

**Actuarial talent: Findings from an EIU study**

**EXECUTIVE SUMMARY**

for the Society of Actuaries, Casualty Actuarial Society, and Canadian Institute of Actuaries

December 2014



**SOCIETY OF ACTUARIES**

## A. Executive summary

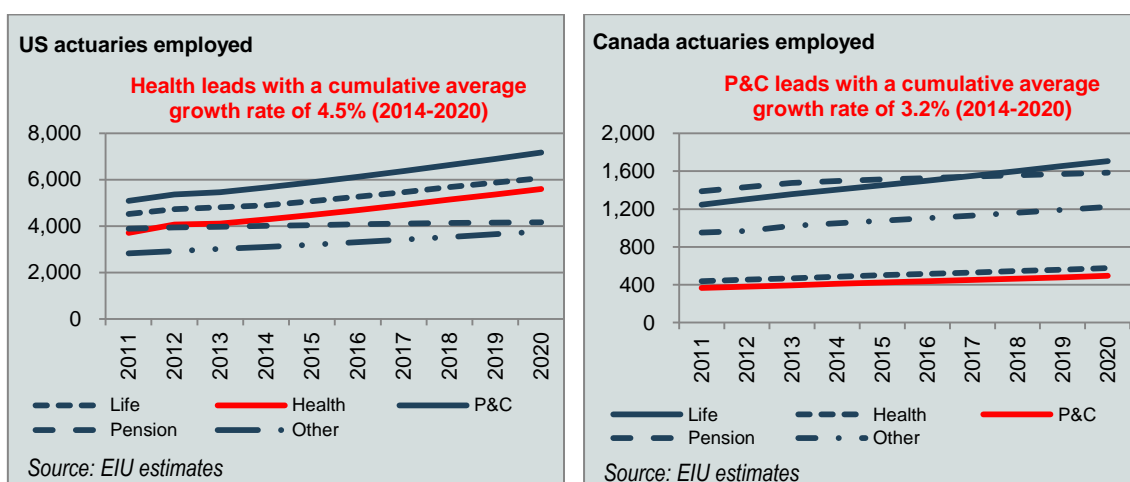
This Economist Intelligence Unit (EIU) report explores the market for actuarial talent in North America, examining the current state of the market, the key drivers underlying demand and supply, as well as the outlook to 2020. This report is aimed at a wide range of stakeholders, including actuaries, actuarial candidates, employers of actuaries, universities, and the professional societies. The goal is to provide information to allow stakeholders to understand the underlying dynamics and potential actions that could be taken to address any concerns that exist across different parts of the field.

The actuarial profession is facing a period of market change that is presenting both opportunities and challenges. The traditional centres of demand – the insurance and pension plan industries – are coming to grips with varying degrees of upheaval. The insurance industry is facing a more stringent regulatory and supervisory environment in the wake of the financial crisis. Insurers are also subject to technological developments that are rapidly changing the way clients consume products, the types of products they demand, and – crucially – the way insurers design and price products, target clients, and manage risk. The healthcare industry in the US is undergoing transformational change due to the rollout of the Affordable Care Act. And the pension plan industry in both the US and Canada continues to face the decline of traditional defined benefits plans, fundamentally changing the nature of the industry.

These shifts, in conjunction with other more specific labour-market factors – including use of outsourcing, increasing popularity of STEM (science, technology, engineering and mathematics) degrees and career paths, and prevalence of international students – are having marked impact on the demand for and supply of actuarial talent.

Over the past several years, actuarial employment in North America has grown steadily, averaging around 3% per year since 2011. At the same time, the popularity of the actuarial profession has grown rapidly, reflecting in the number of graduates from actuarial science university programs, which has expanded over 8% per year on average over this period. These headline figures mask variation across countries and practice industries.

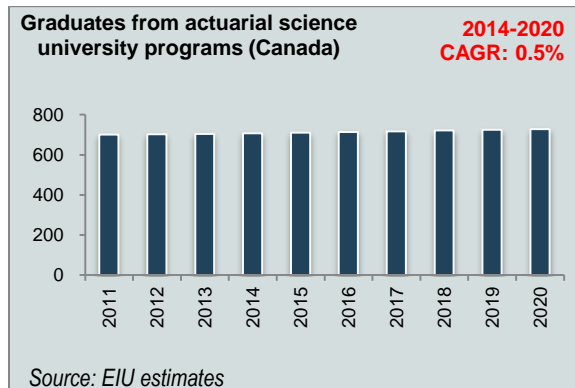
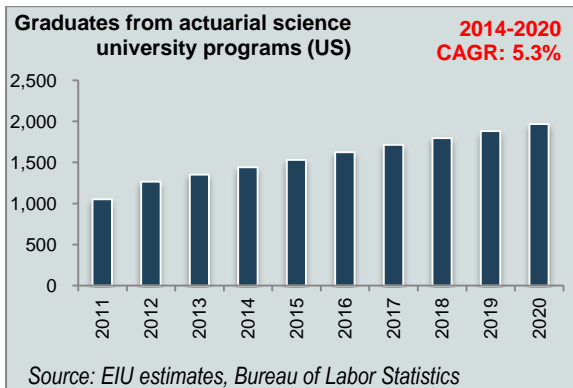
Actuarial demand is stronger within some practice areas than others. Top practice areas are Healthcare in the US, driven by the rollout of the Affordable Care Act, whereas in Canada the P&C segment is growing strongly, supported by the continued strength of the Canadian economy.



In terms of growth, Pension lags in both geographies, with the continued shift away from defined benefits plans drastically weakening the outlook for actuaries in this segment.

Outside the traditional practice areas, enterprise risk management is an important area of growth in demand for actuaries, in particular driven by the increasing stringency of the regulatory and supervisory framework for insurers and banks.

Potential supply of actuaries has grown strongly in both the US and Canada, as the profession has raised its profile and students have increasingly focused on employability, job security and attractive compensation. The expansion in the number of graduates from actuarial science university programs in the US is expected to continue, though in Canada the number of graduates from such programs is expected to remain relatively steady.



The strong increase in the number of graduates seeking actuarial jobs, alongside more muted growth in overall actuarial employment, gives rise to some concern. In addition, there are some potential issues surrounding skillsets that actuaries possess and those which firms are increasingly demanding. Some of the key findings from the EIU study include:

- ❖ Overall, net new supply (ie, the number of graduates seeking actuarial employment) is expected to significantly outstrip net new actuarial employment positions in each year from 2014 to 2020. There is also an apparent bifurcation within the market:
  - Entry-level candidates face a highly competitive market, with many more people desiring to enter the profession than there are employment positions available. This has reportedly been the case for at least a decade. The excess supply at the entry level appears marginally more acute in Canada than in the US, based both on EIU estimates and on insights gleaned from interviews with employers, universities, and recent graduates.
  - In the mid-career market, there is distinct tightness, with employers struggling to find enough of the appropriately skilled and qualified candidates for available roles at this level. Part of the problem appears to be a shortage in the number of actuaries at this mid-career level, potentially driven by some actuaries exiting the workforce, or attracted to the growing array of highly quantitative (but non-actuarial) positions available across a range of industries, with increased focus on data-driven decision-making. This tightness appears also driven by a skillset mismatch: at this level, employers are looking for actuaries with a balanced toolkit, who have demonstrated leadership, managerial and communication skills; reports suggest that it can be difficult to find the right mix of these non-quantitative skills.
- ❖ There is an apparent skills gap in the area of predictive modelling and advanced analytics. Predictive analytics is an important area of growth for employers of actuaries, increasingly underscoring competitive advantages by driving improvements in areas such as product design and risk

management, as well as sales and marketing. But primary research indicates that employers do not think that actuaries come equipped with enough knowledge of and experience with the quantitative tools for the predictive modelling function. Statisticians and computer science graduates are generally sought out to fill the core modelling roles. Employers see actuaries as valuable in providing the industry context to tie the models to business value, helping to develop the correct models and then communicating, liaising, and interpreting the model outputs. But many employers suggested that actuaries need a stronger understanding of the models and how they work in order to fill these positions. The predictive modelling function is most advanced in the P&C space, though Healthcare is quickly catching up. Actuaries with a few years of experience in predictive modelling units or working with large datasets (particularly sector-specific datasets) are highly prized and reportedly difficult to find.

- ❖ Actuaries have a reputation for being highly quantitative but less effective at communicating, which can hamper internal communications, client relationships and team management. Primary research indicates that insufficient communication and managerial skills in actuaries does appear to be a concern, both by employers and by university educators. These skills are increasingly important both at the entry-level, where strong competition for actuarial positions allows employers to be more selective in choosing amongst candidates; and at the mid-career level, where employers demand a balanced set of skills in their actuaries, who are increasingly required to work with different business units across a variety of functions within a firm, manage teams, and liaise with regulators.
- ❖ Finally, there is a perceived shortage of career development opportunities. Interestingly, this concern was reported by both employers and university educators, but not by recent graduates and new actuarial hires, indicating that a narrow career path becomes a concern later on. Evolving demands and expectations of employees may be a factor, with employees seeking varied experiences, international travel, and progressing responsibilities. The evolving insurance industry landscape may also be a contributing factor, with the shift away from multiline insurers reducing the structured opportunities for actuaries to rotate around different functions and practice areas.