General Insurance Ratemaking and Reserving Exam

Spring 2019

Important Exam Information:

Exam Registration	Candidates may register online or with an application.
Order Study Notes	There is no study note package for this examination.
Introductory Study Note	The Introductory Study Note has a complete listing of all readings as well as errata and other important information.
Case Study	There is no case study for this examination.
Past Exams	Past copies of this exam from 2013-present are available on the SOA website.
Updates	Candidates should be sure to check the Updates page on the exam home page periodically for additional corrections or notices.
Appendices	The Appendices to *Fundamentals of General Insurance Actuarial Analysis* are part of the course of reading for this examination. Because they apply to multiple topics, they are not mentioned in the specific readings in the syllabus.

1. **Topic: Introduction and Key Considerations**

Learning Objectives

The candidate will understand the key considerations for general insurance actuarial analysis.

Learning Outcomes

The Candidate will be able to:

a) Understand professional requirements and the actuarial control cycle
b) Identify different types of data used for actuarial analysis
c) Identify professional responsibilities related to data
d) Recognize differences in how data are aggregated and segregated
e) Identify qualitative information required for actuarial analysis
f) Describe the use of credibility theory
g) Identify trend adjustments and describe the relationship between trend and loss development
h) Describe documentation requirements
i) Describe and recognize the role of professional judgment in actuarial analysis
j) Create a claims development triangle from claims transaction data
k) Estimate written, earned and unearned premiums
l) Adjust historical earned premiums to current rate levels

Resources

- *Fundamentals of General Insurance Actuarial Analysis*, J. Friedland
  - Part 1: Introduction
  - Part 2: Key Concepts Relevant to Many Types of Actuarial Work
  - Part 3: Preparing the Data

2. **Topic: Projecting Ultimate Claims**

Learning Objectives

The candidate will understand how to calculate projected ultimate claims and claims-related expenses.

Learning Outcomes

The Candidate will be able to:

a) Use loss development triangles for investigative testing

b) Estimate ultimate claims using various methods: development method, expected method, Bornhuetter Ferguson method, Cape Cod method, frequency-severity methods, Berquist-Sherman methods

c) Estimate claims-related expenses and recoveries

d) Explain the effect of changing conditions on the projection methods cited in (b)

e) Assess the appropriateness of the projection methods cited in (b) in varying circumstances

f) Evaluate and justify selections of ultimate values based on the methods cited in (b)

Resources

- *Fundamentals of General Insurance Actuarial Analysis*, J. Friedland
    - Part 4: Projecting Ultimate Claims, Claims-Related Expenses, and Recoveries

3. **Topic: Financial Reporting**
Learning Objectives
The candidate will understand financial reporting of claim liabilities and premium liabilities.
Learning Outcomes
The Candidate will be able to: a) Describe the key assumptions underlying ratio and count-based methods for estimating unpaid unallocated loss adjustment expenses b) Estimate unpaid unallocated loss adjustment expenses using ratio and count-based methods c) Describe the components of claim liabilities in the context of financial reporting d) Evaluate the estimates of ultimate claims to determine claim liabilities for financial reporting e) Describe the components of premium liabilities in the context of financial reporting f) Evaluate premium liabilities
Resources
• *Fundamentals of General Insurance Actuarial Analysis*, J. Friedland o Part 5: Financial Reporting and the Establishment of Reserves

4. **Topic: Trending**

Learning Objectives

The candidate will understand trending procedures as applied to ultimate claims, exposures and premiums.

Learning Outcomes

The Candidate will be able to:

a) Identify the time periods associated with trending procedures

b) Describe the influences on frequency and severity of changes in deductibles, changes in policy limits, and changes in mix of business

c) Choose trend rates and calculate trend factors for claims

d) Describe the influences on exposures and premiums of changes in deductibles, changes in policy limits, and changes in mix of business

e) Choose trend rates and calculate trend factors for exposures

Resources

- *Fundamentals of General Insurance Actuarial Analysis*, J. Friedland
    - Part 6: Trending Procedures

5. **Topic: Ratemaking**

Learning Objectives

The candidate will understand how to apply the fundamental ratemaking techniques of general insurance.

Learning Outcomes

The Candidate will be able to:

a) Describe the objectives of general insurance rate regulation and the various regulatory environments
b) Calculate expenses used in ratemaking analyses including expense trending procedures
c) Incorporate underwriting profit and contingency margins into ratemaking
d) Calculate loadings for catastrophes and large claims
e) Demonstrate the use of credibility in ratemaking
f) Calculate overall rate change indications under the claims ratio and pure premium methods
g) Calculate risk classification changes and territorial changes
h) Calculate deductible factors, increased limits factors, and coinsurance penalties
i) Calculate rates for large accounts
j) Perform individual risk rating using standard plans
k) Calculate rates for claims-made coverage

Resources

- *Fundamentals of General Insurance Actuarial Analysis*, J. Friedland
    - Part 7: Ratemaking

6. **Topic: Monitoring Results**
Learning Objectives
The candidate will understand the need for monitoring results.
Learning Outcomes
The Candidate will be able to: a) Describe the role of monitoring in ultimate values and pricing b) Analyze actual claims experience relative to expectations c) Develop plans for future actuarial work based on the results of monitoring d) Demonstrate the use of the actuarial control cycle in the context of monitoring
Resources
• *Fundamentals of General Insurance Actuarial Analysis*, J. Friedland o Part 8: Monitoring Results

7. **Topic: Catastrophe Modeling**

Learning Objectives

The candidate will understand the nature and application of catastrophe models used to manage risks from natural disasters.

Learning Outcomes

The Candidate will be able to:

a) Describe the structure of catastrophe models

b) Apply catastrophe models to insurance ratemaking, portfolio management, and risk financing

Resources

- *Catastrophe Modeling: A New Approach to Managing Risk*, Grossi, P.; and Kunreuther, H.
    - Ch. 1-7 (Section 2.4.1 is incorrect and will not be tested; however, exceedance probability curves as discussed elsewhere in the book may be tested)