

A Career in Actuarial Science

Dr Douglas Wright
Cass Business School, London

What is an actuary?

- actuaries apply financial and statistical theories to solve real business problems
 - typically involving analysing future financial events, especially when the amount and/or timing of future payments is uncertain
- thus, many actuaries work in 'risk management', assessing how likely an event may be and the costs associated with it
- actuaries traditionally operate in
 - life and health insurance
 - general insurance
 - pensions
 - investment
- increasingly, actuaries are also moving into other fields (e.g. corporate management, investment banking, mergers and acquisitions), where their analytical skills can be employed

Actuaries in life insurance

- all UK life insurance companies must have an Appointed Actuary, who is responsible for monitoring the financial position of the company
- actuaries in life insurance will also be responsible for:
 - product development and marketing
 - product pricing (i.e. setting the premium for a new contract) and reserving (i.e. ensuring that the company has sufficient assets to pay the promised liabilities)
 - investment management

Actuaries in general insurance

- actuaries use statistical models to analyse the financial consequences of insured events
 - e.g. product liability, floods, hurricanes, terrorist attacks
 - these models are then used to set the premium charged to those who buy insurance
- also, actuaries assist in the management of these risks
 - e.g. investment of assets to meet claims, re-insurance (i.e. insurance purchased by the insurer), dynamic financial analysis

Actuaries in pensions

- actuaries are responsible for the design and management of company pension schemes
 - accounts for over £800 billion of assets in the UK
 - over 30% of entire value of UK stock market held by pension funds
 - the largest single investment for most individuals
- paid for in advance through contributions by the employer and employee
- actuary is responsible for ensuring that the funds required are available at retirement
 - through advising on the rate of funding before retirement
 - and on appropriate investment strategy for the (very large) funds built up

Actuaries in investment

- actuaries work in fund management for financial institutions, combining knowledge of asset markets with an understanding of the liabilities faced
 - also, performance measurement statistics (e.g. FT-Actuaries All Share Index)
- actuaries help manage financial risk through the construction and pricing of complex derivative contracts
- actuaries are also involved in quantitative investment research for investment banks

Why do I want to be an actuary?

- a challenging and diverse work environment
 - actuaries work both in direct client-facing consultancy roles and in technical roles
- good work-life balance
 - a career as an actuary regularly ranks very highly in job satisfaction surveys
 - e.g. no need for 16-hour days, as will be required in investment banking!
- remuneration
 - actuaries are well paid!
 - starting salary in London of £28-30k
 - salary for nearly (or newly) qualified actuary of £50-60k
 - many actuaries go on to be partners and/or CEOs earning £100k+

How do I qualify as an actuary? (1)

- on average, it takes 7 years (from completion of university) to qualify as an actuary
- three stages of exams
 - Core Technical (or CT) subjects, covering the basics of financial mathematics, probability and statistics, economics and life contingencies
 - Core Application (or CA) subjects, covering the fundamental practical concepts such as asset-liability management and communication
 - Specialist Technical (or ST) subjects, covering the main areas of actuarial practice such as Life Insurance, General Insurance and Pensions

How do I qualify as an actuary? (2)

- eight CT subjects (CT1-CT8) to complete
 - usually takes 2-3 years
- three CA subjects (CA1-CA3) to complete
 - usually takes 1-2 years
- six ST subjects (ST1-ST6)
 - however, students must complete any two from six (plus an advanced fellowship exam in one of the chosen two, known as Specialist Application)
 - usually takes 2-3 years

Starting out on an actuarial career

- actuarial consultancies (specialising mainly in pensions), life insurance companies and specialist non-life insurance providers all recruit a small number of actuarial graduates per year
 - speak to careers advisors or see the Institute of Actuaries website (www.actuaries.org.uk) for contact details
 - however, most have a strong preference for students with some previous actuarial experience
 - so, it may be worth considering a postgraduate course in Actuarial Science to increase your marketability

Postgraduate courses in Actuarial Science (1)

- Cass Business School offers two postgraduate courses in Actuarial Science
 - Diploma in Actuarial Science covers the Core Technical subjects (CT1-CT8) and allows students to gain exemptions from the corresponding professional examinations
 - Diploma in Actuarial Management covers the Core Application (CA1) and Specialist Technical subjects (ST1-ST6) and, again, allows students to gain exemptions from the corresponding professional examinations
 - this course is suitable for those students who have completed the Core Technical stage

Postgraduate courses in Actuarial Science (2)

- both courses offer the option to convert the Diploma to an MSc by completion of a dissertation on a topic of your own choosing
 - this is an opportunity to increase your marketability by becoming an expert in particular area
- both courses are run on a one-year full-time basis
 - or, from 2007-8, on a one-day per-week part-time basis allowing students to combine work and study
 - gain work experience while you study
 - may get financial support from your employer

Postgraduate courses in Actuarial Science (3)

- fees for each full-time course are £10,500 for the Diploma plus (an optional) £4,000 to convert the Diploma to an MSc
- application for 2007/8 should be received by 31/07/2007
- for more information, see:
 - <http://www.cass.city.ac.uk/masters/courses/mscas/index.html> for Diploma/MSc in Actuarial Science
 - <http://www.cass.city.ac.uk/masters/courses/mscam/index.html> for Diploma/MSc in Actuarial Management
 - or, contact me directly
 - Dr Douglas Wright, email: i.d.wright-1@city.ac.uk