General Insurance
Financial and Regulatory Environment – U.S.

Exam GIFREU

Date: Friday, April 25, 2025

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has 14 questions numbered 1 through 14 with a total of 70 points.

   The points for each question are indicated at the beginning of the question. Questions 7 to 9 pertain to the Case Study.

2. While every attempt is made to avoid defective questions, sometimes they do occur. If you believe a question is defective, the supervisor or proctor cannot give you any guidance beyond the instructions provided in this document.

Written-Answer Instructions

1. Each question part or subpart should be answered either in the Word document or the Excel file as directed. Graders will only look at work in the indicated file.

   a) In the Word document, answers should be entered in the box marked ANSWER. The box will expand as lines of text are added. There is no need to use special characters or subscripts (though they may be used). For example, β_1 can be typed as beta_1 and σ^2 can be typed as sigma^2.

   b) Calculations should be done in Excel and entered as formulas. Performing calculations on scratch paper or with a calculator and then entering the answer in the cell will not earn full credit. Formatting of cells or rounding is not required for credit. Rows can be inserted to the answer input area as required to provide space for your answer.

   c) Individual exams may provide additional directions that apply throughout the exam or to individual items.

2. The answer should be confined to the question as set.

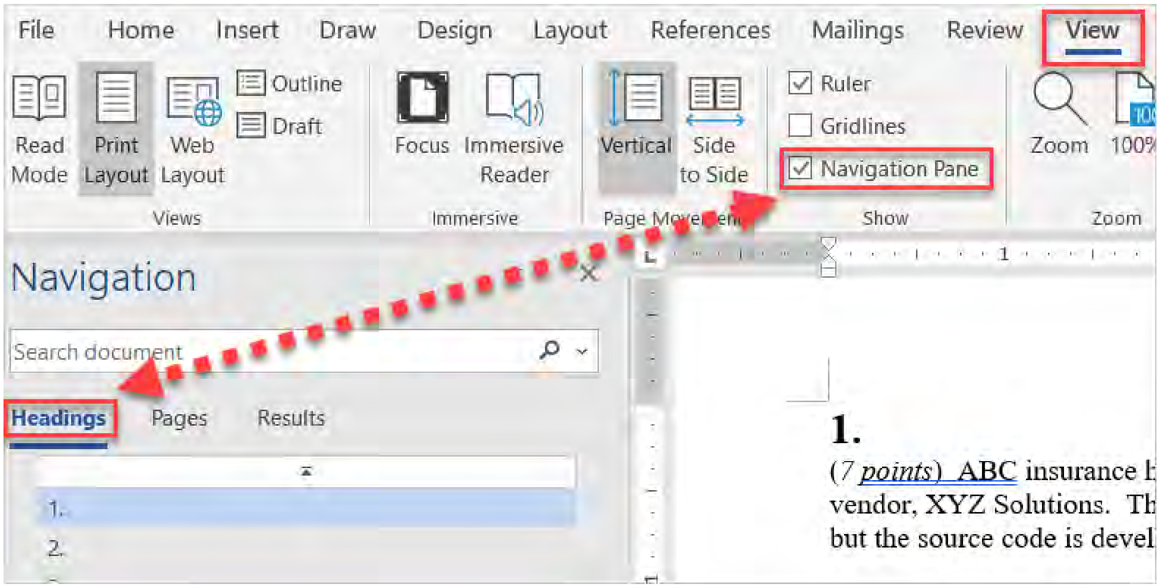
3. Prior to uploading your Word and Excel files, each file should be saved and renamed with your unique candidate number in the filename.

4. The Word and Excel files that contain your answers must be uploaded before the five-minute upload period expires.

Navigation Instructions

Open the Navigation Pane to jump to questions.

Press Ctrl+F, or click View > Navigation Pane:



CASE STUDY INSTRUCTIONS

The case study will be used as a basis for some examination questions. Be sure to answer the question asked by referring to the case study. For example, when asked for the advantages of a particular investment structure to a company referenced in the case study, your response should be limited to that company. Other advantages should not be listed, as they are extraneous to the question and will result in no additional credit. Further, if they conflict with the applicable advantages, no credit will be given.

1.

(*4 points*) The primary mission of the insurance regulatory system in the United States is to protect the interests of the policyholder and those who rely on the insurance coverage provided to the policyholder.

(a) (*1 point*) Explain how facilitating the financial stability and reliability of insurance institutions can protect the interests of policyholders.

ANSWER:

Insurance regulators in the United States commonly intervene when an insurer is deemed to be in hazardous financial condition. An adverse finding in the insurer's financial results is one situation under which an insurance regulator may deem an insurer to be in hazardous financial condition.

(b) (*1 point*) Identify two other situations.

ANSWER: 1. 2.

State regulation of insurer solvency is sometimes criticized as being inefficient because of duplicative costs.

(c) (*1 point*) Provide two potential advantages of state regulation despite the duplicative costs.

ANSWER:

The Dodd-Frank Wall Street Reform and Consumer Protection Act established the Federal Insurance Office (FIO) and specified the conditions under which the FIO may preempt state insurance regulation.

(d) (*1 point*) Describe these conditions.

ANSWER:

2.

(*4 points*) There are two types of tests to determine whether sufficient underwriting risk is transferred in a reinsurance agreement. One type is a positive and quantitative test, the other type is a negative and qualitative test.

(a) (*1.5 points*) Describe each of these types.

ANSWER:

U.S. statutory accounting uses the phrase "reasonably possible that the reinsurer may realize a significant loss," when addressing risk transfer in a reinsurance transaction. Initially, the 10%-10% rule had been established to convert the principles-based accounting standard to a formal fixed method. This rule had a significant shortcoming as a definitive risk transfer test, so it was replaced with a different framework for addressing risk transfer.

(b) (*2 points*) Describe each of the following:

(i) The 10%-10% rule

(ii) Shortcoming of the rule

(iii) The framework for addressing risk transfer which replaced the rule

ANSWER: (i) (ii) (iii)

(c) (*0.5 points*) Describe how insurers account for reinsurance when risk transfer is not sufficient under U.S. statutory accounting.

ANSWER:

3.

(*5 points*) In 1945, the McCarran-Ferguson Act (MFA) was enacted to affirm the right of states to regulate insurance.

(a) (*2 points*) Describe the following regarding the MFA:

(i) The U.S. Supreme Court ruling that prompted enactment of the MFA

(ii) After MFA, the requirement for insurers to be exempt from the consequences of the Supreme Court ruling in part (i)

(iii) After MFA, the condition under which cooperative acts of insurers for setting rates is permitted

ANSWER: (i) (ii) (iii)

The passage of the MFA led to material changes to insurance regulations in the United States.

(b) (*2 points*) Describe two examples of post-MFA insurance regulation prompted by *insurer insolvencies*.

ANSWER:

(c) (*1 point*) Describe one example of post-MFA insurance regulation prompted by *insurance unavailability or unaffordability*.

ANSWER:

4.

(*5 points*) You are the Appointed Actuary for a general insurance company (the Company) in the United States. You prepared an independent point estimate of unpaid claims as of year-end.

Relevant information from your Actuarial Report and the Company's Annual Statement are as follows:

- Your point estimate for unpaid claims was 1.35 million.
- Your estimate is net of anticipated recoveries for subrogation and salvage.
- There is no applicable reinsurance, so your gross and net estimates are the same.
- The Company recorded a liability for loss and loss adjustment expense of 1.28 million.
- The Company recorded statutory Surplus as Regards Policyholders of 10 million.

(a) (*1 point*) Select a materiality standard to disclose in your Statement of Actuarial Opinion (SAO). Justify your selection.

ANSWER:

(b) (*1 point*) Select the type of Actuarial Opinion you would render. Justify your selection.

ANSWER:

Six months after issuing all your statutory actuarial documents, an examination by the department of insurance noted an accounting error in the Company's Annual Statement. The Company reported an aggregate write-in for other-than-invested assets in the amount of 0.45 million which was described as miscellaneous receivables. This amount actually represented salvage and subrogation recoverables which should have been a contra-liability to the liability for loss and loss adjustment expense. You were not aware the write-in asset was for salvage and subrogation recoverables.

The Company's reported liability for loss and loss adjustment expense after the accounting correction is 0.83 million. Your actuarial analysis was already net of salvage and subrogation. As such, your actuarial point estimate does not change with the correction of this accounting error.

4. **Continued**

The NAIC prescribes specific actions that the Company and the Appointed Actuary should take after discovering an accounting error.

(c) (*1.5 points*) Describe the actions the Company should take after being informed of this accounting error.

ANSWER:

(d) (*1.5 points*) Describe the actions you should take after being informed of this accounting error based upon U.S. statutory accounting.

ANSWER:

5.

(*5 points*) The NAIC creates model laws in the United States. Some states may choose to not adopt a model law. One reason for this is that the state legislator deems the NAIC model law to have a lower priority than other state insurance matters.

(a) (*0.5 points*) Describe another reason why some states choose not to adopt a model law.

ANSWER:

The NAIC has a program for accrediting state insurance departments. For a state to be accredited, it must demonstrate that its laws and regulations incorporate the NAIC's *Insurance Financial Solvency Standards and Monitoring* (IFSSM). IFSSM can be split into two categories, solvency and monitoring.

(b) (*3 points*) Describe three examples for each category in the table below.
Answer in the following table.

Category	**Law or Regulation or Rule that Incorporates IFSSM**
Solvency	1.
	2.
	3.
Monitoring	1.
	2.
	3.

5. Continued

(c) (*1.5 points*) Describe the following:

(i) The role of the NAIC's Financial Analysis Division (FAD), and

(ii) The role of the NAIC's Financial Analysis Working Group (FAWG), and

(iii) The manner in which the two relate to each other.

ANSWER: (i) (ii) (iii)

6.

(*4 points*) Actuarial communications in the United States are subject to specific disclosures under the Actuarial Standards of Practice (ASOPs).

(a) (*2 points*) Describe four disclosures specific to ASOP 41, *Actuarial Communications*, that any actuarial report should include.

ANSWER:

(b) (*2 points*) Describe four disclosures specific to ASOP 23, *Data Quality*, that are required when relevant and material.

ANSWER:

Questions 7 through 9 pertain to the Case Study.
Each question should be answered independently.

7.

Provide the response for this question in the Excel spreadsheet.

(*6 points*) R-Dan's claims department completed a review and adjustment of open claim files for the Private Passenger Liability/Medical line of business before year-end 2024. The department's intent was to strengthen reserves on open claims files for accident years 2021 to 2024.

Inflation over this period has been 5% annually.

You are the actuary at R-Dan tasked with analyzing this initiative.

(a) (*4 points*) Test whether or not R-Dan's claims department actually strengthened reserves for accident years 2021 to 2024.

Sue Calvin was not made aware of this initiative by the claims department. The Statement of Actuarial Opinion was completed several months prior to your actuarial analysis.

(b) (*2 points*) Summarize your findings and any concerns for senior management based on the results from part (a).

Questions 7 through 9 pertain to the Case Study. Each question should be answered independently.

8.

Provide the response for this question in the Excel spreadsheet.

(*6 points*) You are given the following for R-Dan's NAIC RBC calculation for the reserving risk charge as of December 31, 2024:

Line of Business		NAIC RBC Charge Factor for Average Development	
		Company	**Industry**
Homeowners/Farmowners	H/F	0.966	0.970
Private Passenger Auto Liability/Medical	PPA	1.023	1.000
Commercial Auto/Truck Liability/Medical	CA	0.633	1.015
Special Property (Fire, Inland Marine)	APD	0.975	0.975
Auto Physical Damage	SP	0.995	0.995

(a) (*3 points*) Calculate R-Dan's NAIC RBC reserving risk charge, before the excess growth charge, as of December 31, 2024.

You are given the following for R-Dan's reinsurance recoverables as of year-end 2024:

	Percent of R-Dan's Total Reinsurance Recoverables	Total Collateral (000)	Reinsurer Financial Rating from S&P
Reinsurer A	40%	0	AA+
Reinsurer B	60%	7,000	BB+

(b) (*1.5 points*) Calculate R-Dan's NAIC RBC credit risk charge, before any conditional adjustments, as of December 31, 2024.

The following NAIC RBC risk charges were calculated for R-Dan:

Charge	Amount (000)
R_0	100
R_1	8,800
R_2	5,300
R_5	47,000
R_{CAT}	24,100
Excess Growth for Reserving Risk	115

(c) (*1.5 points*) Calculate R-Dan's NAIC RBC Ratio.

Questions 7 through 9 pertain to the Case Study.
Each question should be answered independently.

9.

Provide the response for this question in the Excel spreadsheet.

(*9 points*) Under U.S. statutory accounting, loss adjustment expenses (LAE) are to be categorized as either Defense and Cost Containment (DCC) or Adjusting and Other (AO). Statement of Statutory Accounting Principles No. 55 (SSAP 55) sets out the accounting rules for this categorization of LAE.

SSAP 55 lists the following two types of LAE conditionally under both categories (DCC and AO).

I. LAE for participation in voluntary and involuntary market pools

II. Fees and salaries for appraisers and private investigators

(a) (*1 point*) Describe the condition for categorizing each of I and II as DCC or AO.

An audit of R-Dan's 2024 Annual Statement was conducted during March 2025. The audit uncovered an error in the categorization of LAE between DCC and AO.

The results of this error were:

- A 10% understatement of DCC payments during 2024
- A 10% understatement of DCC outstanding as of December 31, 2024
- A fully offsetting overstatement of AO paid and outstanding
- There was no net effect on total LAE paid, incurred or outstanding

(b) (*3.5 points*) Determine the following for each of DCC and AO after correction for this error:

(i) Outstanding as of December 31, 2024

(ii) Payments during 2024

(iii) Incurred during 2024

(c) (*1.5 points*) Determine the following before and after correction for this error:

(i) Total Paid Loss and DCC during 2024

(ii) Total Incurred Loss and DCC during 2024

9. **Continued**

(d) (*1.5 points*) Determine the value for Schedule P - Part 2 – Summary, Column 12, Row 12, after correction for this error.

(e) (*1.5 points*) Explain how discovery of this error might affect the following: (*Note: No calculations are required.*)

(i) Sue Calvin’s actuarial opinion for R-Dan as of December 31, 2024

(ii) R-Dan’s NAIC IRIS Ratios
(*Values provided in Excel for reference*.)

10.

(*5 points*) The International Actuarial Association publishes International Standards of Practice (ISAPs) as a model for actuarial associations to consider adopting. ISAP 1 covers general actuarial practices.

(a) (*1.5 points*) Describe three situations where an actuary may fail to follow the guidance in an ISAP but still be in compliance with the ISAPs.

ANSWER:
1:

2:

3:

When providing actuarial services, ISAP 1 requires the actuary to confirm with the principal the nature and scope of actuarial services to be provided.

(b) (*2 points*) Identify four elements that should be confirmed with the principal.

ANSWER:
1:

2:

3:

4:

ISAP 1 describes four actions that an actuary should take for data validation.

(c) (*1.5 points*) Describe three of these actions.

ANSWER:
1:

2:

3:

11.

(*5 points*)

(a) (*1 point*) Provide two reasons why most insurance companies want to be rated by rating agencies even though many have no debt and are not publicly traded.

ANSWER: 1. 2.

(b) (*1.5 points*) Describe the differences between a regulatory examination of an insurer versus an interactive rating assessment, with respect to <u>any three</u> of the following:

- Frequency
- Cost
- Data used
- Time to complete

ANSWER: 1. 2. 3.

(c) (*2.5 points*) Describe the five stages of the interactive ratings process for an insurer.

ANSWER: Stage 1: Stage 2: Stage 3: Stage 4: Stage 5:

12.

(*6 points*) Under IFRS 17, the Liability for Remaining Coverage (LRC) is calculated using the General Measurement Model (GMM). The GMM includes two main components: the Fulfilment Cash Flows (FCF) and the Contractual Service Margin (CSM).

(a) (*1.5 points*) Describe both FCF and CSM.

ANSWER: FCF: CSM:

(b) (*1 point*) Describe the two approaches for determining the discount rates for insurance cash flows under the GMM.

ANSWER: 1: 2:

(c) (*1 point*) Identify two insurance situations that usually result in a higher IFRS 17 risk adjustment for nonfinancial risk.

ANSWER: 1: 2:

(d) (*1 point*) Identify the three groups of contracts within each annual cohort that are to be valued using the GMM as specified by IFRS 17 for a portfolio of business.

ANSWER: 1: 2: 3:

12. **Continued**

The Premium Allocation Approach (PAA) is a simplification of the GMM. The PAA is similar to U.S. GAAP for short duration insurance contracts, but there are several differences.

(e) (*1 point*) Describe two of these differences.

ANSWER: 1: 2:

Most general insurance contracts may use the PAA for the calculation of the LRC.

(f) (*0.5 points*) Describe a reason that will disqualify a group of primary general insurance contracts from using the PAA for the calculation of the LRC.

ANSWER:

13.

(*3 points*) Statement of Statutory Accounting Principles No. 65 (SSAP 65) provides rules relating to the accounting of property and casualty contracts.

(a) (*1.5 points*) Describe three SSAP 65 disclosures that are specifically required for an entity potentially exposed to *asbestos and/or environmental* (A&E) claims.

ANSWER:

The A&E disclosures are limited to a specific set of insurance contracts with A&E exposures, rather than all insurance contracts with A&E exposures.

(b) (*1 point*) Describe the contracts with A&E exposures that these disclosures are intended for and those that are specifically excluded from these disclosures.

ANSWER: Intended for: Specifically excluded:

(c) (*0.5 points*) Describe one form of an industry aggregate model that an insurer can use to estimate their A&E liability reserves.

ANSWER:

14.

(*3 points*) Policyholder claims are partially covered by state guaranty funds when the policyholder's insurer becomes insolvent, shifting some of the cost of these claims to other insurers.

(a) (*1.5 points*) Describe three concerns regarding this cost shifting.

ANSWER:

(b) (*1.5 points*) Explain why regulators are cautious about applying to a court to put an insurer under rehabilitation or liquidation.

ANSWER:

****END OF EXAMINATION****