SOCIETY OF ACTUARIES®

CURATED PAST EXAM ITEMS
- Solutions -

GI 302 – General Insurance in the U.S.

Important Information:

- These curated past exam items are intended to allow candidates to focus on past SOA fellowship assessments. These items are organized by topic and learning objective with relevant learning outcomes, source materials, and candidate commentary identified. We have included items that are relevant in the new course structure, and where feasible we have made updates to questions to make them relevant.
- Where an item applies to multiple learning objectives, it has been placed under each applicable learning objective.
- Candidate solutions other than those presented in this material, if appropriate for the context, could receive full marks. For interpretation items, solutions presented in these documents are not necessarily the only valid solutions.
- Learning Outcome Statements and supporting syllabus materials may have changed since each exam was administered. New assessment items are developed from the current Learning Outcome Statements and syllabus materials. The inclusion in these curated past exam questions of material that is no longer current does not bring such material into scope for current assessments.
- Thus, while we have made our best effort and conducted multiple reviews, alignment with the current system or choice of classification may not be perfect. Candidates with questions or ideas for improvement may reach out to education@soa.org. We expect to make updates annually.

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GI 302 Learning Objective 2 Curated Past Exam Solutions

GIFREU, Fall 2020, Q2

Learning Objectives:
2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:
- (2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.
- (2b) Describe the historical development of general insurance regulations in the United States.
- (2c) Describe and interpret the current state of general insurance regulations in the United States.
- (2f) Describe the methods that U.S. regulators use to maintain the solvency of insurers.

Sources:
Insurance Regulation, The Institutes
- Chapter 4 (Roles of State Regulators and the NAIC in Insurance Regulation)

Commentary on Question:
This question tests a candidate's understanding of insurance regulation in the U.S. including the role of state legislators and the NAIC.

Solution:
(a) Describe two sources of state insurance laws that regulate insurance company operations for a state.

Commentary on Question:
There are more than two sources. The model solution includes only two sources.

- Statutory insurance laws that are enacted by State Legislature.
- Administrative laws that are regulations adopted by state agencies in charge of regulating insurers, mainly the State Department of Insurance (DOI).

(b) Describe three significant ways that state legislator actions influence insurance regulation in each state.

Commentary on Question:
There are more than three ways. The model solution includes only three of them.

- State legislatures provide the legal framework for DOIs, since they are the state entity with the authority to pass insurance laws that insurance commissioners must enforce.
- State legislatures often directly control DOI budgets. By limiting or increasing DOI budgets state legislatures influence how severely and strictly state DOI state insurance laws and regulations.
- State legislatures also influence insurance regulation through enactment of state noninsurance laws, including laws related to banking, contracts, premiums, fraud, investments, and lobbying.

(c) Describe how the NAIC provides these checks and balances.

Commentary on Question:
There are many ways that the NAIC provides these checks and balances. The model solution is an example of a full credit solution.

The NAIC provides these checks and balances by fostering a high degree of coordination among state regulators. Through its national financial database and other multistate databases, all states are provided with financial data, analysis tools, and information on regulatory actions on various states.

(d) Describe two activities undertaken by that NAIC that assist state regulators in their oversight of the insurance industry.

Commentary on Question:
There are many activities undertaken by the NAIC that assist state regulators in their oversight of the insurance industry. The model solution is an example of a full credit solution that includes two such activities.

- Maintaining computerized databases to help regulators track insurers' financial solvency.
- Producing various publications about insurance issues for use by the states.

GIFREU, Fall 2020, Q21

Learning Objectives:

2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:

(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.

(2b) Describe the historical development of general insurance regulations in the United States.

(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:

Insurance Regulation, The Institutes

- Chapter 4 (Roles of State Regulators and the NAIC in Insurance Regulation)
- Chapter 5 (State Department of Insurance Operations)

Commentary on Question:

This question tests a candidate's understanding of certain aspects of insurance regulation and the operation of a state department of insurance.

Solution:

(a) Describe two reasons why regulators closely monitor and regulate insurance company operations.

Commentary on Question:

There are many reasons that many be given. Only two were required for full credit. The model solution is an example of a full credit solution with two reasons.

- Regulators want to ensure that the insurer fulfills its contractual promise to the insured.
- Regulators want to ensure that the resolution of an insolvent insurer takes place in such a way that the loss to policyholders is kept to a minimum.

(b) Identify four reasons why a state DOI may disapprove a proposed rate or coverage.

Commentary on Question:

Many reasons are possible. The model solution is an example of a full credit solution with four reasons.

- Rates/coverage include provisions that are against the law.
- Rates are unfairly discriminatory.
- Rates are inadequate.
- Rates are excessive.

(c) Provide three arguments in favor of an Insurance Commissioner being elected to office.

Commentary on Question:
Many arguments are possible. The model solution is an example of a full credit solution with three arguments.

- Need not, and usually does not, continue regulating in the same manner as its predecessor did. (Will try new approaches in response to new and changing conditions.)
- May be more in tune to insurance issues important to the general public because that is how they became elected.
- Is generally in office for a full-term and cannot be dismissed for policy disagreements.

(d) Provide three arguments in favor of an Insurance Commissioner being appointed to office.

Commentary on Question:
Many arguments are possible. The model solution is an example of a full credit solution with three arguments.

Appointed commissioner:
- Is more likely to have the necessary knowledge and experience of insurance industry operations.
- Is more likely to make decisions looking at all the facts as they are less likely to be swayed by public opinion.
- Has no need to expend time and funds for elections campaigns.

GIFREU, Spring 2021, Q3

Learning Objectives:

2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:

(2b) Describe the historical development of general insurance regulations in the United States.

(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:

Insurance Regulation, The Institutes

- Chapter 3 (Federal and Other Influences on Insurance Regulation)

Commentary on Question:

This question tests a candidate's understanding of several ways that the federal government can influence insurance regulation in the U.S.

Solution:

(a) Describe three circumstances where the U.S. Constitution can void state laws and regulations.

Commentary on Question:

The model solution is an example of a full credit solution.

1. When a state law contradicts a federal law.
2. When the courts determine that a state law interferes with federal law even though the state law does not expressly contradict the federal law.
3. When a state law imposes an improper burden on interstate commerce, even though a federal law does not exist.

(b) Describe the three criteria set out by this Supreme Court decision.

1. The insurer spreads or underwrites the policyholder's risk.
2. The insurer and the insured have a direct contractual agreement.
3. The activity is unique to entities within the insurance industry.

(c) Identify the crisis that prompted Congress to enact the RRA.

Commentary on Question:

The model solution is an example of a full credit solution.

During a market contraction in the 1970s, business owners found that they either could not obtain or could not afford products liability insurance.

(d) Identify two of the factors that caused this crisis as reported by the task force.

Commentary on Question:
There were more than two factors reported. Only two were required for full credit. The model solution is an example of a full credit solution.

- Insurers' questionable ratemaking and reserving practices
- Uncertainties in the tort and legislative system

(e) Describe how the RRA affected the business of general insurance.

Commentary on Question:
The model solution is an example of a full credit solution.

This act enabled product manufacturers to form their own risk retention groups to spread and assume all of, or a portion of, their products liability loss exposures. A risk retention group needs a license in only one state to write liability coverage in all fifty states.

GIFREU, Spring 2021, Q13

Learning Objectives:
2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:
(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.
(2b) Describe the historical development of general insurance regulations in the United States.
(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:
Insurance Regulation, The Institutes
- Chapter 4 (Roles of State Regulators and the NAIC in Insurance Regulation)

Commentary on Question:
This question tests a candidate's understanding of U.S. insurance regulation including the role of a state DOI and the NAIC.

Solution:
(a) Describe four regulatory insurance functions that every state DOI regularly performs.

Commentary on Question:
There are a number of regulatory insurance functions performed by state DOIs. Only four were required for full credit. The model solution is an example of a full credit solution.

- Licensing of insurers and producers (agents/brokers) to conduct insurance business in the state.
- Reporting and filing requirements for insurers in the state.
- Periodic examination of insurers in the state.
- Power to impose sanctions against insurers in the state.

(b) Describe five ways that state legislatures can influence insurance regulation carried out by DOIs in each state.

Commentary on Question:
There are a number of ways state legislatures can influence insurance regulation carried out by state DOIs. Only five were required for full credit. The model solution is an example of a full credit solution.

- State legislatures have direct legislative oversight of DOIs since they control DOI budgets.
- State legislatures pass the insurance laws that DOIs must enforce.

- State legislatures influence insurance regulation through noninsurance laws. For example, tax and corporate laws that affect insurer activities.
- State legislators may have laws requiring insurance commissioners to submit annual reports to the legislature (or other state body/official) summarizing DOI activities and the status of the insurance industry in the state.
- State legislatures conduct performance reviews to evaluate the operations of a DOI. Performance reviews can affect the DOI's budget and operations.

(c) Describe four ways in which the NAIC assists DOIs in the conduct of their insurance regulatory function, other than through the DOI accreditation programs.

Commentary on Question:
There are a number of ways that the NAIC assists DOIs in the conduct of the insurance regulatory function. Only four were required for full credit. The model solution is an example of a full credit solution.

- Maintaining computerized databases to help DOIs track insurer financial solvency.
- Scrutinizing alien surplus or excess lines insurers seeking to do business in a state for the benefit of all DOIs.
- Supporting individual DOIs in court cases by issuing "friend of the court" supportive briefs.
- Tracking insurance issues at the federal level while working on behalf of DOIs to express their concerns and interests to the federal government.

(d) Identify four activities that are part of the NAIC DOI accreditation review.

Commentary on Question:
There are a number of activities that are part of the NAIC DOI accreditation review. Only four were required for full credit. The model solution is an example of a full credit solution.

- Interviewing department personnel
- Reviewing laws and regulations
- Reviewing prior examination reports and supporting work papers and analytical reviews
- Reviewing organizational and personnel policies

(e) Identify two key standards that state DOIs must meet in order to receive accreditation.

Commentary on Question:
There are three key standards. Only two were required for full credit. The model solution presents all three for completeness.

- DOI must meet NAIC standards in state laws and regulations.
- DOI must meet NAIC standards in regulatory methods.
- DOI must meet NAIC standards in DOI practices.

GIFREU, Fall 2021, Q17

Note: Parts (c) and (e) are not in GI 302.

Learning Objectives:

2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:

(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.

(2b) Describe the historical development of general insurance regulations in the United States.

(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:

The Dodd-Frank Wall Street Reform and Consumer Protection Act: Insurance Provisions, Congressional Research Service, CRS Report

Commentary on Question:

This question tests a candidate's knowledge of the Dodd-Frank Act as it pertains to general insurance.

Solution:

(a) Identify these two areas of insurance regulation.

- non-admitted insurance market
- reinsurance

(b) Explain how the Dodd-Frank Act affects one of the two areas of insurance regulation identified in part (a).

Commentary on Question:

Full credit could be earned by explaining Dodd-Frank with respect to either the non-admitted insurance market or reinsurance. The model answer is an example of a full credit response explaining Dodd-Frank with respect to the non-admitted insurance market.

Dodd-Frank gives large commercial purchasers of insurance a more streamlined route to obtain coverage from non-admitted companies, including companies outside the United States.

(c) ~~The Dodd-Frank Act included the creation of the Federal Insurance Office (FIO) within the U.S. Treasury. The Dodd-Frank Act authorizes the FIO to preempt state laws under certain conditions. However, there are six steps that the FIO must take before a state law may be preempted.~~

~~Identify three of the six steps.~~

Part (c) is not in GI 302.

~~**Commentary on Question:**~~

~~*The model answer is an example of a full credit response identifying three of the six steps.*~~

- ~~issue a notice of potential inconsistency to the appropriate state regulator~~
- ~~issue a notice in the Federal Register~~
- ~~give interested parties an opportunity to comment~~

(d) The FIO's power of preemption of state law is limited. It may not preempt state insurance laws governing certain functions of the business of insurance.

Identify four such functions included in the limitation.

Commentary on Question:

There are more than four functions. Only four were required for full credit. The model solution is an example of a full credit response.

- premiums
- underwriting
- sales practices
- state coverage requirements

(e) ~~Identify one of the roles of the FIO under its administrative function.~~

Part (e) is not in GI 302.

~~**Commentary on Question:**~~

~~*There are five such roles. Only one was required for full credit. The model solution is an example of a full credit response.*~~

~~Assist the Secretary in negotiating international agreements~~

GIFREU, Spring 2022, Q8

Learning Objectives:
2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:

(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.

(2b) Describe the historical development of general insurance regulations in the United States.

(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:
Insurance Regulation, The Institutes

- Chapter 2 (Development of Insurance Regulation)
- Chapter 3 (Federal and Other Influences on Insurance Regulation)

Commentary on Question:
This question tested a candidate's understanding of some of the ways insurance regulation deals with the issue of insurance availability.

Solution:

(a) Provide three reasons why insurance markets have been found to be imperfectly competitive.

Commentary on Question:
There are more than three reasons. The model solution is an example of a full credit solution.

- There are too few independent insurers serving a given market.
- There are significant barriers to an insurer's entry and exit from the market.
- Insurance consumers have imperfect information about the product they are buying.

(b) Identify the following with respect to Fair Access to Insurance Requirements (FAIR) plans in the United States:

(i) the risk-taking entity

(ii) the business addressed

Commentary on Question:

For (ii), it was also acceptable to identify the business addressed as "property insurance on urban properties, especially those susceptible to loss by riot or civil commotion."

(i) Insurance pool through which private insurers collectively address an unmet need.

(ii) Property insurance for personal and commercial buildings that insurers might be reluctant to insure because of the age and condition of the structures.

(c) Identify the following with respect to *surplus lines* in the United States:

(i) the risk-taking entity

(ii) the business addressed

(i) Nonadmitted insurers in the state that are permitted to write certain types of business.

(ii) Coverage for risks that have underwriting characteristics that make it difficult to place with admitted insurers in the state.

(d) Describe the key issue that GLB addressed with respect to banks writing insurance.

GLB addressed concerns that banks would use insurer assets to prop up failing banks.

(e) Explain how GLB addressed this key issue.

GLB prohibits national banks from forming subsidiaries to underwrite insurance. However, banks can arrange for financial holding companies to create insurance affiliates.

GIFREU, Spring 2022, Q14

Learning Objectives:

2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:

(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.

(2b) Describe the historical development of general insurance regulations in the United States.

(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:

Insurance Regulation, The Institutes

- Chapter 2 (Development of Insurance Regulation)
- Chapter 3 (Federal and Other Influences on Insurance Regulation)
- Chapter 4 (Roles of State Regulators and the NAIC in Insurance Regulation)

Vaughan, "The Economic Crisis and Lessons from (and for) U.S. Insurance Regulation"

NAIC, "The U.S. National State-Based System of Insurance Regulation and the Solvency Modernization Initiative," NAIC White Paper

Commentary on Question:

This question tested a candidate's understanding of insurance regulation and its development in the United States.

Solution:

(a) Identify two common justifications for the regulation of insurance.

- To protect consumers who do not fully understand the insurance product
- To prevent insurer insolvency

(b) The McCarran-Ferguson Act (1945) requires that the Sherman Act, the Clayton Act and other federal Acts apply to the business of insurance only if the states are not regulating the activities described in these acts. However, there are two exceptions to this requirement.

Describe these two exceptions.

- The Sherman Act applies to insurers' antitrust activities (i.e., state legislation will not supersede federal antitrust authority).
- A federal law that applies exclusively to the insurance industry, as opposed to business in general, supersedes any state regulation in the areas addressed by the federal legislation.

(c) The following concepts have been used to explain insurance regulatory failures:

- Regulatory fallibility
- Regulatory forbearance
- Regulatory capture

Define each of the three concepts identified above.

- Regulatory fallibility: Regulators are human. Humans are fallible (i.e., make mistakes). Hence, regulation is fallible.
- Regulatory forbearance: The failure of regulators to take prompt and stringent action in the face of a troubled firm.
- Regulatory capture: The tendency for regulators to take the mindset of an interest group because of the groups influence or political interference.

(d) Explain how regulatory forbearance may affect the costs borne by policyholders and insurance guaranty funds.

A delay in regulatory intervention can increase these costs because a troubled firm tends to increase its risk-taking in an attempt to solve its financial difficulties. This is because the cost of any failure from the increased risk will not be borne by the insurer taking on the risk but by others.

(e) Even though individual states are the primary regulator of insurance, there is substantial uniformity of insurance regulation among the states.

Describe two reasons for this.

Commentary on Question:
There are more than two reasons for this. The model solution is an example of a full credit solution.

State regulators established the National Association of Insurance Commissioners (NAIC) to engage in cooperative activity. The NAIC produces model acts that most states adopt (with some modification). This creates significant uniformity in regulation between the individual states.

Under the NAIC's accreditation program, states undergo an evaluation of laws and regulations to determine if the state meets accreditation standards. There is peer pressure among the states to be accredited by the NAIC and have effective regulations. This also creates significant uniformity in regulation between the individual states.

(f) Provide arguments for and against the state system of insurance regulation versus a federal system.

Commentary on Question:
There are several possible arguments that can be made for and against the state system of insurance regulation. The model solution is an example of a full credit solution.

Having many state regulators, as opposed to one federal regulator, oversee insurance regulation clearly increases the direct costs of regulation. However, it may reduce the total cost of regulation. This is due to the fact that having duplicative state reviews may be more effective than a single federal review in detecting insurers in financial difficulty and preventing their insolvency. Thus, it is possible that the increase in direct costs may be more than offset by the reduction in the costs of insolvencies.

GIFREU, Fall 2022, Q13

Parts (b) and (c) are not in GI 302.

Learning Objectives:

2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:

(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.

(2b) Describe the historical development of general insurance regulations in the United States.

(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:

The Dodd-Frank Wall Street Reform and Consumer Protection Act: Insurance Provisions, Congressional Research Service, CRS Report

Commentary on Question:

This question tested a candidate's knowledge of the Dodd-Frank Act as it pertains to general insurance.

Solution:

(a) Describe one of the changes to the regulation of non-admitted insurance that was introduced in the Dodd-Frank Act.

Commentary on Question:

There are several changes that were introduced. Only one was required for full credit. The model solution is an example of a full credit solution.

Only the home state of an insured party may impose a premium tax on insurance obtained from a non-admitted insurer.

(b) ~~Describe one type of state reinsurance regulation for non-domiciled insurers that is preempted under the Dodd-Frank Act.~~

Part (b) is not in GI 302

~~**Commentary on Question:**~~

~~*There are several types that are preempted under the Act. Only one was required for full credit. The model solution is an example of a full credit solution.*~~

~~Regulations that attempt to enforce a reinsurance contract on terms different than those set forth in the contract itself.~~

~~(c) Identify two lines of business that are not under the FIO's scope of authority.~~

Part (c) is not in GI 302

~~**Commentary on Question:**~~

~~*There are several lines that are not under the FIO's scope of authority. Only two were required for full credit. The model solution is an example of a full credit solution.*~~

~~crop insurance, health insurance~~

(d) Describe one aspect of the business of insurance that the FIO is tasked to monitor.

Commentary on Question:
There are several aspects that the FIO is tasked to monitor. Only one was required for full credit. The model solution is an example of a full credit solution.

Identify issues in the regulation of insurance that could contribute to a systemic crisis in the insurance industry or the U.S. financial system.

(e) Explain how compliance with FIO data requirements are enforced.

The FIO is authorized to issue subpoenas that can be enforced by federal district courts.

GIFREU, Spring 2023, Q3

Learning Objectives:
2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:
(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.
(2b) Describe the historical development of general insurance regulations in the United States.
(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:
Insurance Regulation, The Institutes
- Chapter 3 (Federal and Other Influences on Insurance Regulation)

The Dodd-Frank Wall Street Reform and Consumer Protection Act: Insurance Provisions, Congressional Research Service, CRS Report

Commentary on Question:
This question tested a candidate's knowledge of federal influences on the regulation of insurance in the United States.

Solution:
(a) Describe two insurer activities that the Supreme Court identified as part of the business of insurance.

Commentary on Question:
The model solution is an example of a full credit solution.

- Fixing premium rates
- Licensing of insurers

(b) Describe an insurer activity that the Supreme Court identified as <u>not</u> part of the business of insurance.

Commentary on Question:
The model solution is an example of a full credit solution.

Communication between insurers and their shareholders

(c) In the case of *Group Life and Health Insurance Co. v. Royal Drug*, the Supreme Court ruled that for an activity to be recognized as the business of insurance it must have one or more of three specified characteristics.

Describe these three characteristics.

- The insurer spreads or underwrites the policyholder's risk.
- The insurer and the insured have a direct contractual agreement.
- The activity is unique to entities within the insurance industry.

(d) The federal government has also played a role in reinsurance regulation. The Dodd-Frank Act contains several provisions that preempt state laws governing reinsurance arrangements.

Describe two such provisions.

Commentary on Question:
The model solution is an example of a full credit solution.

- When the state laws conflict with international agreements regarding prudential measures.
- The home state of the insurer buying reinsurance is solely responsible for regulating reinsurance transactions, preempting other states from regulating this.

GIFREU, Spring 2023, Q13

Learning Objectives:

2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:

(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.
(2b) Describe the historical development of general insurance regulations in the United States.
(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:

The Dodd-Frank Wall Street Reform and Consumer Protection Act: Insurance Provisions, Congressional Research Service, CRS Report

Commentary on Question:

This question tested understanding of non-admitted insurance in the United States.

Solution:

(a) Define non-admitted insurance.

Commentary on Question:

Note: Part (a) is covered in GI 201 (GI Operations SOA Study Note).
GI 302 candidates are expected to know this.

Non-admitted insurance refers to insurance from an insurer that is not licensed within the state to offer a type of coverage. (surplus lines)

(b) Describe the intended purpose of these provisions.

The intended purpose for these provisions is to streamline existing regulations to increase market choice by making it easier for large commercial purchasers of insurance to obtain their insurance from non-admitted insurers.

(c) Describe two of these provisions.

Commentary on Question:

There were more than two provisions. The model solution is an example of a full credit solution.

- Prohibits a state from denying credit for reinsurance if the domiciliary state of the ceding insurer recognizes such credit and is an NAIC-accredited state.
- Implements "streamlined" federal standards allowing a commercial purchaser to access surplus lines insurance.

GIFREU, Fall 2023, Q2

Part (e) is not on GI 302

Learning Objectives:

2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:

(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.

(2b) Describe the historical development of general insurance regulations in the United States.

(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:

Insurance Regulation, The Institutes

- Chapter 3 (Federal and Other Influences on Insurance Regulation)

Understanding the New Financial Reform Legislation: The Dodd-Frank Wall Street Reform and Consumer Protection Act, Mayer Brown

Commentary on Question:

This question tested a candidate's knowledge of federal influences on the regulation of insurance in the United States.

Solution:

(a) Provide the following information regarding the case of *Paul v. Virginia*.

(i) Issue underlying the case

(ii) Ruling of the U.S. Supreme Court

(i) The underlying issue was that an insurance agent (Paul) was denied a license to sell foreign insurance in the state of Virginia because he would not deposit the bond required of foreign insurers selling insurance in the state. Paul ignored the ruling and sold these policies without a license in the state.

(ii) The ruling was that the insurance transaction was not interstate commerce because it is a contract delivered locally. As such, the state could continue to regulate the local insurance market without violating the U.S. Constitution.

(b) Explain why the McCarran-Ferguson Act of 1945 (MFA) was required to affirm the constitutionality of the state-based system.

In 1944, the U.S. Supreme Court determined, in a case involving the South-Eastern Underwriting Association, that insurance was commerce under the U.S. Constitution's Commerce Clause and was subject to federal regulation. However, it was deemed to be in the public interest to have state regulation of insurance, so the MFA was enacted to move insurance regulation back to the states.

(c) Describe the condition under which the FIO may preempt state measures of insurance regulation.

The FIO has the power to preempt state measures that are inconsistent with covered agreements, or otherwise result in less favorable treatment of insurers domiciled in foreign jurisdictions subject to covered agreements than the treatment accorded to admitted U.S. insurers.

(d) The FIO's power of preemption of state law is limited. It may not preempt state insurance laws governing certain functions of the business of insurance.

Identify four such functions included in the limitation.

Commentary on Question:
There are more than four functions. The model solution is an example of a full credit solution.

- premiums
- underwriting
- sales practices
- coverage requirements

(e) ~~There are six preconditions required of the FIO prior to preempting a state law.~~

~~Identify two of these preconditions.~~

~~**Commentary on Question:**~~
~~*The model solution is an example of a full credit solution showing two of the six preconditions.*~~
Part (e) is not on GI 302

- ~~Issue a notice of potential inconsistency to the appropriate state regulator.~~
- ~~Give interested parties an opportunity to comment.~~

GIFREU, Fall 2023, Q11

Learning Objectives:

2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:

(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:

Insurance Regulation, The Institutes

- Chapter 11 (Solvency Regulation)
- Chapter 12 (Insolvency Regulation)

Commentary on Question:

This question tested a candidate's knowledge of insolvency regulation and some of the functions of the NAIC.

Solution:

(a) Define the following terms as they apply to insurance companies:

(i) Technical insolvency

(ii) Bankruptcy

(i) An insurer's inability to pay its bills when due.

(ii) When an insurer's liabilities exceed the market value of its assets.

(b) Provide the following:

(i) Definition of an NAIC association examination

(ii) Purpose of an NAIC association examination

(i) A single insurer solvency examination used when an insurer is licensed in more than three states in one zone or is licensed in more than one zone.

(ii) It avoids duplication of examinations by each state.

(c) Identify four other circumstances that could prompt a limited-scope examination.

Commentary on Question:

There are more than four other circumstances. The model solution is an example of a full credit solution.

- A follow-up from a prior examination report was indicated.
- There is a request from another Department of Insurance.
- There is a need for information that is required to examine another insurer.
- There is an unusually high volume of complaints against the insurer.

(d) Regulatory action may be required if policyholders or the general public could be harmed by an insurer's financial condition. One form of regulatory intervention specified by the NAIC is mandatory corrective action. Under mandatory corrective action, the insurance commissioner can order an insurer to take specific actions.

Identify four such actions.

Commentary on Question:
There are more than four such actions. The model solution is an example of a full credit solution.

- Reduce its general and commission expenses by specified methods.
- Increase its capital and surplus.
- Suspend or limit dividend payments to stockholders and/or policyholders.
- Document the adequacy of its premium rates.

GIFREU, Spring 2024, Q3

Learning Objectives:
2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:
(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.

Sources:
Insurance Regulation, The Institutes
- Chapter 4 (Roles of State Regulators and the NAIC in Insurance Regulation)

Commentary on Question:
This question tested a candidate's knowledge of some of the services offered by the NAIC.

Solution:
(a) Describe two types of information regarding marketplace behavior that is included in these databases.

Commentary on Question:
There are more than two types of information. The model solution is an example of a full credit solution.

- People against whom regulatory and disciplinary action was taken.
- Complaints against insurers.

(b) The SSO also provides a range of training and education services.

Describe two of these types of services.

Commentary on Question:
There are more than two types of services. The model solution is an example of a full credit solution.

- Expert advice to insurance regulators on accounting, reinsurance and financial reporting.
- Publish guides for consumer protection.

(c) Describe two activities of the GRO.

Commentary on Question:
There are more than two GRO activities. The model solution is an example of a full credit solution.

- Monitor the financial condition of nationally significant insurers.
- Assist state insurance officials who appear as witnesses in federal government proceedings.

GIFREU, Spring 2024, Q13

Learning Objectives:
2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:
(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.
(2b) Describe the historical development of general insurance regulations in the United States.
(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:
Insurance Regulation, The Institutes
- Chapter 3 (Development of Insurance Regulation)

Commentary on Question:
This question tested a candidate's understanding of surplus lines coverage in the United States.

Solution:
Evaluate this business proposal relative to each of the following considerations:

(i) (*0.5 points*) Risk characteristics for surplus lines coverage

(ii) (*1 point*) Market characteristics for surplus lines coverage

(iii) (*2 points*) Key features of state surplus lines regulations

(iv) (*1.5 points*) Recommended next-steps to move this proposal forward

Commentary on Question:
Each of parts (i) through (iv) has many potential correct responses. The points allotted to each part indicate the level of detail or the number points required for full credit. For parts (i) and (ii), two characteristics for each were required for full credit. For part (iii), at least three key features were required for full credit. For part (iv), at least three next steps were required for full credit. The model solution is an example of a full credit solution

(i) Risk characteristics for surplus lines coverage
- Require high capacity (limits)
- Unique characteristics

(ii) Market characteristics for surplus lines coverage

- Provide state's citizens with access to a supplemental market of nonadmitted/unauthorized insurers through specially licensed producers.
- Flexibility to adjust terms and conditions of coverage to quickly meet the insured's needs.

(iii) Key features of state surplus lines regulations

- Set forth financial and other eligibility requirements for nonadmitted / unauthorized companies.
- Domiciliary jurisdictions are to review and regulate nonadmitted / unauthorized insurers for solvency.
- Set procedures for placing business.
- Some states limit surplus lines licenses to resident producers.

(iv) Recommended next-steps to move this proposal forward

- Individual will likely need more than two million in capital. They should seek venture capital or backing from other strong financial sources.
- Individual must identify to regulators that a surplus market should exist by showing a lack of coverage in the regular market.
- Individual must identify to regulators that they have at least one nonadmitted / unauthorized insurer available that has satisfactory capital to underwrite the proposed risk.
- Individual must clearly articulate to regulators how their experience in selling and insuring automobiles relates to the insurance market for high-performance vehicles.

GIFREU, Fall 2024, Q2

Learning Objectives:
2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:

(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:

Insurance Regulation, The Institutes

- Chapter 11 (Solvency Regulation)

Commentary on Question:

This question tested a candidate's understanding of the different types of regulatory examinations in the United States for an insurer's solvency.

Solution:

(a) Describe what is included in this procedure.

- Examiners review the Annual Statement reports for accuracy and compliance with statutory accounting requirements.
- Examiners perform detailed financial analysis of the information.

(b) Describe two of the three situations that can trigger use of this procedure.

- The zone examiners' written reports indicate that the examination by the insurer's state of domicile is inadequate.
- The domiciliary state is reluctant to schedule an examination, although IRIS results or other information indicates the need to do so.

GIFREU, Fall 2024, Q11

Learning Objectives:
2. The candidate will understand the development and structure of insurance regulations in the United States.

Learning Outcomes:

(2a) Describe the functions of key regulatory bodies in the U.S. including the NAIC and SEC.

(2c) Describe and interpret the current state of general insurance regulations in the United States.

Sources:
Insurance Regulation, The Institutes
- Chapter 3 (Federal and Other Influences on Insurance Regulation)
- Chapter 5 (State Department of Insurance Operations)
- Chapter 6 (Insurer Formation, Licensing and Marketing Regulation)

Commentary on Question:
This question tested a candidate's understanding of the influences on insurance regulation, how marketing regulation protects consumers and DOI funding.

Solution:
(a) Describe how each of the following may influence insurance regulation.

I. Consumers

II. News media

III. Insurance Regulatory Examiners Society (IRES)

IV. Insurance industry trade associations

Commentary on Question:
Widely varying correct responses are possible. The model solution is an example of a full credit solution.

I. Consumers indirectly influence insurance regulation through filing complaints against insurers with the regulator. Regulators may see a need to change regulations to address complaints.

II. News media indirectly influence insurance regulation through their access to a large audience by bringing attention to an insurance industry issue. Negative publicity in the media can put pressure on insurers or regulators to make changes.

III. IRES is a regulatory professional association in the United States for market conduct regulatory personnel. One of its functions is to improve the professionalism of insurance regulators, which, in turn, improves state insurance regulation.

IV. Insurance industry trade associations perform services for their members (insurers, reinsurers, producers, claims personnel). Members can have prompt access to legislative developments and can use association personnel as their lobbying forum to change regulations.

(b) Describe two ways that market conduct regulation can be used to protect insurance consumers.

Commentary on Question:
Widely varying correct responses are possible. There are more than two ways. The model solution is an example of a full credit solution.

Market conduct regulation protects insurance consumers by reviewing consumer complaints to see if there is anything that needs regulatory attention for the benefit of consumers.

Additionally, market conduct regulations protect consumers by reviewing the sales and advertising practices of insurers (and producers) to ensure that they are not trying to deceive consumers.

(c) Identify four sources of funding for DOI operations.

Commentary on Question:
There are more than four sources of funding. The model solution is an example of a full credit solution.

- Appropriations from state treasuries (dedicated funding)
- Insurance premium taxes
- Fees/assessments on insurers
- Fines/penalties on insurers

GI 302 Learning Objective 3 Curated Past Exam Solutions

GIFREU, Fall 2020, Q9

The case study for this question is at https://www.soa.org/globalassets/assets/files/edu/2020/fall/intro-study-notes/fall-2020-exam-gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 4 (Accounting for Reinsurance Contracts)
- Chapter 7 (Schedule P, Statutory Loss Accounting)
- Chapter 9 (Measuring Total Income by Line of Business)

NAIC Annual Statement

Case Study, Fall 2020, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tests a candidate's knowledge of U.S. statutory accounting for loss and premium amounts as reported in the NAIC Annual Statement. This question uses information from the GI FREU Case Study. This question required the candidate to use Excel. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use in their solution. The model solution for this question in this document does not represent the actual model solution. It is for explanatory purposes only. Refer to the Excel solution file for an example of a full credit solution in Excel.

Solution:

Calculate the following amounts for R-Dan, on a total all lines combined basis, using the information provided in the Case Study's *Excerpts from the Annual Statement*.

(i) (*1.5 points*) Unearned premium reserve (UPR) as of year-end 2017, gross of ceded reinsurance (i.e., direct plus assumed).

(ii) (*1 point*) Unpaid losses and loss adjustment expenses (L&LAE) as of year-end 2018, gross of ceded reinsurance.

(iii) (*2 points*) Adjusting and Other loss adjustment expense (A&O) payments during calendar year 2018, net of ceded reinsurance.

(iv) (*1.5 points*) A&O incurred during calendar year 2018, net of ceded reinsurance.

(v) (*1 point*) Loss payments during calendar year 2017, net of ceded reinsurance.

Commentary on Question:
There are several approaches that may be taken for each of the calculations. The model solution represents one approach to each part. Amounts in the solution are shown in $000's.

The following acronyms and abbreviations are used in the model solution:
AS = Annual Statement, Sch. P = Schedule P,
UW&I= Underwriting and Investment Exhibit,
CY = calendar year, AY = accident year, YE = year-end,
WP = written premium, EP = earned premium,
UPR = unearned premium reserve,
LAE = loss adjustment expenses, L&LAE = loss and LAE,
R#=Row #, C#=Column #

For part (iv), the model solution shows one approach to calculating this amount from the Annual Statement. However, a calculation was not required for part (iv) – candidates could have received full credit for part (iv) by recalling that this amount could be obtained directly from Part II of the Insurance Expense Exhibit, in Column 11 of Line 35.

(i)

$EP_{2018} = WP_{2018} + UPR_{YE2017} - UPR_{YE2018}$

$\rightarrow UPR_{YE2017} = EP_{2018} + UPR_{YE2018} - WP_{2018}$

Gross EP_{2018} = 588,600 [Sch. P Part 1 Summary, R11, C1]

Gross WP_{2018} = 618,100 [Five-Year Historical Data, R6, C1]

Gross UPR_{YE2018} = Net UPR_{YE2018} + Ceded UPR_{YE2018}

Net UPR_{YE2018} = 208,800 [AS Page 3, R9, C1]

Ceded UPR_{YE2018} = 1,800 [AS Page 3, R9, comment]

Gross UPR_{YE2018} = 208,800 + 1,800 = 210,600

$\therefore$ Gross UPR_{YE2017} = 588,600 + 210,600 – 618,100 = 181,100

(ii)

For L&LAE, Gross unpaid_{YE2018} can be calculated from amounts in Sch. P Part 1 Summary, as the sum of R12 for C13, C15, C17, C19 and C21:

$\therefore$ Gross unpaid_{YE2018} = 166,900 + 99,100 + 300 + 35,500 + 14,900 = 316,700

(iii)

CY 2018 net losses paid = 446,500 [UW&I Part 2, R35, C4]

CY 2018 net losses and DCC paid = 463,500

[Sch. P Part 3 Summary, C10 minus C9]

463,500 = ((68,300 – 67,400) + (231,200 – 231,100) + (251,200 – 250,800) + (271,700 – 271,300) + (303,400 – 302,600) + (304,300 – 301,200) + (339,100 – 330,100) + (355,200 – 333,200) + (354,100 – 317,900) + (335,700 – 251,300) + 306,200)

CY 2018 net DCC paid = 463,500 – 446,500 = 17,000

CY 2018 net LAE paid = 65,700 [UW&I Part 3, R30, C1]

$\therefore$ CY 2018 net A&O paid = 65,700 – 17,000 = 48,700

(iv)

CY 2018 net A&O incurred = CY 2018 net loss incurred + CY 2018 net LAE incurred – CY 2018 net loss and DCC incurred

CY 2018 net loss incurred = 482,100 [AS Page 4, R2, C1]

CY 2018 net LAE incurred = 70,700 [AS Page 4, R3, C1]

CY 2018 net loss and DCC incurred = AY 2018 net loss and DCC incurred + Prior AY CY 2018 net loss and DCC incurred

AY 2018 net loss and DCC incurred = 466,300 [Sch. P Part 2 Summary, R11, C10]

Prior AY CY 2018 net loss and DCC incurred = 36,200 [Sch. P Part 2 Summary, R12, C11]

$\therefore$ CY 2018 net A&O incurred = 482,100+70,700 – (446,300 + 36,200) = 50,300

(v)

CY 2017 net loss incurred = 386,300 [AS Page 4, R2, C2]

Net loss unpaid_{YE2017} = 203,200 [AS Page 3, R2, C2]

Net loss unpaid_{YE2016} = 185,700 [Five-Year Historical Data, R22, C3]

CY 2017 net loss paid = 386,300 - 203,200 + 185,700 = 368,800

GIFREU, Fall 2020, Q10

Note: This question has been modified to use the R3 formula from the fifth edition of the textbook.
The case study for this question is at https://www.soa.org/globalassets/assets/files/edu/2020/fall/intro-study-notes/fall-2020-exam-gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 12 (Solvency Monitoring)

NAIC Annual Statement

Case Study, Fall 2020, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tests a candidate's knowledge of the RBC calculation. This question uses information from the GI FREU Case Study. This question required the candidate to use Excel. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use in their solution. The model solution for this question in this document does not represent the actual model solution. It is for explanatory purposes only. Refer to the Excel solution file for an example of a full credit solution in Excel.

Solution:

Calculate the following for R-Dan's 2018 NAIC RBC:

(i) R_1

(ii) R_3 after conditional adjustment

(iii) RBC Ratio

(i)

R_1 = Fixed income risk charge
= *(Bond charges for bonds not issued by USGA × bond size adjustment factor)*
+ Bond charges from USGA bonds

+ *(Cash & other short-term investments × 0.3%)*
+ *(Mortgage/collateral loans × 5%)*
+ *(Investments in non-insurance subsidiaries × 22.5%)*
+ *Asset concentration charge for fixed-income securities*

- Bond charges (bonds exc. USGA) = 500 + 1,040 + 730 + 1,100 + 1,220 + 1,830 = 6,420
- *Bond size adjustment factor = 2.5 for the first 50, 1.3 for the next 50, 1 for the next 900 where the counts exclude USGA bonds.*
- 380 bonds in total, but 35 are from USGA. Therefore, the count is 345 *(380 – 35)*
- Bond size adjustment factor = ((2.5 × 50) + (1.3 × 50) + (1 × 245)) / 345 = 1.261
- Asset Concentration = 1% ×15,046 + 2% × 8,079 + 4.5% × 2,844 + 10% × 2,091 = 649

R_1 = ((6,420 × 1.261) + 40) + (6,700 × 0.3%) + (0 × 5%) + (0 × 22.5%) + 649
= 8,135 + 20 + 649
= 8,804

(ii) *Modified to use the R_3 formula from the fifth edition of the textbook*.
R_3 = Credit risk charge
R_3 before conditional adjustment
= Investment income due and accrued × 1% [page 2, line 14 column 3]
+ Federal tax recoverables × 5% [page 2, line 18.1 column 3]
+ Guaranty fund receivables × 5% [page 2, line 19 column 3]
+ Recoverable from affiliates × 5% [page 2, line 23 column 3]
+ Reinsurance recoverables for unrated authorized uncollateralized × 10%
[Schedule F Part 6, line 6 column 2]
= (9,100 × 1%) + (9,300 × 5%) + (0 × 5%) + (2,100 × 5%) + (*120% ×* 31,000 × 10%)
= 91 + 465 + 0 + 105 + *3,720 = 4,381*

- Conditional adjustment is 50% of credit charge for reinsurance credit risk. It applies if the calculated reserve risk charge exceeds the total calculated credit risk charge. The calculated R_4 value is well above the calculated R_3 value so the conditional adjustment is 50% × *3,720 = 1,860*

R_3 = *4,381 – 1,860 = 2,521*

(iii)
RBC Ratio = Total Adjusted Capital / Authorized Control Level (ACL)
ACL = 50% of Total RBC
Total RBC = $R_0 + [R_1^2 + R_2^2 + R_3^2 + R_4^2 + R_5^2 + R_{CAT}^2]^{0.5}$
= $60 + [8{,}804^2 + 5{,}280^2 + 2{,}521^2 + (34{,}650 + 1{,}860)^2 + 53{,}110^2 + 20{,}100^2]^{0.5}$
= *68,393*

- Total adjusted capital = policyholders' surplus for R-Dan because R-Dan has no nontabular discount.

RBC Ratio = 209,400 / (0.5 × *68,393*) = *612%*

GIFREU, Fall 2020, Q16

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 7 (Schedule P, Statutory Loss Accounting)
- Chapter 15 (Federal Income Taxes for General Insurers)

Commentary on Question:

This question tests a candidate's understanding of U.S. general insurance company taxation.

Solution:

(a) Explain why it is appropriate that the tax code uses Schedule P Part 1 information instead of the loss triangles in Schedule P Parts 2 and 3 for the derivation of loss payment patterns.

Commentary on Question:

There are several reasons for this. The model solution is an example of a full credit solution that gave two reasons in the explanation.

Schedule P Parts 2 and 3 contains only defense and containment cost expenses, not adjusting and other expenses. Schedule P includes all loss adjustment expenses so it is more relevant for the amounts to be discounted. In addition to this, Schedule P Part 1 is the only Schedule P exhibit that is audited.

(b) Identify the source of the discount rate used to calculate tax-basis loss reserves:

(i) Before the tax reform of 2017

(ii) After the tax reform of 2017

(i) federal mid-term rates

(ii) rates from high quality bonds

(c) Explain how the change in part (b) has affected tax liabilities for insurers.

The interest rate for discount should increase, which will decrease the level of discounted reserves. This will increase the tax liability.

(d) Describe two changes to the procedure for selecting loss payment patterns for tax-basis loss reserves that were introduced in the tax reform of 2017.

- Lengthening of the payment pattern for long-tail lines from 15 years to 24 years.
- Eliminate the option a company had to use its own payment pattern.

(e) Explain how anticipated salvage and subrogation (S&S) is handled in the calculation of tax-basis loss reserves.

Commentary on Question:
The model solution is an example of a full credit solution explaining how the anticipated S&S has its own discount rate and is discounted separately.

Loss reserves are reported net of anticipated S&S. The anticipated S&S is added back into these reserves and these reserves are then discounted using line of business discount rates – this is the step 1 amount. The anticipated S&S is discounted separately using discount rate for specifically for S&S – this is the step 2 amount. The amount from step 2 is subtracted from the amount from step 1 to calculate the tax-basis loss reserves.

GIFREU, Fall 2020, Q18

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

National Association of Insurance Commissioners (NAIC), Accounting Practices and Procedures Manual, Preamble

NAIC, Accounting Practices and Procedures Manual, Statement of Statutory Accounting Principles No. 65, *Property and Casualty Contracts*

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 1 (Accounting Concepts for General Insurance)
- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 3 (Accounting for Financial Instruments)
- Chapter 4 (Accounting for Reinsurance Contracts)

Commentary on Question:

This question test's a candidate's understanding of different financial reporting standards for general insurers.

Solution:

(a) Describe what is meant by each of the following:

(i) permitted accounting practice

(ii) prescribed accounting practice

Commentary on Question:

A full credit response needed to be in the context of U.S. statutory accounting. The model solution is an example of a full credit solution.

(i) Permitted accounting practice: Practices specifically requested by an insurer that depart from prescribed state accounting practices and have received approval from the insurer's domiciliary state regulatory authority.

(ii) Prescribed accounting practice: Practices that are incorporated directly or by references to state laws, regulation and general administrative rules, that are applicable to all insurers domiciled in a particular state.

(b) Identify the difference between U.S. GAAP and U.S. statutory accounting with respect to each of the following:

(i) Intended audience

(ii) Emphasis of accounting principles

(iii) Financial exhibit that is emphasized

(iv) Regulatory body

Commentary on Question:
The model solution is provided in tabular format. This was not required for full credit. Furthermore, some of the parts had more than one correct response (e.g., (iv) for U.S. statutory accounting could be the State DOI or the NAIC and (iv) for U.S. GAAP could be FASB or the SEC). The model solution is an example of a full credit solution.

	U.S. statutory accounting	*U.S. GAAP*
(i)	regulators	investors
(ii)	solvency	going concern
(iii)	balance sheet	income statement
(iv)	State Department of Insurance	FASB

(c) Describe an accounting transaction with different treatment under U.S. GAAP vs. U.S. statutory accounting.

Commentary on Question:
There are many accounting transactions that have a different accounting treatment under these two financial reporting standards. Only one was required for full credit. The model solution is an example of a full credit solution using the accounting treatment of policy acquisition expenses.

Under U.S. statutory accounting, policy acquisition costs are expensed as they are incurred. U.S. GAAP defers these costs and amortizes them over the premium recognition period.

(d) Under U.S. statutory accounting, general insurance companies discount tabular indemnity loss reserves for worker's compensation in accordance with Statement of Statutory Accounting Principles No. 65 (SSAP 65), *Property and Casualty Contracts*.

SSAP No. 65 specifies four items that need to be disclosed for this type of discounting.

Identify these four disclosure items.

- Table(s) used.
- Rate(s) used.
- The amount of discounted liability reported in the financial statement.
- The amount of tabular discount by reserve category (i.e., case and IBNR).

GIFREU, Fall 2020, Q19

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 11 (Measuring Insurer Financial Strength)

Commentary on Question:

This question tests a candidate's understanding of the differences between FAST scores and IRIS ratios.

Solution:

(a) Describe how FAST scores and IRIS ratios differ with respect to each of the following:

(i) Interpretation of result from an individual score/ratio

(ii) Publication of results

(iii) Weighting of results

(i) Each financial ratio in the FAST process gives a numerical score, not a pass-fail result as in IRIS ratios which are each a hard pass/fail.

(ii) The formulas and results of IRIS ratios are public. However, this makes them susceptible to potential manipulation by insurers. The formulas and results of FAST are not public mitigating manipulation of scores by insurers.

(iii) The overall FAST score is a weighted sum of individual scores assigned to ranges on financial ratios, but the scoring system is not disclosed. IRIS ratios give equal weight to each ratio for disclosed exceptional amounts.

(b) Identify three FAST scores with no corresponding IRIS ratio.

Commentary on Question:
There are many FAST scores without a corresponding IRIS ratio. Only three were required for full credit. The model solution is an example of a full credit solution.

- Non-investment-grade bonds to policyholders' surplus
- Reinsurance recoverables on unpaid losses to policyholders' surplus
- Net written premium in long-tailed lines to total net written premium

GIFREU, Spring 2021, Q1

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

National Association of Insurance Commissioners (NAIC), Accounting Practices and Procedures Manual, Preamble

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)

Commentary on Question:

This question tests a candidate's understanding of statutory accounting and the differences to GAAP.

Solution:

(a) State the purpose of the NAIC Codification project.

It was to provide a comprehensive guide to the Statutory Accounting Principles that are to be used by various stakeholders – state department of insurance, insurance companies and auditors.

(b) Describe how the NAIC Codification project affects the analyses conducted by insurance departments.

Commentary on Question:

The model solution is an example of a full credit solution.

It resulted in more complete disclosures and more comparable financial statements, making the insurance departments' analysis techniques more meaningful and effective.

(c) Compare U.S. GAAP accounting to U.S. statutory accounting with respect to each of the following:

(i) Focus of accounting rules

(ii) Assets

(iii) Expenses

(iv) Loss reserves

Commentary on Question:
There are numerous factors that can be compared for each of (i) to (iv). Only one factor of comparison was required for full credit. The model solution is an example of a full credit solution.

(i) GAAP focuses on the measurement of emerging earnings of a business from period to period. Statutory accounting focuses on the measure of a company's ability to pay claims.

(ii) GAAP recognizes a number of assets that are either nonadmitted or immediately expensed under statutory accounting.

(iii) GAAP defers acquisition expenses and amortizes them over the premium recognition period. Statutory accounting recognizes acquisition expenses as they are incurred.

(iv) GAAP and statutory accounting both set reserves on an undiscounted basis for most lines of business.

(d) Describe three examples of materiality judgements as provided in the APPM Preamble.

Commentary on Question:
There are more than three examples provided in the APPM Preamble. Only three were required for full credit. The model solution is an example of a full credit solution.

- Is this item large enough for users of the information to be influenced by it?
- Circumstances where an accounting adjustment puts an insurer in danger of being in breach of a regulatory requirement may justify a lower materiality threshold than if its position were stronger.
- A failure to disclose separately a nonrecurrent item of revenue may be material at a lower threshold than would otherwise be the case if the revenue turns a loss into a profit or reverses the trend of earnings from a downward to an upward trend.

GIFREU, Spring 2021, Q4

Note: Parts d(ii) and d(iv) are not in GI 302.

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 12 (Solvency Monitoring)

Commentary on Question:

This question tests a candidate's understanding of catastrophe risk in the NAIC RBC formula and the Solvency II SCR formula. This question required the candidate to respond in Excel for part (a). An example of a full credit solution for this part is in the Excel solutions spreadsheet. The model solution in this file for part (a) is for explanatory purposes only.

Solution:

(a) Calculate the NAIC RBC catastrophe risk for this general insurer.

Commentary on Question:

The NAIC RBC uses net amounts at the 1 in 100-year event level from a recognized model. It is for hurricane (HU) and earthquake (EQ) only.

$R_{CAT} = [\,(75 + 0.048 \times (700 - 75))^2 + (19 + 0.048 \times (175 - 19))^2\,]^{0.5}$

$R_{CAT} = 108.289$

(b) Identify two assumptions requiring mandatory explanations.

Commentary on Question:

There are more than two assumptions requiring mandatory explanations. Only two were required for full credit. The model solution is an example of a full credit solution

- fire following for EQ
- secondary uncertainty

(c) Explain how double counting of catastrophe risk is avoided in the overall NAIC RBC formula.

Historical HU and EQ losses must be removed from the industry and company loss numbers used in calculating the underwriting premium risk charge (R_5) in the RBC formula.

(d) Compare the catastrophe risk charge included in the Solvency II SCR to that in the NAIC RBC formula with respect to each of the following:

(i) Return period used for catastrophe loss modeling

~~(ii) Natural catastrophe risks included in the formula~~

(iii) Man-made catastrophe risks included in the formula

~~(iv) Correlations between catastrophe risks included in the formula~~

(i) RBC uses a 100-year return period.
SCR uses 200-year return period.

~~(ii) RBC includes only HU and EQ.~~
~~SCR includes HU and EQ, plus other natural catastrophes (e.g., flood, hail).~~

(iii) RBC excludes man-made catastrophes.
SCR includes several man-made catastrophes.

~~(iv) RBC assumes HU and EQ are not correlated.~~
~~SCR assumes correlations between natural catastrophes and that man-made catastrophes are not correlated to each other or natural catastrophes.~~

GIFREU, Spring 2021, Q9

The case study for this question is at https://www.soa.org/globalassets/assets/files/edu/2021/spring/case-study/gifreu.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 12 (Solvency Monitoring)

NAIC Annual Statement

Case Study, Spring 2021, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tests a candidate's knowledge of the NAIC Annual Statement and the NAIC RBC calculation using information from the GI FREU Case Study. This question required the candidate to use Excel. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use in their solution. The model solution for this question in this document does not represent the actual model solution. It is for explanatory purposes only. Refer to the Excel solution file for an example of a full credit solution in Excel.

Solution:

(a) Demonstrate that the NAIC RBC Basic NWP charge for PPA was correctly calculated.

		PPA	
A	Industry average L&LAE Ratio	79.50%	from NAIC
B	Company average L&LAE Ratio	90.77%	from Sched P
C	Company adjustment factor	1.142	B/A
D	Industry adverse L&LAE Ratio	97.50%	from NAIC
E	Company adj. adverse L&LAE ratio	104.41%	0.5×D×(1.0+C)
F	Company U/W expense ratio	16.16%	from U&I Exhibit
G	Investment income factor	0.93	from NAIC
H	Current year NWP	242,900	from U&I Exhibit
I	Basic NWP RBC charge	32,212	Maximum of 0 and [H×(E×G + F−1.0)]

(b) Calculate R-Dan's NAIC RBC NWP risk charge before the addition of the excess growth charge.

		H/F	PPA	CAL	APD	SP	TOTAL	
J	Current year NWP	184,100	242,900	1,000	178,200	1,500	607,700	from U&I Exhibit
K	Basic NWP RBC charge	24,883	32,212	23	0	74	57,192	given
L	Premium concentration	30.3%	40.0%	0.2%	29.3%	0.2%		using J
M	Premium concentration factor						81.99%	70% + 30% × Max of L
N	NWP RBC charge before excess growth						46,892	K × M

(c) Calculate R-Dan's NAIC RBC NWP risk charge, R_5.

Solution changed as per the fifth edition errata.

		2018	2017	2016	2015	TOTAL	
O	Total Gross WP	618,100	544,300	493,500	463,800		5-Year Historical
P	Gross WP growth rate	13.6%	10.3%	6.4%		10.1%	3-Year Average
Q	Capped excess growth rate					0.1%	min(15%,max(0%, P−10%))
S	Excess growth charge WP					117	22.5% × J × Q
T	NWP Risk Charge					47,009	S + N

GIFREU, Spring 2021, Q10

The case study for this question is at https://www.soa.org/globalassets/assets/files/edu/2021/spring/case-study/gifreu.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 7 (Schedule P, Statutory Loss Accounting)

NAIC Annual Statement

Case Study, Spring 2021, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tests a candidate's knowledge the reporting of reserves and Schedule P using information from the GI FREU Case Study. This question required the candidate to respond in Excel for part (a). Data from the GI FREU Case Study was preloaded in Excel for the candidate to use in their solution. An example of a full credit solution for this part is in the Excel solutions spreadsheet. The model solution in this file for part (a)is for explanatory purposes only.

Solution:

(a) Develop a table of data to assess R-Dan management's contention that it strengthened case reserves for PPA.

Commentary on Question:

To test for case reserve strengthening, one should review changes in average case reserves at the same age of development. Average case reserves (for losses and DCC) can be calculated using Schedule P information as follows:

- *Case reserves by AY and development [cumulative incurred losses (SchP2B) minus cumulative paid losses (SchP3B) minus bulk & IBNR reserves (SchP4B)]*

Divided by

- *Number of claims outstanding by AY and development age [SchP5B Sec. 2]*

AVERAGE CASE RESERVES						
	Development years					
AY	1	2	3	4	5	6
2013	5,131	13,964	17,772	19,373	17,204	14,286
2014	5,231	14,743	18,022	22,196	22,439	
2015	5,102	15,037	19,874	23,753		
2016	4,690	14,916	22,222			
2017	4,641	17,464				
2018	5,448					

(b) Assess R-Dan's contention that it strengthened case reserves for PPA.

Commentary on Question:
The model solution is an example of a full credit solution.

If case reserve strengthening occurred, we should see a significant increase, above the assumed claim severity trend of 0%, in average case reserves at the same stage of development after calendar year 2016.

- At 1 year of development: AYs 2017 and 2018 should show the increase. Evidence is mixed. AY 2017 average case reserve is lower than expected the previous years while AY 2018 average case reserve is higher than previous years.
- At 2 years of development: AYs 2016 and 2017 should show the increase. Evidence is mixed. AY 2016 average case reserve has not been increased from the AYs 2014 and 2015 level while AY 2017 average case reserve is higher than previous years.
- At 3 years of development: AYs 2015 and 2016 should show the increase. Average case reserves at 3 years show an increasing trend possibly suggesting case reserve strengthening.

It is possible that case reserves have been strengthened. However, since it is not definitive, another year's worth of results (for calendar year 2019) should be analyzed before making a determination. There is stronger evidence that case reserves may have been strengthened in calendar year 2018 only, and not in calendar 2017.

GIFREU, Spring 2021, Q11

[Parts (a) and (b) apply to Learning Objective 4, Learning Outcome (4c)]
The case study for this question is at https://www.soa.org/globalassets/assets/files/edu/2021/spring/case-study/gifreu.pdf

Sources:
General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 11 (Measuring Insurer Financial Strength)
- Chapter 14 (Overview of the General Insurance Statement of Actuarial Opinion)

NAIC Annual Statement

Case Study, Spring 2021, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:
This question tests a candidate's knowledge the reporting of reserves and Schedule P using information from the GI FREU Case Study.

This question required the candidate to respond in Excel for part (b). Data from the GI FREU Case Study was preloaded in Excel for the candidate to use in their solution. An example of a full credit solution for this part is in the Excel solutions spreadsheet. The model solution in this file for part (b)is for explanatory purposes only.

Solution:
(a) Provide an argument supporting booked net reserves of \$289.5 million for R-Dan's 2018 Annual Statement.

Commentary on Question:
The model solution is an example of a full credit solution.
Part (a) applies to Learning Objective 4, Learning Outcome (4c)

Any booked amount within the range is reasonable. There is no requirement to book the actuarial point estimate.

(b) Recalculate R-Dan's 2018 NAIC IRIS Ratios 11, 12 and 13 using Sue Calvin's point estimate for year-end 2018 only.

Calculate amounts (A) to (F) as follows to use in calculating the IRIS ratios:

(A) One-year development (revised) = One-year development + increased reserves for accident years 2017 and prior = 36.2 + [(318 – 188) – (289.5 – 170.6)] = 47.3

(B) Two-year development (revised) = Two-year development + increased reserves for accident years 2016 and prior = 38.9 + [(318 – 188 – 67) – (289.5 – 170.6 – 62.6)] = 45.6

(C) Developed reserves to premium ratio-1st prior(revised) = (booked reserves first prior year-end + one-year development (revised) / prior year net earned premium = [(203.2 + 45.7) + (A)] / 511.6 = 57.90%

(D) Developed reserves to premium ratio-2nd prior(revised) = (booked reserves second prior year-end + two-year development (revised) / second prior year net earned premium = [(185.7 + 38.8) + (B)] / 470.9 = 57.36%

(E) Reserves-to-premiums ratio is an average of the first and second prior years developed reserves to premium ratio. Reserves-to-premiums ratio (revised) = 0.5 × ((C)+ (D)) = 57.63%

(F) Estimated reserve deficiency = (Premiums earned (current year) × reserves to premiums ratio) – loss & LAE reserves (current year). Estimated reserve deficiency (revised) = 578.5 × (E) – 318 = 15.375

IRIS Ratio 11 (revised) = (A) / PHS_{2017} = 47.3 / 209.1 = 22.6%

IRIS Ratio 12 (revised) = (B) / PHS_{2016} = 45.6 / 197.8 = 23.1%

IRIS Ratio 13 (revised)
= (F) / PHS_{2018}(revised) = 15.375 / [209.4 – (318 – 289.5)] = 8.5%

(c) Assess the implications on R-Dan's IRIS ratios of using Sue Calvin's point estimate.

Commentary on Question:
There are many different possible implications. The model solution only notes some of the implications and represents an example of full credit solution.

At the current booked amount for reserves, all three IRIS reserve ratios have results that are acceptable. However, if Sue's point estimate was booked, policyholder surplus would be significantly lower causing R-Dan to have exceptional results for IRIS ratios 11 and 12. On a positive note, the reserve deficiency ratio, IRIS ratio 13, would improve significantly.

Booking reserves at Sue's point estimate will also make R-Dan fail IRIS ratio 2 (NWP / PHS = 607.7 / 180.9 = 3.4) and IRIS ratios 7 and 8 (change in PHS, as the decrease is greater than 10%).

(d) Assess the broader implications of using Sue Calvin's point estimate.

Commentary on Question:
There are many different possible broad implications. The model solution only notes some of the implications and represents an example of full credit solution.
Part (d) applies to Learning Objective 4, Learning Outcome (4c)

Sue Calvin would need to address this change in R-Dan's methodology for setting the reserves in the Relevant Comments section of the SAO and Actuarial Report.

This change would also likely increase regulatory scrutiny from the failure of several IRIS ratios. However, it may be explained by being the result of strengthening IBNR reserves.

GIFREU, Spring 2021, Q12

The case study for this question is at https://www.soa.org/globalassets/assets/files/edu/2021/spring/case-study/gifreu.pdf

Learning Objectives:

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 9 (Measuring Total Income by Line of Business)

NAIC Annual Statement

Case Study, Spring 2021, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tests a candidate's knowledge of the IEE. This question uses information from the GI FREU Case Study.

This question required the candidate to use Excel. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use in their solution. The model solution for this question in this document does not represent the actual model solution. It is for explanatory purposes only. Refer to the Excel solution file for an example of a full credit solution in Excel.

Solution:

Determine the following items for R-Dan's 2018 IEE using the corrected amount for the 2018 PHS:

(i) Prepaid expense ratio for HO

(ii) Investment gain ratio

(iii) Investment gain on funds attributable to insurance transactions for HO

Commentary on Question:
Amounts in the solution are in millions (M).
The following abbreviations are used in this solution:
PPE = Prepaid expense ratio,
IG = Net investment gain, IGR = IG ratio,
AS = Annual Statement, HO = Homeowners,
IT = Insurance transactions,
WP = net written premium, UPR = Net unearned premium reserves,
LR = Net loss and loss adjustment expense reserves,
AB = Net agents balances,
Mean = Average of current and prior year amounts

(i) Prepaid expense ratio for HO
This is not affected by the reporting error regarding PHS.

PPE_{HO} = Prepaid expenses for HO / WP for HO
Prepaid expenses = Commission and brokerage expenses incurred
+ Taxes, licenses and fees incurred
+ Other acquisition, field supervision and collection expenses incurred
+ One-half of general expenses incurred.
These amounts are in IEE Part II columns 23, 25, 27 and 29, row 4 for HO

PPE_{HO} = (3.7 +4.6 + 10.6 + (10.2 / 2)) / 184.1 = 13.0%

(ii) Investment gain ratio.
This is directly affected by the reporting error regarding PHS.

IGR = IG / Investable assets
IG = AS page 4 lines 9 and 10 for current year including capital gains tax
= 31.9 + 1.1 + 0.6 = 33.6

Investable assets = Mean LR + Mean UPR – Mean AB + Mean PHS
Mean LR = Mean of AS page 3 lines 1 and 2 = (289.5 + 248.9) / 2 = 269.2
Mean UPR = Mean of AS page 3 line 9 = (208.8 + 179.6) / 2 = 194.2
Mean AB = Mean of AS page 2 lines 15.1 and 15.2 = (54.7 + 48) / 2 = 51.35
Mean PHS = Mean of AS page 3 line 37 where current year is reduced by 20M
= ((209.4 – 20) + 209.1) / 2 = 199.25

IGR = 33.6 / (269.2 + 194.2 – 51.35 + 199.25) = 5.5%

(iii) Investment gain on funds attributable to insurance transactions for HO
This is indirectly affected by the reporting error regarding PHS as it uses the IGR which was directly affected.

$IG(IT)_{HO} = IGR \times [\text{Mean } LR_{HO} + \text{Mean } UPR_{HO} \times (1 - PPE_{HO}) - \text{Mean } AB_{HO}]$
Mean $LR_{HO} = ((29.3 + 1.6 + 5.2) + (24.9 + 1.4 + 4.7)) / 2 = 33.55$
Mean $UPR_{HO} = (98.7 + 81.8) / 2 = 90.25$
Mean $AB_{HO} = (16.7 + 14.7) / 2 = 15.7$

$IG(IT)_{HO} = .055 \times [33.55 + 90.25 \times (1 - 0.13) - 15.7] = 5.3$

GIFREU, Spring 2021, Q18

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 4 (Accounting for Reinsurance Contracts)
- Chapter 8 (Notes to Financial Statements)

NAIC Statement of Statutory Accounting Principles,

- No. 65, "Property and Casualty Contracts"

Commentary on Question:

This question tested the candidate's knowledge of the statutory accounting treatment of structured settlements. This question required the candidate to respond in Excel for parts (b) and (c). An example of a full credit solution for these parts is in the Excel solutions spreadsheet. The model solutions in this file for parts (b) and (c) are for explanatory purposes only.

Solution:

(a) Contrast the reporting of reserves under U.S. statutory accounting for the two claims below, including a key reason for the difference.

(i) a claim that includes a structured settlement funded by an annuity

(ii) a claim that includes retroactive reinsurance

Commentary on Question:

There are several key reasons. Only one was required for full credit. The model solution is an example of a full credit solution.

Statutory accounting for retroactive reinsurance does not permit a reduction of the gross loss reserves on the ceding company's statements, exhibits or schedules. However, a reduction is permitted for structured settlements. This is because structured settlements are encouraged by regulators as they are generally beneficial to accident victims.

(b) Calculate the two amounts that GCIC must report in Note 27 Part A.

Commentary on Question:
This part of the question required the candidate to respond in Excel. An example of a full credit solution for this part is in the Excel solutions spreadsheet. The model solution in this file for this part is for explanatory purposes only.

Note 27 Part A requires the calculation of loss reserves eliminated by annuities and the unrecorded loss contingencies. Loss reserves eliminated by annuities are calculated as the total amount of reserves at the valuation date for all structured settlements with the claimant as the payee. Unrecorded loss contingencies are calculated as the amount for which it is contingently liable (i.e., no release obtained). For loss reserves eliminated by annuities in this question, we need the total reserves for annuities (A), (C), (E), (G), and (H). For unrecorded loss contingencies, the contingently liable amount is total amount of reserves eliminated by annuities less the amounts from which they obtain a release of liability (rated A or higher). In this question, release was obtained for annuities (A) and (E).

Note that the question did not provide the amount of loss reserves for the claims. In order to calculate these amounts, one had to assume that the loss reserves were equal to the amount of the structured settlements. One could also earn full credit by noting that the loss reserves were not provided, and for which claims each reserve amount was to be included in the calculation.

Loss reserves eliminated by annuities
= 750,000 + 300,000 + 450,000 + 250,000 + 700,000 = 2,450,000

Unrecorded loss contingencies
= 2,450,000 – (750,000 + 450,000) = 1,250,000

(c) Construct GCIC's required disclosures for Note 27 (Parts A and B).

Commentary on Question:
This part of the question required the candidate to respond in Excel. An example of a full credit solution for this part is in the Excel solutions spreadsheet. The model solution in this file for this part is for explanatory purposes only.

Refer to commentary on part (b) for the amounts required in Note 27 Part A. Disclosure Note 27 Part B shows the amounts for annuities purchased from life insurance companies if the total amount, by life insurer, is greater than 1% of policyholders' surplus (PHS). This only includes annuities where the claimant is the payee and the company has not obtained a release of liability. As such it can only apply to CTL and DEL as they are rated below A.

Surplus is 50 million, so 1% is 0.5 million. CTL has 0.25 million payable to the claimants, so disclosure in Note 27(B) is not required. DEL has 0.7 million payable to the claimants, so disclosure in Note 27(B) is required.

Part A:
Loss reserves eliminated by annuities in the amount of \$2.45 million for which there are unrecorded loss contingencies in the amount of \$1.25 million.

Part B:

Life Insurance Co.	Licensed in Company's State of Domicile	Statement Value at 12/31/2018
DEL	Yes	\$700,000

GIFREU, Fall 2021, Q9

The case study for this question is at
https://www.soa.org/4a203c/globalassets/assets/files/edu/2021/fall/case-study/gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 15 (Federal Income Taxes for General Insurers)

NAIC Annual Statement

Case Study, Fall 2021, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tests a candidate's knowledge of tax-basis accounting for reserves and underwriting income.

This question uses information from the GI FREU Case Study. It required the candidate to respond in Excel. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use in their solution. An example of a full credit solution for this part is in the Excel solutions spreadsheet. The model solution in this file is for explanatory purposes only.

Solution:

(a) Calculate R-Dan's 2020 tax basis loss and LAE reserves for PPA.

Start with Schedule Part 1B by line, column 24 for the unpaid amount. Add back in salvage and subrogation (S&S) anticipated from column 23. No adjustment for discounting is required because R-Dan does not discount its reserves. Apply the appropriate IRS factors by accident year to the unpaid (after S&S added back in) and to column 23 S&S separately. Add the amounts together to get the total.

Amounts in 000	Net Unpaid Total	S&S.	IRS Factor Unpaid	IRS Factor S&S	Tax basis loss reserves
Acc. Year	A	B	C	D	E = (A+B)×C−B×D
2019 & prior	111,400	4,500	0.965	0.970	107,479
2020	136,900	6,000	0.96	0.975	131,334
Total	248,300	10,500			238,813

(b) Calculate R-Dan's 2020 tax basis underwriting income.

Commentary on Question:
EP = Earned Premium, UPR = Unearned Premium Reserve, CY = Calendar Year, AS = Annual Statement, L&LAE = Losses and Loss Adjustment Expenses

Tax basis premium revenue
= statutory EP [AS page 4, row 1, col 1]
+ 20% of the change in the UPR [AS page 3, row 9, col 1 minus col 2]
= 578,500 + 0.2 × (208,800 – 179,600) = 584,340

Tax basis incurred losses
= CY 2018 paid losses + change in tax basis loss reserves

CY 2018 paid losses {*can also take this amount directly from UWIE* }
= CY 2018 Incurred [AS page 4, rows 2 and 3 for col 1]
+ Unpaid L&LAE YE 2017 [AS page 3, rows 1 and 3 for col 2]
– Unpaid L&LAE YE 2018 [AS page 3, rows 1 and 3 for col 1]
= (482,100 + 70,700) + (203,200 + 45,700) – (238,800 + 50,700) = 512,200

Tax basis incurred losses
= 512,200 + (306,900 – 261,000) = 558,100

Other underwriting expenses incurred = 98,200 [AS Page 4, row 4, col 1]

Tax basis underwriting income = 584,340 – 558,100 – 98,200 = – 71,960

GIFREU, Fall 2021, Q10

The case study for this question is at
https://www.soa.org/4a203c/globalassets/assets/files/edu/2021/fall/case-study/gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 11 (Measuring Insurer Financial Strength)

NAIC Annual Statement

Case Study, Fall 2021, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tests a candidate's knowledge of NAIC IRIS ratios.

This question uses information from the GI FREU Case Study. It required the candidate to respond in Excel for parts (b) and (c). Data from the GI FREU Case Study was preloaded in Excel for the candidate to use in their solution. An example of a full credit solution for parts (b) and (c) are in the Excel solutions spreadsheet. The model solutions for parts (b) and (c) in this file are for explanatory purposes only.

Solution:

(a) Describe the purpose for each of the following NAIC IRIS Ratios:

(i) IRIS Ratio 4 – Surplus Aid to Surplus

(ii) IRIS Ratio 8 – Change in Adjusted Policyholders' Surplus

(iii) IRIS Ratio 9 – Adjusted Liabilities to Liquid Assets

(i) It indicates any reliance on the continuation of the reinsurance treaty (or treaties) providing ceding commissions supporting the reported amount of Policyholders' Surplus (PHS).

(ii) It provides a measure of changes in PHS that includes only operational changes not capital transactions, such as issuing stock or debt.

(iii) It indicates whether assets that can be readily converted to cash will cover policyholders' claims if the insurer is liquidated.

(b) Calculate the NAIC IRIS Ratios noted in part (a) for R-Dan as of December 31, 2020:

(i) IRIS Ratio 4 – Surplus Aid to Surplus
= Surplus Aid / PHS

Surplus Aid = ceding commissions ratio × sum of ceded reinsurance UPR (nonaffiliates)
Ceding commissions ratio = total reinsurance ceded commissions / reinsurance premiums ceded
Total reinsurance ceded commissions [page 11 lines 2.3 + 2.6, column 2] = 800
Reinsurance premiums ceded [page 8, line 35, column 4 + column 5] = 10,400
Ceding commissions ratio = 800/10,400 = 0.077
Sum of ceded reinsurance UPR (nonaffiliates) = 1,800 [*Since we know that R-Dan is the only insurer in A-Eye holdings, all of the ceded reinsurance is from nonaffiliates so we can use the note on page 3 line 9*]
Surplus Aid = 0.077 ×1,800 = 138

IRIS Ratio 4 = 138 / 209,400 = 0.1%

(ii) IRIS Ratio 8 – Change in Adjusted Policyholders' Surplus
= Change in Adjusted PHS / Prior Year PHS

Change in adjusted PHS = current year PHS – change in surplus notes – capital paid in or transferred – surplus paid in or transferred – prior year PHS

= 209,400 – 0 – 0 – 10,000 – 209,100 = –9,700 [from page 4]

IRIS Ratio 8 = –9,700 / 209,100 = –4.6%

(iii) IRIS Ratio 9 – Adjusted Liabilities to Liquid Assets
= [Total Liabilities – Deferred Agents' Balances] / Liquid Assets

Total Liabilities = 533,300 [page 3, line 28, column 1]
Deferred Agents' Balances = 52,700 [page 2, line 15.2, column 3]
Liquid assets = *bonds + stocks + cash, cash equivalents and short-term investments +receivable for securities + investment income due and accrued – investments in parents, subsidiaries and affiliates [from page 3 column 3 and note that none of R-Dan's investments in fixed income securities or equities are with affiliated companies]*
= 609,600 + 28,400 + 6,700 + 0 + 9,100 – 0 = 653,800
IRIS Ratio 9 = [533,300 – 52,700] / 653,800 = 73.5%

(c) Determine whether or not each of the IRIS Ratio results for R-Dan calculated in part (b) represents an exceptional value. Include the criteria used for making each determination.

(i) An IRIS Ratio 4 equal to 0.1% is not exceptional. Exceptional values are over 15%.

(ii) An IRIS Ratio 8 equal to –4.6% is not exceptional. Exceptional values are either over 25% or under –10%.

(iii) An IRIS Ratio 9 equal to 73.5% is not exceptional. Exceptional values are over 100%.

GIFREU, Fall 2021, Q11

The case study for this question is at
https://www.soa.org/4a203c/globalassets/assets/files/edu/2021/fall/case-study/gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 8 (Notes to Financial Statements)

NAIC Statement of Statutory Accounting Principles,

- No. 53, "Property Casualty Contracts—Premiums"

NAIC Annual Statement

Case Study, Fall 2021, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tests a candidate's knowledge of the PDR under U.S. statutory accounting.

This question uses information from the GI FREU Case Study. It required the candidate to respond in Excel for parts (b) and (c). Data from the GI FREU Case Study was preloaded in Excel for the candidate to use in their solution. An example of a full credit solution for parts (b) and (c) are in the Excel solutions spreadsheet. The model solutions for parts (b) and (c) in this file are for explanatory purposes only.

Solution:

(a) Critique R-Dan management's PDR calculation.

Commentary on Question:

The model solution is an example of a full credit solution. It does not address all of the issues that could be raised in a critique of this calculation.

- R-Dan's PDR calculation is done on an all-lines combined basis. For purposes of determining if a PDR exists, statutory accounting states that insurance contracts are to be grouped in a manner consistent with how policies are marketed, serviced and measured. This should at least be by line of business or some grouping of lines. Any PDR for one group cannot be offset by the results from other groups.

- R-Dan's PDR calculation only looks at the latest year for calculating the projected loss ratio. It would be more appropriate to look at trends in the loss ratio over several years to determine the expected loss ratio for the unexpired portion of policies.
- R-Dan's PDR calculation takes maintenance expenses divided by earned premium to determine the maintenance expense ratio. Written premium should be used for this ratio as it better relates to the incurring of these expenses.

(b) Calculate a year-end 2020 PDR for R-Dan following the principles of U.S. statutory accounting and R-Dan management's three stated assumptions.

Commentary on Question:
The model solution is an example using Schedule P line of business as the PDR calculation grouping. This is not the only acceptable grouping possible.

For parts (b) and (c), if we use Schedule P line of business as the PDR calculation grouping, a quick review of results by line shows that only Private Passenger Liability/Medical (PP-AL) has a loss ratio high enough to create a PDR. Thus, the calculation of the PDR is only completed for PP-AL.

	Item for PP-AL		**Source**
(1)	Expected loss and loss adjustment expense ratio	96.5%	Average of Schedule P Part 1B, column 31 rows 7 to 11
(2)	Expected maintenance expense ratio	5.5%	IEE Part II, column 19 row 19.1,19.2 / IEE Part II, column 1 row 19.1,19.2
(3)	Future cost of in-force policies as a % of premium	102.0%	(1) + (2)
(4)	Unearned premium reserve	62,500	IEE Part II, column 3 row 19.1, 19.2
(5)	Indicated PDR	1,235	Maximum of 0 and (4) × [(3) – 100%]

(c) Provide a rationale for the inputs used in your calculation of the PDR in part (b).

For (1): A detailed loss ratio projection analysis is not possible with the data available. Noting the consistent adverse development experienced for the PP-AL line of business, it is not appropriate to look at just the accident year (AY) 2020 loss ratio. Therefore, it is reasonable to assume that the expected loss ratio for the unexpired policies will be fairly represented by an average loss ratio over a number of AYs. In this case, a five-year average appears appropriate. Referring to Schedule P Part 1B column 31, the PP-AL AY average loss ratio is 96.5%.

For (2): It is reasonable to assume that the current 2020 PP-AL maintenance expense ratio will continue into the projection period regarding the unexpired portion of the policies.

GIFREU, Fall 2021, Q16

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 5 (The Annual Statement, Nonadmitted Assets and Surplus)
- Chapter 10 (Performance Measurement for General Insurers)

Commentary on Question:

This question tests a candidate's understanding of the statutory accounting rules for nonadmitted assets and how to convert statutory capital to book capital.

This question required the candidate to use Excel for part (d). The model solution for this part in this document does not represent the actual model solution. It is for explanatory purposes only. Refer to the Excel solution file for an example of a full credit solution to part (d).

Solution:

(a) Describe two ways in which investment assets can be nonadmitted under the rules of U.S. statutory accounting.

Commentary on Question:

There are several ways in which these assets can ne nonadmitted. Only two were required for full credit. The model solution is an example of a full credit solution.

- Lower-grade investments are limited to 10% of total admitted assets. The excess is a nonadmitted asset.
- Common stock investments are limited to the greater of 25% total admitted assets or 100% of surplus. The excess is a nonadmitted asset.

(b) Describe the accounting treatment under U.S. statutory accounting, including valuation basis and admitted/nonadmitted status, for the following assets:

(i) Material assets, not held as investments

(ii) Goodwill from a statutory purchase

(iii) Electronic data processing equipment and software

(i) Valued at depreciated value and classified as a nonadmitted asset if treated as an asset. Alternatively, it is treated as an expense and expensed immediately.

(ii) Asset calculated as the difference between purchase price and the acquired entity's surplus. Admitted asset limited to 10% of acquiring entity's surplus. The excess is a nonadmitted.

(iii) Asset depreciated over the lesser of the assets useful life or three years. The admitted asset is limited to 3% of surplus. The excess is a nonadmitted asset.

(c) Explain how it is possible for an increase in nonadmitted assets to reduce surplus.

If we consider total assets to be a fixed amount, then an increase in nonadmitted assets would be offset by a decrease in the admitted assets by the same amount. Surplus is calculated as admitted assets less liabilities, so this would reduce surplus.

(d) Estimate the target return on statutory surplus for this insurer.

	Statutory Policyholders' Surplus	1,105.00
−	Estimated reserve deficiency in statutory loss and LAE reserves	125.00
−	Cost of holding capital for loss and LAE reserves	175.00
+	implicit discount (=8% × (stat reserves + deficiency))	156.40
+	Equity in the unearned premium reserves	150.00
+	Nonadmitted assets	136.00
+	Schedule F provision for reinsurance	278.00
−	Management's estimate for uncollectible reinsurance	100.00
−	Management's estimate for bad debts from agents' balances	35.00
=	Book capital	1,390.40
	Target return on statutory surplus (= opportunity cost of capital x book capital / stat surplus)	12.6%

GIFREU, Fall 2021, Q20

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

NAIC Statement of Statutory Accounting Principles,

- No. 5R, "Liabilities, Contingencies and Impairment of Assets"
- No. 63, "Underwriting Pools"
- No. 65, "Property and Casualty Contracts"

Commentary on Question:

This question tested a candidate's knowledge of several statutory accounting principles

Solution:

(a) State these two SSAP No. 5 conditions.

- Information available prior to issuance of the financial statements indicates that it is probable that a liability has been incurred at the date of the financial statements.
- The amount of loss can be reasonably estimated.

(b) Describe what is required of an insurer if a loss contingency is not recorded because only one of the SSAP No. 5 conditions is met.

Disclosure of the loss contingency in the financial statements when there is at least a reasonable possibility that a loss may have been incurred.

(c) Determine the amount each of the insurers is liable for on a $10,000 claim from a policy issued by A, under each of the following categories as per SSAP No. 63:

(i) Directly liable to the claimant

(ii) Liable as reinsurer

	(i)	(ii)
A	$10,000	$0
B	$0	$1,500
C	$0	$1,500
D	$0	$5,500

(d) Outline how an insurer should account for this extended reporting coverage as per SSAP No. 65.

- A policy reserve classified as unearned premiums is required to run more than one year from the date of the policy.
- The amount of the policy reserve should be adequate to pay for all future claims arising from these coverage features.

GIFREU, Spring 2022, Q1

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 11 (Measuring Insurer Financial Strength)

Commentary on Question:

This question tested a candidate's understanding of NAIC IRIS ratios.

Solution:

(a) Identify two of these four NAIC IRIS ratios. The two ratios identified should not have resultant values that overlap significantly.

Commentary on Question:

The four ratios are 3, 6, 7 and 8. Ratios 7 and 8 have results that overlap considerably. The model solution is an example of a full credit solution that selected ratios 3 and 6. Note that the number of the ratio was not required, only the name of the ratio was required for full credit.

- IRIS Ratio 3: Change in Net Written Premium
- IRIS Ratio 6: Investment Yield

(b) Explain why values that are too high or too low may be signs of financial distress for each of the two NAIC IRIS ratios identified in (a).

Commentary on Question:

The model solution is an example of a full credit solution based upon the model solution for part (a).

- IRIS Ratio 3: Change in Net Written Premium
  - Large increase could be from underpricing.
  - Large decrease could be from a large increase in proportional reinsurance to mask cash flow issues.

- IRIS Ratio 6: Investment Yield
    - High yield could be due to an overly aggressive investment portfolio in high-risk investments.
    - Low yield could be due to use of speculative investments.

(c) Provide the following regarding IRIS Ratio 4:

(i) The formula for calculating surplus aid

(ii) A reason that an exceptionally high value may be a sign of financial distress

(iii) The effect that an exceptionally high value has on other IRIS ratios

(iv) The additional IRIS calculations that would likely need to be done when this ratio produces an exceptional value

Commentary on Question:
PHS = Policyholders' Surplus

(i) Surplus aid = Ceding commissions ratio × the sum of Ceded reinsurance unearned premiums (nonaffiliates)

(ii) Exceptionally high values for this ratio indicate that the company's surplus depends upon the continuance of the reinsurance treaty (or treaties) providing the ceding commissions and that the surplus may be inadequate.

(iii) High values for this ratio will improve IRIS ratios where PHS is the denominator. This may keep an insurer from having exceptional values.

(iv) Recalculate IRIS ratios that have PHS in the denominator by removing surplus aid from PHS.

GIFREU, Spring 2022, Q2

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 5 (The Annual Statement, Nonadmitted Assets and Surplus)

Commentary on Question:

This question tested a candidate's understanding of the statutory accounting rules for admitting assets.

Solution:

(a) State two reasons why U.S. statutory accounting requires certain assets to be designated as nonadmitted.

Commentary on Question:

There are more than two reasons. Only two were required for full credit. The model solution is an example of a full credit response.

- Mitigate investment risk
- Reflect an asset's inability to fund claim payments

(b) Determine the admitted amount that should be booked by this company for each of the following assets. Include the reasoning supporting each determination.

(i) Ten automobiles (for use by claims adjusters) purchased five years ago for a total of $300,000 with a total current market value of $80,000 and total current depreciated value of $150,000.

(ii) Assumed premium balances from insurers, 70 days past due, in the amount of $100,000.

(iii) Unsecured accrued retrospective premiums in the amount of $500,000.

(iv) Reinsurance recoverables, from a slow-paying authorized reinsurer, in the amount of $200,000. Management's best estimate is that $10,000 of this amount is uncollectible.

(v) Goodwill from the purchase of an entity. The purchase price was $3 million and the acquired entity's surplus was $2.2 million.

(vi) Operating system software, with a useful life of four years, purchased for $360,000 two years ago.

(i) $0 admitted because material assets not held as investments are 100% nonadmitted.

(ii) $100,000 admitted because receivables less than 90 days past due are fully admitted.

(iii) $450,000 admitted because 10% of unsecured unbilled receivables are nonadmitted.

(iv) $200,000 admitted because the Schedule F provision handles any offsets.

(v) $0.735 million admitted because the admitted amount is limited to the minimum of the following two amounts:

- 10% of the acquiring entities surplus (0.1 × $7.35 million = $0.735 million)
- the difference between the purchase price of the acquired entity and the acquired entities surplus ($3.0 million – $2.2 million = $0.8 million)

(vi) $120,000 admitted because operating system software is depreciated over the lesser of the useful life of the asset or three years. In this case, it is three years.

GIFREU, Spring 2022, Q6

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 15 (Federal Income Taxes for General Insurers)

NAIC Annual Statement

Commentary on Question:

This question tested a candidate's knowledge of insurance company taxation. This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

All amounts shown are in millions. The following acronyms are used in the solution: EP = Earned Premium, WP = Written premium, UPR = Unearned Premium Reserve, L&LAE = Loss and Loss Adjustment Expenses, UW = Underwriting, Δ = change in, DRD = dividends received reduction

Solution:

(a) Demonstrate that the company's taxable investment income for 2021 is $11 million.

Taxable investment income is the sum of

- taxable interest income = 5.65
- realized capital gains = 2.5
- taxable portion of dividends received = 50% × 1.96 = 0.98
- prorated portion of tax-exempt interest income = 25% × 6.5 = 1.625
- prorated portion DRD = 25% × (1.96 – 0.98) = 0.245

Taxable investment income = 5.65 + 2.5 + 0.98 + 1.625 + 0.245 = 11

(b) Calculate the company's 2021 taxable income using each of the following methods:

(i) Indirect method

(ii) Direct method

(i) Indirect method

Taxable income = Taxable UW income + Taxable investment income

Taxable UW income
= Statutory UW income + Revenue offset + Δ Reserve discount

Statutory UW income = EP – incurred L&LAE – expenses
= (WP – Δ UPR) – (paid L&LAE + Δ undiscounted reserves) – Tax-deductible other expenses
= (60 – (35 – 25)) – (36 + (91 – 75)) – 21 = –23

Revenue offset = 20% × Δ UPR = 0.2 × (35 – 25) = 2
Δ Reserve discount = (91 – 77) – (75 – 67) = 6

Taxable income = ((–23) + 2 + 6) + 11 = –4

(ii) Direct method

Taxable income = tax basis EP – tax-basis incurred L&LAE – Tax-deductible other expenses + taxable investment income

Tax basis EP = WP – 80% of Δ UEPR = 60 – (0.8 × (35 – 25)) =52

Tax basis incurred losses = paid L&LAE + Δ discounted reserves
= 36 + (77 – 67) = 46

Tax-deductible other expenses = 21

Taxable income = 52 – 46 – 21 + 11 = −4

GIFREU, Spring 2022, Q9

The case study for this question is at
https://www.soa.org/490494/globalassets/assets/files/edu/2022/spring/2022-gifreu-spring-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 8 (Notes to Financial Statements)

NAIC Annual Statement

Case Study, Spring 2022, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tested a candidate's knowledge Annual Statement Note 25.

Solution:

(a) Describe the purpose of Note 25.

It is to provide the reasons for changes in the provision for incurred loss and loss adjustment expenses attributable to insured events of prior accident years.

(b) Complete R-Dan's Note 25 for the 2021 Annual Statement, including both required numbers and narrative, using the information provided in the case study.

Commentary on Question:

This part could be answered in either the Word document or the Excel spreadsheet. There are many possible items that could be included in Note 25.

Not all were required for full credit. However, to earn full credit the response must include some numbers showing the changes in incurred losses and loss adjustment expenses. The model solution in this document is an example of a full credit solution. The solution included in the Excel solutions spreadsheet contains more information than was required for full credit. Neither the model solution shown here, nor the Excel solution, includes everything that could, or should be included in Note 25 for R-Dan.

A breakdown of R-Dan’s current year incurred losses and loss adjustment expenses (LAE) is as follows:

All Lines	2021 Total	Current Accident Year	Prior Accident Years
Incurred Losses	482,100	450,000	32,100
Incurred LAE	70,700	70,600	100
Paid Loss	446,500	304,300	142,200
Paid LAE	65,700	45,700	20,000
Change in Loss Reserve	35,600	145,700	-110,000
Change in LAE Reserve	5,000	24,900	-19,900

The incurred losses and total LAE of 32,200 on prior accident years are due to adverse development in the Private Passenger Liability/Medical (PPL) line of business. The development of PPL incurred loss and DCC for prior accident years was 37,400.

Methodologies and assumptions used in calculating ultimate amounts has remained consistent over the past several years. The adverse development on PPL is likely a result of the increased uncertainty in development patterns due to the significant growth of business in non-core territories.

GIFREU, Spring 2022, Q10

The case study for this question is at
https://www.soa.org/490494/globalassets/assets/files/edu/2022/spring/2022-gifreu-spring-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 12 (Solvency Monitoring)

NAIC Annual Statement

Case Study, Spring 2022, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tested a candidate's knowledge of the NAIC RBC calculation using information from the GI FREU Case Study. This question required the candidate to respond in Excel. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use in their solution. An example of a full credit solution is in the Excel solutions spreadsheet. The model solution in this file is for explanatory purposes only.

Solution:

(a) Calculate R-Dan's 2021 NAIC Risk-Based Capital (RBC) *base loss and LAE reserve risk charge* for Homeowners/Farmowners (H/F).

Amounts in $000

- Held reserves = 36,200
- Industry average development = 0.970
- Company average development = 0.9665 [= (19,500+31,200+ …+93,700) / (18,900+42,000+…+94,100) (*= Schedule P Part 2A, sum of amounts at 12/31/21 divided by sum of initial reported amount for all but the current accident year*)
- Company adjustment factor = 0.9665 / 0.970 = 0.9964
- Industry loss & LAE RBC % = 0.2
- Company adjusted loss & LAE RBC% = 0.2 × 0.5 × (1 + 0.9964) = 0.1996
- Investment income factor = 0.95

Base charge = 36,200 × ((1 + 0.1996) × 0.95 – 1)
= 5,055

(b) Calculate R-Dan's NAIC RBC *underwriting risk charge for reserve risk before conditional adjustment*.

Amounts ($000)	Base reserve charge	Reserves from Schedule P	Loss Concentration
H/F	5,055	36,200	12.53%
PPL	28,180	248,300	85.98%
CAL	50	600	0.21%
APD	340	3,700	1.28%
SP	0	0	0%
TOTAL	33,625	288,800	

Amounts in $000

- No loss sensitive adjustment is required
- Loss concentration factor = 70% + 30% × 85.98% = 95.793%
- Reserve charge before excess growth and conditional adjustment = 33,625 × 0.95793 = 32,210
- Gross Written Premium growth rates [13.6%, 10.3%, 6.4%]
- RBC Average Growth Rate = average growth rate in excess of 10% = 0.085%
- Excessive Premium Growth Charge = 288,800 × 45% × 0.085% = 111

Reserve charge before conditional adjustment = 32,210 + 111
= 32,321

(c) Calculate R-Dan's 2021 NAIC RBC charge R_3 (*credit risk charge after conditional adjustment*).

Amounts in $000

- The reserve charge before conditional adjustment (32,321) is greater than the credit risk charge for reinsurance recoverables (3,100). Therefore, a credit adjustment is required in the amount of 50% of the credit risk charge for reinsurance recoverables.

R_3 = 90 + 470 +100 + 3,100 – (0.5 × 3,100)
= 2,210

(d) Explain why the RBC calculation includes the conditional adjustment.

This is done to account for the fact that there is positive correlation between reinsurance credit risk and underwriting risk.

(e) Calculate R-Dan's 2021 NAIC RBC Ratio.

Amounts in \$000

- RBC before Operational Risk = $60 + (8{,}820^2 + 5{,}280^2 + 2{,}210^2 + 33{,}860^2 + 47{,}000^2 + 21{,}860^2)^{0.5} = 62{,}861$
- RBC = 1.03 × 62,861 = 64,746
- Total Adjusted Surplus = 209,400
- ACL = 0.5 × RBC = 32,373

RBC Ratio = 209,400 / 32,373
= 647%

GIFREU, Spring 2022, Q12

The case study for this question is at
https://www.soa.org/490494/globalassets/assets/files/edu/2022/spring/2022-gifreu-spring-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 9 (Insurance Expense Exhibit (IEE))

NAIC Annual Statement

Case Study, Spring 2022, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tested a candidate's knowledge of the calculations included in the IEE. It required the candidate to respond in Excel. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use in their solution. An example of a full credit solution is in the Excel solutions spreadsheet. The model solution in this file is for explanatory purposes only.

Solution:

Determine the following items for R-Dan's 2021 corrected IEE using the restated amount for the current year's *Taxes, Licenses & Fees*:

(iv) Prepaid expense ratio for PPAL

(v) Investment gain ratio

(vi) Investment gain on funds attributable to capital and surplus for PPAL

Commentary on Question:

WP = Written Premium, UPR = Unearned Premium Reserve,
LR = Loss & LAE Reserves, AB = Agents' Balances,
PPE = Prepaid Expense Ratio,

PHS = Policyholders' Surplus, PHSR = PHS Ratio,
IG = Investment Gain, IGR = IG Ratio

Amounts in millions

(i) PPE_{PPAL}

PPE_{PPAL} = Prepaid expenses for PPAL / WP for PPAL
Prepaid expenses for PPAL =
Commission and brokerage expenses incurred for PPAL
+ Taxes, licenses and fees incurred for PPAL
+ Other acquisition, field supervision, collection expenses incurred for PPAL
+ One-half of general expenses incurred for PPAL
= 7.4 + (5.8 + 1.0) + 13.7 + (13.3 / 2) = 34.55

PPE_{PPAL} = 34.55 / 242.9 = 14.224%

(ii) IGR

IGR = IG / Investable assets
IG = 33.0 + 0.6 = 33.6 (*note that IEE is on pretax basis so we must add back the capital gains tax to have pretax IG*)
Investable assets = Mean LR + Mean UPR – Mean AB + Mean PHS
= (289.5+248.9)/2 + (208.8+179.6)/2 – (54.7+48)/2 + (209.4+209.1)/2
= 269.2 + 194.2 – 51.35 + 209.25 = 621.3

IGR = 33.6 / 621.3 = 5.41%

(iii) $IG_{PPAL}(CS)$

PHSR = Mean PHS / (Mean LR + Mean UPR + EP)
= [(209.4 + 209.1)/2] / [(289.5+248.9)/2 + (208.8+179.6)/2 +578.5]
= 20.08%
Mean PHS_{PPAL} = PHSR × (Mean LR_{PPAL} + Mean UPR_{PPAL} + EP_{PPAL})
= 20.08% × ((207.0+33.9+7.9+176.2+30.6+7.1)/2 +(56.9+62.5)/2 + 237.3]
= 20.08% × (231.35 + 59.7 + 237.3] = 106.111
IG_{PPAL}
= IGR × (Mean LR_{PPAL} + Mean UPR_{PPAL} + Mean PHS_{PPAL} – Mean AB_{PPAL})
= 5.41% × [231.35 + 59.7 +106.111 – (22 + 19.3)/2] = 20.362
$IG_{PPAL}(INS)$ = IGR × (Mean LR_{PPAL} + Mean UPR_{PPAL} × (1 – PPE_{PPAL}) – Mean AB_{PPAL})
= 5.41% × [231.35 + 59.7 × (1 – .14224) – 20.65] = 14.164

$IG_{PPAL}(CS)$ = IG_{PPAL} – $IGP_{PAL}(INS)$ = 20.362 – 14.164 = 6.198

GIFREU, Spring 2022, Q13

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 4 (Accounting for Reinsurance Contracts)

Commentary on Question:

This question tested a candidate's understanding of deposit accounting for reinsurance.

Solution:

Describe the difference between the interest method and the present value method for deposit accounting of reinsurance under U.S. GAAP in terms of the following:

(i) Cash flows/Income pattern used

(ii) Discount rate used

(iii) Amortization period of the deposit

(iv) Income presentation in the Annual Statement for changes in the deposit

(i) Cash flows/Income pattern

- The interest method uses the income pattern from the estimated cash flows.
- The present-value method derives the income pattern after the claims occur.

(ii) Discount rates

- The interest method uses the internal rate of return of the cash transactions between the reinsurer and the primary insurer.
- The present-value method uses risk-free rates for the maturity of the losses.

(iii) Amortization

- The interest method amortizes the deposit from inception to claims settlement, using the IRR derived from the cash flows.
- The present-value method amortizes the initial deposit through the end of the contract period and separately amortizes the loss costs from occurrence to settlement.

(iv) Income presentation

- The interest method presents changes in the deposit as interest income.
- The present-value method presents changes in the deposit as underwriting income.

GIFREU, Spring 2022, Q16

(*5 points*)

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 4 (Accounting for Reinsurance Contracts)
- Chapter 7 (Schedule P, Statutory Loss Accounting)

Commentary on Question:

This question tested a candidate's knowledge of how intercompany pooling is accounted for under statutory accounting principles.

Solution:

(a) Explain why intercompany pooling agreements do not typically represent agreements of true risk transfer.

All the risks remain within the group of affiliated insurers. The financial solvency of an insurer in the group is dependent upon the financial solvency of the insurance group.

(b) Determine how an intercompany pooling agreement will affect the following components of a U.S. statutory Annual Statement (AS) exhibit for a pool participant.

(i) Income Statement (i.e., AS page 4) components:
- Underwriting income
- Investment income
- Capital and surplus account

(ii) Assets (i.e., AS page 2) component:

- Cash and invested assets

(iii) Liabilities, Surplus and Other Funds (i.e., AS page 3) components:

- Losses and loss adjustment expenses
- Surplus as regards policyholders

(i) Income Statement

- Underwriting income: Any premiums, losses and loss adjustment expenses, underwriting and general expenses covered by pooling agreements are shown net of pooling transactions.
- Investment income: Investment income is not affected by pooling transactions.
- Capital and surplus account: This is affected by pooling transactions indirectly because net income affects it. Net income includes underwriting income that is directly affected by pooling transactions.

(ii) Assets

- Cash and invested assets: These are not affected by pooling transactions.

(iii) Liabilities and Surplus and Other Funds

- Losses and loss adjustment expenses: These are after pooling transactions.
- Surplus as regards policyholders: This is only affected by pooling through retained earnings.

(c) Under a scenario of changing percentages of intercompany pooling participation from year to year, the historical figures in the current year's Schedule P may not agree with the corresponding Schedule P entries from the AS of previous years.

Explain how Schedule P should be constructed under this scenario.

One constructs a pooled schedule, and then each insurer takes its current pooling percentage of every entry, not the percentage for the year in which the losses occurred.

(d) Explain how intercompany reinsurance transactions that are not pooling agreements are treated in Schedule P.

They are treated in the same manner as external reinsurance transactions.

GIFREU, Spring 2022, Q18

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 5 (The Annual Statement, Nonadmitted Assets and Surplus)

Commentary on Question:

This question tested a candidate's ability to calculate certain amounts in the Statutory Statement of Income. This question required the candidate to use Excel. The model solution in this document does not represent the actual model solution. It is for explanatory purposes only. Refer to the Excel solution file for an example of a full credit solution.

Solution:

Calculate the following Statement of Income amounts for the company's 2021 statutory Annual Statement.

(i) Net investment gain (Line 11)

(ii) Total other income (Line 15)

(iii) Net income (Line 20)

(iv) Capital changes: Paid in (Line 32.1)

(v) Surplus adjustments: Paid in (Line 33.1)

(vi) Change in surplus as regards policyholders (Line 38)

Amounts in millions

(i) Net investment gain
= Net investment income earned + (Realized capital gains less Capital gains tax)

Net investment gain = 55 + 22 – (0.21 × 22) = 72.38

(ii) Total other income
= Net gain (loss) from agents' or premium balances charged off + Finance and service charges not included in premiums + Aggregate write-ins for miscellaneous income

Total other income = (3.2) + 1.5 + 0 = (1.7)

(iii) Net income
= Net underwriting gain (loss) + Net investment gain (loss) + Total other income − Dividends to policyholders – Income taxes

Income taxes = 21% of the sum of underwriting gain, investment income earned and total other income = 0.21 × (16 + 55 + (1.7)) = 14.553

Net income = 16 + 72.38 + (1.7) – 0.25 – 14.553 = 71.877

(iv) Capital changes: Paid in
= *Number of shares sold at par value per share*

Capital changes: Paid in = 2 million shares × \$1.50 = 3

(v) Surplus adjustments: Paid in
= *Number of shares sold at sale value per share excess of par value*

Surplus adjustments: Paid in = 2 million shares × (\$2.00 – \$1.50) = 1

(vi) Change in surplus as regards policyholders
= Net income + Change in net unrealized capital gains less tax − Change in net deferred income tax − Change in nonadmitted assets – Change in provision for reinsurance + Paid in capital and surplus −Dividends to stockholders

Change in net unrealized capital gains less tax = (10 – (0.21 × 10)) = 7.9
Change in net deferred income tax = increase in deferred tax liability on unrealized capital gains = 0.21
Change in net deferred income tax = change in DTAs = 0.8 + 2.4 = 3.2
Change in nonadmitted assets = Change in intangible assets = 2
Paid in capital and surplus = 3 + 1 = 4

Change in surplus as regards policyholders
= 71.877 + 7.9 – 3.2 – 2 – 6.5 + 4 – 1.75 = 70.327

GIFREU, Fall 2022, Q1

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 4 (Accounting for Reinsurance Contracts)
- Chapter 12 (Solvency Monitoring)

NAIC Annual Statement

Commentary on Question:

This question tested a candidate's understanding of how deposit accounting differs from reinsurance accounting for reinsurance transactions.

Solution:

Compare *deposit accounting* to *reinsurance accounting*, with respect to how it affects the following items:

(i) *Liabilities* in the statutory Annual Statement

(ii) *Assets* in the statutory Annual Statement

(iii) *Surplus as regards policyholders* in the statutory Annual Statement

(iv) NAIC Risk-Based Capital requirement (R_3, R_4 and Total)

Commentary on Question:

The model solution is an example of a full credit solution.

(i) Under reinsurance accounting, loss reserves are shown net of reinsurance recoverable. Under deposit accounting, loss reserves are shown gross of reinsurance recoverable.

(ii) Under reinsurance accounting, reinsurance recoverables on paid losses are shown on the asset side of the balance sheet. Under deposit accounting, a deposit is shown on the asset side of the balance sheet.

(iii) Under both accounting methods, total policyholders' surplus is the same.

(iv) Under reinsurance accounting, R_4 capital requirements will be lower as loss reserves benefit from reinsurance recoverables. However, R_3 Credit Risk capital requirements will be higher.

Under deposit accounting, R_4 capital requirements will be higher as loss reserves do not get reduced by the deposit asset. However, R_3 Credit Risk capital requirements will be lower.

Overall, the RBC ratio is expected to be higher under reinsurance accounting as compared to deposit accounting because R_4 is generally much greater than R_3 for most insurers.

GIFREU, Fall 2022, Q2

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(2b) Understand and apply the elements of the NAIC RBC formula.

Learning Outcomes:

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 6 (Schedule F, Statutory Credit for Reinsurance)
- Chapter 12 (Solvency Monitoring)

Commentary on Question:

This question tested a candidate's knowledge of the NAIC RBC calculation

Solution:

(a) Identify the following items that reduce the total reinsurance recoverables used in the credit risk charge calculation:

(i) Two amounts that are included in the total reinsurance recoverables

(ii) Two amounts that are not reinsurance recoverables

Commentary on Question:

There are several amounts that reduce these recoverables that could have been stated for both (i) and (ii). Only two for each of (i) and (ii) were required for full credit. The model solution is an example of a full credit response.

(i) Reinsurance recoverables from involuntary market pools and reinsurance recoverables from U.S. affiliates, non-pool.

(ii) The Schedule F provision and reinsurance payable.

(b) Identify which RBC risk charges are changed by the adjustment for excess growth.

An excess premium growth factor is added to both Reserve Risk and Premium Risk.

(c) Describe how this factor affects the risk charges in the RBC formula.

Commentary on Question:
The model solution is an example of a full credit response.

Investments must first be aggregated by issuer "name." Charges for investments in the ten largest issuer names are doubled. The asset concentration charges for each security are then included within their appropriate asset category (R_1/R_2).

(d) The NAIC RBC formula includes a bond size adjustment factor.

Describe how this factor adjusts the RBC calculation.

Commentary on Question:
The model solution is an example of a full credit response.

An average bond size adjustment factor is calculated based on the number of bond issuers in the portfolio. It is applied to the calculated bond charge and increases the charge for portfolios that are not sufficiently diversified.

(e) Describe how the NAIC RBC formula accounts for the risk from investments in directly owned alien insurance subsidiaries.

It is 22.5% of the book value of the affiliate company's stock held by the insurer. This charge is included in R_2.

(f) Describe how the NAIC RBC formula accounts for the risk from investments in domestic insurance affiliates not subject to NAIC RBC.

It is 50% of the company's share of the reported value of the subsidiary. This charge is included in R_0.

(g) Describe how the RBC catastrophe risk charge reflects this credit risk.

There is a 4.8% charge on ceded amounts from the modeled losses.

GIFREU, Fall 2022, Q9

The case study for this question is at
https://www.soa.org/49e974/globalassets/assets/files/edu/2022/fall/case-study/gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 7 (Schedule P, Statutory Loss Accounting)

NAIC Annual Statement

Case Study, Fall 2022, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tested a candidate's ability to derive triangles commonly used in a loss reserve analysis using Schedule P information. It made use of information included in the GI FREU Case Study. It required the candidate to respond in Excel. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use. An example of a full credit solution is in the Excel solutions file. The model solution in this file is for explanatory purposes only.

Solution:

Create the following development triangles for R-Dan's private passenger auto liability (PPAL) line of business (net losses and defense and cost containment expenses) for accident years 2018 to 2021:

(i) Average case basis unpaid

(ii) Average payment per closed claim
- Assume that there are no partial payments on claims.

Commentary on Question:
Part (i) was [Sched. Part 2B – Sched. P Part 3B – Sched. P Part 4B] divided by Sched. P Part 5B Section 1

Part (ii) did not indicate whether the average payments were on a cumulative or incremental basis, nor did it indicate whether or not counts closed with no payment were to be included. As such, any combination of those two elements was acceptable.

The model solution for part (ii) is an example of a full credit solution in which it is assumed the average payments are incremental and claim counts without payments are excluded. Under these assumptions, the part (ii) solution is [Sched. Part 3B incremental differences] divided by [Sched. P Part 5B Section 1 incremental differences]

(i) Average net case basis unpaid

Accident Year	*Age of development (months)*			
	12	24	36	48
2018	5,102	15,037	19,874	23,753
2019	4,690	14,916	22,222	
2020	4,641	17,464		
2021	5,448			

(ii) Average net payment per closed claim
(*using incremental amounts excluding claims without payments*)

Accident Year	*Age of development (months)*			
	12	24	36	48
2018	3,371	6,653	11,272	530,000
2019	3,490	5,942	25,806	
2020	3,296	7,173		
2021	3,580			

GIFREU, Fall 2022, Q10

The case study for this question is at
https://www.soa.org/49e974/globalassets/assets/files/edu/2022/fall/case-study/gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 11 (Measuring Insurer Financial Strength)

NAIC Annual Statement

Case Study, Fall 2022, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tested a candidate's ability to calculate NAIC IRIS ratios and understand the results of the tests of them. It required the candidate to respond in Excel for parts (b) and (c) using data from the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use. An example of a full credit solution for parts (b) and (c) is in the Excel solutions file. The model solution in this file for these parts is for explanatory purposes only.

Solution:

(a) Explain how values outside the usual range for these reserve ratios could be caused by something beneficial to an insurer's financial health.

Strengthening reserves, which is beneficial to an insurer's financial health, may cause unusually high values for this ratio.

(b) Calculate the following NAIC IRIS Ratios for each year, from 2021 to 2024, using R-Dan's actual results for 2021 and revised projections for 2022 to 2024:

(i) IRIS Ratio 2 – Net written premium to policyholders’ surplus

(ii) IRIS Ratio 5 – Two-year overall operating ratio

(iii) IRIS Ratio 7 – Gross change in policyholders’ surplus

(iv) IRIS Ratio 8 – Change in adjusted policyholders’ surplus

Commentary on Question:
The calculations for parts (i), (iii) and (iv) were straightforward using information provided in the question’s Revised Projections table. The calculation for part (ii) was more involved. It required using some values from the case study for years 2020 and 2021. The model solution in the Excel solutions file was laid out into steps to make it more manageable to follow.

Refer to the Excel solutions file.

(c) Determine whether or not each of the NAIC IRIS Ratios calculated in part (b) falls outside the usual range for the ratio. Provide the usual range for the ratios in your determinations.

	2021	2022	2023	2024	Usual range	
IRIS Ratio 2	2.90	3.48	3.58	3.43	< 3.0	2022, 2023 and 2024 fall outside the usual range
IRIS Ratio 5	102.5%	104.7%	101.3%	97.8%	< 100%	2021, 2022 and 2023 fall outside the usual range
IRIS Ratio 7	0.1%	-5.4%	3.4%	10.0%	-10% to 50%	No years fall outside the usual range
IRIS Ratio 8	-4.6%	-10.2%	3.4%	10.0%	-10% to 25%	2022 falls outside the usual range

GIFREU, Fall 2022, Q11

The case study for this question is at
https://www.soa.org/49e974/globalassets/assets/files/edu/2022/fall/case-study/gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 4 (Accounting for Reinsurance Contracts)
- Chapter 5 (The Annual Statement, Nonadmitted Assets and Surplus)
- Chapter 7 (Schedule P, Statutory Loss Accounting)

NAIC Annual Statement

Case Study, Fall 2022, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tested a candidate's knowledge of how pooling arrangements affect the various pages and exhibits in the Annual Statement. It required the candidate to respond in Excel using data from the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use. The model solution in this document does not represent the actual model solution. It is for explanatory purposes only. Refer to the Excel solutions file for an example of a full credit solution.

Solution:

(a) Complete the following Schedule P parts for O-Bot's year-end 2021 Annual Statement under this pooling arrangement scenario:

(i) O-Bot – Schedule P – Part 1 – Summary

(ii) O-Bot – Schedule P – Part 2 – Summary

Commentary on Question:
Note that while O-Bot only writes Homeowners, its business is pooled with all of R-Dan's business not just Homeowners. O-Bot Schedule P – Part 1 after pooling would be the pooled business times 30%. For years prior to 2019, it would be 30% of R-Dan Part 1 for all lines of business. For years 2019 to 2021, it would be 30% of the Part 1 amounts for the two companies combined for all lines of business.

Refer to the Excel solutions file for an example of a full credit solution.

(b) Complete the following UWIE parts from R-Dan's year-end 2021 Annual Statement under this pooling arrangement scenario:

(i) R-Dan – UWIE – Part 1B – Premiums Written

(ii) R-Dan – UWIE – Part 2 – Losses Paid and Incurred

(iii) R-Dan – UWIE – Part 2A – Unpaid Losses and Loss Adjustment Expenses

Commentary on Question:
For the UWIE, the lead insurer, R-Dan, treats O-Bot's direct business as reinsurance assumed and the amounts sent back to O-Bot as reinsurance ceded to affiliates. O-Bot's amounts ceded to non-affiliates would be included as part of R-Dan's ceded to non-affiliates, under the assumption that R-Dan would have purchased the same external reinsurance. This is what is presented in the Excel solution file. It was also acceptable to make the assumption that O-Bot would still purchase the external reinsurance it had purchased and then ceded the net amount to the pool. This is not shown in the Excel solutions file.

Refer to the Excel solutions file for an example of a full credit solution.

(c) Calculate the following Schedule F entries from R-Dan's year-end 2021 Annual Statement under this pooling arrangement scenario:

(i) R-Dan – Schedule F – Part 1 – Column 7 (*Reinsurance on Known Case Losses and LAE*), Row 9999999 (Total)

(ii) R-Dan – Schedule F – Part 3 – Column 6 (*Reinsurance Premium Ceded*), Row 9999999 (Total)

Commentary on Question:
Note that there was a labeling error for part (ii) in the Excel file as what was labeled as Column 8 should have been labeled as Column 6. Grading of this question took this into account.

For part (i), Schedule F Part 1 treats business coming into the pool from affiliates as assumed business. R-Dan's Schedule F – Part 1 column 7 total should equal the sum of columns 13, 17 and 21 from O-Bot's Schedule P – Part 1A.

For part (ii), Schedule F Part 3 treats ceded business the same as the UWIE. R-Dan's Schedule F – Part 3 column 8 total should equal the sum of columns 4 and 5 from R-Dan's UWIE Part 1B.

(i) R-Dan Sched. F – Part 1, Col. 7 total row = 19,530 + 500 + 3,800
= 23,830

(ii) R-Dan Sched. F – Part 3, Col. 8 total row = 223,080 + 13,200
= 236,280

GIFREU, Fall 2022, Q14

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 4 (Accounting for Reinsurance Contracts)

NAIC Statement of Statutory Accounting Principles,

- No. 62, "Property and Casualty Reinsurance"

Commentary on Question:

This question tested a candidate's understanding of contract terms that may affect whether or not the contract meets the requirements of reinsurance accounting.

Solution:

(a) Determine which terms, A through K, will likely prevent it from being accounted for as reinsurance under the rules of U.S. statutory accounting.
Justify your determinations.

Commentary on Question:

Six of the terms (A, E, F, I, J, K) will likely prevent it from being accounted for as reinsurance under U.S. statutory accounting. Five of these terms were required for full credit. The model solution is an example of a full credit solution that makes this determination for A, E, F, I and J.

Term A: This term includes a retroactive period which may prevent reinsurance accounting.

Term E: This term delays recoveries due to PIC which will prevent reinsurance accounting.

Term F: This term is an insolvency clause that reduces the reinsurer's obligations. This will prevent reinsurance accounting.

Term I: This sliding scale commission term affects the transfer of risk. The sliding scale is very wide and will likely prevent reinsurance accounting.

Term J: This cancelation clause permits the reinsurer to cancel the agreement if it appears likely to suffer a significant loss. This prevents a significant transfer of risk and will prevent statutory reinsurance accounting.

(b) Propose a potential revision to each term, if needed, so that the agreement may be accounted for as reinsurance under the rules of U.S. statutory accounting.

Commentary on Question:
Six terms (A, E, F, I, J, K) required revisions so that the agreement may be accounted for as reinsurance under the rules of U.S. statutory accounting. Proposing revisions to four of these six could earn full credit. The model solution is an example of a full credit solution that proposes revisions to A, E, F and I

Term A: The coverage period should be Jan. 1, 2022 to Dec. 31, 2022 so it does not include a retroactive coverage period.

Term E: Payments should not be in a lump sum. They should be made without delay. At a minimum they should be made quarterly with the reports.

Term F: The insolvency clause should state that Q-Re is still responsible for its obligations even if PIC is insolvent.

Term I: The swing commission needs a narrower sliding scale, such as a swing of 0.5-to-1 from a minimum rate of 15% at a 75% loss ratio to a maximum rate of 30% at a 45% loss ratio. Alternatively, this could be changed to fixed commission rate of 25%.

GIFREU, Spring 2023, Q1

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, Fifth Ed. (2021), Society of Actuaries

- Chapter 8 (Notes to Financial Statements)

NAIC Statement of Statutory Accounting Principles

- No. 65, "Property and Casualty Contracts"

Commentary on Question:

This question tested a candidate's understanding of several reporting standards under U.S. statutory accounting.

Solution:

(a) Provide the following as per SSAP No. 65:

(i) The definition of tabular reserves.

(ii) The purpose of an *extended reporting provision*.

(iii) The timing for when premium should be recognized for tail coverage with an undefined or indefinite policy period.

Commentary on Question:

The model solution is an example of a full credit solution.

(i) Indemnity reserves that are calculated using discounts determined with reference to actuarial tables, which incorporate interest and contingencies, applied to a reasonably determinable payment stream.

(ii) This provision allows covered insured events to be reported after the termination of a claims-made contract.

(iii) Premium should be earned over the coverage period, or the period for which all insured events have occurred, regardless of report date.

(b) Describe how an annuity should be recorded under SSAP No. 65 for each of the following circumstances:

(i) The insurance company has purchased an annuity and they are also the payee.

(ii) The insurance company has purchased an annuity, but the claimant is the payee.

Commentary on Question:
The model solution is an example of a full credit solution.

(i) The annuity should be recorded at its present value and accounted for as an other-than-invested asset.

(ii) Loss reserves should be reduced by future payments under the annuity. The cost of the annuity should be recorded as a paid loss amount.

(c) Describe *contingent liability* when the claimant is the payee for the annuity.

Commentary on Question:
The model solution is an example of a full credit solution.

Potential payments a general insurer could become liable for due to insolvency of the life insurer paying the annuities.

GIFREU, Spring 2023, Q4

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(1e) Understand and apply the concepts of reinsurance accounting.

Commented [SK1]: Ditto

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

NAIC Statement of Statutory Accounting Principles,

- No. 62R, "Property and Casualty Reinsurance"

Commentary on Question:

This question tested a candidate's understanding of reinsurance accounting under SAP.

This question required the candidate to respond to parts (d) and (e) in Excel. An example of a full credit solution for these parts is in the Excel solutions spreadsheet. The solution in this file for parts (d) and (e) is for explanatory purposes only.

Solution:

(a) Identify three types of retroactive reinsurance contracts that may qualify for prospective reinsurance accounting treatment under U.S. statutory accounting principles (SAP).

Commentary on Question:

There are more than three types. The model solution is an example of a full credit solution.

- Intercompany reinsurance agreements
- Structured settlement annuities
- Novations

(b) State why portfolio reinsurance contracts should be accounted for as retroactive reinsurance under SAP.

Commentary on Question:

The model solution is an example of a full credit solution.

Portfolio reinsurance generally includes the transfer of outstanding losses for claims already incurred.

(c) Identify which of the following cash flows should <u>not</u> be considered in this test. Justify your answer.

(i) Premiums

(ii) Commissions

(iii) Premium taxes

(iv) General expenses

(v) Claims

(vi) Defense and cost containment expenses

(vii) Adjusting and other expenses

(viii) Income taxes

Commentary on Question:
The model solution is an example of a full credit solution.

The following should not be considered: (iii), (iv) and (viii).
This is because these amounts are not cash flows between the Ceding and Assuming Companies.

The following should not be considered only if they are not included in the reinsurance contract: (vi) and (vii).

(d) State why the interest method of deposit accounting should be used for this contract.

This is because the contract has timing risk but no underwriting risk.

(e) Calculate the deposit for this contract at time t = 2.

$IRR = -1{,}000 + 1{,}100 \times (1 + r)^{-5} = 0$
$r = (1{,}100 / 1{,}000)^{0.2} - 1 = .0192$
Deposit at t = 2 is:
$1{,}000 \times (1.0192)^2 = 1{,}039$

GIFREU, Spring 2023, Q5

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 4 (Accounting for Reinsurance Contracts)

NAIC Statement of Statutory Accounting Principles,

- No. 62R, "Property and Casualty Reinsurance"

Commentary on Question:

This question tested a candidate's understanding of reinsurance accounting.

Solution:

(a) Compare the balance sheet treatment of ceded loss and unearned premium reserves under U.S. statutory accounting vs. GAAP accounting.

Commentary on Question:

The model solution is an example of a full credit solution.

Statutory accounting includes net unpaid claim reserves and net unearned premiums as liabilities on a balance sheet. GAAP accounting shows separate direct and ceded balance amounts for unpaid claims and unearned premiums.

(b) Show the full accounting entries <u>for ceding this loss</u> under U.S statutory accounting.

Balance sheet liability, case reserves 300 debit
Income statement expense, incurred losses 300 credit

(c) Statement of Statutory Accounting Principles (SSAP) 62R discusses three types of risk: underwriting, timing, and investment risk.

Describe each of these risks.

Commentary on Question:
The model solution is an example of a full credit solution.

- Underwriting risk – Risk that claims may be more than expected.
- Timing risk – Risk that claims may be paid earlier than expected.
- Investment risk – Risk that actual investment income may be lower than expected.

GIFREU, Spring 2023, Q7

The case study for this question is at
https://www.soa.org/48ef45/globalassets/assets/files/edu/2023/spring/study-note/gifreu-2023-spring-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 7 (Schedule P, Statutory Loss Accounting)
- Chapter 9 (Insurance Expense Exhibit (IEE))

NAIC Annual Statement

Case Study, Spring 2023, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tested a candidate's ability to derive amounts from the Annual Statement. It made use of information included in the GI FREU Case Study.

This question required the candidate to respond in Excel. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

Solution:

Calculate the following amounts using information in R-Dan's *Excerpts from the Annual Statement*.

(i) Total unearned premium reserve (UPR), gross of ceded reinsurance, as of year-end 2021.

(ii) Total loss payments, net of ceded reinsurance, during calendar year 2021.

(iii) Total defense and cost containment (DCC) expense payments, net of ceded reinsurance, during calendar year 2022.

(iv) Total adjusting and other (A&O) expense payments, net of ceded reinsurance, during calendar year 2022.

(v) Change in net loss and DCC reserves for the Homeowners/Farmowners line of business, during calendar year 2022.

(vi) Average net paid claim (loss and DCC), excluding claims without payment, for the Homeowners/Farmowners line of business, during calendar year 2022. Assume that there are no partial payments on claims.

(vii) Investment Gain Ratio (IGR) used in the 2022 Insurance Expense Exhibit (IEE).

Commentary on Question:
EP = Earned Premium, WP = Written Premium, AS = Annual Statement
UWIE = Underwriting and Investment Exhibit, Sch P = Schedule P,
H/F = Homeowners/Farmowners line of business

The model solution is an example of a full credit solution and does not represent the only way to calculate the amounts.

Amounts in this document are shown in thousands.

(i) Total gross UPR, as of year-end 2021.
Recall EP = WP + UPR begin – UPR end, so
Gross UPR 21 = Gross EP 22 + Gross UPR 22 – Gross WP 22

- Gross EP 22 = 588,600 (Sch P Part 1 Summary)
- Gross WP 22 = 618,100 (UWIE Part 1B)
- Gross UPR 22 = 208,800 + 1,800 = 210,600 (AS Page 3)

Gross UPR 21 = 181,100

(ii) Total net loss payments during calendar year 2021.
Recall incurred = paid + unpaid end – unpaid begin, so
Net loss paid 21 = Net loss incurred 21+ net loss unpaid 20 – net loss unpaid 21

- Net loss incurred 21 = 386,300 (AS Page 4)
- Net loss unpaid 21 = 203,200
- Net loss unpaid 20 = 185,700

Net loss paid 21 = 368,800

(iii) Total net DCC payments during calendar year 2022.

- Net loss & DCC paid 22 = 463,500 (Sch P Part 3 Summary, col 10 minus col 9)
- Net loss paid 22 = 446,500 (AS Page 4 losses incurred + AS Page 3 losses 21 – AS Page 3 losses 22)

Net DCC paid 22 = 463,500 – 446,500 = 17,000

(iv) Total net A&O payments during calendar year 2022.

- Net loss adjustment expenses paid 22 = 65,700 (UWIE Part 3)
- Net DCC paid 22 = 17,000 (question part (iii))

Net A&O paid 22 = 65,700 – 17,000 = 48,700

(v) Change in H/F net loss and DCC reserves during calendar year 2022.

- H/F net incurred 22 = 121,500 (Sch P Part 2A, col 10 minus col 9)
- H/F net paid 22 = 119,500 (Sch P Part 3A, col 10 minus col 9)

Change in H/F net loss and DCC reserves 22 = 2,000

(vi) Average H/F net paid claim (loss and DCC), excluding claims without payment during calendar year 2022 (assuming no partial payments).

- H/F net paid 22 = 119,500 (see part (v))
- H/F closed claim counts 22 = 11,844 (Sch P Part 5A, Section 1, col 10 (rows 01 to 11) minus col 9 (rows 02 to 10))

Average H/F ne paid = 119,500 / 11,844 = 10.089

(vii) IGR used in the 2022 IEE.

	2022	2021	Average	Source
Net loss reserves	289,500	248,900	269,200	AS Page 3
Net UPR	208,800	179,600	194,200	AS Page 3
Net agents' balances	54,700	48,000	51,350	AS Page 3
Surplus	209,400	209,100	209,250	AS Page 3
Investment gain	33,600			AS Page 4

IEE 22 IGR = 33,600 / (269,200 + 194,200 – 51,350 + 209,250) = 5.41%

GIFREU, Spring 2023, Q9

The case study for this question is at
https://www.soa.org/48ef45/globalassets/assets/files/edu/2023/spring/study-note/gifreu-2023-spring-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 11 (Financial Ratios for Insurers)
- Chapter 12 (Solvency Monitoring)

NAIC Annual Statement

Case Study, Spring 2023, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tested a candidate's ability to calculate IRIS ratios and RBC ratios using amounts from the Annual Statement after making revisions. It made use of information included in the GI FREU Case Study.

This question required the candidate to respond in Excel. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only. Amounts are shown in thousands.

Solution:

(a) Demonstrate which of the following IRIS ratios move from a "pass" to a "fail" when correcting for the overstatement. Ratios provided below are based on values before correction.

(i) Ratio 1 (GWP to PHS), 2.95

(ii) Ratio 2 (NWP to PHS), 2.90

(iii) Ratio 5 (2-year operating ratio), 102.5%

(iv) Ratio 6 (investment yield), 5.11%
Note: The usual range for IRIS Ratio 6 in 2022 is between 2% and 5.5%.

(v) Ratio 7 (gross change in PHS), 0.14%

(vi) Ratio 8 (change in adjusted PHS), –4.64%

(vii) Ratio 11 (1-year reserve development to PHS), 17.31%

(viii) Ratio 12 (2-year reserve development to PHS), 19.67%

(ix) Ratio 13 (estimated current reserve deficiency to PHS), 15.99%

If all income was reported properly, this overstatement would also affect policyholders surplus (PHS) by the same amount.

($000)	Reported	Adjusted	Overstated
Bonds	609,600	596,186	13,414
PHS	209,400	195,986	13,414

		Before Correction	After Correction	Usual Range	Move from "pass" to "fail"
(i)	Ratio 1	2.95	3.15	< 9	no
(ii)	Ratio 2	2.90	3.10	< 3	YES
(iii)	Ratio 5	102.5%	102.50%	< 100%	no
(iv)	Ratio 6	5.11%	5.17%	*between 2% and 5.5%*	no
(v)	Ratio 7	0.14%	-6.27%	between -10% to 50%	no
(vi)	Ratio 8	-4.64%	-11.05%	between -10% to 25%	YES
(vii)	Ratio 11	17.31%	17.31%	< 20%	no
(viii)	Ratio 12	19.67%	19.67%	< 20%	no
(ix)	Ratio 13	15.99%	17.08%	< 25%	no

(b) Assume that R-Dan passes IRIS ratio tests 3, 4, 9 and 10 based on reported values and reported values after correction.

Explain the implications for R-Dan from the results of part (a).

Commentary on Question:
The model solution is an example of a full credit solution.

This would mean that R-Dan would have failed three IRIS ratio tests (ratios 2, 5 and 8) instead of just one (ratio 5). This, along with the fact that two of the reserve ratios are just below the upper end of the usual range, would likely result in increased regulatory scrutiny for R-Dan. Furthermore, an investigation into each of these failed ratios, and those close to failing, would be indicated.

(c) Determine R-Dan's 2022 NAIC RBC ratio before correcting for the overstatement.

PHS	209,400
R_0	56
R_1	8,817
R_2	5,283
R_3	2,211
R_4	33,866
R_5	47,009
R_{CAT}	17,809

NAIC RBC ratio 660.3%

(d) Determine R-Dan's 2022 NAIC RBC ratio after correcting for the overstatement under each of the following assumptions:

(i) The overstatement was uniform across all bonds.

(ii) The overstatement was from non-U.S. government guaranteed bonds in Class 1 and Class 2 only.

(i) Overstatement uniform across all bonds

Bonds	Other	Asset Conc.	R1		
8,148	20	649	8,817	Before correction	
7,969	20	635	8,623	After correction	

PHS	195,986
R_0	56
R_1	8,623
R_2	5,283
R_3	2,211
R_4	33,866
R_5	47,009
R_{CAT}	17,809

NAIC RBC ratio 618.32%

(ii) Overstatement from non-U.S. government guaranteed bonds in Class 1 and Class 2 only

Bond Charge	Before corr.	ADJ	After corr.
Class 1	549	4.68%	523
Class 2	1,036	4.68%	988
Other	6,563	0.00%	6,563
	8,148		8,074

Asset Conc	Before corr.	ADJ	After corr.
Class 1	-	4.68%	-
Class 2	151	4.68%	144
Other	498	0.00%	498
	649		642

Bonds	Other	Asset Conc.	R1	
8,148	20	649	8,817	Before correction
8,074	20	642	8,736	After correction

PHS	195,986
R_0	56
R_1	8,736
R_2	5,283
R_3	2,211
R_4	33,866
R_5	47,009
R_{CAT}	17,809

NAIC RBC ratio 618.16%

GIFREU, Spring 2023, Q11

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 5 (The Annual Statement, Nonadmitted Assets and Surplus)

Commentary on Question:

This question tested a candidate's understanding of some of the differences between U.S. statutory accounting and GAAP accounting.

This question required the candidate to respond in Excel for part (c). An example of a full credit solution for this part is in the Excel solutions spreadsheet. The solution in this file for part (c) is for explanatory purposes only.

Solution:

(a) Explain why there is this difference in accounting treatment.

Commentary on Question:

The model solution is an example of a full credit solution.

SAP focuses on balance sheet assets that will be available to pay claims, whereas GAAP accounting focuses on going-concern values and income.

(b) Equipment and operating software are admitted with limitation under SAP even though these assets cannot be used to pay claims.

State why SAP admits these assets.

Commentary on Question:

The model solution is an example of a full credit solution.

If this asset was non-admitted, insurers might not make needed upgrades to equipment and software. This may hinder an insurer's operational efficiency and negatively affect policyholders and claimants.

(c) Calculate the following amounts as of December 31, 2022:

(i) SAP income

(ii) Change in SAP surplus

(iii) GAAP income

(iv) Change in GAAP equity

Commentary on Question:
Note that no actual losses were reported as of Dec. 31, 2022, and it is a claims-made policy. Therefore, losses incurred in 2022 should be recorded as zero. However, if we assume that there is still a possibility of IBNR claims (reported but not yet recorded) it was acceptable to use pro-rata expected claims for losses incurred in 2022. Both interpretations received full credit. The model solution shown uses the assumption that no losses were incurred in 2022.

(i) SAP income
Earned premium = 50% × 1200 = 600
Acquisition expenses = 10% × 1200 = 120
General expenses = 50% × (20% × 1200) = 120
Losses = 0
SAP income = 600 – 120 – 120 – 0 = 360

(ii) Change in SAP surplus
Change in income = 360
The overdue premium (nonadmitted asset) is a direct charge to surplus = (300)
Change in SAP surplus = 360 + (300) = 60

(iii) GAAP income
Earned premium = 50% × 1200 = 600
Acquisition expenses = 50% × 10% × 1200 = 60
General expenses = 50% × (20% × 1200) = 120
Losses = 0
GAAP income = 600 – 60 – 120 – 0 = 420

(iv) Change in GAAP equity
Change in GAAP equity = 420

GIFREU, Fall 2023, Q5

[Part (e) III applies to Learning Objective 4, Learning Outcome (4c)]

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 6 (Schedule F, Statutory Credit for Reinsurance)

Commentary on Question:

This question tested a candidate's knowledge of reinsurance accounting, Schedule F, and estimates of amounts for uncollectible reinsurance.

Solution:

(a) Identify two other key functions of Schedule F.

Commentary on Question:

There are more than two key functions. The model solution is an example of a full credit solution.

- Provide supporting data regarding reinsurance arrangements.
- Restate the Annual Statement from a net of reinsurance basis to a gross of reinsurance basis.

(b) Explain why an insurance company might enter into a fronting arrangement.

Commentary on Question:

The model solution is an example of a full credit solution.

Fronting may be sought by insurers writing exposures that they deem to be too large or too risky for it, and by insurers writing business as a "front" for an insurer that is not licensed in its state.

(c) Explain why insurance regulators should be interested in a company using fronting arrangements.

Regulators monitor the insurer writing business in its state. However, under a fronting arrangement, they only monitor the fronting insurer, not the insurer taking on most of the insurance risk. For this reason, these arrangements require regulatory scrutiny.

(d) Some reinsurance contracts ceding more than 75% of direct premiums written are exempt from having an indicator of Special Code 2.

Identify two types of reinsurance contracts that are under this exemption.

Commentary on Question:
There are more than two types. The model solution is an example of a full credit solution.

- Affiliated transactions
- Involuntary market pools

(e) Different estimates for amounts of uncollectible reinsurance are found in the following:

I. Schedule F in U.S. statutory accounting
II. GAAP accounting
III. Statement of Actuarial Opinion (SAO).

Compare these three estimates of amounts for uncollectible reinsurance.

Commentary on Question:
The model solution is an example of a full credit solution.

All are prospective views on estimating the uncollectibility of recoverables from reinsurers. However, there are differences. In Schedule F, the estimate is an objective formula-based provision that is specified by statute and applies to all insurers. GAAP uses a subjective amount based on management's best estimate for expected uncollectible recoverables. In the SAO, the Appointed Actuary uses their own subjective amount to estimate expected uncollectible recoverables. The amount in the SAO may differ from the amount in GAAP accounting.

GIFREU, Fall 2023, Q7

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 5 (The Annual Statement, Nonadmitted Assets and Surplus)
- Chapter 15 (Federal Income Taxes for General Insurers)

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

Solution:

(a) Calculate the following under U.S. statutory accounting for each method (Method 1 and Method 2):

(i) Written premium for 2022

(ii) Earned premium for 2022

(iii) Unearned premium as of December 31, 2022

METHOD 1

(i) Written premium = 7,000

(ii) Estimated ultimate premium = 6,000 + 1,000 = 7000

Earned premium = 75% x 7,000 = 5,250

(ii) Unearned premium = 7,000 – 5,250 = 1,750

METHOD 2
(i) Written premium = 6,000
(ii) Earned premium = 5,250 (same under both methods)
(ii) Unearned premium = 6,000 – 5,250 = 750

(b) Calculate the following under U.S. statutory accounting for each method (Method 1 and Method 2):

(i) Written premium for 2023

(ii) Earned premium for 2023

METHOD 1
(i) Written premium = −500
(ii) Earned premium = 1,750 – 500 = 1,250

METHOD 2
(i) Written premium = 500
(ii) Earned premium = 1,250 (same under both methods)

(c) Provide the reason why Method 1 is required under U.S. tax accounting when recognizing audit premiums.

Tax accounting adjusts written premium, so it uses the method which directly adjusts written premium (Method 1) not earned premium.

(d) Describe the concept of *revenue offset* with respect to the calculation of premium revenue under U.S. tax accounting.

Revenue offset is the U.S. tax version of the GAAP deferred acquisition cost. Instead of using an insurer’s estimate of its deferrable expenses, the revenue offset for taxes uses 20% of premium.

GIFREU, Fall 2023, Q8

The case study for this question is at
https://www.soa.org/4a7b7f/globalassets/assets/files/edu/2023/fall/case-study/gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 9 (Insurance Expense Exhibit (IEE))

NAIC Annual Statement

Case Study, Fall 2023, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

This question tested a candidate's ability to derive amounts from the IEE. It made use of information included in the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use.

Solution:

Calculate the following for R-Dan's 2022 IEE, corrected for the overstatement of agents' balances and subject to the information limitation noted above:

(i) Prepaid expense ratio underlying the 2022 IEE calculations for all lines combined total

(ii) Investment gain ratio for the 2022 IEE calculations

(iii) Investment gain on funds attributable to insurance transactions for all lines combined total

(iv) Investment gain attributable to capital and surplus for all lines combined total

Commentary on Question:
Candidates were expected to calculate these amounts using only information from the 2022 IEE and Annual Statement pages 2 to 4 as presented in the Case Study.

Dollar amounts are presented in thousands.

Avg = average of current year and prior year
AB = agents' balances, PHS = policyholders' surplus,
IG = investment gain, IA = investable assets,
LR = loss and loss adjustment expense reserves,
UPR = unearned premium reserve, WP = written premium

(i) Prepaid expense (PPE) ratio
PPE = Commission & Brokerage + Taxes, Licenses & Fees +
Other Acquisitions, Field Supervision and Collection +
(General Expenses Incurred / 2) = 81,500
WP = 607,700
PPE Ratio = 81,500 / 607,700 = 13.4%

(ii) IGR
IG = 33,000 + 600 = 33,600
IA = AvgLR + AvgUPR + AvgPHS – (ABcurr / 1.15 + ABprior / 1.1) / 2
= 627,049
IGR = 33,600 / 627,049 = 5.36%

(iii) IG on funds attributable to insurance transactions, total
$= \text{IGR} \times (\text{Avg LR} + \text{Avg UPR} \times (1 - \text{PPE Ratio}) - ((AB_{current} / 1.15 + AB_{prior} / 1.1) / 2))$
= 0.0536 × (269,200 + 194,200 × 0.866 – 45,601)
= 20,992

(iv) IG attributable to capital and surplus, total
= IG − IG on funds attributable to insurance transactions, total
= 33,600 – 20,992
=12,608

GIFREU, Fall 2023, Q9

The case study for this question is at
https://www.soa.org/4a7b7f/globalassets/assets/files/edu/2023/fall/case-study/gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 12 (Solvency Monitoring)

NAIC Annual Statement

Case Study, Fall 2023, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

This question tested a candidate's understanding of NAIC RBC. It made use of information included in the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use.

Solution:

(a) Complete the following table with respect to the NAIC RBC Ratio:

Action Level	NAIC RBC Ratio Range	Action by Insurer	Action by Regulator
No Action		No action required	No action required
Regulatory action level			
Mandatory control level			

Action Level	NAIC RBC Ratio Range	Action by Insurer	Action by Regulator
No Action	200% or more	No action required	No action required
Regulatory action level	At least 100% but below 150%	Submit a plan to the insurance commissioner of the domiciliary state. The plan must explain how the company will obtain capital or reduce operations/risk exposure to	No action required
Mandatory control level	Below 70%	As directed by the commissioner	The commissioner must rehabilitate or liquidate the company.

(b) Calculate the following amounts for R-Dan's 2022 NAIC RBC:

(i) Homeowners/Farmowners (H/F) basic reserving charge

(ii) R_4 risk charge before adjustment for credit risk

Commentary on Question:
AY = accident year, avg = average, dev = development, INCD = incurred, GWP = gross written premium, II = investment income, mdev = months of dev

Dollar amounts are presented in thousands.

(i) H/F basic reserving charge
Industry avg dev = 0.97
Co. avg dev = Current INCD(AY2013-22) / INCD@12mdev(AY2013-22)
= 0.966464
Co. adjustment factor = 0.966464 / 0.97 = 0.9964
Industry loss & LAE RBC % = 0.20
Co. adjusted loss & LAE RBC = 0.2 × (1 + 0.9964) × 0.5 = 0.19964
II factor = 0.95
Co. net loss & LAE reserves = 36,200
H/F basic reserving charge = ((1 + 0.19964) × 0.95 – 1) × 36,200 = 5,055

(ii) R_4 risk charge before adjustment for credit risk
Basic reserving charge = 33,621
Loss concentration factor = 0.7 + 0.3 × (248,300 / 288,800) = 0.9579
RBC before excess growth = 33,621 × 0.9579 = 32,207
3 yr GWP growth rate = 10.09%
Excess growth rate = 0.09%
Excess growth = 288,800 × 0.45 × 0.09% = 117
R_4 before credit adjustment = 32,207 + 117 = 32,324

(c) Calculate the following amounts for R-Dan's NAIC RBC:

(i) Total RBC after covariance and before basic operational risk

(ii) NAIC RBC Ratio

(iii) Range of policyholders surplus that would trigger *regulatory action level*

(i) Total RBC after covariance and before basic operational risk
$R_0 = 56$
$R_1 = 8{,}817$
$R_2 = 5{,}283$
R_3 (after adjustment) = 2,211
R_4 (after adjustment) = 32,324 + (3,761 – 2,211) = 33,874
$R_5 = 47{,}009$
$R_{cat} = ((3{,}500+0.048\times1{,}500)^2 + (24{,}000+0.048\times3{,}000)^2)^{0.5} = 24{,}407$

Total RBC after covariance and before basic operational risk
$= R_0 + (R_1^2 + R_2^2 + R_3^2 + R_4^2 + R_5^2 + R_{cat}^2)^{0.5} = 63{,}802$

(ii) NAIC RBC Ratio
= adjusted policyholders' surplus / 50% of RBC
= 209,400 / (0.5 × 1.03 × 63,802)
= 637.29%

(iii) Range of policyholders surplus that would trigger *regulatory action level*
RBC Ratio range to trigger *regulatory action level:* 100% to 150%

Range of policyholders surplus that would trigger *regulatory action level*
(100% to 150%) × (0.5 × 1.03 × 63,802)
= 32,857 to 49,286

GIFREU, Fall 2023, Q13

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 7 (Schedule P, Statutory Loss Accounting)

Commentary on Question:

This question tested a candidate's knowledge of Annual Statement Schedule P.

Solution:

(a) Describe two potential issues that may limit the usefulness of this triangle for a trend analysis even when there is a sufficient volume of claims data to make inferences.

Commentary on Question:

There are more than two potential issues. The model solution is an example of a full credit solution.

- Amounts are on a net basis so they can be distorted by reinsurance.
- Schedule P lines of business are broad and the exposures within a line may have changed over time.

(b) Explain the effect on a company's Schedule P Parts 2 to 5 if one of its reinsurers becomes insolvent and its reinsurance recoverables become uncollectible.

For claims reinsured by this reinsurer, claims recoverables on case reserves would be reduced to zero.

- Part 2 (Incurred loss and DCC) would increase by the recoverable reduction and would show as adverse development (in the calendar year that the recoverables were reduced).
- Part 3 (Paid loss and DCC), Part 4 (Bulk and IBNR) and Part 5 (Claim Counts) are not directly affected by this.

(c) Provide the following with respect to Schedule P Part 6:

(i) Description of what is included in this part

(ii) Purpose of this part

(iii) Two Schedule P lines of business that are included this part

Commentary on Question:
There are more than two lines of business included in Schedule P Part 6. The model solution for part (iii) is an example of a full credit solution with two lines of business.

(i) Development of earned premium by exposure year on both a direct and assumed basis (Section 1), and a ceded basis (Section 2).

(ii) Track premiums on business affected by exposure audits, retrospective rating adjustments, or accounting lags in booking premiums.

(iii) Workers' Compensation, Commercial Multiple Peril

GIFREU, Fall 2023, Q14

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

NAIC Statement of Statutory Accounting Principles

- No. 53, “Property Casualty Contracts-Premiums”
- No. 55, “Unpaid Claims, Loss and Loss Adjustment Expenses”
- No. 62R, “Property and Casualty Reinsurance”

Commentary on Question:

This question tested a candidate’s knowledge of several U.S. Statements of Statutory Accounting Principles.

Solution:

(a) Describe two methods that can be used for the computation of the unearned premium reserve as noted in SSAP No. 53, *Property Casualty Contracts-Premiums*.

1. Daily pro rata method: Calculate the unearned premium on each policy at the end of each period on each item of premium to ascertain the unexpired portion and to arrive at the aggregate unearned premium reserve.
2. Monthly pro rata method: This method assumes that, on average, the same amount of business is written each day of any month (so that the mean will be the middle of the month).

(b) Describe the circumstances under which an insurer should establish a premium deficiency reserve under SSAP No. 53.

When the anticipated losses, loss adjustment expenses, commissions and other acquisition costs, and maintenance costs exceed the recorded unearned premium reserve, and any future installment premiums on existing policies.

(c) Identify two examples of loss adjustment expenses under each of the following broad categories as defined in SSAP No. 55, *Unpaid Claims, Losses and Loss Adjustment Expenses*:

(i) Defense and Cost Containment (DCC)

(ii) Adjusting and Other (AO)

Commentary on Question:
There are more than two for each category. The model solution is an example of a full credit solution.

(i) DCC:
Surveillance expenses
Litigation management expenses

(ii) AO:
Fees and expenses of adjusters
Attorney fees incurred in the determination of coverage

(d) Describe the purpose of an *insolvency clause* as detailed in SSAP No. 62R, *Property and Casualty Reinsurance*.

It provides for the survival of the reinsurer's obligations in the event of insolvency of the ceding entity, without diminution because of the insolvency.

GIFREU, Spring 2024, Q2

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

NAIC, Accounting Practices and Procedures Manual, Preamble

NAIC Statement of Statutory Accounting Principles,

- No. 62R, "Property and Casualty Reinsurance"

Commentary on Question:

This question tested a candidate's understanding of U.S. Statutory accounting.

Solution:

(a) Compare U.S. GAAP to U.S. Statutory Accounting with respect to the following:

(i) Primary purpose of the accounting system

(ii) Basis for the assumptions used in the accounting system

Commentary on Question:

There are several different ways to compare the basis for assumptions. The model solution is an example of a full credit solution.

(i) *Purpose of the accounting system*
GAAP is used to measure financial performance and profitability.
U.S. Statutory Accounting is for regulators, and it should reflect the solvency position of an insurer.

(ii) *Basis for the assumptions used in the accounting system*
GAAP: It generally reflects best estimate assumptions.
U.S. Statutory Accounting: Assumptions are generally conservative resulting in lower asset values and higher liability estimates.

(b) Provide one example of how each of the following concepts is applied under U.S. Statutory Accounting:

(i) Conservatism

(ii) Consistency

(iii) Recognition

Commentary on Question:
There are many valid examples that could be provided. The model solution is an example of a full credit solution.

(i) *Conservatism*
Not permitting discounting of most loss reserves

(ii) *Consistency*
Statutory formula to estimate uncollectible reinsurance.

(iii) *Recognition*
Liabilities are recognized when they occur.

(c) Compare a reinsurer's liability for loss under these two termination provisions based on U.S. statutory accounting.

- A cut-off provision stipulates that the reinsurer shall not be liable for loss as a result of occurrences taking place after the date of termination.
- A run-off provision stipulates that the reinsurer shall remain liable for loss under reinsured policies in force at the date of termination as a result of occurrences taking place after the date of termination (*until such time as the policies expire or are canceled*).

(d) Identify the party that is ultimately responsible for deciding if it is reasonably possible for a significant loss under a reinsurance risk transfer test.

Auditor

GIFREU, Spring 2024, Q5

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3b) Describe the elements of the NAIC Annual Statement.

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 12 (Solvency Monitoring)

NAIC Annual Statement

Commentary on Question:

This question tested a candidate's understanding of the NAIC Annual Statement and the NAIC RBC formula.

Solution:

(a) Provide two types of off-balance-sheet items included in the calculation of R_0.

Commentary on Question:

There are more than four other circumstances. The model solution is an example of a full credit solution.

- Guarantees for affiliates.
- Contingent liabilities

(b) Identify where the amounts in part (a) are found in the Annual Statement.

Commentary on Question:

The model solution is an example of a full credit solution based on the model solution for part (a).

They are both found in either the Notes to the Financial Statements or General Interrogatories.

(c) Provide the risk charge formula for the following:

(i) Amounts in part (a)

(ii) Investments in alien insurance affiliates

Commentary on Question:
The model solution is an example of a full credit solution based on the model solution for part (a).

(i) 1% of the reported amount

(ii) 50% of the company's share of the reported value of these affiliates or of the securities issued by them

(d) Explain why R_0 is included outside the square root in the RBC formula.

It more closely reflects the total RBC calculations for the group if done on a consolidated group basis.

(e) Identify where risk charges for *investments in affiliated non-insurance companies* should be included in the RBC formula.

R_1 or R_2 dependent on the type of investment with the affiliate.

GIFREU, Spring 2024, Q6

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 5 (The Annual Statement, Nonadmitted Assets and Surplus)
- Chapter 15 (Federal Income Taxes for General Insurers)

Commentary on Question:

This question tested a candidate's understanding of the difference between U.S. statutory accounting and U.S. tax accounting.

Solution:

(a) Compare the accounting concepts of incurred taxes and current tax liability.

(i) Incurred taxes are the taxes paid plus the change in taxes due less the change in tax refunds.

(ii) The current tax liability is the incurred taxes relating to those for the current year.

(b) Compare tax accounting to statutory accounting in the United States with respect to the following:

(i) Premium revenue

(ii) Incurred losses

Commentary on Question:
The model solution is an example of a full credit solution.

(i) Premium revenue

Under U.S. statutory accounting principles (SAP), it is earned premium (EP). This is written premium (WP) minus the change in the unearned premium reserve (UPR).

Under tax accounting, it is WP minus 80% of the change in the UPR. This is equivalent to EP plus 20% of the change in the UPR.

(ii) Incurred losses

Under SAP, it is paid losses plus the change in loss and loss adjustment expense (L&LAE) reserves from the beginning to the end of the year, in which the L&LAE reserves are generally undiscounted, and the insurer's own anticipated salvage and subrogation is used to reduce these reserves.

Under tax accounting, it is paid losses plus the change in tax-basis L&LAE reserves from the beginning to the end of the year. Tax-basis L&LAE reserves are discounted using IRS prescribed discount factors. Furthermore, tax accounting does not use the insurer's own anticipated salvage and subrogation. Tax accounting reduces L&LAE reserves with a provision for anticipated salvage and subrogation using industry-based factors.

(c) State why the proration provision was introduced for insurers.

Commentary on Question:
The model solution is an example of a full credit solution.

General insurers are the major clientele for municipal bonds and usually represents the majority of their invested assets. This ensures that they do not avoid paying tax on the largest portion of their investment income.

(d) Create a numerical example showing how the proration provision modifies the effective tax rate.

Commentary on Question:
The model solution is an example of a full credit solution. Candidates did not have to use the actual U.S. tax rate and proration rate to earn full credit. They could use any reasonable percentages as this was only asking for an example to show how a proration provision works.

- Assume that the corporate tax rate is 21% and the proration rate is 25%.
- Without proration, there is no tax on municipal bond interest income.
- With proration, the effective tax rate on municipal bond interest income is 25% × 21% =5.25%.

GIFREU, Spring 2024, Q8

The case study for this question is at
https://www.soa.org/48f9b0/globalassets/assets/files/edu/2024/spring/case-study/gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 7 (Schedule P, Statutory Loss Accounting)

NAIC Annual Statement

Case Study, Spring 2024, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

This question tested a candidate's ability to derive amounts focusing on Schedule P along with other pages the Annual Statement. It made use of information included in the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use.

Solution:

Determine the following amounts for R-Dan using the information included in the Annual Statement as of December 31, 2023:

(i) *Losses and Defense and Cost Containment Expenses* unpaid as of December 31, 2022, net of ceded reinsurance, for all lines of business combined, by accident year.

(ii) *Adjusting and Other Expenses* paid during calendar year 2023, net of ceded reinsurance, for all lines of business combined, total of all accident years.

(iii) *Defense and Cost Containment Expenses* paid during calendar year 2022, net of ceded reinsurance, for all lines of business combined, total of all accident years.

(iv) *Adjusting and Other Expenses* paid during calendar year 2022, net of ceded reinsurance, for all lines of business combined, total of all accident years.

(v) Average *Loss and Defense and Cost Containment Expenses* unpaid as of December 31, 2022, net of ceded reinsurance, for the Private Passenger Liability/Medical line of business, total of all accident years.

(vi) Ratio of *number of claims closed without payment* to *number of claims reported* during calendar year 2023, for the Homeowners/Farmowners line of business, accident year 2023.

(vii) *Unearned Premium* as of December 31, 2022, gross of ceded reinsurance (i.e., direct plus assumed), for all lines of business combined.

Commentary on Question:
Some of the amounts may be derived using more than one approach. The model solution shows one approach.

AY = accident year, CY = calendar year, YE =year end (i.e., as of December 31)
AO = adjusting and other expense, DCC = defense and cost containment expense
LAE = loss adjustment expenses
UPR = unearned premium, EP = earned premium, WP = written premium
UWIE = Underwriting and Investment Exhibit
Sch. P = Schedule P
PPL = Private Passenger Liability/Medical line of business
H/F = Homeowners/Farmowners line of business

(i) *Losses & DCC unpaid YE 2022, net of ceded, all lines by AY*

[(Sch. P Part 2 Summary) − (Sch. P Part 3 Summary)] col 9 rows 1 to 10

(ii) *AO paid CY 2023, net of ceded, all lines total of all AYs*

Step 1: Losses & DCC Paid CY 2023 is (Sch. P Part 3 Summary col 10 sum of rows 1 to 11) − (Sch. P Part 3 Summary col 9 sum of rows 1 to 10)

Step 2: Losses Paid CY 2023 is UWIE Part 2 col 4 row 35

Step 3: DCC Paid CY 2023 is (Losses & DCC Paid CY 2023 from Step 1) – (Losses Paid CY 2023 from Step 2)

Step 4: LAE Paid CY 2023 is UWIE Part 3 col 1 row 30

AO Paid CY 2023
= Amount from Step 4 − Amount from Step 3

(iii) *DCC Paid CY 2022, net of ceded, all lines, total of all AYs*

Step 1: Losses Paid CY 2022 is (Losses Incurred CY 2022, Page 4, col 2 row 2) + (Losses Unpaid YE 2021, Page 17, col 3 row 22) − (Losses Unpaid YE 2022, Page 3, col 2 row 1)

Step 2: Losses & DCC Paid CY 2022 is (Sch. P Part 3 Summary col 9 sum of rows 1 to 10) − (Sch. P Part 3 Summary col 8 sum of rows 1 to 9)

DCC Paid CY 2022
= Amount from Step 2 − Amount from Step 1

(iv) *AO Paid CY 2022, net of ceded, all lines, total of all AYs*

Step 1: LAE Paid CY 2022 is (LAE Incurred CY 2022, Page 4, col 2 row 3) + (LAE Unpaid YE 2021, Page 17, col 3 row 23) − (LAE Unpaid YE 2022, Page 3, col 2 row 3)

AO Paid CY 2022
= Amount from Step 1 – Amount from part (iii)

(v) *Average Loss and DCC unpaid YE 2022, net of ceded, PPL total all AYs*

Step 1: Loss and DCC unpaid YE 2022 PPL is [(Sch. P Part 2B) − (Sch. P Part 3B)] col 9 summed over rows 1 to 10

Step 2: Number of claims open YE 2022 PPL is Sch. P Part 5B Section 2 col 9 summed over rows 1 to 10

Average Loss and DCC unpaid YE 2022 PPL
= Amount from Step 1 / Amount from Step 2

(vi) *Ratio of number of claims closed wo payment to number of claims reported CY 2023, H/F AY 2023*

Step 1: Number of claims reported CY 2023 AY 2023, H/F is Sch. P Part 5A Section 3 col 10 row 11

Step 2: Number of claims closed wo payment CY 2023 AY 2023; H/F is Sch. P Part 3A col 12 row 11

Ratio of number of claims closed wo payment to number of claims reported CY 2023 AY 2023
= Amount from Step 2 / Amount from Step 1

(vii) *UPR YE 2022, gross of ceded, all lines*

Step 1: Gross EP CY 2023 is Sch. P Part 1 Summary, col 1 row 11

Step 2: Gross UPR YE 2023 is Page 4 col 1 row 9 + Page 4 row 9 amount at end of text

Step 3: Gross WP CY 2023 is UWIE Part 1B col 1 row 35

UPR YE 2022, gross of ceded, all lines
= Amount from Step 1 + Amount from Step 2 – Amount from Step 3

GIFREU, Spring 2024, Q9

The case study for this question is at
https://www.soa.org/48f9b0/globalassets/assets/files/edu/2024/spring/case-study/gifreu-case-study.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 12 (Solvency Monitoring)

NAIC Annual Statement

Case Study, Spring 2024, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

This question tested a candidate's ability to calculate amounts required within an NAIC RBC calculation. It made use of information included in the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use.

Solution:

Calculate the following for R-Dan's NAIC RBC as of December 31, 2023:

(i) *Bond size adjustment factor*

(ii) *Asset concentration charge* for fixed income securities

(iii) *Asset concentration charge* for equities

(iv) R_1 risk charge

(v) R_2 risk charge

(vi) Excessive Growth Charge for Reserves

(vii) Excessive Growth Charge for Premium

Commentary on Question:
Some of the amounts may be derived using more than one approach. The model solution shows one approach.

($000 Omitted)

(i) *Bond size adjustment factor*

Using Section 5 of the Case Study:
Number of bonds subject to the factor is total number of bonds (380) less bonds guaranteed by U.S. government (5) less Class 1 bonds from U.S. government agencies (30) = 345

Using factors on the last table of Case Study page 40:
Bond size adjustment factor = 50 × 2.5 + 50 × 1.3 + 245 × 2.5 = 1.261

(ii) *Asset concentration (ACon) charge* for fixed income securities (i.e., bonds for R-Dan)

Using Section 5 of the Case Study for reported amounts and the RBC factor for bonds on the second last table of Case Study page 40, we have:

Bonds	Class 2	Class 3	Class 4	Class 5	Total
Reported	15,046	8,079	2,844	2,091	
Factor	1.0%	2.0%	4.5%	10.0%	
ACon charge	150	162	128	209	649

(iii) *Asset concentration (ACon) charge* for equities (i.e., common stock for R-Dan)

Using Section 5 of the Case Study for reported amount and the RBC factor for common stock on the first table of Case Study page 41, we have:

6,820 × 15% = 1,023

(iv) R_1 risk charge (for fixed income securities)

For bond charge:

- Reported amounts for bonds, use Section 5 of the Case Study for $ distribution of bonds by class times reported amount of bonds on Annual Statement page 2 col 3 row 1.
- RBC factor charge % for bonds by class is on the first table of Case Study page 41.

		Reported	Charge %	Charge
Bond	Class 1	182,880	0.3%	549
Bond	Class 2	103,632	1.0%	1,036
Bond	Class 3	36,576	2.0%	732
Bond	Class 4	24,384	4.5%	1,097
Bond	Class 5	12,192	10.0%	1,219
Bond	Class 6	6,096	30.0%	1,829
Bonds	TOTAL			6,462

For bond size adjustment charge:

- Take the reported amounts from table above, estimating an adjustment for Class 1 to remove those guaranteed by U.S. government and the factor from the answer to part (i). The result is 1,657.

For cash and other short term investment charge:

- Take the reported amount from Annual Statement page 2, times the factor as shown in the second table on Case Study page 40. The result is 20.

Asset concentration charge for fixed income securities (from the answer to part (ii)) is 649.

R_1 risk charge = 6,462 + 1,657 + 20 + 649 = 8,788

(v) R_2 risk charge

Common stock charge is the reported amount of 28,400 (from Annual Statement page 2 col 3 row 2.2) times the RBC factor of 15% (from the first table on Case Study page 41). The result is 4,260.

Asset concentration charge for equities (from part (iii)) is 1,023.

R_2 risk charge = 4,260 + 1,023 = 5,283

(vi) Excessive Growth Charge for Reserves

For three-year average growth:

Use gross written premiums from 2020 to 2023 (as shown in Annual Statement page 17, columns 1 to 4 of row 6) to calculate three successive year-to-year growth rates. This results in 6.4%, 10.3% and 13.6%, with an average of 10.1%

The excess growth rate is the three-year average growth rate minus 10% which is 0.1%.

Net reserves are 289,500 (Schedule P Part 1 Summary, col 24 row 12)

Excessive Growth Charge for Reserves = 289,500 × 0.1% × 0.45 = 111

(vii) Excessive Growth Charge for Premium

Use the excess growth rate of 0.1% as calculated in part (vi).

Net written premiums are 607,700 (Underwriting and Investment Exhibit Part 1B, col 6 row 35).

Excessive Growth Charge for Premium = 607,700 × 0.1% × 0.225 = 117

GIFREU, Spring 2024, Q11

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

NAIC Statement of Statutory Accounting Principles (SSAP)

- No. 9, “Subsequent Events”
- No. 53, “Property Casualty Contracts-Premiums”
- No. 55, “Unpaid Claims, Loss and Loss Adjustment Expenses”

Commentary on Question:

This question tested a candidate’s understanding of U.S. statutory accounting principles.

Solution:

(a) Define each of Type I and Type II subsequent events.

- Type I: Recognized Subsequent Events – Events or transactions that provide additional evidence with respect to conditions that existed at the date of the balance sheet.
- Type II: Nonrecognized Subsequent Events – Events or transactions that provide evidence with respect to conditions that did not exist at the balance sheet date but arose after that date.

(b) Compare the statutory accounting treatment for Type I and Type II subsequent events.

- For material Type I subsequent events, the nature and the amount of the adjustment shall be disclosed in the notes to the financial statements only if necessary to keep the financials from being misleading.
- Material Type II subsequent events shall not be recorded in the financial statements but shall be disclosed in the notes to the financial statements, including the nature of the event and its financial effect.

(c) Define *advance premiums*.

Premium from policies where the premium was paid prior to the effective date.

(d) Describe the statutory accounting treatment of *advance premiums*.

They are reported as a liability in the statutory financial statement and not considered income until they are due. This is offset by an increase to the cash asset. On the policy effective date, the liability moves to the unearned premium liability on the balance sheet and written premium income on the income statement.

(e) Determine the total accrued amount for unpaid claims and claim adjustment expenses according to SSAP No. 55. Justify your determination.

Commentary on Question:
There is more than one acceptable way to determine the amount for Line B. The model solution is an example of a full credit solution.

For line A, the most likely amount should be used. For Line B, an average of the range covering a 70% probability may be used. It is a reasonable range, and we can assume that no single value in the range is more likely than any other. Therefore, the amount is \$59.5 million (18 + (24+59)/2 = 59.5).

(f) Describe what SSAP No. 55 recommends in this discussion.

Commentary on Question:
There are several different points that could be considered as recommendations. Only one was required for full credit. The model solution is an example of a full credit solution.

No single projection method is inherently better than any other in all circumstances. The results of more than one method should be considered.

GIFREU, Spring 2024, Q12

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 11 (Financial Ratios for Insurers)

Commentary on Question:

This question tested a candidate's understanding of NAIC IRIS ratios.

Solution:

(a) Explain why each of the following ratios should be examined when IRIS Ratio 3 exceeds the upper bound:

(i) Ratio 2 (Net Premiums Written to Policyholders' Surplus)

(ii) Ratio 5 (Two-Year Overall Operating Ratio)

(iii) Ratio 9 (Adjusted Liabilities to Liquid Assets)

(iv) Ratios 11, 12 and 13 (Reserve ratios)

Commentary on Question:

The model solution is an example of a full credit solution.

(i) Substantial changes in Ratio 3 are most problematic if the insurer is poorly capitalized which may be inferred by a high Ratio 2.

(ii) Substantial changes in Ratio 3 are most problematic if the insurer is unprofitable which may be inferred by a high Ratio 5.

(iii) A substantial increase in Ratio 3 may create an increased need for cash so liquidity of assets is particularly important. Ratio 9 is a test of liquidity.

(iv) Ratios 11 to 13 are the reserve tests. It is important to look at these when there is a large increase in Ratio 3 because a large increase in written premium will increase reserve levels shown by Ratios 11 and 12. If there is also an increase in Ratio 13, it could indicate inadequate reserves or a need to support cash-flow demands.

(b) Total liabilities in the numerator of the formula for IRIS Ratio 9 are reduced by *deferred agents' balances*.

Explain the reason for this reduction.

This is done because liquid assets in the denominator of the formula do not include the corresponding asset of agents' balances deferred and not yet due.

GIFREU, Fall 2024, Q4

Parts (e) through (g) were removed as they are not in GI 302.

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 12 (Solvency Monitoring)

Commentary on Question:

This question tested a candidate's knowledge of the NAIC RBC calculation.

Solution:

(a) Show the formula for each of LCF and WPCF.

LCF = 70% + 30% × *loss concentration ratio*

(a) *Loss concentration ratio* equal to held reserves in the largest line of business divided by held reserves in all lines of business combined.

WPCF = 70% + 30% × *WP concentration ratio*

(b) *WP concentration ratio* equal to WP in the largest line of business divided by WP in all lines of business combined.

(b) Explain how each of the concentration factors gets applied within the RBC formula.

Total Adjusted Net Reserve RBC = Total L&LAE RBC After Discounts × LCF
Total Adjusted NWP RBC = Total NWP RBC After Discounts × WPCF

(c) Describe the following regarding the charge for excessive premium growth:

(i) Formula(s) to compute the charge

(ii) Method(s) for including the charge in the RBC formula

(i) Formula(s) to compute the charge

Excessive premium growth charge for reserves
= Held Reserves × 45% × *RBC Average Growth Rate*

Excessive premium growth charge factor for written premium (WP)
= Net WP × 22.5% × *RBC Average Growth Rate*

RBC Average Growth Rate
= Average of the latest 3 annual growth rates (each capped at 40%)
in excess of 10%.

(ii) Method(s) for including the charge in the RBC formula

Excessive premium growth charge for reserves is added to the Total Net Reserve RBC in the calculation of NAIC RBC Reserving Risk Charge.

Excessive premium growth charge for WP is added to the Total NWP RBC in the calculation of NAIC RBC NWP Risk Charge.

(d) Describe the following regarding this adjustment:

(i) Purpose of the adjustment

(ii) Method for application of the adjustment

(i) This adjustment is intended to address the issue of correlation between credit risk for reinsurance recoverables and reserving risk.

(ii) If the reserving RBC charge is greater than the total RBC charge for reinsurance credit risk and non-invested assets credit risk combined, then 50% of the RBC charge for reinsurance credit risk goes into the reserve charge, R_4, while the remainder stays in the credit risk charge, R_3.

GIFREU, Fall 2024, Q8

The case study for this question is at
https://www.soa.org/4a3c3e/globalassets/assets/files/edu/2024/fall/case-study/gifreu.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 7 (Schedule P, Statutory Loss Accounting)

NAIC Annual Statement

Case Study, Fall 2024, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

This question tested a candidate's knowledge of Schedule P and the ability to allocate AO expenses by accident year using the methodology from General Insurance Financial Reporting Topics using count type relativities. It made use of information included in the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use.

Solution:

(a) Calculate the calendar year 2023 AO expense payments by accident year using the methodology from *General Insurance Financial Reporting Topics*, the sample relativities provided here, and the claim counts from R-Dan's Annual Statement.

Commentary on Question:
SchP1A = Schedule P Part 1A, Sec = Section,
CY = Calendar Year, AY = Accident Year, Col = Column,
Rep = Reported claim, CCpay = Claim closed with payment,
CCnopay = Claim closed with no payment, OC = Outstanding claim

Step 1: Determine the following claim counts by accident year (AY) for CY 2023

Rep	SchP1A Sec 3 Col 10 – Col 9
CCpay	SchP1A Sec 1 Col 10 – Col 9
CCnopay	(SchP1A Sec 3 Col 10 – Sec 2 Col 10 – Sec 1 Col 10) – (SchP1A Sec 3 Col 9 – Sec 2 Col 9 – Sec 1 Col 9)
OC	SchP1A Sec 2 Col 10

Step 2: Multiply Step 1 AY counts by the appropriate relativities provided

Step 3: Calculate AO weights by AY as the Step 2 weighted counts sum by AY divided by the Step 2 weighted counts total.

Step 4: Calculate CY 2023 AO payments by AY as Step 3 AO weights by AY × the provided AO paid of 13.25 million

(b) Determine if the amounts from part (a) are consistent with the amounts reported in R-Dan's Annual Statement.

Commentary on Question:
The model solution is an example of a full credit solution. Note that the only source of AO payments by line of business and AY is Schedule P. These amounts are cumulative, and they are only shown as of year-end 2023. It is not possible to get the CY paid by AY for a line of business.

We can get CY 2023 AO payments for AY 2023 from Schedule P because the prior year payments would be zero.

From part (a), 12.351 million was allocated to AY 2023.
From Schedule P, 9.9 million is for AY 2023 (Part 1A, Row 11, Col 8 – Col 9)
This is a significant difference between the two amounts by approximately 25% for the latest AY. From this, we can assume that the part (a) amounts are not consistent with those in Schedule P.

GIFREU, Fall 2024, Q9

The case study for this question is at
https://www.soa.org/4a3c3e/globalassets/assets/files/edu/2024/fall/case-study/gifreu.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3c) Complete and interpret NAIC Annual Statement pages/schedules (as referenced in the resources).

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 8 (Notes to Financial Statements)

NAIC Annual Statement

Case Study, Fall 2024, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

This question tested a candidate's knowledge of the Annual Statement and the contents of Note 23 on reinsurance recoverables. It made use of information included in the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use.

Solution:

Complete the following for R-Dan's Annual Statement Note 23, Reinsurance, as of December 31, 2023:

(i) Note 23A, Unsecured Reinsurance Recoverables

(ii) Note 23B, Reinsurance Recoverables in Dispute

Commentary on Question:

UWIE = Underwriting and Investment Exhibit, UPR = Unearned Premium
Note that total reinsurance recoverables include:

(A) *Loss & LAE recoverables on paid amounts (Annual Statement Page 2, Row 16.1, Column 3),*
(B) *Loss & LAE recoverables on unpaid amounts (only UWIE Part 2A Columns 3 and 7 applies as Schedule P shows no ceded unpaid for DCC and AO) and*
(C) *Recoverables on UPR (Annual Statement Page 3, Row 9, amount in the row before Current Year column 1) .*

(i) Note 23A, Unsecured Reinsurance Recoverables

This note is to disclose if R-Dan has unsecured recoverables from a reinsurer greater than 3% of policyholders surplus (6.28 million = 3% of 209.4 million).

Step 1: Retrieve amounts (A), (B), and (C) from the Annual Statement and calculate the total.

Step 2: Allocate amounts from Step 1 to Auto Liability and Other as follows: For (A) use UWIE Part 2 Column 3 paid distribution.
For (B) retrieve from UWIE Part 2A Columns 3 and 7
For (C) use UWIE Part 1 Column 3 UPR distribution
Then the total recoverable by Auto Liability and Other is the sum of the allocated (A), (B), and (C) amounts.

Step 2: Allocate total recoverable amounts from Step 2 to A-Re and B-Be using the provided “Share of R-Dan’s Ceded” percentages for Auto Liability and Other Lines of Business. Sum the appropriate amounts to get totals for A-Re (19.86 million) and B-Re (11.14 million).

Step 3: Calculate the unsecured amounts for A-Re and B-Re using the provided “Secured by Reinsurer” percentages to get 6.951 million form A-Re and 5.013 million for B-Re.

Step 4: Check Step 3 amounts against 6.28 million. Only A-Re exceeds this amount. We create Note 23A as follows:

Number	Name	Amount
Unknown	A-Re	6,951,083

(ii) Note 23B, Reinsurance Recoverables in Dispute

This note is to disclose if R-Dan has reinsured recoverables in dispute exceeding 5% of PHS for an item or 10% of PHS in aggregate.

Step 1: Retrieve amounts from (i) Step 2 for A-Re and B-Re.

Step 2: Using Step 1 amounts and the provided “Amount in Dispute” percentages calculate the amounts in dispute by reinsurer and sum these to get the aggregate total amount in dispute (2.359 million). Note that the aggregate is only 1.1% of PHS so there are no amounts to disclose. We create Note 23B as follows:

The Company did not have reinsurance recoverables from any disputed items exceeding 5% of surplus or aggregate of all disputed items exceeding 10% of surplus as of December 31, 2023.

GIFREU, Fall 2024, Q10

The case study for this question is at
https://www.soa.org/4a3c3e/globalassets/assets/files/edu/2024/fall/case-study/gifreu.pdf

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

(3b) Describe the elements of the NAIC Annual Statement.

(3d) Evaluate the financial health of a U.S. general insurer using the Annual Statement.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 1 (Accounting Concepts for General Insurance)
- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 11 (Financial Ratios for Insurers)
- Chapter 12 (Solvency Monitoring)

NAIC Annual Statement

Case Study, Fall 2024, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

This question tested a candidate's knowledge of insurance accounting, the Annual Statement, IRIS Ratio tests and the NAIC RBC calculation. It made use of information included in the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use. This was a 12-point question and was expected to take approximately 36 minutes to provide the solution. This is under the assumption that each question exam point takes approximately 3 minutes to answer.

Solution:

(a) Calculate R-Dan's 2023 IRIS ratios 5, 11, 12 and 13 under scenario II.

Commentary on Question:
AY = Accident Year, CY = Calendar Year
Amounts are shown in millions

IRIS Ratio 5:

Step 1: The scenario II 2% increase in loss & DCC reserves for CY 2022 is calculated as 4.71, and the 17% increase for CY 2023 is calculated as 46.665. This means that incurred loss & DCC reserves should be increased by 4.71 for CY 2022 and 41.955 for CY 2023.

Step 2: The scenario II ratio 5 is the scenario I ratio 5 (102.5%) plus the two-year increase in incurred (46.665) divided by current and prior years' premium earned (578.5 plus 511.6). This is equal to 107.0%.

IRIS Ratio 11:

Step 1: Calculate the scenario II increase in loss & DCC reserves for CY 2023 into AYs 2023, 2022 and prior to 2022 using Schedule P Part 2 minus Part 3 column 10 times 17%. Calculate the scenario II increase in loss & DCC reserves for CY 2022 into AYs 2022, 2021 and prior to 2021 using Schedule P Part 2 minus Part 3 column 9 times 2%.

Step 2: *The step 1 amounts for CY 2022 are also the change in incurred loss & DCC for CY 2022.* The change in incurred loss & DCC for CY 2023 is the change in reserves for CY 2023 less the change for CY 2022.

Step 3: Calculate the scenario II 2% increase in loss & LAE reserves for CY 2022 as 4.978, and the cumulative increase of 2% for CY 2022 and 17% for CY 2023 as 49.215.

Step 4: Calculate scenario II PHS as PHS less the scenario II additional cumulative increase in loss & LAE reserves. For 2023 it's 160.185 (209.4 – 49.215) and for 2022 it's 204.122 (209.1 – 4.978).

Step 5: The scenario II ratio 12 is (Schedule P Part 2 Summary Column 12, Row 12 plus Step 1 increase in CY 2023 incurred for loss & DCC for AY 2022 and prior to 2022) divided by the scenario II 2022 PHS from Step 4 (204.122) which is 26.3% [(36.2 + 9.165 +8.225) / 204.122].

IRIS Ratio 12:

Step 1: Calculate the scenario II increase in loss & DCC reserves for CY 2022 into AYs 2022, 2021 and prior to 2021 using Schedule P Part 2 minus Part 3 column 9 times 2%. *Note: Calculated in Ratio 11 step 1.*

Step 2: *The step 1 amounts for CY 2022 are also the change in incurred loss & DCC for CY 2022.*

Step 3: *From Ratio 11 step 3, the scenario II 2% increase in loss & LAE reserves for CY 2022 is 4.978.*

Step 4: The scenario II ratio 11 is (Schedule P Part 2 Summary Column 11, Row 12 plus Step 1 increase in CY 2023 loss & DCC incurred for AYs prior to 2022 plus increase in CY 2022 loss & DCC incurred for AYs prior to 2021) divided by the 2021 PHS which is 24.3% [(36.2 + 8.225 + 0.972) / 197.8].

IRIS Ratio 13:

Step 1: Calculate the scenario II developed reserves-to-premium ratio prior year as follows: CY 2022 loss & LAE reserves plus Schedule P One Year Development plus scenario II CY 2023 increase to loss & DCC reserves for AYs 2022 and prior all divided by 2022 net earned premium which is 59.5% [(248.9 + 36.2 + 10.251 + 9.197) / 511.6].

Step 2: Calculate the scenario II developed reserves-to-premium ratio 2^{nd} prior year as follows: CY 2021 loss & LAE reserves from Five-Year Historical Data plus Schedule P Two Year Development plus scenario II CY 2023 increase to loss & DCC reserves for AYs 2021 and prior all divided by 2021 net earned premium which is 57.9% [(224.5 + 38.9 + 9.197) / 470.9].

Step 3: Calculate the scenario II reserves-to-premium as the average of the two ratios from steps 1 and 2 which is 58.7%

Step 4: Calculate estimated reserves required as 2022 earned premium times the scenario II reserves-to-premium which is 339.629 (511.5 × 58.7%).

Step 5: Calculate estimated reserve deficiency as estimated reserves required from step 4 minus (CY 2023 loss & DCC reserves from Schedule P plus scenario II CY 2023 increase to loss & DCC reserves) which is 18.364 [339.629 – ((289.5 – 14.9) + 46.665]

Step 6: Calculate scenario II estimated reserve deficiency to PHS as 18.364 from step 5 divided by 160.185 from Ratio 11 step 4 which is 11.5%.

(b) Determine if IRIS ratios 5, 11, 12 and 13 are in the usual range for each of scenarios I and II.

Commentary on Question:
The usual range for Ratio 5 is < 100%, for Ratios 11 and 12 is < 20% and for Ratio 13 is <25%.

Using the results from part (a) we have:

	In Usual Range		Results	
	Scenario I	Scenario II	Scenario I	Scenario II
Ratio 5	No	No	102.5%	107.0%
Ratio 11	Yes	No	17.3%	26.3%
Ratio 12	Yes	No	19.7%	24.3%
Ratio 13	Yes	Yes	16.0%	11.5%

(c) Calculate R-Dan's 2023 NAIC RBC Ratio under both scenarios.

Commentary on Question:
RBC Ratio is PHS / ACL, ACL is 50% of RBC, RBC is operational risk factor of 1.03 times R0 + the square root of the sum over i (for i=1 to 5 and CAT) of R_i^2

For scenario I:
ACL = $0.5\times1.03\times[0.15 + (8.82^2 + 5.29^2 + 2.25^2 + 33.87^2 + 47^2 + 18.44^2)^{0.5}]$ = 31.853
RBC Ratio = 209.4 / 31.853 = 657%

For scenario II:

- We use scenario II PHS of 160.185 and we must adjust R_4 for the scenario II reserves increase of 17%.
- Scenario II R_4 is (R_4 before R_3 adjustment) increased by 17% plus the R_3 adjustment.
- For the R_3 adjustment we make a simplifying assumption that the R-Dan's ceded reinsurance RBC charge factor is 10% and that ceded reinsurance is not affected by the scenario. We then have 10% of 30.9 = 3.09 as the ceded reinsurance risk charge. Half of this, 1.545, is the R_3 adjustment.
- Therefore, scenario II R_4 is 39.365 [(33.87 – 1.545) × 1.17 + 1.545]
- We can assume that scenario II R_5 is R_5 without adjustment. This is because any change to R_5 for scenario II would be negligible because the company average Loss & LAE ratio used in its calculation is a 10-year average to net earned premium and only given 50% credibility.

$ACL = 0.5\times1.03\times[0.15 + (8.82^2 + 5.29^2 + 2.25^2 + 39.365^2 + 47^2 + 18.44^2)^{0.5}] =$
33.491
RBC Ratio = 160.185 / 33.491 = 478%

(d) Explain what adjustments may be required to R-Dan's projected financials (Section 6 of the case study) to be consistent with scenario II.

Commentary on Question:
Widely varying correct responses were possible as there are a number of items that could be adjusted. A full credit response was expected to explain at least two fully explained adjustments or at least three briefly described adjustments. The model solution is an example of a full credit response. It does not explain all of the possible adjustments that should be made.

Clearly, the current year has surplus and reserves adjustments. This should affect the projections in that they were initially based on lower observed loss ratios before the reserve increases. The loss & LAE for the projected years should be increased to be consistent with the higher reserves from scenario II.

Before the scenario II reserve increase, R-Dan's loss ratio is high enough that a PDR could be considered. The assumption of no PDR under scenario II must be reconsidered. It is likely that a PDR should be included under scenario II for the current year and possibly some of the projected years. This will affect surplus in the current and projected years for scenario II.

GIFREU, Fall 2024, Q12

Learning Objectives:

3. The candidate will understand the different reporting standards for U.S. general insurance companies and use statutory financial statement information to measure insurer financial health.

Learning Outcomes:

(3a) Demonstrate knowledge of U.S. GAAP, U.S. statutory accounting and U.S. tax accounting for general insurance companies.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 6 (Schedule F, Statutory Credit for Reinsurance)

NAIC Statement of Statutory Accounting Principles

- No. 53, "Property Casualty Contracts-Premiums"
- No. 65, "Property and Casualty Contracts"
- No. 66, "Retrospectively Rated Contracts"

Commentary on Question:

This question tested a candidate's understanding certain aspects of U.S. statutory accounting.

Solution:

(a) Describe the circumstances under which a premium deficiency reserve should be recorded under the rules of SSAP No. 53 for a general insurance company.

When the anticipated losses, loss adjustment expenses, commissions and other acquisition costs, and maintenance costs exceed the recorded unearned premium reserve, and any future installment premiums on existing policies

(b) Describe how accrued additional retrospective premiums are to be recorded under the rules of SSAP No. 66 for a general insurance company.

They are recorded as a receivable with a corresponding entry made either to written premiums or as an adjustment to earned premiums.

(c) Identify two SSAP No. 66 disclosures.

Commentary on Question:

There are more than two disclosures. The model solution is an example of a full credit solution.

- The method used by the reporting entity to estimate retrospective premium adjustments.
- The amount of net premiums written that are subject to retrospective rating features.

(d) Definitions for portfolio reinsurance are include in both SSAP 62R and the NAIC Annual Statement Instructions regarding Schedule F.

Identify the difference between the two definitions.

Under Schedule F, it is the transfer of liability from in force policies. Under SSAP 62R the transfer of liability need not be for in force policies.

GI 302 Learning Objective 4 Curated Past Exam Solutions

GIFREU, Fall 2020, Q4

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4b) Describe, interpret and apply the applicable Standards of Practice.

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 14 (Overview of the General Insurance Statement of Actuarial Opinion)

AAA, Committee on Property and Liability Financial Reporting, "A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves"

Actuarial Standards Board, Actuarial Standard of Practice

- No. 36, Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves

Commentary on Question:

This question tests a candidate's knowledge of certain responsibilities of the appointed actuary.

Solution:

(a) Compare the purpose of the following three NAIC required documents:

(i) Statement of Actuarial Opinion (SAO)

(ii) Actuarial Opinion Summary (AOS)

(iii) Actuarial Report

(i) The purpose of the SAO is for Appointed Actuary to render an Opinion on the adequacy of reserves in the Scope paragraph.

(ii) The purpose of the AOS is to show carried reserves relative to actuarial estimate (point estimate, range, or both).

(iii) The purpose of the Actuarial Report is to provide both narrative and technical documentation of methods and assumptions underlying the actuarial estimate.

(b) Describe each of the following dates according to ASOP No. 36.

(i) Accounting Date

(ii) Review Date

(iii) Valuation Date

(i) The date used to separate paid and unpaid claim amounts in financial reports.

(ii) The cutoff date for including material information known to the actuary.

(iii) The date through which transactions are included for the analysis.

(c) Describe what ASOP No. 36 specifies that the opining actuary should include in this review.

Commentary on Question:

There are several items that should be included. A full credit solution was expected to have included at least two items. The model solution is an example of a full credit solution with two items.

- To determine if the current assumptions, procedures, or methods differ from those underlying the most recent prior opinion.

- If they differ, the actuary should consider whether the changes are likely to have had a material effect on the actuary's unpaid claim estimate.

GIFREU, Fall 2020, Q12

NOTE: This item also applies to Learning Objective 3.

The case study for this question is at
https://www.soa.org/globalassets/assets/files/edu/2020/fall/intro-study-notes/fall-2020-exam-gifreu-case-study.pdf

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(b) Describe, interpret and apply the applicable Standards of Practice.

(c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 2 (Accounting for Insurance Contracts)
- Chapter 14 (Overview of the General Insurance Statement of Actuarial Opinion)

Actuarial Standards Board of the American Academy of Actuaries, Actuarial Standard of Practice (ASOP),

- No. 36, “Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves”
- No. 38, “Using Models Outside the Actuary’s Area of Expertise (Property/Casualty)”

AAA, Committee on Property and Liability Financial Reporting, “A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves”

NAIC Annual Statement

NAIC Statement of Statutory Accounting Principles,

- No. 53, “Property Casualty Contracts—Premiums”

Case Study, Fall 2020, SOA Exam General Insurance, Financial and Regulatory Environment – U.S. https://www.soa.org/globalassets/assets/files/edu/2020/fall/intro-study-notes/fall-2020-exam-gifreu-case-study.pdf

Commentary on Question:

This question tests a candidate's knowledge of the responsibilities of the Appointed Actuary. This question uses the information from the GI FREU Case Study. This question did not require any calculations for full credit. However, candidates could incorporate pertinent calculations to earn credit. Data from the GI FREU Case Study was preloaded in Excel and was available for the candidate to use. However, candidates were to enter their response to this question in the Word document and not in Excel.

Solution:

(a) Explain whether or not Sue Calvin's Schedule P reconciliation for R-Dan, as documented in her Actuarial Report, satisfies the NAIC instructions.

Commentary on Question:

There were two approaches that could be used in a response in order to receive full credit. The first would be to say that the disclosure, as written in the Actuarial Report, meets the requirement as it notes that the reconciliation was done for losses and premiums by line of business and accident year. This assumes that supporting exhibits were included in the exhibits of the Actuarial Report (which were not included in the "Excerpts from the Actuarial Report" from the Case Study). The second would be to say that it does not meet the requirement because even though the disclosure states the appropriate level of reconciliation (losses and premiums by line of business and accident year), it does not provide the supporting exhibits that would be expected in the Actuarial Report. Note that the table provided above the Schedule P reconciliation disclosure in the Case Study is not the Schedule P reconciliation. The model solution is an example of a full credit solution that assumed that the supporting documentation was included in the exhibits of the Actuarial Report.

Yes, it does satisfy the requirements because Sue disclosed reconciliation of the relevant data components (i.e., earned premiums, case reserves, paid loss and LAE) by LOB and year to Schedule P and summarized that differences are insignificant.

(b) Assess whether or not any disclosures are needed in Sue's Statement of Actuarial Opinion for R-Dan with respect to the 2018 hurricane loss. Justify your assessment.

Commentary on Question:

It can be correct to say that disclosure is required or it is not required. Credit is earned by the assessment. Disclosures may be assessed to be necessary by reviewing the requirements of ASOPs 36 and 38 and the NAIC SAO Instructions. However, disclosures may be assessed to be unnecessary by the fact that the amount of reserves covered by this analysis is well below the materiality threshold in addition to certain other pertinent facts. The model solution is an example of a full credit solution that assessed that a disclosure was not required. It should be noted that while a disclosure may or may not be required in the SAO, the Appointed Actuary should include disclosures in the Actuarial Report.

No disclosure is needed based on the following considerations:

- The model results were prepared by a qualified actuary who is also a subject matter expert. It is appropriate to rely on model experts. Sue has a basic understanding of hurricane cat models did review the results for reasonability. If the amounts were material, disclosures would have been required.
- The amount of reserves covered by the analysis relative to the total was 2.8% (=8/289.5) of carried reserves or 2.5% (=8/318) of the actuarial estimate. Both of these are below Sue's SAO materiality threshold of $14.5m

(c) Recommend a PDR for R-Dan to book (if any) based on Sue Calvin's work. Justify your recommendation.

Commentary on Question:

Different correct responses are possible here. Note that a PDR should be calculated based on groupings of business that are marketed together. Equity in one grouping cannot offset a PDR in another. The question here is with respect to creating the groupings to compute the PDR. This involves some judgement. It would not be correct to look at all lines combined. It could be correct to look at individual lines of business. It could also be correct to create some groupings (say private passenger auto liability with personal automobile physical damage since they are marketed together or grouping together all personal lines together and all commercial lines together). The model solution is an example of a full credit solution based on the grouping of private passenger auto liability with personal automobile physical damage.

Recommended PDR = 2,065.

- This is because private passenger auto liability and personal automobile physical damage are marketed together and should be grouped for determining a PDR.
- We can assume that the amount of commercial lines in automobile physical damage is not material based upon the information in the case study. Therefore, the personal automobile PDR = 3,125 – 1,060 = 2,065.
- All other lines have a PDR of 0 since they all have a positive estimated equity in the unearned premium reserves.

GIFREU, Spring 2021, Q5

NOTE: This item also applies to Learning Objective 3.

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4b) Describe, interpret and apply the applicable Standards of Practice.

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 4 (Accounting for Reinsurance Contracts)
- Chapter 7 (Schedule P, Statutory Loss Accounting)
- Chapter 14 (Overview of the General Insurance Statement of Actuarial Opinion)

NAIC Annual Statement

AAA, Committee on Property and Liability Financial Reporting, "A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves"

Actuarial Standards Board, Actuarial Standard of Practice

- No. 23, Data Quality

NAIC Statement of Statutory Accounting Principles,

- No. 62, "Property and Casualty Reinsurance"

Commentary on Question:

This question tests a candidate's knowledge of the responsibilities of the appointed actuary and statutory reporting.

Solution:

(a) Describe four Statement of Actuarial Opinion (SAO) disclosures related to rendering a Qualified Opinion for a U.S. general insurance company.

Commentary on Question:

There are more than four disclosures. The disclosures must specifically relate to a Qualified Opinion to earn credit. The model solution is an example of a full credit response.

- The item(s) to which the qualification relates
- The reason for the qualification
- The amount for the qualification
- Whether the carried reserves excluding this item make a reasonable provision

(b) Describe the U. S. statutory requirements for reporting each of these estimates in the following documents:

(i) Actuarial Report

(ii) Actuarial Opinion Summary (AOS)

Commentary on Question:
The model solution is an example of a full credit response.

(i) Actuarial Report – The Appointed Actuary (AA) can provide a point estimate, a range, or both.

(ii) AOS – The AA must provide the same estimates as provided in Actuarial Report.

(c) Explain why the Appointed Actuary's estimate of unpaid claims is not included in a U.S. SAO.

Commentary on Question:
The model solution is an example of a full credit response.

Insurance regulators want to encourage independent actuarial opinions. They do not want to create pressure on the AA to match the carried reserves set by the insurer.

(d) Describe a data review as defined in Actuarial Standard of Practice (ASOP) 23, *Data Quality*.

An examination of the obvious characteristics of the data to determine if it appears reasonable and consistent for the purposes of the assignment.

(e) Describe the reporting of ceded financial reinsurance in the Annual Statement with respect to underwriting income and loss reserves.

Commentary on Question:
The model solution is an example of a full credit response.

Ceded financial reinsurance is reported using deposit accounting which does not affect loss reserves. Changes in the deposit (from deposit accounting) flow through interest income and interest expense not underwriting income.

(f) Describe how DJ legal fees are reflected in Schedule P of the NAIC Annual Statement.

DJ legal fees are reported as Adjusting & Other expenses.

GIFREU, Spring 2021, Q6

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

AAA, Committee on Property and Liability Financial Reporting, "A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves"

General Insurance Financial Reporting Topics, Fourth Edition, Society of Actuaries

- Chapter 14 (Overview of the General Insurance Statement of Actuarial Opinion)

Commentary on Question:

This question tests a candidate's knowledge of certain responsibilities of the AA.

Solution:

The NAIC instructions to the SAO outline the reporting responsibilities for insurance company boards when replacing the AA.

Outline these responsibilities, in chronological order, for BCD's board in this scenario.

Commentary on Question:

A full credit solution was to provide several of the key requirements of <u>BCD's board</u> in the proper chronological order. Not all the requirements were necessary to earn full credit. Number of days within which BCD is required to respond was not required to earn full credit. The model solution is an example of a full credit solution. As such, it does not include all the requirements.

First the board must notify the DOI of the change. The board must also provide the DOI with the following information about the replacement AA:

- Name, title and name of the firm.
- Identification of when the appointment was made.
- Statement that the person meets the requirements of a Qualified Actuary.

Then the board must provide the DOI with a letter describing the material disagreement with the former AA and the nature of its resolution. Concurrent to this letter, BCD must write a letter to the former AA requesting that they indicate whether or not they agree with BCD's statements in the letter, and, if not, providing reasons for not being in agreement with the statements. A copy of this letter is to be sent to the DOI. When the former AA provides a response to this request, BCD is required to forward this response to the DOI.

GIFREU, Spring 2021, Q17

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

AAA, Committee on Property and Liability Financial Reporting, "A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves"

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 14 (Overview of the General Insurance Statement of Actuarial Opinion)

Commentary on Question:

This question tests a candidate's knowledge of certain aspects of the SAO.

Solution:

(a) Describe a situation in which an Appointed Actuary may render each of the following types of Opinions in the U.S. Statement of Actuarial Opinion (SAO):

(i) Qualified

(ii) No opinion

Commentary on Question:

Full credit could be earned by describing either a specific example of a situation or a general situation. The model solution is an example of a full credit solution describing a specific example of a situation.

(i) A general insurance company writes a material amount of accident and health policies that the Appointed Actuary deems to be outside the scope of the SAO.

(ii) The Appointed Actuary discovers that the net loss data supplied by the insurer does not have the reinsurance cessions allocated to their proper line of business or accident year. The insurer is unable to correct this data deficiency in a timely manner.

(b) Prepare parts A through C of the Opinion section of the SAO.

In my opinion, the amounts carried in Exhibit A on account of the items identified:

A. Meet the requirements of the insurance laws of the state of Ohio.

B. Are computed in accordance with accepted actuarial standards and principles.

C. Make an excessive provision for the gross unpaid loss and loss adjustment expense obligations of the Company under the terms of its contracts and agreements. The provision for unpaid losses and loss adjustment expenses is 6 million greater than the maximum amount I consider necessary to be within the range of reasonable estimates.

   Make an inadequate provision for the net unpaid loss and loss adjustment expense obligations of the Company under the terms of its contracts and agreements. The provision for unpaid losses and loss adjustment expenses is 2 million less than the minimum amount I consider necessary to be within the range of reasonable estimates.

(c) Identify one risk factor to mention as a company-specific risk factor in the *Relevant Comments* section of the SAO.

Commentary on Question:
The model solution is an example of a full credit solution.

The large amount of ceded reinsurance could result in collectability or liquidity issues.

GIFREU, Fall 2021, Q2

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

AAA, Committee on Property and Liability Financial Reporting, "A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves"

Commentary on Question:

This question tests a candidate's knowledge of some of the requirements of an appointed actuary with respect to the SAO.

Solution:

(a) Determine when a risk of material adverse deviation would be indicated in the SAO for WXY, given the information above.

A materiality standard less than 6 million would almost certainly indicate that there is a risk of material adverse deviation because the company's carried reserve plus the materiality standard would then be within the actuary's range of estimates.

(b) Prepare parts A through D of the Actuarial Opinion Summary (AOS) for WXY.

		GROSS			NET	
amounts in millions	Low	Point	High	Low	Point	High
A. Actuary's range of estimates	54		69	54		69
B. Actuary's point estimate		60			60	
C. Company carried reserves		63			63	
D. Difference	9	3	(6)	9	3	(6)

(c) State two key determinations that the Appointed Actuary must make regarding whether or not the SAO issued previously was in error.

1. The Actuarial Opinion shall be considered to be in error if the Actuarial Opinion would have not been issued or would have been materially altered had the correct data or other information been used.

2. The Actuarial Opinion shall not be considered to be in error if it would have been materially altered or not issued solely because of data or information concerning events subsequent to the balance sheet date or because actual results differ from those projected.

(d) State an additional communication that the insurer would require of you as the Appointed Actuary if you determine that the SAO was in error.

The insurer would require its Appointed Actuary to notify its Board of Directors or its audit committee in writing within five business days after any determination by the Appointed Actuary that the Actuarial Opinion submitted to the domiciliary commissioner was in error as a result of reliance on data that, as of the balance sheet date, was factually incorrect.

GIFREU, Fall 2021, Q12

The case study for this question is at
https://www.soa.org/4a203c/globalassets/assets/files/edu/2021/fall/case-study/gifreu-case-study.pdf

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4a) Describe and apply the concept of materiality.

(4b) Describe, interpret and apply the applicable Standards of Practice.

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

Actuarial Standards Board of the American Academy of Actuaries, Actuarial Standard of Practice (ASOP),

- No. 36, "Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves"

AAA, Committee on Property and Liability Financial Reporting, "A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves"

AAA, Council on Professionalism, Discussion Paper Prepared by Task Force on Materiality, "Materiality, Concepts on Professionalism"

Actuarial Standards Board, Actuarial Standard of Practice

- No. 38, Using Models Outside the Actuary's Area of Expertise (Property/Casualty)

NAIC Annual Statement

Case Study, Fall 2020, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tests a candidate's knowledge of the responsibilities of the Appointed Actuary. This question uses the information from the GI FREU Case Study. It did not require any calculations for full credit. However, candidates could incorporate pertinent calculations to earn credit.

Data from the GI FREU Case Study was preloaded in Excel and was available for the candidate to use. However, candidates were to enter their response to this question in the Word document and not in Excel.

Solution:

(a) Critique Sue Calvin's opinion that reserves are reasonable.

Commentary on Question:
Valid arguments in a critique may be made in favor of or against Sue Calvin's opinion that reserves are reasonable. The model solution is an example of a full credit solution that is critical of Sue Calvin's opinion.

I disagree with Sue's determination of a reasonable provision considering that the booked reserves are at the low end of the range of reasonable reserves and that the range is too wide. The range appears to be too wide because it is approximately −19% to +20% of reserves. These amounts are approximately 33% of statutory surplus which seems like an unusually wide range especially after consideration that there was an injection of capital.

Any narrowing of the range would indicate that the reserve opinion should be "inadequate" instead of "reasonable." However, it is difficult to draw definitive conclusions about the range because there was no disclosure of the basis for it.

(b) State two alternative materiality standards that may be appropriate for an RMAD.

Commentary on Question:
There are several standards that may be appropriate. Only two were required for full credit. The model solution is an example of a full credit solution.

- Impact of item on IRIS ratios
- Impact of item on earnings per share

(c) Select the materiality standard you would have used if you were the AA for R-Dan (whether the same or different from that selected by Sue Calvin). Justify your selection.

Commentary on Question:
The model solution is an example of a full credit solution that agrees with Sue's selection. It was equally valid to justify a selection that differs from Sue's selection.

I agree with the materiality standards selected by Sue for this company. Materiality determinations require professional judgement and should reflect the intended purpose of the actuarial opinion. It is appropriate to evaluate the impact of an RMAD relative to surplus or reserves since U.S. statutory statements are focused on solvency and material RMADs can cause significant changes in surplus or threaten solvency.

(d) Describe what Sue Calvin should consider when doing this in accordance with ASOPs.

- The amount of the reserves covered by another's analysis relative to total reserves.
- The nature of the exposure and coverage
- The way in which reasonably likely variations in estimates may affect the actuary's opinion
- The credentials of the individual that prepared the analysis

GIFREU, Spring 2022, Q3

NOTE: This item also applies to Learning Objective 3.

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4b) Describe, interpret and apply the applicable Standards of Practice.

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 7 (Schedule P, Statutory Loss Accounting)
- Chapter 14 (The General Insurance Actuarial Opinion)

Actuarial Standards Board of the American Academy of Actuaries, Actuarial Standard of Practice (ASOP),

- No. 23, "Data Quality"
- No. 36, "Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves"

AAA, Committee on Property and Liability Financial Reporting, "A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves"

AAA, Council on Professionalism, Discussion Paper Prepared by Task Force on Materiality, "Materiality, Concepts on Professionalism"

NAIC Annual Statement

NAIC Statement of Statutory Accounting Principles,

- No. 65, "Property and Casualty Contracts"

Commentary on Question:

This question tested a candidate's understanding of the responsibilities of the AA when dealing with data issues. Full credit was earned by providing a sufficient level of details in the response for each of (i) to (iii). Widely varying full credit solutions were possible. The model solution is just one example of a full credit solution. It does not include all possible ways that the AA should proceed. The question was worth 8 points, so that was a guide for the candidate to write more than one short bullet point for each of (i) to (iii).

Solution:
Describe how the AA should proceed in the preparation of LIT's SAO, with respect to each of the following data issues:

(i) Schedule P reconciliation

(ii) A&E claims data

(iii) S&S reporting in the Annual Statement

Your response should reference the following sources if applicable:

- Actuarial Standards of Practice (ASOPs)
- Statements of Statutory Accounting Principles (SSAPs)
- Additional guidance on SAOs
  - NAIC SAO Instructions
  - Academy Public Policy Practice Note: Statements of Actuarial Opinion on Property and Casualty Loss Reserves Developed by The Casualty Practice Council's Committee on Property and Liability Financial Reporting (Practice Note)

(i) Schedule P Reconciliation
The analysis can be completed on the data even though the breakdown by LOB does not match the Schedule P LOBs. ASOP 23 notes that the actuary should use available data that allows the actuary to perform the analysis. Furthermore, the Practice Note states that it is acceptable to reconcile the data after minimal necessary aggregation. Therefore, the data appears reasonable and the issue with the LOB Schedule P differences should not affect the ability of the AA to estimate unpaid claims. However, the AA should disclose in the Actuarial Report the difference in the reserving data by LOB with Schedule P LOB data.

(ii) A&E Claims Data
The issue with the A&E liabilities is a major issue for proper completion of the SAO. The fact that there exist two sources of data that differ significantly, although not materially, without explanation puts into question the data quality for A&E claims. This unresolved data issue does not reasonably meet the ASOP 23 standard that the data allows the actuary to perform the analysis. The A&E data is unreliable and, as such, the reserves cannot be reasonably estimated. Also, it appears that A&E liabilities are likely material after inclusion of IBNR. This would result in a qualified opinion because no opinion can be formed for the A&E liabilities.

Furthermore, SSAP 65 requires a disclosure in the Annual Statement regarding the reserving methodology for A&E (both case and IBNR reserves). The AA should communicate with LIT management and LIT's auditors that this disclosure is required and must be completed.

(iii) S&S reporting in the Annual Statement
The issue with the S&S figures in Schedule P is not an issue for the AA in completing the SAO. These columns are for informational purposes only. However, the AA should communicate with LIT management and LIT's auditors that these columns should be completed properly in the future.

GIFREU, Spring 2022, Q17

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4b) Describe, interpret and apply the applicable Standards of Practice.

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

Actuarial Standards Board of the American Academy of Actuaries, Actuarial Standard of Practice (ASOP),

- No. 36, "Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves"
- No. 43, "Property/Casualty Unpaid Claim Estimates"

AAA, Committee on Property and Liability Financial Reporting, "A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves"

NAIC Annual Statement

Commentary on Question:

This question tested a candidate's understanding of several issues regarding the actuarial opinion.

Solution:

(a) Actuarial Standard of Practice (ASOP) 43 identifies a problem with using the term "best estimate" for an actuarial estimate of unpaid claims.

Describe this problem.

Best estimate does not sufficiently identify the intended measure.

(b) Select the type of Statement of Actuarial Opinion (SAO) you would render for the Company in this scenario. Justify your selection.

I would opine that carried reserves are inadequate because the carried reserves are outside the reasonable range produced by the new method. The new method is the more appropriate method.

(c) Describe two disclosures you would include in your SAO in this scenario.

Commentary on Question:
There are several potential disclosures relevant to this scenario. Only two were required for full credit. The model solution is an example of a full credit response.

- The actuary should disclose the changes in methods that have a material effect on the actuary's unpaid claim estimate.
- If the actuary determines reserves are deficient, the actuary should disclose the minimum amount that the actuary believes is reasonable.

(d) Draft a Relevant Comments paragraph to address the RMAD in this scenario.

I have selected a materiality standard of $5 million which represents a 10% change in surplus. COVID-related claims present a material risk in estimating unpaid claims because they are a new type of claim which increases the uncertainty in its estimation.

(e) The carried reserves result in a one-year loss development in excess of 5% of surplus in at least three of the past five calendar years.

Describe the SAO reporting required of the AA in this scenario.

The actuary must include a relevant comment or disclosure on the factors that led to these results.

(f) Describe the Annual Statement reporting required of the Company in this scenario.

The Company's Annual Statement would need to include an explanation of this in the Notes to Financial Statements.

(g) Six months after issuance of all actuarial documentation, an examination by the department of insurance noted an error in the Company's paid losses as reported in Schedule P of the Annual Statement.

Describe what is required of the AA after being informed of the error.

Commentary on Question:
There are a number of requirements. Only three were required for full credit. The model solution is an example of a full credit response.

- Determine the materiality of the error with respect to the Actuarial Opinion.
- Have a discussion with, or report to, the domiciliary regulator regarding this error.
- Re-issue the Actuarial Opinion if it is necessary.

GIFREU, Fall 2022, Q7

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4b) Describe, interpret and apply the applicable Standards of Practice.

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

Actuarial Standards Board of the American Academy of Actuaries, Actuarial Standard of Practice (ASOP),

- No. 21, "Responding to or Assisting Auditors or Examiners in Connection with Financial Audits, Financial Reviews, and Financial Examinations"
- No. 36, "Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves"
- No. 41, "Actuarial Communications"

AAA, Committee on Property and Liability Financial Reporting, "A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves"

AAA, Council on Professionalism, Discussion Paper Prepared by Task Force on Materiality, "Materiality, Concepts on Professionalism"

Commentary on Question:

This question tested a candidate's understanding of the responsibilities of the AA when dealing with differences of opinion between the AA and the auditor's actuary.

Solution:

(a) Select the type of SAO the AA should render in this situation. Justify your selection.

Commentary on Question:

There are several possible approaches the AA can take in rendering an opinion. The model solution is an example of a full credit solution.

This issue does not directly affect the AA's SAO. The AA should render a reasonable opinion in the SAO as the booked reserves are within the AA's range of reasonability.

(b) Describe how Actuarial Standard of Practice (ASOP) 21 (*Responding to or Assisting Auditors or Examiners in Connection with Financial Audits, Financial Review, and Financial Examinations)* provides guidance in resolving this situation.

Commentary on Question:
The model solution is an example of a full credit solution.

ASOP 21 notes that the AA and the consultant should cooperate with each other in the compilation of the information needed.

(c) Outline how the AA should proceed in this situation.

Commentary on Question:
Widely varying full credit responses are possible. The model solution is an example of a full credit solution. It does not outline all possible considerations for the AA in the scenario provided.

The issue here is that the external auditors of the Company's annual statement will not find the booked amount to be reasonable. The AA should discuss with the consultant the reasons as to why the AA believes the booked reserves to be reasonable.

In discussions with the consultant, the AA should note that the consultant's range of ±2.5% is narrow even under normal circumstances. It is certainly not reflective of the additional uncertainty created by the unknown effect of the recent legislative change. The AA should ask the consultant to consider this. A ±10% range is more appropriate while there exist significant ambiguities in the legislation.

Furthermore, the AA should note that in the absence of evidence suggesting one study is correct and the other incorrect, both studies results should be considered reasonable. A range of reasonableness should include results from the use of either study.

GIFREU, Fall 2022, Q12

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4b) Describe, interpret and apply the applicable Standards of Practice.

Sources:

Actuarial Standards Board of the American Academy of Actuaries, Actuarial Standard of Practice (ASOP), No. 38, "Catastrophe Modeling"

Commentary on Question:

This question tested a candidate's understanding of the requirements in ASOP 38.

Solution:

(a) Describe the level of effort that should be undertaken by the actuary in understanding and evaluating the model.

It should be consistent with the intended purpose and the model output's materiality to the results of the actuarial analysis.

(b) Describe three items that the actuary should take into account when using a model developed by an expert.

Commentary on Question:

There are more than three items. Only three were required for full credit. The model solution is an example of a full credit response.

- Whether the individual or individuals who developed the catastrophe model are experts in the applicable field.
- The extent to which the catastrophe model has been reviewed or validated by experts in the applicable field,
- Any known differences of opinion among experts concerning aspects of the model that could be material to the actuary's use of it.

(c) ASOP No. 38 requires the actuary to understand the user input for the catastrophe model.

Describe what this requirement entails.

Commentary on Question:

This entails several considerations for the actuary to understand. Not all were required for full credit. The model solution is an example of a full credit response.

The actuary should take reasonable steps to confirm that the precision and accuracy of the user input are consistent with the intended purpose.

Furthermore, the actuary should have an understanding of the relationship between the user input and catastrophe model output.

(d) ASOP No. 38 requires the actuary to validate that the output reasonably represents that which is being modeled.

Describe three potential ways to validate the model output.

Commentary on Question:
There are more than three ways to validate the model output. Only three were required for full credit. The model solution is an example of a full credit response.

- Comparing the output to those of an alternative model, where appropriate.
- Comparing the output with historical observations, if applicable.
- Evaluating the reasonableness of changes in the output due to variations in the user input.

GIFREU, Fall 2022, Q17

Note: This item also applies to Leaning Objective 3.
Part (a) is not on GI 302.

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4b) Describe, interpret and apply the applicable Standards of Practice.
(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, Fifth Edition, Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

~~International Actuarial Association, The Function of the Actuary in Prudential Supervision~~

Commentary on Question:

This question tested a candidate's knowledge of various issues regarding actuarial functions and accounting.

Solution:

~~(a) The International Actuarial Association (IAA) has defined five key areas where active actuarial participation can be valuable in prudential supervision.~~

~~Identify four of these areas.~~

- ~~Pricing and product design~~
- ~~Safeguarding policyholder interests~~
- ~~Establishing aggregate policy and claim liabilities~~
- ~~Determining appropriate capital~~

(b) According to the textbook *General Insurance Financial Reporting Topics*, U.S. insurance regulators are interested in four attributes for booked reserves: *sufficiency, unbiasedness, soundness and reasonability*.

Describe three of the four attributes:

Commentary on Question:
The model solution is an example of a full credit solution.

- Sufficiency – Reserves that provide an amount to meet obligations.
- Soundness – Reserves based on sound actuarial methods, that may or may not include a margin to meet obligations in adverse scenarios.
- Unbiasedness – Reserves that represent the expected value of the obligations.

(c) The NAIC Instructions for the Statement of Actuarial Opinion (SAO) define five opinion categories, the most common of which is a reasonable provision.

Define each of the other four categories.

- Deficient – Carried reserves are below the low end of the actuarial range.
- Redundant – Carried reserves are above the high end of the actuarial range.
- Qualified – Reserves for certain material items cannot be reasonably estimated by the actuary.
- No Opinion – The actuary cannot make a determination/conclusion due to deficiencies/limitations in the data or other information.

(d) Describe the reporting of *assumed* retroactive reinsurance in the Annual Statement with respect to the following:

(i) Liabilities

(ii) Surplus

(i) Assumed retroactive reinsurance is shown as a write-in item on the liability side of the balance sheet.

(ii) The surplus gain from retroactive reinsurance is coded as special surplus until the recoverables are collected.

GIFREU, Spring 2023, Q6

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4b) Describe, interpret and apply the applicable Standards of Practice.

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

Committee on Property and Liability Financial Reporting, A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves, AAA

Actuarial Standards Board of the American Academy of Actuaries, Actuarial Standard of Practice (ASOP),

- No. 23, "Data Quality"
- No. 36, "Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves"
- No. 41, "Actuarial Communications"

Commentary on Question:

This question tested a candidate's knowledge regarding the duties of the Appointed Actuary in the United States.

Solution:

A U.S.-based general insurance company that writes both property and liability lines of business has hired a consultant to act as the appointed actuary (AA). The insurer's CFO provided the data to support the AA's Statement of Actuarial Opinion.

- The AA's reserve analysis using the data provided indicated that the insurer's booked reserves were reasonable.
- The AA had some questions regarding the data provided. The loss data appeared reasonable but had some inconsistencies with Schedule P Part 1 loss data.
- The CFO said that there was insufficient time to address the AA's questions regarding the data. The CFO said that the data was reviewed by the finance department, and that it was valid.

Outline how the AA should proceed in this situation.

Commentary on Question:
Widely varying responses for full credit were possible. The model solution does not raise all the actions and issues possible as presented in the question. It also does not represent the only conclusion that can be drawn from it. It is an example of a full credit solution.

SAO Instructions require the AA to include a paragraph on the data used. This paragraph normally includes a statement on data reasonableness and consistency and that it reconciles to Schedule P Part 1. The AA is not required to attest that no errors exist in the data.

Any differences to Schedule P Part 1 should be either insignificant or explainable by known causes that did not represent errors in the data. In this case, the differences are significant and have not been explained. Therefore, the AA should:

- Recommend that the insurer informs its external auditors of the differences, and
- Discuss it in the SAO and elaborate on it in the Actuarial Report.

The AA cannot be confident that the data is correct. The category of opinion should be "No Opinion" in this situation. This is because there are significant differences in the data to Schedule P Part 1 that have not been explained.

GIFREU, Spring 2023, Q8

The case study for this question is at
https://www.soa.org/48ef45/globalassets/assets/files/edu/2023/spring/study-note/gifreu-2023-spring-case-study.pdf

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

Committee on Property and Liability Financial Reporting, A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves, AAA

Case Study, Spring 2023, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tested a candidate's knowledge of the Appointed Actuary's responsibilities regarding the SAO. It made use of information included in the GI FREU Case Study.

This question required the candidate to respond in Excel. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

Solution:

(a) Select the Category of Opinion that would result if the auditing actuary had issued the Statement of Actuarial Opinion (SAO) based on their own analysis. Justify your selection.

Commentary on Question:

This question requires an assumption regarding the range for the total of all lines of business. There is no one correct answer. Note that over 75% of the total gross and net reserves are from Auto Liability. Because of this, a reasonable assumption could be to add the point estimates for other lines to the low and high end of the range for Auto Liability.

Another reasonable assumption could be to use the Auto Liability low end and high end as a percent of the most likely outcome and apply this to the point estimates for other lines. The key is to assume something reasonable with justification for which to select the opinion category. The model solution is an example of a full credit solution.

We can assume that the lines with point estimates represent both the high and low of their range. This is because they represent less than 25% of the reserves on both a gross and net basis. Using this assumption, on a net basis, the low end of the range is 48 million plus 252.3 million plus 5.5 million which equals 305.8 million. On a gross basis, the low end is 77.6 million plus 258.5 million plus 6 million which equals 342.1 million. These are both higher than the booked amounts of 289.5 million net and 316.7 million gross. Therefore, the category of opinion is deficient.

(b) Compose the following using the results from the auditing actuary's analysis:

(i) SAO Relevant Comments with respect to the Risk of Material Adverse Deviation

(ii) Actuarial Opinion Summary (AOS) sections A to D

Commentary on Question:
Note that for part (i), some candidates chose to copy the wording from the Case Study. The Case Study is for a fictitious company that does not always use best practice. This includes the work of the Appointed Actuary. Just copying the exact wording from the case study was not sufficient to earn full credit. While the wording in the Case Study is generally acceptable, using the auditors estimate would require some further clarification. The model solution is an example of a full credit solution. Not all of the details included in the model solution were required for full credit.

(i) <u>SAO Relevant Comments for RMAD</u>
For this Opinion, I evaluated materiality as 5% of statutory surplus. This is equal to $10.5 million. Therefore, I consider the potential for adverse deviation of the Company's reserves for unpaid losses and loss adjustment expenses of $10.5 million or greater to be material.

The materiality standard should be narrow as compared to the range of reserves. For this opinion, the materiality standard is approximately 31% of the range of reserves which is narrow relative to the range of reserves.

To test for a risk of material adverse deviation, one may check if the booked reserve amount plus the materiality standard is within the range of reserves. However, R-Dan's booked reserves are below the low end of the range of reserves. If R-Dan had booked the low end of the range of reserves, RMAD would technically exist because the materiality standard is narrower than the range of reserves.

It is my opinion that there exist significant risks associated with the Company's net loss and loss adjustment expenses that could result in material adverse deviation. These risks include deficient reserves, uncertainty regarding the Company's growth in states outside of its Core territory, recent changes to claims reserving personnel and claims reserving procedures.

(ii) <u>AOS sections A to D</u>

Refer to Excel Solutions spreadsheet.

Amounts in $000s		Net Reserves			Gross Reserves		
		Low	Point	High	Low	Point	High
A1	Actuary's range of estimates for Auto	252,300		285,700	258,500		292,200
A2	Actuary's range of estimates for other than Auto	53,500		53,500	83,600		83,600
A	Actuary's range of estimates	305,800		339,200	342,100		375,800
B1	Actuary's point estimate for Auto		269,000			275,350	
B2	Actuary's point estimate for other than Auto		53,500			83,600	
B	Actuary's point estimate		322,500			358,950	
C	Company carried reserves		289,500			316,700	
D	Difference between company carried and actuary's estimate	-16,300	-33,000	-49,700	-25,400	-42,250	-59,100

GIFREU, Spring 2023, Q14

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

Committee on Property and Liability Financial Reporting, A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves, AAA

Commentary on Question:

This question tested knowledge regarding the duties of a U.S. Appointed Actuary.

Solution:

(a) Describe what the AA is required to provide to the Board.

Provide the Board with a prepared executive summary or an in-person presentation. Additionally, the full Actuarial Report must be made available to the Board.

(b) Provide two questions the AA should address in their AOS commentary related to persistent adverse development.

Commentary on Question:

There are more than two questions. The model solution is an example..

- Is development concentrated in one or two exposure segments, or is it broad across all segments?
- How does development in the carried reserve compare to the change in the Appointed Actuary's estimate?

(c) Outline what is expected from the AA with respect to PQR's SAO given the above scenario.

Commentary on Question:

There are many different expectations of the AA from this scenario. The model solution is an example of a full credit solution. It does not include everything that would be expected from the AA.

- The Relevant Comments section of the SAO must address unusual results from IRIS reserve tests.
- Factor II should probably be included in the Relevant Comments section of the SAO noting that as an automobile insurer, it has a greater effect than for general insurers writing many different lines of business.
- Factor III should be explained in the Relevant Comments section of the SAO.

GIFREU, Fall 2023, Q4

Learning Objective:
4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:
(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:
General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

Commentary on Question:
This question tested a candidate's knowledge regarding the duties of the Appointed Actuary in the United States.

Solution:
(a) Describe what is to be included in this documentation.

- Brief biographical information
- Description of how the definition of "Qualified Actuary" is met or expected to be met for that year
- Description of the AA's responsible experience relevant to the subject of the SAO

(b) Provide the following for each of these three required letters (which you may refer to as the first, second and third letters).

(i) Purpose of each letter

(ii) Receiver of each letter

(iii) Timing of each letter

(i) Purpose
- The first letter is a notification of the replacement.
- The second letter states whether in the 24 months preceding the replacement, there were any disagreements with the former AA.
- The third letter is to request confirmation from the former AA that they are in agreement with the statement in the second letter. The response from the former AA is to be included with the second letter.

(ii) Receiver
- For the first and second letters it's the state insurance department.
- For the third letter it's the former AA.

(iii) Timing

- The first letter is sent within 5 business days of the replacement date.
- The second and third letters are sent within 10 business days of the date of the first letter.

(c) NAIC SAO Instructions require that two types of Schedule P data checks be performed. They are the Schedule P reconciliation performed by the AA and annual testing performed by the independent auditor.

Compare the purpose of these two Schedule P data checks.

- The AA data check is to show the user of the Actuarial Report that data significant to the analysis ties into the data in Schedule P.
- The auditor data check is to verify the completeness and accuracy of the data in Schedule P.

GIFREU, Fall 2023, Q10

NOTE: This item also applies to Learning Objective 3.

The case study for this question is at
https://www.soa.org/4a7b7f/globalassets/assets/files/edu/2023/fall/case-study/gifreu-case-study.pdf

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4a) Describe and apply the concept of materiality.

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

Committee on Property and Liability Financial Reporting, A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves, American Academy of Actuaries

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 12 (Solvency Monitoring)
- Chapter 14 (The General Insurance Actuarial Opinion)

NAIC Annual Statement

Materiality, Concepts on Professionalism, American Academy of Actuaries Task Force on Materiality

Case Study, Fall 2023, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question required the candidate to respond in Excel. An example of a full credit solution is in the Excel solutions spreadsheet. The solution in this file is for explanatory purposes only.

This question tested a candidate's understanding of materiality and the SAO. It made use of information included in the GI FREU Case Study. Data from the GI FREU Case Study was preloaded in Excel for the candidate to use.

Solution:

(a) Explain how an Appointed Actuary could determine and present the SAO RMAD conclusion pertaining to gross reserves (direct plus assumed reserves).

Commentary on Question:

There are several different approaches that may be considered. Only one is included in the model solution. The model solution is an example of a full credit solution.

The materiality standard for gross reserves need not be the same as that for net reserves. It would be expected that the materiality standard for a gross reserves RMAD should be related to issues with gross reserves and be higher than that for net reserves.

The materiality standard and RMAD conclusion pertaining to gross reserves are not disclosed in SAO Exhibit B but should be disclosed in the SAO Relevant Comments section for RMAD when there are differences to the net.

(b) Critique the CFO's recommendation.

Commentary on Question:
Widely varying correct responses were possible. The model solution is an example of a full credit solution.

The actuary's materiality standard for RMAD in the SAO need not be equal to the external auditor's materiality standard. This is because these standards are used for different purposes. Additionally, the external auditor's materiality standard appears to be two wide at \$28.9 million which is nearly 40% of the width of the range of reasonability for net reserves (i.e., 28.9 / (288.1 – 214.4) = 0.392). The actuary's materiality standard for RMAD in the SAO must be narrow compared to the width of the range of reasonability.

(c) Describe potential ramifications for R-Dan's SAO (current and future) if Sue Calvin had selected 5% of net premium earned as the materiality standard regarding RMAD.

Commentary on Question:
Widely varying correct responses were possible. The model solution is an example of a full credit solution.

The SAO would have technically not changed since R-Dan's booked reserves are at the low end of the range of reasonability and the booked amount plus \$28.9 is still in the range of reasonability. However, it could set a precedence for future SAOs. This could lead to a mistaken conclusion on RMAD if the booked amount is above the mid-point of the range.

(d) Determine this materiality standard.

Refer to Excel solutions spreadsheet.

20% – 36.2/209.1 = 2.688%
2.688% × 209.1 million = 5.62 million

(e) Critique the materiality standard determined in part (d).

Commentary on Question:
The model solution is an example of a full credit solution.

This materiality standard for RMAD appears to be too low and would almost always indicate the existence of RMAD. Consider the fact that even if R-Dan booked reserves at 98% of the high end of the range of reasonability for reserves (i.e., $343.59 = .98 \times 350.6$), there would technically exist RMAD because the booked reserves plus the materiality standard ($349.21 = 343.59 + 5.62$) would be in the range of reasonability (283.6 to 350.6).

GIFREU, Spring 2024, Q4

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4a) Describe and apply the concept of materiality.

Sources:

Materiality, Concepts on Professionalism, American Academy of Actuaries Task Force on Materiality

Commentary on Question:

This question tested a candidate's understanding of materiality

Solution:

(a) Describe the concept of materiality regarding actuarial work.

Commentary on Question:

There are several different reasonable descriptions. Only one is included in the model solution. The model solution is an example of a full credit solution.

An omission, understatement or overstatement in a work product is material if it is likely to affect the intended principal user's decision-making.

(b) Explain why the selection of a materiality standard for an actuarial opinion should or should not be influenced by how close an insurer is to the minimum capital requirement.

Commentary on Question:

The model solution is an example of a full credit solution. Other reasonable responses were accepted for full credit.

Selection of a materiality standard is influenced by this because going below the minimum capital requirement has consequences affecting the intended principal user's decision making.

(c) Explain why the selection of a materiality standard for an actuarial opinion should or should not be influenced by the degree of uncertainty in the provision for insurance liabilities.

Commentary on Question:
The model solution is an example of a full credit solution. Other reasonable responses were accepted for full credit.

Selection of a materiality standard should not be influenced by this. This is because uncertainty in estimates does not justify a raising or lowering of the materiality standard. The estimate is still at the appropriate amount. This should not change the amount by which an error or omission would change the user's decision making.

(d) Describe two considerations that could influence if this error is material.

Commentary on Question:
There are more than two considerations. The model solution is an example of a full credit solution.

- Whether or not correction of the error would result in a change to the pass/fail outcome of a financial ratio.
- The purpose of the estimate (e.g., reserve opinion, financial reporting, or internal forecasting).

GIFREU, Spring 2024, Q10

The case study for this question is at
https://www.soa.org/48f9b0/globalassets/assets/files/edu/2024/spring/case-study/gifreu-case-study.pdf

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

Committee on Property and Liability Financial Reporting, A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves, American Academy of Actuaries

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

Case Study, Spring 2024, SOA Exam General Insurance, Financial and Regulatory Environment – U.S.

Commentary on Question:

This question tested a candidate's understanding of the responsibilities of the Appointed Actuary with respect to the SAO.

Solution:

(a) Sue Calvin did not include a review date in R-Dan's Statement of Actuarial Opinion (SAO). The NAIC Actuarial Opinion Working Group Regulatory Guidance states that the absence of a review date disclosure in the SAO can indicate one of two possibilities.

Identify these two possibilities.

Commentary on Question:

The model solution is a full credit solution that identifies the two possibilities as noted by the NAIC working group. However, R-Dan's SAO did include a review date. Candidates that pointed this out also received full credit.

A review date that is the same as the date the SAO is signed, or the Appointed Actuary overlooked this disclosure.

(b) Draft a disclosure for the Schedule P reconciliation that should meet regulatory standards.

Commentary on Question:
The model solution is an example of a full credit solution.

I reconciled the data to Schedule P – Part 1 of the Company's Annual Statement as of December 31, 2023. My evaluation revealed that gross and net earned premiums in the calendar year were $15.1 million higher in the actuarial database for Private Passenger Liability/Medical line and $15.0 million lower in the actuarial database for Auto Physical damage. This was likely caused by miscoding of some premium between these two lines. This miscoding of premiums did not affect my reserve opinion. All other differences in the data were immaterial.

(c) Explain what should be added to the disclosure on reinsurance in order to meet regulatory standards.

Commentary on Question:
There are many items that should be added to the disclosure. An explanation should include several of these items to earn full credit. The model solution is an example of a full credit solution.

The commentary should also include disclosure of:
- The fact that the total amount of ceded reinsurance is material as ceded carried reserves are $27.2 million.
- The fact that Schedule F was reviewed.
- Amounts due from any troubled reinsurers and any amounts that were set up to cover the risk of uncollectibility.
- Whether or not uncertainty on reinsurance collectibility contributes to RMAD.

(d) Determine which of risks I through IV should be included in the RMAD disclosure. Justify your determination.

Commentary on Question:
Some of the items can be interpreted as either general (not to be included) or company specific (to be included). It was also acceptable to say it is dependent on certain facts. As such, credit was earned by stating how the risks apply to the interpretation. The model solution is an example of a full credit solution.

I. This only applies to companies that are currently subject to a bad faith conduct lawsuit. As such, this risk should be included in the RMAD disclosure only if R-Dan has any open cases against it alleging bad faith conduct.

II. R-Dan's adjustment expenses are material. This risk should be included in the RMAD disclosure only if there is a reasonable possibility that the shift will change the level of expenses relative to claims.

III. This risk should not be included in the RMAD disclosure because it is a general condition affecting all insurers.

IV. This risk should be included in the RMAD disclosure. R-Dan's expansion into the Michigan automobile market will be affected by this more than insurers that are not writing this business. This is due to their intention to grow in this market despite lacking experience writing Michigan automobile.

(e) R-Dan's Actuarial Report includes an exhibit summarizing the change in the Appointed Actuary's estimates (on page 37 of the Case Study). For accident years 2014 to 2023, the total current amount from this exhibit differs from the total current amount from Schedule P – Part 2 – Summary.

Explain the reason for this difference.

This is because the exhibit used the Actuary's estimate whereas Schedule P used the company's booked amount. These amounts generally do not match exactly.

GIFREU, Fall 2024, Q3

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4b) Describe, interpret and apply the applicable Standards of Practice.

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

Committee on Property and Liability Financial Reporting, A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves, AAA

Actuarial Standards Board of the American Academy of Actuaries, Actuarial Standard of Practice (ASOP),

- No. 36, "Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves"

Commentary on Question:

This question tested a candidate's knowledge regarding the duties of the Appointed Actuary in the United States.

Solution:

(a) Describe the four other types of SAOs.

- **Inadequate**: When the carried reserve amount is less than the minimum amount that the AA believes is reasonable.
- **Excessive**: When the carried reserve amount is greater than the maximum amount that the AA believes is reasonable.
- **Qualified**: When, in the AA's opinion, the reserves for a certain item or items are in question because they cannot be reasonably estimated, or the Appointed Actuary is unable to render an opinion on those items.
- **No Opinion**: When the AA cannot reach a conclusion for an opinion on the carried reserve amount due to deficiencies or limitations in the data, analyses, assumptions, or related information.

(b) Select three types of SAOs that <u>could</u> be provided for QRS with the information available. Justify each type selected.

Commentary on Question:
Widely varying responses for full credit were possible. The model solution does not raise all the possibilities and justifications. Also, justifications are subject to counterarguments. The model solution is an example of a full credit solution.

The Pool amount, 47.5M, is greater than the materiality standard of 10M so the pool must be considered in the analysis.

- If the AA takes responsibility for the share of pool reserves by assuming that that the pool carried amount is the Pool AA's best estimate, then the QRS share of the pool's carried reserve amount is the best estimate (47.5M) for QRS. If we assume that the pool's carried amount is the midpoint of the range and the range uses the same percentage from the midpoint of the QRS range (10% = 25/250), we get a total low end of the range of 269.2 with a midpoint of 297.5. The carried amount of 270 is in the range so it is reasonable.
- If the AA takes responsibility for the share of pool reserves and the pool carried amount is the low end of the Pool AA's range of reasonability, then we have a low end of the range at 47.5 for QRS pool share and 272.5 for the total. The carried amount of 270 is below 272.5 so it is inadequate.
- The actuary cannot accurately derive the range of reasonability for the QRS share of the pool. As such, the AA can only render an opinion on the total excluding QRS share of the pool.
- The pool represents 17.5% of the total reserves. This is significant. Without more data on the pool, the AA cannot accurately reach a conclusion for an opinion on the carried reserve amount due to deficiencies in the data.

(c) Select a type of SAO from part (b) that is the most appropriate for QRS in this scenario. Justify your selection.

Commentary on Question:
Widely varying responses for full credit were possible. The model solution does not raise all the possibilities and justifications. Also, justifications are subject to counterarguments. The model solution is an example of a full credit solution.

I would select *No Opinion* because *Reasonable* or *Inadequate* requires the AA to make assumptions about the pool's range of reasonability without any basis. Selecting *Qualified* requires separating the pool carried reserves from the total carried reserves. This requires assuming that QRS is carrying 5% of the Pool's carried reserves. This assumption is reasonable but since the total carried amount is close to the low end any deviation from this amount may change the type of opinion for the non-pool reserves. *No Opinion* does not require any unsupported assumptions and makes it clear that more information is required.

GIFREU, Fall 2024, Q13

Learning Objective:

4. The candidate will be able to use applicable standards of practice to carry out the responsibilities of a U.S. signing general insurance actuary as defined by regulators and the American Academy of Actuaries

Learning Outcomes:

(4c) Describe, interpret and apply the responsibilities of a signing actuary with respect to the U.S. Statement of Actuarial Opinion and the Actuarial Report.

Sources:

Committee on Property and Liability Financial Reporting, A Public Policy Practice Note, Statements of Actuarial Opinion on Property and Casualty Loss Reserves, American Academy of Actuaries

General Insurance Financial Reporting Topics, 5th Ed. (2021), Society of Actuaries

- Chapter 14 (The General Insurance Actuarial Opinion)

Commentary on Question:

This question tested a candidate's understanding of issues regarding the Appointed Actuary and the SAO.

Solution:

(a) Compare the use of internal appointed actuaries (AAs) versus external AAs with respect to independence.

Commentary on Question:

Widely varying correct responses are possible. The model solution is an example of a full credit solution.

It is generally believed that external actuaries may be more independent than internal actuaries for actuarial opinions. While internal actuaries may face job pressures to agree with the company's senior management, external actuaries may also face pressure to agree with clients to retain their business.

(b) Identify two each for the following:

(i) Primary intended users

(ii) Secondary intended users

Commentary on Question:
There are more than two secondary intended users. The model solution is an example of a full credit solution.

(i) Regulators and the insurer's Board of Directors

(ii) Insurer's senior management and rating agencies

(c) State the two conditions for a contract to be categorized as a long-duration contract.

- The contract term is greater than or equal to thirteen months; and
- The insurer can neither cancel the contract nor increase the premium during the contract term.

(d) If the AA issues a qualified SAO for a U.S general insurer, four disclosures specific to a qualified opinion are required.

Describe these four required disclosures.

- The item (or items) to which the qualification relates.
- The reasons for the qualification.
- The amounts for such items, if disclosed by the entity, that are included in the reserve. If the amounts for such items are not disclosed by the entity, the actuary should disclose that the reserve includes unknown amounts for such items.
- The actuary should disclose whether the reserve amount makes a reasonable provision for the liabilities associated with the specified reserves, except for the item or items to which the qualification relates.