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Actuaries in General Insurance: The History and the Future

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Introduction

Structure of presentation

- Summary of our work so far
- History - selected highlights
- Future - selected highlights

What do you want to get out of this?



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Summary of our work so far

1. Analysis of IFoA membership statistics 2009 - present
2. Analysis of data from recruiters
3. Interviews with members of the profession
4. A literature review (informal)

Potential to extend in future:

- Statistics on GIRO attendance
- More data on the jobs market for GI actuaries
- Further interviews



Introduction

Structure of presentation

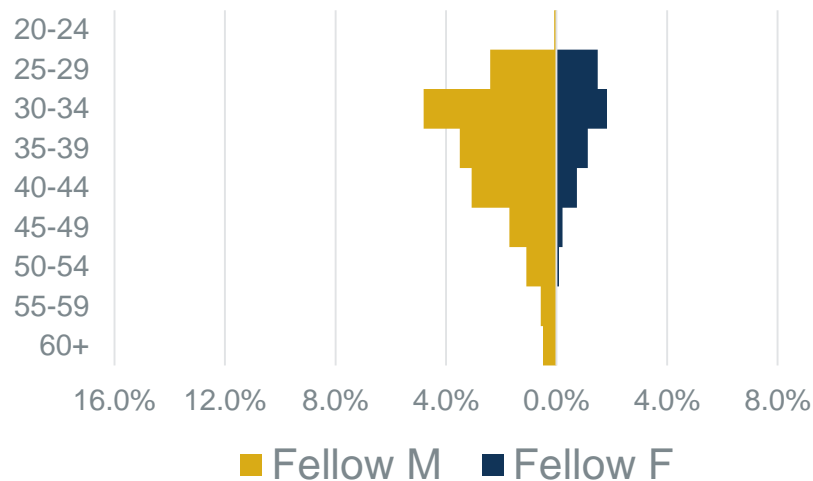
- Summary of our work so far
- **History - selected highlights**
- Future - selected highlights



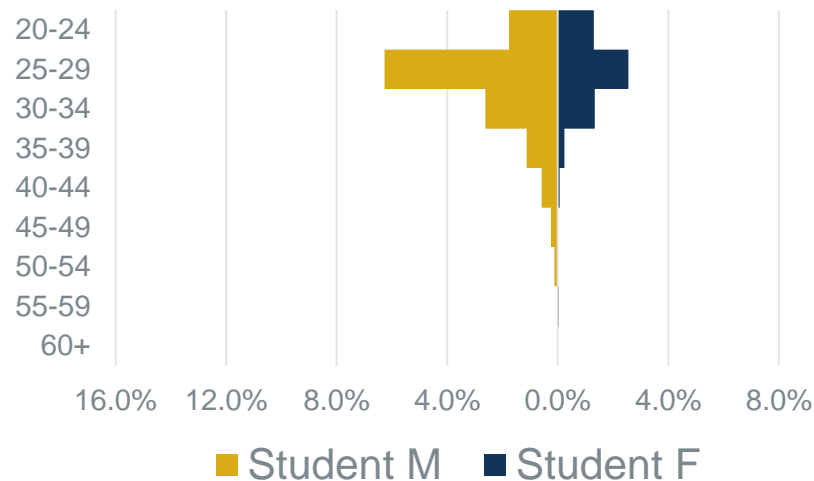
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History - Demographic change

Fellow population pyramid 2009



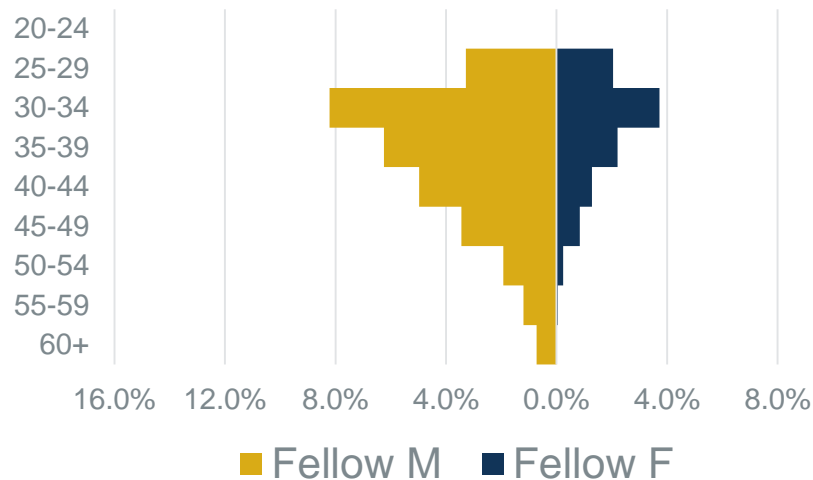
Student population pyramid 2009



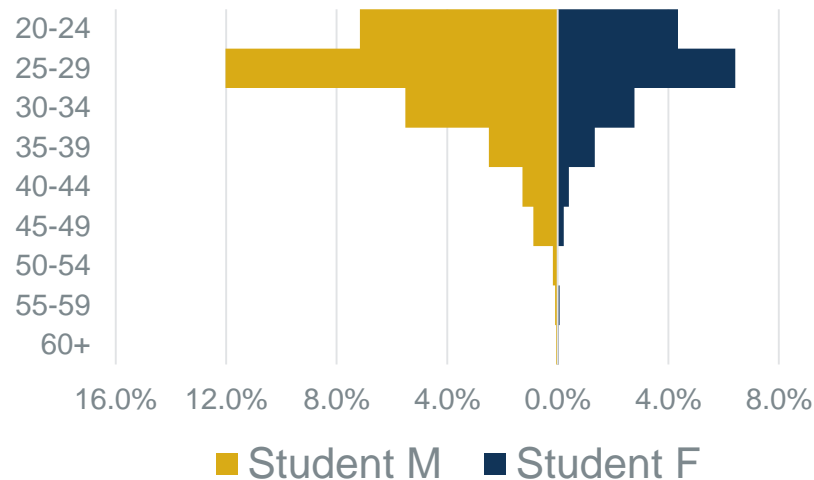
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History - Demographic change

Fellow population pyramid 2013

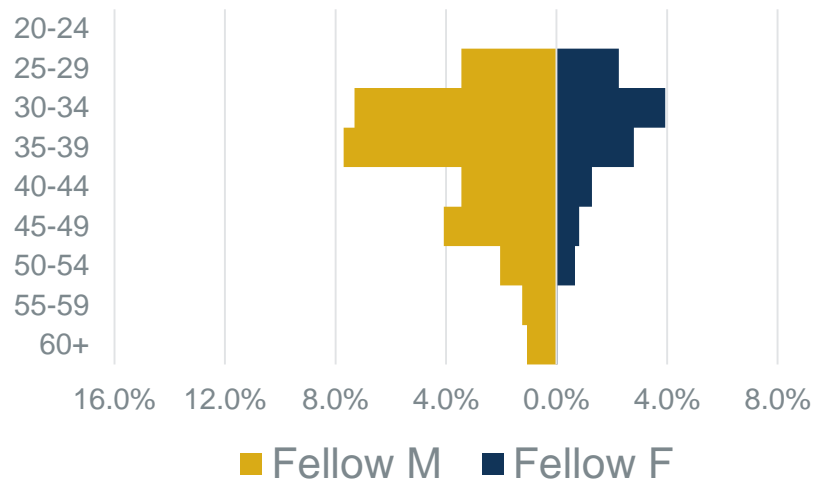


Student population pyramid 2013

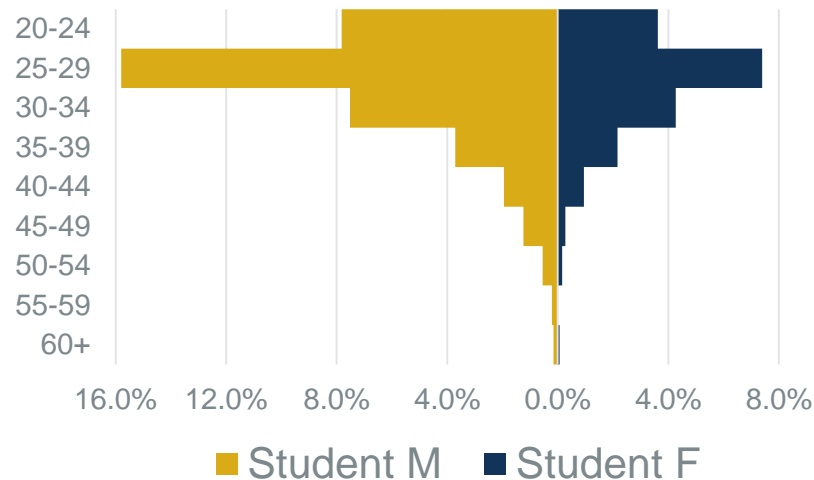


History - Demographic change

Fellow population pyramid 2017

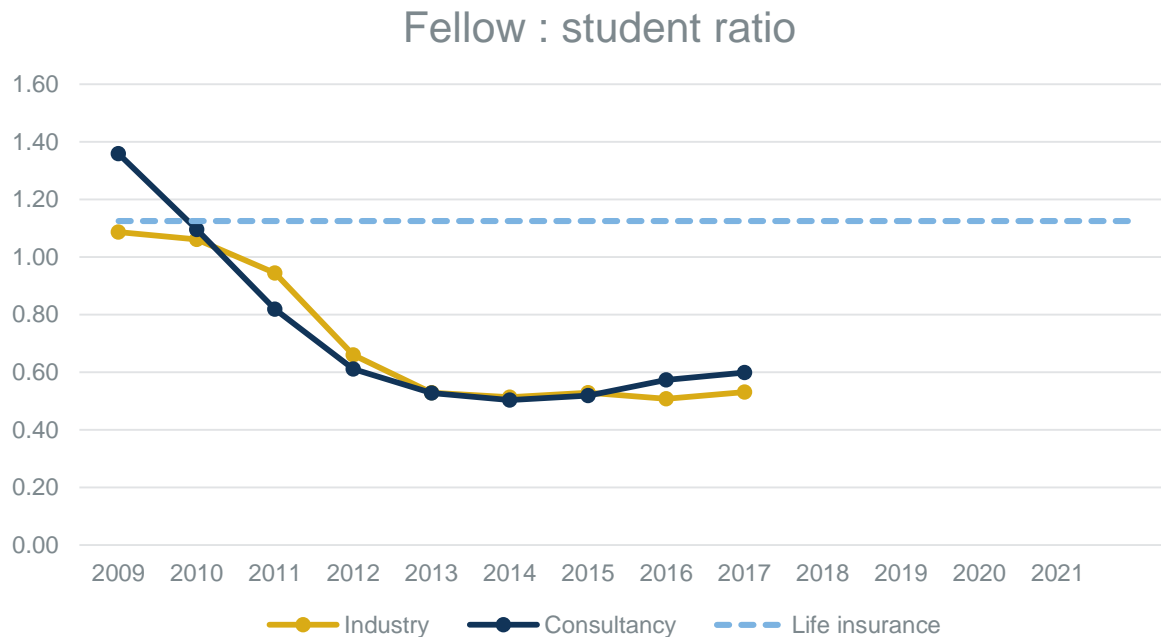


Student population pyramid 2017

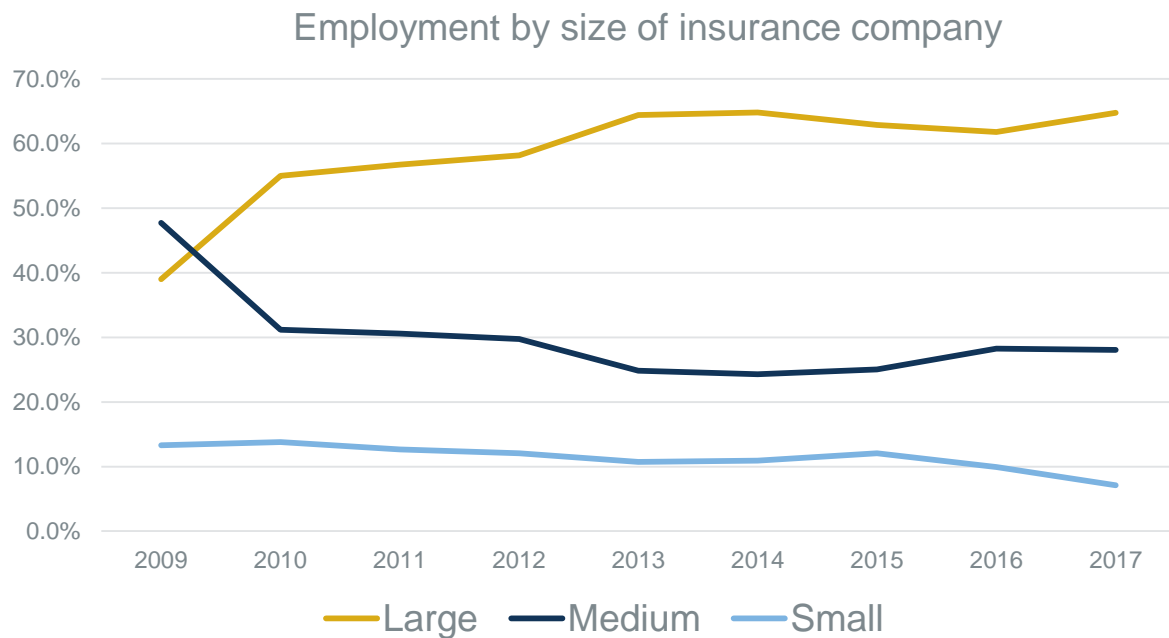


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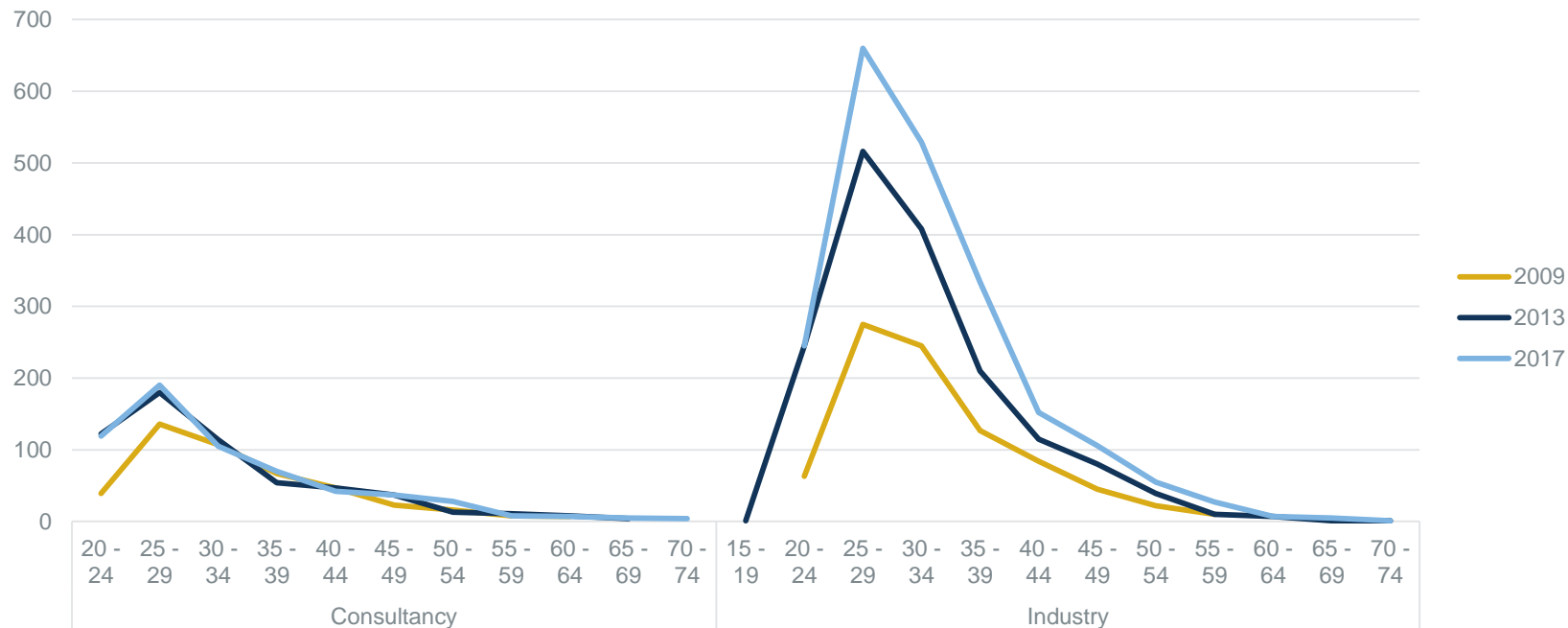
History - Demographic change



History - Consolidation



History - Where actuaries work



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History - Role of Regulation

Regulation has been the main driver of growth in actuarial positions in the UK.

- Requirement to produce triangles (1980s, Reserving)
- Regulation at Lloyd's (1990s, 2000s; Reserving, Capital)
- Solvency II (2010s; Capital, Risk)

Exception: Pricing?



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History - Pricing

Technology and the competitive market have driven the growth of actuaries in Pricing. Main drivers:

- Direct distribution of insurance in the 90s and 00s
- Internet sales, price comparison in the 00s and 10s
- More recently, data intensive pricing / price optimisation

Possible takeaway:

It is **technology coupled with market dynamics** that allows actuaries to grow into a new area of work. Implications for wider fields?



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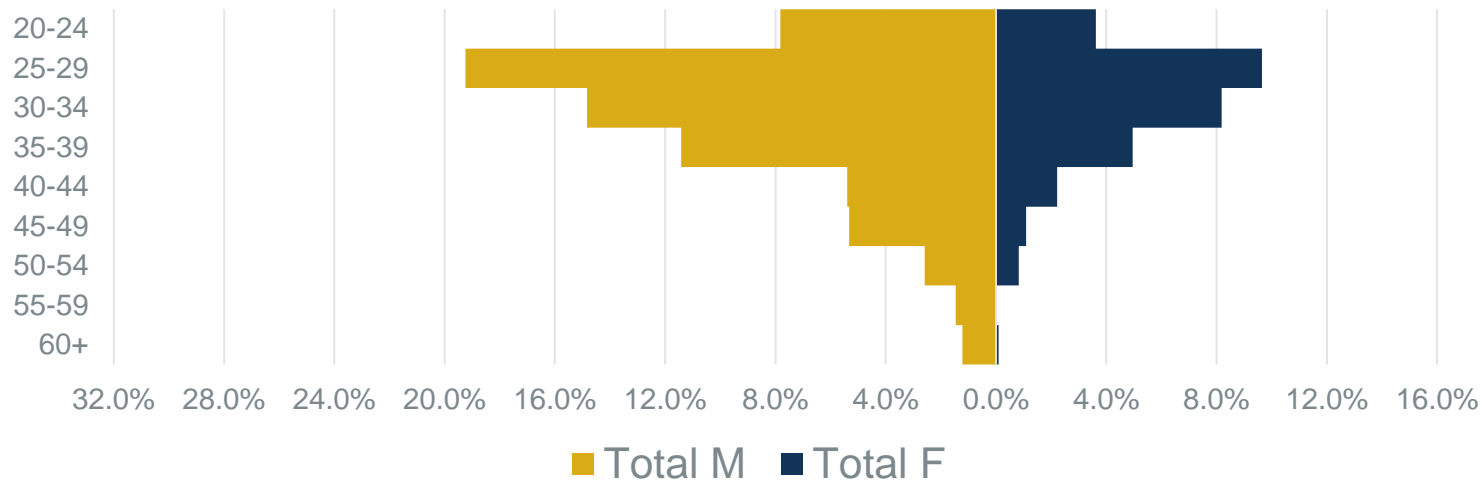
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Future - Demographic change

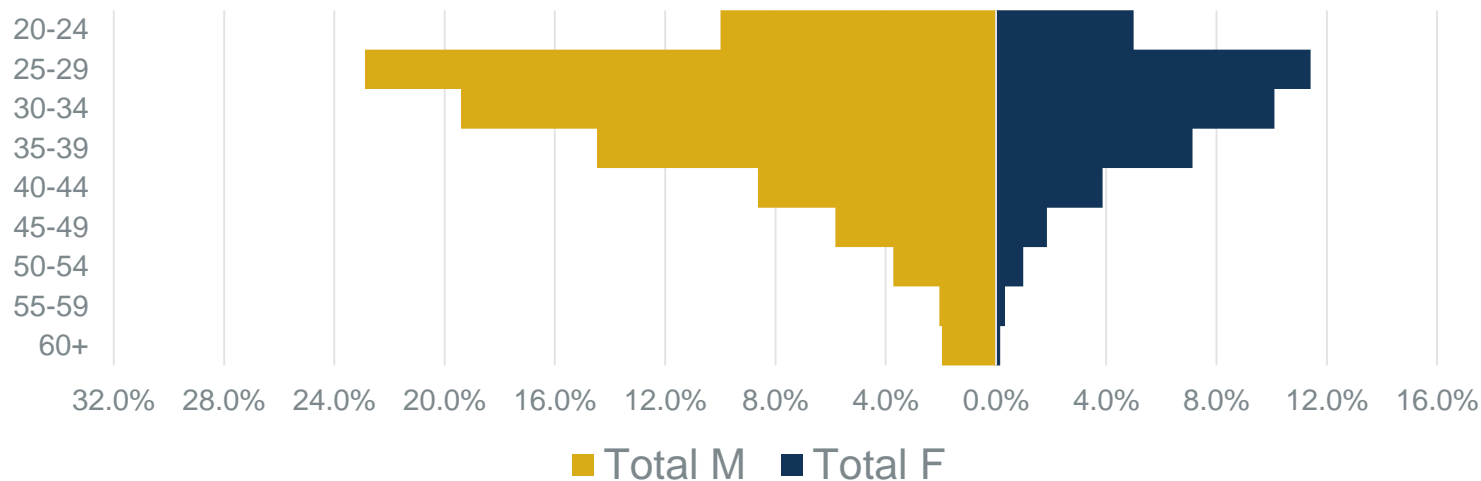
Total population pyramid 2017



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Future - Demographic change

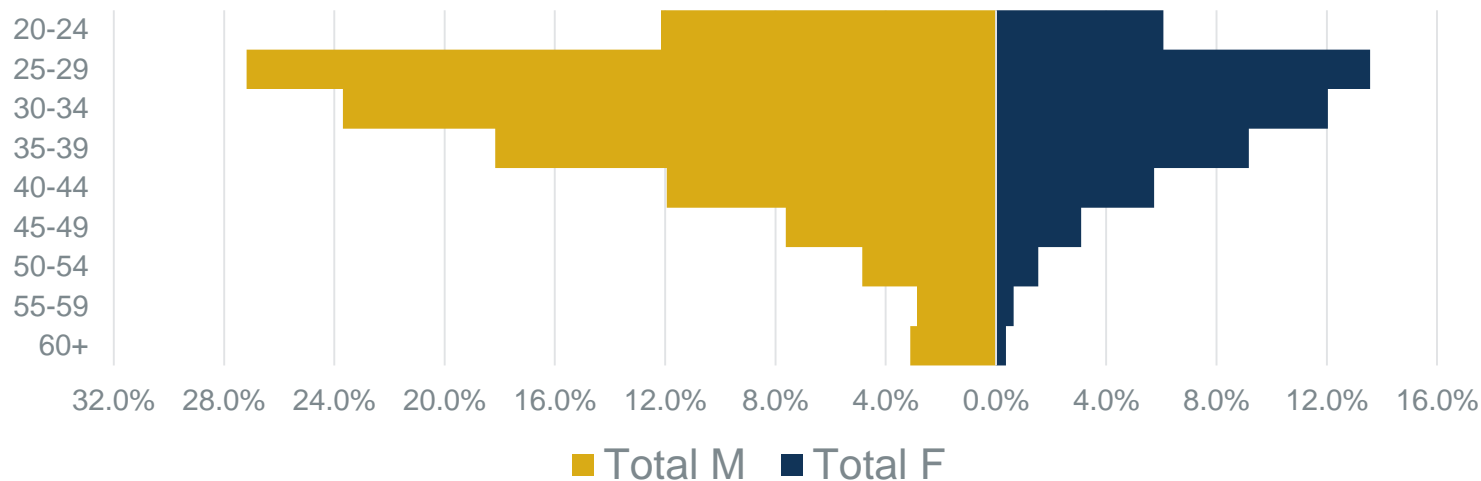
Total population pyramid 2021



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Future - Demographic change

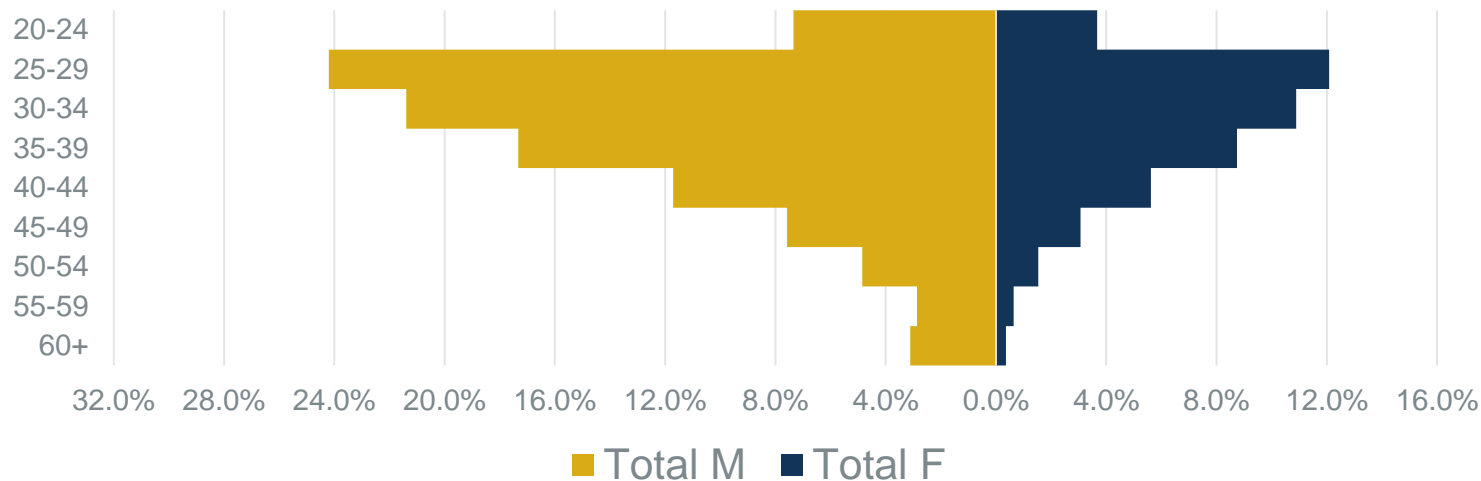
Total population pyramid 2025



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Future - Demographic change

Total population pyramid 2025



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Future - Implications of demographic change

There are more and more of us!

Implication 1 – Increasing competition and pressure on salaries

The profession is responding by introducing the “Chartered Actuary” designation.

Implication 2 – Specialisation will increase

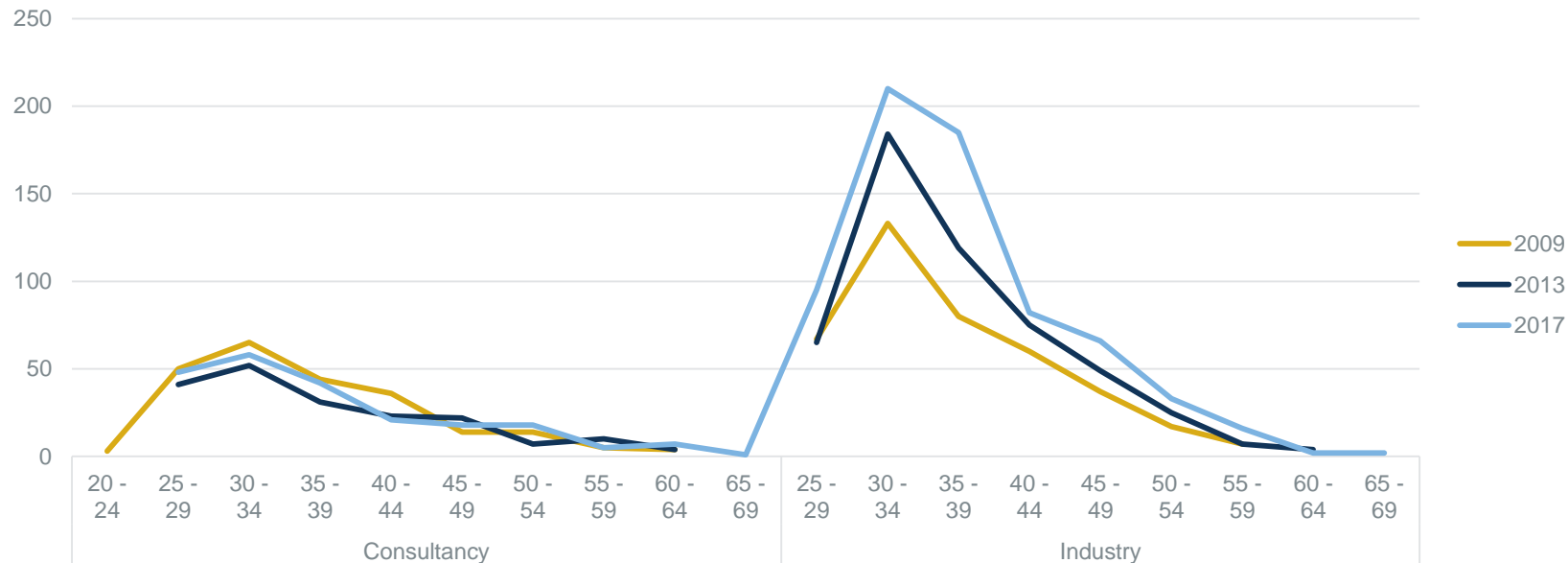
Actuaries are increasingly working for large insurers where roles are naturally more specialised.



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Future - Divergence of consulting and industry

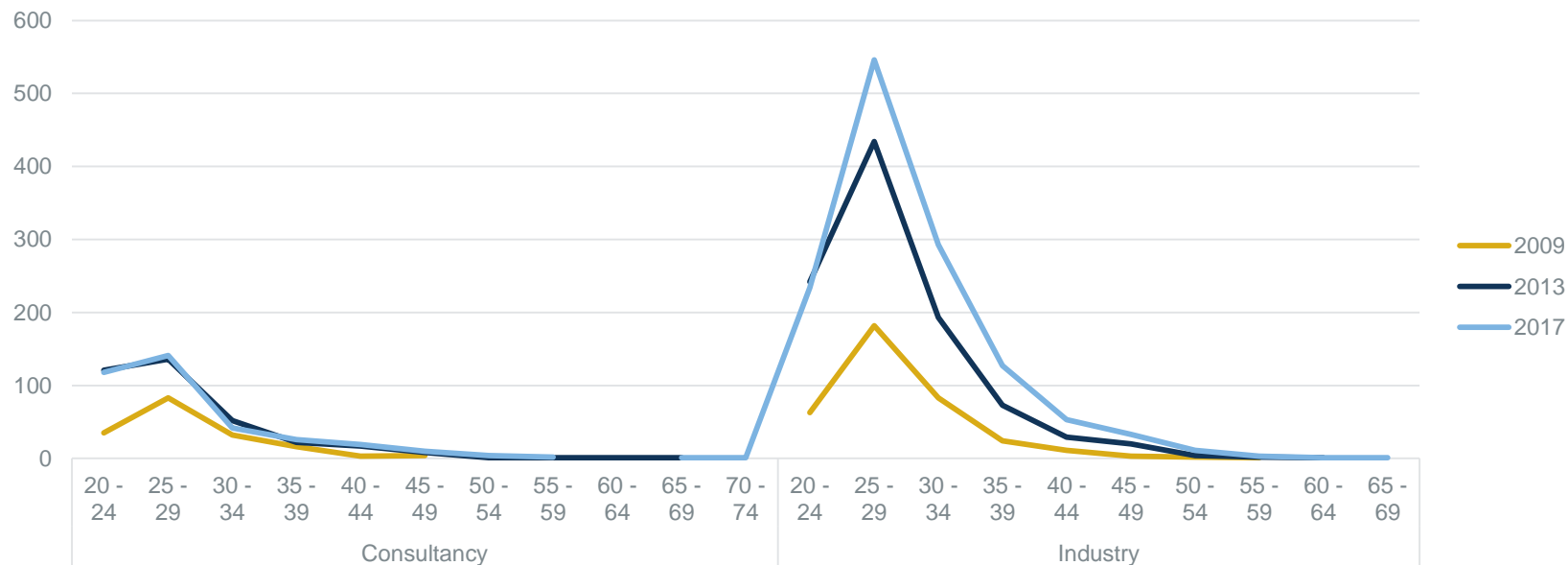
Employment of fellows by age group and employer in selected years



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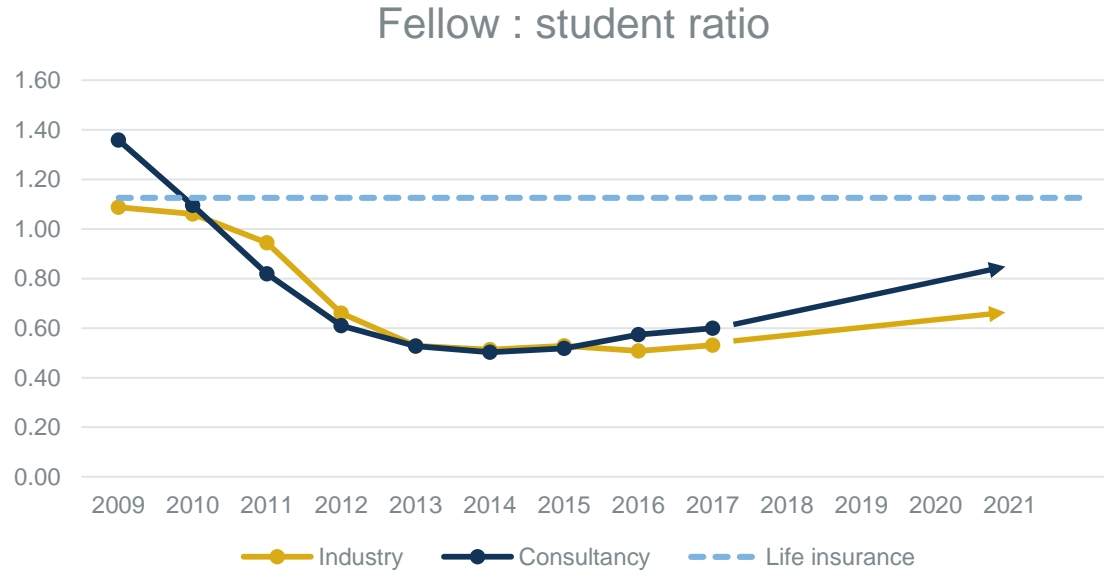
Future - Divergence of consulting and industry

Employment of students by age group and employer in selected years



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Future - Divergence of consulting and industry



Future - Implications of divergence

- Will regulation evolve? Currently it can feel as if regulation is written with the consultant in mind, not the actuary working in industry.
- In future, majority of actuaries will train and qualify while working for an insurance company - implications?
 - On commercial awareness?
 - On breadth of knowledge?



Future - Increase in diversity

Diversity is on the increase in every way:

- Gender
- Ethnicity and nationality
- Age – at all levels

Potential implications:

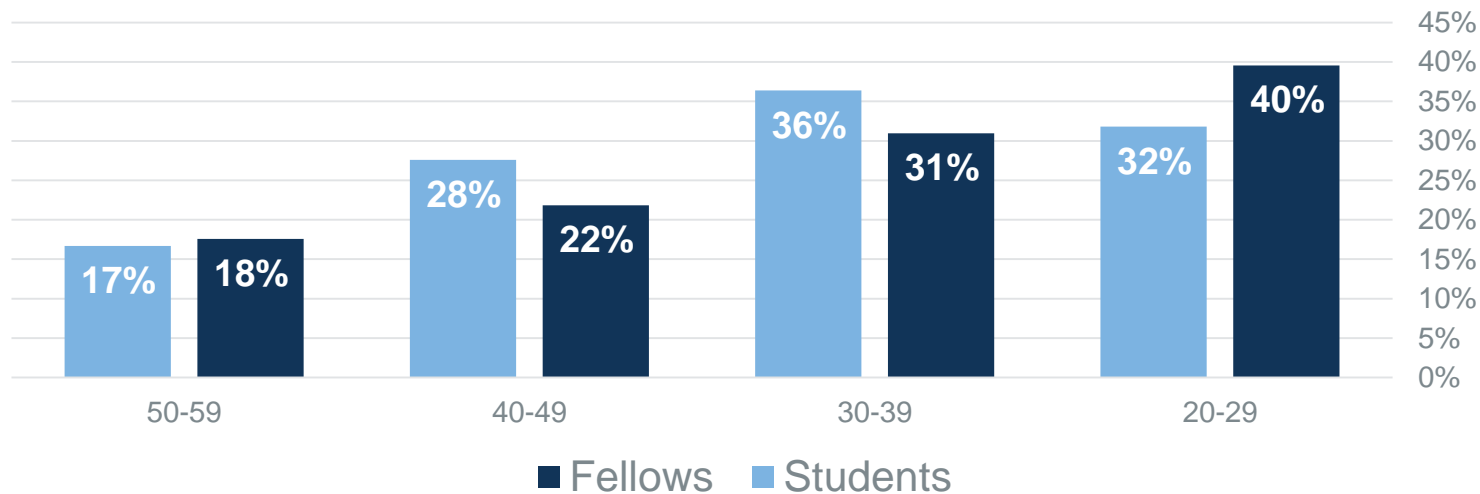
- Broader range of experiences, working styles and ideas across teams
- Cohort effect with diversity - older and younger generations with a different experiences and expectations of the profession
- New leaders emerging from the younger generation



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Future - Maintaining diversity

% Women by cohort and status in 2017



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Future - Promoting diversity

The industry can do more to encourage a more diverse workforce:

- Outreach at schools and universities
- Networks and coaching
- Flexible working – actuaries do not need to work in the office
- Job-sharing

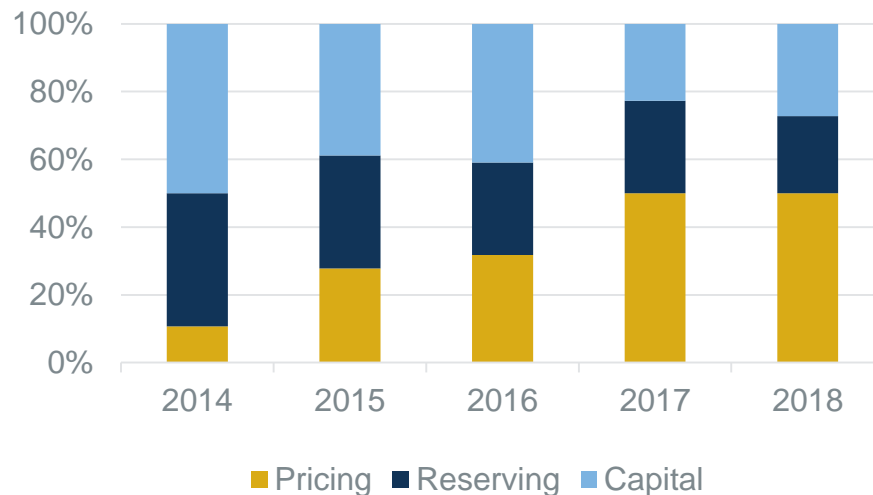


Future - Growth Areas

Interview responses:

- Pricing (especially Lloyd's)
- IFRS17
- Risk
- Investment (?)

Recent Recruiter Placements:



Future - Actuaries in insurance

Mixed teams of actuaries and non-actuaries

Actuaries in senior roles:

- CFO
- CEO
- Board member
- Chief Data Officer?



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Future - Actuaries in wider fields

The actuarial skillset is highly transferrable:

- Analysing risk
- Drawing insights from data
- Communicating with impact

Wider fields include:

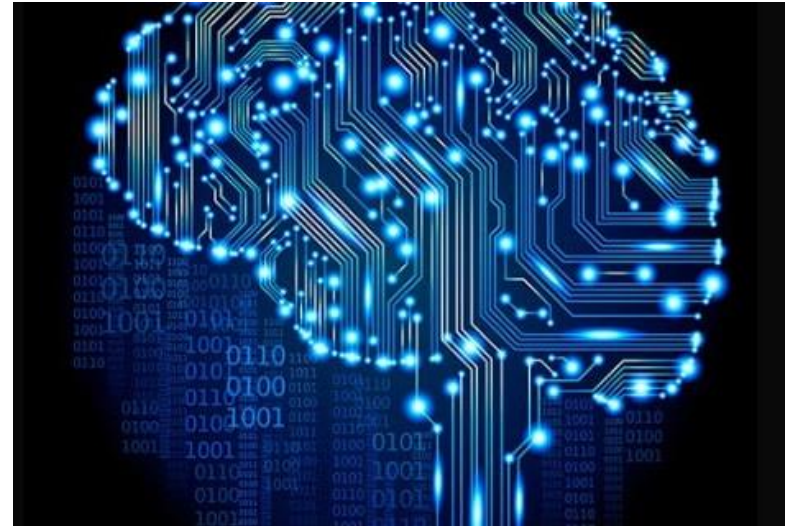
- Banking – a mainstream career option?
- Asset management
- Corporates
- Data science



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Future – Impact of Technology

- Most impact over next 5 - 10yrs:
 1. Artificial Intelligence
 2. Machine Learning
 3. Robots
- Others mentioned include: Data mining / enrichment tools, Natural Language Generation, Internet of Things, Moving on from Excel, Cloud



Future – Artificial Intelligence

Artificial
Intelligence

Ability to sense, reason, engage and learn
Robotics and automation, Voice recognition, Natural
Language Processing

Machine Learning

Ability to learn
Supervised learning, Unsupervised learning,
Reinforcement learning

Methods

Ability to reason
Regression, Decision Trees

Technology

Physical enablement
Platform, Sensors, APIs, UX



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Future – Machine Learning



Learning Models: Supervised, Unsupervised and Reinforcement

Pre-trained Models: E.g. Natural Language Generation from Narrative Science



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Future – Robotic Process Automation

Robots are



Computer coded software.



Programmes that replace humans performing repetitive rules-based tasks.



Cross-functional and cross-application macros.

Robots are not



Walking, talking auto-bots.



Physically existing machines processing paper.



Artificial intelligence or voice recognition and reply software.



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Future – Technology – Opportunities & Challenges

- Opportunities:
 - Less manual work, more efficient
 - More insight
 - Collaborate with different disciplines
- Challenges:
 - Data quality
 - Training for junior team members
 - Regulation



Future – How can you prepare

- Build your toolkit:
 - Commercial awareness
 - Breadth vs. depth of expertise
 - Materiality to the Board
 - Project management skills
- Empower your team:
 - Understand motivations of your team
 - Consider wider role rotations within your organisation
 - Setting the right mind-set for a changing industry



Summary

- History
 - Demographics
 - Consolidation
 - Role of regulation
- Future
 - Diversity
 - Impact of technology
 - How can you prepare



Questions

Comments

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