (and data, and code)

The power and flexibility of LLMs (large language models) mean that, even in a work setting, we can use them for so much. This includes ChatGPT, CoPilot, Claude, DeepSeek, Poe, Grok, and others.

However, as actuaries, we should remember that there are other types of AI that act as very powerful tools for the kind of work we do – like machine learning, deep learning, parametrisation of GLMs and regression models, and more.

For those members of ASHK who would like to do a technical study into these tools, you are encouraged to visit https://aitools4actuaries.com, where we see the following:

> *"This project aims to empower the actuarial profession with modern machine learning and AI tools. We provide comprehensive teaching materials that consist of lecture notes (technical document) building the theoretical foundation of this initiative. Each chapter of these lecture notes is supported by notebooks and slides which give teaching material, practical guidance and applied examples. Moreover, hands-on exercises in both R and Python are provided in additional notebooks."*

You can download their primary book – a PDF of nearly 300 pages. Also from the site, you can also get slides, R script, Jupyter, PyTorch, and more. And they have also included some large data files to play with.

This material is built on proper statistical theory, it's not merely giving you some Python code to copy-and-paste (although that's available too).

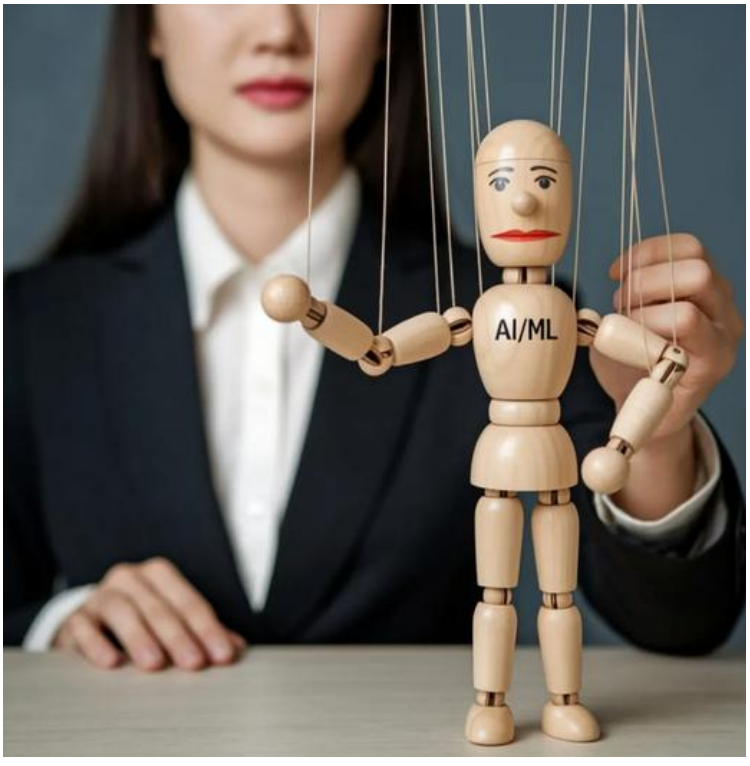
Some of the topics you in their work include: regression models, generalised linear models, non-parametric models, feed-forward neural networks, regression trees & random forests, deep learning for unstructured data, unsupervised learning ... and much more.

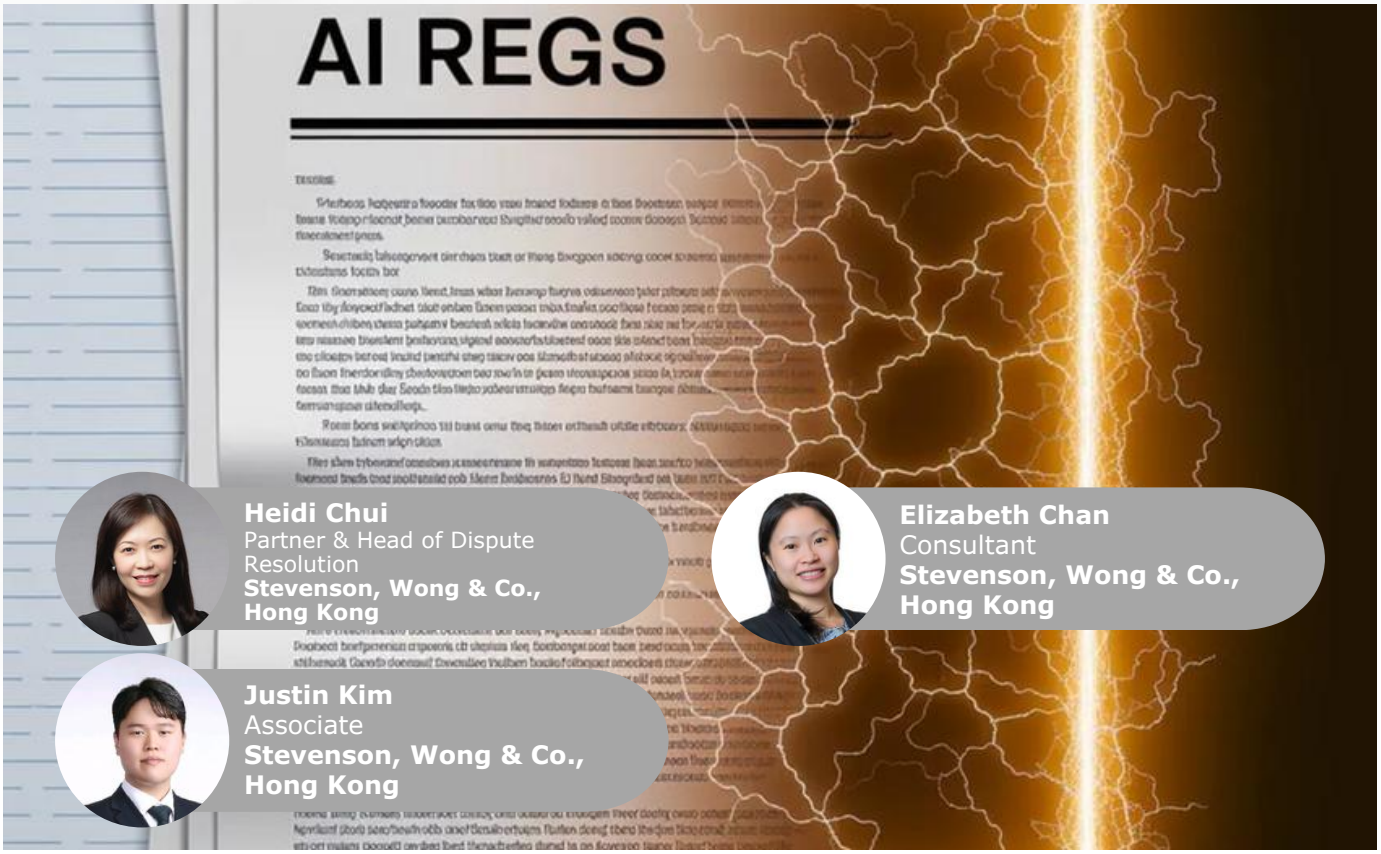
All of this was generously provided by the following authors:

Mario V. Wüthrich (ETH Zurich), Ronald Richman (InsureAI), Benjamin Avanzi (The University of Melbourne), Mathias Lindholm (Stockholm University), Marco Maggi (la Mobilière), Michael Mayer (la Mobilière), Jürg Schelldorfer (Swiss Re), Salvatore Scognamiglio (University of Naples Parthenope).

For the serious student of using AI tools for actuarial science, this is a great resource.

Please let us know if you would be interested in setting up an AI interest group here in Hong Kong to work through some of this material together, over a few lunchtimes or sundowners!





AI REGULATION IN HONG KONG

Implications for the Actuarial Profession

I. Introduction

Artificial intelligence (**AI**) regulation in Hong Kong is evolving within a fragmented, sector-specific framework. Different regulatory bodies oversee various industries, resulting in a patchwork of guidelines rather than a unified regulatory framework. For instance, the Hong Kong Monetary Authority (**HKMA**) regulates AI applications in the banking sector, the Securities and Futures Commission (**SFC**) oversees the use of AI in financial services, and the Office of the Privacy Commissioner for Personal Data (**PCPD**) provides guidance on data privacy in the usage of AI across all sectors. Additionally, the courts can address AI-related harms not explicitly covered by existing regulations, allowing for legal recourse in disputes arising from the deployment of AI.

As AI adoption grows, its implications for the insurance sector and the actuarial profession have become increasingly evident. While the Hong Kong Insurance Authority (**Insurance Authority**) has not yet issued formal guidelines on the use of AI in insurance, it has signalled strong support for its ethical deployment. The CEO of the Insurance Authority, Mr.Clement Cheung, has noted the value of AI in underwriting, claims management, and fraud detection, while emphasising the need for human oversight and the development of a "robust but flexible" regulatory framework.[1]

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[1] Insurance Authority, 'Insurance Authority Shares Regulatory Insights at the Hong Kong FinTech Week' (29 October 2024) https://www.ia.org.hk/en/infocenter/press_releases/20241029.html (accessed 19 April 2025).

In parallel, the actuarial profession, both locally through the Actuarial Society of Hong Kong (**ASHK**) and internationally, including the Institute and Faculty of Actuaries (**IFoA**), for example, has begun to take an active role in guiding the integration of data science and AI into actuarial work. The Actuaries Institute of Australia also offers professional standards and guidance on data science and AI.[2] The Society of Actuaries provides thought leadership on AI and machine learning in the insurance industry on its website.[3]

From insurance pricing and risk modelling to capital management, reserving, and AI-enabled claims forecasting, actuaries are increasingly leveraging AI tools across their functions. These developments raise new ethical, professional, and regulatory considerations. The IFoA, for example, has responded by publishing guidance on how professional standards—such as integrity, competence, impartiality, and accountability—apply in the context of AI and Big Data.[4]

This article focuses on key areas that require particular attention when operationalising AI in Hong Kong. We first examine high-risk AI applications, such as financial services, medical services, and legal services, where AI use presents heightened regulatory and ethical concerns. We then explore sector-specific considerations, with particular focus on the insurance and actuarial industries. Following this, we discuss AI governance within organisations, including structured oversight models such as the Three Lines of Defence. Finally, we consider data privacy concerns, which are particularly relevant given the large volume of sensitive information processed by AI tools across multiple sectors.

By examining these critical areas, this article aims to provide a practical framework for professionals, insurers, and actuaries seeking to navigate Hong Kong's AI regulatory landscape while maintaining compliance, public trust, and effective risk management.

II. Identifying and Managing High-Risk AI Applications

AI applications considered to be high risk in Hong Kong reflect global trends, particularly in investment advice, fraud detection, legal services, and hiring in employment contexts. These applications (among others) are considered high-risk because they involve sensitive data such as personal information, impact consumer rights, or have significant financial and legal consequences.[5]

For example, AI-driven investment advice may result in unsuitable product recommendations, potentially exposing both consumers and firms to unnecessary risk. Similarly, AI-powered fraud detection must operate witha high degree of accuracy to avoid false positives or negatives that could have regulatory and reputational (and financial) implications.[6] AI fraud detection is commonly used in financial services, e-commerce, and cybersecurity, where machine learning models assess transaction patterns, user behaviour, and device data to identify potential fraud in real time. While potentially highly effective, such systems must be carefully monitored to prevent bias and ensure compliance with Hong Kong's data protection and anti-fraud regulations. Legal AI tools that handle case law analysis and contract drafting must also ensure accuracy and fairness, while AI-based hiring tools require safeguards against bias and discrimination.

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[2] Actuaries Institute, 'Data Science and AI Professional Standards and Guidance Professional Standards and Guidance relating to data science and AI' (accessed 31 May 2025).
[3] Society of Actuaries, 'Emerging Topics: Artificial Intelligence & Machine Learning', https://www.soa.org/digital-publishing-platform/emerging-topics/?tag=Artificial+intelligence+%26+machine+learning (accessed 31 May 2025).
[4] Institute and Faculty of Actuaries, Ethical and Professional Guidance on Data Science and Artificial Intelligence: A Guide for Members (V2.0, November 2024) paras 1.1-1.3 https://actuaries.org.uk/document-library/standards/standards-and-guidance/non-mandatory-guidance/ethical-and-professional-guidance-on-data-science-and-artificial-intelligence-a-guide-for-members/ (accessed 19 April 2025).

Regulatory bodies such as the SFC and HKMA have issued guidance addressing these types of risks in the financial services context. The SFC's Circular on Generative AI requires licensed corporations to conduct risk assessments on the use of AI language models and outlines guiding principles for such assessments. Licensed corporations must also implement risk mitigation measures and monitoring mechanisms for AI-driven financial services.[7]

Meanwhile, the HKMA's High-Level Principles on AI provide recommended practices for AI governance, emphasising accountability, explainability, and bias mitigation.[8] In this regard, a key challenge is the risk of inadvertently embedding bias into AI-driven systems. Even minor imbalances in training data can be amplified, leading to disproportionate outcomes.[9]

In our discussions with actuarial experts, it was noted—by way of illustration—that historical gender-based discrepancies in claims handling may be replicated by AI models. They also flagged that design choices, such as enabling racial price differentiation, can raise legal and ethical concerns, even if statistically supported, when they conflict with anti-discrimination laws. These risks underscore the need for ongoing scrutiny and mitigation of bias.

Regulatory sandboxes, such as the HKMA Gen AI Sandbox, offer businesses opportunities to test high-risk AI applications in a controlled environment.[10] These initiatives enable firms to develop AI solutions while meeting regulatory expectations.

As mentioned above, the Insurance Authority has not issued specific guidance relating to AI in the insurance sector. However, the IFoA emphasises that actuaries, due to their technical rigour and high professional standards, are well-placed to seek to ensure that AI applications are used in a fair, transparent, and accountable way.[11] Its dedicated guidance outlines how members can apply their professional obligations—such as integrity, competence, impartiality, and clear communication—to AI and data-driven work, safeguarding both the public interest and the profession's reputation.

Businesses implementing AI in high-risk areas may consider assessing applicable regulatory frameworks, incorporating human-in-the-loop mechanisms for oversight, and ensuring continuous monitoring to mitigate potential risks.

III. Sector-Specific AI Applications in Hong Kong

While AI can be applied across many industries, some sectors warrant particular attention due to regulatory focus, rapid technological advancements, or the critical nature of AI applications. In this section, we discuss a range of sector examples.

In the banking and financial services sector, AI is widely used for robo-advisors, fraud detection, and generative AI in customer service. For example, it was reported in February 2024 that ICBC Asia in Hong Kong invested in AI technology to identify potential fraudulent transactions and investigate alleged scams.[12]

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[7] Securities and Futures Commission, Circular to Licensed Corporations – Use of Generative AI Language Models (12 November 2024) https://apps.sfc.hk/edistributionWeb/gateway/EN/circular/intermediaries/supervision/doc?refNo=24EC55 (accessed 10 February 2025).
[8] Hong Kong Monetary Authority, High-level Principles on Artificial Intelligence (1 November 2019) https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2019/201911 01e1.pdf accessed 10 February 2025; Hong Kong Monetary Authority, Generative Artificial Intelligence in the Financial Services Space (September 2024) https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2024/GenAI_ research_ paper.pdf (accessed 10 February 2025).
[9] Karen Hao, Empire of AI: Inside the Reckless Race for Total Domination (Allen Lane, 2025) , p. 108.
[10] Hong Kong Monetary Authority, HKMA announces inaugural cohort of GenA.I. Sandbox (19 December 2024) https://www.hkma.gov.hk/eng/news-and-media/press-releases/2024/12/20241219-5/ (accessed 10 February 2025)
[11] Institute and Faculty of Actuaries, Ethical and Professional Guidance on Data Science and Artificial Intelligence: *A Guide for Members (V2.0, November 2024)* paras 1.1-1.3 https://actuaries.org.uk/document-library/standards/standards-and-guidance/non-mandatory-guidance/ethical-and-professional-guidance-on-data-science-and-artificial-intelligence-a-guide-for-members/ (accessed 19 April 2025)

Given the industry's systemic importance, the HKMA and SFC require firms to implement governance frameworks that prioritise model explainability, cybersecurity, and risk-based oversight.[13]

The healthcare sector is leveraging AI for diagnostics, patient care tools, and operational efficiency. However, liability risks and data privacy concerns remain significant. For example, the PCPD notes that "healthcare providers use AI to analyse medical records and assist doctors in diagnoses"[14] and gives "AI-assisted medical imaging analytics or therapies" as an example of a "high-risk" AI use case.[15] In this context, the PCPD has emphasised the need for an appropriate level of human oversight to "reduce the risk of significant adverse impacts on individuals materialising during deployment".[16]

The legal sector is also increasingly adopting AI for contract analysis, legal research, and document automation, among other tasks. The Law Society of Hong Kong's 2024 position paper highlights the need for specialised roles such as Legal Knowledge Engineers—also known as "Prompt Engineers"—who develop knowledge bases, encode legal rules, and optimise AI outputs. Legal Technologists and Automation Specialists can also play a key role in implementing and managing AI tools within legal operations, requiring expertise in areas like natural language processing, logic programming, and workflow automation.[17]

Relatedly, in the judicial context, specific guidelines have been introduced to ensure AI use aligns with principles of judicial independence, impartiality, and accountability, emphasising that AI may not be used to usurp or encroach upon judicial functions but may be used to support and facilitate judicial work.[18]

These industry insights highlight how relevant stakeholders can and must tailor their AI compliance strategies based on sector-specific risks and regulatory requirements.

IV. AI Applications in the Actuarial Sector

The actuarial profession in Hong Kong is undergoing a quiet but profound transformation through the integration of AI and data science. Actuaries globally are increasingly adopting AI to drive innovation in insurance pricing, pension analysis, claims forecasting, and risk modelling. The ASHK has recognised the significant implications AI holds for professional practice, regulation, and public interest. To illustrate, we give examples of some current and potential use cases of AI in the actuarial profession.

Insurance Pricing: AI and machine learning (**ML**) techniques are enhancing personal lines pricing in the general insurance industry. Historically reliant on Generalised Linear Modelling (**GLM**), actuaries are increasingly experimenting with Gradient Boosting Machines and other advanced algorithms to extract more predictive power from large datasets.

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[12] Jiri Bílek, 'ICBC Asia Utilizes AI to Combat Fraud in Hong Kong' (TheNota, 15 February 2024) https://thenota.com/post/2024/feb/15/icbc-asia-utilizes-ai-to-combat-fraud-in-hong-kong/ (accessed 11 February 2025).
[13] Hong Kong Monetary Authority, Generative Artificial Intelligence in the Financial Services Space (September 2024) https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2024/GenAI_research_paper.pdf (accessed 10 February 2025); and Securities and Futures Commission, Circular to Licensed Corporations – Use of Generative AI Language Models (12 November 2024) https://apps.sfc.hk/edistributionWeb/gateway/EN/circular/intermediaries/supervision/doc?refNo=24EC55 (accessed 10 February 2025)
[14] Office of the Privacy Commissioner for Personal Data, Guidance on Ethical Development and Use of Artificial Intelligence (18 August 2021) https://www.pcpd.org.hk/english/resources_centre/publications/files/guidance_ethical_e.pdf (accessed 10 February 2025), p 3.
[15] Office of the Privacy Commissioner for Personal Data, Artificial Intelligence: Model Personal Data Protection Framework (11 June 2024) https://www.pcpd.org.hk/english/resources_centre/publications/files/ai_protection_framework, (accessed 10 February 2025), p. 29.
[16] Office of the Privacy Commissioner for Personal Data, Artificial Intelligence: Model Personal Data Protection Framework (11 June 2024) https://www.pcpd.org.hk/english/resources_centre/publications/files/ai_protection_framework (accessed 10 February 2025), p. 30.

In one example, AI tools were used to automatically identify claims trends using triangle diagnostics and pattern recognition, improving both consistency and speed in reserving across product lines.[19]

Pension Scheme Analytics: Actuaries are also using AI tools to improve experience analysis and assumption setting in pension schemes. One case study involved analysing demographic and movement data, such as retirement and mortality rates, across member groups to assess the accuracy of assumptions. The data was processed into a consistent format and visualised through a Python dashboard, enabling the fast generation of statistical summaries and trend insights. Future iterations aim to use R for faster processing and deeper analysis, including workforce behaviours like exit rates and lump sum choices at retirement. [20]

Capital Modelling: A novel application involved training actuaries, without coding experience, to develop a basic capital model using a large language model (**LLM**) and open-source software. The LLM would act as an intelligent assistant, guiding the actuary through model building via natural language, demonstrating AI's potential to lower technical barriers.[21]

Digitalisation of Insurance Processes: In our discussions with actuarial experts, we understand that a typical application of AI in insurance lies in handwriting recognition, used to digitise handwritten documents such as medical reports, prescriptions, and hospital admission forms. This facilitates more efficient claims handling and data entry, paving the way for more advanced analysis and insights. Once digitised, these documents contribute to larger pools of unstructured data, enabling actuaries to apply AI tools to identify patterns, improve forecasting, and streamline decision-making processes, as discussed immediately below.

Document Processing: Another case study explored the use of deep learning-based semantic search to process large volumes of unstructured text, such as regulatory filings and claims reports.[22] Traditionally, a labour-intensive task, extracting insights from such datasets has become increasingly challenging due to growing complexity and scale. Leveraging advanced language models, the semantic search system enables actuaries to query information using plain English, retrieving contextually relevant results beyond what traditional keyword-based tools can offer. This enhances efficiency in research, compliance, and analysis workflows.

Future Opportunities for Insurance Carriers: The next wave of AI integration presents transformative opportunities for insurance carriers to redefine operations, products, and customer experience. AI agents—particularly when paired with LLMs—can unlock real-time, autonomous decision-making in niche and underserved areas.

For example, in residential property insurance, AI agents could integrate with Internet of Things (**IoT**) devices, such as smart sensors embedded in homes, to automatically assess property damage after extreme weather events. [23] In pet insurance, AI could analyse veterinary records instantly to streamline claims and reduce fraud.[24] Travel insurance could also benefit, with generative AI automating the handling of flight disruptions and reimbursements in real time.[25]

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[17] The Law Society of Hong Kong, The Impact of Artificial Intelligence on the Legal Profession: Position Paper (20 January 2024) https://www.hklawsoc.org.hk/-/media/HKLS/Home/News/2024/LSHK-Position-Paper_AI_EN.pdf?rev=77bf900208614367b9cbb15fd10aaa58 (accessed 11 February 2025), para 25.

[18] Hong Kong Judiciary, Guidelines on the Use of Generative Artificial Intelligence for Judges and Judicial Officers and Support Staff (July 2024) https://www.judiciary.hk/doc/en/court_services_facilities/guidelines_on_the_use_of_generative_ai.pdf (accessed 11 February 2025)

[19] Institute and Faculty of Actuaries, Actuaries Using Data Science and Artificial Intelligence Techniques (IFoA 2024) 9 https://actuaries.org.uk/media/g4ymoxep/actuaries-using-data-science-and-artificial-intelligence-techniques.pdf (accessed 19 April 2025).

These innovations point to a future where claims are resolved faster, fraud is reduced, and customers receive hyper-personalised support, making the insurance journey more efficient, responsive, and scalable.

V. Implementing AI Governance Within Organisations

For businesses operationalising AI, regulatory compliance and risk management are key considerations. A structured governance framework can help organisations strike a balance between innovation and accountability. In this context, we have assisted financial institutions with reviewing their policies to operationalise AI.

An example of a model we have seen includes the Three Lines of Defence framework, which helps integrate AI oversight across different functions within a business. The Three Lines of Defence framework is widely adopted by financial institutions in the context of corporate compliance and applies to their day-to-day operations to enhance operational efficiency.

The framework aims to balance compliance obligations with the need for AI innovation by ensuring independent checks at multiple levels, for example:

- The first line of defence consists of business units that develop and deploy AI-driven tools for customer engagement, fraud detection, process automation, and other purposes. These units must ensure AI-driven decisions align with regulatory expectations and ethical considerations, such as bias mitigation and transparency in decision-making.
- The second line of defence includes risk management and compliance teams that assess AI models for vulnerabilities, cybersecurity threats, and regulatory alignment. Many organisations implement structured AI Risk Assessment Frameworks, drawing on best practices from the HKMA and SFC, to ensure AI systems remain compliant and robust.
- The third line of defence involves independent audits to validate the effectiveness of AI governance and risk management. These periodic reviews enable businesses to identify potential regulatory gaps, enhance accountability, and foster trust in AI-driven processes.

By implementing structured governance, businesses can support the responsible deployment of AI while maintaining regulatory compliance and effectively managing operational risks.

VI. Data Privacy and AI Regulation in Hong Kong

As AI systems process increasing volumes of sensitive data across all sectors, data privacy has become a key regulatory concern in Hong Kong. The "Artificial Intelligence: Model Personal Data Protection Framework" published by the PCPD in June 2024 (**Framework**) provides detailed guidelines on the handling of personal data by organisations, including financial institutions, that procure, implement, and use AI systems involving the use of personal data. Adopting a risk-based approach, the Framework provides a set of practical recommendations for local enterprises, while the Data Protection Principles under the Personal Data (Privacy) Ordinance (**PDPO**) (Cap. 486) remain applicable.

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[20] Institute and Faculty of Actuaries, Actuaries Using Data Science and Artificial Intelligence Techniques (IFoA 2024) 10 https://actuaries.org.uk/media/g4ymoxep/actuaries-using-data-science-and-artificial-intelligence-techniques.pdf (accessed 19 April 2025)
[21] Institute and Faculty of Actuaries, Actuaries Using Data Science and Artificial Intelligence Techniques (IFoA 2024) 10 https://actuaries.org.uk/media/g4ymoxep/actuaries-using-data-science-and-artificial-intelligence-techniques.pdf (accessed 19 April 2025)
[22] Institute and Faculty of Actuaries, Actuaries Using Data Science and Artificial Intelligence Techniques (IFoA 2024) 11 https://actuaries.org.uk/media/g4ymoxep/actuaries-using-data-science-and-artificial-intelligence-techniques.pdf (accessed 19 April 2025).

An increasing concern is data scraping, in which AI models collect publicly available online data without explicit consent for unauthorised uses, such as reselling the data, facilitating cyberattacks, committing identity fraud, or enabling unsolicited direct marketing and spam messages. The PCPD has warned that data scraping can lead to significant privacy risks, including identity theft, unauthorised data aggregation, and breaches of confidentiality.[26] The PCPD's joint statement on data scraping highlights that businesses leveraging AI must take proactive measures to ensure compliance with data protection laws, including the implementation of ethical data sourcing practices, risk assessments, and consumer consent mechanisms.[27]

VII. Conclusion

Hong Kong's AI regulatory landscape continues to evolve, shaped by a sector-specific approach that offers flexibility but also introduces complexity. While comprehensive, unified legislation is not yet in place, regulators such as the HKMA, SFC, PCPD, and IA are active in issuing targeted guidance to manage risks associated with AI in high-impact sectors, including finance, healthcare, legal services, and insurance. Our conversations with actuarial professionals suggest that they may be subject to specific guidelines on using AI in the future, issued by governance bodies for actuarial professionals.

For the insurance industry and the actuarial profession, this presents both a challenge and an opportunity. Actuaries are well-positioned to bridge the gap between advanced analytics and ethical governance, applying professional judgement and technical expertise to ensure that AI is used transparently, ethically, fairly, and responsibly. Through leadership from the ASHK and guidance from the IFoA, actuaries are not just adapting to AI—they are helping shape how it is deployed in the public interest.

Companies seeking to integrate AI into core business functions—whether for underwriting, claims processing, fraud detection, or capital modelling—must adopt a proactive and disciplined approach. This includes identifying high-risk applications, implementing industry-specific compliance strategies, and establishing robust governance frameworks such as the Three Lines of Defence. Additionally, organisations must remain vigilant about data privacy and ensure responsible data practices in line with evolving expectations from the PCPD and other regulators.

Ultimately, responsible AI adoption in Hong Kong will depend on a multi-stakeholder effort that combines innovation, legal foresight, regulatory engagement, and professional ethics. For businesses and professionals alike, the path forward lies in aligning AI deployment not only with commercial goals but also with the principles of accountability, fairness, and public trust. ■

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[23] Robin Roberson, 'AI Agents and LLMs: A Deep Dive into Their Roles, Differences, and Future Impact on the Insurance Industry' (Coverager, 3 February 2025) https://coverager.com/ai-agents-and-llms-a-deep-dive-into-their-roles-differences-and-future-impact-on-the-insurance-industry/ (accessed 19 April 2025)

[24] Robin Roberson, 'AI Agents and LLMs: A Deep Dive into Their Roles, Differences, and Future Impact on the Insurance Industry' (Coverager, 3 February 2025) https://coverager.com/ai-agents-and-llms-a-deep-dive-into-their-roles-differences-and-future-impact-on-the-insurance-industry/ (accessed 19 April 2025)

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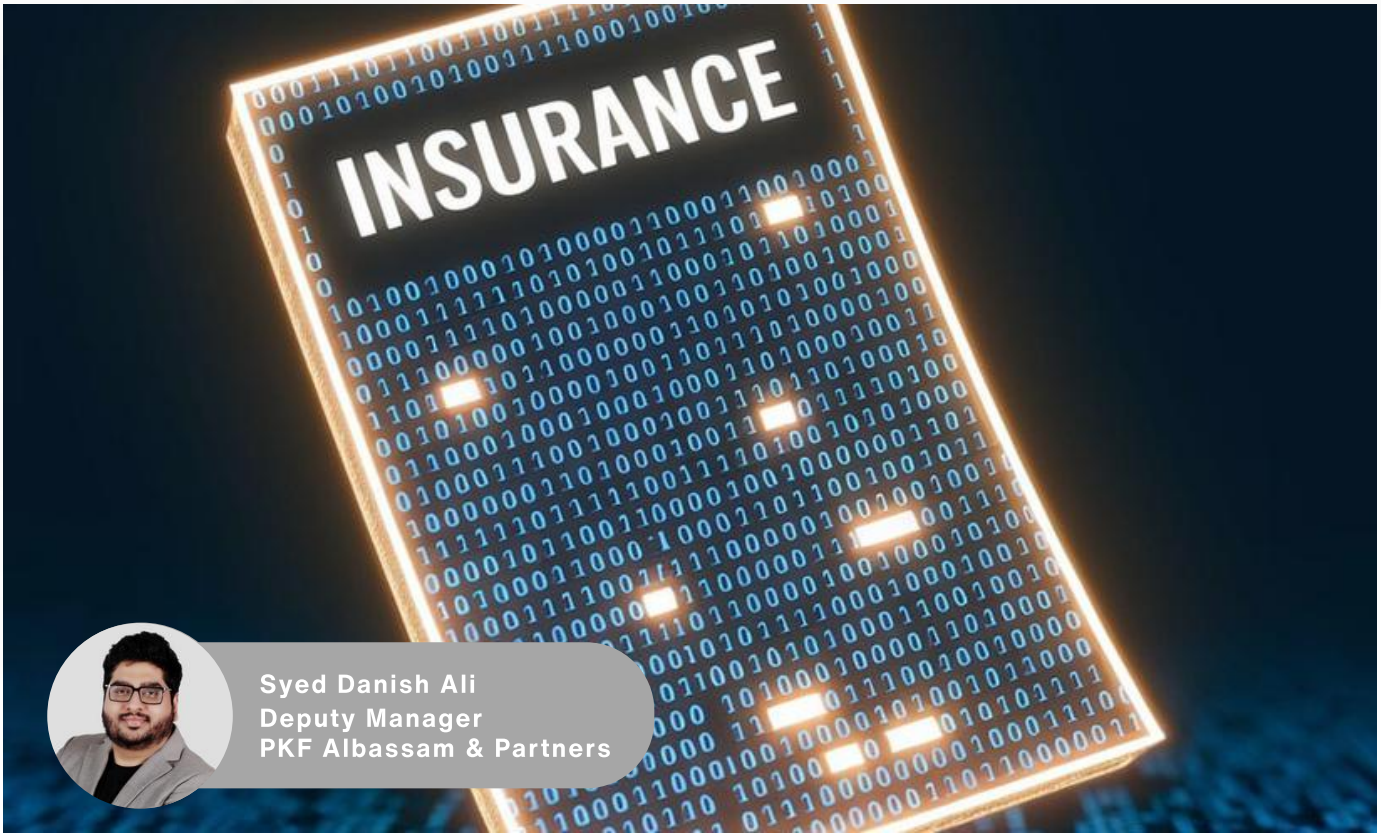

DIGITAL ASSET INSURANCE TO SECURE HK'S CRYPTO HUB STATUS

Actuarial perspective on crypto risks

Introduction

Hong Kong is positioning itself as a leading global crypto hub, leveraging its strategic role in bridging Western capital and Asian innovation. With growing activity in cryptocurrency trading, decentralized finance (DeFi), and Web3 ecosystems, the city is embracing both regulatory clarity and financial infrastructure to support digital assets.

A vital component in this effort is the integration of digital asset insurance, which is a risk management tool that protects against hacks, fraud, and system failures – while signaling maturity and stability to investors and users.

As regulators now require licensed exchanges to insure a portion of assets under custody, the market is evolving to meet demand. Digital asset insurance not only safeguards participants in this high-risk environment but also reinforces the trust and resilience needed for HK to secure its status as a credible, well-regulated crypto hub.

Hong Kong as a Hub

HK sees itself as one of the few global hubs for the crypto ecosystem, including for Web3.0 and the metaverse, using crypto for payments, savings, trading, decentralized finance as well as utilizing the systems behind it via blockchain in various industries. Digital asset insurance can be plugged in this crypto ecosystem to bring about much needed security and protection to increase resilience as well as trust of crypto users and financiers. Other than that, the business model is also seeing a shift from conventional insurance to peer-to-peer decentralized insurance and finance model with all of its promises and risks.

Hong Kong's crypto market is already substantial: ChainAlysis reports that HK saw roughly US$64 billion of cryptocurrency transactions in July 2022 to June 2023[1], a volume comparable to mainland China's despite HK's much smaller size. At the same time, HK's regulators now mandate strong protections. For example, the Securities and Futures Commission (SFC) requires licensed crypto exchanges to have risk coverage for at least 50%[2] of assets under custody. This includes guarantees as well as digital asset insurance which can underwrite exchange custodians, wallets and even decentralized-finance protocols, absorbing losses from hacks, fraud or system failures. In doing so, it not only provides a safety net but also signals prudence and maturity in the market, which is essential for HK's credibility as a crypto hub.

But insurance of such a new asset class comes with many challenges, including very basic concepts such as definitions, historical loss data, and legal precedent. At the same time, this makes it a very interesting segment to start working on.

Digital Asset Building Blocks

To fully appreciate the role of insurance in this evolving space, it's helpful to clarify a few key terms.

- Digital assets refer broadly to assets that exist in digital form and are secured via cryptographic technologies. This includes:
  - cryptocurrencies like Bitcoin and Ethereum, which function as decentralized digital money, as well as
  - tokenized assets, such as NFTs or
  - stablecoins, which represent value or ownership tied to real-world or digital systems.
- A wallet is a digital safe to protect these assets, encrypted using private keys. It can be just an app, or a separate hardware wallet (like an external hard drive that plugs in).
- A crypto exchange is a platform that enables users to buy, sell, and store these assets, similar to a stock exchange, but for digital instruments.
- DeFi (Decentralized Finance) refers to blockchain-based financial services, like lending, borrowing, trading and insuring, in essence, operating without traditional intermediaries like banks.

These innovations offer vast opportunities but also carry unique risks that demand innovative insurance solutions to support safe adoption and sustained growth.

Actuarial Underwriting and Pricing in Digital Asset Insurance

Insuring digital assets requires careful actuarial insight. Unlike traditional property or casualty risks, digital asset exposures combine volatile market values with cyber and operational perils. An actuarial framework must account for multiple dimensions: the security of private keys, the technology platform's resilience, the legal structure of the asset (on-chain protocol vs exchange custody), and even market volatility. For example, policies may cover losses from hacking or theft of wallet keys, as well as physical damage to hardware wallets; risks unheard-of in conventional insurance.

Just to be clear, we are focused here on insuring digital assets against loss fraud and hacking, for example. We are not talking in this article about DeFi insurance companies which are built on blockchain tech and accept Bitcoin as premiums – which is a topic for another day.

Actuaries must devise innovative risk classification systems such as adapting cyber-insurance models while quantifying digital asset-specific factors. Because a single exploit can involve hundreds of millions of dollars (e.g. Ronin Network ~$625m, Poly Network ~$611m[3]), loss distributions are extremely heavy tailed. The Society of Actuaries

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[1] https://www.chainalysis.com/blog/eastern-asia-cryptocurrency-adoption/#:~:text=reversing%20course%20on%20digital%20assets%2C,5
[2] https://www.osl.com/hk-en/media-coverage/Hong-Kong-50-Percent-Crypto-Exchange-Insurance-Requirement-osl/#:~:text=Hong%20Kong%E2%80%99s%20Securities%20and%20Futures,crypto%20exchanges%20handling%20customers%E2%80%99%20assets
[3] https://www.investopedia.com/news/largest-cryptocurrency-hacks-so-far-year/#:~:text=Investopedia%20www,Gox%3A%20%24473%20Million

US[4] emphasizes using frequency-severity models and Monte Carlo simulation to capture these tails. In practice, an actuary pricing a custodial coverage might gather data on past incidents (a public "REKT" database logged 631 crypto security incidents from 2011 to 2023[5]) and fit models for incident frequency and severity. However, data limitations mean judgment is key: new protocols or smart-contract platforms have little loss history, so experts often stress-test pricing with scenario analysis. Since data will always be incomplete and truncated (many losses do not get reported, new technology protocols keep coming and risks do not crystallize neatly over time), we need simulations and risk metrics (Value at Risk, Tail Value at Risk) to supplement these to understand the risk exposure more fully.

Risk factors in pricing also include scale and concentration. HK's market, for instance, has a pronounced institutional bias (large OTC transfers)[6], so an exchange could face a single event affecting many clients at once. Premium rates may thus reflect not only estimated hacking losses but also market crashes or regulatory shutdowns. Insurers might apply higher margins or require reinsurance for concentrated portfolios.

Actuarially, there is also a need for dynamic monitoring. As the TVL (total value locked) in DeFi grew in 2020-2022, incident frequency spiked in parallel[7]. This suggests premiums and reserves cannot be static; actuaries might tie renewal rates to on-chain metrics or inflation/deflation of crypto prices. Furthermore, the interconnected nature of digital markets means systemic tail risk (eg. a major exchange collapse) is a modeling challenge. Actuaries may resort to extreme-value techniques and capital-stress frameworks akin to solvency stress tests to ensure resilience.

Ultimately, pricing digital asset insurance is as much art as science. Actuaries must blend the sparse historical data with forward-looking assumptions about technology and regulation. This calls for rigorous loss modeling combined with expert judgment. The SOA report[8] recommends blending qualitative insights (blockchain governance, protocol design, code audit quality) with quantitative frequency-severity modelling.

By building such models, HK insurers can set premiums that reflect true risk which is a critical step in ensuring that coverage is sustainable and reinforces, rather than undermines, market confidence.

Bundling Cybersecurity and Preventive Measures

An emerging trend is to bundle insurance with proactive cybersecurity services, turning insurance from a passive payout into an active risk-reduction tool. HK companies like OneDegree (now part of AIFT Group) exemplify this approach. OneDegree's OneInfinity unit markets "tech-enabled" insurance for crypto platforms, partnering with exchanges and custodians to pair coverage with security best practices. For example, HK's licensed HashKey Exchange arranged with OneDegree to insure both its hot and cold wallets, explicitly pledging to "co-develop new tech-enabled innovations" like server redundancy and security drills[9]. In doing so, they ensure that insurance underwriters have data on, and influence over, the exchange's cybersecurity posture. The message is clear: insurers won't merely pay after a hack, they will also work with policyholders to prevent losses in the first place.

AIFT Group's tools like Vulcan GenAI highlight how advanced technology is being used in this preventive role. Vulcan, developed by AIFT's cybersecurity arm, conducts AI-driven red teaming to probe vulnerabilities in AI systems and software stacks[10]. While originally aimed at banking, the same principle applies to crypto firms: insurers can require or incentivize penetration testing and continuous monitoring on insured platforms.

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[4] https://www.soa.org/49d0ab/globalassets/assets/files/resources/research-report/2024/digital-asset-risks-framework.pdf#:~:text=clear%20and%20accessible%20education%20on,offering%20practical%20insights%20for%20risk
[5] https://www.soa.org/49d0ab/globalassets/assets/files/resources/research-report/2024/digital-asset-risks-framework.pdf#:~:text=clear%20and%20accessible%20education%20on,offering%20practical%20insights%20for%20risk
[6] https://www.chainalysis.com/blog/eastern-asia-cryptocurrency-adoption/#:~:text=Much%20of%20this%20is%20driven,and%20the%20overall%20global%20average
[7] https://www.soa.org/49d0ab/globalassets/assets/files/resources/research-report/2024/digital-asset-risks-framework.pdf#:~:text=3,Figure%201

Indeed, major insurers are forming partnerships to integrate such capabilities. South Korea's Kyobo Life, for instance, has partnered with AIFT to use Vulcan's GenAI security platform, explicitly aiming to "equip clients with advanced, tailored technologies to safeguard their operations[11]". Although this example is from Korea, it signals the industry's direction: insurers increasingly regard cyber hygiene as underwriting criteria.

In HK's context, bundling may take several forms. An insurer might offer premium credits if a crypto firm adopts multi-party computation wallets or engages in regular smart-contract audits. Conversely, failure to maintain security standards could void coverage. This fusion of underwriting and IT governance requires close cooperation between actuaries, cybersecurity experts and IT auditors. From an actuarial standpoint, such preventative layers are not just marketing: by lowering the expected frequency or severity of a hack, they directly reduce the loss cost component of pricing models. The AIFT Group's strategy of combining an insurer with cybersecurity and AI tools, serves as a model for this integration[12],[13].

Actuaries in HK should track these innovations, as they represent new forms of risk control that impact loss distributions. In the long run, embedding security into the insurance product could differentiate offerings and justify more stable, data-driven pricing.

Opportunities and Challenges for HK's Insurers

HK's unique position of acting as a bridge for Western capital and Greater Bay Area's (GBA) Mainland technology expertise means that its insurers are well-placed to pioneer digital asset products. Local insurers are already partnering globally (for instance, OneDegree with BitGo in Japan[14] and with Dubai's Dubai Insurance Company (DIC)[15] to spread risk and leverage reinsurance. Meanwhile, international carriers are also entering HK; for example, Canopius recently launched a Lloyd's-backed custody policy locally[16]. Actuarial teams in HK can draw from this wealth of industry experience as they develop their own products.

Still, the sector is nascent and filled with challenges. The Geneva Association notes that DeFi and blockchain insurance remain niche and concentrated in crypto-related lines[17]; HK insurers must educate customers, companies and regulators about these solutions. Emerging risks abound: decentralized finance platforms carry smart-contract vulnerabilities and oracle failures; new asset classes like algorithmic stablecoins pose unique systemic risks; and cross-border legal issues can complicate claim settlement. Actuarial professionals must therefore consider not only direct losses but also second-order effects (for example, a crypto collapse might spur regulatory crackdowns or mass withdrawals). Reserving for digital asset policies requires prudent capital buffers, given the possibility of exceptionally large or correlated claims.

That said, HK's favorable business environment, a strong rule of law, international connectivity, and a regulatory push for innovation provides tailwinds. The SFC's move to require risk protection (at least 50% coverage) for exchange licenses[18] means insurers have a built-in market demand as platforms must secure coverage before going live. Actuarially, this can translate into a growing exposure base with clearer data standards. Moreover, as more institutional players enter (pension funds, family offices, tokenized assets), they will demand professional risk management, including insurance.

Regulatory developments also give future clarity. The upcoming stablecoin regime and any HK virtual-custodian rules will define scope and perils

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[8] https://www.soa.org/49d0ab/globalassets/assets/files/resources/research-report/2024/digital-asset-risks-framework.pdf#:~:text=This%20project%20develops%20a%20framework,approach%20to%20modeling%20cyber%20risks

[9] https://oneinfinity.global/hashkey-exchange-insured-by-oneinfinity-by-onedegree-for-digital-wallet-coverage/#:~:text=16%20November%202023%20%E2%80%93%20HashKey,providing%20comprehensive%20coverage%20for%20investors

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[11] https://aift.io/kyobo-life-invests-in-aift-and-forges-strategic-partnership-to-deliver-genai-vulnerability-assessment-and-protection-solutions-in-south-korea/#:~:text=Changgi%20Kwon%2C%20CEO%20of%20Kyobo,%E2%80%9D

[12] https://aift.io/onedegree-group-rebrands-as-aift-with-vision-to-secure-the-future/#:~:text=AI%20is%20deeply%20embedded%20in,the%20group%E2%80%99s%20products%20and%20services

of insurable contracts. Actuaries should engage with regulators (and leverage OECD/SOA insights) to ensure products meet policy goals. For example, OECD research on DeFi[19] underscores a need for caution and consumer protection; actuaries can help translate such policy aims into product design (e.g. mandatory coverage for consumer-assets, transparent pricing).

Broader Context

HK's digital insurance ecosystem isn't confined to crypto-native players. Peak3 (previously known as ZhongAn International), a subsidiary of China's first online-only insurer, has established a significant presence in HK. It leverages blockchain, AI, and cloud-native architecture to offer products ranging from travel to health. While not focused exclusively on digital assets, Peak3's operational model embodies the kind of end-to-end digitization needed to underwrite new-age risks. Other licensed virtual insurers in HK are also experimenting with embedded insurance, ecosystem plays, and usage-based models, showing that innovation isn't just for the crypto segment; it's across the board.

It's also important to widen the lens beyond HK to the GBA, which comprises two Special Administrative Regions (Hong Kong and Macao) and nine municipalities in Guangdong Province. Shenzhen, in particular, is home to major blockchain and fintech development zones. The GBA's integration plan envisions seamless data flows, financial linkages, and innovation exchanges across borders. Digital asset insurance solutions developed in HK can find natural extension in these cities, especially as cross-border tokenization, supply-chain finance, and DeFi projects emerge. This regional synergy could amplify the actuarial footprint in risk analytics and capital modeling.

Several other global decentralized insurance protocols are gaining relevance. Nexus Mutual UK[20], for instance, offers member-driven smart contract cover and has grown to over US$300 million in active protection. Meanwhile, InsurAce[21] provides DeFi protocol insurance and yield aggregation, and projects like TakaDAO[22] are exploring Islamic Insurance Takaful Web3 insurance models.

RELM Insurance, based in Bermuda, is the world's first insurer dedicated entirely to emerging risks. It underwrites digital asset, Web3, and other non-traditional exposures. Notably, it offers a full suite of specialized coverages such as AlphaWeb3 for investment managers with crypto portfolios, AuraWeb3 for staking and validator node risks (including slashing), FaltaWeb3 for crypto exchange default, NovaWeb3 for cyber liability and technology E&O and VistaWeb3: for crime and digital asset theft[23].

While these platforms are not based in HK, their operational frameworks are influencing product design for insurers eyeing digital asset risks, including players in the city. Indeed, a broader ecosystem is taking shape here that may soon include homegrown alternatives.

Conclusion

Digital asset insurance is more than just a product; it's a key enabler of HK's ambition to become a global crypto hub. By protecting against losses from hacks, fraud, and technical failures, insurance builds trust in digital markets and strengthens the foundation of this fast-growing ecosystem. For the insurance industry here, this is a major opportunity to lead innovation, develop new underwriting approaches, and serve a rising demand driven by regulatory requirements and market growth.

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[13] https://aift.io/hashkey-global-and-oneinfinity-by-onedegree-forge-strategic-alliance-to-bolster-web3-and-cybersecurity-landscapes/#:~:text=HashKey%20Global%20and%20OneInfinity%20by,users%20of%20HashKey%20Global%E2%80%99s%20platform
[14] https://aift.io/partnership-between-bitgo-and-oneinfinity-by-onedegree-revolutionizesdigital-asset-custody-risk-management-in-japan-with-global-expansion-in-sight/#:~:text=the%20digital%20asset%20economy%2C%20has,its%20sights%20on%20global%20expansion
[15] https://oneinfinity.global/#:~:text=December%2012%2C%202024
[16] https://insuranceasianews.com/canopius-launches-lloyds-backed-digital-asset-policy-in-hong-kong/
[17] https://www.genevaassociation.org/sites/default/files/2023-08/DeFi%20insurance_WEB.pdf#:~:text=niche%3B%20and%20is%20concentrated%20in,DeFi%20and%20blockchain%20in%20insurance
[18] https://osl.com/media-coverage/Hong-Kong-50-Percent-Crypto-Exchange-Insurance-Requirement-osl/#:~:text=Hong%20Kong%E2%80%99s%20Securities%20and%20Futures,crypto%20exchanges%20handling%20customers%E2%80%99%20assets

For HK actuaries, this is a moment to step up.

Digital asset risks are complex, unfamiliar, and often lack historical data, but that is exactly where actuaries can show their value. We are trained not just to analyze data, but to make sound decisions when data is limited or uncertain. Our role is to design sustainable, forward-looking solutions that balance innovation with protection. By combining technical modeling with expert judgment, actuaries can help shape a more resilient, credible digital asset insurance market, and, in doing so, play a vital role in securing HK's future as a trusted global center for crypto and finance.

Regulatory update:

It was announced by the Hong Kong Government that the Stablecoins Ordinance (Cap. 656) will come into operation on 1 August 2025.

While many cryptocurrencies are volatile and lack intrinsic value, Stablecoins are different because they are pegged to liquid assets of the same value. According to the HK Ordinance, this should involve HKD deposits of less than three months, and additional collateral. In a sense, this is similar to the traditional HK dollar which is backed by US dollar reserves.

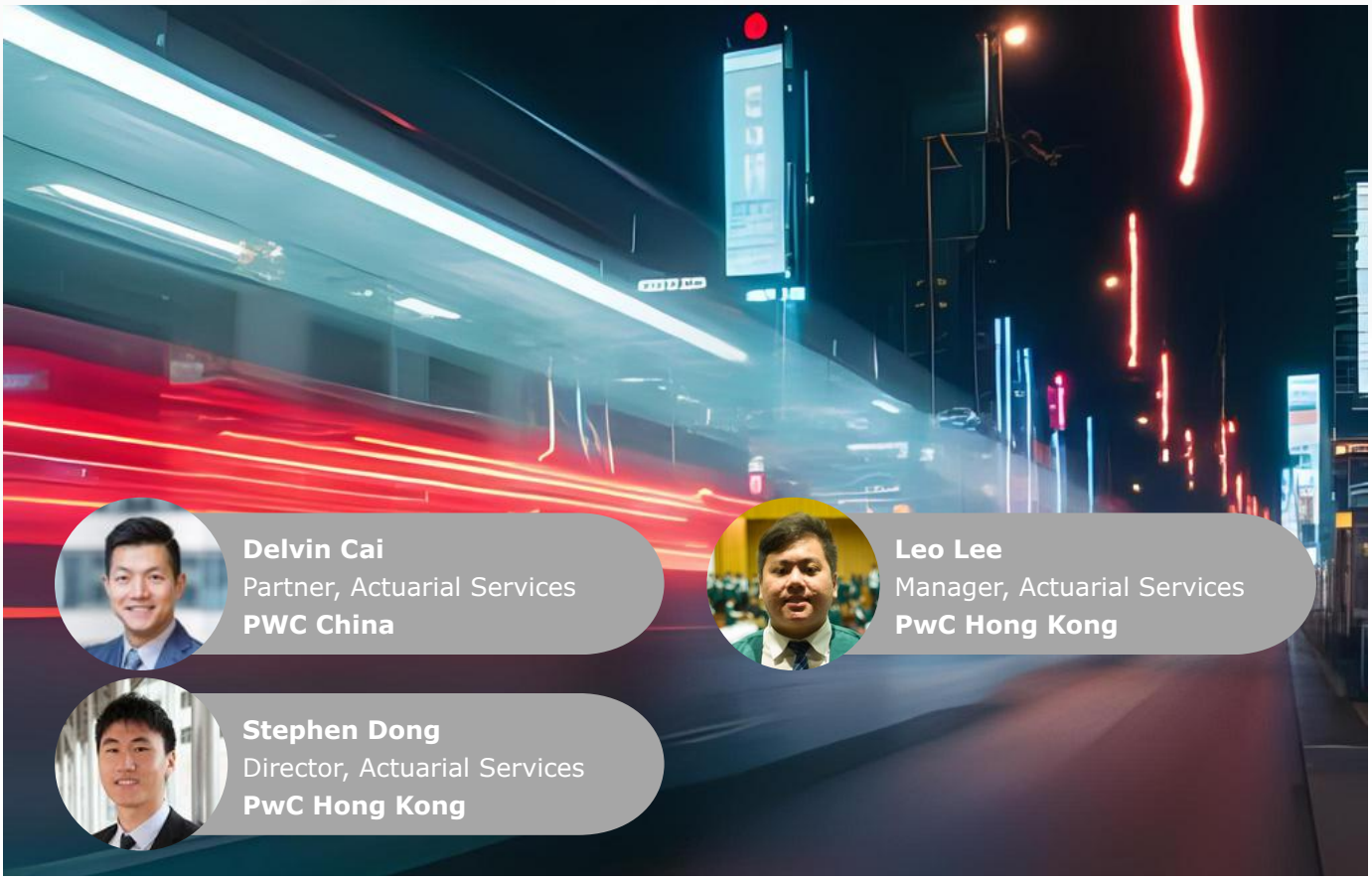
As a result, Stablecoins can be used for financial transactions - which potentially will be more efficient, with lower transaction costs, and higher overall safety.

There are minimum requirements set by the HK Monetary Authority for exchanges to be able to issue Stablecoins in HK, and - as at the time of publishing - three companies have passed these requirements.

This further cements HK's place as a leading global player in digital assets and in international finance.

https://www.info.gov.hk/gia/general/202506/06/P2025060600275.htm

[19] https://www.oecd.org/en/publications/the-limits-of-defi-for-financial-inclusion_f00a0c7f-en.html
[20] https://nexusmutual.io
[21] https://www.insurace.io
[22] https://takadao.io
[23] https://relminsurance.com/insurance-products



IFRS 17 IMPLEMENTATION TRENDS FOR GENERAL INSURERS IN ASIA

Introduction

The transition to International Financial Reporting Standard 17 (IFRS 17) from IFRS 4 is one of the most impactful events in the industry's history. This accounting standard strives to improve the transparency of insurers' financial statements and promote consistency across jurisdictions. However, IFRS 17 is still a principle-based standard and therefore has many areas that require management judgement. As such, actuaries will play a pivotal role in this transition since there are significant changes to the measurement of the insurance contract liabilities.

Casualty Actuarial Society has recently published a new research paper titled *"Actuarial Considerations Associated with IFRS 17 Implementation for General Insurers in Asia – Part 1: Premium Allocation Approach."* This paper focuses on the simplified Premium Allocation Approach (PAA), exploring its adoption, practical implications, and emerging practices among P&C insurers. The authors have conducted industry research of over 60 P&C insurers across Asia, including territories already live with IFRS 17 such as Hong Kong, Singapore, and Malaysia.

The research and analysis cover several key actuarial topics underpinning the implementation of the PAA and highlight emerging practices around the industry. It aims to support actuaries, financial professionals, and executives navigating this transformative period. With detailed industry analysis and practical insights, the paper serves as a guide for those implementing or preparing for IFRS 17 compliance.

This article outlines the key findings from Part 1 of the research paper, whilst Part 2 (General Measurement Model and changes in key performance indicators) is due to be published in the second half of 2025.

Research Findings (Part 1)

PAA Eligibility

The paper discusses the application of PAA, which is designed for short-duration contracts and applied predominantly across the P&C industry. The eligibility criteria for applying the PAA involve several key considerations in practice, including short-term coverage period, predictable cash flows and low variability in insurance risks.

The survey highlighted several emerging practices around PAA eligibility:

- 86% of respondents indicated that they would only apply the PAA measurement model.
- 80% of respondents indicated that they would use some form of qualitative metric to pass the PAA eligibility test for groups of contracts over one year.
- 83% of respondents indicated that they would apply both a percentage and an absolute threshold to define "not materially different" for PAA eligibility testing.

Current Estimate Liabilities

Under IFRS 17, the current estimate liability, also widely known as best estimate liability (BEL), includes claims liabilities and premium liabilities. The actuarial reserving practices for the valuation of claims liabilities and premium liabilities are expected to remain largely unchanged if actuarial assumptions were already set on a current estimate basis. However, below are some additional considerations around the BEL that may deviate from previous IFRS 4 practices.

The survey highlighted several emerging practices around BEL:

- 51% of respondents indicated that they have included new cash flow types to meet the IFRS 17 requirements of BEL.
- 95% of respondents indicated that they would not change the revenue recognition pattern (i.e., premium earning pattern) under IFRS 17.
- 85% of respondents indicated that their actuarial reserving methodology and/or assumptions would change due to IFRS 17.

Discounting

Discounting of claim and premium liabilities is a relatively new concept for most P&C insurers. Allowance for discounting can results in material financial impacts, with P&C insures typically realize a one off impact of net asset value as at IFRS 17 transition date. However, the earnings are expected to be more volatile due to change in interest rates across future financial periods.

The survey highlighted several emerging practices around discounting:

- 98% of respondents indicated that they would apply the bottom-up approach to derive discount rates under IFRS 17.
- 86% of respondents indicated that they would apply discounting on the liability for incurred claims (LIC) only under PAA (i.e., no allowance for time value of money on the liability for remaining coverage (LRC).
- 71% of respondents indicated that they would use government bond rates to derive the risk-free rates under IFRS 17.
- 79% of respondents indicated that would not apply an illiquidity premium to the discount rates due to reasons such as materiality.

- 76% of respondents indicated that they would not adopt the other comprehensive income option (OCI) under IFRS 17.

Risk Adjustment

The requirements for IFRS 4 risk margin are less prescriptive than those for the IFRS 17 risk adjustment, resulting in diverse existing actuarial practices. Therefore, the changes and efforts required to comply with the IFRS 17 risk adjustment differ widely among P&C insurers and across different regions.

The survey highlighted several emerging practices around risk adjustment:

- 95% of respondents indicated that they would adopt a confidence level (VaR) approach to determine the risk adjustment.
- 95% of respondents indicated that they would target a 75th confidence level for the risk adjustment.
- 75% of respondents indicated that they will explicitly calculate a diversification benefit within the risk adjustment.
- 91% of respondents indicated that their risk adjustment percentage on LRC would be higher than their risk adjustment percentage on LIC.

Loss Component

Following the adoption of IFRS 17, P&C insurers in Asia are introduced to the relatively new concept of "onerous testing." This process requires insurers to assess insurance contracts to identify those that are expected to be loss-making, or "onerous," necessitating greater involvement from actuaries. This testing is crucial because IFRS 17 requires insurers to recognize and measure loss components separately for these contracts. Key challenges for actuaries include determining the appropriate level of granularity for testing the profitability of contracts and finding practical ways to meet the IFRS 17 requirements.

The survey highlighted several emerging practices around loss component:

- 91% of respondents indicated that they expect a significant difference between the loss component under IFRS 17 and the premium deficiency or unexpired risk reserve under IFRS 4.
- 63% of respondents indicated that they would still use Excel to perform onerous testing and/or loss component calculation.
- 78% of respondents indicated that they would apply a ratio of ceded claims to determine the loss recovery component.

Conclusion

Overall, the paper suggests the survey results aligned with industry observations that there appears to be a level of convergence in market practice. Most P&C insurers in Asia will take a more pragmatic approach to implementing PAA. This has resulted in some simplifications applied to reduce operational burden under IFRS 17. However, whether these simplifications can be sustained in the long term remains to be seen.

Furthermore, the paper explores the rationale behind the practical considerations throughout the IFRS 17 implementation and highlight the emerging market practices with illustrative examples. The authors provide industry application examples, including reinsurance non-performance risk, insurance finance and income expense, diversified risk adjustment and onerous testing.

A copy of the paper is available for download using the below link:
https://www.casact.org/sites/default/files/2025-04/CAS_Research-Paper-on-IFRS-17.pdf

CELEBRITY ACTUARY INTERVIEW

Mr. K.C. CHAN | ASHK President (2001)

From Oil Fields to Actuarial Science: K.C. Chan's Unconventional Path

ASHK: We'd love to hear about your career journey. How did you become an actuary?

K.C. Chan: My journey into actuarial science was entirely by accident, though it feels more like destiny now. If I had waited for the "right" time to get admission to a university, I would most likely pursue something entirely different.

Upon graduation from HKU with a degree in Electrical and Electronic Engineering, I started my career as an oilfield engineer in the Middle East. My work took me from Kuwait to Egypt, and eventually Iran, where I was based until 1986. The Iran-Iraq war was raging between 1984 and 1986, and as a reward for working in a conflict zone, the company offered me the opportunity to relocate anywhere in the world. I chose Canada, specifically Alberta. The harsh cold and a sharp downturn of oil prices, from USD 27 in 1980 to below USD 10 in 1986, prompted me to rethink my career.

I wanted a fresh start in Canada but was unable to find a job for over 6 months due to the restricted global economic expansion. Given the circumstances, I decided to go back to university and started all over. In August 1987, I drove to the University of Waterloo, hoping to speak with any professor who might offer guidance. The first office I stumbled upon belonged to a renowned actuarial professor. He introduced me to actuarial science, a field I had never heard of. I decided to take his suggestion, but he told me the actuarial program was all filled up as it was August. He managed to get me into Geology Engineering, which had openings due to the slowdown of the energy sector. That was how I started studying actuarial science, taking examinations and eventually becoming an actuary.

My first summer internship was with Confederation Life. I joined their softball team as a pitcher, where I met several actuaries. After games, we had drinks, they learned I had a degree and had passed two actuarial examinations, the minimum requirement to start as an actuarial student. One of them arranged an interview for me, and that was how I started my actuarial career.

A Transformative Career in Hong Kong: Three Distinct Phases

ASHK: You return to Hong Kong in 1995, Could you share how your career developed from that point?

K.C. Chan: I came back to Hong Kong in 1995 because the company I was working for in Canada was acquired, and I was asked to relocate from Toronto to Waterloo. With a newborn son at that time, I thought moving back to Hong Kong might be a better alternative.

From 1995 to today, my career has unfolded in three distinct phases.

- 1996-2006: Marketing and Business Development (Asia): This phase began in Singapore with Employer's Re and ended with Prudential Taiwan in 2005. During this time, I worked with companies including Employer's Re, Top Glory Insurance Limited, CMG Life, and Prudential （both regional and Taiwan offices） . This period was incredibly eye-opening; I gained extensive experience in business development, marketing, mergers and acquisitions, bancassurance and telemarketing.
- 2006-2014: Actuarial Leadership (Canada): I return to Canada in 2006, taking on technical roles as VP Finance, Corporate Actuarial, and JV management between 2006 to 2014. The most significant takeaway from this period was my profound realization of the complexity and critical importance of actuarial, financial and risk management. This period, which I call my "actuarial reckoning," concluded with a year at a consulting firm in 2014.
- 2014-Present: Entrepreneurship (Hong Kong): The third phase, which I am still in, is running my own business, an actuarial consulting firm and a healthcare firm specializing in medical concierge services. Start a business at age of 58 and sustaining it for 11 years has been incredibly fulfilling. I am genuinely enjoying chasing my dream.

I am very grateful for all the opportunities and people I have met and worked with since 1995 till now. Despite my own shortcomings, I have always encountered immense acceptance, tolerance and encouragement.

Championing the Actuarial Profession: Leadership and Contribution

ASHK: You served as President of ASHK in 2001 and took up various other posts in the past years. Can you tell us your involvement with the actuarial profession since becoming an actuary?

K.C. Chan: My first actuarial volunteer role was as chairman of SOA China Regional Committee (CRC) in 1998. At that time, Hong Kong has several prominent actuaries like Danny Chung, August Chow, Dominic Lee, Peter Luk and C.F. Yam. I was nominated to succeed Chang Yuan, the first Chinese board member of SOA, who pioneered the China Region Committee and the SOA Satellite Office in Hong Kong. Looking back, their dedication to supporting the development of China Actuarial Association (CAA) deeply influenced my own commitment to serving the profession. As a junior actuary, having qualified in 1995, it was an immense honor to work alongside with such legendary figures.

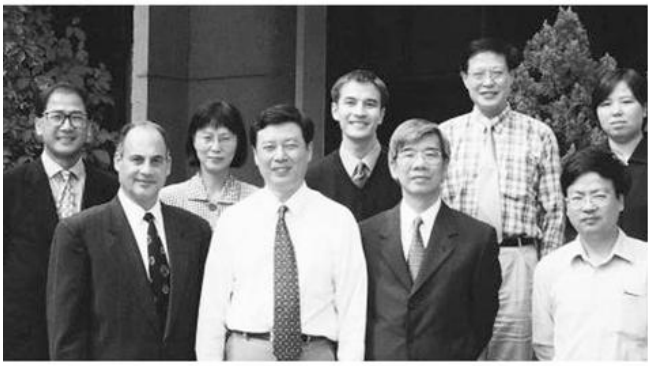
With the full support of the SOA Board, the China Region Committee organized a visit to the SOA head office for Chinese Insurance regulators, led by Mr. Fun AnPing. This led to a crucial

cooperation agreement on actuarial examination content, enabling the launch of fundamental examinations for CAA. To facilitate overseas Chinese taking CAA examinations, the CRC established the first overseas examination center in Hong Kong. A second overseas center was set up in Waterloo, Canada in 2006, when I was overseeing Asia actuarial governance at Sun Life. This was the golden era for cross-border actuarial professional sharing, and I salute all who contributed to the development of actuarial professions in the China region.

I was elected President of ASHK in 2001. Thanks to the excellent work of previous presidents, the association was thriving. Our biggest undertaking during my presidency was preparing to host the East Asian Actuarial Conference in 2002. My most significant responsibility was fundraising. With incredible support from numerous insurance companies, we exceeded our HKD 1 million target by over 30%. With the councilors' support, we also successfully launched the first Appointed Actuary Symposium.

After the ASHK presidency, I continued to serve the profession as the Chairman of International Actuarial Association (IAA) China Sub-Committee, with a mandate to help CAA to become a full member of the IAA.

I feel incredibly fortunate to have worked alongside with such a distinguished group of senior actuaries during those years. The experience instilled in me a strong sense of purpose: being a professional is not just about the technical skills, but also about responsibility to the profession itself.



At Nankai University for the book donation ceremony were (front, L to R) Howard Bolnick; Hou Zixin, Nankai University president; Dominic Lee, coordinator of Nankai's FSA program; Jiang Shengzhong, associate professor and vice dean, Nankai's Risk Management and Insurance Department; (back, L to R) K.C. Chan, CRC chair; Annie Lee, wife of Dominic Lee; Patrick Cichy, SOA coordinator of Asian services; Wu Hong Bao, Nankai's deputy director, office for International Academic Exchanges; and Li Xiufang, ASA, Nankai associate professor and SOA liaison.

ASHK's Future Role: Addressing Healthcare Challenges

ASHK: What roles do you think ASHK could play in the industry's future development?

K.C. Chan: ASHK is now operating very smoothly and professionally. It is a well-recognized professional body with a strong core of members and leaders. If ASHK can gather together enough volunteers, I believe providing more actuarial insights on healthcare in Hong Kong would be a valuable direction.

Recently, the lack of transparency in private healthcare charges has highlighted on-going tension among providers, insurance companies and consumers regarding medical claims. Medical insurance is a significant source of healthcare funding in Hong Kong. How can the actuarial profession help make this funding source sustainable? This is an area where ASHK could make a substantial contribution.

ASHK: You started your own business in 2014. What motivated you to become an entrepreneur instead of continuing to work in insurance companies?

K.C. Chan: The primary reason was that at 58, I felt my life stage and family commitments made it challenging to continue thriving in a corporate environment. I always have had a deep passion for healthcare management and funding mechanisms. In Canada, I volunteered for the Ontario Long-term Planning Committee and was responsible for health products during my time at North American Life. I firmly believe sustainable commercial funding is crucial for healthcare in all countries.

By 2014, individual medical insurance was shifting to high-end products, and the need for value-added services for these offerings was imminent. I saw a unique opportunity to combine my passion with market need. That was why I decided to launch HealthMutual Group (HMG), a company that provides medical concierge and value-added services to insurance companies. It was a dream chasing opportunity and I could not pass up, despite my age.

At the beginning it was difficult to convince insurance companies that Medical Concierge services was necessary. Our first-year revenue was very modest, in the low five figures. However, medical concierge and value-added services are now an integral part of not just high-end medical plans, but also mass-market medical, VHIS (Voluntary Health Insurance Scheme), critical illness and saving products. I am delighted that insurance companies are embracing this, as the on-going complexities of healthcare expenses and knowledge have become overwhelming for consumers and agents to digest. The increasing trend of cross-border healthcare needs will only further drive demand for health insurance products and services. HMG is now in its 11 years' operation, serving over 660,000 policyholders and covering more than 90 products.

Now at 69, I am very happy with the decision I made 11 years ago to chase my dream. These 11 years have been deeply satisfying and enjoyable. The dream continues, and I look forward to helping even more insurance policyholders receive optimal healthcare.

Advice for Aspiring Actuarial Entrepreneurs

ASHK: What advice do you have for young actuaries considering starting their own business?

K.C. Chan: Becoming an actuary is already a significant achievement in itself. The actuary career path is incredibly open and highly rewarding. I have encountered many successful actuaries who have reached C-suite level in insurance companies or contributed vital professional work. In the past, the closest actuaries came to entrepreneurship was working in consulting firms. However, I see now a growing number of younger actuaries launching their business, which is a very positive sign.

I think we should always encourage individuals to chase their dreams; but it is crucial to understand the risk and skills involved in starting a business. My experience has taught me that the two most important elements of a viable business are a strong business model and healthy cash flow. As actuaries, we excel at making projections with reasonable assumptions. What doesn't always come naturally is understanding what makes a business model workable and sustainable. With a solid business model, the key ingredients for a successful startup to become a sustainable business are focus, persistency, discipline, and effective cash flow management.

ASHK: Can you share your insights on management?

K.C. Chan: I consider myself more a manager of tasks than of people. By focusing on tasks, delegation becomes highly effective because staff clearly understand the required directions and the desired results. This aligns more with a "management by objectives" approach. There are, of course, many different successful management styles, as demonstrated by the numerous actuaries who become C-suite executives or leaders in professional field. I tend to believe the most important objective of management is to deliver results; and to do that effectively, understanding the details is an absolute must.

(For Chinese version please go to page73)

THE THROWBACK SPECIAL

Mr. Peter Luk as I Knew Him

Xie Zhigang
PhD, Leeds University, UK
Honorary Fellow of the
Institute & Faculty of Actuaries

(1) Meeting at the China Actuarial Conference

I first met Mr. Peter Luk in late September 2002 at the 3rd China Actuarial Conference in Lijiang, Yunnan. At the time, Mr. Luk was about to serve again as the President of the Actuarial Society of Hong Kong (ASHK) and attended the conference as its representative.

Figure 1: Group photo of conference attendees. Mr. Peter Luk is fourth from the right in the front row.

Mr. Luk did not give a presentation at the conference, but we had some casual conversations during breaks. He impressed me as straightforward, approachable, and even a bit humorous. Moreover, he didn't have the strong Cantonese accent that many Hong Kongers do, so there were no barriers to our communication. During our chat, I learned that he was originally from Shanghai and moved to Hong Kong in his youth.

The Lijiang conference seemed to be Mr. Luk's second time participating in a formal actuarial event in China. His first was in late 1999, when he was invited to the "National Insurance Actuarial Symposium" organized by the China Insurance Regulatory Commission (CIRC) in Dalian, Liaoning, to present qualification certificates to the first batch of 43 "Chinese Actuaries".

This event was aimed at resolving the "Chicken-and-Egg" dilemma in China's actuarial profession. They specially invited two senior Chinese actuaries from Hong Kong—Mr. Peter Luk and Mr. Danny Chung—along with Mr. Li Zhenghuai, who was working in Hong Kong, to serve as advisors (examiners) for CIRC. They were responsible for designing and setting the exam questions for the Life Insurance subject, alongside another subject, Insurance Regulations.

On October 9, 1999, CIRC organized a closed-book exam in Beijing for these two subjects, taken by a group of young professionals with some actuarial training and work experience. Out of over 60 candidates, 43 were selected as the first batch of "Chinese Actuaries", who would later become the pioneers in establishing China Association of Actuaries. Unfortunately, the Chinese government was then tightening regulations on social organizations, which negatively impacted the progress of China Association of Actuaries. After many twists and turns, it was not until November 30, 2007—eight years later—that the China Association of Actuaries was officially registered with the Ministry of Civil Affairs. But that's a digression.

Figure 2: Early December 1999, Dalian, Liaoning. National Insurance Actuarial Symposium.
Mr. Peter Luk is second from the left in the front row.

After the Lijiang conference, Mr. Luk attended several subsequent annual conferences, including the 4th in Chengdu (September 2003), the 6th in Qingdao (September 2005), and the 9th in Shenyang (September 2008). He delivered outstanding presentations at both the Chengdu and Shenyang conferences, leaving a particularly deep impression on me.

Figure 3: Group photo of the 4th China Actuarial Annual Conference. Mr. Luk is seventh from the right in the front row.

For example, at the 2003 Chengdu conference, Mr. Luk spoke on Choosing Assumptions—Deterministic and Stochastic Modeling for Life Insurance products. This topic, especially the assumptions about dividend policy interest rates, had sparked heated debates at the Lijiang conference. At the time, the industry was grappling with the issue of interest spread losses accumulated by life insurers due to the low-interest-rate environment. Mr. Luk tackled this challenging topic head-on, sharing his insights.

Similarly, at the 2008 Shenyang conference, his presentation was on Risk Management Models: What to Use and Not to Use, another hot topic. The financial insurance industry was then reeling from the U.S. subprime mortgage crisis, and professionals were reflecting on the role of risk management and actuarial models, and his insights were widely welcomed and recognized by attendees.

After the Lijiang and Chengdu conferences, I became more familiar with Mr. Luk. His presentation in Chengdu particularly impressed me. Following the conference tradition, each speaker's biography and presentation were shared, revealing Mr. Luk's extraordinary background.

Mr. Luk was the first person in Hong Kong to be qualified as a Fellow Actuary. In 1972 - the year I started junior high—he earned his Fellowship from the Actuarial Qualifications of the Institute and Faculty of Actuaries (FIA). By 1976, he had also obtained Fellowships from the Society of Actuaries (FSA, North America) and the Actuaries Institute of Australia (IAAust). Becoming a Fellow of all three major international actuarial bodies was no small feat.

Beyond his exam prowess, Mr. Luk was even more accomplished in practical applications. He had served as the Chief Actuary of AIA, the Appointed Actuary of an Australian accident and life insurance company, and the Chief Financial Officer for Manulife Asia and Pacific Century Insurance Co. He was also the Chief Financial Officer of several finance institutions. He later mentioned working for a prominent Hong Kong real estate firm. His experiences are indeed remarkable!

I began teaching and researching actuarial science at Shanghai University of Finance and Economics (SUFE) in late 1996 while participating in CIRC's efforts to build China's actuarial profession. As a latecomer to the field, I was constantly learning while teaching and working, always eager for guidance from industry experts. I didn't want to miss the opportunity to learn from someone as distinguished as Mr. Luk—not just for myself but also for my students. Mr. Luk is a Shanghai native and owns an apartment on the south bank of the Suzhou River, often staying in Shanghai for a few days after business trips to the China. This provided excellent opportunities for me and my students to seek his advice.

(2) Mr. Peter Luk and the SUFE Actuarial Community

At the time, I was working on a CIRC project about setting venture capital standards, involving complex issues like reserve valuation, risk measurement, and accounting standard changes. Without formal actuarial training, I greatly needed Mr. Luk's guidance—knowledge and experience I couldn't have acquired in classrooms or textbooks.

During our private discussions, we often explored whether he could give a lecture or seminar at SUFE the next day or two for students and faculty. Mr. Luk was always accommodating, saying he was happy to contribute if it truly helped the students and teachers.

It's worth noting that despite his frequent lectures at SUFE, the university never paid him an honorarium or offered him a courtesy title like adjunct professor. He refused such formalities, and most of these events were organized under the name of the Actuarial Committee of the Shanghai Insurance Society, including the biannual publication Actuarial Communications. The Actuarial Committee was established in May 1998, largely inspired by the slogan "Unity is Strength"promoted by Mr. Dominic Lee of AIA. It was co-founded by several Shanghai universities (including Fudan, SUFE, and ECNU) and local insurers, with Professor Shang Hanji of Fudan as chair and me as vice-chair. Over the years, the committee invited several senior actuaries as advisors, including Mr. Luk in 2003. In short, Mr. Luk's contributions to SUFE and the broader actuarial community were entirely voluntary.

Mr. Luk's first visit to SUFE was in early 2004 and continued for at least a decade. Especially after April 2005, when he became a director of PICC Property and Casualty (nominated by AIG, which held a 9.9% stake), he would attend board meetings in Beijing and then stay in Shanghai for a few days, giving us more opportunities to meet and learn from him.

Figures 4-5: February 25, 2004. Mr. Luk discussing "China Life Insurance Experience Mortality Table CL (90-93)" with SUFE actuarial students and faculty.

Figures 6-7: June 2004. Mr. Luk lecturing on "Embedded Value of Life Insurance Companies." The talk was transcribed by SUFE graduate student Xu Xiaowei (second from left in Figure 6) and published in Actuarial Communications Vol. 4, No. 3.

Figures 8-9: November 6, 2006. Mr. Luk's lecture on "Yield Curves and Interest Rate Models."

Figure 10: March 31, 2011. Mr. Luk's lecture on "Solvency II & IFRS 4," followed by a Q&A. His insights were later published in Actuarial Communications Vol. 8, No. 1 (June 2011), titled "Lessons from EU Solvency II for China's Insurance Solvency Regulation."

These events were not exhaustive. One of the most memorable was an afternoon discussion on April 23, 2009, where Mr. Luk engaged with over a dozen SUFE graduate students and several faculty members on The True Role of Risk Management Models—the same topic as his 2008 presentations in Hong Kong and at the China Actuarial Conference.

SUFE graduate student Ling Ling had previously translated and summarized his speech for Actuarial Communications (Vol. 6, No. 3, June 2008), so the discussion was well-prepared. Doctoral candidate Yang Baohua recorded and edited the dialogue, which—after Mr. Luk's review and removal of sensitive content—was published in Actuarial Communications (Vol. 7, No. 1, June 2009) as "Listening to Mr. Peter Luk on Insurance and Actuarial Science". Rereading it today, I still find it brilliant, evoking nostalgia for that teaching atmosphere.

Here's another interesting story from March 31, 2011, the day Mr. Luk visited SUFE to deliver a lecture and engage with faculty and students. In the past, Mr. Luk had always visited SUFE's Guoding Road campus (No. 777). But this time, he was invited to the new campus at Wudong Road (No. 100), formerly the site of the Shanghai Material Engineering School. After the institute relocated, the property was transferred to SUFE, and two office buildings were assigned to our School of Finance. The main building, named Yuxiu Lou (毓秀樓), stood directly facing the campus's main entrance. Since it was Mr. Luk's first time to here, I waited outside the gate to greet him.

"On the afternoon of March 31st, I invited an old friend from Hong Kong to give a talk at the School of Finance. When I met him at the campus gate, I pointed out the building right across from us—our school's new office. His reaction was unforgettable: 'Ah, so this is your School of Finance?! Not bad at all —quite distinctive! Wait a minute... no, the Feng Shui here is all wrong! You shouldn't be able to see the school's entrance directly from the main gate! Think about your own home—when you open the door, you should see a partition screen, not the interior right away, right? This Feng Shui is not right!'"

The quoted text above comes from an essay I later wrote titled "The Feng Shui of Yuxiu Lou (毓秀樓)." The wording is somewhat sharp and not suitable for public publication, so it was only shared privately among colleagues and alumni at the school, yet it attracted considerable attention. Whether by coincidence or not, the school later built a "screen" between Yuxiu Building and the campus gate, replicating the entrance of the Shanghai Business School (SBS) in an historic style—so the building can no longer be seen directly from the main entrance of the campus. Whether this truly improved the "Feng Shui" - particularly for our actuarial science program, can only be verified by those who take the initiative to investigate.

(3) The Fascinating Mr. Peter Luk

I often reflect that the greatest "blessing" in my life has been meeting a group of "noble mentors" who have guided and helped me. Among them, Mr. Luk is undoubtedly the most influential and my favorite in the actuarial circle. Every time we met, I felt my understanding deepen.

The student-teacher relationship is like this: if a student particularly admires a teacher, that teacher's influence grows. And what makes a teacher admirable isn't just his knowledge but his character—whether he is interesting and engaging.

Mr. Peter Luk is one of the most capable and fascinating people I've ever met.

His story of quitting smoking, first shared in Actuarial Communications (Vol. 4, No. 4, December 2004), became a well-known anecdote in the actuarial community. He told me this story over a meal in Shanghai when smoking was still allowed in restaurants (with designated smoking and non-smoking sections). I asked if he smoked or minded others smoking, and he said he used to smoke heavily—up to four packs a day—but had quit completely and never relapsed. Skeptical, I pressed for details, and his unconventional method of quitting left me astounded. I later wrote about it for others to enjoy. (See the appendix for those unfamiliar with the story.)

The smoking story exemplifies his blend of wisdom and humor. But Mr. Luk also shared many less-wise, even embarrassing, anecdotes.

For instance, he once became obsessed with hot dogs, eating them daily until he decided to buy a hot dog grilling machine—perhaps considering opening a stand. Only after purchasing it did he realize how impractical it was, so he shipped it to a warehouse in suburban Shanghai. I jokingly suggested keeping it on my balcony for student barbecues, to which he immediately replied, "Are you sure? I'll deliver it now, but no take-backs!"—scaring me into retracting the offer.

Another time, he impulsively bought a high-end sports car in Hong Kong, which was impractical for his age and position, not to mention fuel-inefficient. He rarely drove it and couldn't even give it away to family or friends.

Then there was the time he was persuaded to take up yoga in his later years, supposedly for flexibility benefits. After just a few sessions, he strained his back and legs, making walking difficult and stairs impossible. Since I lived on the fifth floor without an elevator, he never visited my home again for tea or chats.

Mr. Luk also admitted that his biggest life mistake was deciding to emigrate to Australia before 1997. Though he later cut his losses and returned to Hong Kong, the ordeal came at a high cost.

Finally, in the next issue, I will include two articles originally published in Actuarial Communications: one titled "Listening to Mr. Peter Luk on Insurance and Actuarial Science" and the other "How Mr. Luk Quit Smoking." Through these pieces, readers can gain deeper insights—both professional and personal—into this pioneering actuary, Hong Kong's first Chinese Fellow. ■

ASHK DIRECTORY OF PARTICIPATING BUSINESS COMMITTEE INDEPENDENT MEMBERS

The ASHK has launched the Directory of Participating Business Committee Independent Members to support insurance companies in setting up Participating Business Committees (PBC).

Well-designed participating savings policies within well managed and strongly governed participating funds, offer an attractive way to savers of providing the potential for benefiting from long-term investment returns from a range of asset classes and a degree of sharing in the overall performance of the fund, while providing protection from unexpected volatility in such performance.

The Insurance Authority has proposed that insurers should set up a PBC to provide independent and objective advice to the Board in respect of applicable participating funds. The details are as follows:

- The PBC should operate independently and report directly to the Board, so as to support informed decision making which takes into account the fair treatment of customers and equity between shareholders and policy holders.
- There should be PBC members who are independent of the insurer.
- The PBC as a whole should have an appropriate balance of different skills, knowledge and experience (include actuarial, legal, investment, risk management, accounting, finance, etc.) in areas relevant to the management of participating business, as needed for the effective functioning of the PBC.

As actuaries, many ASHK Fellow members are well qualified to fulfil these positions. Hence, the ASHK has compiled a directory of FASHK members who have expressed interest in serving as independent PBC members. Insurers may select and request from ASHK the contact details of specific members in the directory and connect with them by completing and returning the request form to info@actuaries.org.hk. ■

INSPIRING TOMORROW'S ACTUARIES: CULTIVATING TALENT FOR A BRIGHTER FUTURE

ASHK is dedicated to shaping the future of the actuarial profession by nurturing aspiring actuaries. We are grateful to our members who volunteered their time for the recent Actuarial Career Talks at universities first semester of the 2024/25 academic year.

By inspiring students to look beyond numbers and formulas, we encourage them to recognise their potential for driving meaningful change. These talks foster a sense of community among students, creating a supportive network of future actuaries. Connecting with established professionals provides valuable insights into various career paths and the impact they can have on society.

Being an actuary involves much more than calculations; it is about using data to address pressing global concerns. ASHK not only informs but also inspires, cultivating the next generation of actuaries committed to making a positive difference.

If you are interested to connect with university students, please reach out to the ASHK office.

(from left) Flora Chan from Manulife and Candy Chan from Sun Life speaking to actuarial study students at the Hang Seng University of Hong Kong about the issues affecting actuaries with Generative AI.

(from left) Terry Chen from PwC and Matsuta Ng from AIA highlighting the importance of actuarial profession to students at the City University of Hong Kong.

Isabella Chan from HSBC Life speaking to students at the University of Hong Kong about the latest issues facing actuaries.

Catherine Lu from Milliman sharing her experience in General Insurance with students at the Hong Kong University of Science and Technology.

BE PART OF THE FUTURE:
JOIN THE GAIP COMPETITION AND ASHK COMMUNITY!

ASHK is proud to support the Hong Kong leg of the Global Asia Insurance Partnership (GAIP) Insurance Innovation Competition 2025, which will be hosted by The University of Hong Kong and sponsored by Prudential Hong Kong. This prestigious event encourages innovation in the insurance sector, providing students with a platform to showcase their talents.

This year's theme, "Insurance Innovation," invites participants to develop real-world solutions that can transform the industry. The competition consists of local rounds hosted by partner universities and a global final at Nanyang Technological University in Singapore. The winning team will represent Hong Kong and compete for cash prizes ranging from USD 3,000 to USD 15,000.

More than a competition, this event highlights the creativity and critical thinking vital for advancing the actuarial profession. Students can enhance their analytical and presentation skills while learn from industry leaders. Likewise, we encourage students to join ASHK as members to access networking opportunities, exclusive internships, and mentorship that will support their professional journey.

Together, let's invest in innovation and empower the next generation of actuaries and professionals to lead the insurance industry into the future. Best of luck to all participants; your impactful journey starts now! For details, please visit here.

The GAIP Insurance Innovation Competition 2025 Opening Ceremony was officiated by esteemed guests.

(from left) Ms Jasmine Kwong, Communications and Committee Manager of Hong Kong Federation of Insurers; Mr Steve Hui, President of ASHK; Professor Yi Ma, Director of School of Computing and Data Science of The University of Hong Kong; Ms Candy Au Yeung, Chief Customer Operations and Health Officer of Prudential Hong Kong; Dr Bowen Wong, Honourary Secretary of Life Underwriters Association of Hong Kong.

Mr Steve Hui, President of ASHK, gave a speech at the Opening Ceremony.

YOUNG ACTUARIES GROUP (YAG) CAREER SHARING NETWORKING EVENT

On 19 June, the ASHK Young Actuaries Group (YAG) kicked off its first event with a career sharing networking session. Over 30 actuaries attended to engage with three accomplished actuaries: Anthony Chan, Chris Tam and Candy Chan. The event was hosted by YAG Vice-chair Wilson KC Wu. The speakers shared their career progression, professional insights, and experience. The evening provided a fantastic opportunity for progressive young actuaries to connect with their peers, expand networks, and gain valuable career advice over a drink and snacks. Also, thanks to Deloitte for providing the venue.

More photos can be found in the event page. Stay tuned for future YAG activities!

(From left) Wilson KC Wu, Anthony Chan, Chris Tam and Candy Chan

THE SPORTS AND SOCIAL SERVICES GROUP (SSSG)

The SSSG group has been on a roll, organizing a fantastic lineup of social activities for ASHK members over the past three months. It's wonderful to see more members engaging with our events! From a thrilling football game in April that showcased our athletic spirit beyond the workplace to our first social service initiative with the Hans Andersen Club in May, it's been a great time full of fun and connection. A huge thank you to all the participants who dedicated their time and effort to make this initiative a success! The last ASHK hiking received enthusiastic support so the second ASHK hiking to Sai Kung Sham Chung was organized on 17 May with very friendly sunshine and coastal views.

If you missed out, don't worry—there's so much more to come. Stay tuned for our upcoming SSSG events!

Football friendly game on 15 April

Sai Kung (Sham Chung) Hike on 17 May

ASHK 2025 SOCIAL SERVICES INITIATIVES

EMPOWERING FUTURE FINANCIAL WIZARDS WITH HAC（理財小達人）

Amy Chan

The ASHK, in collaboration with the Hans Andersen Club (HAC), successfully organized two enriching sessions on financial planning for underprivileged teens on 3 May and 10 May 2025. As the coordinator and a volunteer for the first social service activity organized by the ASHK Sports and Social Services Group (SSSG), I am thrilled to share the highlights and reflections from this collaborative effort.

These sessions aimed to impart financial literacy to teens from P.5 to S.3 levels through engaging activities such as storytelling, games and competitions. The enthusiasm and eagerness to learn displayed by the participants exceeded our expectations. Many joined with the intent to understand better money management, some were motivated by personal experiences of overspending their pocket money, while others aspired to careers in accounting.

During the first session, ASHK volunteers guided the participants to reflect on their spending habits and distinguish between “needs” and “wants” using psychological tests. They introduced the concept of the 3Ss – saving, spending, and sharing – through storytelling and piggy bank crafting. In the second session, two competitions were conducted: (i) the price guessing competition; and (ii) the smartest consumer (i.e., using the least amount of money to purchase specified quantities of food and drinks). These activities aimed to teach the participants the concept of rational spending and budgeting. Last but not least, the participants received a brief introduction to the actuarial profession, aimed at promoting the field to diverse groups and sparking their interest.

The positive feedback from both the participants and HAC suggests that they found the sessions both enjoyable and valuable. On a personal note, being involved in this event has been enlightening. I gained insights into HAC's impactful work supporting underprivileged children and teens in the neighborhood. The HAC staff's expertise in engaging youth through storytelling was instrumental, yet our ASHK volunteers impressed everyone with their preparation and creativity. They supplemented HAC's materials with lively examples and engaging facts, enhancing the learning experience of the participants.

Notably, HAC staff praised the storytelling skills of Christie Lee and Keith Fung, noting their proficiency was on par with HAC's team. The participants enjoyed the DIY session led by Peggie Chon to make paper piggy banks. Moreover, Sam Yeung's closing message resonated deeply with the participants, emphasizing the importance of self-investment through knowledge and skill-building, aligning with HAC's advocacy for learning through reading and activities.

In conclusion, this collaboration between ASHK and HAC not only benefited the participants but also enriched us as volunteers. We look forward to future opportunities to engage and inspire young minds in meaningful ways.

(From left) Amy Chan, Keith Fung, Christie Lee, Peggie Chon, KP Wat, Dominic Lee (3 May 2025)

(From left) Amy Chan, Keith Fung, Dominic Lee, Sam Yeung, KP Wat (10 May 2025)

STUDENT CORNER - PREPARE FOR YOUR ACTUARIAL CAREER

Asset-Liability Management: applying the textbook in the workplace

Welcome to this section which has been exclusively prepared for our student members!

In the last edition of Actuzine, there were two very interesting articles about Asset-Liability Management (ALM), but they may have been a little advanced for students who haven't done more advanced courses yet. So to help close the gap, we're going to build up what this concept means.

ALM is crucial for ensuring the financial health and stability of insurance companies – and it does so by making sure that the nature of the assets are in various ways aligned with the nature of the liabilities.

One key concept is Duration Matching, a risk management strategy to minimize interest rate risk. In fact, it's such a key concept that many people think ALM stands for Asset-Liability Matching, instead of *Management*!

What is Duration?

The duration of a set of cashflows (whether they are assets coming in, or liabilities to be paid out) refers to the timing of those cashflows, how far in the future they are paid out. But since cashflows are not just single sums of money, when we talk about the duration of a portfolio, we usually refer to the DMT (discounted mean term), which is the average timing of the net present value of those cashflows.

So, what is Duration Matching?

Duration Matching is a strategy where an insurance company aligns the durations of its assets with liabilities. By matching the durations of assets and liabilities, in other words making sure that the duration of the assets is close to the duration of the liabilities, companies aim to reduce the risk of cash flow mismatches arising from fluctuations in interest rates.

Simple Numerical Example

Consider an asset which pays $163 in 10 years' time and a liability which is due to pay $265 in 20 years' time. At 5%, they are both worth $100 now – so Asset = Liability.

However, if interest rates fall by 0.5%, the discounted value of the asset cashflow is now $105, and the discounted value of the liability cashflow is now $110. Suddenly we discover that Asset < Liability, even though the only change was interest rates.

Our simple insurance company has just gone insolvent.

It is therefore clear that we need to manage our assets and liabilities better, with duration clearly being very important.

How Does Duration Matching Help Mitigate Risk?

Let's break down the asset and liability components of an insurance product. Insurers collect premiums from policyholders, which form their liabilities - the future obligations to pay out claims. These liabilities have certain durations based on when claims are expected to be paid. On the other hand, insurance companies invest these premiums in various assets such as bonds and equities. Each asset generates cash flows over time, which also have specific durations.

By matching the durations of assets with liabilities, insurance companies ensure that they have enough funds available at the right time to meet their obligations. For example, long-term life insurance liabilities would require investments in long-duration bonds or inflation-linked securities. Insurer could also utilize hedging strategies with derivatives, such as interest rate swaps and bond forwards, to mitigate duration mismatch.

It's common for insurers to allocate assets into a variety of asset classes - bonds, equities, properties, alternative investments (such as private debt and infrastructure), etc. Each asset class has unique risk-return characteristics and responds differently to market conditions, which could balance and diversify the overall portfolio risk. Also, the asset portfolio should be regularly reviewed and rebalanced according to market conditions, risk appetite, and liability profiles. This helps ensure that the diversification strategy remains effective over time.

Why is Duration Matching Important?

Duration Matching is essential for insurance companies from several perspectives:

1. **Risk Management:** Matching durations helps mitigate the risk of interest rate fluctuations and reduce balance-sheet volatility.
2. **Liquidity Management:** By aligning cash flows from assets with liabilities, insurance companies can maintain adequate liquidity to meet future policyholder claims and other obligations.

3. Stability and Predictability: Duration Matching provides stability and predictability in cash flows. This allows companies to better plan for the future and effectively manage their financial health.
4. Regulatory Compliance: Many regulatory bodies require insurance companies to maintain a certain level of ALM to ensure adequate solvency and protection for policyholders.

Find Out More in Q1 Actuzine

In our last issue of Actuzine, we had feature articles discussing ALM, particularly focusing on participating products. You could find deeper discussions on ALM - "Many simple see it serving a matching function, by aligning asset and liability cash flows to effectively eliminate interest rate and mismatch risks. And while that is part of it, true ALM goes so much deeper."

Recently, due to the transition to actuarial valuation on an economic basis, participating products with low guarantees have gradually dominated the Hong Kong insurance market. Therefore, it's important to understand what makes the ALM of participating products different compared with traditional non-participating products. Two key distinctions are mentioned:

- **Non-linearity:** Insurers offering participating products face asymmetrical investment risk. While they only get a portion of the upside in good investment scenarios due to profit sharing, they are fully liable for covering shortfalls when investment returns are insufficient to meet guaranteed benefits. Managing this non-linearity requires specific ALM considerations, potentially using option-based techniques.
- **Conflict of Interest:** ALM for participating funds is not just about the risk and return trade-off. It requires balancing the potentially conflicting interests between shareholders and policyholders.

With these two distinctions for participating products, extra ALM considerations (besides Duration Matching) are needed, such as:

- ALM strategies for participating products need to align with policyholders' long-term expectations, specifically PRE (Policyholders' Reasonable Expectations).
- Require balancing interests between the company and policyholders.
- Ensure sufficient effort to protect the solvency of the participating funds and prevent capital shortfall to policyholder obligations in case of financial distress.

We encourage you to go to the Q1 edition for these articles for a deeper discussion on ALM for participating products and the ALM control cycle. You would know more about the asset share methodology, waterfall of benefits, risk implication of policy charges, dividend determination, hedging and portfolio management strategy, ...

Stay tuned for future volumes for more sharing on interesting actuarial topics (And please let us know if there are any particular topics you'd like us to address).

STUDENT VOLUNTEERING EXPERIENCE SHARING

As a final year student pursuing a Bachelor of Science in Risk Management at The University of Hong Kong, I have been fortunate to participate in several meaningful ASHK activities this year. These experiences have not only contributed to my personal growth but also significantly expanded my professional network within the actuarial and insurance industries.

In May, I had the privilege of serving as emcee for the opening ceremony of the Global Asia Insurance Partnership (GAIP) Insurance Innovation Competition 2025 supported by ASHK. This competition provides a platform for students to showcase their analytical, research, and presentation skills by proposing real-world innovations in the insurance sector. Hosting this event was an incredible experience that pushed me well outside my comfort zone. Speaking in front of a large, diverse audience of industry professionals, academics, and fellow students taught me valuable public relations techniques and significantly improved my confidence in public speaking. The role also enhanced my team collaboration skills as I worked closely with other organising staff to ensure a smooth ceremony.

In addition, I participated in two ASHK football events. These social activities demonstrated how professional networking can extend beyond formal settings. These matches provided a unique opportunity to connect with senior actuaries in a relaxed, social environment. Playing alongside experienced professionals allowed me to build genuine relationships while enjoying the game. It was refreshing to see how approachable and down-to-earth these industry veterans were, breaking down the traditional barriers between students and professionals.

I am grateful to ASHK for creating such valuable platforms for student engagement I look forward to continuing my involvement with the organization as I progress in my studies and career and would like to encourage more actuarial field students to join ASHK.

STUDENT EXPERIENCE WITH SSSG ACTIVITIES SHARING

My adventure with ASHK's Sports and Social Services Group (SSSG) began this spring when I joined three wonderful events that have enriched both my social connections and personal growth.

On 1st April, I attended the Bridge for Beginners class conducted by Mr. T C Cheng. Having always wanted to learn this strategic card game but never finding the opportunity, this session provided the perfect introduction. The class was both challenging and engaging, teaching me the fundamentals while highlighting how much more there is to master. I'm looking forward to practicing what I've learned.

The Sai Kung (Sham Chung) hiking trip on 17th May was truly memorable. Walking through Hong Kong's beautiful countryside alongside experienced actuaries created a relaxed atmosphere for meaningful conversations. During our shared lunch, I received valuable career advice from professionals who were once in my position. Connecting with fellow university students who share similar aspirations was equally rewarding.

Most recently, on 2nd June, I participated in a friendly football match against WTW at Happy Valley playground. As a football enthusiast, playing alongside actuaries who share my passion for the sport was exhilarating. The game perfectly blended my love for football with professional networking.

Throughout these events, Dr. KP Wat kindly introduced me to several senior actuaries, helping me build important connections in the field. These experiences have shown me that the actuarial community extends beyond office walls and technical work.

I strongly encourage all student members to join SSSG activities. They offer unique opportunities to connect with industry professionals in relaxed settings while pursuing interests beyond actuarial studies. These experiences have certainly enhanced my understanding of the profession and expanded my network in ways classroom learning cannot provide. ■

NETWORKING SEMINAR:
EMERGING AI TOPICS FOR THE ACTUARIAL PROFESSION

On 3 April 2025, the ASHK AI Group hosted an insightful seminar focused on the evolving role of artificial intelligence within the actuarial profession. This event followed the launch of the International Actuarial Association's (IAA) Artificial Intelligence Task Force in 2024, aimed at enhancing awareness of AI among actuaries.

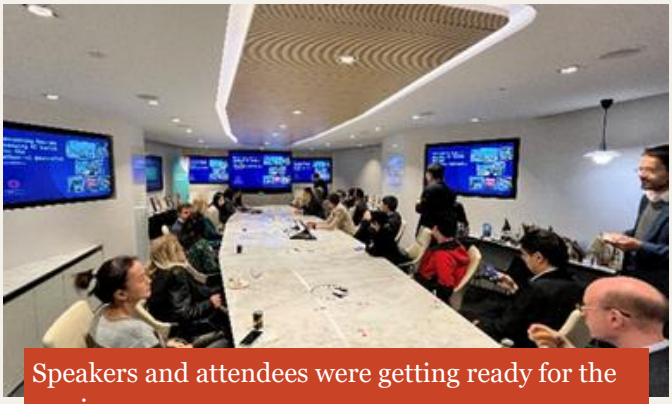
The seminar featured speakers Yee Yung Yong, Chadwick Cheung, and Leandro Ao who are members of the IAA AI Task Force. They discussed their work with the taskforce and provided an exclusive preview of upcoming developments in 2025. Topics covered included:

- Insights on the potential impacts of AI on the actuarial profession, including professionalism considerations for actuaries working with AI technologies.
- Detailed deliverables from the AI Governance workstream, particularly focusing on the Testing Guidance Notes.
- Experiences shared regarding AI underwriting model validation in the life insurance sector.
- Recent advancements and results from the AI Innovation workstream.

A special thanks to KPMG for sponsoring the venue. Attendees engaged in meaningful discussions about the latest AI challenges facing actuaries while enjoying refreshments with the speakers.

More photos can be found in the event page.

Sherry Du, Vice Chairperson of the ASHK Innovation Committee, welcomed the participants.



Speakers and attendees were getting ready for the seminar.

Thank you to the speakers' contribution and participation of representatives from Insurance Authority. (from left to right): Yee Yung Yong, IA representative, Chadwick Cheung, Leandro Ao

PROFESSIONALISM WEBINAR 2025

The professionalism webinar on Professional Negligence Law in Hong Kong was successfully delivered by the ASHK Honorary Legal Advisor, Iris Cheng of MinterEllison LLP Hong Kong. She shared her valuable insights with a number of real-life case studies on the key principles of professional negligence and how it is relevant to actuaries. We also thank Flora Chan, Professional Matters Committee Chairperson for moderating.

Professional negligence law is a topic that actuaries may not be too familiar with. As professionals, it is crucial that actuaries are aware of the legal responsibilities and potential liabilities associated with any professional actions, such as pricing, reserving or risk management.

(From left) Flora Chan, Iris Cheng

(From left) Steve Hui, Flora Chan, Iris Cheng, Roddy Anderson

MEMBERSHIP UPDATE

NEW MEMBERS

Name	Company/ University	Membership
Chak Sum Leung	Manulife HK	Associate Member
Chi Hin, Gary Tam	AIA	Associate Member
Chun Wah Ho	CTF Life Insurance Company Limited	Associate Member
Lu Pan	AIA	Associate Member
Man Yin Lai	Peak Re	Associate Member
Michael Richard Celichowski	RGA	Associate Member
Pok Man Yu	AIA	Associate Member
Richmond See	AIA	Associate Member
Syed Ali Haider	AIA Group	Associate Member
Thomas Martin Lindsay	Munich Re	Associate Member
Ting Wai Lam	Dah Sing Bank Ltd	Associate Member
Wai Hang Ho	AIA	Associate Member
Ying Zhang	PingAn Insurance	Associate Member
Zichao Zhao	Ernst & Young Advisory Services Ltd	Associate Member
Zihao Li	Zurich Insurance Com Ltd	Associate Member
Chung Kin Chow	FWD	Ordinary Student member
Man Yin, Mervin Cheng	AIA	Ordinary Student member
Anthony Kwun Lam Chan	The University of Hong Kong	University Student member
Bang Linh Dao	The University of Hong Kong	University Student Member
Benoit Sinlong Kwok	The University of Hong Kong	University Student Member
Brian Poon	The University of Hong Kong	University Student Member
Calum Naveen Hapugasdeniya	The University of Melbourne	University Student Member
Chak Ching Chan	City University of Hong Kong	University Student Member
Chengwei Zhang	The Hong Kong Polytechnic University	University Student Member
Ching Tung Lam	The University of Hong Kong	University Student member
Ching Yee Lo	The University of Hong Kong	University Student Member
Chun Ho Yeung	The University of Hong Kong	University Student Member
Chung Ng	The University of Hong Kong	University Student Member
Clinton Chui	Hong Kong University of Science and Technology	University Student Member

MEMBERSHIP UPDATE

NEW MEMBERS

Name	Company/ University	Membership
Cyrus Chung Hin Yiu	University of New South Wales	University Student member
Dexin Cai	The University of Hong Kong	University Student Member
Dong Xing	The University of Hong Kong	University Student Member
Fangyu Zhao	The University of Hong Kong	University Student Member
Hansen Wang	The University of Melbourne	University Student Member
Hanyu Chen	The University of Hong Kong	University Student member
Harry Gardner	King's College London	University Student member
Ho Chun Chiu	The Chinese University of Hong Kong	University Student Member
Hoi Ying Chu	The University of Hong Kong	University Student member
Jacob Kirakosian	University of California, Los Angeles	University Student member
Jared Kwai Leung Sy	University College London	University Student Member
Jiatong Zou	The Chinese University of HongKong	University Student Member
Jiaxu Wang	The Chinese University of Hong Kong	University Student Member
Ka Long Lee	University of California, Los Angeles	University Student Member
Ka Ming Chan	Hong Kong University of Science and Technology	University Student Member
Ka Po Wong	The University of Hong Kong	University Student Member
Kunpu Zhang	The University of Hong Kong	University Student member
Kunyi Li	The University of Hong Kong	University Student Member
Kwan Nok Chin	The University of Hong Kong	University Student member
Larry Zhang	University of Melbourne	University Student member
Lavie Kolchinsky	The University of Melbourne	University Student Member
Li Xiang	The Chinese University of Hong Kong	University Student member
Liangze Weng	The University of Melbourne	University Student Member
Man Yi Leung	The University of Hong Kong	University Student Member
Ming Chen	The University of Hong Kong	University Student Member
Muk Yan Matthew Woo	The University of Hong Kong	University Student Member
Qirui Zhao	The University of Hong Kong	University Student Member
Samuel Yakobus	The Chinese University of Hong Kong	University Student Member
Shaowen Chen	The University of Hong Kong	University Student Member
Simon Vu	The University of Melbourne	University Student Member

MEMBERSHIP UPDATE

NEW MEMBERS

Name	Company/ University	Membership
Somboon Thong-In	City University of Hong Kong	University Student member
Tianwang Xue	The Hong Kong Polytechnic University	University Student Member
Tsz Ching Lung	City University of Hong Kong	University Student member
Tsz Hin Ho	The University of Hong Kong	University Student Member
Tsz Ki Leung	The University of Hong Kong	University Student Member
Tsz Ting Chan	The University of Hong Kong	University Student member
Tung Chum	The Chinese University of Hong Kong	University Student Member
Wing Yee Winky Lai	The University of Hong Kong	University Student member
Xintong Chen	The Chinese University of Hong Kong	University Student Member
Xuanyu Shen	The Chinese University of Hong Kong	University Student member
Xuefei Wu	Hong Kong University of Science and Technology	University Student Member
Yat Shing So	The University of Hong Kong	University Student member
Yi Zhong	The Hong Kong Polytechnic University	University Student member
Yin Ye	The Hong Kong Polytechnic University	University Student member
Yingcong Xue	The University of Hong Kong	University Student Member
Yuen Pui Tsoi	The University of Hong Kong	University Student member
Yuk Yi Chan	City University of Hong Kong	University Student member
Yuzhen Xiao	The University of Hong Kong	University Student Member
Zheng Yueyang	The Hong Kong Polytechnic University	University Student member
Zhuoling Zhong	The University of Hong Kong	University Student Member
Zihao Yan	The University of Hong Kong	University Student Member

UPCOMING EVENTS

02 Sep 2025

GI Conference (details)

09 Oct 2025

Innovation Conference
(Stay tuned)

04 Nov 2025

Health Insurance Conference
(Stay tuned)

21 Nov 2025

Appointed Actuaries Symposium
(Stay tuned)

actuview
smart streaming for actuaries

ASHK & actuview: Advancing Actuarial Knowledge Across Asia

Since its launch in 2019, actuview has been at the forefront of continuous learning in the actuarial world. Originally developed as a virtual offering for the International Congress of Actuaries (ICA) 2018 in Berlin, it became the first streaming platform designed specifically for actuaries. Today, actuview serves a global audience, providing expert content and networking opportunities with more than 80 partners, including national associations, institutions, and industry leaders.

A Strong Partnership with ASHK

Asia is a key region for actuview, with thousands of actuaries already benefiting from its extensive video library, live sessions, and expert discussions. With its growing presence in the region, actuview continues to expand its reach, ensuring that actuaries stay informed on the latest industry trends, research, and innovations.

For the past four years, actuview has collaborated closely with the Actuarial Society of Hong Kong (ASHK) to enhance actuarial education and professional development in the region. As an actuview partner, ASHK provides its members with access to actuview's high-quality content, enabling them to stay up to date with industry advancements. This partnership strengthens actuview's mission of fostering global knowledge exchange while supporting ASHK in delivering valuable learning opportunities to its members.

actuview at the Asian Actuarial Congress 2024

As a media partner of the AAC 2024 in Hong Kong, actuview supported the event's hosts at every stage – from the Call for Papers to publishing the congress recordings post-event. Thanks to this, not only the participants but all ASHK members and actuview users still have access to the recorded sessions from this extraordinary event at https://actuview.com/events/138.

actuview is looking forward to present further high-quality congress content from the Asian region on its streaming platform in the coming years. Watch this space!

Join the actuview community today and be part of the future of actuarial learning. Contact the ASHK office for your personal registration code and explore more at **actuview.com**.

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- This program is open to both actuaries and non-actuaries.

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Resources

Climate Risk Certificate

Reimbursement Procedures

FAQ

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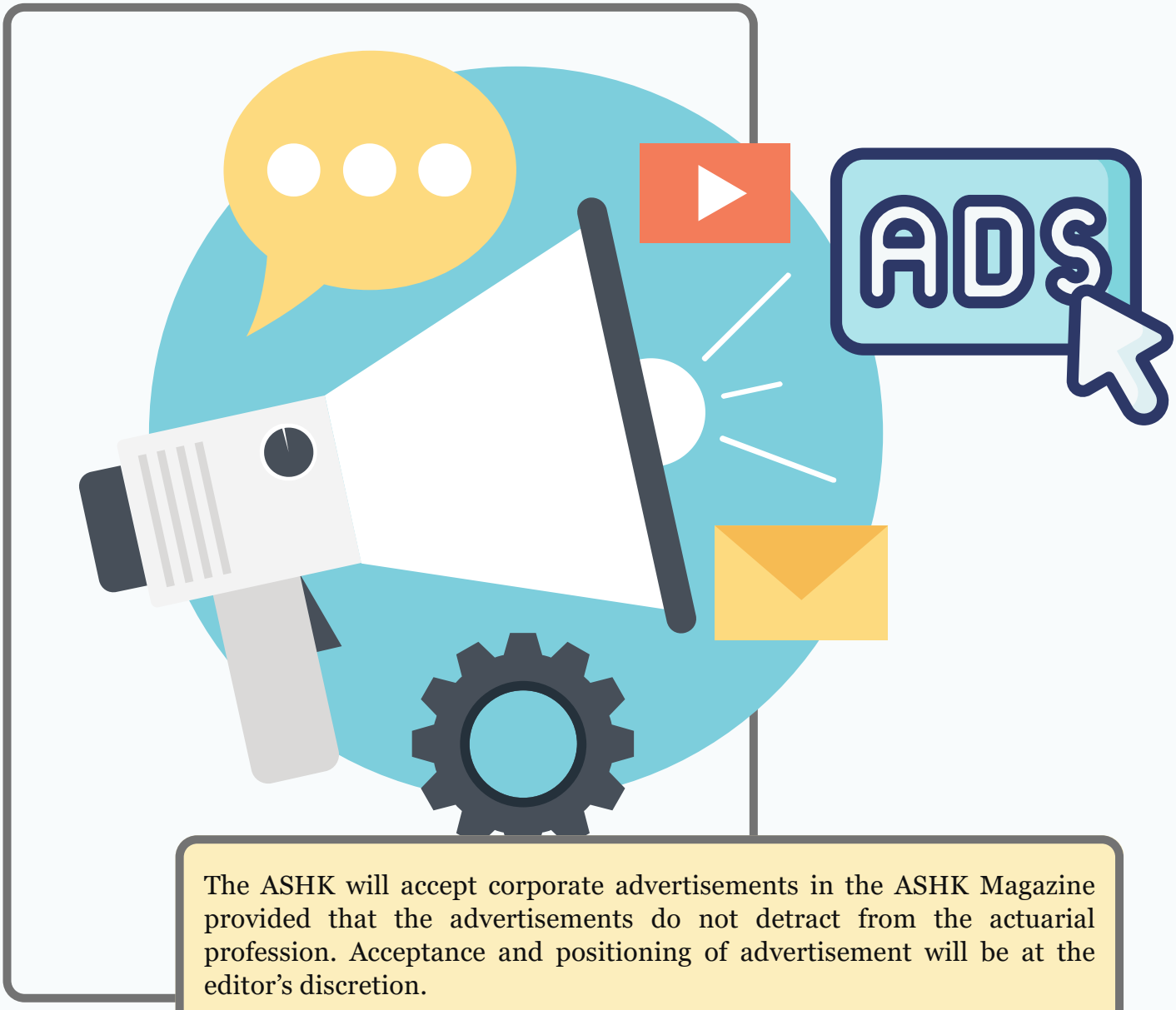

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ACTUZINE 精誌

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懷舊特輯

我所認識的陸健瑜先生

謝志剛
英國利茲大學博士
英國精算師協會榮譽會員

（一）相識於中國精算年會

與陸健瑜(Peter Luk)先生初次相識，是2002年9月末，在雲南麗江，參加第三屆中國精算師年會，陸先生當時即將再次出任香港精算學會主席，他代表香港精算學會參加大陸的精算師年會。

圖 1：年會與會者合影，前排右四為陸健瑜先生

在麗江年會上，陸健瑜先生沒有作報告，我們只在會間有些隨意聊天。他給我印像是講話樸實、親和、還帶些幽默，而且他講話沒有香港人講話時濃重的廣東腔，所以交流起來完全沒障礙。聊天中得知他原本是上海人，青年時期才移居香港的。

出席麗江年會，似乎是陸健瑜先生第二次參加大陸較正式的精算活動。之前的一次，是1999年末，他被邀請參加由中國保監會組織在遼寧大連的「全國保險精算座談會」，為遴選出的第一批43名「中國精算師」頒發資格證書。這次活動的背景，是中國保監會為了解決「雞生蛋還是蛋生雞」的難題，特別邀請香港的兩位資深華人精算師陸健瑜先生和鍾煦和先生，加上當時在香港工作的李政懷先生，邀請他們三位作為保監會的顧問（考官），負責《壽險》這個科目的試題設計和試題，連同另一科目《保險法規》，組織了保險業內一批有一定精算學習和工作經驗的年輕人，於1999年10月9日在北京舉行了上述兩門課程的閉卷考試，上、下午各考一門。經過考試，從六十餘人中遴選出43位作為第一批「中國精算師」，讓他們成為中國精算師職業組織建設的發起人。可惜的是，政府當時正開始大力整頓各類社團組織，此事負面影響了中國精算師職業建設的進程，經歷了各種曲折之後，直到八年後的2007年11月30日，中國精算師協會才正式在中國民政部登記設立。這是題外話。

圖2：1999年12月初，遼寧大連，全國保險精算座談會，前排左二為陸健瑜先生。

麗江年會之後，陸健瑜先生接著又參加了隨後的多屆年會，包括2003年9月在成都召開的第四屆年會、2005年9月在青島召開的第六屆年會和2008年9月在沈陽召開的第9屆年會。而且，他在成都年會和瀋陽年會上都有非常精彩的專題報告，給我的印象特別深。

圖3：第四屆中國精算年會大合影，前排坐席右七為陸健瑜先生。

例如，在2003年成都年會上，陸健瑜先生報告的題目是關於如何確定壽險產品的預定假設(Choosing assumptions—deterministic and stochastic modeling)。這個議題，尤其是其中關於分紅險產品的預定利率假設，曾經在麗江年會上有過激烈的爭論，因為當時正處於相對低利率的市場環境，壽險公司歷年來所累積的利差損問題成為全行業的焦點問題。陸先生迎難而上，針對關鍵議題發表自己的觀點。

又如，在2008年沈陽年會上，陸健瑜先生報告的題目是關於風險管理模型的真實作用(Risk Management Models: what to use and not to use)，也是當時的行業焦點問題。因為，彼時的金融保險業，正處於由美國次貸危機引發的金融海嘯環境中，業界正在反省和討論風險管理與精算模型的作用，他的報告內容受到與會者的廣泛歡迎和認可。

經過麗江和成都連續兩屆年會，我與陸健瑜先生開始熟悉起來了，尤其是在成都年會上聽了他的發言，感覺特別好。而且按照年會的慣例，公佈了每位演講者的履歷和講稿，從中得知了陸先生的非凡經歷。

陸健瑜先生是香港第一位取得精算師資格(Fellow)的人，1972年，就是我剛上初中一年級那年，他在香港獲得了英國精算師資格(FIA)；1976年又取得北美精算師(FSA)和澳大利亞精算師(FIAAust)資格，能成為國際三大精算組織的正會員，這也太厲害了吧?!

不僅是精算學習和考試能力方面厲害，陸先生在實踐應用方面似乎更厲害，他做過友邦保險的總精算師(Chief Actuary)，做過澳大利亞意外傷害和壽險公司的委任精算師（Appointed Actuary），還做過中宏保險亞洲區（Manulife Aisa）和盈科保險（Pacific Century Insurance Co.）的財務總監，做過多家金融機構的首席顧問。他後來還跟我說起曾為香港某著名房地產公司工作。真是經歷非凡啊!

我自己從1996年末開始在上海財大金融學院從事並負責精算專業的教學與研究，同時參與保監會組織的中國精算職業制度建設活動，屬於「半路出家」，邊學邊教邊做，內心裡一直渴求業內專家的指導和幫助，因此不想錯過陸健瑜先生這樣優秀的老師，不僅我本人需要，我的學生們更需要，而且因為陸先生是上海人，還在上海蘇州河南岸有一套公寓房，幾乎每次來內地公幹後都會回上海小住幾天，這也成為我和我的學生們向他請教的絕佳機會。

（二）陸健瑜先生與上海財大精算師生

自2003年成都年會起，我與陸健瑜先生在上海有了較多的交流與交往。模式基本上是固定的：他回上海小住期間，先與我約了相聚半天時間，時長4-5個小時，或是先吃飯後喝茶，或是先喝茶後吃飯，邊吃邊喝邊聊，主要內容更像是他給我授課，我通常會提前準備一些困惑不解的疑問拋給他。那時候，我正承擔中國保監會關於設定創投標準的課題，裡面牽涉有準備金評估、風險計量、會計準則變更等複雜議題，而我自己並未受過系統的精算專業訓練，迫切需要陸健瑜先生的教誨，而且我敢肯定，他教給我的這些知識和經驗，絕對不是學校課堂里或教科書上可以學到的。

在我們單獨交流的期間，也通常會商討是否可以就某個專題，請他在第二天或第三天再到上財校園裡來給我們的同學和老師們做一次講座、討論或對話？陸健瑜先生很隨和，說只要對學生及老師確實有幫助，他就樂於來溝通。

需要補充說明一下，雖然他到上財給學生和老師們講課與交流很多，學校卻從未給過他任何講課費或是兼職教授等虛銜，一是他拒絕接受這些，二是我們當時組織這些活動大多是以「上海市保險學會精算專業委員會」名義舉辦，包括每年編輯出版兩期《精算通訊》，這類講座活動和其他高校人士。這個「精算專業委員會」成立於1998年5月，很大程度上聽取了友邦保險李達安先生關於「團結就是力量」的倡議，由復旦、上財、華師大等多所高校和滬上多家保險公司共同發起成立，復旦大學尚漢冀教授擔任主任，我任副主任。專委會自成立以來，陸續邀請過一些資深精算師當顧問，陸健瑜先生是其中之一，是2003年受邀擔任顧問的。總之，陸健瑜先生對上財師生、包括對參與他講座和交流的人，都是純公益的。

陸健瑜先生頭一次走進上財校園，是2004年初，持續了至少十年，尤其是在他（自2005年4月起）擔任中國人民財產保險公司的董事期間（他給我說是代表人保股份中那9.9%的AIG股權，由AIG推薦的非執行董事），每年都有1-2次到北京參加人保財險的董事會，會後回上海小住幾天，我們又有了再次聚會交流的機會，也是我和上財精算師生向他求教的機會。

圖 4-5：2004年2月25日，陸健瑜先生在上財與部分精算師生討論「中國壽險經驗生命表CL (90-93)」的相關議題。

圖 6-7：2004年6月，陸健瑜先生在上財作了題為「壽險公司的內含價值」的講座，演講內容經上財研究生許瀟瑋（圖6左二）記錄整理後發表於《精算通訊》第四卷第3期。

圖 8-9：2006年11月6日，陸健瑜先生在上財做講座，題目是「收益曲線與利率模型」。

圖10：2011年3月31日，陸健瑜先生在上財做題為「Solvency II & IFRS 4」的講座，並與與會者生進行了對話交流。他在這次講座和對話中的觀點，被整理編輯後發表於《精算通訊》第八卷第1期（2011年6月），題目為「歐盟Solvency II 與中國保險業償付能力監管制度建設借鑒」。

上述三組配圖活動，並非完整紀錄，我也沒法羅列一份完整清單。我印象最深刻的一次交流活動，是2009年4月23日下午，他在上財金融學院內與十多名研究生和幾位老師之間進行的一場對話和討論，主題還是圍繞風險管理模型的真實作用，也就是陸健瑜先生20 08年4月在香港精算學會和同年9月在中國精算年會上的同名報告內容，上財研究生已經讀過他的講稿，其中的凌玲同學還將其翻譯、整理成文，發表於《精算通訊》第六卷第3期（2008年6月），因此，這場對話或小型座談會是預先經過認真準備的。參與對話的博士生楊寶華同學記錄、整理了對話內容，經陸先生審讀並刪除部分不宜公開的文字後，發表於《精算通訊》第七卷第1期（2009年6月），題目叫做「聽陸健瑜先生講保險和精算」。今天重讀這篇對話紀錄，仍然感覺十分精彩，勾起我對當時那種教學氛圍的懷念。

還有一件十分有趣的事值得一提，正是陸健瑜先生2011年3月31日來給上財師生講座和交流那天的事。之前他每次來上財，都是到國定路（777號）校區，但這次卻是到武東路100號新校區，這裡原來是上海建材學院的校園，建材學院搬遷後原址給了上財，分配了兩幢大樓給我們金融學院，主樓叫「毓秀樓」，正對辦公樓大門。因為陸先生第一次到這裡，我在大門外等候和迎接他的到來。

話說今年3月31號下午，請了一位香港的老朋友來金融學院作報告，我去校門口迎接他，見面握手問候之後，告訴他校門正對著的這幢樓就是咱們金融學院的新辦公大樓。還清楚記得他當時的反應：「啊，這就是你們金融學院啊？！這樓很不錯嘛，很有特色呀！咦，不對，這樓的風水不對，不能從校門外就直接看到學院的大門啊！就好比你們家，開門後只能看到隔間屏風，不能直接看見室內的物件，對吧？這風水不對！」

上面引用的文字，是我隨後為此寫的一篇雜文《毓秀樓的風水》中的記錄，只是這篇文字的措辭有些尖銳，不宜公開發表，只在學校同事或校友中私下轉發分享，但卻引起了不少人的關注。不知是否與此有關，學校後來在毓秀樓與校園大門之間建造了一道「屏風」，仿古複製了「國立上海商學院」的門樓，從校園正門外不能一眼看到毓秀樓了。但是否真的改進了「風水」，包括我們精算專業的「風水」，只有等有心人自己去考證了。

（二）陸健瑜先生與上海財大精算師生

我自己常常感嘆，自己這輩子最大的「福報」，是結識了一群「貴人」和「良師」，得到了他們的教誨和幫助。而陸健瑜先生無疑是這群「貴人」和「良師」中對我影響最大，也是我最喜歡的精算圈朋友。每次與他相聚之後，我都會覺得自己的認知能力又提升了一截。

學生與老師的關係就是這樣，如果一個學生特別喜歡某個老師，那麼他受這位老師的影響就會更大。而學生之所以會喜歡這位老師，往往不在乎於這位老師有多大的學問，可能更在乎這位老師的人品，在乎這位老師是否有趣、好玩。

陸健瑜先生是我見過的既有本事又特別有趣的人。

陸健瑜先生戒煙的故事，自《精算通訊》第四卷第4期（2004年12月）披露之後，精算圈內的人差不多都知道了，成了業界人物的一則趣聞。這個故事是我倆在上海一起吃飯聊天時他給我講的，那時候上海還沒有在公共場所完全禁煙，飯店裡還闢有吸煙區和非吸煙區讓客戶自選，我大概是問他是否需要抽煙或是否介意別人抽煙，他才說自己曾經抽煙，而且抽得厲害，一天能抽四包煙，但現在已經戒了，完全戒了，從未再抽。我不相信每天抽四包煙的人能戒得掉，於是他就給我講了自己戒煙的故事，真讓我大開眼界，匪夷所思的戒煙方法，令我終身難忘，於是我把這個故事寫了下來公開分享。還沒聽過的同仁可以讀下期的附錄。

戒煙故事，可以說是智慧與趣味的結合。但陸健瑜先生也跟我講過他的很多不智慧甚至是很囧的事。

例如，有一段時間他特別喜歡吃熱狗（hotdog）快餐，每天都吃，吃上癮了，於是他決定自己購買一套烤製熱狗的機器，或許是想投資開一家賣熱狗的鋪子吧，等機器買來之後才發現這也太不現實了，只能運到上海找郊區的倉庫存放。我當時隨口提議說放我家陽台上等同學們來吃燒烤倒是不錯，他立即要我確定：「肯定要麼，馬上給你送來，但不許反悔！」，嚇得我趕緊收回提議。

又如，在香港開車，他也是一時衝動，買了部高級跑車，這與他的年齡和身份都很不相符，關鍵還很費油，結果他開得很少，想送給他兒子、親戚或朋友，人家都不要。

還有，他都一大把年紀了，不知道被誰給忽悠了去報名上瑜伽課，說是拉伸對身體如何如何好，結果沒練兩次他就把腰腿拉傷了，從此走路很不方便，更不能爬樓梯。因為我家住五樓沒有電梯，自此他就再也沒來過我家裡喝茶聊天。

陸先生也給我說過，他這輩子最嚴重的決策錯誤是1997年之前決定移民澳大利亞，雖然後來及時止損再返回香港，但為此付出沉重代價。

在下期我將會附上兩篇發表在《精算通訊》上的文章，一篇是《聽陸健瑜先生講保險和精算》，另一篇是《陸健瑜戒煙》，讀者可以從專業和趣味兩個方面多了解這位精算前輩，香港的第一位華人精算師。