VOLUME 1
OCTOBER 2024

ACTUARIAL WATT

Students' Actuarial Society

INSIDE THIS ISSUE

How does the growth of AI impact the actuarial industry?

There is no denying that AI has affected the insurance industry. AI is transforming every facet of the prestigious insurance sector, from using big data and algorithms in the actuarial back office to expediting claims handling using chatbots and natural language processing.

Roles of actuaries in climate change adaptation.

Actuaries are familiar with the link that exists between capital and risk. The growing quantity and volatility of climate-related risks can put pressure on insurance margins and premiums higher as risks become more unfavourable and volatile and past data loses predictive power.

The role of annuities in securing stable retirement income.

Annuities offer a guaranteed stream of payments over a predetermined length of time, frequently for the rest of the individual's life, and are therefore essential for assuring a steady retirement income.

NOTE FROM THE EDITOR

Welcome to the debut issue of the Students' Actuarial Society's annual newsletter! I am pleased to provide this edition, which is full of insightful articles and priceless insights, as we begin a new semester full of chances for actuarial science learning and advancement.

Our feature topic delves philosophically into the fundamental idea of machine learning and asks, "How the growth of AI impacts the actuarial industry?" We want you to consider the existential, practical, and moral aspects of AI and machine learning in relation to our line of work.

The purpose of this newsletter is to provide thought-provoking information to individuals who are new to the field of actuarial science as well as seasoned experts. We value your opinions and comments, and we want to hear from you again throughout the year.

I appreciate your unwavering support, and I hope that this semester brings you much wealth and intellectual stimulation.

Best regards,

Zarif

Sincerely,
Zarif Zulkiflee
Editor-in-Chief, Students' Actuarial Society
Current Affairs Director

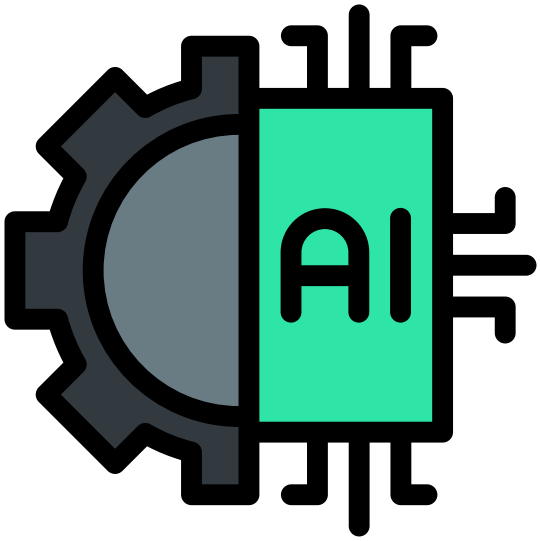
ZARIF ZULKIFLEE

How does the growth of AI impact the actuarial industry?

Actuarial science, which serves as the foundation of financial risk assessment and insurance, has endured the measure of time by consistently adapting to new technologies and methodologies. Artificial intelligence (AI) is a big step forward in actuarial techniques. It promises to transform how actuaries model scenarios, estimate risks, and create insurance policies. AI includes machine learning and data analytics.

CHALLENGES

Nevertheless the development of powerful AI also brings with it new risks and uncertainty. The same technologies that enable actuaries to fine-tune their forecasts can also obscure risk models' transparency, making it more difficult to comprehend and control the models' outputs. Furthermore, the growing sophistication of AI may cause traditional actuarial professions to become obsolete, calling for a reassessment of the knowledge and abilities needed in the industry. It is imperative that actuarial practitioners continue to be watchful and flexible as the field navigates this revolutionary time. By doing this, they can make sure that AI enhances actuarial science rather than takes the place of the expert judgement and skill that have historically characterised the field.



Using AI to boost lapse prediction accuracy

The Actuarial Data Science Working Party of the IFoA conducted a study wherein they employed sophisticated machine learning (ML) techniques to forecast the probability of policyholders of unit-linked protection policies issued by a life insurer perishing at the time of policy review. The insurer was able to more precisely adjust its customer service strategy to each policyholder's demands thanks to the ability to estimate lapse propensity. Improved cashflow forecasting for pricing, reservations, and business planning is also made possible by more precise lapse forecasting.

Unit-linked protection policies give policyholders protection advantages and investment options by combining life insurance with different funds.

Other Advantages of AI in actuarial industry

Future insurance success stories will demonstrate how well AI tools work in conjunction with conventional actuarial judgement. Through the integration of artificial intelligence (AI) and actuarial expertise, insurers may optimise their pricing models, incorporate essential assumptions, and provide resilient

checks and balances.
This dynamic collaboration between actuaries and machines will lead to more accurate pricing and the creation of cutting-edge goods. As insurers change, they can efficiently retain existing books of business while capitalising on growing prospects. Insurance companies are better equipped to handle the dynamic insurance market and set themselves up for long-term growth and success thanks to the cooperative relationship between actuaries and AI.

The actuarial profession has been blessed with a history of low employment and high compensation, which is an uncommon combination in today's society. To keep up with AI and other machine learning techniques, actuaries both new and experienced must adapt and broaden their skill sets. Otherwise, they run the danger of falling behind. It's safe to say that technology will always be around.

ZARIF ZULKIFLEE

Role of actuaries in climate change adaptation

The actuarial profession as a whole can play a part in assisting stakeholders in comprehending the implications and uncertainties of their choices about the implementation of measures or inaction on climate adaptation. By using actuarial experience in risk management procedures and, in particular, managing uncertainty over extended time horizons, the actuarial profession can contribute value to these decisions.

In the inter-disciplinary evaluation and discussion of adaptation measures and their effects on insurance systems, protection gaps, vulnerabilities, insurability, and resilience, actuaries have a significant role to play. Actuaries are also interested in other things, such how insurance goods are made and how long-lasting the businesses that provide the necessary coverage are.

In general, actuaries are in a good position to help different stakeholders—including policymakers—with decisions pertaining to adaptation. Actuaries can utilise their demonstrated expertise in evaluating risks and opportunities with varying degrees of uncertainty to build upon data and scientific findings from pertinent domain experts, such as meteorologists, climate scientists, engineers, and others, and present information to boards and relevant stakeholders, such as customers, businesses, governments, regulators, rating agencies, etc., that will help them make informed decisions. With before-and-after research, actuaries may assist in identifying and quantifying adaptation opportunities even in the absence of comprehensive historical data. Actuaries are skilled in using scenario analysis to inform decisions.

Actuaries have the chance to collaborate with other direct and indirect stakeholders. For comparative reasons, the predicted cost and the effects of climate change on a less resilient building code should be

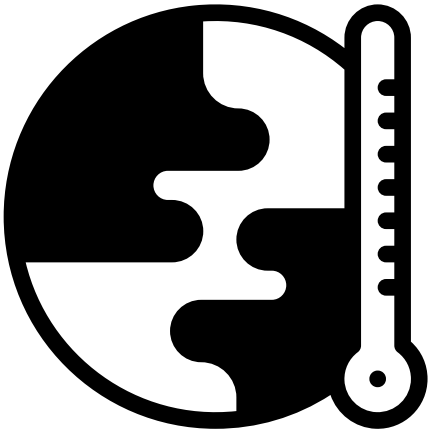
carefully evaluated and quantified, even though it is very simple to show the additional cost of creating a climate-resilient structure. It would be anticipated that this cost-benefit analysis would make use of impartially created alternative scenarios created by pertinent specialists.

The Role of Insurance

One of insurance's primary advantages is that it offers a financial safety net in the case of a negative occurrence, like a shock connected to climate change, allowing individuals, businesses, and economies to bounce back quickly. In addition to lowering insurance rates, effective adaptation measures can increase resilience by lessening the severity of the shock.

The severity of storms (wind, rain, floods, etc.) getting worse could put a serious burden on governments, vulnerable people, insurers, and customers. Actuaries play a crucial role in assisting these stakeholders in gathering information, comprehending the scope of the problems, and identifying how each person may be impacted.

Actuaries are familiar with the link that exists between capital and risk. The growing quantity and volatility of climate-related risks can put pressure



on insurance margins and premiums higher as risks become more unfavourable and volatile and past data loses predictive power. Regulators may therefore modify their capital structures. Higher capital requirements may also emerge from increasing volatility in real claims experience or financial results for businesses that rely on risk-based models or specific parameters based on previous data.

By lowering possible catastrophic losses and their volatility, both prudent use of reinsurance and successful climate adaptation action on the side of the insurer's clients can enhance the overall risk profile of the latter (although reinsurance capacity for extreme events is not unlimited). Consequently, underwriting capacity may be increased and capital requirements and insurance protection gaps may be decreased. Stated differently, the impact of climate adaptation on insurance rates could counteract unfavourable factors including the frequency and severity of claims, as well as sickness and death.

ZARIF ZULKIFLEE

The role of annuities in securing stable retirement income

Annuities offer a guaranteed stream of payments over a predetermined length of time, frequently for the rest of the individual's life, and are therefore essential for assuring a steady retirement income. This is especially crucial because, as people live longer, there is an increasing need for financial solutions that can guard against the risk known as longevity risk which prevents retirees from outliving their funds.

What is Annuity?

An annuity, or guaranteed pension income, is one of the ways you can use your pension pot to fund your retirement. A traditional annuity offers you the security and peace of mind of a regular and steady income, with monthly, quarterly, half-yearly or annual payments. You can use all or part of your pension to buy an annuity from an insurance company.

A lifetime Annuity

A lifetime annuity allows you to set your income in advance. This gives you control over your income throughout retirement. You can purchase a single life annuity which covers yourself, or a joint life annuity that also provides a lifelong income for a dependant or nominated beneficiary if you pass away.

You can add some additional security for your loved ones by adding a guarantee period to your annuity. This will provide your nominated beneficiary with an income if you die within a chosen number of years after starting your annuity.

For example, if you set up a five-year guarantee period and die after two years, they'll receive an income for the remaining three years.

Investment-linked annuities

An investment-linked annuity is another type of lifetime annuity that offers you a lifelong income. In this case, the income fluctuates depending on investment performance. You can select an amount of guaranteed income using part of your pension pot and an additional income that's based on investment returns.

As with all investments, the value of your annuity can go up and down and you may get back less than you put in. It can be a good way to potentially get a higher income than a basic lifetime annuity, however it does come with the risk of losing some of the money that you put in.

As with a lifetime annuity, you can choose from a single or joint annuity, and add guarantee periods or value protection if it suits you.

Enhanced and impaired life annuities

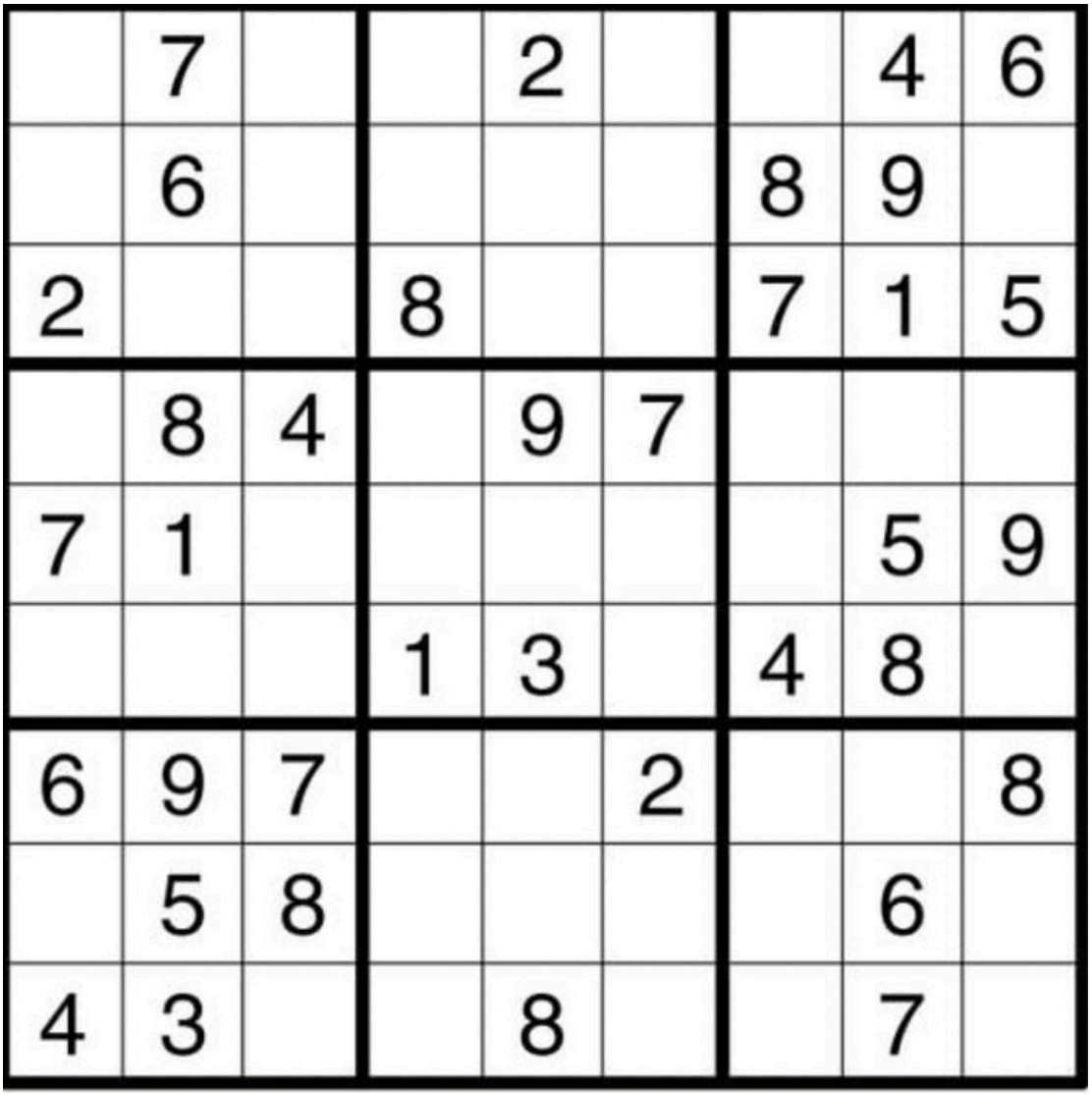
If you have a lower life expectancy than the average of a person your age, you may be eligible for an enhanced or impaired life annuity.

Enhanced annuities may offer higher rates and income than a lifetime annuity and are suited for people who are at a greater risk of a premature death. For example, if you're overweight, smoke, or have worked in a hazardous environment.

Similarly, impaired life annuities offer you an annuity rate based on an estimate of your personal life expectancy. They're for people who have a reduced life expectancy as a result of a current or previous medical condition.

You will have to meet certain criteria when you apply for one of these annuities. You can discuss this with your annuity provider or a Specialist Financial Adviser.

SUDOKU TIME!



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TAG US ON INSTAGRAM @HW_SAS WITH THE SOLUTION!!

SAS Updates

- **IFoA exemption talk/Q&A by Peter Ridges (exemption officer)**

Date: Wednesday, 30th October 2024
Time: 2pm - 3pm
Location: LT2

- **Socials Update**

1.Pool
Date: Friday 25th October 2024
Time: 7pm
Location: Marcos

2. Bonfire and Fireworks Night
Date: Tuesday, 5th November 2024
Time: 6pm
Location: Calton Hill

3. Games Night
Date: Friday, 15th November 2024
Time: 6pm
Location: TBC

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