VARIOUS BRANCHES OF THE ACTUARIAL PROFESSION

Bruin Actuarial Society
Outline

- Overview of the Profession
- Four Main Branches (Insurance)
  - Life
  - Health
  - Retirement
  - Property and Casualty
- Consulting
- Insurance versus Consulting
- Nontraditional Actuarial Roles
Overview of the Profession

- Actuaries use data models and statistics to study, manage, and minimize risk (i.e. unfavorable events)
- Actuaries also work on the consulting side to help clients and corporations make financial decisions
- Actuaries are becoming involved in many nontraditional roles
### Facts/Statistics About Actuaries

#### Where do most actuaries work?

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<th>Society of Actuaries</th>
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<td><strong>Region 2 (U.S. Midwest)</strong></td>
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<tr>
<td>States: Wisconsin, Michigan, Illinois, Indiana, Ohio, Missouri, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa</td>
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<td><strong>Region 3 (U.S. South)</strong></td>
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<td>States: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida Kentucky, Tennessee, Mississippi, Alabama, Oklahoma, Texas, Arkansas, Louisiana</td>
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*Source: Society of Actuaries, April 2013*

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Facts/Statistics About Actuaries

- **Salary:**
  - Average Starting: ~$60,000
  - Average Working: ~$110,000

- **Number of Actuaries in the US:** ~25,000

- **Growth Rate:** Expected ~22% over 10 years from 2016-2026

- **Entry Level Education:** Bachelor’s Degree
Four Main Branches

- Society of Actuaries (SOA)
  - Life
  - Health
  - Retirement

- Casualty Actuarial Society (CAS)
  - Property and Casualty (P&C)
Life insurance actuaries consider incidents that can affect an individual’s lifespan. Factors they consider include:

- Risk of diseases
- General health levels
- Where an individual lives
- Occupation

Help provide clients coverage for unexpected events in their lives.
Life Insurance Companies
Health insurance actuaries help draft rates/premiums to cover cost of care for individuals (ex. doctor visits, prescriptions, hospital stays, etc.)

In addition to serving individual companies and consumers, health insurers work with hospitals, medical device manufacturers, doctors, and pharmacists to make the whole health system work more efficiently.
SOA – Health

- Health insurers have to consider all of the various risks in the medical world including:
  - Patient health (and family health history)
  - Reputation of medical manufacturer
  - Sanitation/cleanliness of the hospital
  - Reliability/experience of physicians
  - Much more

- Healthcare is constantly changing, making this a fascinating and exciting field
SOA - Retirement

- Retirement/pension actuaries are responsible for calculating retirement plans for various companies and individuals
- They consider factors such as:
  - Age
  - Time until retirement
  - Morality risk
  - Interest rate
  - Defined benefit versus defined contribution
- Largely consulting work
CAS – Property and Casualty

- P&C insurance covers an individual’s belongings (property) and liabilities (casualty).
- Also known as “general insurance” because it covers a wide range of categories.
- Examples:
  - Homeowner’s insurance
  - Auto insurance
  - Renter’s insurance
  - Worker’s compensation
  - Medical malpractice coverage
CAS – Property and Casualty

- P&C actuaries consider various risks that can affect an individual’s properties or cause them to be a liability.
- P&C is exciting because it is an unpredictable and rapidly-changing field. Actuaries need to consider these new risks in a modern world:
  - Advancing technology
  - Natural disasters (earthquakes, floods, wildfires, hurricanes, etc.)
  - Cyber security/fraud
  - Drug/alcohol usage while driving/working
Property/Casualty Insurance Companies

Farmers Insurance

Liberty Mutual Insurance

AAA Insurance | CSAA Insurance Group
Consulting

- Actuarial consulting involves advising clients on financial and insurance-related decisions for their companies.

- Consultants must be great communicators because they have to explain complicated actuarial work to clients that may not have a background in insurance.

- Consulting is not as common in Life and P&C as it is in Retirement and Health.
Examples of what actuarial consultants would do in the four main branches:

- **Life**: Clarify and analyze morality rates
- **Health**: Advise clients on the best healthcare plans for their company
- **Retirement**: Help craft and price the best retirement/pension plan for their clients
- **P&C**: Creating insurance products and providing strategic advice
Insurance vs. Consulting

**Insurance**
- More standard hours
- Less travel
- Less direct contact with clients
- Interact with various departments so you get a good idea of how the company works

**Consulting**
- Variable hours
- More travel
- Work directly with clients often
- Interact with various firms and clients so you get a better view of the industry as a whole
Many industries are looking for actuaries to work in nontraditional roles, outside of the insurance realm

Want people with strong data analytical skills that can help reduce risk from within their companies

Industries with nontraditional actuarial roles:

- Accounting/Auditing
- Government
- Banking/Finance
- Sports
- Weather
- Private corporations
Nontraditional

Accounting/Auditing

- These firms, such as the Big Four accounting firms, hire actuaries to do a lot of their consulting work and audit work.
- Assess and restructure framework and analyze the financial systems to maximize a company’s efficiency

Government

- Actuaries work for the federal government in many agencies to model economic trends, ensure that companies are complying with regulatory laws, and more
- Ex. In the Social Security Agency, actuaries conduct cost analyses on their various programs, including their retirement and disability programs.
Nontraditional

Banking/Finance
- Actuaries work as credit risk analysts for banks to manage their investment risks
- Many people rely on banks to keep their money safe, so actuaries work to minimize chance of losing money

Sports
- Actuaries even use their analytical and data modeling skills to keep track of statistics in sports, such as baseball

Weather
- Work for companies whose revenue depends on weather, including energy companies, agricultural companies, and resorts
- Use data to price weather derivatives
Nontraditional

Private Corporations
- Private corporations utilize actuaries to make sure that their information systems are running efficiently and that they have minimized any potential risk

Other
- Teaching
- E-Commerce Risk
- Energy
- Environmental Finance
- Entrepreneurship
- Transportation
- Sales/Marketing
- Much More
Conclusion

- There is risk involved in almost every aspect of life.
- Because of this, there are endless possibilities for actuarial jobs