
SOCIETY OF ACTUARIES
Financial and Regulatory Environment – U.S.

Exam GIFREU

AFTERNOON SESSION

Date: Friday, May 2, 2014

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.
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. (5 points)

- (a) (1 point) Identify two reasons for government involvement in the provision of workers compensation insurance.

State governments in the U.S. and provincial governments in Canada have a role in the provision of workers compensation.

- (b) (1 point) Compare the roles of U.S. state governments with those of Canadian provincial governments in the provision of workers compensation.

- (c) (0.5 points) Identify the primary reason why the National Flood Insurance Program (NFIP) was created in 1968.

- (d) (0.5 points) Identify one purpose of the NFIP, other than providing flood insurance.

- (e) (1 point) Describe two key differences between private-sector insurance and the NFIP.

The Biggert-Waters Flood Insurance Reform Act of 2012 made changes to the NFIP that may improve its financial position.

- (f) (1 point) Explain two of these changes.

15. (5 points) The first essential element of negligence is a legal duty of care owed by a defendant to a plaintiff.

- (a) (1 point) Identify the three other essential elements of negligence.
- (b) (1 point) Provide an example of a situation where three of the four essential elements are present, but the fourth is not.

Legal duties of care are created by statutes, contracts and common law.

- (c) (1 point) Contrast the role of a judge in a common law system with the role of a judge in a civil law system.

A motorist runs a red light and collides with a truck carrying gasoline. The resulting explosion seriously injures the motorist and the truck driver. Gasoline runs off into a nearby river.

- (d) (1 point) Evaluate the liability of the motorist and the truck owner.

Negligence is the term used for unintentional torts. All other torts are intentional.

- (e) (1 point) Provide two examples of intentional torts.

- 16.** (4 points) You are given the following reinsurance information for Big Z Insurance Company's (BZIC) two reinsurers, Blades Reinsurance Company (BRC) and Matrix Re (MRE):

	BRC	MRE
Authorized status	Unauthorized	Authorized
Total reinsurance recoverables	200	200
Funds held by reporting company under reinsurance treaties	15	15
Letters of credit	50	0
Recoverables on paid loss & ALAE over 90 days past due, not in dispute	60	10
Recoverables on paid loss & ALAE, total	80	70
Amount in dispute included above	15	10
Amount company received from reinsurers in last 90 days of statement year	8	8

All amounts are in millions.

- (a) (3.5 points) Calculate BZIC's total Schedule F provision for reinsurance.

Statutory accounting uses a set formula (Schedule F provision for reinsurance) to estimate the potential uncollectibility of reinsurance recoverables. The Schedule F provision is a liability on the statutory balance sheet.

- (b) (0.5 points) Describe the GAAP approach to estimating the potential uncollectibility of reinsurance recoverables with respect to the balance sheet.

17. (4 points)

- (a) (1.5 points) Identify three assets that are classified as non-admitted assets in statutory accounting and for each of the three assets identified explain why statutory accounting treats them as non-admitted.

Insurers have the option of using one of two methods for the recording of some non-admitted assets in statutory accounting. One method is to set up the asset in the balance sheet but classify the asset as non-admitted with a direct charge to surplus.

- (b) (0.5 points) Describe the other method.
- (c) (0.5 points) Explain why an increase in non-admitted assets decreases statutory surplus.
- (d) (0.5 points) Identify two direct charges (or credits) to statutory surplus, other than the change in non-admitted assets.
- (e) (0.5 points) Describe the relationship between invested capital and statutory surplus for a general insurance company.
- (f) (0.5 points) Describe the accounting treatment of policyholder dividends in statutory accounting with respect to their recognition as a liability and when they are recognized in the statement of income.

- 18.** (4 points) You are given the following information for Grizzly Insurance Company (GIC):

	Commercial Auto Liability		Fire	
	2012	2013	2012	2013
Balance Sheet				
Loss and loss adjustment expense reserves as of year end	2,200	3,000	550	450
Agents' balances as of year end	300	500	200	150
Unearned premium reserves as of year end	1,000	1,300	500	600
Income Statement				
Earned premium during the year	2,000	2,600	1,000	1,200
Incurred loss and loss adjustment expense during the year	1,400	2,000	650	700

- Amounts in the table above are in thousands.
 - Net investment income was 400,000 in 2012 and 525,000 in 2013.
 - There was a realized capital gain of 20,000 in 2012 and a realized capital loss of 10,000 in 2013.
 - Unrealized capital gains were 30,000 in 2012 and 10,000 in 2013.
 - Policyholders' surplus was 1.9 million as of year end 2012 and 2.5 million as of year end 2013.
 - Prepaid expense ratios are 20% for both lines of business.
- (a) (1 point) Calculate GIC's investment gain ratio for the 2013 Insurance Expense Exhibit (IEE).
- (b) (1.5 points) Calculate GIC's allocated mean surplus by line of business using the IEE method of allocation.
- (c) (1.5 points) Calculate GIC's allocated investment gain by line of business for the 2013 IEE.

19. (4 points) Just-E-Nuff Reserved Insurance (JENRI) is a general insurance company that began operations at the beginning of 2008. You are given the following information on JENRI:

Schedule P - Part 2 - Summary							
Years in Which Losses Were Incurred		Incurred Net Losses and Defense and Cost Containment Expenses Reported at Year End (000 omitted)					
		5	6	7	8	9	10
		2008	2009	2010	2011	2012	2013
6.	2008	560	380	450	420	435	450
7.	2009	XXX	1,355	1,560	1,505	1,540	1,580
8.	2010	XXX	XXX	1,295	1,250	1,340	1,800
9.	2011	XXX	XXX	XXX	1,460	1,700	1,850
10.	2012	XXX	XXX	XXX	XXX	2,300	2,525
11.	2013	XXX	XXX	XXX	XXX	XXX	2,270

Year End	Policyholders' Surplus (000 omitted)
2008	4,100
2009	4,500
2010	4,600
2011	4,750
2012	5,400
2013	5,500

- (a) (1.5 points) Calculate JENRI's 2013 IRIS ratio for P/C Reserve Ratio 12 (Two-Year Reserve Development to Policyholders' Surplus).
- (b) (1.5 points) Assess the results of the ratio calculated in part (a) making reference to the usual range for the ratio, areas for further analysis and the Statement of Actuarial Opinion (SAO).

Adverse results on the IRIS reserve ratio tests can be an indication of inadequate reserves. However, there are other possible reasons for adverse results.

- (c) (0.5 points) Identify two other possible reasons.

Loss reserve discounts are disclosed in both Schedule P and the SAO.

- (d) (0.5 points) Explain why a disclosure of loss reserve discounts is also required in the Notes to Financial Statements of the NAIC Annual Statement.

- 20.** (5 points) General insurance companies can be sued by policyholders for acts of bad faith.
- (a) (0.5 points) Define the term bad faith in a tort context.
 - (b) (0.5 points) Provide an example of a situation in which a general insurer can be alleged to have acted in bad faith.
 - (c) (0.5 points) Identify two defenses to suits alleging bad faith.
 - (d) (1.5 points) Compare the treatment of bad faith claims against insurers in the U.S. court system with their treatment in the Canadian court system with respect to punitive damages.
 - (e) (0.5 points) Identify a type of tort reform that should lessen the financial impact on U.S. insurers found responsible for acting in bad faith.
 - (f) (1.5 points) Explain how the type of tort reform you identified in part (e) would lessen the financial impact on insurers found responsible for acting in bad faith. Use an actual state-enacted tort reform law as the basis for the explanation.

21. (5 points) The Appointed Actuary for Olde Insurance Company (OIC) has made the following estimates:

Point estimate for the reserves	100 million
Range of reasonable estimates for the reserves	85 million to 120 million
Range of possible outcomes for the reserves	75 million to 140 million
Selected materiality standard	10 million

In addition to the Appointed Actuary's estimates, the following information is available:

OIC's carried reserves	115 million
Involuntary pool reserves included in carried reserves	12 million

- OIC's actuary believes that there exists a risk of adverse deviation greater than the selected materiality standard due to rapid growth in two lines of business.
- The reserves assumed from an industry involuntary pool are from within OIC's jurisdiction and represent OIC's share of the pool's reserves as estimated by the pool's Qualified Actuary. OIC's actuary includes this amount in the point and range estimates for the reserves.
- There is no ceded reinsurance.
- The only amount assumed is that from the industry involuntary pool.
- OIC has not entered into any intercompany pooling agreements.
- All amounts noted above as reserves include both unpaid loss and unpaid loss adjustment expenses.

OIC's Appointed Actuary is responsible for the Statement of Actuarial Opinion (SAO).

- (0.5 points) Explain which category of opinion the Appointed Actuary for OIC should provide in the SAO.
- (1 point) Identify the amounts listed in the tables above that are required to be disclosed in the SAO and which amounts are not to be disclosed in the SAO. Provide an explanation.
- (1 point) Describe any disclosures that need to be included in the SAO regarding the risk of material adverse deviation, making reference to any applicable Actuarial Standards of Practice.
- (0.5 points) Explain which category of opinion the Appointed Actuary for OIC should provide if OIC's carried reserves were 135 million.

21. Continued

In addition to the SAO, the Appointed Actuary is also responsible for the Actuarial Opinion Summary.

- (e) (1 point) Describe the purpose of the Actuarial Opinion Summary and identify the amounts listed in the tables above that are required to be disclosed in it.

Consider the situation in which OIC and OIC's Appointed Actuary did not receive an estimate from the industry involuntary pool for the pool's reserves. Also assume that OIC and OIC's Appointed Actuary do not have sufficient information to make an independent estimate of OIC's share of the pool's reserves. The prior year's estimate of OIC's share of the pool's reserves was 11 million.

- (f) (0.5 points) Explain which category of opinion the Appointed Actuary for OIC should provide for the SAO in this situation where an estimate from the industry involuntary pool is not available.

Actuarial Standard of Practice No. 36, *Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves*, states that the "actuary should only make use of another's analyses or opinions when, in the actuary's professional judgment, it is reasonable to do so."

- (g) (0.5 points) Describe two factors the actuary should consider in judging whether or not to make use of another's analyses or opinions.

22. (4 points)

- (a) (1 point) State two benefits of a Pay-As-You-Drive system of insurance.
- (b) (1 point) Describe two ways a Pay-How-You-Drive system of insurance can be useful to either policyholders or insurance companies, other than providing more refined insurance pricing.
- (c) (1 point) Explain how anti-selection can occur when the introduction of a usage-based insurance (UBI) telematics program is optional in a jurisdiction.
- (d) (1 point) Explain how premiums will be affected for UBI telematics policies as well as for non-UBI telematics policies when there is anti-selection.

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

USE THIS PAGE FOR YOUR SCRATCH WORK

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