

Exam 6US



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4 HOURS

Exam 6-United States

Regulation and Financial Reporting (Nation Specific)

October 29, 2019

INSTRUCTIONS TO CANDIDATES

1. This 69.25 point examination consists of 27 problem and essay questions.
2. For the problem and essay questions, the number of points for each full question and part of a question is indicated at the beginning of the question or part. Answer these questions on the lined sheets provided in your Examination Envelope. Use dark pencil or ink. Do not use multiple colors or correction fluid/tape.
 - Write your Candidate ID number and the examination number, 6US, at the top of each answer sheet. For your Candidate ID number, four boxes are provided corresponding to one box for each digit in your Candidate ID number. If your Candidate ID number is fewer than 4 digits, begin in the first box and do not include leading zeroes. Your name, or any other identifying mark, must not appear.
 - Do not answer more than one question on a single sheet of paper. Write only on the front lined side of the paper – **DO NOT WRITE ON THE BACK OF THE PAPER**. Be careful to give the number of the question you are answering on each sheet. If your response cannot be confined to one page, please use additional sheets of paper as necessary. Clearly mark the question number on each page of the response in addition to using a label such as “Page 1 of 2” on the first sheet of paper and then “Page 2 of 2” on the second sheet of paper.
 - The answer should be concise and confined to the question as posed. When a specified number of items are requested, do not offer more items than requested. For example, if you are requested to provide three items, only the first three responses will be graded.
 - In order to receive full credit or to maximize partial credit on mathematical and computational questions, you must clearly outline your approach in either verbal or mathematical form, showing calculations where necessary. Also, you must clearly specify any additional assumptions you have made to answer the question.

CONTINUE TO NEXT PAGE OF INSTRUCTIONS

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3. Do all problems until you reach the last page of the examination where "END OF EXAMINATION" is marked.

All questions should be answered according to the United States statutory accounting practices and principles, unless specifically instructed otherwise. SAP refers to Statutory Accounting Principles, and GAAP refers to Generally Accepted Accounting Principles. NAIC refers to the National Association of Insurance Commissioners.

4. Prior to the start of the exam you will have a **fifteen-minute reading period** in which you can silently read the questions and check the exam booklet for missing or defective pages. A chart indicating the point value for each question is attached to the back of the examination. Writing will NOT be permitted during this time and you will not be permitted to hold pens or pencils. You will also not be allowed to use calculators. The supervisor has additional exams for those candidates who have defective exam booklets.
5. Your Examination Envelope is pre-labeled with your Candidate ID number, name, exam number and test center. Do not remove this label. Keep a record of your Candidate ID number for future inquiries regarding this exam.
6. Candidates must remain in the examination center until two hours after the start of the examination. The examination starts after the reading period is complete. You may leave the examination room to use the restroom with permission from the supervisor. To avoid excessive noise during the end of the examination, candidates may not leave the exam room during the last fifteen minutes of the examination.
7. At the end of the examination, place all answer sheets in the Examination Envelope. Please insert your answer sheets in your envelope in question number order. Insert a numbered page for each question, even if you have not attempted to answer that question. Nothing written in the examination booklet will be graded. Only the answer sheets will be graded. Also place any included reference materials in the Examination Envelope. BEFORE YOU TURN THE EXAMINATION ENVELOPE IN TO THE SUPERVISOR, BE SURE TO SIGN IT IN THE SPACE PROVIDED ABOVE THE CUT-OUT WINDOW.
8. If you have brought a self-addressed, stamped envelope, you may put the examination booklet and scrap paper inside and submit it separately to the supervisor. It will be mailed to you. Do not put the self-addressed stamped envelope inside the Examination Envelope. Interoffice mail is not acceptable.

If you do not have a self-addressed, stamped envelope, please place the examination booklet in the Examination Envelope and seal the envelope. You may not take it with you. Do not put scrap paper in the Examination Envelope. The supervisor will collect your scrap paper.

Candidates may obtain a copy of the examination from the CAS Web Site.

All extra answer sheets, scrap paper, etc. must be returned to the supervisor for disposal.

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9. Candidates must not give or receive assistance of any kind during the examination. Any cheating, any attempt to cheat, assisting others to cheat, or participating therein, or other improper conduct will result in the Casualty Actuarial Society and the Canadian Institute of Actuaries disqualifying the candidate's paper, and such other disciplinary action as may be deemed appropriate within the guidelines of the CAS Policy on Examination Discipline.
10. The exam survey is available on the CAS Web Site in the "Admissions/Exams" section. Please submit your survey by November 12, 2019.

END OF INSTRUCTIONS

EXAM 6 – UNITED STATES, FALL 2019

1. (2.25 points)

For telematics-supported Usage-Based Insurance (UBI) programs in personal lines auto insurance:

a. (0.75 point)

Briefly describe a potential benefit for:

- i. The insurer**
- ii. The consumer**
- iii. Society**

b. (1 point)

Describe two concerns a consumer advocate might have about the application of UBI data.

c. (0.5 point)

Briefly describe one benefit and one drawback of using smartphones to gather UBI data.

EXAM 6 – UNITED STATES, FALL 2019

2. (2.25 points)

a. (0.25 point)

Briefly describe one advantage for an insurer of being a surplus lines carrier rather than an admitted carrier.

b. (2 points)

A start-up company has proposed entering a state as a surplus lines carrier to compete with admitted carriers by offering similar rates on a direct-to-consumer basis. Identify four surplus lines regulatory requirements and briefly describe why this start-up may or may not meet those requirements.

CONTINUED ON NEXT PAGE

3. (3.25 points)

a. (1 point)

Briefly describe four factors to consider when assessing the effectiveness of an insurance regulatory framework.

b. (0.75 point)

Briefly describe each of the following reasons for regulatory failure:

- i. Regulatory fallibility
- ii. Regulatory forbearance
- iii. Regulatory capture

c. (1.5 points)

Briefly describe three strengths of the U.S. insurance regulatory system, and briefly describe how each addresses a reason for regulatory failure listed in part b. above.

EXAM 6 – UNITED STATES, FALL 2019

4. (2 points)

a. (0.5 point)

Briefly describe two examples of mandatory corrective action that an insurance commissioner may impose on an insurer.

b. (0.5 point)

Briefly describe administrative supervision, and briefly describe one reason regulators may be reluctant to take this action.

c. (1 point)

Fully describe receivership, including an explanation of rehabilitation and liquidation.

CONTINUED ON NEXT PAGE

5. (2.5 points)

a. (0.5 point)

Describe one reason that a rating agency may change the outlook, rather than downgrade the rating, of an insurer whose financial strength has declined.

b. (0.75 point)

Briefly describe three uses for financial strength ratings.

c. (0.75 point)

Briefly describe three differences between RBC requirements and rating agency capital requirements.

d. (0.5 point)

Describe the regulatory consequences for an insurer whose RBC ratio falls from 95% to 60%.

6. (2 points)

a. (1 point)

Describe the circumstances of the Paul v. Virginia court case, briefly describe the decision in the case, and briefly describe its impact.

b. (0.5 point)

Briefly describe how each of the following impacted the applicability of the Sherman Antitrust Act to insurers:

i. South-Eastern Underwriters Association decision

ii. McCarran-Ferguson Act

c. (0.5 point)

Other than antitrust activities, identify two situations where federal regulation continues to apply to insurance after the passage of the McCarran-Ferguson Act.

7. (2.25 points)

a. (0.75 point)

Briefly describe the role of each of the following in a Multiple Peril Crop Insurance public-private partnership:

- i. Private insurers
- ii. The Risk Management Agency (RMA)
- iii. The federal government

b. (0.5 point)

Describe how the RMA reduces the risk of adverse selection associated with Multiple Peril Crop Insurance.

c. (1 point)

Briefly describe two characteristics of a social welfare system, and briefly describe whether or not federal involvement in Multiple Peril Crop Insurance meets each criterion.

EXAM 6 – UNITED STATES, FALL 2019

8. (3 points)

a. (1 point)

Identify and briefly describe the two types of arrangements that the Federal Emergency Management Agency (FEMA) has established with the private insurance industry for day-to-day operations of the National Flood Insurance Program (NFIP).

b. (1 point)

Describe the potential impact of private insurers writing more flood insurance on each of the following:

- i. Federal expenditures on disaster relief following a flood**
- ii. Home owners who desire flood insurance**

c. (1 point)

Describe two barriers to increased private insurer participation in flood insurance.

9. (2.25 points)

a. (0.5 point)

Identify two common coverage restrictions that insurance companies may place on private passenger auto policies issued to high-risk drivers.

b. (0.5 point)

Describe how Automobile Insurance Plans (Assigned Risk Plans) achieve a social purpose.

c. (1 point)

Identify four exposures considered uninsurable under most FAIR plans.

d. (0.25 point)

Briefly describe a Difference in Conditions (DIC) insurance policy.

10. (2.75 points)

a. (0.75 point)

Briefly describe three potential impacts to employers if Workers Compensation (WC) coverage were not mandatory.

b. (1 point)

Identify two federal WC programs, and briefly describe the category of workers that is covered by each.

c. (1 point)

Describe two mechanisms that state governments may use to ensure that mandatory WC insurance is available to all businesses operating in their state.

11. (2 points)

The following information is known about an insurer's Workers Compensation (WC) policy:

- 1-year policy term effective April 1, 2018
- All premium is collected on April 1, 2018
- Earned premium is calculated using the monthly pro rata method

	Calendar Year 2018
Written premium	\$200,000
Losses incurred	\$25,000
Losses paid	\$5,000
Loss adjustment expenses incurred	\$4,000
Loss adjustment expenses paid	\$500
Other expenses incurred	\$3,200
Other expenses paid	\$3,000

a. (1 point)

Calculate the contribution of the WC policy to the insurer's 2018 underwriting income.

b. (1 point)

Calculate the contribution of the WC policy to the insurer's year-end 2018 total liabilities.

EXAM 6 – UNITED STATES, FALL 2019

12. (2.75 points)

The following information is provided from a company's 2018 Annual Statement (all figures are in thousands of dollars):

	Current Year	Prior Year
Surplus		4,000
Total liabilities	2,000	2,400
Total non-admitted assets	290	230
Provision for reinsurance	30	20
Finance and service charges not included in premiums	200	220
Dividends to stockholders	5	10
Dividends to policyholders	2	1
Surplus notes	135	133
Net unrealized capital gains	60	50
Net income	-120	300
Net investment income earned	50	80

Assume no taxes.

a. (2.25 points)

Calculate the current year Total Assets.

b. (0.5 point)

Identify one non-admitted asset, and briefly describe why it is non-admitted.

CONTINUED ON NEXT PAGE

13. (2.5 points)

An insurance company has implemented an aggressive growth strategy.

a. (1.5 points)

Assuming the insurance company does not buy reinsurance, describe the impact of the growth strategy on the following statutory accounting items for the insurance company:

- i. Net Underwriting Gain (Loss)
- ii. Net Investment Gain (Loss)
- iii. Net Income

b. (1 point)

Assuming the insurance company buys reinsurance that qualifies for reinsurance accounting, describe the impact of reinsurance on the following statutory accounting items for the insurance company:

- i. Net Underwriting Gain (Loss)
- ii. Net Investment Gain (Loss)

14. (2.5 points)

Below are excerpts from the 2018 Schedule P for an insurance company which began operations in 2015 and writes exclusively Homeowners insurance:

Part 5A, Section 1 Cumulative Number of Claims Closed with Loss Payment Direct and Assumed at Year End

	2015	2016	2017	2018
2015	135	143	154	160
2016	-	139	147	156
2017	-	-	159	168
2018	-	-	-	181

Part 5A, Section 2 Number of Claims Outstanding Direct and Assumed

	2015	2016	2017	2018
2015	25	15	8	4
2016	-	29	15	8
2017	-	-	35	17
2018	-	-	-	44

Part 5A, Section 3 Cumulative Number of Claims Reported Direct and Assumed

	2015	2016	2017	2018
2015	175	182	194	200
2016	-	180	187	195
2017	-	-	212	215
2018	-	-	-	245

a. (1.25 points)

Calculate the claim closure rates at 12 months for accident years 2015-2018, identify one trend, and briefly describe two possible explanations for this trend.

b. (0.5 point)

Describe how to compute the triangle of average case outstanding severity using Schedule P.

c. (0.25 point)

Briefly explain why the triangle of average case outstanding severity may be important to an actuary reviewing the adequacy of reserves.

d. (0.5 point)

Briefly describe two reasons why data from Schedule P, Part 5 should be used with caution when comparing companies.

15. (3.75 points)

An insurance company has a 100% quota share treaty with an authorized reinsurance company. The reinsurance company has provided a \$100,000 letter of credit held by the insurance company.

- Recoverables on known case loss & LAE reserves: \$800,000
- Recoverables on loss & LAE IBNR: \$750,000

The following table includes all 2018 reinsurance recoverables as of December 31, 2018:

Claim Size	Accident Date	Payment Date (insurer to claimant)	Payment Date (reinsurer to insurer)
\$2,000,000	January 2, 2018	February 5, 2018	in dispute
\$200,000	March 9, 2018	April 5, 2018	unpaid
\$75,000	June 30, 2018	August 5, 2018	November 15, 2018
\$25,000	July 20, 2018	August 5, 2018	unpaid
\$50,000	September 1, 2018	October 5, 2018	November 15, 2018
\$80,000	October 3, 2018	November 5, 2018	unpaid
\$300,000	October 20, 2018	November 5, 2018	unpaid
\$40,000	November 7, 2018	December 5, 2018	in dispute
\$800,000	November 29, 2018	unpaid	unpaid

Assume full claim amount is transacted on “Payment Date”, and reinsurance payments are considered due on “Payment Date (insurer to claimant)”.

a. (2.25 points)

Calculate the provision for reinsurance.

b. (0.5 point)

Calculate the provision for reinsurance assuming the \$100,000 letter of credit was instead collateral held in a trust with the reinsurer.

c. (1 point)

Identify one asset and three liability items on an insurance company’s balance sheet that come directly from Schedule F.

16. (2 points)

The following information is provided from an insurance company's 2018 Annual Statement, which was filed on March 1, 2019:

- Policyholders' Surplus is \$35,000,000
- Total Unpaid Loss & LAE is \$95,000,000

Selected Notes to Financial Statements are as follows:

27. Structured Settlements

The company has purchased annuities, under which the claimant is the payee and the company is the owner of the annuity contract, to fund structured settlements. The statement value of these annuities is \$1,300,000 as of December 31, 2018, and no release of liability has been signed.

31. High Deductibles

The company writes high deductible policies for which the total case reserves under the deductible is \$15,000,000 as of December 31, 2018.

a. (1 point)

Evaluate the insurance company's credit risk based on the information provided above.

b. (1 point)

Contrast how uncollectible reinsurance is addressed in each of the following:

- i. Notes to Financial Statements
- ii. Statement of Actuarial Opinion

EXAM 6 – UNITED STATES, FALL 2019

17. (2.5 points)

Given the following information from an insurance company's 2018 annual statement (all figures are in thousands of dollars):

ASSETS

	Current Year Net Admitted Assets
1. Bonds	688,592
2. Stocks:	
2.1 Preferred stocks	15,539
2.2 Common stocks	56,376
5. Cash, cash equivalents and short-term investments	4,089
9. Receivables for securities	984
14. Investment income due and accrued	1,839
15. Premiums and considerations:	
15.1 Uncollected premiums and agents' balances in course of collection	46,045
15.2 Deferred premiums, agents' balances and installments booked but deferred and not yet due	22,596

LIABILITIES, SURPLUS AND OTHER FUNDS

	Current Year
28. Total liabilities	742,934
37. Surplus as regards policyholders	62,787

UNDERWRITING AND INVESTMENT EXHIBIT
PART 1B - PREMIUMS WRITTEN

	1 Direct Business (a)	Reinsurance Assumed		Reinsurance Ceded		6 Net Premiums Written (Cols. 1 + 2 + 3 - 4 - 5)
		2 From Affiliates	3 From Non- Affiliates	4 To Affiliates	5 To Non- Affiliates	
35. TOTALS	280,430	133	6,040	1,073	129,839	155,691

<<QUESTION 17 CONTINUED ON NEXT PAGE>>

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UNDERWRITING AND INVESTMENT EXHIBIT

PART 3 - EXPENSES

	Other Underwriting Expenses
2. Commission and brokerage:	
2.1 Direct, excluding contingent	54,087
2.2 Reinsurance assumed, excluding contingent	1,798
2.3 Reinsurance ceded, excluding contingent	21,769
2.4 Contingent - direct	86
2.5 Contingent - reinsurance assumed	14
2.6 Contingent - reinsurance ceded	180

OTHER INFORMATION

Ceded Unearned Premium - Affiliates	1,070
Ceded Unearned Premium - Non-Affiliates	66,006
Investment in Parent, Sub, & Affiliates	22,657

a. (1.5 points)

Calculate the 2018 IRIS ratio 4 (Surplus Aid to Policyholders' Surplus) for the company, and indicate whether it is in the range of usual values.

b. (1 point)

Calculate the 2018 IRIS ratio 9 (Adjusted Liabilities to Liquid Assets) for the company, and indicate whether it is in the range of usual values.

18. (2.75 points)

Given the following RBC information for an insurer as of December 31, 2018:

R0	0
R1	300,000
R2	
R3	500,000
R4	10,000,000
R5	1,000,000

- Total adjusted capital is \$18 million
- Total adjusted capital as a percent of Authorized Control Level (ACL) is 285%
- The insurer currently holds \$10 million of Class 06 unaffiliated stocks. Class 06 means “in or near default”
- Of the insurer’s top 10 largest equity investments, none are in Class 06
- The NAIC Class 06 RBC factor for equities is 0.3
- The insurer’s combined ratio for the current year is 125%

a. (0.25 point)

Briefly describe why this insurer fails the trend test.

b. (2 points)

Calculate the minimum amount of the Class 06 unaffiliated stocks that the insurer must convert to government bonds in order to achieve an RBC ratio of 300%.

c. (0.5 point)

Identify the usual range for IRIS ratio 5 (Two-Year Overall Operating Ratio), and briefly describe one reason why it may be outside of the usual range for this insurer.

EXAM 6 – UNITED STATES, FALL 2019

19. (2 points)

Given the following RBC information for an insurer as of December 31, 2018 (all dollar figures are in millions):

	Homeowners (HO)	Private Passenger Automobile Liability (PPAL)	Other Liability (OL)	Total
Loss & LAE Reserves		\$33.25	\$14.25	
RBC Charge (R4)		\$3.80	\$4.70	\$12.00

- Loss Concentration Factor (LCF) is 0.85
- PPAL adjustment for investment income is 0.94
- Industry Loss and LAE RBC percentage for HO is 0.2
- The HO line makes up the largest portion of reserve dollars for the insurer
- HO, PPAL and OL are the only lines that the insurer writes
- The insurer has written the same lines of business and consistent premiums for the last five years
- The insurer does not use any reinsurance

a. (0.75 point)

Calculate the percentage of the R4 charge, before applying the LCF, that is attributable to the HO line of business.

b. (0.75 point)

Calculate the total amount of loss & LAE reserves for the insurer.

c. (0.5 point)

Assuming that the insurer begins writing Workers Compensation insurance, briefly describe two ways in which this change might impact R4.

CONTINUED ON NEXT PAGE

20. (2.5 points)

The following tables represent an insurance company's entire bond portfolio as of December 31, 2018. Assume each amount represents one bond (all figures are in thousands of dollars):

Original Cost

	NAIC Class 1	NAIC Class 3	NAIC Class 6
Available for Sale	115	82	86
Held to Maturity	81	36	63
Held for Trading	18	42	22

Amortized Cost

	NAIC Class 1	NAIC Class 3	NAIC Class 6
Available for Sale	100	75	80
Held to Maturity	85	30	60
Held for Trading	20	47	32

Fair Value

	NAIC Class 1	NAIC Class 3	NAIC Class 6
Available for Sale	90	62	78
Held to Maturity	95	23	45
Held for Trading	15	40	27

a. (0.75 point)

Calculate the value of the bond portfolio under SAP.

b. (0.75 point)

Calculate the value of the bond portfolio under U.S. GAAP.

c. (0.5 point)

Contrast the purpose of U.S. GAAP and SAP accounting.

d. (0.5 point)

Describe how the accounting treatment of bonds under SAP may conflict with its primary purpose.

EXAM 6 – UNITED STATES, FALL 2019

21. (2.5 points)

A company is considering the acquisition of two small insurers (all dollar figures are in thousands):

Insurer A		Insurer B	
Assets -- Buildings & Furniture	\$400	Assets -- Buildings & Furniture	\$500
Assets -- Other than Buildings & Furniture	\$9,000	Assets -- Other than Buildings & Furniture	\$8,000
Liabilities	\$6,000	Liabilities	\$7,000

- The purchase price for Insurer A is \$3,000
- The purchase price for Insurer B is \$3,000
- Assume a 0% tax rate

a. (1 point)

Calculate the U.S. GAAP goodwill that would result from the acquisition of each insurer.

b. (0.5 point)

Briefly describe how the acquisition of each insurer would impact the purchasing company's U.S. GAAP income statement.

c. (1 point)

Describe how the valuation of a goodwill asset changes over subsequent reporting periods under each of SAP and U.S. GAAP.

22. (2.75 points)

A company domiciled in State X writes Private Passenger Auto (PPA) and Workers Compensation (WC) business. The Appointed Actuary developed a range of estimates for PPA reserves but was unable to analyze WC reserves due to material inconsistencies in the WC data. The following information is given (all figures are in millions of dollars):

	Carried Reserves	Appointed Actuary's Range of Reasonable Estimates	
		Low End	High End
Unpaid loss and LAE (direct and assumed) - PPA	100	88	98
Unpaid loss and LAE (net) - PPA	90	80	92
Unpaid loss and LAE (direct and assumed) - WC	60		
Unpaid loss and LAE (net) - WC	50		

a. (2.5 points)

Propose language for the OPINION section of the Statement of Actuarial Opinion (SAO).

b. (0.25 point)

Identify the opinion type to be recorded in Exhibit B of the SAO.

23. (3 points)

Given the following information for an insurance company:

Actuarial Range of Reasonable Estimates for Unpaid
Loss & LAE (\$ millions):

<u>Low</u>	<u>Central</u>	<u>High</u>
90	100	115

- Booked unpaid loss and LAE is \$100 million
- Surplus is \$200 million
- Surplus at next lower RBC level is \$187 million

a. (0.75 point)

Propose and calculate three materiality standards, based on different metrics, for the Statement of Actuarial Opinion (SAO).

b. (0.25 point)

Select and briefly justify a materiality standard for the SAO.

c. (0.75 point)

Fully evaluate whether there is a significant risk of material adverse deviation.

d. (0.75 point)

A regulator has proposed mandating a materiality standard for SAOs, with Appointed Actuaries required to use a fixed percentage of a specified metric. Fully evaluate this proposal.

e. (0.5 point)

Two months after issuing the SAO, the Appointed Actuary learns of an error in the data used in determining the opinion. Describe the considerations for the Appointed Actuary with respect to the SAO.

24. (3.5 points)

a. (0.5 point)

For each of the following, identify a distinct intended user:

- i. Statement of Actuarial Opinion (SAO)
- ii. Actuarial Opinion Summary (AOS)

b. (1.5 points)

For each of the following, describe the purpose:

- i. SAO
- ii. AOS
- iii. Actuarial Report

c. (1.5 points)

For each of the following, identify whether it is public or confidential, and briefly describe how this aligns with its purpose:

- i. SAO
- ii. AOS
- iii. Actuarial Report

25. (3 points)

a. (1 point)

Identify four potential disclosures in the SCOPE section of the Statement of Actuarial Opinion (SAO) addressing the basis on which the reserves are stated.

b. (1 point)

Other than the stated basis of the reserves, identify four potential disclosures found in the SCOPE section of a SAO.

c. (1 point)

Assume a data inconsistency that cannot be resolved was discovered in the data underlying the SAO before it is issued. Apart from the line of business impacted by this data inconsistency, the Appointed Actuary found the reserves to be reasonable. Identify and briefly justify two types of opinions that might be issued.

26. (2.75 points)

a. (0.5 point)

Describe a commutation agreement.

b. (1 point)

Identify how each of the following items are impacted by the commutation of a reinsurance contract, and briefly describe the rationale:

i. Net loss reserves for ceding insurance company

ii. Paid losses for reinsurance company

c. (0.75 point)

Identify the section of the Annual Statement in which a ceding insurer should disclose a commutation agreement, and identify two specific items that must be included in this disclosure.

d. (0.5 point)

Describe one reason why a ceding insurer is required to disclose information about commutation agreements in its Annual Statement.

27. (2 points)

a. (0.5 point)

Describe the “10-10” rule used as a benchmark for assessing risk transfer.

b. (0.5 point)

Describe the Expected Reinsurer Deficit (ERD) method for assessing risk transfer.

c. (0.5 point)

Describe one advantage of using the ERD method over the “10-10” rule for assessing risk transfer.

d. (0.5 point)

Identify whether the reinsurer’s expenses should be included in an ERD calculation, and briefly explain the rationale.

Exam 6-United States Regulation and Financial Reporting (Nation Specific)

POINT VALUE OF QUESTIONS

QUESTION	VALUE OF QUESTION	SUB-PART OF QUESTION						
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	2.25	0.75	1.00	0.50				
2	2.25	0.25	2.00					
3	3.25	1.00	0.75	1.50				
4	2.00	0.50	0.50	1.00				
5	2.50	0.50	0.75	0.75	0.50			
6	2.00	1.00	0.50	0.50				
7	2.25	0.75	0.50	1.00				
8	3.00	1.00	1.00	1.00				
9	2.25	0.50	0.50	1.00	0.25			
10	2.75	0.75	1.00	1.00				
11	2.00	1.00	1.00					
12	2.75	2.25	0.50					
13	2.50	1.50	1.00					
14	2.50	1.25	0.50	0.25	0.50			
15	3.75	2.25	0.50	1.00				
16	2.00	1.00	1.00					
17	2.50	1.50	1.00					
18	2.75	0.25	2.00	0.50				
19	2.00	0.75	0.75	0.50				
20	2.50	0.75	0.75	0.50	0.50			
21	2.50	1.00	0.50	1.00				
22	2.75	2.50	0.25					
23	3.00	0.75	0.25	0.75	0.75	0.50		
24	3.50	0.50	1.50	1.50				
25	3.00	1.00	1.00	1.00				
26	2.75	0.50	1.00	0.75	0.50			
27	2.00	0.50	0.50	0.50	0.50			
TOTAL	69.25							

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2019 EXAM 6U EXAMINER'S REPORT

The Syllabus and Examination Committee has prepared this Examiner's Report as a tool for candidates preparing to sit for a future offering of this exam. The Examiner's Report provides:

- A summary of exam statistics.
- General observations by the Syllabus and Examination Committee on candidate performance.
- A question-by-question narrative, describing where points were commonly achieved and missed by the candidates.

The report is intended to provide insight into what the graders for each question were looking for in responses that received full or nearly-full credit. This includes an explanation of common mistakes and oversights among candidates. We hope that the report aids candidates in mastering the material covered on the exam by providing valuable insights into the differences between responses that are comprehensive and those that are lacking in some way.

Candidates are encouraged to review the Future Fellows article from June 2013 entitled "Getting the Most out of the Examiner's Report" for additional insights.

EXAM STATISTICS:

- Number of Candidates: 470
- Available Points: 69.25
- Passing Score: 49.75
- Number of Passing Candidates: 246
- Raw Pass Ratio: 52.3%
- Effective Pass Ratio: 56.6%

GENERAL COMMENTS:

- Candidates should note that the instructions to the exam explicitly say to show all work; graders expect to see enough support on the candidate's answer sheet to follow the calculations performed. While the graders made every attempt to follow calculations that were not well-documented, lack of documentation may result in the deduction of points where the calculations cannot be followed or are not sufficiently supported.
- Candidates should justify all selections when prompted to do so. For example, if the candidate selects an all year average and the candidate prompts a justification of all selections, a brief explanation should be provided for the reasoning behind this selection.
- Incorrect responses in one part of a question did not preclude candidates from receiving credit for correct work on subsequent parts of the question that depended upon that response.
- Candidates should try to be cognizant of the way an exam question is worded. They must look for key words such as "briefly" or "fully" within the problem. We refer candidates to the Future Fellows article from December 2009 entitled "The Importance of Adverbs" for additional information on this topic.

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- Some candidates provided lengthy responses to a “briefly describe” question, which does not provide extra credit and only takes up additional time during the exam.
- Candidates should note that the sample answers provided in the examiner’s report are not an exhaustive representation of all responses given credit during grading, but rather the most common correct responses.
- In cases where a given number of items were requested (e.g., “three reasons” or “two scenarios”), the examiner’s report often provides more sample answers than the requested number. The additional responses are provided for educational value, and would not have resulted in any additional credit for candidates who provided more than the requested number of responses. Candidates are reminded that, per the instructions to the exam, when a specific number of items is requested, only the items adding up to that number will be graded (i.e., if two items are requested and three are provided, only the first two are graded).
- It should be noted that all exam questions have been written and graded based on information included in materials that have been directly referenced in the official syllabus, which is located on the CAS website. The CAS takes no responsibility for the content of supplementary study materials and/or manuals produced by outside corporations and/or individuals which are not directly referenced in the official syllabus.

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2019 EXAM 6U, QUESTION 1	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE: A1
SAMPLE ANSWERS	
Part a: 0.75 point	
Candidates must provide one answer from <u>each</u> list.	
<u>Sample Responses for Insurer Benefits:</u> • Better segmentation • More granular data • Reduce claim costs • More efficient claim handling • More accurate data • Product differentiation • Improved brand awareness • More accurate pricing allows the insurer to grow • Improved retention of best risks • Improved profitability • Better communication channels with insured • Reduce moral hazard • Competitive advantage • Attract better customers • Quick access to more data for pricing and claim adjusting • New revenue stream from UBI program • Improve customer's driving habits	
<u>Sample Responses for Insured Benefits</u> • Lower rates • More control over insurance rate • Feedback on driving habits • Rates are more fair • Reward better driving habits • Better driving habits • Premium reflects driving habits • Rates more affordable • Insurance more available • Better/faster claims processing • Ancillary functions, such as finding a stolen car using GPS • Better response time in accident • Enhanced safety • Insured pays premium based upon usage • Non-driving variables get less weight (age, sex, credit score) • More communication with insurer	
<u>Sample Responses for Societal Benefits</u>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Less traffic congestion
- Lower infrastructure costs
- Less pollution or reduced emissions from driving less
- Safer driving or less accidents
- More insured drivers or less uninsured drivers
- Lower insurance premiums
- Overall decreased costs to policyholders which benefits society in general
- Non-driving variables get less weight (age, sex, credit score)
- More socially equitable premium
- Reduce the subsidy between low and high mileage drivers
- Can eliminate subsidies between drivers
- Improve rate equity / less subsidization
- It could allow insureds who typically drive less miles to be charged less, lowering income inequality (such as lower income, young, seniors, or urban residents).
- Better tracking stolen vehicles
- Enhanced claim experience, data and details about the accident are available
- Faster settlement of claims
- Devices may help prevent fraud
- Mitigate the risky behaviors of young drivers by educating them
- GPS technology in some telematics devices helps emergency response locate vehicles in trouble
- Expand availability of affordable insurance
- Easier recovery in cases of car theft
- Better claims handling
- Quicker emergency response to accidents

Part b: 1 point

Sample Responses - Any two of the following:

- There may be a disproportionate impact for low income individuals who cannot afford usage-based insurance (UBI) devices.
- Penalizing drivers for where and when they drive as a function of work and housing segregation.
- Black box model that consumers don't understand
- Failure to achieve meaningful loss mitigation because of a black box approach by insurers of collecting data for rating.
- Limited regulatory intervention due to black box model
- Data privacy concerns (one of the following):
 - There are data privacy concerns if the insurer does not use UBI data solely for loss mitigation and pricing.
 - Data privacy concerns – the insurer may sell the private data to a 3rd party
 - Data privacy concerns – how will the insurer prevent misuse of the private data?
- The insurer might only use the UBI data to benefits themselves, and not when it would be to the benefit of the insured.

SAMPLE ANSWERS AND EXAMINER'S REPORT

- UBI devices are expensive, and that cost may be passed onto consumers through higher premiums.
- UBI data is not consistently formatted between companies and an insured may not be able to transfer their specific data when they move companies.
- There is a lack of regulation for UBI models and insurers might take advantage of this.
- Consumer may be concerned about the collection of accurate data and how inaccuracies could impact their premium.

Part c: 0.5 point

Candidates must provide one advantage and one disadvantage:

Sample Responses for Advantages:

- Most people have smartphones
- Cheaper cost to insurer
- Large data storage capacity
- Easy to install/get access
- Minimal installation costs to consumer
- Phone has all the needed sensors already
- Smartphone can do some data processing
- Compatible with any vehicle
- Superior communication abilities
- Able to monitor distracted driving
- Phone is portable
- User acceptance
- Insurer has more opportunities to interact with the insured through their phone and this may increase retention.
- Updatable software

Sample Responses for Disadvantages:

- Data quality could be poor OR less reliable OR not as accurate
- Accelerator/GPS/other sensors may not be calibrated
- Not everyone has a smartphone
- Insured might not bring phone OR phone can be turned off
- Unable to differentiate passenger and driver
- Requires cellular data usage (increased cost to consumer)
- Gyroscopes need to be adjusted
- Rural areas may not have sufficient signal for insureds to participate
- Requires user to download app and keep it up to date
- Different smartphones record data differently, which could create inconsistencies in data from different types of phones
- Can't be used to track down a stolen car since that phone won't be in the car

EXAMINER'S REPORT

SAMPLE ANSWERS AND EXAMINER'S REPORT

Candidates were expected to understand telematics-supported usage-based insurance, the impacts it has on various stakeholders, and the advantages/disadvantages of various technologies.

Part a

Candidates were expected to list 1 potential benefit of UBI for each stakeholder (insurer, insured, and society).

Common errors include:

- Stating a potential benefit for the insurer is the ability to write more business
- Stating a potential benefit for the insurer is that UBI is a low-cost way to collect data

Part b

Candidates were expected to describe 2 potential concerns from consumer advocates.

Common errors include:

- Identifying concerns that are pervasive in insurance, rather than specific to UBI programs.
 - Privacy concerns – The insurer has private data, and how are they preventing that from being hacked
 - The rating model may not consider how city and rural driving is different
- Identifying a concern without providing enough relevant detail or why it would be a concern from a consumer advocate.
- Providing two responses that were not sufficiently distinct
 - “Privacy Issues” and “The insurer may not use the data solely for loss mitigation and pricing” (see above)
- Stating that UBI could raise rates for high risk drivers

Part c

Candidates were expected to list 1 potential benefit and 1 potential disadvantage of using smartphone technology for UBI programs.

Common errors include:

(Advantage):

- Providing advantages that were accurate for most/all usage-based technologies
 - Provides location data
 - More accurate pricing because of big data
 - Consumer rates can be updated more often
- Providing advantages that conflict with commonly accepted disadvantages
 - More accurate than other devices

(Disadvantage):

- Stating that smartphones are easily manipulated without providing a specific example. Other UBI data collection devices would be subject to manipulation by the insured.
- Providing disadvantages that apply to most/all UBI technologies
 - Invasion of privacy

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2019 EXAM 6U, QUESTION 2	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE: A1
SAMPLE ANSWERS	
Part a: 0.25 point	
<u>Sample Responses:</u> • Free from state imposed rate and form requirements • Surplus carriers do not participate in guaranty funds, so the carrier won't be assessed if a different insurer can't meet claim obligations. • Only has to be licensed in domiciliary state • Less competition since there are much more admitted carriers than surplus lines. • The surplus carrier only pays the state premium tax to the state of domicile • Surplus carriers have the ability to be more flexible with their policies so they can provide the exact coverage the policyholder needs more easily. • The coverage would be more tailored to the customer's need.	
Part b: 2 points	
Bolded sample answers indicate unique subject responses, any four of which were required. Italicized sample answers are common variations on the unique response. Surplus/Capital Requirements • <i>Must meet capital requirements – may not meet requirement because start-up may not have access to capital.</i> • <i>Required to have sufficient capital/surplus - start-up company could have sufficient capital and surplus.</i> Coverage for the Risk Must be Declined by the Admitted Market • <i>Diligent search requirement: Insureds have to prove they could not get coverage in voluntary market. They would then go through a surplus lines broker. A direct-to-consumer basis would then not be effective.</i> • <i>There has to be a "diligent search" by the broker before being able to use surplus lines insurance. This won't apply as there are admitted insurers in the state.</i> Surplus Lines Do Not Compete with Admitted Market • <i>Product must not be available in private market for insured – if competing with admitted carrier, product is likely available</i> Surplus Lines Insurer Must be Admitted in Domicile State • <i>To be eligible to write surplus lines, needs to be authorized/licensed in state of domicile to write the same business. If it's start up, it may not meet requirement.</i> • <i>Needs to be admitted in its domiciliary state. Since this is already a start-up company, it is assumed it meets this requirement.</i> No Guaranty Fund • <i>No guaranty fund support, so insured may willing to get business from admitted carrier covered by fund -> peace of mind</i>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Only Specialty Licensed Producers are Permitted to Sell Surplus Lines Insurance

- *Surplus lines carrier must export business through a surplus lines broker, thus the "direct-to-consumer" is not allowed.*
- *Permit only specially licensed agent or producer to place surplus line business. The start-up may meet their requirement if their agents are licensed.*

Must Meet Specified Managerial Requirement (Seasoned)

- *The startup is required to be experience in writing that line first through the admitted market. If they are a startup, will not have experience to meet this requirement.*
- *Seasoning – start-up may not have been in business long enough in its own state to be recognized by this state.*
- *Meets managerial requirements: it's possible it meets this.*

State May Require in-state office or producer residence

- *Location – company may not have an office in state/US which may be required.*

Direct to Consumer

- *As surplus lines are not regulated, DOI may not allow direct selling to consumers unless consumer is a sophisticated business of sufficient size with risk manager negotiated purchases.*
- *Direct to consumer only applies to specialized consumer purchasers or consumers unable to find coverage in admitted market so they will not be able to compete with admitted carriers.*

Premium Taxes paid only imposed by home state of the insured

- *Only home state of insured impose premium tax on surplus line business. The start-up meets the requirement.*

EXAMINER'S REPORT

Candidates were expected to understand the advantages of being a surplus lines carrier and the regulatory requirements for surplus lines carriers.

Part a

Candidates were expected to briefly describe one advantage for an insurer of being a surplus lines carrier rather than an admitted carrier.

Common errors include:

- Stating that regulations were different without being clear why different regulations were an advantage.
For example: "An insurer who is a surplus lines carrier is not subject to the same rate regulation as an admitted carrier"
- Listing items that were not true for surplus lines carriers.
For example: "Faster and easier to enter the market" or "The insurer can directly offer insurance without admitted by regulators"

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Listing items that were incomplete and needed further discussion to determine if it was an advantage or applied to surplus lines regulations.
For example: "Do not have to participate in state guaranty funds" or "Offer cheaper insurance because of lower cost"
- Listing items that are also true for the admitted market.
For example: "By offering on a direct to consumer basis, a surplus lines carrier can cut costs" or "They are able to service a different market that may be in lines with their business goals"
- Listing items that were advantages to consumers rather than the surplus lines insurer.
For example: "Can make unique coverages available and affordable" or "Surplus lines carrier benefit from writing to insureds that need insurance not found in the admitted market therefore the insurance is highly specialized"

Part b

Candidates were expected to list four surplus lines regulatory requirements and explain whether or not the start-up insurer, described in the question, could meet the four requirements.

Common errors include:

- Describing surplus lines insurers in general rather than the specific example provided in the question. For example stating that insurer could appoint specialty licensed producers when the example company intended to use direct writers.
- Discussing items common to admitted and surplus lines insurance such as financial reporting and financial examination.
- Discussing regulatory requirements for surplus lines brokers rather than the surplus lines insurer.
- Discussing items that would be beneficial to a start-up insurer but not a surplus lines regulatory requirement (e.g. discussing lack of actuarial and underwriting expertise).

FALL 2019 EXAM 6U, QUESTION 3

TOTAL POINT VALUE: 3.25

LEARNING OBJECTIVE: A2

SAMPLE ANSWERS

Part a: 1 point

Sample Responses - Any four of the following:

- Frequency and extent the regulator was able to identify and rectify potential issues before they could cause harm to policyholders (i.e. Taking actions to prevent insolvencies)
- Rate of insolvencies and payments to policyholders in those insolvencies (i.e. Effectiveness of guaranty funds)
- Effectiveness and efficiency of rehabilitation actions
- Healthy, competitive insurance market

Sample responses – Any one of the following:

SAMPLE ANSWERS AND EXAMINER'S REPORT

○ <i>Market health</i> ○ <i>Competitive market</i> ○ <i>Financial stability and reliability of insurers</i> ○ <i>Breadth and depth of insurance industry</i> ○ <i>Availability and affordability of insurance</i> ○ <i>Rates adequate, not excessive or unfairly discriminatory</i> ● Perceived & actual costs vs benefits of regulation (i.e. Efficiency of regulatory framework) ● How well the regulatory regime achieves its intended purpose ● Fair and equitable treatment of consumers (e.g. Number of consumer complaints, Consumer lawsuits)
Part b: 0.75 point
i. Fallibility – regulators are human beings and humans make mistakes ii. Forbearance – failure to take prompt and/or stringent action in the face of a potentially troubled company iii. Capture – regulators tend to take the mindset of an interest group/the industry being regulated
Part c: 1.5 points
Candidates must provide three of the following: ● Duplication/peer review – system of state regulation (or between states and NAIC FAD/FAWG) means if a regulator in one state misses something another is likely to catch the mistake, reducing fallibility ● Peer review/peer pressure – other states or the NAIC may pressure the domiciliary state to act quickly, reducing forbearance ● Peer review/peer pressure – other states or the NAIC may pressure another state into not siding with interest groups, reducing capture ● Diversity of perspective among regulators will lead to fewer extreme policies and more centrist solutions, reducing the likelihood of capture ● Moral hazard may help to reduce forbearance as the lack of a federal financial backstop may give regulators more incentive to take action ● Formulaic standards such as IRIS tests & RBC – may reduce forbearance since they have required action levels ● Formulaic standards such as IRIS tests & RBC – may reduce capture since they have required action levels
EXAMINER'S REPORT
Candidates were expected to demonstrated knowledge of how the US system of regulation works including its strengths and weaknesses
Part a

SAMPLE ANSWERS AND EXAMINER'S REPORT

Candidates were expected to be able to list four distinct factors that might be used to assess the effectiveness of an insurance regulatory framework.

Common errors include:

- Stating “protect policyholders” as the top priority of insurance regulation but not describing a factor for assessing effectiveness
- Simply stating “act in the public interest” without explaining further and describing a factor for assessing effectiveness
- Listing multiple factors that describe the same general concept. For example a candidate might list “a competitive insurance market”, “insurance availability and affordability”, and “financial strength and stability of insurers”. Each of these is an acceptable answer, but they all describe a healthy insurance market.
- Listing features that might exist within a strong regulatory framework but are not used to assess effectiveness, such as checks and balances, standardized procedures, and data quality.

Part b

Candidates were expected to describe/define the three reasons for regulatory failure.

A common mistake included writing something for fallibility that did not convey simple human error. For example: “regulators fail in their assessment of financial indications” or “did not detect an insolvency”.

Part c

Candidates were expected to provide three strengths of the US regulatory system with a brief description explaining how the strength might mitigate one of the causes of failure from part b.

Common errors include:

- Stating “most insurance commissioners are elected” as a strength. The vast majority of states appoint their commissioners.
- Answers relating to guaranty system. Guaranty funds are in place to benefit policyholders after a company fails and the question asked for strengths that could help to prevent failures.
- Listing a strength, but failing to describe it and/or linking it to part b.
- Listing “duplication”, “peer review” and “peer pressure” as three separate strengths.

FALL 2019 EXAM 6U, QUESTION 4

TOTAL POINT VALUE: 2

LEARNING OBJECTIVE: A2

SAMPLE ANSWERS

Part a: 0.5 point

SAMPLE ANSWERS AND EXAMINER'S REPORT

Sample responses (any two):

- Perform certain actions to reduce its liabilities, such as purchasing reinsurance or restricting available limits that can be sold.
- Restrict new-business or runoff existing business. May require an insurer to improve their position before taking on new risks.
- Reduce its general and commission expenses
- Increase its capital and surplus
- May require insurer to not give out dividends to policyholders/stockholders
- Require insurer to invest in less risky assets (e.g. prohibit certain investment practices)
- File reports concerning the value of its assets
- Document the adequacy of its premium rates

Part b: 0.5 point

Administrative Supervision occurs when the insurer must seek approval before making certain business decisions. (i.e. the regulator will “oversee” insurance company operations).

Sample responses for reasons regulators may be reluctant to do administrative supervision:

- Regulator may believe the insurance company will recover on its own, so it would not act
- Regulators may be reluctant because when policyholders find out about this (or brokers) they may be less willing to place business with them, therefore making the situation worse.
- The consequences of regulator intervention may otherwise prompt policyholders to leave and give insurer and the regulator a bad reputation
- May not want to interfere with a politically connected insurance company
- Regulators may be reluctant because this is time-consuming and require a lot of effort and personnel
- Reluctance comes in because this could lead to the loss of jobs and could hurt the local economy (Forbearance)
- Regulators may believe an insurer has been unlucky and hit with a one-time setback that it can resolve on its own.
- Regulatory forbearance may cause regulator to be too lenient

Part c: 1 point

Receivership is a type of bankruptcy where Commissioner becomes/assigns a receiver to take control of the insurance companies assets and liabilities. It can have two outcomes: rehabilitation or liquidation.

Rehabilitation is an attempt to save the company. Commissioner will try to reduce liabilities, increase assets. They usually look for an outside investor to inject capital.

Liquidation occurs when assets are insufficient to pay liabilities and the insurer ceases to exist. Assets are liquidated and paid out to stakeholders based upon an appropriate prioritization.

EXAMINER'S REPORT

The candidates were expected to know various examples of mandatory corrective action, be able to describe administrative supervision, and know why regulators may be reluctant to do this.

SAMPLE ANSWERS AND EXAMINER'S REPORT

Also, they needed to describe receivership and its two possible outcomes (rehabilitation and liquidation), and then define both.	
Part a	
Candidates were expected to list two examples of mandatory corrective action.	
Common errors include:	
• Stating “increase rates”, or any variation of that, since that is not something for which insurer and its’ domiciliary regulator have complete control. • Giving rehabilitation or liquidation as examples of mandatory corrective action. • Giving two examples of limiting new or renewal business, which was duplicative. • Giving examples of incorrect actions, such as replacing management, requiring rate increases, or removing the license to do business.	
Part b	
Candidates were expected to describe administrative supervision, and provide a reason why regulators may be reluctant to pursue this course of action.	
Common errors include:	
• Describing receivership instead of administrative supervision. • Stating that administrative supervision comes only after corrective action failed, with no description of what it is, and describing it by using the word “supervising” without context explaining the actions. • Use of vague descriptions, such as the regulator is “stepping in”, “monitoring”, “watching”, or “participating” in the company operations (i.e. no clear notion that they are acting in an approval capacity).	
Part c	
Candidates were expected to describe receivership, and note that its two possible outcomes are rehabilitation or liquidation, defining each of them.	
Common errors include:	
• Failing to include outcomes • Defining liquidation by saying assets were liquidated, with no further context.	

FALL 2019 EXAM 6U, QUESTION 5	
TOTAL POINT VALUE: 2.5	LEARNING OBJECTIVES: A3, C2
SAMPLE ANSWERS	
Part a: 0.5 point	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Sample responses:

- The agent may not want to incorrectly downgrade the insurer for fear of losing credibility.
- Rating agencies don't want to be too quick to act as an erroneous downgrade may anger their clients.
- Insurer whose financial strength has declined may have just had one year of adverse impact due to catastrophes (for example, wildfires in CA). Rating agency could give leeway for company to recover, as a downgrade of rating may harm the insurer's business prospects and worsen its financial strength.
- It does not want to overreact, which could cause it to lose customers if it downgrades ratings too easily. Rating agencies want to appear stable with giving ratings.

Part b: 0.75 point

Sample responses (any three):

- Agents will use insurer's ratings to place business.
- Insurers will consider reinsurer's ratings when seeking reinsurance.
- Banks require homeowner insurance from highly rated insurers to issue mortgages.
- Used by investors to determine if they would like to invest in a company or not.
- Surety/bond insurance may be required to be written with an A rated company.
- Regulators may use them as an indicator that an insurer may be in trouble.
- Consumers selecting an insured.
- Actuaries use it to evaluate reinsurance collectability when opining on loss reserves.
- Reinsurers obtain higher ratings to lower collateral needed.
- Reinsurers can charge more because of the lower credit risk associated with a high rating.
- Structured settlements may require A rated provider.

Part c: 0.75 point

Sample responses (any three):

- RBC doesn't take into account Catastrophe Risk.
- RBC doesn't take into account Operational Risk.
- RBC is a quantitative/formulaic measure, where rating agency capital requirements are based on both qualitative and quantitative.
- Rating agency capital requirements are very tailored to the individual insurer being evaluated.
- RBC can trigger regulatory intervention whereas financial rating can't.
- RBC used to monitor solvency for regulators, RAC for company performance for investors.
- Rating agency requirements may include TVAR or EPD to assess risks where RBC does not.
- RBC uses Annual Statement data available to public, rating agency also can use proprietary insurer info.
- The formula for rating agency capital differs significantly by rating agencies, but the RBC formula is the same across insurers.
- RBC is consistent across states and lines of business. Rating agency capital requirements may vary by rating agency, line of business etc.
- RBC does not consider reserve adequacy.

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- RBC does not consider difference in insurer's management, but rating agency does.
- Rating agencies meet with management.
- RBC is on SAP basis, but RAC are on GAAP.

Part d: 0.5 point

Sample responses:

- Goes from Authorized control level to Mandatory control. Now regulator must rehabilitate or liquidate the insurer.
- Falls from authorized control level to mandatory control level. The regulators are obligated to take control of the insurer and attempt to increase its capital.
- The regulator will need to take mandatory corrective action with the insurer before the ratio gets any lower. The insurer will not be able to write new business and the regulator may take control of their investments as well.
- The company goes into receivership. The regulator finds a receiver to then take the next steps for either rehabilitation or liquidation.

EXAMINER'S REPORT

Candidates were expected to understand financial strength ratings from rating agencies, the difference between RBC requirements and rating agency capital requirements, and the impact from a change in the RBC ratio.

Part a

Candidates were expected to demonstrate that the downgrade in rating could be perceived as faulty or temporary and that there would be a negative consequence on the rating agency or insurer as a result of the downgrade.

Common errors include:

- Briefly describing that the downgrade could be perceived as faulty or temporary without describing the negative consequence that would have.
- Briefly describing that downgrading could have a negative consequence without demonstrating why that would be the case.

Part b

Candidates were expected to understand three different uses for financial strength ratings.

Common errors include:

- Not providing three uses
- Providing an answer that was too similar to another answer such as:
 - The consumer uses ratings to select financially strong insurers.
 - The insurers use good ratings to attract more customers.

Part c

Candidates were expected to identify three differences between RBC requirements and rating agency capital requirements.

Common errors include:

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Listing examples that were common to both requirements.
- Not providing three differences
- Providing an example too similar to another answer such as:
 - RBC does not consider business strategy or internal governance controls
 - RBC does not include any management input
- Stating something was unique for RBC that should have been for the rating agency requirements or vice versa.

Part d

Candidates were expected to understand that the RBC action level had changed from Authorized Control Level to Mandatory Control Level and that regulators were now required to take corrective action, such as rehabilitate or liquidate the insurer. References to the insurer being placed into a receivership were accepted.

Common errors include:

- Not understanding that the RBC Action Level had changed.
- Not mentioning that regulatory action was required.
- Not mentioning what type of regulatory corrective action was taken.

FALL 2019 EXAM 6U, QUESTION 6

TOTAL POINT VALUE: 2

LEARNING OBJECTIVES: A4

SAMPLE ANSWERS

Part a: 1 point

Sample 1

- Circumstances: Paul wanted to sell insurance in VA on behalf of an insurer domiciled in NY, but his application was denied. He sold insurance anyway and was arrested.
Decision: The court ruled in favor of VA and said that insurance did not constitute interstate commerce.
Impact: Insurance was regulated at the state level.

Sample 2

- Paul was selling insurance in VA from a NY insurer without proper license. Supreme Court upheld his arrest, insurance was deemed not interstate commerce, and insurance was left to state regulators.

Sample 3

- Paul wanted to sell insurance policies in his home state of VA for NY insurers, who had not deposited necessary foreign insurer bonds. He sold policies anyways, got arrested, and appealed to Supreme Court. Result was Paul not allowed to sell policies because insurance is a local product that states could regulate. Therefore, regulation of insurance left up to states.

Part b: 0.5 point

Sample Responses for SEUA:

SAMPLE ANSWERS AND EXAMINER'S REPORT

- After SEUA decision the Sherman Antitrust Act applied to insurers.
- After SEUA decision, Sherman Act was applicable to insurance. It prohibits collusion in setting rates to get monopoly power.
- The decision led to the Sherman Antitrust Act being applied in its entirety. It prevented acts of collusion or forming a monopoly and it prevented boycott, coercion, or intimidation.
- Sherman Antitrust Act continues to apply to coercion, collusion, intimidation, and boycott on insurance.
- Sherman Act applies to insurance since insurance is regulated at the federal level.

Sample Responses for McCarran-Ferguson Act

- McCarran-Ferguson upheld Sherman Act as applying to insurance for boycott, coercion, intimidation.
- Determined that Sherman still applies to insurance but states now regulate as it is in the public's best interest.
- It did not change the application of the Sherman Act to insurance in regards to boycott, coercion, or intimidation but still allow insurers to set rate in concert as long as this did not hinder competition.

Part c: 0.5 point

Any of the following two responses:

- If states aren't regulating insurance
- Federal laws specifically pertaining to insurance
- If state law contradicts federal law
- Tax laws
- OSHA laws
- Regulation of securities/ SEC
- ERISA (Employee Retirement Income Security Act)
- Labor relations
- Civil Rights Act
- Age Discrimination in Employment Act
- Older Workers Benefit Protection Act
- Americans with Disabilities Act
- FBI
- Environmental Protection Act (EPA)
- Interstate Commerce Commission (ICC)
- Dodd-Frank Act/ FIO
- Systematically important financial institutions (SIFI)

EXAMINER'S REPORT

Candidates were expected to understand the outcome and implication of landmark decisions including Paul v. Virginia, the South-Eastern Underwriters Association decision, and the McCarran-Ferguson Act, and the situations when federal vs. states regulate insurance activities.

Part a

SAMPLE ANSWERS AND EXAMINER'S REPORT

Candidates were expected to understand the Paul v. Virginia case, including the impact of states regulating insurance. Common errors include: • Not mentioning requiring a license or foreign insurer bond to be able to business in another state • Missing the impact of state regulation of insurance
Part b Candidates were expected to understand if or how Sherman Antitrust Act applies under different situations (state or federal regulation). Common errors include: • Not able to explicitly mention if or how Sherman apply correctly
Part c Candidates were expected to understand when federal regulation applies other than Antitrust activities. Common errors include: • Stating Antitrust Act • Examples of federal intervention but not regulation of insurance, such as NFIP and TRIA • Gramm-Leach-Bliley (GLB) because states continue to have primary authority over insurance

FALL 2019 EXAM 6U, QUESTION 7	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVES: B2, B3
SAMPLE ANSWERS	
Part a: 0.75 point	
<u>Any one of the following for Private Insurers:</u> • Act as primary insurer • Handles the transactions of premium & claims • Provide coverage to consumers • Are the group that is responsible for indemnifying the consumer's claims • Servicing carriers <u>Any one of the following for the Risk Management Association (RMA):</u> • Will assess how the crop coverage is performing and whether any changes need to be made • They help monitor and control risks, working with private insurers • Offers subsidies to farmers • Helps farmers prevent losses (farming techniques) • RMA administers rules to prevent adverse selection	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- RMA underwrites the crop insurance
- RMA oversees the risk mitigation & management to avoid adverse risk selections in the portfolio

Any one of the following for the Federal Government:

- Act as reinsurer and subsidizes premiums
- The federal government compensates the private insurers for their losses and administrative costs
- The federal government provides the necessary funds for reinsurance and provides additional financial assistance in the case of catastrophes
- Provides a backstop to private insurers
- Regulates the crop program

Part b: 0.5 point

Sample responses include:

- In order to get federal disaster relief you must have crop insurance and you also must purchase prior to planting.
- RMA will aggregate all data available to be able to price accurately. As a result of accurate rates adverse selection can be reduced.
- RMA decides that if farmers want to insure one field they need to insure all fields that grow those crops on that one field to avoid adverse selection.
- They have knowledge and tools like the risk heat map to price premium accurately.
- Names specific crops that are covered by insurance. Limit on amount that can be collected.
- Help to set underwriting guidelines for private insurers that recognize and reduce the risk of adverse selection.
- By being the sole source of rates, there is no competition from any other participant. So there is no adverse selection, just one selection for all policyholders.

Part c: 1 point

Sample responses include:

- Providing insurance that insurers don't want to provide – federal involvement provides crop insurance that would not be profitable to insurance companies due to the catastrophic nature of things like poor weather (freezing can kill crops in the whole area).
- In a social welfare program, participants usually don't pay to participate and it is usually funded by taxes. This is partially met as premiums are partially subsidized but not completely (it's not free to get crop insurance). Premium subsidies help to make it more affordable for everyone to obtain.
- People receiving the benefits are not necessarily the people paying the premiums – this is not the case for crop coverage as farmers do have to buy coverage to get benefits, including disaster relief benefits.
- Benefits are funded by resources of the federal government – crop insurance does meet this criteria because the program gets appropriations from the federal government as needed for claims and disaster relief.

SAMPLE ANSWERS AND EXAMINER'S REPORT

- It serves a social purpose as farming is an important segment of the economy and federal involvement supports farmers staying in industry.
- It is no efficient since it isn't cheaper for the government to insure. They're just providing subsidization bringing premiums below the actuarial cost-based rate.
- Bring stability to a volatile market for society. Society depends on farmers' resources but disasters could leave farmers bankrupt. Crop insurance helps farmers to keep going after a disaster to continue to provide resources to society.
- Protects individuals in circumstances in which they wouldn't otherwise have protection. This is meets the criteria because farmers couldn't find affordable coverage in the private market.
- Provides affordable benefits, so the criteria is met as without government involvement, prices through private market would be extremely high (assuming it was even offered).
- Government intervention meets the criteria as crop insurance is subsidized by the federal government, and the crop insurance market would be much different without the subsidy.
- Social welfare is supposed to only help the less fortunate or be means-tested. MPCl policies are available to farmers based on crops grown, not financial status so MPCl does not meet this criterion.
- A social welfare program is not funded solely by actuarially adequate rates. It meets this criteria because the rates charged are set below actuarially adequate levels, requiring a subsidy from the federal government's funds.
- A social welfare system is in place to avoid large economic impacts. The federal involvement in MPCl helps keep prices stable for food (if yield is low, farmers don't need to charge super high prices to recoup losses) and keeps food affordable to the general public.

EXAMINER'S REPORT

Candidates were expected to demonstrate high-level knowledge of Multiple Peril Crop Insurance (MPCI) and how each entity (Private Insurers, RMA, and FED) works together in a public-private partnership. Additionally, candidate needed to speak to how the design of the insurance program related to broader concepts of adverse selection and social welfare systems.

Part a

Candidates were expected to define the separate roles/duties of the three entities involved in administering crop insurance to farmers – private carriers, the Risk Management Association (RMA) and the federal government.

The RMA is a division of the United States Department of Agriculture (USDA) and, as such, is considered part of the federal government. Thus, roles/duties listed in the reading as distinct for each of RMA and the federal government were treated interchangeably. An activity performed by the RMA was accepted as a correct response for the federal government and vice versa.

Common errors include:

- Stating private insurers are not involved

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Stating private insurers offer crop hail insurance which is not offered by the government and not mentioning specific duties
- Stating private insurers are the insurer who bear the insurance risk since risk is shared
- RMA: regulates the MPCI market since the federal government regulates the market
- RMA: assess crop yields in different parts of the country
- Fed: pays for the premiums instead of saying farmers pay premiums and federal government subsidizes those payments
- Fed: provides the RMA with funding through taxes
- RMA is "intermediary, go-between" between the private market and the government
- RMA assigns risk to private insurers

Part b

Candidates were expected to describe approaches used by the RMA to avoid adverse selection in the program. Descriptions of approaches used for insurance in general (as opposed to those specifically mentioned in the reading for crop insurance) were accepted if adequately supported.

Common errors include:

- A farmer must insure all the perils he has when applying for multiple perils crop insurance
- It helps the insured determine which areas have historically lower crop yields, as this is not an approach for reducing adverse selection
- It helps insurers avoid underpricing high risk insureds and overpricing low risk insureds, as this is not an approach to reducing adverse selection
- RMA does not offer coverage to farmers who sign up for program shortly after moving to high risk areas
- RMA encourages insureds to exhibit best practices in terms of limiting its own exposure to policy, and tiers insured accordingly by hazard level so that insurer is aware of exposure, as this pertains more to loss mitigation than reduction of adverse selection
- Providing approaches that may enhance, rather than reduce adverse selection
- Stating that coverage is mandatory and all farmers must participate
- Stating that coverage is required prior to a "loss" event (disaster, drought, storm, etc.)
- Stating that all crops must be insured rather than all fields of a crop
- Stating that coverage is required in order to get some federal benefit (rather than specifying disaster relief)
- Stating that rates or premiums are subsidized

Part c

Candidates were expected to identify 2 characteristics of Social Welfare program and then support why or why not MPCI met these characteristics.

Common errors include:

- Identifying characteristics and simply stating it 'meets' or 'does not meet' with no justification for that answer
- Stating that Social Welfare and/or MPCI is available to everyone
- Stating that Social Welfare and/or MPCI participation is mandatory

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Stating that Social Welfare and/or MPCl never involves profit

FALL 2019 EXAM 6U, QUESTION 8

TOTAL POINT VALUE: 3

LEARNING OBJECTIVE: B2

SAMPLE ANSWERS

Part a: 1 point

- Write-Your-Own: private insurers write and service their own policies but use the NFIP as a reinsurer. NFIP still sets rates/conditions.
- Direct Servicing Agent: the NFIP contracts with third parties who directly sell NFIP coverage to consumers

Part b: 1 point

Sample responses for part (i)

- If insurers provide more flood coverage, they will share in disaster relief costs (i.e. (home rebuilding) after a flood, which will reduce federal expenditures. If coverage is more widely available and more affordable (increased competition), it may also cause federal expenditures to decrease due to fewer uninsured homes.
- Federal expenditures will increase. Private flood insurance (without a subsidy) will cause the NFIP to experience adverse selection. Its share of insureds will be higher risk on average and disaster relief in flood prone areas will be costly.
- Federal expenditures will increase since FEMA won't be as involved in flood plain management and making sure disaster relief plans are in place prior to an actual disaster.

Sample responses for part (ii)

- Homeowners who desire flood insurance may have better access to insurance with the expansion of the private market. The private insurers may be able to provide better prices for the low risk insureds because some insureds must be paying more than actuarially sound rates under the NFIP to subsidize others' rates.
- Homeowners will have more insurance choices in the market. This could mean higher limits, additional coverages (business interruption, etc.), and more carriers to purchase from.
- There will be more products and coverages available. Although rates from private insurers will most likely be higher since they are not subsidized and also need to charge a profit provision.

Part c: 1 point

Sample Responses (any two):

- NFIP subsidies cause lower rates to be charged for some through NFIP versus what a private insurer may charge. NFIP doesn't charge actuarially sound rates because of these subsidies – this is a disadvantage for private insurers who need to charge adequate rates.
- Continuous coverage – for NFIP subsidies to apply, insured must have continuous flood coverage through NFIP. If the insured goes to private insurer and then decides to go back to NFIP, then subsidies would be lost because private insurance would not be considered

SAMPLE ANSWERS AND EXAMINER'S REPORT

continuous coverage. Thus, insureds are less likely to move to private insurers if it jeopardizes NFIP subsidies.

- “At least as broad” – private coverage needs to be “at least as broad” as NFIP coverage to count towards required flood insurance for certain mortgages, and what qualifies as “at least as broad” is not well-defined.
- Non-Compete Clause – current participants in the WYO program have non-compete agreements which ban them from selling their own flood insurance outside of the NFIP
- Lack of flood insurance data – because of privacy concerns for consumers, NFIP data is not widely shared, so private insurers lack data needed to enter market / set rates.
- Participation rates are a problem as flood insurance is a catastrophic risk, therefore a high amount of policies are needed to spread risk.

EXAMINER'S REPORT

Candidates were expected to understand how the private insurance industry interacts with FEMA for day-to-day operations of the NFIP. They were also expected to understand the potential impact of private insurers writing more flood insurance as well as some barriers to increased private insurer participation in flood insurance.

Part a

Candidates were expected to correctly identify Direct Servicing Agents (or “DSA”) and Write-Your-Own (or “WYO”) as well as briefly describe each.

Common errors include:

- Incorrectly identifying Direct Service Agents (i.e. “Direct Servicing Insurers”)
- Not including enough information in the brief description (i.e. “DSA services policies”)
- Describing DSAs as private insurers
- Failing to mention that DSAs sell or issue policies.
- Misunderstanding that NFIP policies are sold in the WYO program, not insurer policies or prices.

Part b

Candidates were expected to fully describe the potential impact of private insurers writing more flood insurance on each cohort.

Common errors include:

- Identifying a potential impact without explaining why
- Describing an impact that was not relevant to (i) federal expenditures or (ii) home owners
- Simply stating that federal expenditures would decrease with private insurers taking more losses without providing a supporting statement to support why (e.g. fewer number of uninsured homeowners, more people are insured due to better prices & availability).
- Mentioning changes in rates without providing support (e.g. subsidies, profit provision, difference in “actuarially sound”).
- Providing incorrect or illogical impacts that did not reference syllabus material

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part c
Candidates were expected to fully describe two barriers to increased private insurer participation in flood insurance. Common errors included: • Identifying a possible barrier without explaining why • Describing something that was not a barrier to increased private insurer participation • Listing adverse selection as a barrier without discussing participation or imbalanced concentration of risks • Stating that the fact that floods are catastrophic, that significant capital is required, or that insurers could go insolvent; needed to discuss barriers that prevent insurers from addressing these issues. • Stating that floods are uninsurable

FALL 2019 EXAM 6U, QUESTION 9	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVES: B2
SAMPLE ANSWERS	
Part a: 0.5 point	
<u>Any two of the following responses:</u> • May provide lower (or state minimum) limits on liability • May require higher deductibles on comprehensive or collision • May not provide comprehensive or collision • May not provide (or provide lower limits) on medical payments • May not provide some coverages like glass • "Physical Damage" was an acceptable substitute for "comprehensive or collision"	
Part b: 0.5 point	
Required an explanation touching on two key points: • Makes coverage more affordable and/or available to all • There is a societal benefit of reducing the number of uninsured drivers or decreasing the likelihood of unreimbursed losses from an accident.	
Part c: 1 point	
<u>Any four of the following responses:</u> • Vacant or open to trespass • Poorly maintained • Unrepaired fire damage • Contains unacceptable hazards • Storage of flammable materials • Violates a law or public policy • Not built in accordance with building and safety codes • Failed inspection or was not inspected	

SAMPLE ANSWERS AND EXAMINER'S REPORT

• Inured was able to procure coverage in the voluntary market • Insured is in an active hurricane zone
Part d: 0.25 point
<i>Sample 1</i> A policy that covers on 'all-risks' basis to fill gaps in the insured's underlying property coverage.
EXAMINER'S REPORT
Candidates were expected to identify coverage restrictions, describe Automobile Insurance Plans, identify exposures that are uninsurable, and describe a DIC policy.
Part a
Candidates were expected to describe two coverage limitations and at least one coverage. Common errors include: • Provided coverage limitations that were not specific to auto
Part b
Candidates were expected to provide some description of how AIP's expand coverage and why this is socially desirable. The responses required an extension to the societal benefit of reducing uninsured drivers or decreasing the likelihood of unreimbursed losses in an accident. Common errors include: • Not explaining the societal benefit of reducing uninsured drivers
Part c
Candidates were expected to provide four types of exposures uninsurable under FAIR plans. Common errors include: • Listing answers that are too similar, for example vacant and subject to trespass • Listing answers that are reasons why the FAIR plan was designed, for example riot-prone area or areas subject to windstorm
Part d
Candidates were expected to explain that a DIC policy covered perils not insured in another/primary policy. Common errors include: • Stating that a DIC policy provides higher limits

FALL 2019 EXAM 6U, QUESTION 10	
TOTAL POINT VALUE: 2.75	LEARNING OBJECTIVES: B1, B2, B3
SAMPLE ANSWERS	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part a: 0.75 point

Any three of the following:

- Companies become party to lawsuits involving workplace injuries.
- Might have worse work place safety since they don't have support from insurers' knowledge in such areas.
- Employers could choose not to purchase coverage, saving money on premiums.
- Increased operational risk for businesses that choose to not purchase WC or are unable to find coverage. They face greater risk of catastrophic loss that could cause them to go bankrupt.
- Companies that offer WC may be viewed in better social light which helps employer in the market place.
- Could go out of business if lawsuits due to an injury were severe enough.
- WC covered medical costs to ensure employees can return to work. Without this coverage employers can lose key personal for extended periods of time.
- Employers wouldn't benefit from insurer's risk control services and work environments would be less safe.
- There would no longer be state-run residual markets which means the highest risk employers may not find coverage.
- WC premiums more expensive/less available without government programs (assuming government programs are eliminated since WC is not compulsory).
- Rates would increase due to adverse selection. Only those who really need WC would purchase it, increasing loss ratios and insurers would have to charge more to compensate.
- More businesses may pop up due to lower barrier of entry.
- WC insurance prices could become more affordable for employers to purchase given that the demand would change from inelastic to elastic, so insurers have more motivation to be competitive.
- If it wasn't compulsory, possible that rates wouldn't be as regulated and premiums could go up.
- Injured employees may not be able to afford care, and may work while injured, reducing their effectiveness.
- They would have reduction in moral hazard without a policy and could lead to safer work environment.
- Employers may be more likely to form captives/join RRG's.
- Workers wouldn't have coverage for on-job accidents, raising personal health rates due to increased losses in those books.
- Significant Moral Hazard: frequency of claims could be higher as the employer doesn't necessarily have claims adjustment/handling expertise. Therefore, no disincentive to claimants pursuing fraudulent claims.

Part b: 1 point

Any two of the following:

- Federal Employee Compensation Act (FECA) – Provides WC coverage to non-military federal employees
- Longshore and Harbor Worker's Compensation Act (of 1927) – Covers longshoremen and harbor workers on or near navigable water in the U.S.

SAMPLE ANSWERS AND EXAMINER'S REPORT

• Black Lung Benefits Act (BLBA) – Coal miners who are totally disabled due to black lung disease
Part c: 1 point
Any two of the following: • Exclusive State Fund – Exclusive provider of WC insurance for the state. Ensures all employers can purchase coverage. • Competitive State Fund – State acts as a competitor to private insurers. Act as insurer of last resort. • Residual Market – High risk insured who are denied coverage in the voluntary insurance market get assigned/apply for coverage to the private insurers participating in the residual market. • Assigned Risk Pool – Those who cannot get coverage in the voluntary market may apply to pool; all WC insurers in the state get share of applicants to pool based on DWP. • Joint Underwriting Association (JUA) writes coverage for high risk employers. All insurers share any underwriting loss in proportion to their market share.
EXAMINER'S REPORT
• Candidates were expected to understand the reasons for Workers Compensation being compulsory and the impact it has on employers & know programs/mechanisms put in place to ensure coverage for workers.
Part a
Candidates were expected to provide three distinct examples of which highlighted ways in which an employer might be affected by repeal of compulsory WC laws. A common mistake was to address impacts to insurance companies, regulators, or employees without mentioning the impact to employers.
Part b
Candidates were expected to recall the names of two federal WC programs, and accurately describe the workers covered by each program. Common errors included: • Describing Longshore and Harbor Works as “off shore”, “at sea”, or “open water” marine workers. • Listing Unemployment Insurance, OSHA, Social Security, or Medicare as these are not WC programs. • Listing Second Injury Fund as this is a state program. • Listing TRIA as this is a federal program providing reinsurance and it does not directly provide WC coverage or define any specific worker category.
Part c
Candidates were expected to either name two mechanisms with a brief description each or provide two thorough descriptions of mechanisms.

SAMPLE ANSWERS AND EXAMINER'S REPORT

Common errors included:

- Stating Public-Private Partnership as this does not describe a mechanism that ensures availability or affordability to employers.
- Self-Insurance – does not provide insurance coverage.
- State acts as reinsurer to private insurance company.
- States can impose fines and other consequences if proof of insurance is not produced and provided to the state.
- States can audit companies to ensure WC coverage was purchased and the benefit is offered.

FALL 2019 EXAM 6U, QUESTION 11	
TOTAL POINT VALUE: 2	LEARNING OBJECTIVE: C1
SAMPLE ANSWERS	
Part a: 1 point	
<u>Sample 1</u> Underwriting income = earned premium – (incurred loss + incurred LAE + other expense) Earned premium = $200,000 \times (9/12) = 150,000$ Underwriting Income = $150,000 - (25,000 + 4,000 + 3,200) = \mathbf{117,800}$ = contribution from Workers Comp <u>Sample 2</u> By using monthly pro rata method, the policy is assumed to be effective on middle of April EP = $200,000 \times (17/24) = 141,667$ Loss incurred = 25,000 LAE incurred = 4,000 Other expenses incurred = 3,200 Underwriting income = EP – loss incurred – LAE incurred – Other expenses incurred U/W income = $141,667 - 25,000 - 4,000 - 3,200 = \mathbf{109,467}$	
Part b: 1 point	
<u>Sample 1</u> Loss reserve = $25,000 - 5,000 = 20,000$ LAE reserve = $4,000 - 500 = 3,500$ Other reserve = $3,200 - 3,000 = 200$ Liabilities = $20,000 + 3,500 + 200 = 23,700$ Unearned Premium = $200,000 - 150,000 = 50,000$ Total liabilities = $23,700 + 50,000 = \mathbf{73,700}$	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Sample 2

By using monthly pro rata method, the policy is assumed to be effective on middle of April

$$\text{UEPR} = \text{WP} - \text{EP} = 200,000 - 141,667 = 58,333$$

$$\text{Loss reserve} = \text{loss incurred} - \text{loss paid} = 25,000 - 5,000 = 20,000$$

By using similar formula:

$$\text{LAE reserve} = 4,000 - 500 = 3,500$$

$$\text{Other expenses} = 3,200 - 3,000 = 200$$

$$\text{Total liabilities} = 58,333 + 20,000 + 3,500 + 200 = \mathbf{82,033}$$

EXAMINER'S REPORT

For this question candidates were expected to demonstrate basic understanding of Balance Sheet and Income Statement concepts.

Part a

Candidates were expected to be able to correctly calculate the underwriting income given the information provided.

Common errors included:

- Not earning the premium correctly – calculating too few or too many months
- Not subtracting the Other Expenses
- Not realizing the premium needed to be earned

Part b

Candidates were expected to be able to correctly calculate the year-end total liabilities given the information provided.

Common errors included:

- Not including the Unearned Premium Reserves
- Using Incurred Liabilities and not Change in Liabilities
- Not including Other Expenses

FALL 2019 EXAM 6U, QUESTION 12

TOTAL POINT VALUE: 2.75

LEARNING OBJECTIVE: C1

SAMPLE ANSWERS

Part a: 2.25 points

Sample 1

Total Assets = Total Liabilities + Surplus + Non-admitted Assets

Surplus = Prior year surplus + Net Income + Direct charges to Surplus

$$= 4000 - 120 - (290 - 230) - (30 - 20) - 5 + (135 - 132) + (60 - 50) \\ = 3817$$

$$\text{Total Assets} = 2000 + 3817 + 290 = 6107$$

SAMPLE ANSWERS AND EXAMINER'S REPORT

Sample 2

CY Surplus = PY Surplus (4000) + Net Income (-120) + Δ in unrealized capital gains (60-50) + Δ in surplus notes (135-133) + Dividends to stockholders (-5) + Δ in provision for reinsurance (20-30) + Δ in non-admitted assets (230-290)
= 3817

Surplus = Admitted Assets – Liabilities

3817 = Admitted Assets – 2000

Admitted Assets = 5817

Total Assets = Admitted Assets + Non-Admitted Assets
= 5817 + 290 = 6107

Part b: 0.5 point

Sample 1

Furniture – cannot be easily sold to pay policyholder claims in event of liquidation (i.e. illiquid asset – not easily converted to cash)

Sample 2

Agent's balances more than 90 days overdue – non admitted because it is more likely that these will not be recovered, and since SAP is concerned with solvency these would not be readily available in liquidation.

Sample 3

Electronic Equipment – this asset is not very liquid and would not be available to pay claims.

Sample 4

Deferred tax assets – not an asset that can generally be used to pay claims and may not ever be convertible to cash

Sample 5

10% of deductible recoverable over collateral – risk that policy will not pay their share

Sample 6

Real Estate – full amount will not be realized/not readily available to pay claims

EXAMINER'S REPORT

Candidates were expected to demonstrate knowledge and understanding of the Annual Statement, including Income Statement and Balance Sheet, and statutory accounting principles.

Part a

Candidates were expected to demonstrate an understanding of the relationship between assets, liabilities, surplus and net income in the Annual Statement.

Common errors include:

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Mistakenly calculating Admitted Assets as Surplus minus Liabilities rather than Surplus plus Liabilities.
- Failing to recognize that Liabilities plus Surplus equals Admitted Assets, not Total Assets, and consequently failing to add non-admitted assets to Liabilities plus Surplus to get Total Assets.
- Failing to recognize that in the derivation of direct charges to surplus, the changes in non-admitted assets and provision for reinsurance should be prior less current, not current minus prior.
- Inclusion of extraneous items (such as policyholder dividends, finance/service fees or investment income) in the calculation of Total Assets.
- Treating the information as being GAAP and/or adjusting for taxes

The question asked for Total Assets; exam instructions dictate that unless specifically stated otherwise, all responses should be answered according to US statutory accounting principles and policies.

Part b

Candidates were expected to identify a specific example of a non-admitted asset and explain why it was treated as non-admitted for statutory reporting purposes.

Common errors include:

- Providing illiquidity as the reason for the asset being non-admitted when in fact it is because of concerns with collectability.
- Answers too vague, i.e. "the asset not being available in the event of insolvency" rather than giving collectability or illiquidity as the specific reason for it being treated as non-admitted.

FALL 2019 EXAM 6U, QUESTION 13

TOTAL POINT VALUE: 2.5

LEARNING OBJECTIVE: C1

SAMPLE ANSWERS

Part a: 1.5 points

Sample Responses for subpart i.

- This may be a concern as insurance is growing a lot, they may not have understanding of exposure risk and without reinsurance protection underwriting gain (loss) may be lower, due to more losses.
- This would decrease the net underwriting gain (loss), lower profit/higher loss, as this likely means they have lower underwriting standards.
- As insurer writes more business, depending on quality of new business it can be a gain or loss.

Sample Responses for subpart ii.

- With more growth and not ceding any premium away, the insurer can invest more which will likely increase the net investment gain if the investment performance is not negative.

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Could invest in riskier assets to try and make more investment income. This could be very volatile and could either yield large profits or large losses.

Sample Responses for subpart iii.

- This will be the total underwriting gain plus investment gain and if the investment gain helps offset any losses, net income can be positive.
- Net Income will increase as underwriting profit and investment gain increase. If prior assumptions about new business remaining similarly profitable do not hold, net income may decrease as new growth leads to higher underwriting losses.

Part b: 1 point

Sample Responses for subpart i.

- Net underwriting gain (loss) may increase since they are ceding riskier business.
- This will stabilize underwriting gain/losses. This could limit the downside through XOL covers (i.e. loss cat exposed).
- Net underwriting gain (loss) may not change if the insurer buys reinsurance to maintain original net risk retention and cede additional acceptance to reinsurers.
- Usually, the underwriting gain will be slightly worse as the reinsurance premiums will necessarily (due to profit load, expenses, etc.) be higher than exposure the company cedes.
- Assuming the reinsurance company is able to add insight into the rapidly growing lines of business the company should see an increase in net underwriting gain.

Sample Responses for subpart ii.

- Since they are ceding out premium, there will be less premium to invest so dollar wise investment income may reduce.
- Net investment gain (loss) may not change if additional premium is spent for reinsurance cost, money available for investment remains unchanged.

EXAMINER'S REPORT

Question requires knowledge of income statement components with and without reinsurance, and application of knowledge to a specific business situation.

Part a

Candidates were expected to discuss how the income statement components would be impacted by a specific business situation in the absence of reinsurance.

Common errors include:

- Not providing an explanation.
- Stating that underwriting gain would decrease in the case of large/catastrophe losses without discussing the growth context.
- Stating that there would be no impact on investment gain.
- Stating the company will have higher expenses without making a connection to lower investment gain

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Not identifying that net income = net underwriting gain plus net investment gain.
- Underwriting gain will increase because premium will be earned immediately but losses won't materialize until later without an explanation why.

Part b

Candidates were expected to discuss how the income statement components would be impacted by reinsurance, given a specific business situation.

Common errors included:

- Stating that reinsurance would result in only ceded premium or only ceded losses.
- Stating that there would be no impact on investment gain.
- Stating that ceding commission would increase the amount of investable assets without further explanation (ceding commission offset the loss of assets from paying for reinsurance but doesn't produce a net increase in assets).
- Providing no explanation for the provided direction (gain/loss).

FALL 2019 EXAM 6U, QUESTION 14

TOTAL POINT VALUE: 2.5

LEARNING OBJECTIVE: C1

SAMPLE ANSWERS

Part a: 1.25 points

Calculate claim closure rate

2014: $(175 - 25) / 175 = 85.7\%$

2015: $(180 - 29) / 180 = 83.9\%$

2016: $(212 - 35) / 212 = 83.5\%$

2017: $(245 - 44) / 245 = 82.0\%$

Or using closed with pay

2014: $135 / 175 = 77.1\%$

2015: $139 / 180 = 77.2\%$

2016: $159 / 212 = 75.0\%$

2017: $181 / 245 = 73.9\%$

Identify trend

The closure rate is decreasing

Any two of the following explanations for the trend:

- Reduction in staffing levels
- Growth in book without a commensurate increase in staff
- Influx of claims resulting from the occurrence of a catastrophe
- Increasing claim reported count or frequency
- Change in focus to settling large or complex claims
- Change in claims methodology or process that slowed closure

Part b: 0.5 point

SAMPLE ANSWERS AND EXAMINER'S REPORT

Sample 1

(Part 2 – Part 3 – Part 4) / Part 5.2

Sample 2

(Incurred – Paid – Bulk/IBNR) / Outstanding claim count

Part c: 0.25 point

Any of the following responses:

- Identify trends in the cost of insurance claims which could impact reserve levels or projected ultimates
- Changes in case reserve levels may be sign that the company has strengthened or weakened its case reserves
- Identifying change in claims handling practices or reserving methodologies

Part d: 0.5 point

Any two of the following responses:

- Some companies record claims on a per-claim basis vs a per-claimant basis
- Management may have explanations for changes that aren't obvious from the data
- Rate change information isn't given and so changes in pricing can distort frequency ratios
- Changes or differences in mix of business, policy limits, reinsurance attachment points can affect trends in claims
- Part 5 doesn't take into account reinsurance. If claims are 100% ceded the comparison between companies can be distorted, especially if leveraging other parts of Sched P in conjunction with Part 5
- Different claims procedures across companies can distort, particularly because claims are undeveloped
- There is some judgment in the data preparation of Schedule P
- Different treatment of reopened claims
- Only includes 10 years so might not be appropriate for very long tailed lines
- Definition of closed claim can vary
- Commutations can distort the triangle

EXAMINER'S REPORT

Candidates were expected to understand the triangles of Schedule P to create various metrics, identify trends within those metrics, provide explanations for those trends and reasons for caution in their analysis.

Part a

Candidates were expected to calculate the claim closure rate, either using closed with pay or total closed as the numerator and reported claims as the denominator as of 12 months. They were expected to identify the trend in the closure rate and give explanations for it.

Common errors include:

- Identification of a trend that was inconsistent with the calculated closure rates
- Misinterpreting the closure rate trend

SAMPLE ANSWERS AND EXAMINER'S REPORT

Not explicitly stating the trend
Part b Candidates were expected to calculate the average case reserve outstanding from Schedule P. To receive full credit they must identify the components of the numerator and denominator either by number or description. Common errors include: - Excluding Part 4 (Bulk / IBNR) - Not specifying the correct Part 5 triangle
Part c Candidates were expected to provide and substantiate a reason why the triangle of case outstanding may be important. Common errors include: Stating a trend that was inconsistent with the description of the trend's impact on ultimate
Part d Candidates were expected to provide 2 valid reasons why data from Schedule Part 5 should be used with caution. Common errors include: - Generalizing the answer to all parts of Schedule P and not specifically focusing on Part 5 - Stating that the triangles are net of reinsurance and only providing 1 reason

FALL 2019 EXAM 6U, QUESTION 15	
TOTAL POINT VALUE: 3.75	LEARNING OBJECTIVE: C1
SAMPLE ANSWERS	
Part a: 2.25 points	
<u>Sample 1</u> $\text{Slow-paying test: } \frac{\overbrace{90 + \text{overdue exclude dispute}}^{200+25}}{\underbrace{200+25+80+300}_{\text{unpaid excluding dispute}} + \underbrace{75+50}_{\text{paid in last 90}}} = .308 > .2 \rightarrow \text{slow paying}$ $\text{Total recoverable} = \overbrace{800 + 750}^{\text{case+IBNR recoverable}} + \overbrace{2,000 + 200 + 25 + 80 + 30 + 40}^{\text{total paid recoverable including dispute}} = 4,195$ Total unsecured recoverable = 4,195 – 100 = 4,095	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Paid recoverable 90+ (including dispute) = 2,000 + 200 + 25 = 2,225

Provision for reinsurance = $\max(.2(4,095), .2(2,225)) = 819k$

Sample 2

$$\text{slow paying ratio} = \frac{\text{recoverables on paid} > 90 \text{ days OD}}{\text{all paid recoverables} + \text{amounts paid last 90 days}} \} \text{exclude dispute}$$

Paid recoverable > 90 days OD = 200,000 + 25,000 = 225,000

All paid recoverable = 200,000 + 25,000 + 80,000 + 300,000 = 605,000

Amt paid last 90 days = 75,000 + 50,000 = 125,000

Slow paying ratio = $225000 / (605000 + 125000) = .308$

.308 > .2, so slow paying reinsurer

Provision for reinsurance = $.2 * \max(\text{unsecured recoverables, recoverables over 90 days overdue})$

Unsecured recoverables = 605,000 (from above) + 2,000,000 + 40,000

+ 800,000 + 750,000

– 100,000

= 4,095,000

Recoverable over 90 days overdue = 225,000 (from above) + 2,000,000

= 2,225,000

Provision for reinsurance = $.2(\max(4,095,000, 2,225,000))$

= \$819,000

Part b: 0.5 point

Sample 1

Collateral held in trust with reinsurer does not qualify as collateral for reinsurance provision calculation because it's not held by the insurer.

RP = $20\% * \max(4,195 - 0, 2,225) = 839 = 839,000$

Sample 2

Remove it as collateral as it's held by the reinsurer

$20\% * \max(2225, 4095+100) = 839$

Part c: 1 point

One of the following responses for an asset item:

- Reinsurance recoverable on paid loss & LAE
- Amount recoverable from reinsurers

The following three responses for a liability item:

- Reinsurance payable on paid loss
- Funds held by the company under its reinsurance agreements
- Provision for reinsurance

SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT
The candidate was expected to demonstrate knowledge of Reinsurance Accounting and Schedule F by calculating the provision for reinsurance under two collateral scenarios and providing the balance sheet asset and liabilities that are taken directly from Schedule F.
Part a
Candidates were expected to interpret the reinsurance recoverables provided and correctly categorize them for use in formulas required to calculate the provision for reinsurance. Candidates were expected to check whether the reinsurer is slow-paying and use that conclusion to apply the correct formula and calculate the provision for reinsurance. Common errors included: • Including an additional \$800,000 in the total amount recoverable from reinsurers (excluding dispute) in the slow-pay formula. It is unclear whether this \$800,000 came from the recoverables on known case loss & LAE reserves or from the claim with accident date November 29, 2018; the source may have varied by candidate. This resulted in the candidate calculating a ratio less than 0.2, thus identifying the reinsurer as non-slow-paying. • Miscalculation of the total recoverables including dispute. Candidates commonly presented the total recoverables as being only the sum of the recoverables on known case and IBNR loss and LAE reserves without including the paid recoverables. Alternatively, many candidates did the opposite and used only the paid recoverables as total recoverables and neglected to include the case and IBNR recoverables.
Part b
Candidates were expected to know that collateral held in trust is not counted as offsetting security in the provision for reinsurance calculation, as these amounts are under the control of the reinsurer. A common mistake was stating that all collateral is treated the same and there is no impact to the provision from the change in collateral type.
Part c
Candidates were expected to identify one asset and three liability items on an insurance company's balance sheet that come directly from Schedule F. Common errors included: • Confusing which party makes or receives a transaction. Examples of incorrect responses include: ○ amounts recoverable by reinsurer ○ ceded amount payable to reinsurer ○ incorrectly identifying the reinsurer as the holder of the collateral instead of the reinsured

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Vague responses, such as not identifying the purpose and/or holder of the collateral (e.g., saying "total collateral")
- Noting that the transaction related to premiums rather than loss and LAE
- Mixing up the concepts of recoverable and payable

FALL 2019 EXAM 6U, QUESTION 16	
TOTAL POINT VALUE: 2	LEARNING OBJECTIVES: C1, D1
SAMPLE ANSWERS	
Part a: 1 point	
<u>Sample 1</u> For Structured Settlements, contingent liability is $1,300/35,000=3.7\%$ of Surplus which is high considering disclosure is 1% for each life insurer the annuity is from. This is a significant amount of credit risk. For High Deductible, the total case reserve under the deductible is 15.8% of total reserves and 43% of policyholder surplus. This is a significant portion of reserves and poses a high credit risk to the Company. Overall the Company is exposed to a significant amount of credit risk from high deductible policies and structured settlements. <u>Sample 2</u> Subject to credit risk from the life insurer, as Company is the owner of the annuity, and no release of the liability is signed. The outstanding payment is \$1.3 million from the life insurer. This is 3.7% of Policyholder Surplus, is material and requires disclosure on name of life insurer and outstanding payment if the annuity is purchased from only 1 life insurer. Reserves under the deductible is \$15 million, which is 42.9% of PHS and 15.8% of total unpaid loss and LAE reserves. This is material and the Company may not be potentially able to receive this amount, so substantial credit risk exists. <u>Sample 3</u> % Structured Settlement=$1.3/35= 3.7\%$ % High Deductible=$15/35=42\%$ There is credit risk from the Structured Settlement since the insurer did not get a signoff release. A 3.7% of surplus could be considered high if it comes from a single company/insured. There is a significant risk from the high deductible policy since it represents 42% of the PHS.	
Part b: 1 point	
<u>Sample 1</u> In the notes to the Financial Statements, uncollectibility is a retrospective look at what is written off. In the SAO, it is made after conversations with management and looking at reinsurance companies and structures. <u>Sample 2</u>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

In the notes to the Financial Statements, the retrospective look of uncollectible amounts is shown. In the SAO, it is considering prospective risks posed by future uncollectible reinsurance. This may consider past experiences but also considers reinsurer's financial health.

Sample 3

The notes to the Financial Statements discuss reinsurance that has been deemed uncollectible in the past year; thus it has a retrospective view of collectability of reinsurance. On the other hand, the SAO must discuss the uncollectibility of reinsurance prospectively in order to determine if reserves are adequate including the risk of any collectability concerns of reinsurance.

EXAMINER'S REPORT

Candidates were expected to be able to identify where the credit risk was generated from the Structured Settlements and the High Deductible policies. Also, they were expected to determine the difference in how uncollectible reinsurance is addressed in the Notes to the Financial Statements and the Statement of Actuarial Opinion.

Part a

Candidates were expected to state that there was credit risk for the structured settlements. The candidate had to note the structured settlements credit risk was material by either the 1% standard or noting that it would depend on whether 1 or many life insurers issued the annuities. The candidate had to state that there was credit risk from the high deductible policies. The candidate had to mention that the risk was high or show a calculation of the deductible to surplus or unpaid loss and LAE.

Common errors include:

- Performing an RBC calculation to determine credit risk
- Accounting for structured settlements as paid loss
- Determining that since the company was holding case reserves for the high deductibles there was no credit risk
- Addressing credit risk with IRIS ratios
- Combining the structured settlement and high deductible amounts to determine credit risk

Part b

Candidates were expected to know that the Notes to the Financial Statements display amounts written off during the year and that it shows the history of uncollectible reinsurance. Candidates were expected to know that the SAO is concerned with the future collectability of reinsurance and its impact on the reserves.

Common errors include:

- Discussing the Note to unsecured reinsurance instead of uncollectible reinsurance
- Stating that uncollectible reinsurance was discussed in the Scope section or Opinion Section

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2019 EXAM 6U, QUESTION 17	
TOTAL POINT VALUE: 2.5	LEARNING OBJECTIVE: C2
SAMPLE ANSWERS	
Part a: 1.5 points	
[1] Reinsurance Ceded Commission = Reinsurance commission ceded excluding contingent + Contingent commission ceded = 21,769 + 180 = 21,949 [2] Reinsurance Premium Ceded = Ceded WP to Affiliates + Ceded WP to Non- Affiliates = 1,073 + 129,839 = 130,912 [3] Ceding Commission Ratio = $\frac{[1]}{[2]}$ = 17% [4] UEPR Non-Affiliates (given in problem) = 66,006 [5] Surplus Aid = [3] * [4] = 11,067 [6] PH Surplus (given in problem) = 62,787 IRIS Ratio 4 = $\frac{\text{Surplus Aid}}{\text{PH Surplus}}$ = $\frac{[5]}{[6]}$ = 18% Outside usual range of values - usual range is below 15%	
Part b: 1 point	
[1] Adjusted Liabilities = Total Liabilities – Deferred and not yet due = 742,934 – 22,596 = 720,338 [2] Liquid Assets = Liquid Assets – Investment in Parent, Sub, & Affiliates = 688,592 + 15,539 + 56,376 + 4,089 + 984 + 1,839 – 22,657 = 744,762 IRIS Ratio 9 = $\frac{[1]}{[2]}$ = 97% Usual range for the ratio includes results below 100%. Therefore, this result is in the usual range.	
EXAMINER'S REPORT	
Candidates were expected to have an understanding of IRIS ratios, including what information to utilize from an annual statement to calculate them. Candidates were also expected to comment on the reasonableness of IRIS ratios for a given insurer.	
Part a	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Candidates were expected to identify the correct premium and commission elements from the annual statement to calculate the Ceded Commission Ratio and, as a result, Surplus Aid. Candidates then needed to calculate IRIS Ratio 4 and comment on its reasonableness.

Common errors included:

- Failure to include both Reinsurance Ceded Commission elements when calculating Ceding Commission Ratio
- Failure to include both Reinsurance Premium Ceded elements when calculating Ceding Commission Ratio
- Including Ceded UEPR – Affiliates in the calculation of Surplus Aid
- Incorrect usual range used in determining reasonableness of IRIS Ratio 4 calculated

Part b

Candidates were expected to identify the correct asset and liability elements from the annual statement to calculate Adjusted Liabilities and Liquid Assets. Candidates then needed to calculate IRIS Ratio 9 and comment on its reasonableness.

Common errors include:

- Failure to subtract Deferred Assets from Total Liabilities when calculating Adjusted Liabilities
- Subtracting uncollected premium (15.1) from Total Liabilities
- Failure to subtract Investment in Parent, Sub, & Affiliates when calculating Liquid Assets
- Failure to include all the needed line items when calculating Liquid Assets
- Incorrect usual range used in determining reasonableness of the calculated IRIS Ratio 9

FALL 2019 EXAM 6U, QUESTION 18

TOTAL POINT VALUE: 2.75

LEARNING OBJECTIVE: C2

SAMPLE ANSWERS

Part a: 0.25 point

Sample 1

The company's RBC Ratio is between 200% and 300% and its combined ratio is greater than 120%

Sample 2

The combined ratio of 125% is greater than 120%

Part b: 2 points

Sample 1

$285\% = 18m / ACL \rightarrow ACL = 6,315,789$

$RBC = ACL \times 2 = 12,631,578$

$12,631,578 = 0 + (300,000^2 + R2^2 + 500,000^2 + 10,000,000^2 + 1,000,000^2)^{.5}$

$7,629,992 = \text{Current } R2$

$300\% = 18m / ACL \rightarrow ACL = 6m \rightarrow RBC = 12m$

SAMPLE ANSWERS AND EXAMINER'S REPORT

$$12,000^2 = 300^2 + R2^2 + 500^2 + 10,000^2 + 1,000^2$$
$$6,531,462 = R2 \text{ needed}$$

R2 decrease needed = $7,629,992 - 6,531,462 = 1,098,530$
Insurer needs to convert $1,098,530 / .3 = 3,661,767$

Sample 2

$$2.85 = 18 / \text{ACL so ACL} = 6.32\text{M and RBC} = 6.32 * 2 = 12.63\text{M}$$

$$12.63 = \sqrt{(.3^2 + R2^2 + 0.5^2 + 10^2 + 1^2)}$$

So current R2 = 7.63M

$$7.63 = .3 * 10 + y$$

y = 4.63m = component of R2 not from Class 6 unaffiliated stocks

Government bonds get RBC factor of 0 so R1 will stay the same and R2 will decrease

$$3 = 18 / \text{ACL}^* \text{ so ACL}^* = 6\text{m and RBC}^* = 6 \times 2 = 12\text{M}$$

$$12 = \sqrt{(.3^2 + R2^{*2} + 0.5^2 + 10^2 + 1^2)}$$

So new R2* = 6.53m

$$6.53 = 4.63 + .3x$$

x = 6.33m = amount of Class 6 stocks to retain

$$10 - 6.33 = 3.67$$

Convert 3.67m of unaffiliated stock to government bonds to achieve RBC ratio of 300%

Sample 3

$$\text{Current RBC} = (18/2.85)/.5 = 12.631$$

$$\text{Target RBC} = (18/3)/.5 = 12$$

Assume government bonds are not backed by the US government and will therefore have an RBC charge of 0.003.

$$12.63 = \sqrt{(.3^2 + R2^2 + 0.5^2 + 10^2 + 1^2)}$$

So current R2 = 7.63M

Let x = amount of Class 6 stocks to convert

$$\text{Target R1} = 0.3 + 0.0003x$$

$$\text{Target R2} = 7.63 - 0.3x$$

$$12^2 = (.3 + 0.0003x)^2 + (7.63 - .3x)^2 + 0.5^2 + 10^2 + 1^2$$

$$42.75 = .090009x^2 - 4.5762x + 58.3069$$

$$.090009x^2 - 4.5762x + 15.5569 = 0$$

Solve for x using quadratic formula: $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$$x = 3.663506$$

Convert \$3,663,506 of Class 6 stocks into government bonds

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part c: 0.5 point

Sample Responses for usual range of IRIS ratio 5 (any one of the following):

- The usual range for IRIS ratio 5 is up to 100%
- The unusual range for IRIS ratio 5 is greater than 100%

Sample responses for the reason why IRIS ratio 5 might be outside the usual range for the insurer (any one of the following):

- It may be outside the range because the current year's combined ratio is 125%. The prior year would have had to have been very profitable to get IRIS ratio 5 into the usual range
- The insurer may have suffered a catastrophe loss
- Investment in risky stocks could lead to very volatile returns
- High expenses due to inefficient operations may cause a high IRIS 5
- High loss ratio
- The insurer may be trying to grow rapidly which could lead to high loss and expense ratios
- High R4 RBC component, implying possible adverse development of reserves which would result in a high loss ratio
- High commission expenses to agents leading to high expense ratio

EXAMINER'S REPORT

Candidates were expected to be familiar with the trend test. In addition, candidates were expected to understand the relationship between Authorized Control Level capital and Risk Based Capital. They were further expected to understand Risk Based Capital and its underlying formula. Finally, candidates were expected to be familiar with IRIS ratio 5 (Two-Year Overall Operating Ratio) and the components of the Operating Ratio.

Part a

Candidates were expected to be familiar with trend test and the threshold of combined ratio to fail the test.

Common errors included:

- Incorrectly identifying the threshold as 100%
- Mentioning that the insurer fails the test because its combined ratio is 125%, without also noting that this fails the test because it is greater than the threshold of 120%

Part b

Candidates were expected to understand the relationship between Authorized Control Level and Risk Based Capital. They were further expected to know the formula for Risk Based Capital in order to calculate the current value for R2 as well as the target value. Candidates were then expected to recognize that to accomplish this reduction in R2 they had to divide the difference by the charge provided for NAIC Class 06 RBC factor for equities (0.3).

SAMPLE ANSWERS AND EXAMINER'S REPORT

Some candidates assumed that the government bonds referred to in the question were not guaranteed by the US government, and would therefore receive an RBC charge of 0.003. This required candidates to note that this would cause R2 to decrease by 0.3 multiplied by the amount converted, and R1 to increase by 0.003 multiplied by the amount converted.

Common errors included:

- Calculating $R2 = 0.3 \times 10m$, ignoring other R2 components
- Using a charge other than 0.3 on NAIC Class 6 stocks
- Forgetting to divide the difference in R2 by 0.3
- Assuming government bonds have a charge of 0.003 and that this would cause R2 to reduce by $(0.3 - .003) \times (\text{amount converted})$, instead of adding the charge to R1
- Taking the difference in Target & Current RBC instead of R2
- Not multiplying the ACL by 2 to get the RBC
- Confusing the amount of Class 06 stock to retain with the amount to sell

Part c

Candidates were expected to be familiar with IRIS ratio 5 (Two-Year Overall Operating Ratio) and the components of the Operating Ratio.

A wide range of answers were accepted for why IRIS ratio 5 might be outside the usual range for the insurer, as long as it provided a reason that might increase the overall operating ratio. Many candidates did well describing the usual IRIS ratio 5 (Two-Year Overall Operating Ratio) and highlighting a component of the Operating Ratio.

Common errors included:

- Stating that the usual range was over 100%
- Identifying the usual range for investment income instead of the usual range for IRIS ratio 5
- Not providing a reason that would cause Operating Ratio to be high

FALL 2019 EXAM 6U, QUESTION 19

TOTAL POINT VALUE: 2

LEARNING OBJECTIVE: C2

SAMPLE ANSWERS

Part a: 0.75 point

Sample 1

R4 Charge before LCF = $12m / .85 = 14,117,647$

Sum of RBC charges ex HO = $3.8m + 4.7m = 8.5m$

HO RBC % = $1 - (3.8m + 4.7m) / 14,117,647 = 40\%$

Sample 2

x= HO R4 Charge

$12 = .85(x + 3.8 + 4.7)$

$12 / .85 = x + 8.5$

SAMPLE ANSWERS AND EXAMINER'S REPORT

$14.1 = x + 8.5$
 $X = 14.1 - 8.5$
 $X = 5.6$
HO RBC as % of total RBC: $5.6/14.1 = 39.7\%$

Part b: 0.75 point

Sample 1

HO reserve % = $(.85 - .7) / .3 = 50\%$
Total Reserves ex HO = $33.25m + 14.25m = 47.5$
Total Reserves = $33.25 + 14.25 + 47.5 = 95m$

Sample 2

x = HO reserve
 $.85 = .7 + .3x / (x + 14.25 + 33.25)$
 $.15(x + 47.5) = .3x$
 $.15 * 47.5 = .15x$
 $x = 47.5$
Total Reserves = $33.25 + 14.25 + 47.5 = 95m$

Part c: 0.5 point

Sample Responses

- Would add WC Loss & LAE reserve RBC
- LCF could change
- Excessive premium growth if growing rapidly
- WC will now be included in the industry average loss & LAE ratio
- WC will now be considered in the adjustment for investment income
- WC may impact the percent of business that is retro rated
- WC is volatile or WC is long-tailed

EXAMINER'S REPORT

The candidate was expected to know the RBC formulae, what is extraneous info that should be excluded, and how to work with the LCF.

Part a

The candidate was expected to know that the LCF applies only to the total RBC R4 charge and not the R4 for each line.

Common errors included:

- Applying the LCF to PPAL and OL
- Using the investment income adjustment
- Using Industry Loss and LAE percentage
- Calculating the HO R4 charge correctly, but not using it to calculate the percentage of the total R4 charge attributable to HO.

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part b
The candidate was expected to know the formula for calculating the LCF. Common errors included: • Not knowing the formula • Reversing the 0.3 factor for the largest line and the 0.7 for the total of the other lines • Calculating the HO reserve correctly but not using it to calculate the total reserves.
Part c
The candidate was expected to know enough about the R4 charge to be able to describe ways it would be impacted by introducing another line of business. Common errors included: • The two ways described were too similar. • Incorrectly describing how the R4 charge changes. As an example, "WC reserves will cause the LCF to decrease so the total R\$ will increase."

FALL 2019 EXAM 6U, QUESTION 20	
TOTAL POINT VALUE: 2.5	LEARNING OBJECTIVE: C3
SAMPLE ANSWERS	
Part a: .75 point	
<u>Sample 1</u> SAP=> Use bond class to decide ⇒ Class 1&2 => Amortized Cost ⇒ Class 3-6 => min (Amortized Cost, Fair Value) ⇒ Bond value = 100 + 85 + 20 + 62 + 23 + 40 + 78 + 45 + 27 = 480 <u>Sample 2</u> SAP Bonds= 100 + 85 + 20 Class 1 @ amortized cost + 62 + 23 + 40 Class 3,6 @ min (amortized cost, FV) + 78 + 45 + 27 = 480 <u>Sample 3</u> Bonds under SAP NAIC Class 1-2 at Amortized cost Class 3-6 min(Amortized cost, fair value) ➤ (100 + 85 + 20) + [min(75,62) + min(30,23) + min(47,40)] + [min(80,78) + min(60,45) + min(32,27)] ➤ 205 + [125] + [150] ➤ = 480	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Sample 4

Class 1 & 2 are valued at amortized cost

Class 3-5 are valued at the lower of the fair value and amortized cost

$$\begin{aligned}\text{Value} &= 100 + 85 + 20 + 62 + 23 + 40 + 78 + 45 + 27 \\ &= 480\end{aligned}$$

Part b: .75 point

Sample 1

Under US GAAP => value depend on usage

- ⇒ Available for sale => fair value
- Held to maturity => amortized cost
- Held for trading => fair value
- ⇒ Bond value = $90 + 62 + 78$
 $+ 85 + 30 + 60$
 $+ 15 + 40 + 27$
 $= 487$

Sample 2

$$\begin{aligned}\text{GAAP Bonds} &= 85 + 30 + 60 && \text{amortized cost for held to maturity} \\ &+ 90 + 62 + 78 && \text{fair value for sale, trading} \\ &+ 15 + 40 + 27 \\ &= 487\end{aligned}$$

Sample 3

Bonds under GAAP

- Bonds available for sale or held for trading: fair value
- Bonds held to maturity: amortized cost
- $(90 + 62 + 78) + (15 + 40 + 27) + (85 + 30 + 60)$
 $= 230 + 82 + 175$
 $= 487$

Sample 4

AFS: fair value

HTM: Amortized

HFT: fair value

$$\begin{aligned}\text{Value} &= 85 + 30 + 60 + 90 + 62 + 78 + 15 + 40 + 27 \\ &= 487\end{aligned}$$

Part c: .5 point

Sample Responses for SAP Purpose

- SAP: Will be used by regulators:
Sample responses – any one of the following:
 - To evaluate solvency
 - To show the value of the company on a conservative basis

SAMPLE ANSWERS AND EXAMINER'S REPORT

- *To focus on balance sheet*
 - *To focus on a liquidation view*
- SAP is mainly for regulators to view company's financial health with solvency perspective to see whether the company is able to meet policyholder obligations and is more conservative.
- SAP accounting is used by regulators to monitor the solvency of an insurer and their ability to pay claims
- SAP is for regulators and is more conservative with focus on providing early warning of insolvency

Sample Responses for GAAP Purpose

- GAAP: Will be used by investor, shareholders and company management
- Sample responses – any one of the following:*
 - *To provide an accurate view of the insurer*
 - *To focus on income*
 - *To show the value of the company as a going concern*
- GAAP is for investors, company management to see the company as a going concern and one interested in profitability, earning potential of the company by matching revenue and expenses
- US GAAP is used by investors and creditors to monitor the profitability of the company on a going concern basis
- GAAP is for investors and focuses on income emergence

Part d: .5 point

Sample 1

For SAP: The primary purpose is solvency. While bond's value in SAP is depending on its class, if assume liquidation view we should use fair value for all bonds assume the insurer goes bankruptcy & assets need to be liquidated. This conflicts with current approach.

Sample 2

SAP values high class (1,2) bonds at amortized cost but in case of insolvency they will be sold at fair value which may be lower than amortized cost. This contradicts SAP's conservative valuation for solvency purpose.

Sample 3

Bonds under SAP for NAIC classes 1-2 are valued at amortized which may be higher than their fair market value. If an insurer became insolvent & needed to sell these bonds, they could only be able to sell them for their fair market value which may be less than amortized cost.

Sample 4

Classes 1-2 bonds are valued at amortized costs even if it is higher than fair value. This conflict with its primary purpose. One explanation is they are meant for holding to maturity so market fluctuation doesn't matter.

Sample 5

SAMPLE ANSWERS AND EXAMINER'S REPORT

For SAP: While bond's value in SAP is depending on its class, if the company assumes liquidation view, we should use fair value for all bonds assume the insurer goes into bankruptcy and assets need to be liquidated.

Sample 6

SAP values high class (1,2) bonds at amortized cost but in case of insolvency they will be sold at fair value which may be lower than amortized cost.

Sample 7

Bonds under SAP for NAIC classes 1-2 are valued at amortized which may be higher than their fair market value. If an insurer became insolvent and needed to sell these bonds, they could only be able to sell them for their fair market value which may be less than amortized cost.

Sample 8

Class 1&2 Bond is valued at amortized costs even if it is higher than fair value. This conflict with its primary purpose. One explanation is they are meant for holding to maturity so market fluctuation doesn't matter

EXAMINER'S REPORT

Candidates were expected to have an understanding of definition SAP and GAAP accounting and articulate the conceptual differences between the accounting practices and conflicts with the SAP principles. Candidates were expected to demonstrate the application of the SAP and GAAP accounting practices when evaluating assets specifically to the bond portfolio.

Part a

Candidates were required to calculate the bond portfolio value based on SAP valuation principles.

Common errors include:

- The incorrect rules were applied to each NAIC class
- Looked up the wrong value on provided valuations tables
- Assumed only one bond rather than a portfolio of 9 bonds
- Applied GAAP bond category rules instead of SAP class valuation rules.

Part b

Candidates were required to calculate the bond portfolio value based on GAAP valuation principles.

Common errors include:

- The incorrect rules were applied to each bond category
- Looked up the wrong value on provided valuations tables
- Assumed only one bond rather than a portfolio of 9 bonds
- Applied SAP class valuation rules instead of GAAP bond category rules

Part c

Candidates were expected to contrast SAP versus GAAP accounting methodology. Each candidate was expected to show two points of contrast between SAP and GAAP accounting.

SAMPLE ANSWERS AND EXAMINER'S REPORT

Common errors include:

- Only providing one point of contrast
- Confusion between GAAP vs SAP accounting methodology
- Vague answers with limited details/explanation.

Part d

Candidates were expected to detail how the treatment of bonds under SAP accounting principles conflicts with its primary purpose of ensuring insurer solvency.

Common errors include:

- Not differentiating between classes 1 and 2 versus the other bond classes in their respective valuation treatments
- Not articulating the basis for the conflict, i.e. insufficient to just say classes 1-2 bonds are valued at amortized cost which is greater than fair market value without reference to not holding bonds to maturity
- Inferring that a deterioration in bond rating would cause the conflict

FALL 2019 EXAM 6U, QUESTION 21

TOTAL POINT VALUE: 2.5

LEARNING OBJECTIVE: C3

SAMPLE ANSWERS

Part a: 1 point

Sample 1

Goodwill = Purchase Price – (Fair Value of Assets – Fair Value of Liabilities)

GAAP so no non-admitted assets.

A: $3000 - (9400 - 6000) = -400$, so no goodwill

B: $3000 - (8500 - 7000) = 1500$

Sample 2

Insurer A:

Goodwill = $3000 - (9400 - 6000) = -400$

Minimum value 0

Goodwill = 0

Insurer B:

Goodwill = $3000 - (8500 - 7000) = 1500$

Sample 3

A: $\max(3000 - (9000 + 400 - 6000), 0) = 0$

B: $\max(3000 - (8000 + 500 - 7000), 0) = 1500$

Part b: 0.5 point

One response is needed for Insurer A and one response for insurer B.

SAMPLE ANSWERS AND EXAMINER'S REPORT

Sample Responses for Insurer A

- Since purchase price is lower than the surplus, a gain of 400 will be recorded.
- Income increases by 400.

Sample Responses for Insurer B

- Goodwill asset is established, and there is no impact to the income statement.
- No immediate impact.
- Goodwill asset offsets the difference between purchase price and surplus – No impact

Part c: 1 point

One of the following responses is needed for SAP and one of the following responses is needed for GAAP.

Sample Responses for SAP

- Amortized for the period the acquiring company benefits, up to a maximum of 10 years.
- Goodwill value is amortized over time to unrealized capital gains.

Sample Responses for GAAP

- GAAP does not amortize goodwill but it is evaluated regularly for impairment.
- Recognized immediately, and regularly tested for impairment.
- Goodwill asset is held indefinitely, but regularly tested for impairment

EXAMINER'S REPORT

- Candidates were expected to know the differences between SAP & GAAP accounting, understand the concept of purchase accounting including goodwill, impact on the income statement and how it changes over time.

Part a

Candidates were expected to know the formula for goodwill including the floor and that there are no non-admitted assets in GAAP.

Common errors included:

- Not including the floor in the formula and therefore recognizing negative goodwill for Insurer A, rather than 0.
- Not including non-admitted assets in the calculation.
- Flipping the formula order, subtracting purchase price from the fair value of the company, rather than vice versa.

Part b

SAMPLE ANSWERS AND EXAMINER'S REPORT

Candidates were expected to know what items appear on the income statement, understand how purchase price, surplus and goodwill affect the income statement and state the impact to income.

Common errors included:

- Discussing balance sheet items.
- Missing the fact that the goodwill asset for B offsets the excess paid and stating an income decrease.
- Linking positive goodwill to an income increase and vice versa.

Part c

Candidates were expected to know the differences in how SAP and GAAP accounting treat goodwill over time.

Common errors included:

- Stating that SAP was amortized over 10 years but not recognizing this is a maximum timeframe.
- Using the word depreciation rather than amortization.
- Only including that GAAP goodwill is tested for impairment.

FALL 2019 EXAM 6U, Question 22

TOTAL POINT VALUE: 2.75

LEARNING OBJECTIVE: D

SAMPLE ANSWERS

Part a: 2.5 points

Sample 1

I believe it is necessary to issue a qualified opinion of Company's reserves, due to material inconsistencies in the data preventing a review of the reasonability of the WC reserves. These reserves account for 36% of net carried reserves, or \$50M. In regards to the remaining reserves, in my opinion the items listed in Exhibit A:

- A: Meet the requirements of insurance laws in State X
- B: Are computed in accordance with actuarial standards & practices.
- C: Make a reasonable provision for all net unpaid loss and LAE obligations under company's contracts and agreements. However, the company makes an excessive provision for gross unpaid loss and LAE obligations. The carried amount is \$2M higher than the maximum reserves I deem to be reasonable.

Sample 2

In my opinion, the amounts carried in Exhibit A for loss & LAE Reserves are:

- a) Computed using methods and assumption accepted by actuarial standards
- b) Follow the laws and regulation of state X.
- c) Make for a reasonable amount on a net basis. The amounts on a gross basis are redundant as my high end is 98M. With this, the difference is 2M. I was not able to analyze WC reserves due to material inconsistencies in the data. The amount carried

SAMPLE ANSWERS AND EXAMINER'S REPORT

which are excluded from my opinion are 50M on a net basis and 60M on a gross basis. This is therefore a qualified statement.

Sample 3

In my opinion, with the qualification that it doesn't include reserve for workers compensation business, the amounts carried in Exhibit A on account of items identified:

- A. Meet requirements of insurance laws of State X
- B. Are computed in accordance with accepted actuarial standards and principles
- C. Make a reasonable provision for net unpaid loss and LAE obligations of the company under the terms of its contracts and agreements. However it makes an excessive provision for gross unpaid loss and LAE obligation which is \$2M greater than the maximum amount which I believe necessary to be within the range of reasonable estimates.

I am informed that amounts carried in Exhibit A include reserve for unpaid loss and LAE of workers compensation business, which is recorded as \$50M (30%) on net of reinsurance basis and \$60M (38%) on gross basis. However, I have found material inconsistency in the WC data when analyzing WC business and after I informed data provider of the insurer, data issue still remained unresolved. Considering that there is no reliable data for me to analyze and the portion of WC reserve is material, I gave qualification opinion for the insurer.

Part b: 0.25 point

One of the following:

- Qualified
- No Opinion given the candidate has a consistent response in part a.

EXAMINER'S REPORT

Candidates were expected to recall what should be included in the Opinion section in the Statement of Actuarial Opinion.

Part a

Candidates were expected to identify that it was a qualified opinion and why. They were expected to know they are referring to amounts in exhibit A, and they need to state the reserves are in accordance with the state laws and accepted actuarial practices. They were expected to know they should comment on both net and gross reserves.

Common errors included:

- Failing to comment on gross reserves
- Failing to list the amount gross reserves were redundant
- Failing to list the WC reserves were not analyzed
- Failing to list the amount of the WC reserves (\$50M) to which the qualification applies
- Indicating that WC is a qualified opinion, instead of the total company reserves are qualified because of WC

Part b

Candidates were expected to know the different types of opinions and correctly determine the type of opinion.

Common errors included:

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Reasonable opinion
- Listing a different opinion for PPA Gross, PPA Net, and WC.

FALL 2019 EXAM 6U, QUESTION 23	
TOTAL POINT VALUE: 3	LEARNING OBJECTIVE: D1
SAMPLE ANSWERS	
Part a: 0.75 point	
Any three of the following: • 10% of Unpaid Reserves = $10\% \times 100M = 10M$ • 10% of Surplus = $10\% \times 200M = 20M$ • Distance to RBC Action Level = $200M - 187M = 13M$ Note: other selected standards based on different percentages followed the same logic as above.	
Part b: 0.25 point	
One of the following: • I select 10% of Unpaid Reserves because \$10M is the lowest and therefore most conservative value of the three options. • I select 10% of Surplus because surplus erosion of that magnitude is sufficient cause for concern. • I select the distance to the next RBC action level (13M) because this level of risk will have practical regulatory ramifications for the company. Note: other selected standards based on different percentages followed the same logic as above.	
Part c: 0.75 point	
<u>Sample 1</u> Using a materiality standard of 10% of Unpaid Reserves, there <u>is RMAD</u> because carried plus 10M is within the actuarial range ($100M + 10M < 115M$). <u>Sample 2</u> Using a standard of 10% of Surplus, there <u>is not RMAD</u> because carried plus 20M is outside the actuarial range ($100M + 20M > 115M$). <u>Sample 3</u> Using a materiality standard of the distance to the next RBC action level, there <u>is RMAD</u> because carried plus 13M is within the actuarial range ($100M + 13M < 115M$). <u>Sample 4</u> Alternative expressions of the same concept received full credit, for example: "there is RMAD because the range indicates 15M of possible adverse development which is greater than my materiality standard of 13M." Note: other selected standards based on different percentages followed the same logic as above.	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part d: 0.75 point

Sample 1

The materiality standard is not a one size fits all number. It is set based on professional judgment as to the magnitude of an omission, under/overstatement that would cause a user to reach a different conclusion or follow a different course of action. This may or may not be equal to the metric specified, depending on the user. For example, management may be concerned with having their financial rating downgraded, and a smaller standard would make this happen. Therefore, the actuary may want to use a smaller standard of materiality than the state is proposing, or a larger standard for well capitalized companies.

Sample 2

A fixed standard might help with consistency across the industry. However, different companies have different lines of business (e.g. short-tail Property vs. long-tail Workers Compensation), different reinsurance structures, and different capital levels. A fixed standard cannot adequately account for these differences. Actuaries use their professional judgment to select a standard that makes sense given the circumstances.

Sample 3

A fixed standard may add consistency to the industry and serve to prevent 'gaming' from companies in financial distress but the cons outweigh the pros. Companies and users have different needs so a one-size-fits-all approach cannot make sense in all cases. Actuaries or company personnel need to have a voice in setting the standard that's appropriate for their company.

Part e: 0.5 point

Sample 1

The AA should determine if the error is material, and if so, notify the principal and re-issue the SAO.

Sample 2

The AA should check for materiality, and whether the opinion would have been different if the error had been reflected originally.

Sample 3

The AA should check for materiality, and if it is material, notify the company within 5 days, and the insurance commissioner 5 days after that.

EXAMINER'S REPORT

Candidates were expected to understand the actuary's responsibilities with respect to material adverse deviation.

Part a

Candidates were expected to propose and calculate three reasonable materiality standards from the problem statement. Percentages could vary, i.e. "5% of Unpaid Reserves" was also acceptable.

SAMPLE ANSWERS AND EXAMINER'S REPORT

Common errors included: • Responses that related to the reserve range (e.g. "Midpoint – Low = 10M") were not accepted because materiality pertains to solvency or financial health rather than the actuarial range of estimates itself.
Part b
Candidates were expected to select and provide a reasonable justification for one of the standards calculated in part a. Common errors included: • Responses that selected a standard but provided insufficient justification did not receive full credit. For example, "I select 10M because it is the lowest" did not receive credit – the candidate needed to indicate why "lowest" is desirable.
Part c
Candidates were expected to apply their selected materiality standard correctly. Common errors included • Going "the wrong direction", i.e. comparing to Central – Low (i.e. $100M - 90M = 10M$) rather than High – Central (i.e. $115M - 100M = 15M$) • Drawing the wrong conclusion from the correct setup, i.e. "because Central + Materiality Standard is within the Range, no RMAD exists"
Part d
Candidates were expected to provide a full, thoughtful evaluation of the proposal. Arguments in favor of the proposal and against the proposal were both accepted, if they were reasonable and clearly described. Common errors included: • Failing to provide a full justification, i.e. brief answers with only one or two concepts did not receive full credit • Focusing on a single element of the proposal rather than evaluating multiple major themes
Part e
Candidates were expected to describe the materiality evaluation, and indicate further obligations if the error was found to be material. Full credit was given if the candidate indicated both concepts, even if the connection was not made clear. The candidate was not required to enumerate the deadlines imposed on the actuary. Common errors included: • Jumping straight to the opinion correction process without referencing the materiality check • Declining to describe the second step of the actuary's considerations (i.e. the need to re-issue if material, or communicate to the principal/other users)

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Disavowing the actuary of obligations due to two months having passed since the opinion was issued

FALL 2019 EXAM 6U, QUESTION 24

TOTAL POINT VALUE: 3.5

LEARNING OBJECTIVE: D1

SAMPLE ANSWERS

Part a: .5 point

Any one of the following for i. SAO and any one of the following for ii. AOS:

i. SAO

- *Regulator*
- *Board of Directors*
- *Investors*
- *Management*
- *General public*

ii. AOS

- *Regulator*
- *Board of Directors*

Part b: 1.5 points

i. SAO

Sample 1

To communicate actuary's opinion of carried reserves to stakeholders informing them of risks/uncertainties and if RMAD exists.

Sample 2

Provide Appointed Actuary's opinion on the carried reserves, comment on materiality standard, risk of material adverse deviation, etc.

ii. AOS

Sample 1

Show how booked reserves compare to actuarial estimates (gross and net) and disclose historical adverse development if necessary.

Sample 2

Provide actuary's range of reserves and/or point estimate, the company carried reserves, as well as comment on if the insurer's one year reserve development to prior year's surplus has exceeded 5% in 3 of the last 5 years.

iii. Actuarial Report

Sample 1

SAMPLE ANSWERS AND EXAMINER'S REPORT

Provide a more lengthy and detailed report including the items in the SAO & AOS as well as an explanation on Actuary's analysis, data reconciliation to schedule P, change in ultimate loss estimate from prior year, etc.

Sample 2

To fully describe the work so another actuary practicing in the field can understand and replicate. From data, methods, and assumptions to results.

Part c: 1.5 points

i. SAO

Sample 1

Public – Investors, policyholders, and reinsurers are concerned with adequacy of reserves and the risks/uncertainties therein

Sample 2

Public – Users from the public want to know the major risks facing the company before investing in it.

ii. AOS

Sample 1

Confidential – Actuary's estimates are proprietary and useful for management and regulators when assessing solvency

Sample 2

Confidential – It is meant to provide sensitive information to the regulator.

iii. Actuarial Report

Sample 1

Confidential – Significant proprietary work is included to inform management and will be provided to regulators upon request

Sample 2

Confidential – Provides further reasoning, data, and methods that competitors shouldn't know.

EXAMINER'S REPORT

Candidates must know the intended audience, purpose, and confidentiality of the SAO, AOS and Actuarial Report.

Part a

Candidates were expected to identify a distinct intended users of the SAO and AOS.

Common errors included:

- Listing investors as an intended user of the AOS
- Listing possible (but not intended users)
- Duplicating answers for i and ii (i.e. not listing distinct users).

Part b

SAMPLE ANSWERS AND EXAMINER'S REPORT

Candidates were expected to describe the purpose of the SAO, AOS and the Actuarial Report. Common error included not fully describing the purpose.
Part c
Candidates were expected to identify the confidentiality of the three documents and connect that to their purposes. Common errors included identifying but not relating that back to its purpose.

FALL 2019 EXAM 6U, QUESTION 25	
TOTAL POINT VALUE: 3	LEARNING OBJECTIVE: D1
SAMPLE ANSWERS	
Part a: 1 point	
Bolded sample answers indicate unique subject responses, any four of which were required. Italicized sample answers are common variations on the unique response. Needs to state whether the reserves are nominal or discounted and, if discounted, the basis of the interest rate • <i>Discounted or not, along with the assumptions used</i> • <i>If discounting is used and basis of discount factor</i> • <i>Whether the company discounts the reserves; amount of discounts</i> Needs to state whether the reserves include an explicit risk margin and its basis • <i>Do reserves include a risk margin? If so on what basis was it established</i> • <i>Is there an explicit risk margin added to the reserves</i> • <i>Is there a risk provision</i> Needs to state whether the reserves are gross or net of specified recoverables • <i>If the reserves are gross or net of S&S</i> • <i>Net or gross of recoverables</i> • <i>If reserves gross/net of recoverables (S&S, deductibles)</i> • <i>Gross or net of ceded reinsurance</i> Needs to state whether the potential for uncollectable reinsurance is considered • <i>Disclose if any uncollectible reinsurance risk is there that will impact the reserves</i> • <i>Does it include a provision for uncollectable reinsurance</i> • <i>Uncollectible amounts – How were these accounted for in analysis</i> Needs to state the types of unpaid loss adjustment expense covered by the reserve • <i>What types of expenses are included in reserves (DCC, A&O, Etc.)</i> • <i>Which types of loss expense are included</i> • <i>What type of expenses are included in LAE</i>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

If the opinion is only for a portion of a reserve, the claims exposure to be covered by the opinion should be stated

- *Whether any portion of insurer's book of business excluded from opinion*
- *If the reserve the actuary is opining on excludes anything particular*
- *Any material reserves outside the scope of the review*

Needs to state any other items that, in the actuaries professional judgment, are needed to describe the reserves sufficiently for the actuary's evaluation of the reserves

- *Any other info necessary to disclose about the reserve*
- *Anything else so reserves aren't misleading*

Needs to state the accounting basis

- *Accounting basis of the reserves*
- *Accounting basis: SAP or GAAP*
- *Based on SAP accounting*

Part b: 1 point

Bolded sample answers indicate unique subject responses, any four of which were required. Italicized sample answers are common variations on the unique response.

The Appointed Actuary should state that the items in the SCOPE, on which he or she is expressing an opinion, reflect Disclosure items 8 through 13.2 in Exhibit B.

- *That the opinion reflects the disclosures in Exhibit B*
- *Relative to subjects on Exhibit B*
- *Reference to disclosure items provided in Exhibit B*

The Review date or Accounting Date

- *That all information provided up to date of opinion was considered*
- *Date in which information was incorporated into opinion*
- *Review date of the analysis*
- *Accounting date*

Inter-company pooling arrangements

- *Disclosures on intercompany pooling arrangements*
- *Identify whether part of pooling arrangement*
- *Whether pooling is involved*

A statement regarding reconciliation to Schedule P

- *Data was reconciled to Schedule P Part 1*
- *Data was reconciled to the annual statement*
- *Reconciliation to Schedule P*

The provider of data relied upon by the Actuary

- *Who provided the data which the actuary used*
- *Who provided the data – name of the office of the company along with designations*
- *Relied upon data provided by officer of the company*

The evaluation of data for reasonableness and consistency

SAMPLE ANSWERS AND EXAMINER'S REPORT

- *Evaluation of data for reasonableness & consistency*
- *Whether data was reasonable and consistent or have any issues*
- *Statement that data was evaluated for reasonableness and consistency*

The AA has examined the actuarial assumptions and methods used in determining reserves listed in Exhibit A, as shown in the Annual Statement of the Company as prepared for filing with state regulatory officials

- *Statement that AA reviewed company's reserve setting methods & assumptions*
- *Whether assessing the company's methods and assumptions that were used to compute reserves*
- *Review the method and assumptions in estimating the reserves*

Part c: 1 point

Bolded sample answers indicate unique subject responses, any two of which were required. Italicized sample answers are common variations on the unique response.

Sample Responses for Data inconsistency immaterial --> reasonable opinion

- *A reasonable opinion may be issued if the amount of data impacted by the error is considered to be not material*
- *If the reserves impacted by data issue was not a material portion of overall reserves*
- *If the line of business is not material to the total reserves, then a reasonable provision can be made (no need to qualify if immaterial)*

Sample Responses for Data inconsistency material but only impacts a portion of reserves --> qualified opinion

- *A qualified opinion may be issued if the data impacted by the error is considered material*
- *If the reserves impacted by the data issue are a material portion of overall reserves*
- *If the line of business is material to the reserves, a qualified opinion can be issued stating that the line is not included.*

Sample Responses for Data inconsistency material but impacts nearly all reserves --> no opinion

- *If the inconsistency cannot be resolved and causes the actuary not to be able to opine or analyze any of the data then issue a no opinion*
- *No Opinion – The data inconsistency may cover too large an amount of the entire book of business and an opinion cannot be reached on the material portion of the business*
- *No opinion – perhaps the LOB containing the affected data is so large that it is best not to opine on the reserves at all*

EXAMINER'S REPORT

Candidates were expected to demonstrate their knowledge of the SCOPE section of an SAO. This includes the stated basis of reserves disclosures along with others that aren't related to the stated basis. Candidates were also expected to understand how data errors can lead to different types of opinions depending upon the materiality of the error.

Part a

Candidates were expected to identify four disclosures in the SCOPE section of the SAO related to the basis on which reserves are stated. Stated basis of the reserves per ASOP 36 is a description of the nature of reserves.

SAMPLE ANSWERS AND EXAMINER'S REPORT

Common errors include:

- Redundant answers with respect to recoverables and discounting
- The word "Reinsurance" alone did not receive credit, a description was needed
- "Is the data including LAE" was not accepted; needed to specify the type of LAE that was included
- Disclosures listed that were not related to "stated basis of reserves"

Part b

Candidates were expected to identify four disclosures in the SCOPE section of the SAO not related to the basis on which reserves are stated.

Common errors include:

- Mentioning disclosures related to basis of which reserves are stated
- Loss evaluation data is not required in SCOPE
- Appointed Actuary's role in stated reserves is not in the scope
- Intended user and audience are not disclosures required in the scope
- Identifying the reserves instead of disclosures related to the reserves or data
- Data testing is not disclosed in the SAO

Part c

Candidates were expected to identify and justify two types of opinion that may be issued.

Common errors include:

- Defining the opinion type but not providing justification
- Not using materiality (or describing materiality) when deciding which type of opinion to issue

FALL 2019 EXAM 6U, QUESTION 26

TOTAL POINT VALUE: 2.75

LEARNING OBJECTIVE: E1

SAMPLE ANSWERS

Part a: 0.5 point

A commutation is an agreement between a ceding insurer and the reinsurer that provides for the valuation, payment, and complete discharge of all obligations between the parties under a particular reinsurance contract.

Part b: 1 point

Sample 1

- i. The ceded reserve recoverables are set to zero, so the net reserves are set to gross reserves;
- ii. The commutation payment is booked as an increase in paid loss;

Sample 2

- i. The reserve net loss reserve will increase since there are no expected recoverables;
- ii. The paid loss will increase due to the commutation price being recorded as a loss

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part c: 0.75 point
<u>Sample Response</u> Notes to Financial Statements, Reinsurance disclosure <i>Must include two include two of the following:</i> • A list of reinsurers • The amount of loss • Loss adjustment expense • Earned premium commuted from each to the ceding company during the year • Amount of reserves taken back • Price received for commutation • Consideration paid
Part d: 0.5 point
<u>Sample 1</u> Some Schedule P will be distorted by a commutation (e.g. Net paid losses, net incurred losses, and claim closure rates). Actuaries must take such distortions into account when calculating loss development factors (or assessment of reserve adequacy), when assessing reserve adequacy, or when using Schedule P to review claim severity or closure trends. <u>Sample 2</u> Some exhibits will be distorted by a commutation (e.g. Net paid losses, net incurred losses, and claim closure rates). This can mislead users of the Annual Statement of they are unaware of the commutation. <u>Sample 3</u> The commutation will have impact on the primary and reinsurer's statutory income statement and surplus. Normally, this results in a drop in pretax income for the primary and an increase for the reinsurer. The user must consider this when assessing the annual statement.
EXAMINER'S REPORT
Candidates were expected to understand the definition of a commutation contract, how it impacts the paid loss and loss reserves for both the ceding company and the reinsurer as well as the how it impacts the different schedules financial statements. Candidates were expected to identify the section of the Annual Statement to disclose the commutation and describe the distortion as a result of the commutation.
Part a
Candidates were expected to understand the definition of a commutation agreement. Common errors included: • Reversed the party who is responsible for paying the consideration • Stating that the primary insurer will be discharged of all liability
Part b

SAMPLE ANSWERS AND EXAMINER'S REPORT

Candidates were expected to understand how the commutation impacts the paid loss and loss reserves.

Common errors included:

- Stating that no impact on the reinsurer
- Stating that the paid loss will decrease for the reinsurer due to discounting of the loss reserves in the commutation price
- Stating the reason for reinsurer's paid loss increase is the reinsurer is paying future losses

Part c

Candidates were expected to identify the section of the Annual Statement to disclose the commutation and the items need to be disclosed.

Common errors included:

- Stating the disclosure has to be made in an incorrect statement
- Listing the following as required items for disclosure: effective date of the commutation, accident year, coverage (or line of business), reason for commutation.
- Stating the reinsurer has to make the disclosure.
- Simply stating that the commutation amount needs to be disclosed without specifying what the amounts are related to such as loss reserves, alae reserves or consideration paid.

Part d

Candidates were expected to demonstrate understanding for the disclosure of commutation and describe the resulting distortion in the annual statement.

Common errors included:

- Stating the annual statement will be adjusted by the commutation instead of distorted.
- Simply stating the annual statement will be distorted without explaining the distortion mislead the user.
- Simply stating that it could be misleading without naming specific exhibits that will be distorted such as net paid, net incurred triangles etc.

FALL 2019 EXAM 6U, QUESTION 27

TOTAL POINT VALUE: 2

LEARNING OBJECTIVE: E1

SAMPLE ANSWERS

Part a: 0.5 point

Sample 1

A transaction qualifies as having risk transfer under the "10-10" rule if there is at least a 10% chance of the reinsurer experiencing a loss of 10% or greater.

Sample 2

Rules that risk transfer exists if there is at least a 10% chance for the reinsurer to realize a $\geq 10\%$ underwriting loss from the contract.

Sample 3

Probability[$((\text{Ceded loss} - \text{Ceded Premium}) / \text{Ceded Premium}) \geq 10\%$] $\geq 10\%$

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part b: 0.5 point

Sample 1

ERD Method is:

Probability(NPV Underwriting Loss) x Avg Severity of an Underwriting Loss

If ERD / Premium > 1%, passes risk transfer test

Sample 2

The ERD method multiplies the probability of a net present value underwriting loss to the reinsurer by the average severity (NPV) of that loss, given that there was a loss. This is then divided by the NPV of premium and compared to a benchmark (typically 1%). If it is greater than that benchmark, then it exhibits risk transfer.

Sample 3

ERD compares Probability(PV of UW loss) x Average Loss Size and compares it to a selected threshold

Part c: 0.5 point

Sample 1

ERD takes into account a small chance of a large loss to the reinsurer happening whereas the 10-10 rule requires the probability of the event happening is > 10%. ERD will correctly identify risk transfer when there is a small chance of catastrophic loss.

Sample 2

There may be a very low % chance of sustaining a loss but enormous loss potential (in dollars) on the slim chance there is a loss. For example, some cat risks might have a 1% chance of incurring a loss, but billions of dollars of potential loss if one occurs. 10-10 won't say this passes risk transfer since it requires > 10% chance of a loss, whereas ERD would likely say it does pass, which in this case it likely should.

Sample 3

ERD considers the time value of money in its calculations. This will result in a more accurate assessment of the value of future cash flows, since some payments could be many years in the future.

Sample 4

More parameters built into the method makes it a more sophisticated tool. ERD can consider interest rates and payment patterns, for example.

Part d: 0.5 point

Sample 1

No, do not include reinsurer expenses. These are not a cash flow between the cedant and the reinsurer, so they are not transferring risk between parties. Thus, should not be included.

Sample 2

Reinsurer expenses should not be included in the calculation since these are not a cash flow between the insurer and the reinsurer.

SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT
Candidates were expected to demonstrate familiarity with the 10-10 and ERD methods used to identify risk transfer, distinctions between the methods, and a more in-depth understanding of what is considered in a risk transfer assessment. Most candidates did very well on this problem.
Part a Candidates were expected to know there needed to be at least a 10% chance of a 10% loss to the reinsurer. While the meaning of this is 10% underwriting loss relative to ceded reinsurance premium, simply stating "10% loss" was given full credit. Common errors include: • Not showing knowledge of the 10-10 rule • Identifying only half of the 10-10 rule (i.e. only 10% loss or only 10% chance) but not both • Relating 10% loss to something other than reinsurance or ceded premium
Part b Candidates were expected to identify how ERD is calculated and that it must be greater than some threshold to qualify for risk transfer. Candidates needed to accurately describe the probability and the severity components of the calculation: (Probability of the reinsurer realizing a NPV Underwriting loss) * (Severity of NPV Underwriting Loss). The candidates did not need to identify 1% as the threshold as long as they mentioned a reasonable threshold for comparison. Common errors include: • Incorrectly describing the calculation of ERD • Identifying how to calculate the ERD without mentioning a threshold • Stating that the ERD ratio must be less than the threshold, instead of greater than
Part c Candidates were expected to correctly identify one advantage of the ERD rule over the 10-10 rule and provide detail on why it's an advantage. Common errors include: • Not stating an accurate advantage of ERD over 10-10 • Stating something is an advantage of ERD over 10-10 only because ERD considers it and 10-10 does not • Stating an advantage of ERD over 10-10, but not supporting the statement
Part d Candidates were expected to correctly identify that reinsurer expenses should not be included in an ERD calculation and give a valid explanation as to why. Common errors include: • Incorrectly stating that reinsurer expenses should be included • Correctly identifying reinsurer expenses should be excluded but not giving a valid reason as to why

SAMPLE ANSWERS AND EXAMINER'S REPORT

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