

# Michigan House of Representatives

## Insurance and Financial Services Committee Meeting

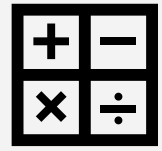
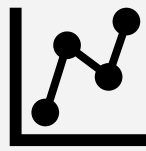
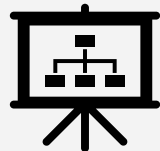
Paul Anderson, FCAS, CSPA, MAAA  
Principal & Consulting Actuary  
Milliman, Inc.

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# What is an Actuary?

A business professional with an in-depth knowledge of mathematics, statistics, finance, and insurance



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**CAS**

**Casualty Actuarial Society**

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ACAS

Associate of the Casualty Actuarial Society

FCAS

Fellow of the Casualty Actuarial Society



SOCIETY OF  
ACTUARIES®

**SOA**

**Society of Actuaries**

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ASA

Associate of the Society of Actuaries

FSA

Fellow of the Society of Actuaries

# What Do Actuaries Do?

Actuaries measure and manage risk



- Risk = The possibility of a range of future outcomes, some of which are bad (i.e., losses)

# What Makes Actuaries Valuable?

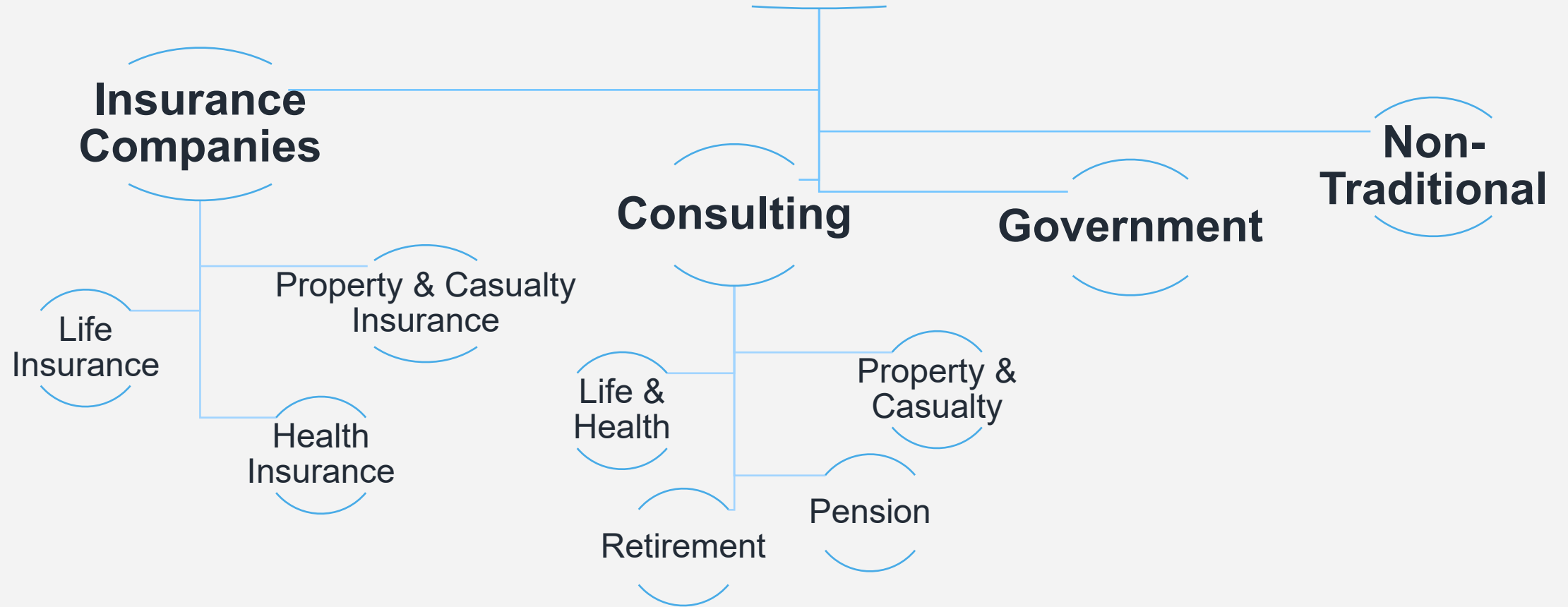
## Subject-Matter Expertise

- Expertise gained through a difficult examination process
- Broad business knowledge in a variety of areas, such as economics, finance, and accounting

## Unique Combination of Strengths

- Ability to apply strong analytical skills to complex business problems
- Ability to communicate technical results to non-technical individuals

# Where Do Actuaries Work?



# What Actuaries Do: Insurance Companies

- Pricing
- Predictive Modeling
- Product Development
- Reserving
- Experience Studies



# What Actuaries Do: Consulting Firms

- **Client-Based Projects**
  - Pricing
  - Product Development
  - Reserving
  - Forecasting
  - Mergers and Acquisitions





# What Actuaries Do: **Government / Non-Traditional**

- **Government**
  - Review/Approve Filings
  - Analyze Proposed Legislation
  - Social Security & Medicare
- **Education**
- **Autonomous Vehicles**
- **Auto Manufacturers**
- **Niche Products** (Pet Insurance)
- **Modeling Vendors** (CATs, Telematics, Imagery, etc.)



# Introduction to Milliman

## Global Leader



- Among the world's largest providers of actuarial, risk management, and related technology and data solutions
- Consulting and advanced analytics capabilities that encompass:
  - Employee benefits
  - Healthcare
  - Life insurance & financial services
  - Property & casualty insurance

## History and Services



- Founded in 1947
- Serves the full spectrum of business, financial, government, union, education, and nonprofit organizations
- Offices in principal cities worldwide, covering markets in:
  - North America
  - Latin America
  - Europe
  - Asia & the Pacific
  - The Middle East
  - Africa

## Independent



- Milliman is owned and managed by its principals who have been elected in recognition of their technical, professional, and business achievements

# Milliman Offices

**North America**  
Albany | Atlanta | Bermuda  
Boise | Boston | Burlington  
Chicago | Dallas | Denver  
Hartford | Houston | Indianapolis  
Little Falls | Los Angeles  
Milwaukee | Minneapolis | New York  
York | Omaha | Orange County  
Philadelphia | Phoenix | Portland  
ME | Portland OR | Salt Lake City  
San Diego | San Francisco  
Seattle | St. Louis | Tampa  
Walnut Creek | Washington DC

**Latin America**  
Buenos Aires | Rio de Janeiro  
São Paulo

**Africa**  
Cape Town  
Johannesburg

**Middle East**  
Dubai | Istanbul | Tel Aviv

**Europe**  
Amsterdam | Brussels  
Bucharest | Dublin | Dusseldorf  
Isle of Man | London  
Luxembourg | Madrid | Milan  
Paris | Warsaw | Zurich

**Asia Pacific**  
Beijing | Hong Kong  
Jakarta | Kuala Lumpur  
Mumbai | New Delhi  
Seoul | Shanghai  
Singapore | Sydney  
Taipei | Tokyo

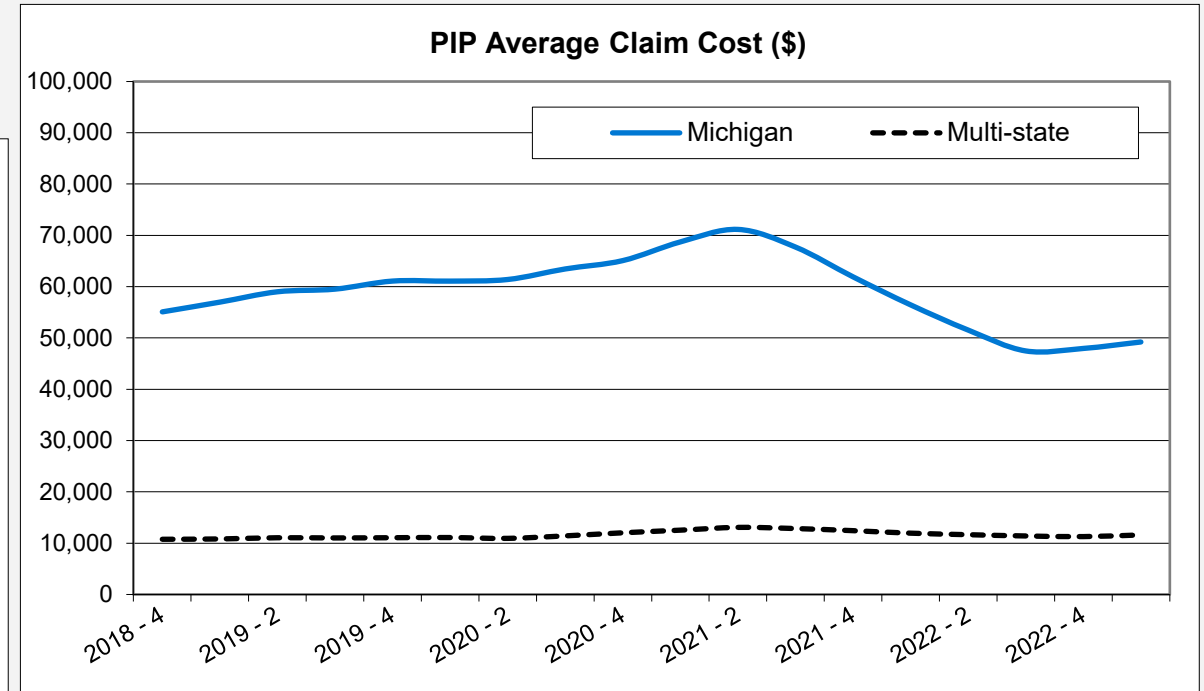
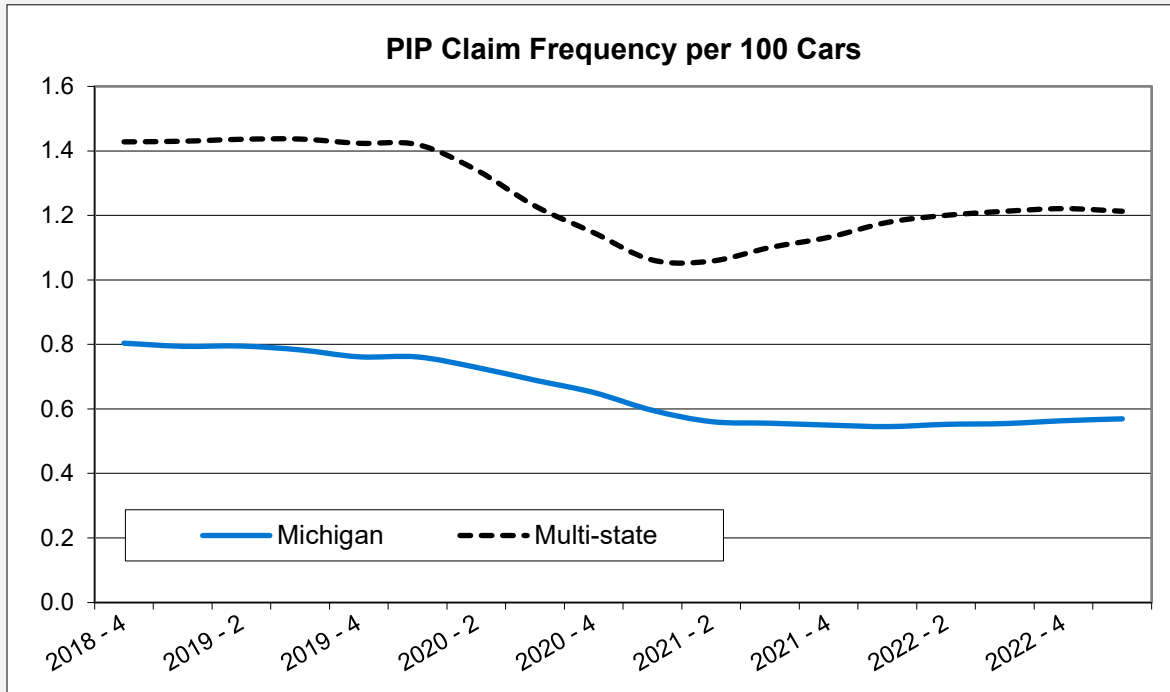
# Actuaries & No-Fault Auto Insurance

## Evaluate Adequacy of Rates

- Separate analysis for each coverage (BI, PD, PIP, etc.)
- Statewide vs. territory-level adequacy
- Allocation of rates by driver, policy/household, & vehicle characteristics
- Review historical experience to project future costs & premiums
  - Determine ultimate settlement amounts of claims
  - Account for trends in premium, claim frequency, & claim severity
  - Adjust for extraordinary volatility in historical experience (e.g., catastrophes)
  - Adjust for unusual change in exposure (e.g., COVID-19)

# Actuaries & No-Fault Auto Insurance

## Evaluate Adequacy of Rates



# Actuaries & No-Fault Auto Insurance

## Measure Impact of Legislative Changes

- Determine impact of changes in coverage (e.g., unlimited vs. limited)
- Determine impact of changes in benefits (e.g., medical fee schedule)
- Evaluate overall impact in projection of future costs & premiums
- Review interaction with other risk characteristics
- Consider impact on other business units
  - Claims
  - Distribution
  - Marketing
  - Underwriting



# Questions?

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