



CARIBBEAN ACTUARIAL ASSOCIATION



Accredited as a Full Member
of the International Actuarial Association

"Crossing the Boundaries of Tradition"

19th Annual CAA Conference

Rose Hall Resort and Spa, a Hilton
Resort in Montego Bay, Jamaica.

December 3-4, 2009



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Wider fields for actuaries

Daring to go where no actuary has been before...

Chris Daykin

Thursday 3rd December 2009



What is an actuary?

An actuary is a professional person who applies mathematical skills to financial, business and social problems, especially those which involve uncertain future events...

The Actuarial Profession

making financial sense of the future



Actuarial skill set

- mathematical modelling
- managing and communicating uncertainty
- evaluating financial consequences
- risk analysis, measurement and management
- finance and financial economics
- scientific pricing and reserving techniques
- asset/liability management
- overall financial management and control
- operating within a professional framework



Traditional areas of practice

- life insurance and annuities
- pensions
- sickness and health

and, in some jurisdictions...

- general insurance
- investment

General insurance

- the fastest growing practice area in the UK
- statutory role for actuary in Lloyd's syndicates
- actuaries in most general insurance companies
 - to start with mostly for reserving
 - now key roles in pricing and reinsurance
- Solvency II requires actuarial function for non-life
- expect rapid global development of this practice area

Investment and asset management

- some actuaries involved in this for a long time
- potential for considerable growth
 - albeit in competition with other professionals
- equity analysis
- performance measurement
- asset/liability management, LDI and similar
- financial engineering
- investment banking



Enterprise risk management

- major opportunity for actuarial profession
 - time is right with global emphasis on risk management
 - profession now has the global designation treaty in place
 - Chartered Enterprise Risk Actuary (CERA)
- risk management function under Solvency II
- G20 resolutions adopted advice from IAA
- demands for improved risk management in banks
- skill set of actuaries increasingly recognised
- likely to be many career opportunities in this field
- actuaries should be leading candidates for CRO roles



Enterprise risk management – CERA



Actuaries

The Best-Kept Secret in Business™

Turn Risk Into Opportunity™



Board and management roles

- not new but not exactly traditional!
- more business-savvy actuaries will aspire to become
 - CEO
 - CFO
 - COO
 - IT manager
 - Investment Manager
- and take positions on Boards of companies (especially, but not only, financial companies)



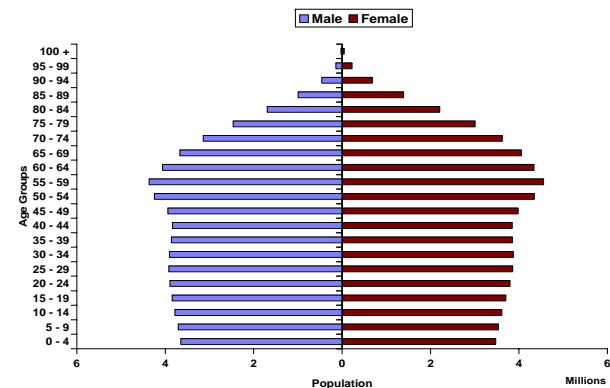
Health care financing

- financing of public health systems
- growth in private health insurance
- long-term care insurance and financing
- cost-benefit analysis of diagnostics and treatments
- performance measurement in health care systems
- public/private partnerships in health care infrastructure



Population studies

- population projections
- ageing population issues
- implications for social security and health care systems
- population dynamics – migration, urban/rural balance
- implications of demography for product design and marketing



Government actuarial roles

- social security financing
- health care financing
- regulation and supervision of financial institutions
- pensions policy
- consumer credit and regulation of lending
- tax authorities
- valuing long-term liabilities
- membership of public boards, commissions, etc



Major capital projects

- risk assessment and management
- cost-benefit analysis
- modelling cash-flows and scenario testing
- financing of major capital projects



Corporate finance

- strategic financial advice
- mergers and takeovers
- management consultancy
- evaluating embedded guarantees and options
- accounting for contingent liabilities
- economic consultancy
- rating agencies

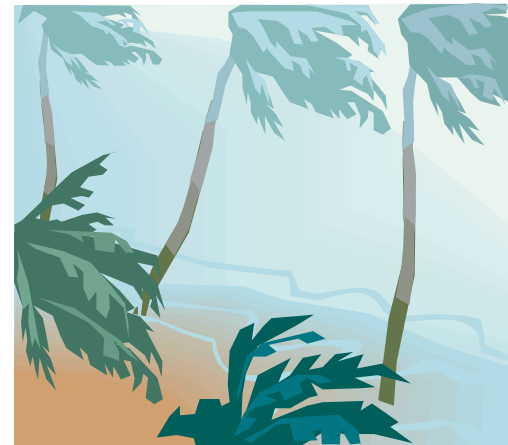
Information and Communications Technology (ICT)

- software development – especially financial sector
- risk management systems
- internal models for risk management and individual capital assessment
- administration systems
- innovative use of ICT



Energy and climate

- energy pricing and competition management
- climate change modelling and analysis
- weather derivatives
- catastrophe bonds
- carbon credit management and product design
- pricing and valuation issues



Environmental issues

- management of environmental liabilities and exposures
- financing of environmental clean-up
- design of more robust environmental policies
- incentive structures to support green policies
- insurance issues associated with pollution liabilities
- financial aspects of managing nuclear waste



Longevity management

- innovative solutions to managing longevity risk
- buy-out and buy-in vehicles
- longevity swaps
- longevity bonds
- new mechanisms for sharing longevity risk



General financial advice and consultancy

- advice on financial and risk management for
 - non-financial corporations
 - charities
- wealth management for high net worth individuals
- insurance broking (retail and wholesale)
- tax-planning
- market research
- valuation of reversions and life interests



Human resources consulting

- design of remuneration and bonus systems
- alignment of remuneration with strategic objectives
- share options
- design of remuneration cafeteria systems
- gratuity schemes
- managing the financing of redundancy schemes



Expert witness

- compensation for loss of earnings and pension rights
 - personal injury
 - wrongful dismissal and discrimination
- compensation for costs of care in personal injury
- pension and other financial aspects of divorce



Entrepreneurial actuaries

- setting up new businesses
- property development
- financial aspects of sport
- design of new financial concepts and products



Education, research and careers

- academic positions
- teaching actuarial programmes
- actuarial and related research
- working for the profession
- tuition companies
- recruitment, placing and career management



International

- global opportunities for actuaries
- severe shortages of actuaries in some countries
- multinational financial institutions
- multinational consultancies (actuarial and accounting)



Supranational institutions

- World Bank
- IFC
- IMF
- ILO
- ISSA
- WHO
- IAIS
- IOPS
- ADB, etc



Miscellaneous

- pension fund trusteeship
- media
- politics
- volunteering
- charity sector
- the church and other religious institutions
- music
- sport
- sailing round-the-world





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