



Society of Actuaries in Ireland

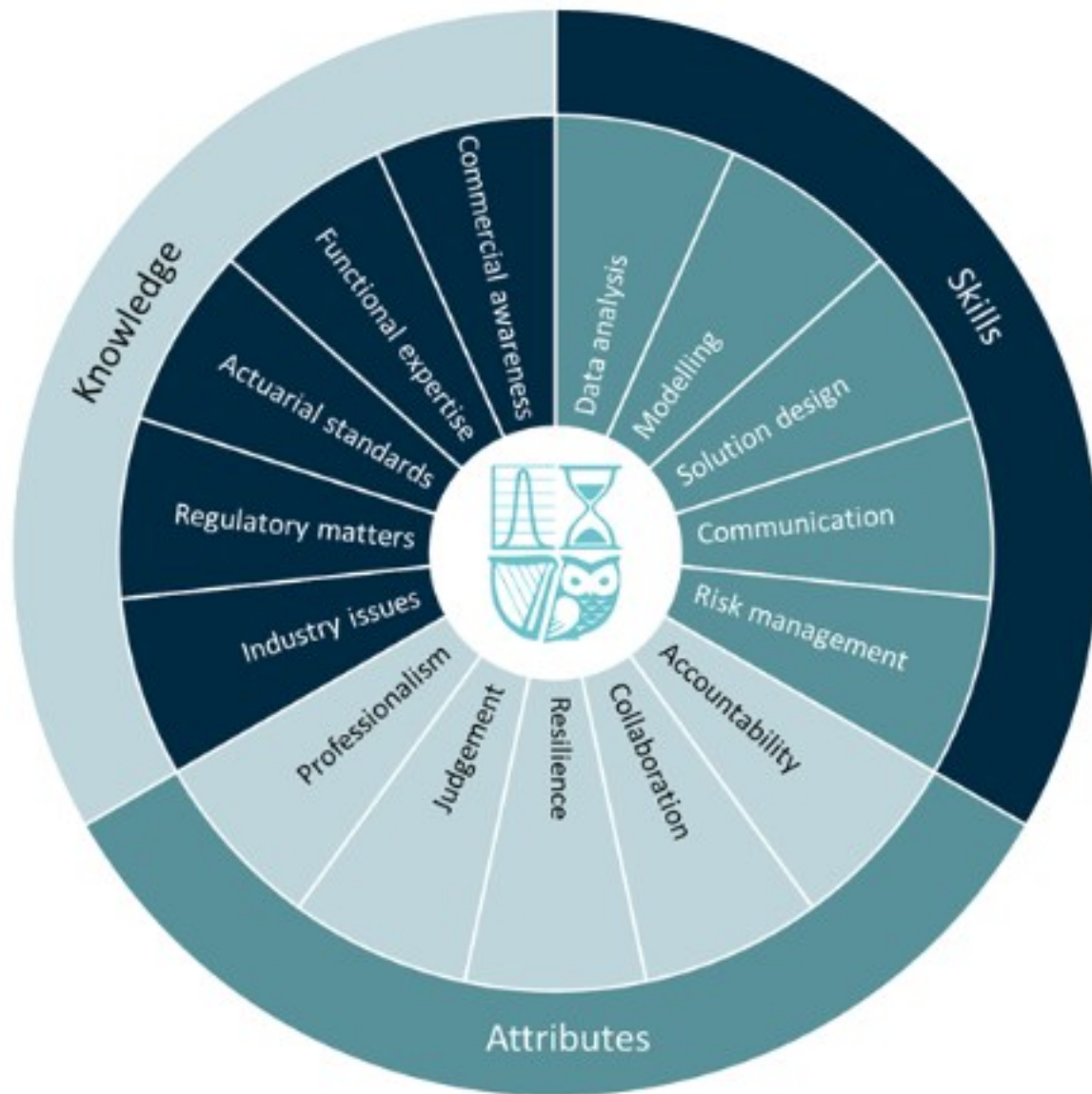
Introduction to Actuarial Profession

15th February 2023

Disclaimer

The views expressed in this presentation are those of the presenter(s) and not necessarily those of their employer(s) (if any) or the Society of Actuaries in Ireland.

SAI Competency Framework

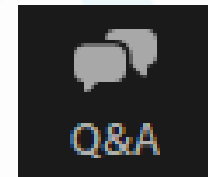


Q&A

Please click on the **'Raise Hand'** icon
to ask a question aloud
and
wait to be unmuted

or

Use the **Q&A function** to ask a question



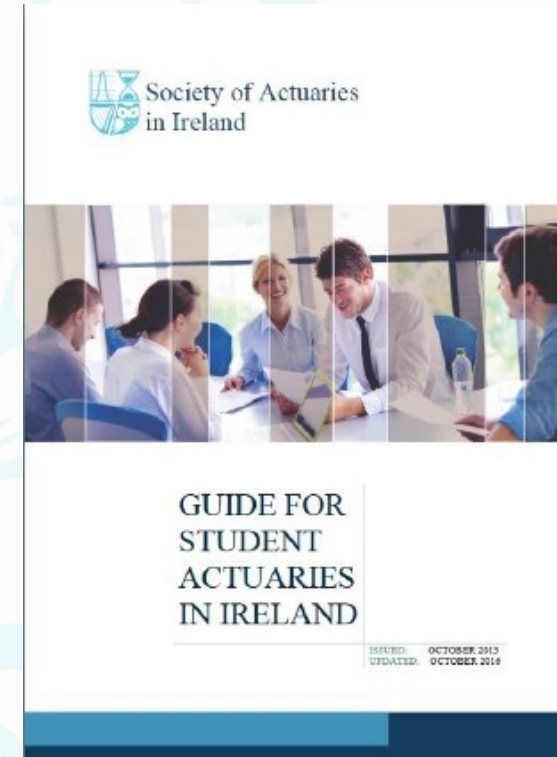
12.30pm – 1.45pm:

- Welcome & Introduction – Sarah Larmour
- Life as a Student Actuary – Aine Corbett
- SAI Student Society - Eoin McCrossan
- Life Insurance – Tomás Hayes
- Actuarial Consulting – Michael O’Brien
- Wider Fields – Niall McCarthy
- General Insurance – Jack Harrington
- Questions

- The SAI is the professional body representing the actuarial profession in Ireland
 - Develop the role and standing of profession in Ireland
 - Support actuaries throughout their careers
 - Enforce standards of practice/regulate actuaries
- Small profession – circa 1,400 Fellows & 600 Student Members
 - Strong sense of community
- Established in 1972 with 17 members.

- Not an examining body
 - Students complete the exams of the UK's Institute and Faculty of Actuaries
- The Society does represent students in Ireland
 - Liaise with IFoA to discuss student needs and exams
 - Representatives on IFoA student forums
 - Organises social events

- New student seminar every Autumn
 - Make sure to attend when you start work as a graduate
- Guide for Student Actuaries
 - Published on SAI website in Students section
 - Irish perspective to registering for and taking exams
- Join the SAI when you can



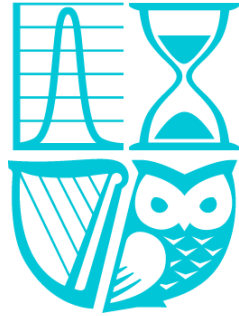


Years

Society of Actuaries in Ireland

Life as a Student Actuary

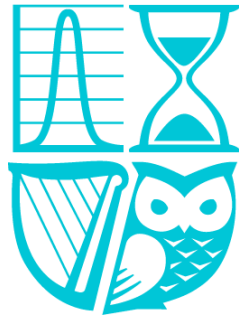
Áine Corbett



Deloitte.

Introduction

- Financial Mathematics and Actuarial Science, UCC, graduated in 2020
- Joined Deloitte Dublin in September 2020
- SAI Student Committee Member 2020/21 – 22/23
- 6 exemptions, 7 passes – recently finished last exam



Agenda

- What is an Actuary?
- A Day in the Life
- Studying
- Planning your Exam Route
- After the Exams
- Working From Home



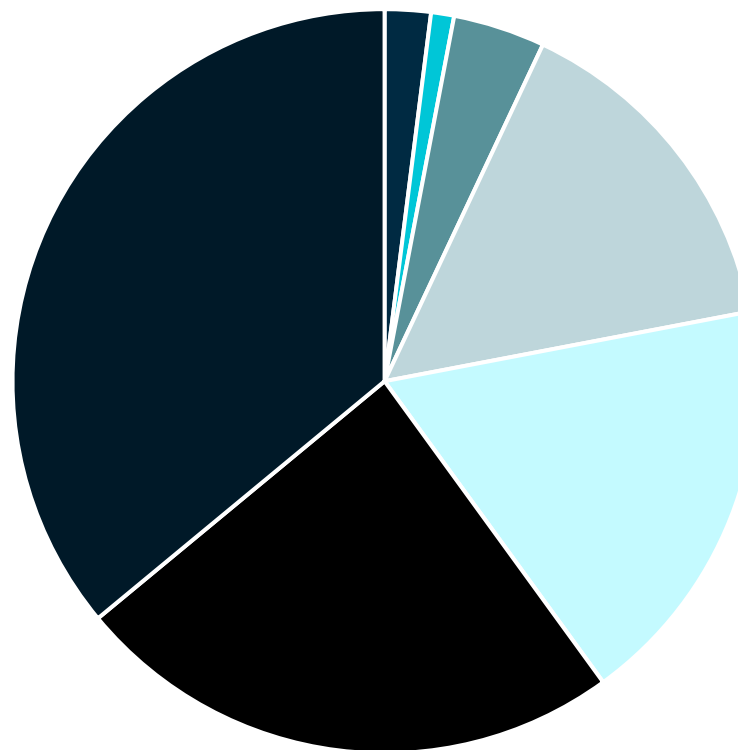
What is an Actuary?

“Actuaries are problem solvers and strategic thinkers, who use their mathematical skills to help measure the probability and risk of future events.”



What is an Actuary?

- Health and Care
- Risk Management
- Investment
- General Insurance
- Pensions
- Life Insurance
- Other





A Day in the Life

- Work can be variable
 - Different disciplines
 - Client facing/internal
- What do we use?
 - Excel
 - Reserving Software
 - Python, R, SQL, SAS,...
- Study!!



Studying

- Working *and* studying is hard!
 - Different to college
 - Less free time / self-taught / peers taking exams
- Balancing work, study and other commitments
 - Exam sittings in April and September
 - Work objectives and other goals, especially year-end
 - Work-based Skills / PPD
- Managing your time effectively



Planning your exam route

Core Principles
7 Exams

Core Practical
3 Exams

Specialist Principles
2 Exams
(choose from 8)

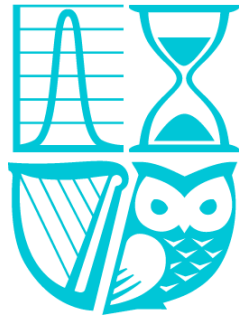
Specialist Advanced
1 Exam
(choose from 5)

- Exemptions
- Order of completion
 - Exam timetable
 - Student handbook
- Choose your SPs and SA
 - Consult senior students / qualified actuaries / manager
- Chartered Enterprise Risk Actuary – SP9



Recommended Study

Core Principles		Recommended study hours
Actuarial Mathematics	CM1	250
	CM2	200
Actuarial Statistics	CS1	200
	CS2	250
Business	CB1	150
	CB2	150
	CB3	20
Total		1,220
Core Practices		Recommended study hours
Actuarial Practice	CP1	400
Modelling Practice	CP2	120
Communication Practice	CP3	60
Total		580
CORE TOTAL		1,800
Specialist Principles	x2 (SP0 – SP9)	400 (200 per subject)
Specialist Advanced	x1 (SA0 – SA7)	300
TOTAL		2,500



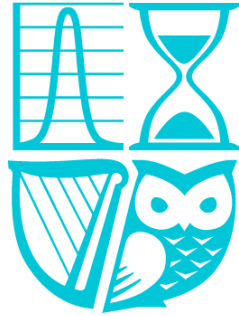
After the exams

- Failure can happen
 - Important to focus on positives
 - Senior students / recently qualified actuaries understand
 - Exam counselling
- Enjoy yourself!



Working From Home

- Set up working space - bedroom / kitchen / spare room home
- Flexibility
- Keeping a routine
 - Get out in the morning, getting fresh air
- Try and go in to the office to meet your co-workers (and make friends!)



Useful Information

- SAI's Guide for Student Actuaries
<https://web.actuaries.ie/students/guide-student-actuaries-ireland>
- IFoA's Student Handbook
<https://www.actuaries.org.uk/studying/student-news/student-handbook>



Society of Actuaries in Ireland

Introduction to the SAI Student Committee

Eoin McCrossan



Introduction

- BA in Pure Mathematics (Graduated 2019)
- Joined Mazars in 2019
 - Actuarial consulting and audit
- Joined Allianz Global Life in 2022
 - Pricing and product development team
- Treasurer of SAI Student Committee 2022



Agenda

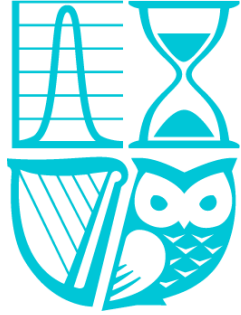
- The Student Society
 - Student Events
 - Student Travel Card
 - Student Consultative Forum (SCF)
 - Members & Support Services
 - One more thing...
-



The Student Society

- Represents students
- The committee is made up of student members
- Automatic membership when you join SAI
- Meet other students and make new friends
- Networking and career development
- Email and web updates
- Help and advice





Student Events

- We organise social and educational events
- Past Events included:
 - Christmas Party
 - Table Quiz
 - Summer BBQ
- We are planning The Annual Student & Recent Qualifiers Ball for May 2023.





Student Travel Card

- Actuarial students are eligible for the Student Travel Card each year until qualification
- Discounts on rail travel and many shops
- Further details available on website <http://www.studentleapcard.ie/>





Mentoring & Support Services

- Provide students with a Recent Qualifier Mentor
- Informal mentor providing support on work-related issues and how to successfully balance work and study
- Contact mentor with any queries
 - Quick phone call
 - Or email
- More information on <https://web.actuaries.ie/mentoring-support-services>





Student Committee 2023

- Next year we will be looking for committee members needed for 2023
- Great opportunity to get involved and play a part in shaping the Student Society.
- Rewarding experience and chance to get to know a lot of people in the student network.
- Email for more information:
 - Catriona.mcdonnell@irishlife.ie



IFOA's Student Consultative Forum

- Meets twice a year to discuss student issues.
- Prior to the forum, the SAI representative contacts all Society students to check for any exam issues
- After the forum, a report is provided covering matters of particular interest to students





Summary

- Get involved in the Student Society
- Student Travel Card
- Sign up for Mentoring & Support Services
- Get in touch with any queries
 - [Members Directory](#)
 - Email info@actuaries.ie
- Keep up to date by visiting Society website and Student Society Facebook page





Questions?

Email: aicorbett@deloitte.ie

Email: eoin.mccrossan@allianzgloballife.com





Years

Society of Actuaries in Ireland

Life Insurance

Tomás Hayes



Market Overview

Life Assurance Market

Term Assurance

Whole of Life

Critical Illness

Mortgage Protection

Income Protection

Key Person Insurance

Group Risk

Personal Accident Insurance

Pensions Market

Pension Schemes

Personal Retirement Savings
Accounts

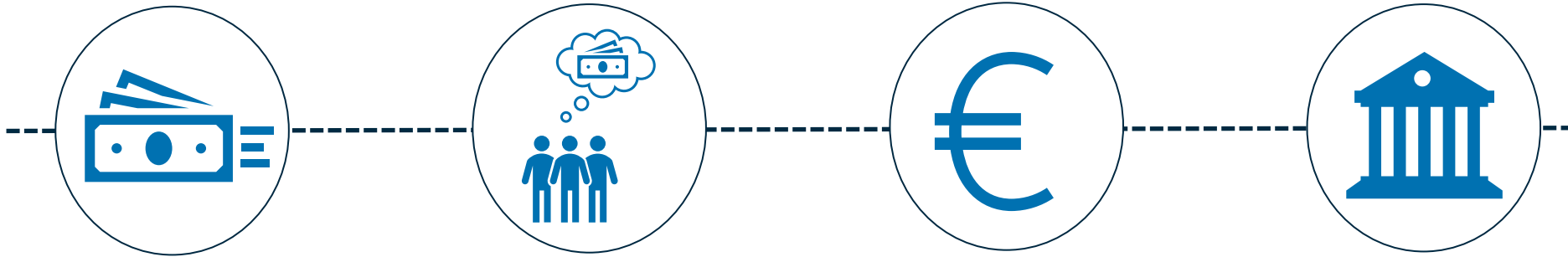
Annuity

Personal Retirement Bond

Approved Retirement Fund



Domestic Market



The total domestic premium income was €11.65bn in 2019. €9.7bn was paid out in benefits and claims in 2019

Life insurance companies employed 7,987 people in Ireland in 2019.

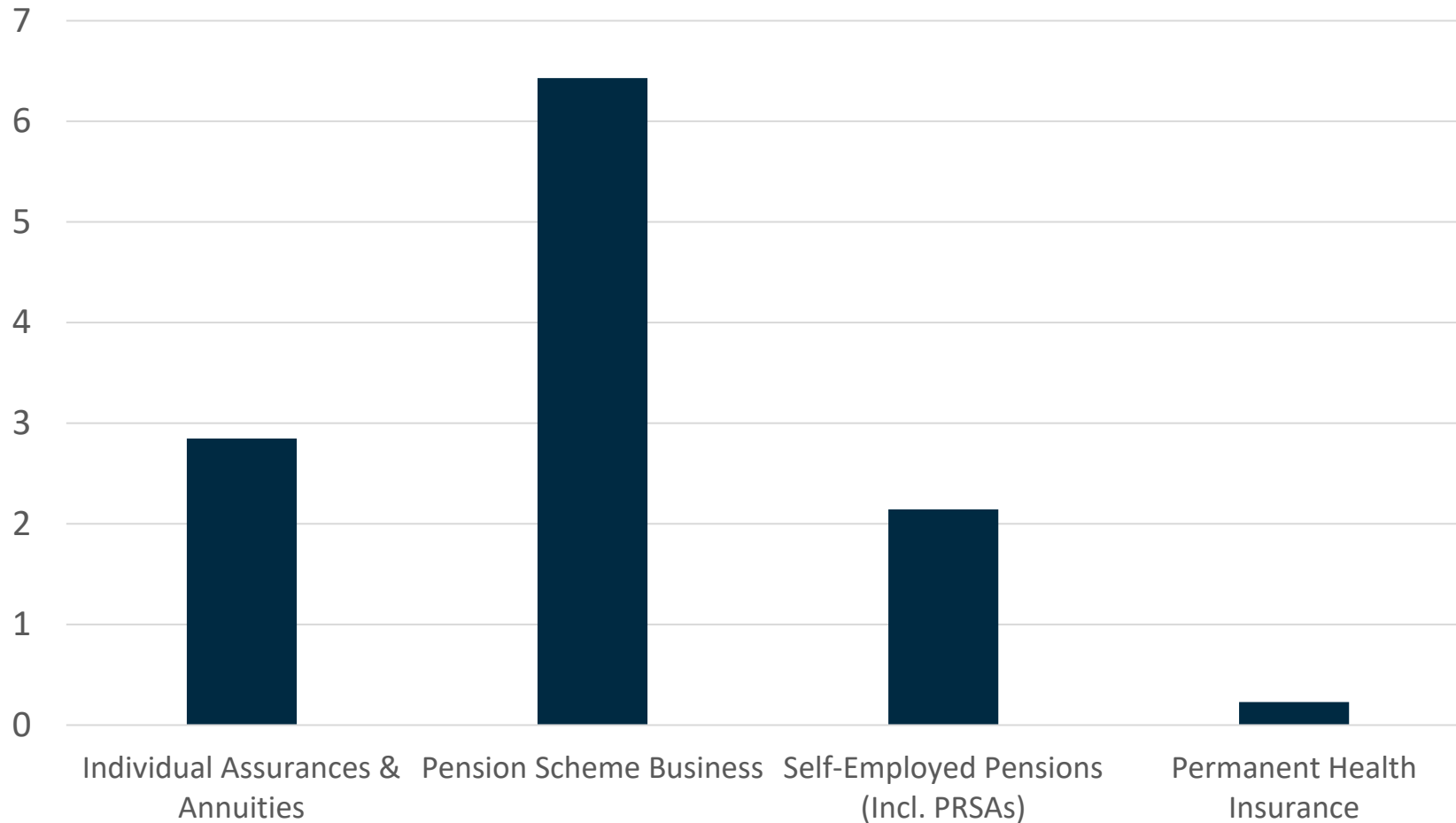
Total value of in force life assurance protection policies in 2019 was €490.8bn

Total value of policyholder's funds managed was €131.2bn in 2019. Majority of investments are held in equities (60%)



Domestic Market

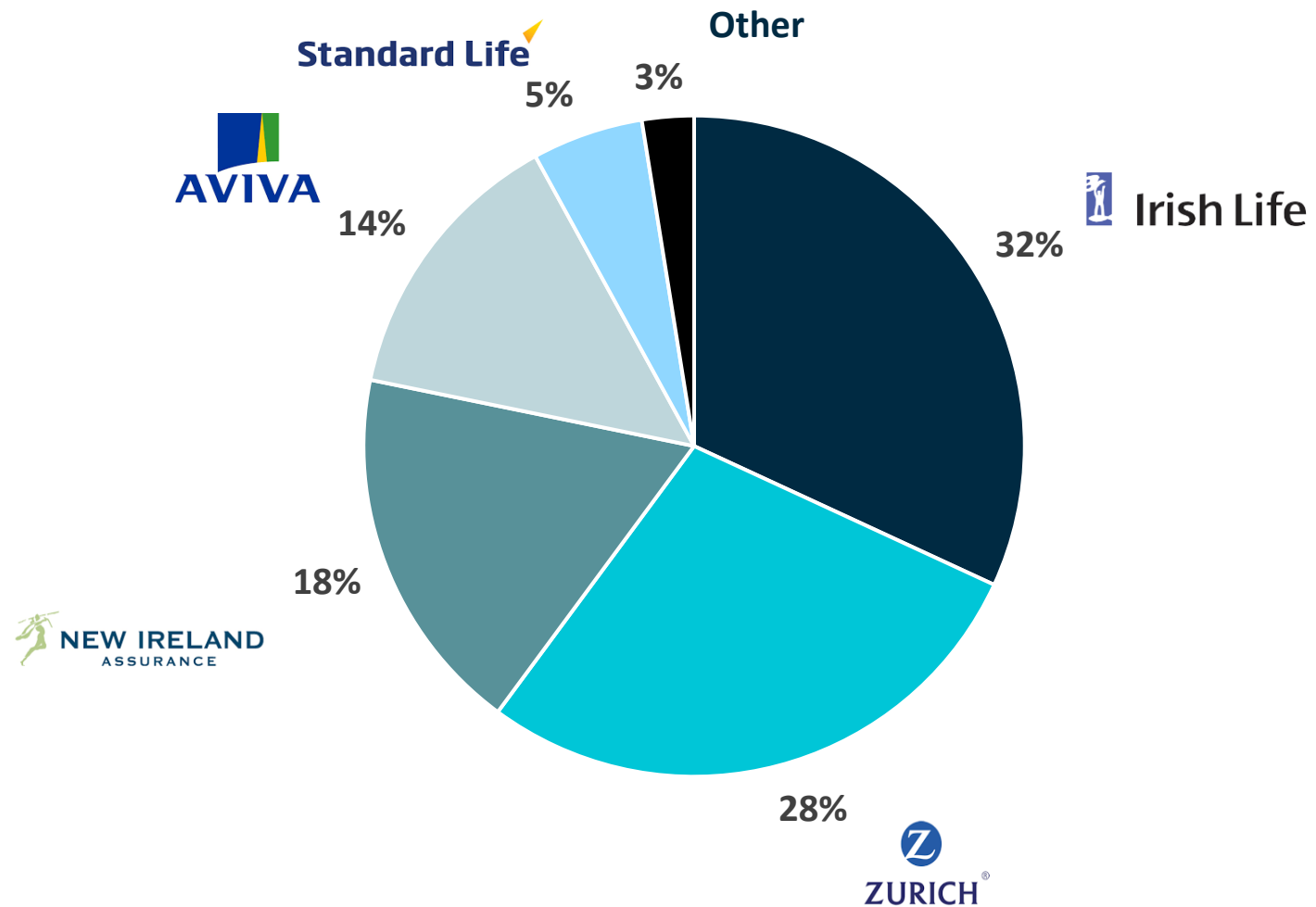
Total Domestic Market Premium - Split By Product Type (€bn)





Domestic Market

Total Domestic Market Premium - Breakdown By Company



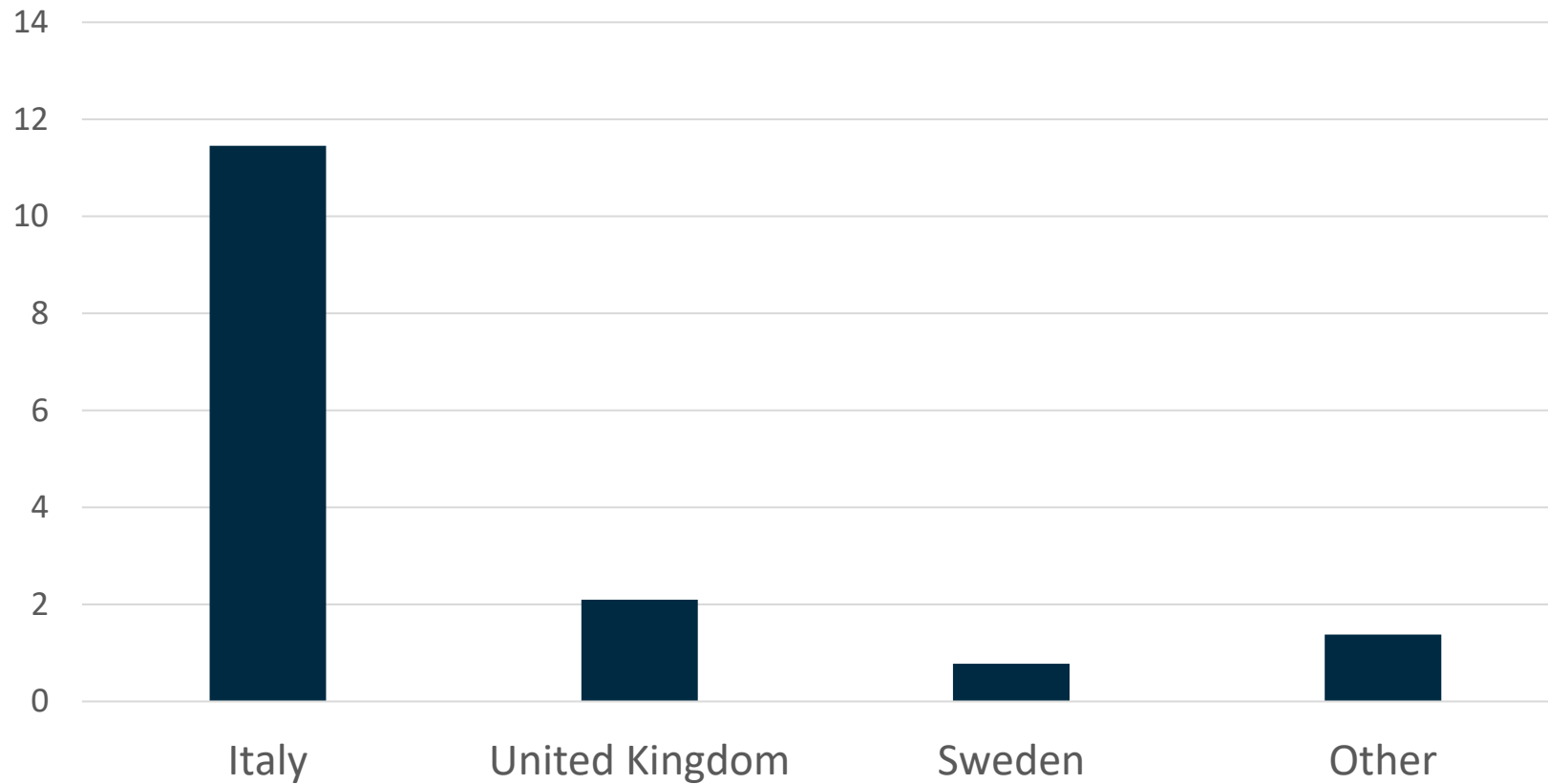


Cross-Border Market

Total Cross-Border Market Premium (Life & Pensions) 2019:

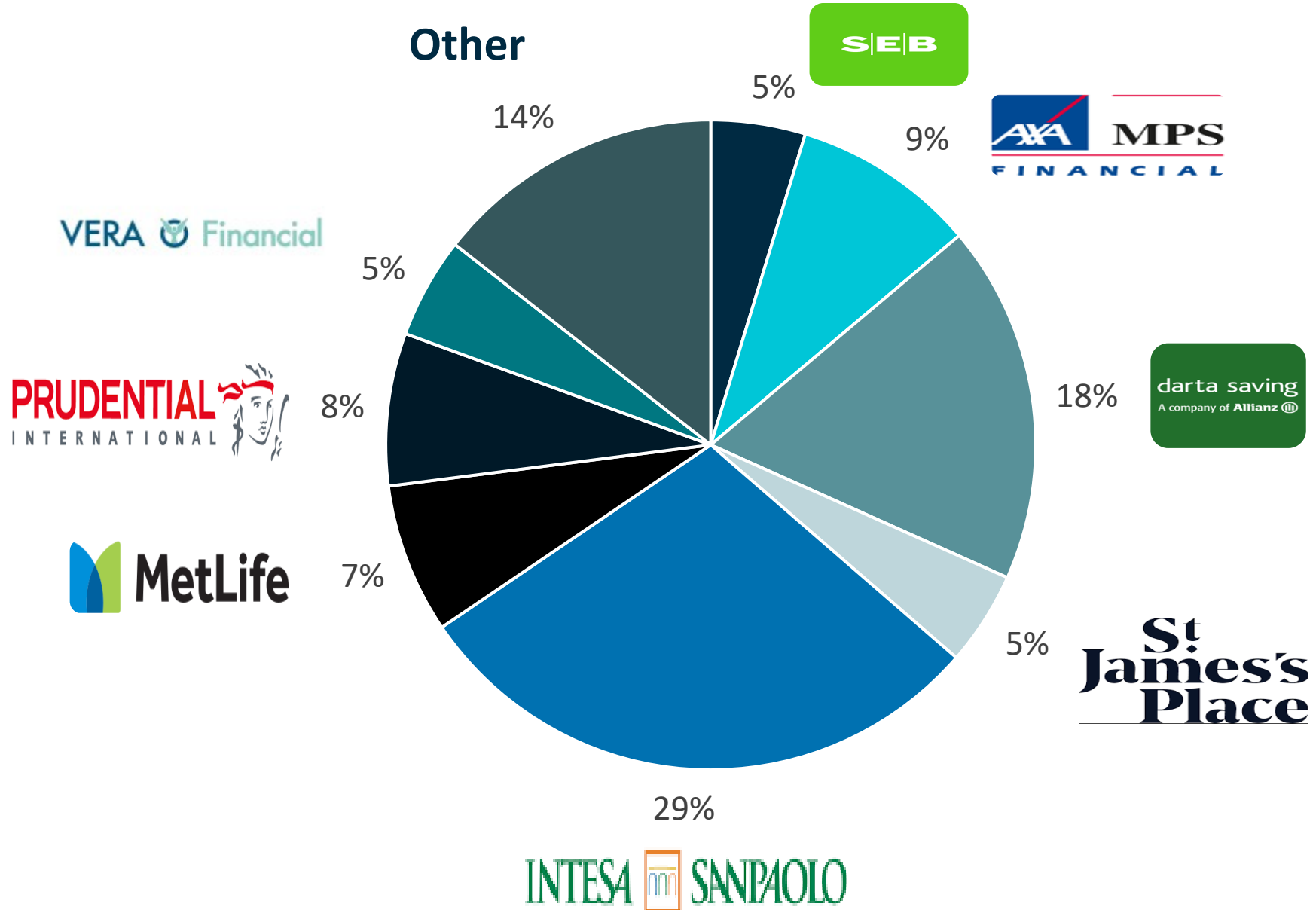
€16.7 bn

Breakdown By Country (€bn)





Cross-Border Market





The Role of a Life Actuary



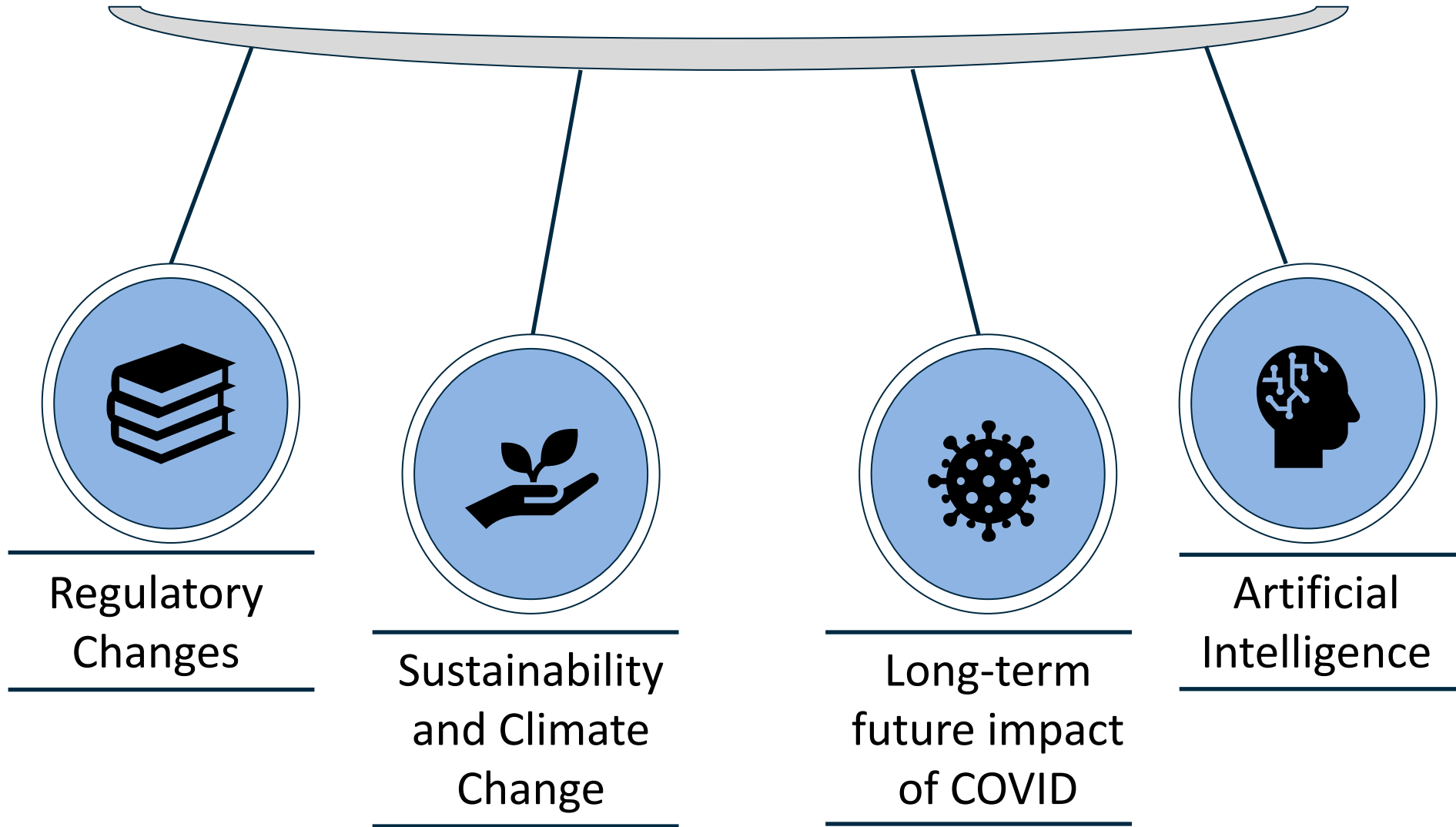
Actuaries can fill several diverse roles within the operations of a life insurance company.

These include, but are not limited to:

- Reserving
- Pricing
- Regulatory and financial reporting
- Product design
- Capital management (including Economic Capital)
- Solvency projections (Own Risk & Solvency Assessment)
- Risk Function (CRO)



Future of Life Insurance Market





Years

Society of Actuaries in Ireland

Actuarial Consulting

Michael O'Brien (he/him)

What is a consultant?

- Someone who gives expert advice to a person or organisation on a particular subject
- A professional – they know their area of expertise and can be relied on to give appropriate advice
- Typically advise an external client and have a close relationship with client while carrying out specific tasks/work
- Remunerated in line with the work/project carried out

Areas of work (1)

- Many consultancies operate in insurance covering areas such as:
 - Life insurance
 - Non-life insurance
 - Reinsurance
 - Healthcare
- Other operators are in the pensions field

Areas of work (2)

- Further areas in which consultancies operate include:
 - Investment
 - Personal Financial Advice
 - Enterprise Risk Management
 - Family Law
 - Litigation
- A number of consultancies cover multiple disciplines and can operate across several geographical areas

Areas of work (3)

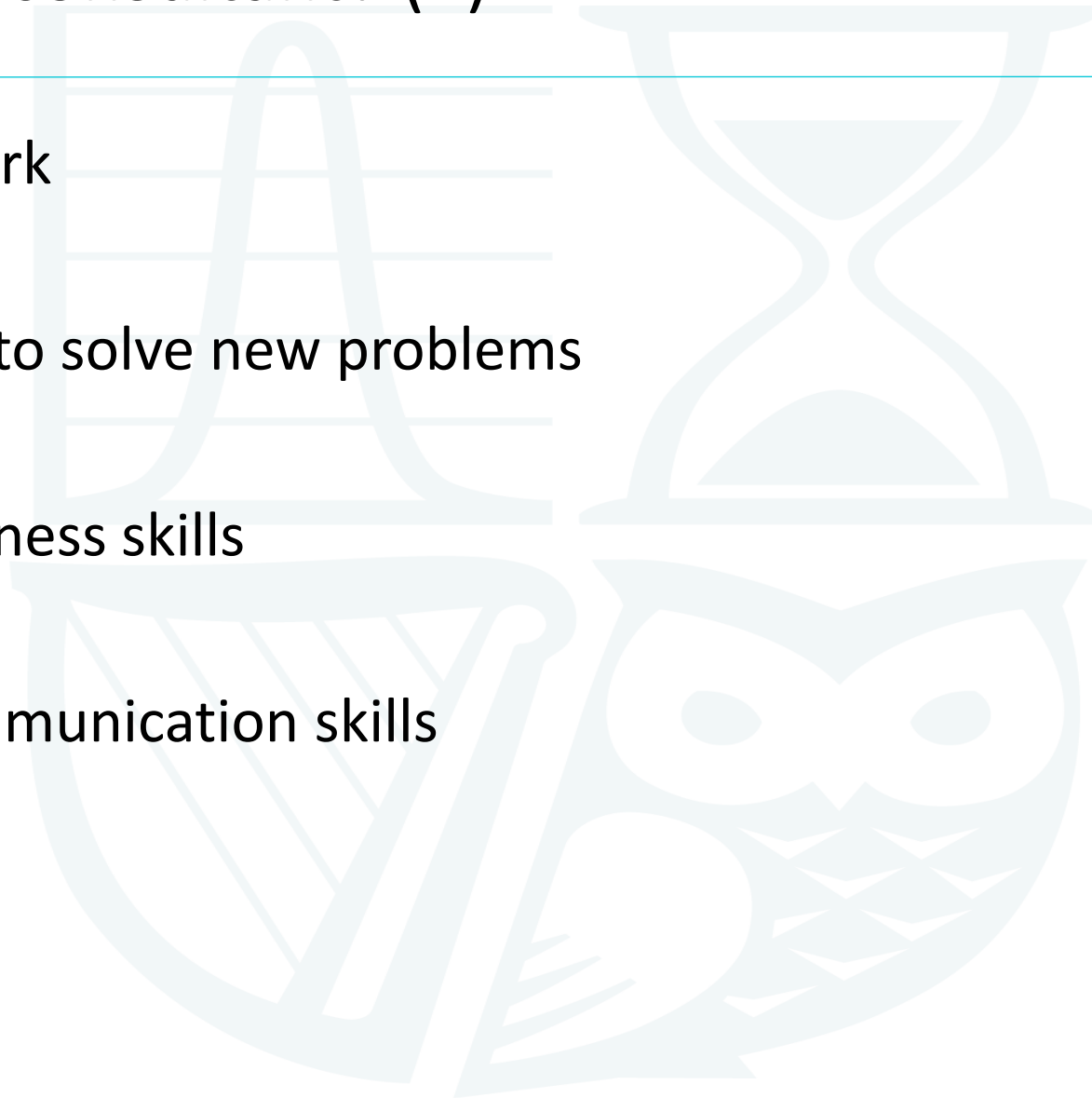
- Other consultancies would be smaller operations perhaps in a single field or geographical area or a limited number of areas
- The Society of Actuaries in Ireland maintains a directory of consultancies in Ireland
 - For information purposes
 - Company information
 - Areas of operation

Where consultants can work?

- Examples of consultancies include:
 - Milliman
 - EY
 - Deloitte
 - Aon
 - KPMG
 - Mercer
 - PWC
 - Willis Towers Watson
 - Plus many more of various sizes and features

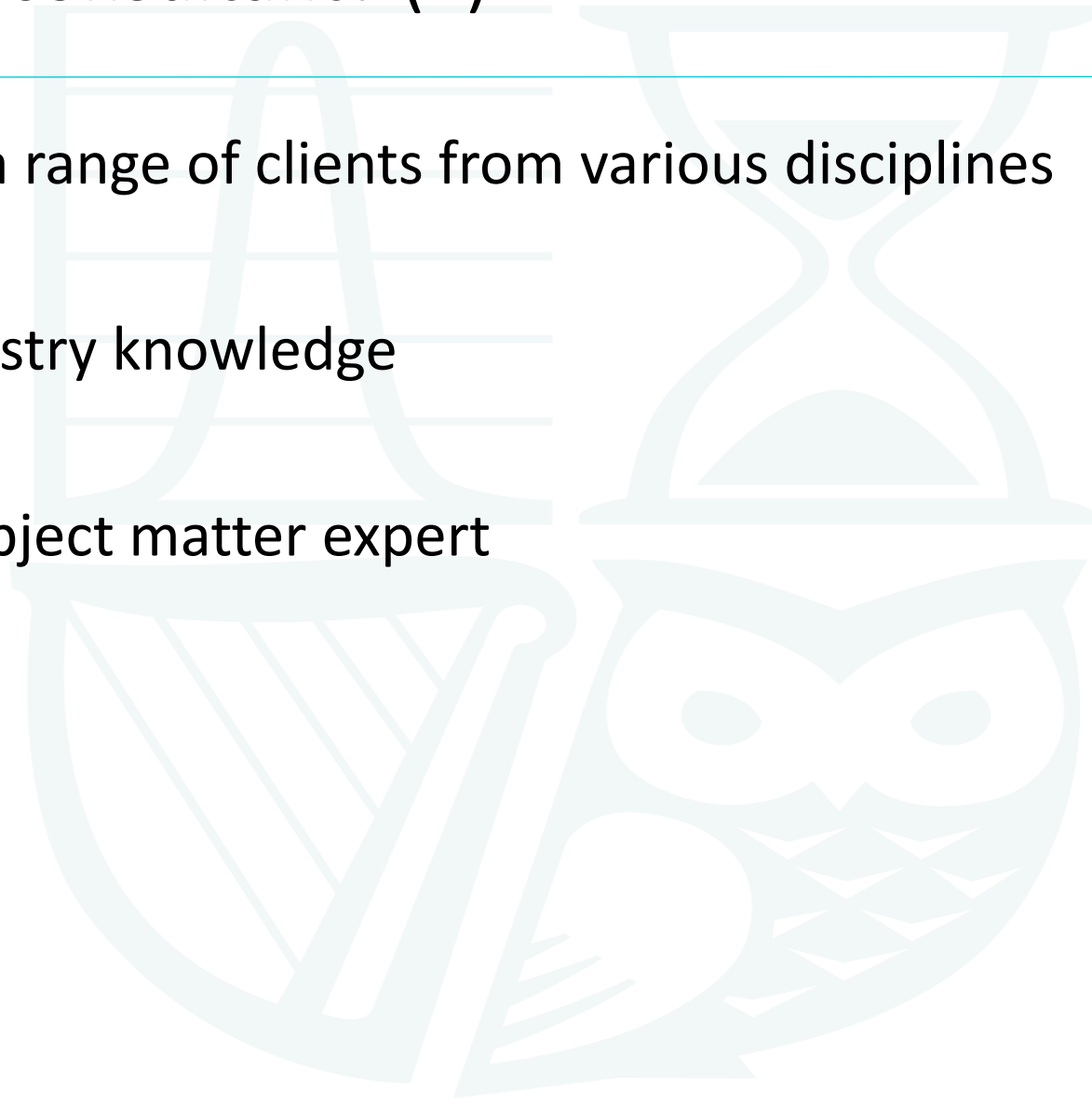
Why become a consultant? (1)

- Variety of work
- Opportunity to solve new problems
- Develop business skills
- Enhance communication skills



Why become a consultant? (2)

- Exposure to a range of clients from various disciplines
- Develop industry knowledge
- Become a subject matter expert





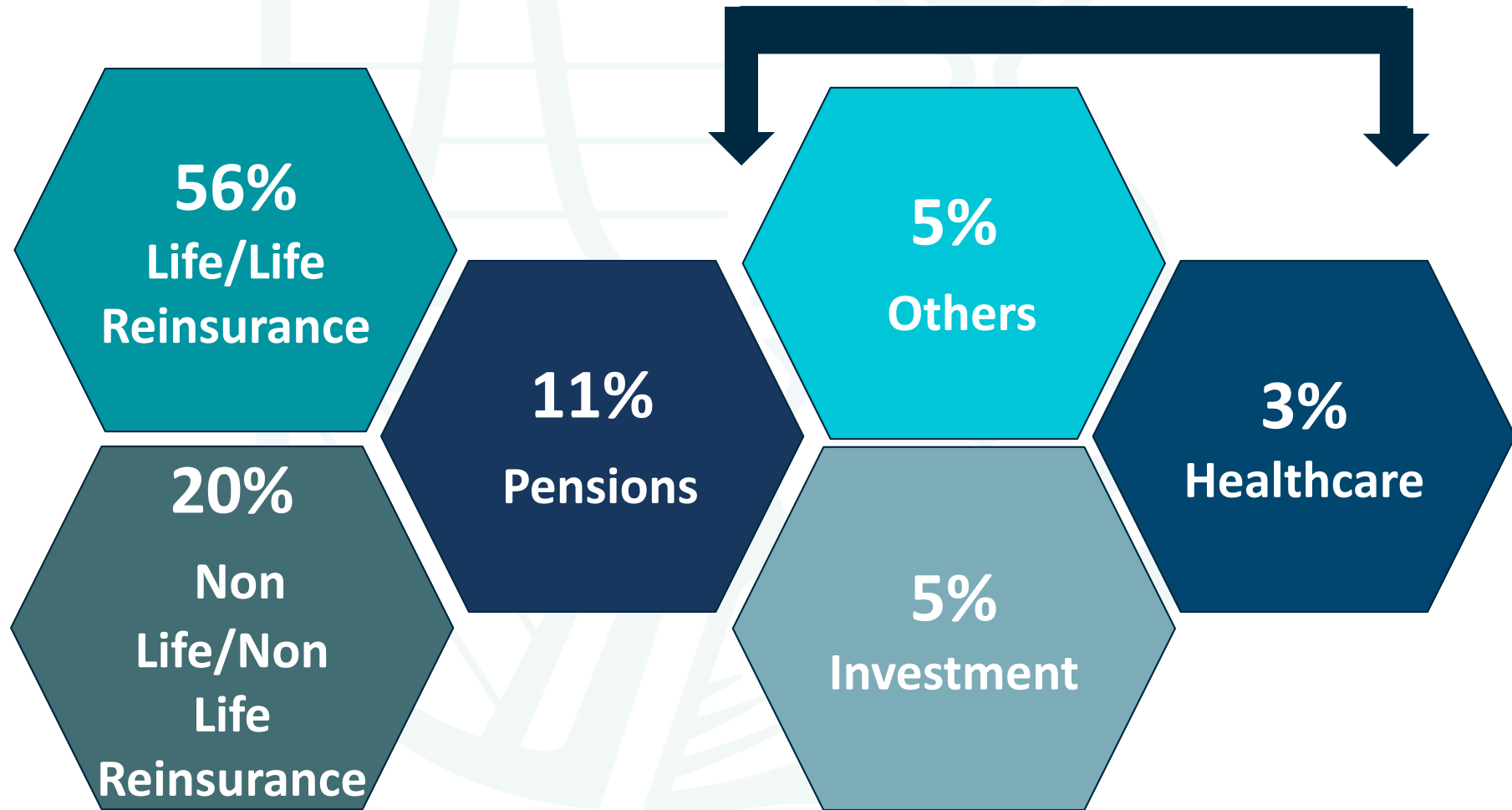
Years

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Wider Fields

Niall McCarthy

Where do Actuaries Traditionally Work?



Public Perception of Actuaries?



Do Actuaries need to broaden their definition?

Actuarial Careers are changing

“Wherever there is risk—and a desire to manage it—there is opportunity for actuaries to apply analytical skills and business knowledge to solve problems.”

Healthcare Senior Management
Aviation Finance Underwriting
Regulatory Bodies Environmental
Enterprise Risk Management Legal
Investments/ Fund Management HR
Data Analytics Recruitment
Artificial Intelligence Education
Banking Wealth Management

Aviation Finance



Valuation of aircraft leases
model

Credit defaults and migrations

Hail damage to fleet?

Loss of aircraft?

modelling

-> Monte Carlo market risk

-> Internal model credit model

-> non-life CAT model

-> life insurance

Data analytics

Endless scope of use the actuarial toolkit in Data Analytics

- GLMs
- Time series
- Stochastic modelling
- Inferential/Actuarial Stats
- Goodness-of-fit tests

Scope to bring in business/economics/accounting knowledge in a business setting to be more than just a number cruncher

- Artificial Intelligence
- Sports analytics and training/performance optimisation
- Odds compiling/bookmakers
- Clinical trials

The right tools in the wrong hands is a recipe for disaster!

Wider Fields Committee

- SAI Committee
- Aims to broaden opportunities for actuaries in non-traditional roles and provide support.
- Organise Events
- Banking subject to be added to IFoA syllabus – boost roles in banking
- Newsletter on SAI website provides interviews with some actuaries who have gone into wider fields and includes a Data Analytics Library





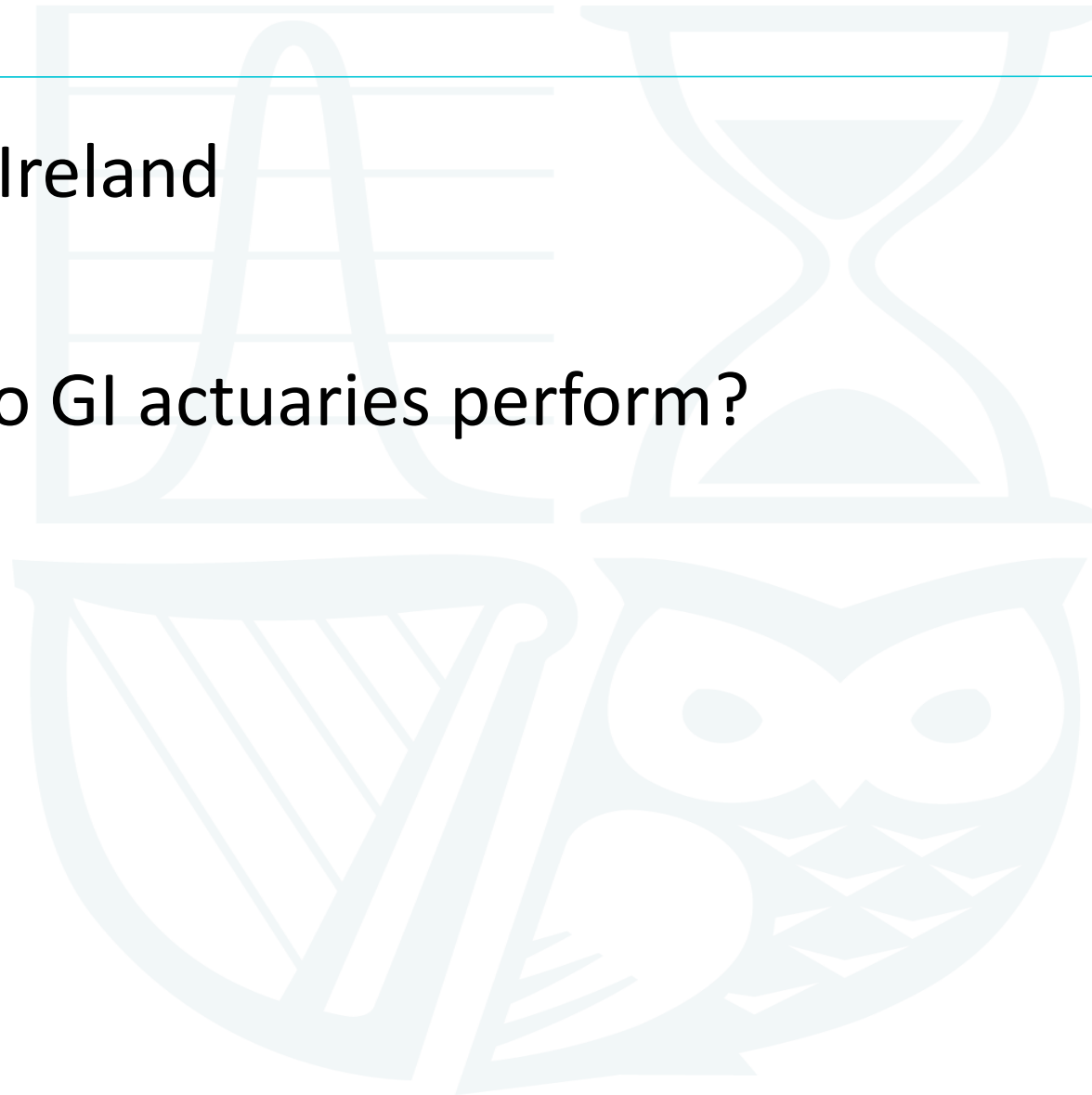
Society of Actuaries in Ireland

General Insurance

Jack Harrington

Agenda

- GI Market in Ireland
- GI Products
- What roles do GI actuaries perform?
- Hot Topics





Names you might recognise...



PartnerRe



RSA

Arch | Re

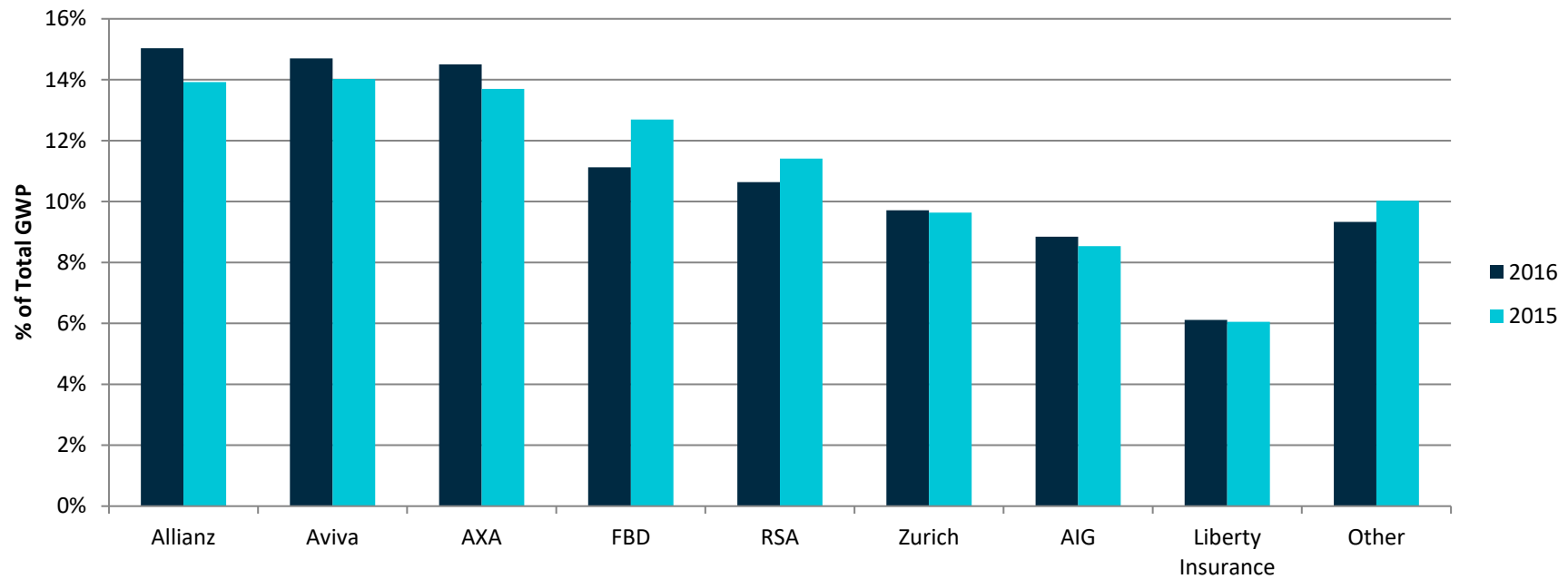


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Distribution of market share

Non-Life Market Share Ireland - GWP %



Source: Insurance Ireland Factfile



Range of GI Product Types

- **Personal Lines**

- Private Motor
- Household
- Personal Accident
- Travel
- Pet

- **Commercial Lines**

- Commercial Property
- Commercial Motor
- Liability
- Marine and Aviation
- Cyber
- Catastrophe





What does a GI actuary do?

- **Reserving**

- Estimating future claims costs
- Run-off triangles
- Analysing uncertainty
- QRTs, SFCRs, RSRs

Claims Triangle				
	Development year			
Accident year	0	1	2	3
2012	100	140	160	170
2013	120	150	190	
2014	150	190		
2015	140			

Turning triangle
into a rectangle!!!

Claims Triangle				
	Development year			
Accident year	0	1	2	3
2012	100	140	160	170
2013	120	150	190	202
2014	150	190	229	243
2015	140	183	220	234

- **Capital Modelling**

- Solvency Capital Requirement
- Internal model or Standard Formula
- IFRS17 Readiness





What does a GI actuary do?

- **Pricing**

- Identifying factors which predict level of risk of customers
- Analysis of business performance
- Big data and predictive analytics



- **Risk**

- Identifying, measuring and monitoring risk
- Own Risk and Solvency Assessment (ORSA)
- KRIs





Current topics

- **Differential Pricing:**



- Differential pricing is where customers with a similar risk and cost of service are charged different premiums for reasons other than risk and cost of service.
- Current pricing practices can lead to unfair outcomes for car and home insurance consumers.
 - Price walking ban
 - Providers review their pricing policies and processes annually
 - Consumer consent and disclosure requirements



Current topics

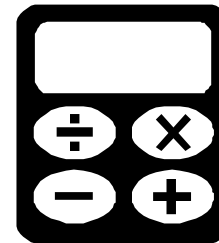
- **Data Analytics**

- Machine Learning
- Telematics/Usage-Based Insurance
- Fair price regulation



- **IFRS 17**

- New accounting standard for insurance contracts
- Comes into force in 2023
- Discounting of Reserves
- Structure : BEL + RA + CSM





Society of Actuaries in Ireland

Summary & Close

Sarah Larmour, Chair of the Recent Qualifier's Committee



Support

1. Additional Information

- IFoA Queries: Education.Services@actuaries.org.uk
- Guide for Student Actuaries:
<https://web.actuaries.ie/students/guide-student-actuaries-ireland>
- Member Support Service:
<https://web.actuaries.ie/mentoring-support-services>