



ACTUARIAL FIELDS/CAREER PATH WORKSHOP

MS 6627

October 30th, 2023,

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11/11/2023

2023-2024 Bruin Actuarial Society



AGENDA

01

Overview

02

Insurance

03

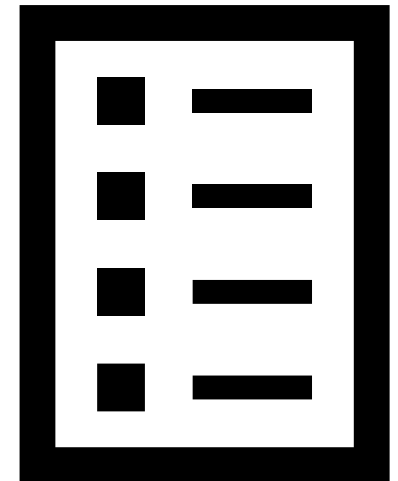
Consulting

04

Insurance vs. Consulting

05

Nontraditional Actuarial Roles



01. Overview



OVERVIEW

- What is an actuary?
 - An actuary is a business professional who uses mathematical and statistical techniques to put price tags on risks
 - Actuaries calculate the costs of uncertain future events that range from various natural disasters, such as tornados and hurricanes, to changes in life expectancy



WHERE DO ACTUARIES WORK?

Industry	Associates	Fellows	Total
Academic	242	271	513
Bank	208	322	530
Consulting	2,509	4,892	7,401
Health	1,132	1,972	3,104
Insurance	2,345	6,539	8,884
Regulator/Government	271	296	567
Retired	218	899	1,117
Technology	90	135	225
Other	432	586	1,018
Not Listed	4,916	2,960	7,876
Total	12,363	18,872	31,235

Source:
SOA as of 12/2020



WHERE DO ACTUARIES WORK

MAJOR LINES OF BUSINESS

- HEALTH AND BENEFITS
- PROPERTY AND CASUALTY
- RETIREMENT
- LIFE
- REINSURANCE

OTHER ROLES:

- DATA MINING
- CATASTROPHE MODELING
- INVESTMENT MANAGEMENT
- SOFTWARE
- QUANTITATIVE ANALYTICS

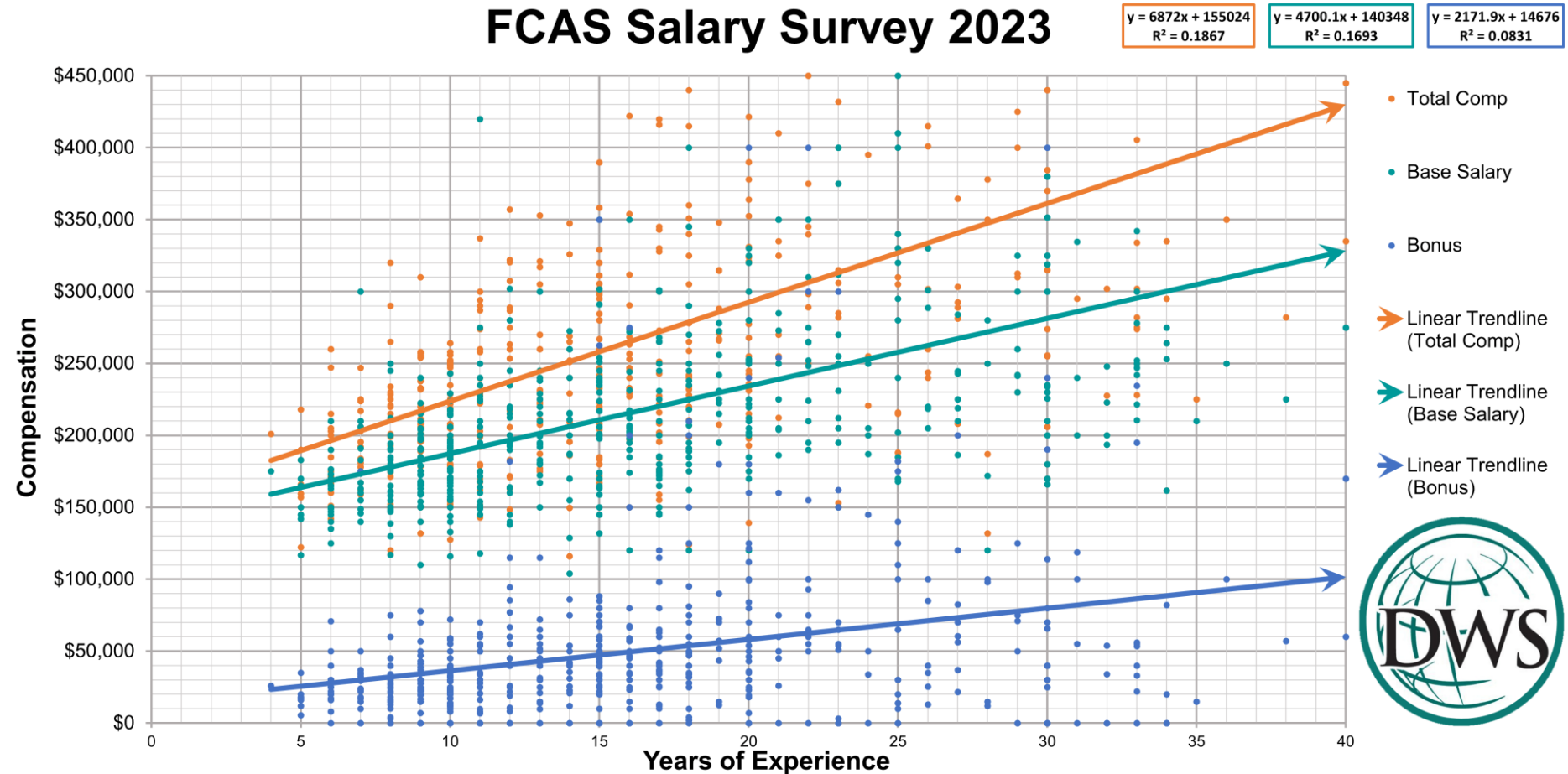


WHY BECOME AN ACTUARY

- Low stress
- High compensation
- Low unemployment rate
- High job security
 - AI helps actuaries do our job
 - Risk management is even more important during economic recessions
- Balanced lifestyle
- No more student debt
- Impactful work
 - You see your solution in the real world!
- Salary increases with passed exams and experience



FCAS Salary Survey 2023



Source:



Health FSA Salary Survey 2023

$$y = 6283x + 139339$$

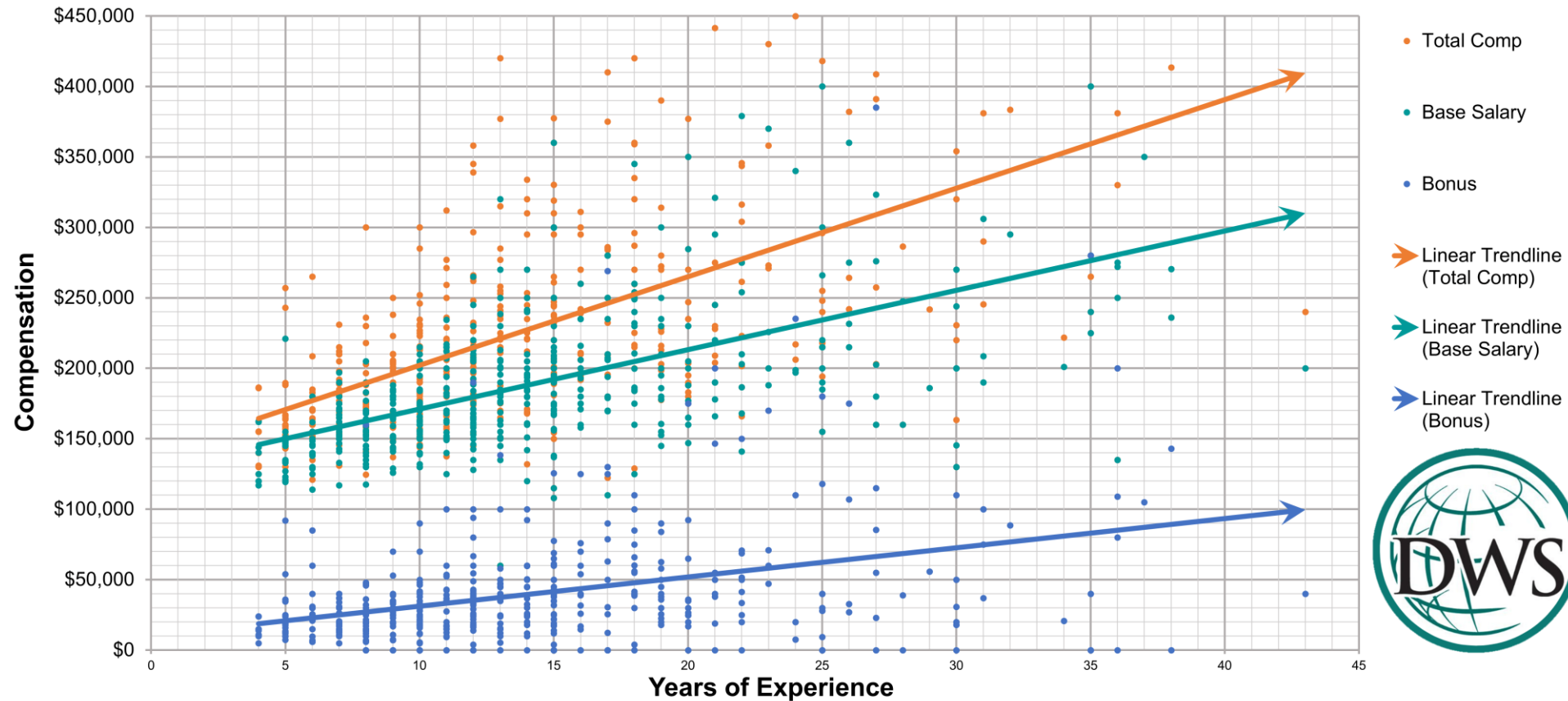
$$R^2 = 0.2397$$

$$y = 4212.6x + 128878$$

$$R^2 = 0.2825$$

$$y = 2070.5x + 10461$$

$$R^2 = 0.1024$$



Source:



ACTUARIAL ORGANIZATIONS

- There are two main actuarial organizations that govern different practices
 - Within each practice, actuaries can be divided into Insurance or consulting



02. Insurance

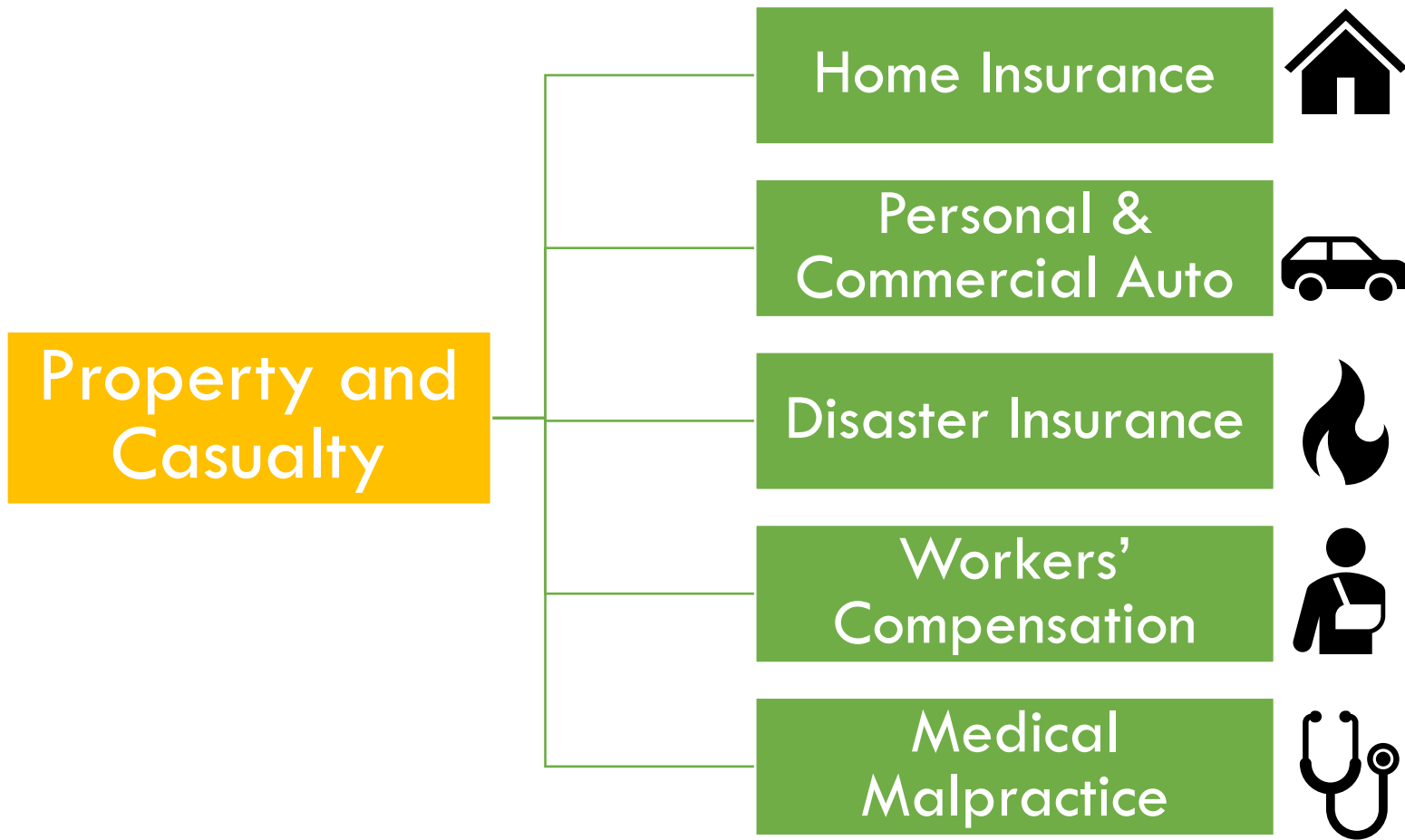


PROPERTY AND CASUALTY



- Help protect individuals and businesses against losses from automobile accidents, property damage, theft, and commercial liability
- Use new technologies and developments, predictive analytics, and modeling to quantify and manage emerging risk such as self driving cars, climate change, and ridesharing

PROPERTY AND CASUALTY



P&C ACTUARIES MIGHT ANSWER...

Pricing

Ex: How much more does AAA have to charge drivers who have a DUI conviction? How much of a discount can we give drivers whose cars have more airbags?

Reserving

Ex: How much cash does Farmers have to keep on-hand to pay claims? How much can it use to invest for profit?



P&C Companies

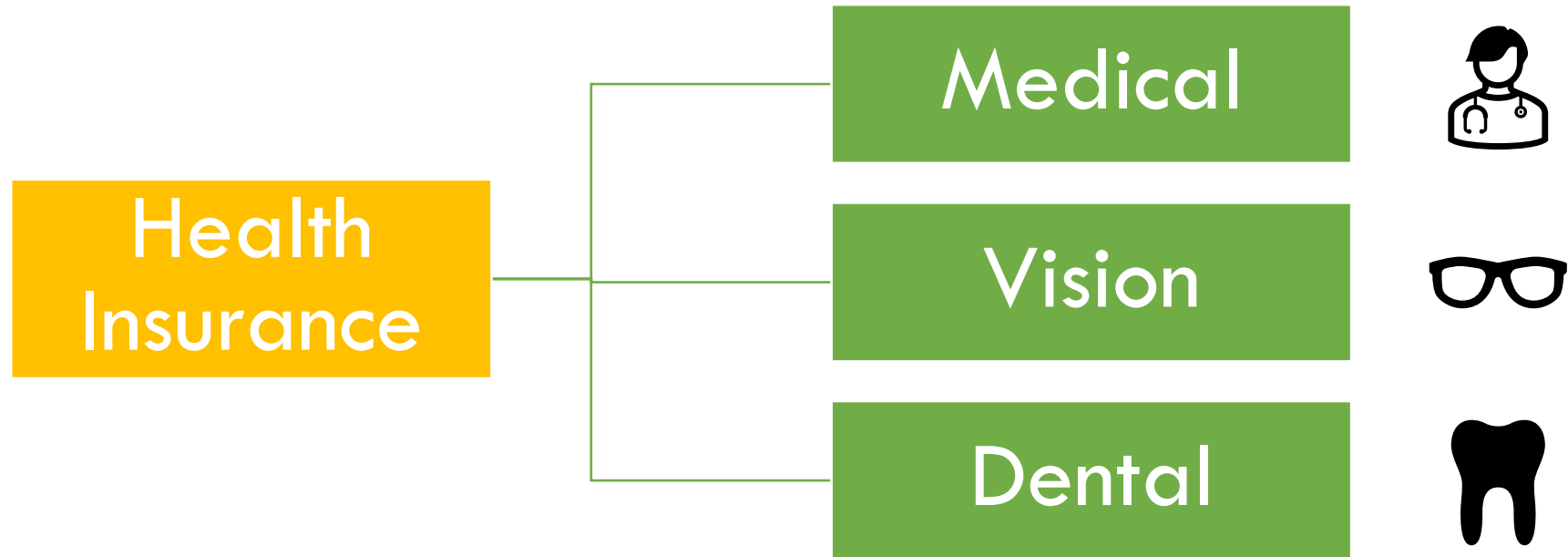


HEALTH



- Help draft rates/premiums to cover cost of care for individuals and work with hospitals, medical device manufacturers, doctors, and pharmacists to make the whole health system work more efficiently

HEALTH



P&C ACTUARIES MIGHT ANSWER...

Pricing & Reserving

Ex: How much more do we need to charge smokers to cover their higher risk? By how much can we lower premiums if we invest the premiums we collect?

Healthcare Policy

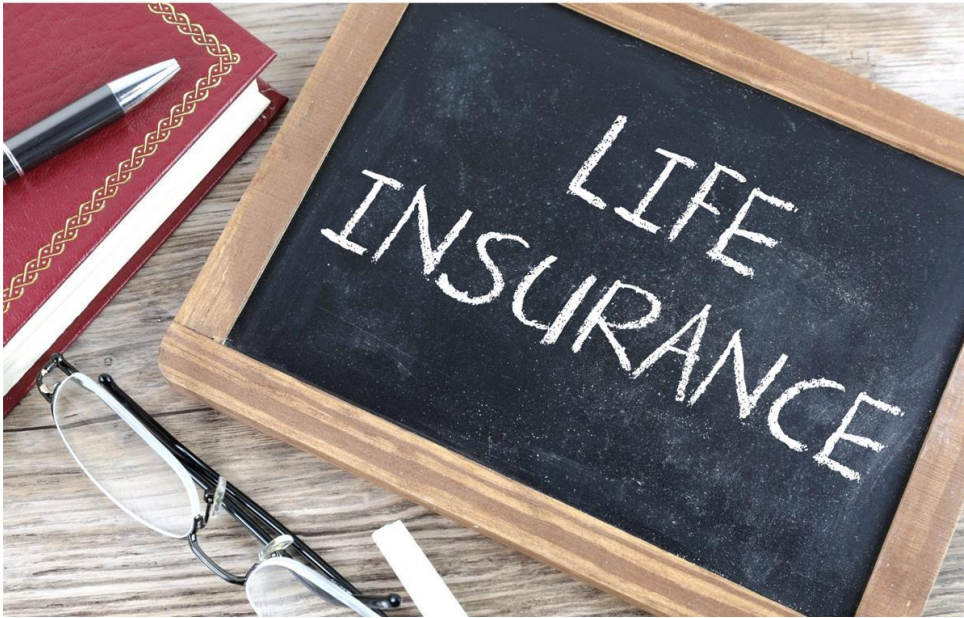
Ex: What happened to premiums when the Affordable Care Act required all people to buy health insurance? What happens now that the individual mandate has been repealed?



Health Companies



LIFE



- Use knowledge of capital markets, mortality, and financial concepts when developing life insurance and annuity policies for individuals and groups to ensure that families are financially secure in the event of the policyholder's death
- Involved in the investment of company assets to ensure solvency and strong long-term results

RETIREMENT



- Work on companies' pension plans and 401(k) benefits.
- Help companies design competitive retirement packages to effectively attract, retain, and replace employees

LIFE/RETIREMENT ACTUARIES ANSWER...

Life

Ex: How can life insurance products be adjusted to ensure attractive returns for policyholders in a low interest rate environment?

Retirement

Ex: Can a company's pension program remain solvent when interest rates are low for a long period?



Life Insurance Companies



Retirement Companies



03. Consulting



ACTUARIAL CONSULTING

- Actuarial consultants advise clients on financial and insurance-related decisions for their companies
 - Great communicators
 - More common in retirement and health



ACTUARIAL CONSULTING

Line of Business	Typical Tasks
Life	Clarify and analyze mortality rates
Health	Advise clients on the best healthcare plans for their company
Retirement	Help craft and price the best pension plan for their clients
P&C	Create insurance products and provide strategic advice



INSURANCE VS CONSULTING

Insurance	Consulting
More Standard Hours	Variable hours
Less Travel	More Travel
Less direct contact with clients	Work directly with clients often
Interact with various departments so you get a good idea of how the company works	Interact with various firms and clients so you get a better view of the industry as a whole

Actuarial Consulting Companies



NONTRADITIONAL ROLES

- There are various risks and ways to maximize efficiency in every industry
- While actuaries are most found in insurance companies, there are also actuaries in:
 - Accounting/Auditing
 - Government
 - Banking/Finance
 - Sports
 - Meteorology
 - Private corporations
 - Teaching
 - And more!



SPECIALIST INSURANCE

- There's insurance for practically everything. For example:
- Bruce Springsteen's voice
- David Beckham's legs
- Egon Ronay's taste buds
- Cristiano Ronaldo's legs - \$144 million
- Alien abduction insurance for ~ 30,000 policy holders



TAKEAWAYS SLIDE

KEY TAKEAWAYS

- Actuaries typically for insurance companies or go into consulting
- P&C, Health, Life, Retirement

ANNOUNCEMENTS

- OLA Info Session Mon. 11/6
- CAS Student Conference Mon. 11/7
- Blue Shield of CA Info Session Mon. 11/7 6PM



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Thank you

Any questions?