Exam GIFREU

AFTERNOON SESSION

Date: Thursday, October 31, 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.
14. (5 points)

(a) (1.5 points) Describe the case of *Paul v. Virginia* in 1869 with respect to its effect on U.S. insurance regulation.

In 1942, the South-Eastern Underwriters Association (SEUA) was charged with rate-fixing.

(b) (1.5 points) Explain how the ruling in *Paul v. Virginia* was used by the SEUA in response to these charges.

In 1944, the lower court ruling in the SEUA case was appealed to the Supreme Court of the United States (SCOTUS).

(c) (0.5 points) State the SCOTUS decision on the SEUA case.

In 1945, Congress passed the McCarran-Ferguson Act in response to the SEUA decision.

(d) (0.5 points) Describe the effect of this act on U.S. insurance regulation.

(e) (1 point) Describe two exceptions specified within this act.
15. (3 points) The standard opinion language from the NAIC Instructions with respect to the Property and Casualty Statement of Actuarial Opinion (SAO) includes three parts (A, B and C) as follows:

In my opinion, the amounts carried in Exhibit A on account of the items identified:

A. Meet the requirements of the insurance laws of (state of domicile).
B. Are computed in accordance with accepted actuarial standards and principles.
C. Make a reasonable provision for all unpaid loss and loss adjustment expense obligations of the Company under the terms of its contracts and agreements.

Exporays Property Insurance Company (EPIC) is licensed in the states of Alabama, Florida, and Georgia. EPIC is domiciled in the state of Florida. You are given the following information for EPIC as of December 31, 2018:

<table>
<thead>
<tr>
<th>Amounts in millions</th>
<th>Loss and Loss Adjustment Expense Reserves</th>
<th>Gross</th>
<th>Net</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carried reserves</td>
<td>90</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Actuarial point estimate</td>
<td>105</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Low end of actuarial range</td>
<td>91</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>High end of actuarial range</td>
<td>120</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

(a) (2 points) Draft part C of the year-end 2018 SAO for EPIC.

(b) (1 point) State one advantage and one disadvantage of expanding the SAO to include an opinion on ceded loss and loss adjustment expense reserves.
16. *(6 points)* A reinsurance contract must meet the risk transfer criteria in order to be accounted for as reinsurance. One method for determining this is to calculate a risk measure for the contract and compare it to a critical threshold value. One such risk measure is the expected reinsurer deficit (ERD).

(a) *(1 point)* Describe the relationship between ERD and the risk measure of tail value-at-risk (TVaR).

Deposit accounting for a reinsurance contract is used if a contract does not meet the risk transfer criteria. Under U.S. GAAP, deposit accounting has two alternative treatments: the interest method and the present-value method.

(b) *(2.5 points)* Compare the two methods of deposit accounting under U.S. GAAP with respect to the following attributes:

(i) Discount rate

(ii) Amortization

(iii) Rules for selecting the method to use

You are given the following information for a reinsurance contract that does not meet the risk transfer criteria for reinsurance accounting under U.S. GAAP.

- Premium of $86,000 is received by the primary insurer at inception of the reinsurance contract on January 1, 2019.
- A reinsurance recoverable is assumed to be certain in the amount of $100,000.
- The timing of all loss payments is not certain but is expected to be made on January 1, 2023.
- At reinsurance contract inception, both the two-year spot rate and the four-year spot rate are 2% per annum.

(c) *(1 point)* Estimate the amount of the deposit to be booked by the primary insurer for this reinsurance contract on January 1, 2021 under U.S. GAAP.

Suppose that on January 1, 2021, the reinsurance recoverable is determined to be $140,000 instead of $100,000.

(d) *(1.5 points)* Explain how the insurer would account for this change in the deposit for the reinsurance recoverable on January 1, 2021 under U.S. GAAP.
17. **(4 points)**

(a) **(1 point)** Identify the two primary goals of regulators in requiring an Own Risk and Solvency Assessment (ORSA).

Potter Re is a U.S. domiciled reinsurer that currently reinsures only short-tail property risks. ORSAs for Potter Re have been limited to modeling insurance and operational risks using deterministic modeling methods. Potter Re’s defined security standard in its ORSA is set as a percentage of its NAIC RBC.

Potter Re is now looking to enter into new reinsurance markets with liability claims that can take 10 to 20 years to close.

(b) **(3 points)** Recommend changes to Potter Re’s future ORSAs with respect to the following:

(i) Risks to be modeled

(ii) Modeling methods

(iii) Risk capital metrics
18. (4 points)

(a) (0.5 points) Identify two reasons for the U.S. statutory accounting designation of certain assets as nonadmitted.

(b) (0.5 points) Provide an example of a nonadmitted asset for each of the reasons identified in part (a).

BBT General Insurance Company wrote an annual policy effective April 1, 2019, with annual premium of $4,000. The premium is billed in quarterly installments (April 1, 2019, July 1, 2019, Oct. 1, 2019 and Jan. 1, 2020).

- The first premium installment of $1,000 has been collected.
- As of year-end 2019, the policyholder has not yet paid the July 1st and Oct. 1st installments.
- A 30% commission is to be paid to the insurance agent on a quarterly basis.
- There are no claims or other expenses for this policy.

(c) (3 points) Calculate the following amounts for the BBT policy described above:


(iii) The calendar year 2019 accounting income under U.S. GAAP if BBT expects to collect all of the premium receivable.

(iv) The calendar year 2019 accounting income under U.S. GAAP if BBT expects to collect only 40% of the premium receivable.
19.  

(6 points) Tort costs in the U.S were estimated to be 1.7% of the gross domestic product (GDP) in 2011. This is significantly greater than the costs faced by other countries. One of the reasons for the high level of tort costs in the U.S. is the concept of transnational tort litigation.

(a)  

(1.5 points) Explain how transnational tort litigation increases tort costs in the U.S. to levels that are higher than those in other countries.

Other reasons for the high level of tort costs in the U.S. compared to other countries are differences in the legal system and legal expenses.

(b)  

(1.5 points) Describe three differences in the legal system that likely contribute to this.

A more recent study estimated that tort costs in the U.S. had risen to 2.3% of the GDP for 2016—a significant increase from 2011. On a state-by-state basis, the study estimated that tort costs in 2016 ranged between 1.4% and 3.6% of state GDP.

(c)  

(1.5 points) Explain why there can be major differences in the costs between states even after adjusting for differences in tort exposures and the GDP per capita.

Trends in tort costs can be difficult to measure. The medical care consumer price index (CPI) is sometimes used as a proxy for tort cost trends.

(d)  

(1.5 points) Critique the use of medical care CPI as a proxy for tort cost trends.
20. **(4 points)** There are many factors that can lead to an insurer becoming insolvent. One of these factors is fraud.

(a) **(1 point)** Identify four other factors that frequently contribute to insurer insolvency.

(b) **(1 point)** Describe two reasons why regulators sometimes allow a near-insolvent company to operate without taking any publicly known corrective actions.

(c) **(1 point)** Describe two potential negative consequences of excessive regulatory actions taken to protect consumers.

Guaranty funds pay claims arising from insolvent insurer policies. Under the NAIC Post-Assessment Property and Liability Insurance Guaranty Association Model Act, there are guaranty fund coverage limitations which apply in addition to the policy terms and conditions of the original insurance contracts.

(d) **(1 point)** Describe the following guaranty fund coverage limitations as included in the Model Act:

(i) Deductibles

(ii) Trigger of coverage
21. *(5 points)* U.S. statutory accounting generally does not permit discounting property and casualty loss reserves. However, Statement of Statutory Accounting Principles (SSAP) No. 65, *Property and Casualty Contracts*, specifies exceptions as to when discounting of loss reserves is permitted. SSAP No. 65 describes both tabular and non-tabular discounting.

(a) *(1.5 points)* Describe the types of loss reserves that are permitted to be discounted under U.S. statutory accounting for each of the following:

(i) Tabular discounting

(ii) Non-tabular discounting

Annual statement Note 32 pertains to discounting of liabilities. Section C of Note 32 (i.e., Note 32C) specifies the disclosure requirements for when the rate used to discount prior accident years’ liabilities has changed from the prior annual statement.

(b) *(1.5 points)* Identify the required contents of the disclosure in Note 32C.

Actuarial Standard of Practice (ASOP) No. 20, *Discounting of Property/Casualty Unpaid Claim Estimates*, outlines three different approaches for selecting a discount rate. One approach is to use a discount rate requested by another party.

(c) *(1 point)* Describe the two other approaches described in ASOP No. 20.

The Appointed Actuary for a general insurance company in the U.S. may encounter a reconciling difference between the reserves listed in Exhibit A of the Statement of Actuarial Opinion (SAO) and the reserves in the Actuarial Opinion Summary (AOS) due to discounting.

(d) *(1 point)* Explain how discounting can be the cause of a reconciling difference between the reserves shown in SAO Exhibit A and the AOS.
22. (3 points) During interactive meetings with insurers, rating agencies consider a number of operating issues critically. One of these considerations is growth, even though growth is usually viewed as a positive attribute for an insurer. Rating agencies will ask a number of questions in order to assess whether growth is a positive or negative factor for the financial rating.

(a) (0.5 points) State one question that a rating agency may ask about an insurer’s growth to assist it in making this assessment.

Rating agency A.M. Best computes an insurer’s net required capital (NRC) when computing Best’s Capital Adequacy Ratio (BCAR). The BCAR NRC formula is similar to the NAIC RBC formula.

(b) (1.5 points) Describe three differences between the two formulas.

A.M. Best makes use of the statistical risk measure value-at-risk (VaR) in the computation of BCAR. A weakness of using VaR is that it only looks at one point in the probability distribution.

(c) (1 point) Explain how A.M. Best overcomes this weakness of VaR in its computation of BCAR.

**END OF EXAMINATION**
Afternoon Session
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