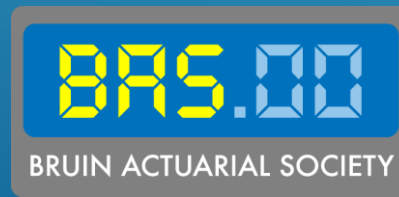


VARIOUS BRANCHES OF THE ACTUARIAL PROFESSION

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?

Society of Actuaries

Region 1 (U.S. Northeast)	23%
States include: New England, Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey	
Region 2 (U.S. Midwest)	21%
States: Wisconsin, Michigan, Illinois, Indiana, Ohio, Missouri, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa	
Region 3 (U.S. South)	16%
States: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Mississippi, Alabama, Oklahoma, Texas, Arkansas, Louisiana	
Region 4 (U.S. West)	9%
States: Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico, Alaska, Washington, Oregon, California, Hawaii	
Canada	18%
Outside US and Canada	14%

Casualty Actuarial Society

Region 1 (U.S. Northeast)	37%
States include: New England, Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey	
Region 2 (U.S. Midwest)	25%
States: Wisconsin, Michigan, Illinois, Indiana, Ohio, Missouri, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa	
Region 3 (U.S. South)	13%
States: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Mississippi, Alabama, Oklahoma, Texas, Arkansas, Louisiana	
Region 4 (U.S. West)	10%
States: Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico, Alaska, Washington, Oregon, California, Hawaii	
Canada	9%
Outside US and Canada	6%

Casualty Actuarial Society, April 2013

Source: Society of Actuaries, April 2013

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)



SOA - Life

- 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




SOA – Health

- 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

Health Insurance Companies

blue  of california

 United
Healthcare


MOLINA
HEALTHCARE


KAISER PERMANENTE®

Anthem 
BlueCross

BAS.00

BRUIN ACTUARIAL SOCIETY

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



| 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

Consulting

- 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

Consulting Companies



OLIVER
WYMAN



Willis
Towers
Watson

Nontraditional Actuarial Roles

- 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

