COLUMN

ARTIFICIAL INTELLIGENCE

Characteristic to my early actuarial career were simple models based on age and gender, often together with the assumption of a fixed interest rate. We knew these models could be improved with better data. Data was however expensive even when it was available and its manipulation was slow, and also expensive. Furthermore it was impossible to be certain of the validity of the data. As we knew the models were lacking we needed to have safety margins here and there together with restrictive underwriting criteria in order not to sacrifice the solvency of our employer.

This has changed with the advent of Big Data and Artificial Intelligence (AI), and the progress is expected to go forward. The amount of digital data increasing with steps measured in zettabytes, and the still valid Moore's law guarantees that mushrooming amounts of data can be utilised in an efficient manner. AI holds the promise that our modelling capabilities will improve continuosly.

All this means huge opportunities for actuaries and their employers. The Actuarial Association of Europe has recently published a paper on AI and insurability where these opportunities are discussed more in depth. I can only say that I see a lot of possibilities in this area. Better tools do not mean that insurance becomes obsolete – while we are better able to forecast the future, actual outcomes remain stochastic and sharing of risks is needed as a central tool to manage uncertainty. Or, instead of remaining a central tool one can say its role increases with new technology. One can also say that there are chances of insuring risks of lower socioeconomic groups that were earlier uninsurable.

These opportunies must be adopted responsibly as together with opportunities there are threats. Earlier actuarial practice resembled to some extent practices in civil aviation where safety margins allow us travelling without dangers.

Military aviation differs from civil aviation. Fighter jets are often inherently unstable. They can be like spinning tops turned upside down needing constant monitoring.

Big Data and AI can introduce similar behaviour to insurance with razor thin margins and machine learning models adapting practices continuously. The financial crisis of 2008 must not be forgotten with its origin in failed models utilised by many banks. My hope is that actuaries are involved in the use of AI and Big Data since we have in the history of the profession already done nearly all possible mistakes. We need to be trusted so that the mistakes will not be repeated.

Esko Kivisaari
Chair of Artificial Intelligence and Data Science working group for the AAE

COLOPHON

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