

General Insurance Introduction to Ratemaking and Reserving
SPRING 2014

Important Exam Information:

Exam Date and Time A read-through time will be given prior to the start of the exam—15 minutes in the morning session and 15 minutes in the afternoon session.

[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 exams from 2000-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.

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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: <ul style="list-style-type: none">a) Understand professional requirements and the actuarial control cycleb) Identify different types of data used for actuarial analysisc) Identify professional responsibilities related to datad) Recognize differences in how data are aggregated and segregatede) Identify qualitative information required for actuarial analysisf) Describe the use of credibility theoryg) Identify trend adjustments and describe the relationship between trend and loss developmenth) Describe documentation requirementsi) Describe and recognize the role of professional judgment in actuarial analysisj) Create a claims development triangle from claims transaction datak) Estimate written, earned and unearned premiumsl) Adjust historical earned premiums to current rate levels
Resources
<ul style="list-style-type: none">• <i>Fundamentals of General Insurance Actuarial Analysis</i>, J. Friedland<ul style="list-style-type: none">○ Part 1: Introduction○ Part 2: Key Concepts Relevant to Many Types of Actuarial Work○ Part 3: Preparing the Data

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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) Identify the various changing conditions that affect the determination of ultimate claims
- e) Evaluate and select ultimate claims

Resources

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

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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: <ul style="list-style-type: none">a) Estimate unpaid unallocated loss adjustment expensesb) Describe components of claim liabilities in relation to the accounting frameworkc) Evaluate the estimates of ultimate claims to determine claim liabilities for financial reportingd) Describe components of premium liabilitiese) Evaluate premium liabilities
Resources
<ul style="list-style-type: none">• <i>Fundamentals of General Insurance Actuarial Analysis</i>, J. Friedland<ul style="list-style-type: none">○ Part 5: Financial Reporting and the Establishment of Reserves

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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: <ul style="list-style-type: none">a) Describe the influences on frequency and severity of changes in deductibles, changes in policy limits, and changes in mix of businessb) Calculate loss trend and apply it to project ultimate claimsc) Describe the influences on exposures and premiums of changes in deductibles, changes in policy limits, and changes in mix of businessd) Calculate premium trend and apply it to project premiums
Resources
<ul style="list-style-type: none">• <i>Fundamentals of General Insurance Actuarial Analysis</i>, J. Friedland<ul style="list-style-type: none">○ Part 6: Trending Procedures

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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: <ul style="list-style-type: none">a) Describe the objectives of general insurance rate regulation and the various regulatory environmentsb) Calculate expenses used in ratemaking analysesc) Incorporate underwriting profit and contingency margins into ratemakingd) Calculate loadings for catastrophes and large claimse) Apply credibility considerations to ratemakingf) Calculate overall rate change indications under the claims ratio and pure premium methodsg) Calculate risk classification changes and territorial changesh) Calculate deductible factors, increased limits factors, and coinsurance penaltiesi) Calculate rates for large accountsj) Perform individual risk rating using standard plansk) Calculate rates for claims-made coverage
Resources
<ul style="list-style-type: none">• <i>Fundamentals of General Insurance Actuarial Analysis</i>, J. Friedland<ul style="list-style-type: none">○ Part 7: Ratemaking• “<i>The Mathematics of Excess of Loss Coverages and Retrospective Rating—A Graphical Approach</i>,” Lee, Y., Casualty Actuarial Society, 1988 Proceedings, Vol. LXXV<p>This article may be accessed at www.casact.org through the following navigation:</p><ul style="list-style-type: none">- Publications<ul style="list-style-type: none">- Yearbook/Proceedings<ul style="list-style-type: none">- Past Issues of the Proceedings of the Casualty Actuarial Society- 1988 Proceedings of the Casualty Actuarial Society, Volume LXXV<ul style="list-style-type: none">- <i>The Mathematics of Excess Loss Coverage...</i>

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6. Topic: Monitoring, Documentation and Communication
Learning Objectives
The candidate will understand the need for monitoring, documentation, and communication.
Learning Outcomes
The Candidate will be able to: <ul style="list-style-type: none">a) Monitor financial reporting results and pricing changesb) Describe the importance of documentation, communication and reporting, including their relationship to actuarial standards of practice
Resources
<ul style="list-style-type: none">• <i>Fundamentals of General Insurance Actuarial Analysis</i>, J. Friedland<ul style="list-style-type: none">○ Part 8: Monitoring, Documentation and Communication

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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: <ul style="list-style-type: none">a) Describe the structure of catastrophe modelsb) Apply catastrophe models to insurance ratemaking, portfolio management, and risk financing
Resources
<ul style="list-style-type: none">• <i>Catastrophe Modeling: A New Approach to Managing Risk</i>, Grossi, P.; and Kunreuther, H.<ul style="list-style-type: none">○ 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)