

# Exam GIFREU

## AFTERNOON SESSION

**Date:** Thursday, May 2, 2019

**Time:** 1:30 p.m. – 3:45 p.m.

### INSTRUCTIONS TO CANDIDATES

#### General Instructions

1. This afternoon session consists of 9 questions numbered 14 through 22 for a total of 40 points. The points for each question are indicated at the beginning of the question. No questions pertain to the Case Study.
2. Failure to stop writing after time is called will result in the disqualification of your answers or further disciplinary action.
3. 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 on the exam booklet.

#### Written-Answer Instructions

1. Write your candidate number at the top of each sheet. Your name must not appear.
2. Write on only one side of a sheet. Start each question on a fresh sheet. On each sheet, write the number of the question that you are answering. Do not answer more than one question on a single sheet.
3. The answer should be confined to the question as set.
4. When you are asked to calculate, show all your work including any applicable formulas.
5. When you finish, insert all your written-answer sheets into the Essay Answer Envelope. Be sure to hand in all your answer sheets because they cannot be accepted later. Seal the envelope and write your candidate number in the space provided on the outside of the envelope. Check the appropriate box to indicate morning or afternoon session for Exam GIFREU.
6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.



**\*\*BEGINNING OF EXAMINATION\*\***  
**Afternoon Session**  
***Beginning with Question 14***

**14.** (4 points) General insurers in the U.S. pay income tax on the dividend income they receive. The amount of this tax is affected by the dividends received deduction (DRD) and the proration provision.

- (a) (1 point) Provide the rationale behind the DRD.
- (b) (1 point) Describe the purpose of the proration provision.

You are given the following information for a U.S.-based general insurer, YYZ Insurance:

Dividend Income	800,000
Taxable Investment Income (excluding dividend income)	1,200,000
Operating Income	-1,000,000

- All of the dividend income is from companies unaffiliated with YYZ.
  - The corporate federal income tax rate is 21%.
  - The rate of the proration provision is 25%.
  - The DRD is 50% for dividends received from unaffiliated dividend paying companies.
- (c) (2 points) Calculate YYZ's federal income tax.

- 15.** (4 points) There are two sources of insurance company income: insurance contracts (IC) and capital and surplus (C&S). And there are two types of insurance company income: investment (INV) and underwriting (UW).

Using these categorizations, insurance company income is recognized as follows under an operating income perspective:

Income	INV	UW
IC	Investment income from UW transactions	Nominal premium less nominal losses
C&S	Investment income from C&S	None

Under a fair value accounting perspective, the recognition of insurance company income by source and type of income is different than what is recognized under an operating income perspective.

- (a) (1 point) Identify the income recognized as coming from INV under a fair value accounting perspective for each of IC and C&S.
- (b) (1 point) Identify the income recognized as coming from UW under a fair value accounting perspective for each of IC and C&S.
- (c) (1 point) Describe a major drawback of accounting for income:
  - (i) Using a fair value accounting perspective
  - (ii) Using this operating income perspective

Under U.S. statutory accounting, the Insurance Expense Exhibit (IEE) provides an allocation of income by line of business using an operating income perspective. The IEE allocation is pre-tax.

- (d) (1 point) Explain why an allocation of income tax by line of business is complicated.

- 16.** (4 points) Your company writes retrospectively rated workers compensation policies. You have selected the following estimates from an analysis of empirical data.

	Retro Adjustment Period		
	First	Second	Third
<b>Loss Evaluation Point in Months</b>	18	30	42
<b>Selected Premium Development to Loss Development (PDL) Ratio</b>	1.80	0.65	0.50
<b>Percentage of Loss Emerged Since Prior Evaluation</b>	50%	35%	15%

It is typically expected that the first retro adjustment period PDL ratio has a value greater than one while the subsequent retro adjustment PDL ratios have values less than one in a decreasing pattern.

- (a) (0.5 points) Explain why this is typically expected of PDL ratios.

You have the following information for your company's retrospectively rated policies. Premium and loss amounts in the table are in millions.

	Policy Year		
	2015	2016	2017
<b>Completed Retro Adjustments as of 12/31/2018</b>	2	1	0
<b>Expected Loss Emergence after Last Completed Retro Adjustment</b>	30	90	200
<b>Premium Booked from Prior Retro Adjustment</b>	210	220	0
<b>Premium Booked as of 12/31/2018</b>	215	235	260

- No losses are reported after the third retro adjustment.
- (b) (2.5 points) Calculate the total premium asset on retrospectively rated policies as of December 31, 2018 arising from policy years 2015 to 2017.

SSAP No. 66, *Retrospectively Rated Contracts*, specifies two alternative methods for recording additional retrospective premiums with respect to general insurance reporting entities.

- (c) (1 point) Describe the methods as specified in SSAP No. 66.

**17.** (7 points) Examples of formula-based capital standards for general insurance companies are:

- NAIC Risk Based Capital (RBC),
- A.M. Best's Capital Adequacy Ratio Net Required Capital (BCAR-NRC), and
- Solvency II Solvency Capital Requirement Standard Formula (SCR).

(a) (3 points) Provide the following for each of the three capital standard formulas above:

- (i) Whether or not interest rate risk is explicitly included.
- (ii) If interest rate risk is explicitly included, how it is included.
- (iii) The rationale for explicitly including or excluding interest rate risk.

(b) (1 point) Compare RBC with BCAR-NRC with respect to the treatment of catastrophe risk.

Many general insurance companies receive a financial rating from A.M. Best. However, some general insurers may receive a second financial rating from another rating agency, such as Standard and Poor's (S&P).

(c) (1 point) Identify two reasons why an insurer with a financial rating from one rating agency may seek a rating from another rating agency.

(d) (1 point) Explain why it is particularly important for reinsurers to receive a strong financial rating.

An insurer that has paid for and received several interactive financial ratings may be concerned with information that could result in a ratings downgrade. The insurer may be tempted to not pay for a subsequent rating to avoid this.

(e) (1 point) Explain why insurers would generally pay for a subsequent rating despite the possibility of a ratings downgrade.

**18.** (3 points)

- (a) (2 points) Compare the following processes that an insurer can use to protect its rights under policy terms.
  - (i) Nonwaiver agreement
  - (ii) Reservation of rights letter
- (b) (1 point) Explain how a *direct-action statute* affects a liability insurer.

**19.** (6 points) Actuarial Reports supporting the Statement of Actuarial Opinion (SAO) in the U.S. can have primary and secondary users.

(a) (0.5 points) Identify the following users of the Actuarial Report.

- (i) An intended primary user
- (ii) A potential secondary user

There are several types of opinions that can be given in an SAO. Two of these are “Qualified Opinion” and “No Opinion.”

(b) (2 points) Contrast the circumstances that might cause an appointed actuary to issue a “Qualified Opinion” versus a “No Opinion.”

Both Actuarial Standards of Practice (ASOP) and NAIC Statement of Statutory Accounting Principles (SSAP) provide guidance regarding reserves for unpaid losses and loss adjustment expenses (LAE)

(c) (2 points) Compare the following two requirements regarding reserves:

- (i) ASOP No. 43 requires that the unpaid claim estimate be reasonable.
- (ii) SSAP No. 55 requires reserves to be management’s best estimate of liabilities.

After issuing a year-end SAO in February, the Appointed Actuary is subsequently told in June that as a result of a statutory audit, an amount in Exhibit B has changed materially.

(d) (1.5 points) Describe the actions that the Appointed Actuary should take in response to this change.



- 20.** (4 points) In 2002, U.S. Congress adopted the Terrorism Risk Insurance Act (TRIA). TRIA had an initial expiration date but it has been reauthorized at each expiration date.
- (a) (2 points) Explain why the U.S. Congress adopted TRIA in 2002.
  - (b) (0.5 points) Explain how TRIA can be considered reinsurance.
  - (c) (1 point) Explain how TRIA operates differently from traditional reinsurance.
  - (d) (0.5 points) Identify two lines of business, written on a direct basis for commercial lines, that are specifically excluded from TRIA coverage.

**21.** (5 points) The Facility Association of Canada (FAC) paper “Considerations for Residual Market Regulation” noted a relationship between premium rates and the size of the residual market.

(a) (0.5 points) Describe this relationship.

Various types of non-monetary barriers to the placement of insureds in residual markets have been implemented by some insurance regulators in North America to limit the size of the residual automobile insurance market.

(b) (0.5 points) Identify two types of costs that non-monetary barriers can create.

One type of non-monetary barrier is a binder control registry, as implemented in the Canadian provinces of Nova Scotia and New Brunswick.

(c) (1 point) Describe the requirements of the binder control registry as implemented.

The state of New Jersey and the Canadian province of Ontario have implemented “take all comers” regulations which are another form of a non-monetary barrier to the placement of insureds in the residual market.

(d) (0.5 points) Describe the general requirement for insurers to comply with “take all comers” regulation.

(e) (0.5 points) Identify two potential effects on the market of “take all comers” regulation.

(f) (1 point) Describe two types of non-monetary barriers, other than a binder control registry or “take all comers” regulation.

(g) (1 point) Explain two market consequences of suppressing residual market rates.

**22.** (3 points) The Supreme Court of the United States considered the criteria for admitting expert witness testimony in the case of *Daubert vs. Merrell Dow Pharmaceuticals*.

- (a) (1.5 points) Identify three of the factors provided by the Supreme Court that may be considered when assessing the admissibility of expert witness testimony.

A report issued by the RAND Corporation assessed the effect of the Supreme Court's decision in the *Daubert* case on subsequent tort cases.

- (b) (1.5 points) Describe three findings of the RAND report.

**\*\*END OF EXAMINATION\*\***  
**Afternoon Session**

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