

Exam 6US



Jeanne Crowell
Vice President-Admissions

Jason Russ
Chairperson
Syllabus & Examination Committee

Frances Sarrel
General Officer-Syllabus
Syllabus & Examination Committee

Syllabus & Examination Committee

General Officers
Christopher DiMartino
Michelle Iarkowski
Michael Larsen
Dustin Loeffler
Brian Mullen
Kathleen Odomirok
James Sandor
Thomas Struppeck
Rhonda Walker

Exam 6-United States

Regulation and Financial Reporting (Nation Specific)

October 23, 2018

4 HOURS

INSTRUCTIONS TO CANDIDATES

1. This 69.5 point examination consists of 26 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

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.

CONTINUE TO NEXT PAGE OF INSTRUCTIONS

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 6, 2018.

END OF INSTRUCTIONS

1. (3 points)

a. (1 point)

Describe two ways in which price optimization and actuarial judgment might differ.

b. (1 point)

Briefly describe four disclosures a regulator might require in rate filings to address concerns regarding price optimization.

c. (0.5 point)

Explain why price optimization may be permissible based on Actuarial Standards of Practice and the CAS Statement of Principles Regarding Property and Casualty Insurance Ratemaking.

d. (0.5 point)

Explain why price optimization may not be permissible based on Actuarial Standards of Practice and the CAS Statement of Principles Regarding Property and Casualty Insurance Ratemaking.

EXAM 6 – UNITED STATES, FALL 2018

2. (2.5 points)

a. (0.5 point)

Briefly describe two purposes of financial examinations by state insurance departments.

b. (1 point)

Explain how each of the following items may influence the minimum capital and surplus requirements for an insurer:

i. Lines of business written

ii. Ownership structure

c. (1 point)

Explain the difference between rehabilitation and liquidation of insurance companies.

3. (3 points)

a. (0.5 point)

Briefly describe two circumstances where federal regulation supersedes state regulation with respect to the "business of insurance" under the McCarran-Ferguson Act.

b. (1 point)

Following the passage of the McCarran-Ferguson Act, the NAIC approved model bills related to rate regulation. Describe two underlying purposes of the bills.

c. (1.5 points)

Fully describe two weaknesses of credit reporting systems that may lead to regulatory concerns about using credit reports in determining premiums.

4. (1.75 points)

a. (0.25 point)

Briefly describe why financial strength ratings are more important for insurance companies than grocery stores.

b. (0.5 point)

Briefly describe two reasons why financial ratings of reinsurance companies are important. Do not use the reason provided in part a. above.

c. (0.5 point)

Briefly describe two reasons why rating agencies may prefer stability over responsiveness when issuing financial strength ratings.

d. (0.5 point)

An insurer becomes aware of a potential for material adverse development of its reserves.

- i. Briefly describe one argument in favor of the insurer sharing this information proactively with its rating agencies.
- ii. Briefly describe why an insurer may be concerned with sharing this information proactively with its rating agencies.

5. (2.25 points)

a. (0.75 point)

Briefly describe three functions of the Federal Insurance Office (FIO) as created by the Dodd-Frank Act.

b. (1.5 points)

Describe one potential impact of the Dodd-Frank Act on each of the following:

- i. Cost of insurance to policyholders
- ii. Customization of insurance products
- iii. Companies with both banking and insurance functions

EXAM 6 – UNITED STATES, FALL 2018

6. (2.5 points)

a. (1 point)

Identify and briefly describe two ways in which National Flood Insurance Program (NFIP) policies are sold by private companies.

b. (1.5 points)

Describe three types of premium subsidies built into the NFIP rating structure.

7. (2.75 points)

a. (1.5 points)

Describe how risks are placed in each of the following residual market programs:

- i. Assigned Risk Plans
- ii. Joint Underwriting Associations (JUAs)
- iii. Reinsurance Facilities

b. (0.75 point)

Briefly describe the allocation of underwriting losses and expenses for each of the following:

- i. Assigned Risk Plans
- ii. JUAs
- iii. Reinsurance Facilities

c. (0.5 point)

Identify two types of exposures that may be covered by a Fair Access to Insurance Requirements (FAIR) plan.

EXAM 6 – UNITED STATES, FALL 2018

8. (2.25 points)

a. (0.75 point)

Briefly describe the role of each of the following under the Terrorism Risk Insurance Act of 2002 (TRIA):

- i. Federal government
- ii. State governments
- iii. Private insurers

b. (1.5 points)

Identify three goals of TRIA and briefly describe whether TRIA accomplishes each of these goals.

EXAM 6 – UNITED STATES, FALL 2018

9. (2 points)

A state has proposed creating a state-administered workers' compensation fund to act as its exclusive provider of workers' compensation coverage.

a. (1 point)

Describe two arguments in favor of the state's proposal.

b. (0.5 point)

Briefly describe two arguments against the state's proposal.

c. (0.5 point)

Identify one similarity and one difference between a state-administered workers' compensation fund and a workers' compensation residual market.

EXAM 6 – UNITED STATES, FALL 2018

10. (3.5 points)

The following information is from an insurer’s 2017 Annual Statement (all figures are in thousands of dollars):

Investment	Original Cost	Amortized Cost	Fair Value
Bonds NAIC Class 1	5,000	4,500	4,250
Bonds NAIC Class 2	6,250	6,350	6,500
Bonds NAIC Class 3	5,850	6,000	5,750
Admitted Common Stocks	1,000	N/A	1,750

- Assume the investments above represent the insurer’s entire investment portfolio.

Cash	1,250
Office Equipment	500
Agents’ Balances <= 90 Days Past Due	200
Agents’ Balances > 90 Days Past Due	100
Loss and Loss Adjustment Expense Reserves	10,000
Liability for Pending Litigation	250
Other Statutory Balance Sheet Liabilities	125

a. (1.25 points)

Calculate the value of the insurer’s investment portfolio that would appear in its 2017 statutory balance sheet.

b. (1.75 points)

Calculate the insurer’s 2017 statutory surplus.

c. (0.5 point)

Briefly explain the impact on the insurer’s reported 2017 statutory surplus for each of the following events:

- The agents’ balances previously greater than 90 days past due were collected after the balance sheet date but before the financial statements are issued.
- The company’s litigation is settled for \$350,000 after the balance sheet date, but before financial statements are issued.

11. (2.25 points)

The following information is from an insurer's 2017 Annual Statement (all figures are in thousands of dollars):

<u>Balance Sheet</u>	<u>Current Year</u>	<u>Prior Year</u>
Total Surplus	2,350	1,700

Additional information for this insurer for calendar year 2017:

Losses Paid	600
Loss Adjustment Expenses Paid	70
Other Underwriting Expenses Incurred	300
Gross Investment Income	500
Investment Expense	50
Net Realized Capital Gains	100
Change in Net Unrealized Capital Gains (Losses)	(50)
Change in Provision for Reinsurance	100

a. (0.75 point)

Calculate the insurer's 2017 net investment income earned.

b. (1 point)

Calculate the insurer's 2017 underwriting income.

c. (0.5 point)

Describe the circumstances under which an insurer should record a non-zero premium deficiency reserve on its balance sheet.

EXAM 6 – UNITED STATES, FALL 2018

12. (2 points)

a. (1 point)

For each type of policy below, identify the yearly reporting convention by which losses are shown in Schedule P, Part 1:

- i. Medical Professional Liability – Claims-Made
- ii. Commercial Auto Liability/Medical – Occurrence
- iii. Products Liability – Tail Coverage
- iv. Surety

b. (1 point)

An insurance company writes only Homeowners insurance and has historically purchased non-proportional reinsurance. Using the excerpt below from Schedule P - Part 1A, Homeowners/Farmowners, provide one argument for and one argument against the continued purchase of non-proportional reinsurance.

	Premiums Earned			Loss and Loss Expense Percentage (Incurred / Premiums Earned)		
	1 Direct and Assumed	2 Ceded	3 Net	29 Direct and Assumed	30 Ceded	31 Net
1. Prior	XXX	XXX	XXX	XXX	XXX	XXX
2. 2008	12,000	5,600	6,400	33.8	21.4	44.5
3. 2009	13,100	6,000	7,100	45.8	45.0	46.5
4. 2010	13,000	6,200	6,800	40.2	36.3	43.8
5. 2011	15,000	7,300	7,700	58.0	56.2	59.7
6. 2012	17,500	7,900	9,600	94.3	138.6	57.8
7. 2013	20,000	11,000	9,000	44.0	40.0	48.9
8. 2014	25,000	12,400	12,600	38.0	37.5	38.5
9. 2015	35,000	14,600	20,400	37.4	34.2	39.7
10. 2016	38,000	15,200	22,800	35.3	33.7	36.3
11. 2017	42,000	19,000	23,000	90.5	118.4	67.4
12. Totals	XXX	XXX	XXX	XXX	XXX	XXX

CONTINUED ON NEXT PAGE

13. (2.75 points)

Below are excerpts from the 2017 Schedule P for an insurance company which began operations in 2015 and writes only Workers' Compensation:

Part 2D: Incurred Net Losses and Defense and Cost Containment (DCC)

	2015	2016	2017
2015	1,230	1,230	1,230
2016		1,290	1,290
2017			1,467

Part 5D, Section 1: Cumulative Number of Claims Closed with Payment

	2015	2016	2017
2015	16	25	31
2016		15	24
2017			14

Part 3D: Cumulative Paid Net Losses and DCC

	2015	2016	2017
2015	592	678	774
2016		667	755
2017			785

Part 5D, Section 2: Number of Claims Outstanding

	2015	2016	2017
2015	32	20	7
2016		37	25
2017			39

Part 4D: Bulk and IBNR Reserves on Net Losses and DCC

	2015	2016	2017
2015	310	305	270
2016		322	340
2017			415

Part 5D, Section 3: Cumulative Number of Claims Reported

	2015	2016	2017
2015	62	68	71
2016		66	69
2017			67

a. (2 points)

Based on the data above, provide two reasons that a user of financial statements may conclude that reserves are inadequate.

b. (0.75 point)

Identify three changes in a company's business that should be considered when using Schedule P to assess the adequacy of reserves.

EXAM 6 – UNITED STATES, FALL 2018

14. (2.5 points)

The following are excerpts from an insurance company’s 2017 Underwriting and Investment Exhibit (U&IE). All figures are in thousands of dollars.

Part 2 - Losses Paid and Incurred				
	Losses Paid Less Salvage			Net Losses Unpaid Prior Year
	Direct Business	Reinsurance Assumed	Reinsurance Recovered	
Totals	55,500	3,850	42,000	67,500

Part 2A - Unpaid Losses and Loss Adjustment Expenses							
	Reported Losses			Incurred But Not Reported			Net Unpaid Loss Adjustment Expenses
	Direct Business	Reinsurance Assumed	Deduct Reinsurance Recoverable from Authorized and Unauthorized Companies	Direct	Reinsurance Assumed	Reinsurance Ceded	
Totals	61,350	5,000	44,000	99,000	6,000	73,000	6,300

Part 3 - Expenses				
	Loss Adjustment Expenses	Other Underwriting Expenses	Investment Expenses	Total
Total expenses incurred	6,500	2,500	298	9,298
Less unpaid expenses - current year	6,300	145	0	6,445
Add unpaid expenses - prior year	5,800	90	0	5,890

- Net Earned Premium in 2017 is 17,000.
- Both net income of protected cells and aggregate write-ins for underwriting deductions are 0.

a. (0.75 point)

Calculate the 2017 net losses unpaid.

b. (0.75 point)

Calculate the 2017 net losses incurred.

c. (1 point)

Calculate the 2017 calendar year net underwriting gain (loss).

CONTINUED ON NEXT PAGE

15. (3 points)

A primary insurer is reinsured by authorized Reinsurer A and unauthorized Reinsurer B.

- Reinsurer A has provided a \$6.1 million letter of credit.
- Reinsurer B has provided a \$10.2 million letter of credit.

As of December 31, 2017, the primary insurer has the following reinsurance recoverables from 2017 (all figures are in millions of dollars):

Name of Reinsurer	Due Date for Reinsurer's Payment	Status of Reinsurer's Payment	Amount of Recoverable
A	February 14	In Dispute	5
A	March 17	Paid	4
A	September 1	Unpaid	6
A	October 30	Paid	7
A	December 25	Unpaid	9
B	April 1	Unpaid	8
B	July 4	In Dispute	15
B	October 31	Unpaid	10
B	December 24	Unpaid	12

a. (2.5 points)

Calculate the primary insurer's 2017 provision for reinsurance.

b. (0.5 point)

Briefly explain two ways in which this primary insurer could reduce its provision for reinsurance while continuing to cede a portion of its losses.

EXAM 6 – UNITED STATES, FALL 2018

16. (3.75 points)

Given the following information from an insurance company's 2016 and 2017 Annual Statements and Insurance Expense Exhibits (all figures are in millions of dollars):

Insurance Expense Exhibit, Part II	2017
Premiums written	501
Premiums earned	402
Dividends to policyholders	13
Incurred losses	154
Defense and cost containment expenses incurred	35
Adjusting and other expenses incurred	26
Unpaid losses	1,557
Defense and cost containment expenses unpaid	358
Adjusting and other expenses unpaid	259
Unearned premium reserves	201
Agents' balances	302
Commission and brokerage expenses incurred	113
Taxes, licenses & fees incurred	54
Other acquisition, field supervision, and collection expenses incurred	45
General expenses incurred	66
Other income less other expenses	-17
Investment gain on funds attributable to insurance transactions	98
Investment gain attributable to capital and surplus	129

Balance Sheet and Statement of Income	2016	2017
Nonadmitted assets	191	150
Net realized capital gains before capital gains tax	162	141
Capital gains tax (on net realized capital gains)	73	72
Federal and foreign income taxes incurred	84	83
Provision for reinsurance	185	134
Dividends to stockholders	116	105
Change in net unrealized capital gains after capital gains tax	-37	-46
Surplus as regards policyholders	358	

Calculate the company's 2017 IRIS ratio 7 (Gross Change in Policyholders' Surplus), and identify whether it is within the range of usual values.

17. (2.75 points)

An insurance company started writing business on January 1, 2015. The following information is available from its 2017 Annual Statement (all figures are in thousands of dollars):

SCHEDULE P - PART 1 - SUMMARY

Years in Which Premiums Were Earned and Losses were Incurred	Premiums Earned	
	Direct and Assumed	Ceded
2015	500	100
2016	1,150	230
2017	1,400	280
Totals	xxx	xxx

SCHEDULE P - PART 2 - SUMMARY

Years in Which Losses were Incurred	INCURRED NET LOSSES AND DEFENSE AND COST CONTAINMENT EXPENSES REPORTED AT YEAR END		
	2015	2016	2017
2015	220	240	260
2016	xxx	598	644
2017	xxx	xxx	756

SCHEDULE P - PART 3 - SUMMARY

Years in Which Losses were Incurred	CUMULATIVE PAID NET LOSSES AND DEFENSE AND COST CONTAINMENT EXPENSES REPORTED AT YEAR END		
	2015	2016	2017
2015	55	96	143
2016	xxx	150	258
2017	xxx	xxx	189

- Policyholders' Surplus as of December 31, 2017 is 500,000.
- The company has no reserve for Adjusting and Other Expenses.

a. (2.25 points)

Calculate the company's 2017 IRIS ratio 13 (Estimated Current Reserve Deficiency to Policyholders' Surplus).

b. (0.5 point)

Assume IRIS ratio 13 for this company is within the range of usual values. Using the Schedule P exhibits above, describe one reason that a regulator may be concerned with the reserve adequacy of this company.

18. (3.5 points)

Given the following information as of December 31, 2017, for an insurance company that only writes Workers' Compensation policies (all dollar figures are in millions):

Total adjusted capital	\$200
Policyholders' surplus	\$250
R0	\$30
R1	\$60
R2	\$50
R3	\$70
R4	\$150
RBC charge factor for R5	19%
IRIS ratio 1	1100%
IRIS ratio 2	250%

The company does not have any loss sensitive contracts.

a. (1.75 points)

Calculate the 2017 RBC ratio for this company.

b. (0.75 point)

Based on part a. above, identify the RBC action level for this company, and briefly describe the required actions of both the regulator and the company under the RBC Model Act.

c. (1 point)

Based on IRIS ratios 1 and 2 for this company, fully describe one reason why a regulator may be concerned about the financial health of this company.

19. (3.5 points)

a. (0.5 point)

Identify one intended user of U.S. GAAP financial statements and one intended user of SAP financial statements.

b. (1 point)

For each intended user identified in part a. above, describe how the accounting framework aligns with the user's interests.

c. (1 point)

Briefly describe four differences between U.S. GAAP and SAP accounting in their treatment of balance sheet assets.

d. (1 point)

For any two of the items listed in part c. above, describe how the difference supports or does not support the philosophical differences underlying the two accounting standards.

20. (1.5 points)

Given the following information for an insurance company subject to regulation under Solvency II (all dollar figures are in millions):

One-Year VaR of Liabilities	
Percentile	VaR
5.0%	\$127
10.0%	\$182
25.0%	\$334
50.0%	\$656
75.0%	\$1,288
90.0%	\$2,363
95.0%	\$3,398
99.0%	\$6,718
99.5%	\$8,621
99.9%	\$14,420

- Management’s best estimate of discounted liabilities is \$1,200.
- The company classifies \$900 as free surplus.
- Assets are recorded at \$11,500 under IFRS.
- The Minimum Capital Requirement (MCR) is \$750.

a. (0.75 point)

Calculate the insurance company’s Technical Provisions.

b. (0.75 point)

Identify three items that are required in an own risk self-assessment (ORSA) as part of Solvency II.

21. (4.75 points)

Given the following information for an insurance company (all figures are in thousands of dollars):

**Excerpt from Schedule P - Analysis of Losses and Loss Expenses
Schedule P - Part 1 - Summary**

	Losses Unpaid				Defense and Cost Containment Unpaid				Adjusting and Other Unpaid	
	Case Basis		Bulk + IBNR		Case Basis		Bulk + IBNR			
	Direct and Assumed	Ceded	Direct and Assumed	Ceded	Direct and Assumed	Ceded	Direct and Assumed	Ceded	Direct and Assumed	Ceded
Total	14,000	2,000	5,000	500	3,000	500	1,000	20	200	-

Range of Reasonable Loss and Loss Adjustment Expense Reserve Estimates		
	Low	High
Net	13,000	22,000
Direct and Assumed	16,000	24,000

- The company does not have any retroactive reinsurance contracts.

a. (2.5 points)

Construct the Loss and Loss Adjustment Expense Reserves section of Exhibit A of the Statement of Actuarial Opinion.

b. (1.75 points)

Construct items A through D of the Actuarial Opinion Summary.

c. (0.5 point)

Identify and briefly justify the type of opinion that the Appointed Actuary should issue.

22. (2.75 points)

A company domiciled in State X has reserves with significant net asbestos exposure (all figures are in thousands of dollars):

	Carried Reserves	Appointed Actuary's Range of Reasonable Estimates	
		Low End	High End
Unpaid loss and LAE (direct and assumed)	16,000	12,000	25,000
Unpaid loss and LAE reserves (net)	7,000	5,000	14,000

The Appointed Actuary selects the materiality standard for the Statement of Actuarial Opinion (SAO) as 50% of the net carried reserves.

a. (1.25 points)

Propose language for the OPINION section of the SAO.

b. (1 point)

Propose language for the RELEVANT COMMENTS paragraphs of the SAO related to the risk of material adverse deviation and the materiality standard.

c. (0.5 point)

Identify an alternative materiality standard for this SAO, and briefly describe why it is preferable.

23. (1.75 points)

Company A is an insurance company domiciled in State X. The following is a complete section from its 2017 Statement of Actuarial Opinion (SAO):

I have examined the actuarial assumptions and methods used in determining the reserves listed in Exhibit A, as shown in the Annual Statement of Company A as prepared for filing with the United States Department of Commerce as of December 31, 2017.

I have reviewed the December 31, 2017 loss and loss adjustment expense reserve recorded under U.S. Statutory Accounting Principles. My review considered information provided to me through the date of this opinion.

In forming my opinion on the loss and loss adjustment expense reserves, I relied upon data prepared by Joe Doe, Reserving Manager at Company A. In other respects, my examination included such review of the actuarial assumptions and methods used and such tests of the calculations as I considered necessary.

a. (0.25 point)

Identify the section of the SAO that would contain the paragraphs above.

b. (1 point)

Briefly describe four errors or omissions in the paragraphs above.

c. (0.5 point)

Assume that there is insufficient data for the Appointed Actuary to opine on a portion of the reserves. Justify the type of opinion that the Appointed Actuary should issue in this situation.

24. (2 points)

For each of the following items, identify whether it is among the required disclosures in the Statement of Actuarial Opinion (SAO), Actuarial Opinion Summary (AOS), both, or neither.

- i. Booked net loss and loss adjustment expense reserves
- ii. Amount of reinsurance recoverables on paid losses
- iii. Appointed Actuary's point estimate of loss and loss adjustment reserves
- iv. Anticipated salvage and subrogation included as a reduction to loss reserves
- v. One-year reserve development
- vi. Policyholders' surplus
- vii. Name of the Appointed Actuary
- viii. Amount of asbestos and environmental loss and loss adjustment expense reserves

25. (3.25 points)

Assume the following conditions apply to an annual reinsurance contract:

- The contract was effective on January 1, 2018
- According to the reinsurance contract, the reinsurer will pay all ceded losses in entirety on January 1, 2020
- 50% of the premium is paid at inception and 50% on July 1, 2018
- The risk-free rate is 5%
- The premium for contract is \$10,000,000

Additionally, assume the following loss distribution for this contract:

Loss Probability	Severity of Loss
5%	\$16,000,000
95%	\$5,000,000

a. (2 points)

Determine whether or not this contract would qualify as risk transfer under each of the following:

- i. The 10-10 rule
- ii. The Expected Reinsurer Deficit (ERD) method with a 1% threshold

b. (0.5 point)

Identify the appropriate accounting treatment for this contract, and briefly describe the rationale.

c. (0.5 point)

Describe one advantage of the ERD method over the 10-10 rule.

d. (0.25 point)

Briefly describe one advantage of the 10-10 rule over the ERD method.

EXAM 6 – UNITED STATES, FALL 2018

26. (2 points)

a. (0.5 point)

Describe a commutation agreement.

b. (1.5 points)

Describe three potential motivations for a ceding insurer to commute a reinsurance contract.

END OF EXAMINATION

Exam 6-U.S. Regulation and Financial Reporting (Nation Specific)

October 23, 2018

POINT VALUE OF QUESTIONS

QUESTION	VALUE OF QUESTON	SUB-PART OF QUESTION						
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	3.00	1.00	1.00	0.50	0.50			
2	2.50	0.50	1.00	1.00				
3	3.00	0.50	1.00	1.50				
4	1.75	0.25	0.50	0.50	0.50			
5	2.25	0.75	1.50					
6	2.50	1.00	1.50					
7	2.75	1.50	0.75	0.50				
8	2.25	0.75	1.50					
9	2.00	1.00	0.50	0.50				
10	3.50	1.25	1.75	0.50				
11	2.25	0.75	1.00	0.50				
12	2.00	1.00	1.00					
13	2.75	2.00	0.75					
14	2.50	0.75	0.75	1.00				
15	3.00	2.50	0.50					
16	3.75							
17	2.75	2.25	0.50					
18	3.50	1.75	0.75	1.00				
19	3.50	0.50	1.00	1.00	1.00			
20	1.50	0.75	0.75					
21	4.75	2.50	1.75	0.50				
22	2.75	1.25	1.00	0.50				
23	1.75	0.25	1.00	0.50				
24	2.00							
25	3.25	2.00	0.50	0.50	0.25			
26	2.00	0.50	1.50					
TOTAL	69.50							

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 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 candidate.

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: 621
- Available Points: 69.5
- Passing Score: 49.5
- Number of Passing Candidates: 276
- Raw Pass Ratio: 44.4%
- Effective Pass Ratio: 48.5%

In recent sittings we have noted that candidates are having difficulty with questions pertaining to Learning Objective D. We encourage candidates to try to obtain a better understanding of the material within this Learning Objective in the future.

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.

SAMPLE ANSWERS AND EXAMINER'S REPORT

- 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.
- 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).
- 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.

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 1	
TOTAL POINT VALUE: 3	LEARNING OBJECTIVE: A1
SAMPLE ANSWERS	
Part a: 1 point	
<p>Bolded sample answers indicate unique subject responses, any two of which were required. Italicized sample answers are common variations on the unique response.</p> <p>ANY TWO THE FOLLOWING:</p> <ul style="list-style-type: none"> • Actuarial judgment is subjective while price optimization is data driven <ul style="list-style-type: none"> ▪ <i>Price Optimization is objective, based on model results, where actuarial judgment is subjective</i> ▪ <i>Price Optimization results from an objective model like GLM. Actuarial Judgment is subjective</i> ▪ <i>Price Optimization is a systematic approach while actuarial judgment usually pertains to broader considerations</i> ▪ <i>Price optimization is a modeled deviation from the indication where actuarial judgement can simple be experienced intuition</i> • Actuarial judgment is subjective / qualitative while price optimization is quantified <ul style="list-style-type: none"> ▪ <i>Price Optimization based on quantitative and qualitative factors; Actuarial Judgment based on Qualitative factors</i> ▪ <i>Price Optimization is systematic while Actuarial Judgement is qualitative</i> • Actuarial judgment is on a broad level while price optimization is on an individual level <ul style="list-style-type: none"> ▪ <i>Price Optimization can be at the individual policy level; actuarial judgment done on aggregate level</i> ▪ <i>Price Optimization can vary for each risk based on individual attributes...actuarial judgment used in ratemaking is done for a class</i> ▪ <i>By policy (Price Optimization) rather than aggregate (Actuarial Judgment)</i> • Actuarial Judgment applied to the selection of rating factors while price optimization can be applied to the rate/premium of an individual policy • Actuarial judgment uses internal data while price optimization may use external, non-ins data • For two risks with identical risk profiles, Actuarial Judgment will charge these risks the same rate but Price optimization can charge these risks 2 different rates. • Price Optimization is not necessarily considered acceptable in setting premiums, where actuarial judgment is relatively accepted. <ul style="list-style-type: none"> ▪ <i>Price Optimization in pricing insurance may be prohibited while actuarial judgment is permitted</i> 	
Part b: 1 point	
<p>Bolded sample answers indicate unique subject responses, any four of which were required. Italicized sample answers are common variations on the unique response.</p> <ul style="list-style-type: none"> • Disclosure of differences in proposed prices for insurer's existing and new customers with the same risk profile 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- *List of new and renewal policyholders with the same risk that are charged different prices*
- **Disclosure of whether price optimization, including any customer demand considerations, is used**
- **Filing of a report showing the distribution of expected loss ratios under the current and proposed prices**
 - *The insurer should provide a disruption report that shows the distribution of proposed policyholder premium changes (percentage change) when the existing book of business is renewed under the proposed rating plan.*
 - *The current loss ratio & Loss ratio after price optimization*
 - *Disclose the impact and loss ratio by group to check for unreasonable rates*
 - *Summary exhibit of loss ratios before and after price optimization (current vs proposed)*
 - *Provide a dislocation analysis of premiums before and after price optimization*
- **Disclosure of all data sources used by an insurer to calculate a premium**
- **Disclosure of all models used by an insurer to calculate a premium**
 - *Insurer should disclose all data, sources and models used in ratemaking*
 - *Details of Statistical Model*
 - *Model or Methods used to develop the price optimized rating plan*
 - *Rating Algorithm*
- **Disclosure of all risk classifications used by an insurer to calculate a premium**
- **Disclosure of which rating factor(s) are affected by price optimization**
 - *Specific variables are used in price optimization*
- **Disclose the size of the impact by rating factor, or cumulative impact of price optimization across all rating factors**
 - *Impact of Price Optimization on policy holders*
- **Consider requiring disclosure of any adjustments to rates that are not based on expected cost**
- **Require specific explanation or reasoning to support any proposed or selected rate that deviates from the actuarially indicated rate.**
- **Requires all rating factors be filed and all adjustments to indicated rates be disclosed.**
- **Insurer should disclose the current, risk-based (actuarial) indicated and the selected rating factor, rate or premium adjustments.**
- **Insurer should disclose and adequately explain any capping rule and the plan to transition toward the indicated charge over time.**
- **Disclose and justify, in detail, any differences between new business and existing business pricing.**
- **Filing of a certification by an actuary that all non-cost considerations affecting the proposed rates and rating factors are documented in the filing**
- **Attestation that proposed rates are within a reasonable range of cost-based indications.**
- **Attestation that actuarial indications are cost-based, which would inform regulators that any deviations from actuarial indications should be evaluated according to the law.**

Part c: 0.5 point

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

SAMPLE ANSWERS AND EXAMINER'S REPORT

- **Adjustments to actuarially indicated rates is not a new concept; it has often been described as “judgment”**
 - *Price Optimization just puts numbers and mathematics behind what actuaries have been doing for years: Making judgmental calls on actions to take /achieve certain objectives. This is just more quantitative than in the past*
 - *Deviations from indicated rates are usually allowed in pricing. Actuarial judgement has been used in ratemaking to reflect the deviation from indicated rate to make sure more actuarially sound rates are charges. Ratebook Price Optimization, other than individual Price Optimization, is used in existing structure. Such method aligns with fundamental principles of insurance.*
- **Insurers often consider how close they could get to the indicated need for premium without negatively affecting policyholder retention and how a given rate would affect the insurer's premium volume and expense ratio.**
 - *If Price Optimization if performed on the ratebook basis and it does not use any factors which could be proxy for race or ethnical background. Price Optimization would not be unfairly discriminate against any group. Price Optimization would be permissible.*
- **Price Optimization changes the process from a subjective to a data driven one**
 - *It may be a more objective way to quantify business considerations/metrics than actuarial judgement*
 - *It produces actuarially sound rates that can be justified by model outputs whereas actuarial judgement when evaluating a risk may be difficult to fully understand reason for rate change*
 - *As long the rate provides only for expected future costs of individual risk transfer, it should be construed as conforming to ASOPs on ratemaking. The Price Optimization may just be an automated methods of selecting the appropriate rate to cover costs while also optimizing business objectives.*
- **If Price Optimization can be proven to be nondiscriminatory, it could have differentiation which would provide more accurate rates reflecting true cost of risk transfer.**

Part d: 0.5 point

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

- **Critics argue price optimization has been developed to increase insurers' profits by raising premiums on individuals who are less likely to shop around for a better price which results in different premiums being charged to individuals with the same risk profile**
 - *If price optimization increases rates for individuals with a lower propensity to shop around, rates are no longer based solely on the expected future costs of risk transfer and are not acceptable.*
 - *Two policies with the same risk profile could be charged different rates because they may have different propensity for insurance. This would be unfairly discriminatory*

SAMPLE ANSWERS AND EXAMINER'S REPORT

- **For individual price optimization, prices are determined at the individual policy level based on cost and demand.**
 - *Price Optimization can be unfair when 2 individuals with the same risk have different prices when elasticity of demand, retention, and propensity to shop are factored in. Rates may also be seen as excessive since they attempt to charge the maximum price an insured will pay without leaving the company*
- **Prices shouldn't be unfairly discriminatory and price optimization can use factors that don't reflect actual cost or risk to them**
 - *Price optimization also considers other factors (price sensitivity & propensity to shop around) in the pricing, so for the same risk profile it may charge different rates based on different price sensitivity, which is unfairly discriminatory – since the risk is the same cost.*

Candidates were expected to understand the components of Price Optimization, how that interacts with regulators, and how they could be perceived within the Standards of Practice and CAS Principles on Ratemaking.

Part a

Candidates were expected to understand the basic principles behind price optimization and actuarial judgement and compare them.

Common errors include:

- Describing price optimization or actuarial judgment without comparing the two
- Attributing a characteristic of price optimization to actuarial judgement or vice versa. For example, saying that actuarial judgment is modeled and price optimization is not

Part b

Candidates were expected to understand components of price optimization and relate that back to what regulators would need to see in rate filings.

Common errors include:

- Commenting on general ratemaking disclosures and not relating to price optimization

Part c

Candidates were expected to understand components of price optimization and the relationship to ASOPs or CAS Principles on Ratemaking.

Common errors include:

- Stating Principle but not justifying the rationale to the components of price optimization
- Generic rationale but not relating it back to the Standards of Practice or CAS Principles on Ratemaking.

Part d

Candidates were expected to understand components of price optimization and the relationship to ASOPs or CAS Principles on Ratemaking.

Common errors include:

- Stating Principle but not justifying the rationale to the components of price optimization

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Generic rationale but not relating it back to the Standards of Practice or CAS Principles on Ratemaking.

FALL 2018 EXAM 6US, QUESTION 2	
TOTAL POINT VALUE: 2.5	LEARNING OBJECTIVE: A2
SAMPLE ANSWERS	
Part a: 0.5 point	
Any two of the following: <ul style="list-style-type: none">• To detect as early as possible those in financial trouble or in danger of going insolvent.• To determine if the insurer is engaged in unlawful or improper activities, or to determine if the insurer is complying with rules and regulations. Specific examples would be to make sure the insurer's rates are not unfairly discriminatory, to make sure the insurer is not making excessive levels of profit, or to ensure sound investment decisions.• To make sure the insurer's reserves are adequate.• To develop information as a basis for regulatory action or to take action to mitigate issues with the insurer.• To determine the effectiveness of the board of directors or management.• To evaluate risk management practices and processes to mitigate risk.• To determine the reliability of financial reports.• To evaluate management information systems, IT process, and controls in place.• To maintain NAIC accreditation.• To compare companies across the industry and develop industry benchmarks.• To prioritize which companies to focus on with more scrutiny.• To ensure that insurers maintain sufficient liquidity and flexibility to meet their present obligations.	
Part b: 1 point	
<u>Sample Responses for part i</u> <ul style="list-style-type: none">• More hazardous lines need more capital because of potentially adverse loss exposure.• More volatile lines need more capital because they are harder to estimate.• Longer tailed lines need more capital because they are more volatile.• Longer tailed lines need more capital because they have longer term investments and therefore more asset risk.• CAT exposed lines need more capital because of the potential for adverse loss exposure.• If several lines of business are written by the insurer, they can hold less capital than monoline insurers because of the diversification benefit.	
<u>Sample Responses for part ii</u> <ul style="list-style-type: none">• Stock companies can hold less capital than reciprocal insurers because they have the ability to raise capital by selling stock.• Subsidiaries require less capital because they can rely on a capital infusion from a strong parent company.	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Parent companies that own a large number of subsidiaries may need more capital in order to support the potential need for a capital infusion to one or more of their subsidiaries.
- Companies with a strong reinsurance program need less capital since they are less likely to go insolvent.
- Captives and RRGs have lower requirements due to the pooling relationships and the fact that they self-insure. Typically, there are adequate risk management practices and they are more knowledgeable about the risks they insure so capital requirements may be more relaxed.
- Insurers that own or are owned by a bank could have higher capital requirements as a result of the Dodd-Frank Act or FIO restrictions.
- RBC/ Minimum capital should not depend on the organizational structure of the insurance company. Investments in insurance subsidiaries that are subject to RBC do not provide diversification benefit.
- Alien insurers may have more stringent minimum capital requirements because the regulators do not have the same level of access to the insurer's operations.

Part c: 1 point

Rehabilitation means the insurer continues to exist. Potential actions to mitigate the problems associated with the rehabilitation include (one of the following):

- Find a capital infusion from investors or another company
- Protect the insurers assets from creditors
- Re-organize the insurer's finances
- Use assets to satisfy creditors
- Analyze the insurer's assets and liabilities and create a plan for paying creditors

Liquidation means the insurer ceases to exist. Additional actions taken include (one of the following):

- Assets are converted into cash to pay creditors
- Creditors are prioritized and paid
- Assets are transferred to another insurance company
- A guarantee fund is used to pay policyholder claims

EXAMINER'S REPORT

Candidates were expected to demonstrate knowledge of financial examinations, the effects of capital and surplus requirements on different types of insurers, and the possible outcomes of receivership.

Part a

Candidates were expected to identify and explain two distinct purposes of financial examinations.

Common errors include:

- Listing two items that are too similar. For example, stating financial exams are used to determine whether a company is in financial distress and also used to evaluate the solvency of the company.

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Stating that financial exams protect policyholders without describing how policy holders are protected (i.e. mentioning solvency).

Part b

Candidates were expected to explain how different lines of business affected the insurer's capital and surplus requirements. Candidates were also expected to explain how different ownership structures can result in different minimum capital and surplus requirements.

Common errors include (part i):

- Saying lines of business with high visibility or lines that are more important to the public may have different minimum capital requirements
- Saying long-tailed lines need more capital because they are riskier. The candidate was expected to explain why those lines are riskier (greater potential for adverse development).
- Saying long-tailed lines require less capital because of the additional investment income that can be earned.

Common errors include (part ii):

- Stating that foreign insurers (as opposed to alien insurers) may have more stringent minimum capital requirements because the regulators do not have the same level of access to the insurer's operations. Alien insurers are defined as insurance companies domiciled outside the United States. Foreign insurers are defined as insurance companies domiciled in another state but still within the US, where a regulator would have access to more information.
- Saying public companies require more capital to protect investors, to pay dividends, or to protect public interest. Minimum capital requirements do not take investors or the public into consideration. Companies may choose to hold more capital than is necessary in order to protect investors or pay dividends, but that is not reflected in minimum capital requirements.

Part c

Candidates were expected to identify the key differences between rehabilitation and liquidation.

Common errors include:

- Not identifying that rehabilitation involves continuing to exist and liquidation involves ceasing to exist. This is the key difference between the two.
- Saying rehabilitation involves reorganizing the insurer in order to continue operations.
- Saying liquidation results in insolvency as it is not the same thing as ceasing to exist. Both rehabilitation and liquidation could be results of insolvency.

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 3	
TOTAL POINT VALUE: 3	LEARNING OBJECTIVE: A1,A4
SAMPLE ANSWERS	
Part a: 0.5 point	
<p>Sample 1</p> <ul style="list-style-type: none">- Sherman Act still applies to the use of boycott, coercion and intimidation.- When federal passes a law applies only to insurance industry, it supersedes the state laws. <p>Sample 2</p> <ul style="list-style-type: none">- Sherman Act prohibits boycott, coercion and intimidation- Federal law that is explicitly written to cover the business of insurance will apply <p>Sample 3</p> <ul style="list-style-type: none">- When the federal government passes laws pertaining to the “business of insurance”- To prevent monopoly power (intimidation, coercion)	
Part b: 1 point	
<p>Sample 1</p> <ul style="list-style-type: none">- Promote adequate and equitable rate by requiring prior approval of rates, publishing guidelines of filing rates, and disallowing rebating.- Protect competition of insurance market. It encourages cooperative arrangement to set adequate rate as long as it doesn't restrict competition. <p>Sample 2</p> <ul style="list-style-type: none">- Allow insurers to set rates in concert such that they do not hinder competition- Ensure that rates are reasonable, not excessive, inadequate or unfairly discriminatory	
Part c: 1.5 points	
<p>Sample 1</p> <ul style="list-style-type: none">- Many credit reports contain errors. Even though the methodology used to determine premium based on credit report is correct the inaccuracies in credit reports will invalidate it.- Identity theft would affect insured's credit report. It's not insured's fault, and should not affect the premium the insured being charged. <p>Sample 2</p> <ul style="list-style-type: none">- Credit scores often contain errors at no fault to the insured. Policyholders may get charged incorrect premiums due to these errors. These rates would be unfair.- Credit scores are another black box to regulators as the underlying calculation is not well understood. This means it more difficult for regulators to review rates. This is also a	

SAMPLE ANSWERS AND EXAMINER'S REPORT

concern to regulators because policyholders may not understand credit scores and how they affect the rates. There could be an increase in complaints.

Sample 3

- Some actions that may be seen as financially responsible may actually hurt credit scores. For example, limiting use of credit. Therefore, people who practice these action may be unfairly penalized leading to unfairly discriminatory rates.
- Credit reports may penalize certain protected classes such as the elderly who typically use very little credit, youth who have no credit history, and certain religious groups who are disallowed using credit. Using credit scores to calculate premiums would result in unfairly discriminatory rates for these groups. It would also likely be disproportionately impact due to low/fixed income.

Sample 4

- Economic crises and sudden shifts in the economy could increase overall premium levels (decrease credit scores) and actuaries may not be able to pick up on it in time to adjust the overall rate levels. This would be unfair and uncontrollable for consumers.
- They have a disproportionate impact on protected classes such as minorities, low income people, elderly, young. It's possible that credit scores are acting as a proxy for socioeconomic status (race, education level, etc.) and even though credit scores are predictive of losses, it wouldn't be fair to use in pricing.

Sample 5

- Credit reports also disproportionately negatively affect recent divorcees who have not established credit histories.
- It is also important to note that empirical studies show no significant difference in the magnitude of claims that are filed, but only of the frequency of the claims. So this method may not be accurate to determine expected losses and premiums.

EXAMINER'S REPORT

Part a

Candidates were expected to identify the two exceptions where, after the McCarran-Ferguson Act, federal law superseded state law with respect to regulating the business of insurance.

Common errors include:

- Mention of state laws not existing, as there is no state law to be superseded by the federal law.
- Mention of federal laws unrelated to the business of insurance, e.g. labor laws.

Part b

Candidates were expected to know the purposes of the NAIC's model bills related to rate regulation following passage of the McCarran-Ferguson Act.

Common errors include:

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Identifying outcomes or features of the model bills without describing the underlying purposes. For example, describing anti-rebating laws without explaining that rebating can reduce competition.
- Mention of efficiency in implementation across states. This isn't an explicit purpose of the rate regulation model laws, and, in fact, many states didn't enact the model laws.
- Preventing federal government from stepping in to regulate insurance was also not accepted. This is unrelated to the rate regulation model laws specifically.

Part c

Candidates were expected to know the weaknesses of the credit reporting system and how those led to regulatory concerns for rating purposes.

Common errors include:

- Omitting the impact to premiums or rates.
- Listing privacy as a regulatory concern. This is unrelated to determining premiums.

FALL 2018 EXAM 6US, QUESTION 4

TOTAL POINT VALUE: 1.75

LEARNING OBJECTIVE: A3

SAMPLE ANSWERS

Part a: 0.25 point

- It helps to know whether the insurance company is able to pay for my losses as promised and this is not expected of grocery stores
- For insurance companies need a high rating (A) to write certain types of insurance (like surety). Grocery stores don't need financial strength ratings to sell certain produce.
- Independent agent use the ratings to place business with higher rated insurers. Independent agents do not place business with a grocery store.
- Insurance company customers are more uninformed than grocery store customers and thus use financial strength ratings to help them decide where to buy their product (insurance policy)

Part b: 0.5 point

- Most reinsurers are not located/domiciled in the U.S. so this can assist in providing an idea of how financially strong a reinsurer is
- Insurers may be hesitant to cede business to low rated reinsurers so could affect reinsurer's ability to be competitive in the market
- Financial ratings also signal to primary insurers the ability of a reinsurance company to be able to fulfill covered claims in case of a CAT. Many insurers have gone liquidated due to reinsurance uncollectable especially during/after a CAT.
- Reinsurers with high financial strength ratings may be able to charge more premium to primary insurers
- It directly impacts their collateral required to post to ceding companies. A better rating leads to less collateral needed.
- Small reinsurers w/ strong rating can compete against larger reinsurers.
- Some insurers require the use of highly rated reinsurers

SAMPLE ANSWERS AND EXAMINER'S REPORT

- If a reinsurance company rating drops, the insurers may wish to exercise a commutation
- Insurers don't want higher liability on their balance sheet for the provision for reinsurance so may opt for higher ratings.
- Insurer's Appointed actuary looks at these when commenting in SAO relevant comments about reinsurance collectability
- Investors use them to see if they want to invest in company
- So primary insurers can efficiently choose a reinsurer

Part c: 0.5 point

- They'll lose clients if too responsive and wrong
- If they are too responsive and they issue wrong ratings people won't trust their ratings so they'll lose the trust of the people who depend on ratings to make decisions
- Results often vary year to year, looking too short term may not identify long term issues
- Stability is a better indicator of long-term financial health of a company than responsiveness. Since rating agencies cannot update ratings frequently due to resource constraints and the negative view of overturning ratings often, they must look at the long-term health of a company.
- Overly responsive companies may take more risks in order to respond to immediate needs. Companies that take on too much risk may be concerning to rating agencies.

Part d: 0.5 point

- Shows they have integrity. It would be detrimental to their ratings if they do not disclose this and the rating agency finds out.
- They can show they are being proactive about it and management is taking steps to mitigate the risk
- They don't want to receive a downgrade
- Could negatively impact ratings but never occur to the extent anticipated

EXAMINER'S REPORT

Candidates were expected to describe the purposes of financial strength ratings, and to understand the rationale behind how both the rating agencies and insurers approach the rating process.

Part a

Candidates were expected to give a reason why financial strength ratings would be important for insurers, and not as important for grocers.

Common errors include:

- Explaining a purpose of financial strength ratings without explaining why it's more important for insurers over grocery stores.
- Providing an answer that doesn't explain the importance of the ratings for insurance companies.

Part b

Candidates were expected to briefly describe two ways that financial strength ratings are particularly important to reinsurers. There were many acceptable possible answers.

Common errors include:

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Confusing rating agencies with regulators and attributing legal authority to rating agencies.
- Responding for as a primary insurer and not a reinsurer.
- Repeating the reason from part a.

Part c

Candidates were expected to give two reasons why rating agencies would prefer to have stable ratings year to year instead of highly responsive rating. Some candidates interpreted the question to mean why rating agency would rate a stable insurer more highly than a responsive insurer.

Common errors include:

- Stating that a downgrade would be harmful for the insurer or other stakeholders tied to the insurer, without noting any consequences for the rating agency.
- Stating that a changing a rating would be more expensive for the rating agency than maintaining the rating for an insurer.
- Not being able to define what a “responsive insurer” is, what they would be responding to, or what action they would take that would be viewed unfavorably.
- Implying a causal relationship between the fact that markets are already responsive and that rating agencies prefer stability. For example, stating that markets can respond quicker so therefore rating agencies prefer to keep their ratings stable.

Part d

Candidates were expected to briefly describe one reason why an insurer would want to disclose a potential material adverse deviation to their rating agency, and one reason why they would not want to disclose this.

Common errors include:

- Confusing rating agencies and regulators or indicating that not fully disclosing information to a rating agency was illegal.
- Stating that allowing the rating agency to come to a lower rating is a reason to disclose.

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 5	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVES: A3, A4
SAMPLE ANSWERS	
Part a: 0.75 point	
Bolded sample answers indicate unique subject responses, any one of which was required. Italicized sample answers are common variations on the unique response.	
Assembles insurance data from various organizations	
<ul style="list-style-type: none">• <i>Collect data on insurance industry</i>• <i>Gather data on insurance from insurers and even NAIC</i>• <i>Aggregate/gather data for insurance industry</i>	
Identifies insurance activities that could contribute to a broader US financial systemic crisis	
<ul style="list-style-type: none">• <i>ID activities that could lead to a systemic financial crisis</i>• <i>Help identify practices that could lead to systemic crisis</i>• <i>They compile/aggregate insurance information from multiple sources</i>• <i>Monitors the insurance industry</i>	
Develops federal policy regarding nationally or internationally important insurance issues	
<ul style="list-style-type: none">• <i>Keep up with insurance-related issues or national or international importance</i>• <i>Help US with international matters of regulation</i>• <i>Negotiate international treaty related to insurance industry</i>	
Consults with state governments on insurance matters	
<ul style="list-style-type: none">• <i>Consult with state regulators on national and international issues and topics</i>• <i>Confer with states/state regulators about the state of the insurance industry</i>• <i>Consult with state regulators on insurance issues of national importance</i>	
Monitor the affordability and availability of insurance with the exception of health care coverage	
<ul style="list-style-type: none">• <i>Monitor the availability and affordability of insurance</i>• <i>The FIO monitors the insurance industry for the affordability and availability of insurance</i>• <i>Monitor insurance industry and affordability and availability</i>	
Work with the U.S. Trade Representative to negotiate covered agreements with foreign regulators that could alter state law	
<ul style="list-style-type: none">• <i>Act as representative for trade agreements with foreign insurers/regulators</i>• <i>Work with US Trade Representatives on covered agreements with foreign regulators</i>	
Report to congress annually	
<ul style="list-style-type: none">• <i>Reports to Senate and House annually on matters in the insurance industry</i>• <i>Present annually to congress about the State of the Business of Insurance</i>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

State insurance measures shall be pre-empted if and only if the director of the FIO determines that a Covered Agreement receive disparate or unfavorable treatment of a non-US insurer domiciled in a foreign jurisdiction

- *The FIO can preempt state regulations when they violate the covered agreements*
- *Ensure the covered agreements with other countries are not preempted by state law*

To assist the Secretary of the Treasury in administering the Terrorism Insurance Program

- *Help the treasury in administration of TRIA*

Part b: 1.5 points

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

Sample Responses for b)-i)

Dual Regulation causes increase in policyholder costs

- *Dodd-Frank could lead to dual regulation of the insurance company (state and federal) and the compliance cost will be passed to the policyholder.*
- *Increased Regulation increases administrative costs which are then passed down to the policyholder.*
- *Increase cost for insured purchasing from SIFIs or insurance companies that own banks because the insurers will be subject to dual regulation which may increase their policyholder's premiums.*

More Uniform regulation causes decrease in policyholder costs

- *Cost of insurance to policyholders could be lower because it promoted the uniformity among the states which could reduce insurer's cost.*
- *Potentially lower rate. More uniform regulation saves costs for insurers and insureds.*

States maintain regulation causing no change in policyholder costs

- *There is no effect as the states are responsible for making sure rates are adequate and insureds are treated fairly.*
- *Insurance costs to policyholders should not be affected, since state regulation of rates is preserved under Dodd-Frank.*

Increased affordability monitoring causes decrease in policyholder costs

- *Making cost of more equitable, and making insurance more affordable and available to policyholder overall.*
- *Cost of insurance for policyholders would decrease as the FIO is monitoring the affordability of insurance,*

Regulation allows more insurers causing decrease in policyholder costs

- *Dodd-Frank likely reduced the cost of surplus and excess lines by reducing reporting requirements by removing the "diligent search" requirement for exempt commercial purchasers.*

SAMPLE ANSWERS AND EXAMINER'S REPORT

- *Lesser cost because reinsurance and surplus lines have to be licensed only in their home state: less compliance cost so cost won't go down to policyholder anymore.*

Sample Responses for b)-ii)

Increased Regulation leads to less customization of insurance products

- *Discourages innovative products because of the increased regulation.*
- *Could reduce customization if the federal government created policy forms or sets uniform standards.*
- *The federal government could impose restriction on forms and rates that are charged. If they prescribe too much, this would lead to the commoditization of the industry and would decrease the ability for customization.*

The monitoring of affordability and availability of insurance may lead to increased customization of insurance products

- *Since Dodd-Frank gives the FIO power to ensure available and affordable coverage, this may force insurers to allow more customization of products such that their needs are met.*

Surplus line laws changes (brokers are now exempt from due diligence search, changes in premium tax), and this will increase customization of insurance products

- *Increased customization of insurance products because DFA permits non-admitted insurer to be regulated by the home state of the insureds only.*
- *More possibilities, based on changes made to surplus lines, market likely to expand, gives more incentive to meet needs so products are more customized.*

Regulations for companies with banks may reduce customization

- *Dodd-Frank made restrictions for banking companies to provide insurance. Therefore, customization of insurance and banking related products are reduced.*

Sample Responses for b)-iii)

Companies with banking and insurance functions may have increase operating cost due to additional or dual regulation.

- *Companies with both banks & insurance products will have to spend a lot more money & time on regulation since subject to dual regulation.*
- *Companies with banks and insurance functions will face additional regulation from the federal level and may incur additional costs as they strive to meet this new regulation.*

Companies with banking and insurance functions may divest the two operations to avoid additional/dual regulation

- *Companies with both banking and insurance functions will decrease because banks are subject to a lot more regulation due to Doff-Frank, specifically those with insurer operations as well are subject to even stricter rules. Companies will separate as not to be subject to more unnecessary regulatory burden.*

SAMPLE ANSWERS AND EXAMINER'S REPORT

- *These companies were subject to increased regulation so a lot of companies sold off or reduced their banking operations*

Companies with banking and insurance functions may face additional regulation

- *Potentially will need to carry more capital & surplus as regulation for banks would apply and they are more heavily regulated*
- *Insurance holding companies that own banks would receive significantly more regulation. They have to develop living wills, hold increased capital along with many other additional requirements.*

EXAMINER'S REPORT

Candidates were expected to:

- Describe the functions of the Federal Insurance Office
- Describe the potential impact of the Dodd-Frank Act on the insurance industry with respect to the cost and customization of insurance products
- Describe the impact of the Dodd-Frank Act on Companies with both banking and insurance functions

Part a

Candidates were expected to list three functions of the Federal Insurance Office as part of the Dodd-Frank Act.

Common errors include:

- The FIO monitors SIFIs, insurance companies with banks, or insurance companies. The FIO does not monitor individual companies.
- The FIO regulates insurance companies. The FIO is not a regulator.
- The FIO preempts state regulation. This is true but is very specific and the answer needed to include if the state regulation interferes with foreign covered agreements.
- The FIO creates model laws. The FIO does not create model laws.
- The FIO designates SIFIs. The Financial Stability Oversight Council designates insurers as subject to regulation as a nonbank company supervised by the Board of Governors.
- Not unique – Day-to-day oversight of the insurance industry and help identify practices that could lead to systemic crisis.

Part b

Candidates were expected to describe the impact of Dodd Frank on three aspects of the insurance industry.

Common errors for include:

- Compliance costs will be passed onto the policyholder. This answer does not make it clear that the compliance costs are due to the dual or increased regulation.
- Discussing the impact of other acts (not Dodd-Frank) on banking and insurance.

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 6	
TOTAL POINT VALUE: 2.5	LEARNING OBJECTIVE: B2
SAMPLE ANSWERS	
Part a: 1 point	
<p><u>Sample Responses for Write-Your-Own Policy (WYO)</u></p> <ul style="list-style-type: none">• WYO program: Private companies sell policy through “WYO” program and are reimbursed for administrative expenses by NFIP.• Through write-your-own program where private insurers write and service policy but risk is reinsured completely by federal government.• “Write your own” program, where insurers market and issue the policies and are 100% reinsured by NFIP• Through the write-your-own program private carriers may write and market NFIP policies to consumers <p><u>Sample Responses for Direct Servicing Agent (DSA)</u></p> <ul style="list-style-type: none">• Direct Servicing Agent: private service agents/companies contracted with NFIP (contractor company) and sell policies.• Through direct specialized agents who are in charge of selling the insurance on behalf of the federal government.• Servicing agents who assign customers to the NFIP• Direct through a contractor of NFIP/FEMA which serves as intermediary	
Part b: 1.5 points	
<p><u>Sample Responses for Pre-Firm Subsidy</u></p> <ul style="list-style-type: none">• If house built/substantially improved before the later of 12/31/74 or 1st FIRM published for community, the owner is charged less than actuarially indicated rate• Pre-Firm Subsidy – policies w/ homes built before a certain date or before a risk map was made in the area• Subsidies for properties built before development of FIRM <p><u>Sample Responses for Newly Mapped Subsidy</u></p> <ul style="list-style-type: none">• New Mapped Subsidy – for communities mapped after 4/1/2015• Subsidize premiums for policies that were originally PRPs then mapped to a special hazard flood zone• First Mapping subsidy – in the first 12 months the community has a change to the FIRM, the community can use the PRP rate <p><u>Sample Responses for Grandfathering Cross-Subsidy</u></p> <ul style="list-style-type: none">• Grandfathering Cross Subsidy – buildings whose flood hazard area was reclassified can choose to be assigned a pay rates as per the former classification• Grandfather subsidy allows policies to be grandfathered into their original rates if their rates would increase due to being mapped to a new FIRM• Grandfathering subsidy, applies to those previously under a lower rate and just got remapped into a higher rate zone. They can continue to be charged at original rate.	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Sample Answers for Community Rating System (CRS)

- Community Rating – communities can take steps to reduce their risks beyond the basic NFIP requirements in return for lower premiums
- Cross subsidy where communities that make improvements to receive premium reductions are subsidized by communities that don't receive any rate reduction
- If the community participates in NFIP and educates residents they may be placed in tier and members charged lower rate

Other sample answers:

- Grandfathering Elevation – a property may retain rate if base flood elevation changes on them
- Premium is subject to a maximum increase, even if the increased premium is lower than the indicated rate

EXAMINER'S REPORT

Candidate was expected to demonstrate knowledge of the way NFIP policies are sold through private insurance companies or specialized agents for Part A as well as the subsidies that NFIP builds into its rating structure for Part B.

Part a

Candidate were expected to identify and describe how insurance companies would use a Write-Your-Own (WYO) arrangement and Direct Servicing Agent (DSA) to distribute NFIP policies.

Common errors include:

- Identifying the arrangement with no description
- Describing a pooling arrangement among companies
- Describing an assigned risk program where insurers must involuntarily write or service NFIP policies
- Describing how companies wrote a unique flood policy rather than an NFIP policy
- Stating that companies would write policies using NFIP rules/rates but assume all risk of loss with no NFIP backing or reinsurance

Part b

Candidates were expected to describe three types of premium subsidies built into the NFIP rating structure.

Common errors include:

- Describing subsidies that fall outside of the NFIP rating structure – such as post flood costs covered by FEMA, assistance from the Treasury, or the burden on taxpayers
- Describing issues with the actuarial soundness of the overall program or classes within the program as opposed to the premium subsidies

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Describing situations that would lead to lower than expected premiums – such as repeated losses, limited criteria for risk segmentation, buildings not reconstructed up to current code
- Describing penalties (such as penalties for not complying with standards) or other fees that help fund the program
- Stating the existence of subsidies for communities who participate in NFIP or who comply with minimum risk management standards (as this does not clearly distinguish communities that go above and beyond basic flood management guidelines from those that do)

FALL 2018 EXAM 6US, QUESTION 7	
TOTAL POINT VALUE: 2.75	LEARNING OBJECTIVE: B1, B2
SAMPLE ANSWERS	
Part a: 1.50 points	
<ul style="list-style-type: none"> • Assigned Risk Plans - Voluntary market rejects high-risk drivers. All auto insurers doing business in the state are assigned their proportionate share of high-risk drivers based on the total volume of auto insurance written in the state. • JUAs – Voluntary market rejects high-risk drivers. Agents/brokers forward application to the JUA or to a designated servicing insurer. • Reinsurance Facilities –Insurers accept all auto insurance applicants, and if an applicant is considered a high-risk driver, the insurer has the option of assigning the driver's premiums and losses to the reinsurance facility. 	
Part b: 0.75 point	
<ul style="list-style-type: none"> • Assigned Risk Plans –Total underwriting losses and expenses for a given policy are the assigned insurer's responsibility as if the policy was written in the voluntary market. • JUAs –All auto insurers pay a proportionate share of total underwriting losses and expenses for all residual risks based on each insurer's share of voluntary auto insurance written in the state, a portion of which can be used to compensate the servicing insurers. • Reinsurance Facilities –All auto insurers doing business in the state share any underwriting losses and the expenses of the reinsurance facility in proportion to the total auto insurance they write in the state. The insurer continues to service the policy. 	
Part c: 0.5 point	
Solution (any two of these):	
<ul style="list-style-type: none"> • Urban areas that are susceptible to damage to property due to riots or civil commotion • Coastal properties that pose greater-than-average exposure to windstorm damage • Properties in some wooded areas subject to brush fires • sinkhole-susceptible properties 	
EXAMINER'S REPORT	
<p>Candidates were expected to know the major residual market mechanisms. They were expected to have an understanding of the objectives, operations, and effectiveness of insurance plans including:</p> <ul style="list-style-type: none"> • Assigned risk plans • Joint underwriting associations 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

<ul style="list-style-type: none"> • Reinsurance facilities
Part a
<p>Candidates were expected to differentiate between various types on state insurance programs with respect to how risks are placed in each.</p> <p>Common errors include:</p> <ul style="list-style-type: none"> • Failure to indicate the initial rejection by the voluntary market (ARP and JUA) • Stating that JUA's are assigned by market share • Describing a Reinsurance Facility as a traditional reinsurance treaty
Part b
<p>Candidates were expected to differentiate on the claim settlement and loss/expense allocation for the identified programs.</p> <p>Common errors include:</p> <ul style="list-style-type: none"> • Describing the JUA and/or Reinsurance Facility as the market share of the association instead of the market share of the state • Describing the Reinsurance Facility as a standard insurance cession
Part c
<p>Candidates were expected to identify the target exposures for a FAIR Plan.</p> <p>Common errors include:</p> <ul style="list-style-type: none"> • Listing only the coverage type (i.e. Riot or Wind) rather than describing the exposure • Not providing a complete description which made the answer too broad or vague to address the intended question (i.e. Properties exposed to wind, rather than Coastal properties with above average exposure to windstorm damage) • Listing criteria required by the FAIR plan that do not specifically describe the exposure and risk (i.e. buildings that are not properly maintained) • Providing nonspecific answers (i.e. homeowners insurance)

FALL 2018 EXAM 6US, QUESTION 8	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE: B
SAMPLE ANSWERS	
Part a: 0.75 point	
<p>Federal Government</p> <ul style="list-style-type: none"> • Act as reinsurer of the insurance companies. It pays losses that are officially declared as applying for TRIA coverage up to a certain limit & attachment point • Backstop for terror losses thru reinsurance agreement • Pay for losses in excess of set thresholds resulting from terror attack • Acts as a reinsurer • Reinsurers the high layers of the coverage that provided by the private insurers. • Partnership with private market for terrorism insurance <p>State Government</p> <ul style="list-style-type: none"> • Not involved, TRIA is a federal program 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- No role
- Does not have a role other than normal regulation of the insurer
- Approves terrorism rates and forms
- Regulates rates

Private Insurer

- Have to offer TRIA Terrorism coverage and service policies
- Acts as primary insurer
- Writes TRIA & provides primary coverage
- Write and maintain policies. Share loss with federal government
- Provide coverage to consumers

Part b: 1.5 points

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

- **Ensure terrorism coverage is available which is accomplished by requiring private insurers to offer the coverage**
 - *Federal government shares insured losses with private insurers to stabilize market with role of federal government depending on size of loss; Yes, coverage is available through multiple carriers.*
 - *Establish a shared public/private program where the federal government acts as a reinsurance backstop in event of terrorist attack; accomplished.*
- **Preserve the state regulation of insurance - this program does not infringe on states' rights to regulate insurance**
 - *Maintain state regulation – does that by allowing states to regulate rates*
- **Create a temporary federal program of shared public and private compensation for insured terrorism losses to allow the private market to stabilize where role of federal loss sharing depends on size of insured loss. This hasn't fully been met since it has been renewed twice, so it is not really temporary.**
 - *Provide temporary relief to private insurers after 9/11 for terrorism risk. It did accomplish this but program is extended.*
 - *Provide a temporary backstop of protection while the private market stabilizes & gathers enough data to offer terrorism insurance in the private market – No. Program was meant to be temporary (began in 2002) but keeps being renewed; unlikely for private insurers to willingly offer affordable coverage if TRIA was not in place.*
 - *Give insurance (Private) time to collect data and establish standard markets. – TRIA has been renewed which accomplishes the continued goal, insurers still working on models due to lack of data.*

SAMPLE ANSWERS AND EXAMINER'S REPORT

- **Protect consumers by requiring those insurers that offer commercial insurance covered by TRIA to provide terrorism insurance**
 - *Increase availability and affordability. TRIA achieved this because before TRIA almost no private insurer provided TRI products.*
 - *protect consumers by ensuring the availability and affordability of insurance for terrorism risks*
 - *Fill the unmet need after 9/11 for terrorism insurance; accomplished by offering coverage.*

- **Limit/prevent economic instability due to terrorism events—TRIA has accomplished this by reassuring companies that they will be covered in a terrorism event**
 - *Provide social benefit/need of limiting or mitigating any economic or business interruption – unsure if goal has been accomplished as TRIA has not been tested yet. In theory though this goal should be met given the public has peace of mind that their backstop does exist should the need arise.*
 - *To provide coverage in the immediate aftermath of a significant terrorist event that can destabilize the US economy. TRIA does this by providing insurance specifically relating to terrorism which the impact from an event is deemed significant.*

EXAMINER'S REPORT

Candidates were expected to understand the role of government and private insurers within TRIA. Candidates were also expected to know why TRIA was created and evaluate the effectiveness of the program.

Part a

Candidates were expected to describe the roles of the federal government, state governments, and private insurers in TRIA.

Common errors include:

- Not listing a role for state government
- Stating that state government had a role in setting rates. State departments of insurance approve and regulate rates; ensuring they not excessive, inadequate or unfairly discriminatory. They do not mandate specific rates.

Part b

Candidates were expected to describe three distinct goals of TRIA and evaluation whether TRIA has met each goal.

A common error was describing a goal without saying whether the goal was met or not

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 9	
TOTAL POINT VALUE: 2	LEARNING OBJECTIVE: B2, B3
SAMPLE ANSWERS	
Part a: 1 point	
Two of the following: <ul style="list-style-type: none">• Since the fund will only provide WC it will be specialized and thus able to understand the risks very well leading to more accurate pricing relative to risk• States can offer cheaper coverages than private insurance because of the elimination of marketing cost• States can offer more intensive rehabilitation program for injured workers. A social benefit.• Lower premium due to reduced operation costs and agency's commission• The government operates as a non-profit insurer, potentially reducing costs• WC insurance is mandatory / compulsory, it needs to ensure the coverage is available• State charges less premium because it has less advertising and acquisition cost• Efficiency: the cost will be lower than private insurers because of non-profit nature• The state has more resources and is larger than insurance companies (economies of scale), so there would be cost savings which would transfer to policyholders• It will be more efficient to regulate without numerous individual private insurers• State governments do not incur as many overhead expenses so cheaper for insureds	
Part b: 0.5 point	
Two of the following: <ul style="list-style-type: none">• No competition – state has monopoly• Not enough product choice for consumers since they can only purchase from state• This will crowd out potential private insurers who may be more efficient and thus cheaper since they have to compete• There are many insurance companies throughout the country who could provide WC coverage so there's no argument that a private market wouldn't exist• WC insurers have been able to provide WC coverage at reasonable rates therefore state fund may not be needed• Exclusive providers do not allow for any competition which reduces product innovation• There are many insurers who specialize in WC and offer better care and coverage than the state• The state may not actually offer coverage more efficiently than private insurer, for example, could rely on other government functions in administering claims which is a burden on taxpayers• A single exclusive fund might actually result in higher prices than in a competitive market where there would be incentives to attract customers• Consumers should be able to shop around to find the best price – can give them incentives to implement safety programs• Currently about 60% of market is served by private insurers and only 4 have exclusive insurers, so it shows that private market does just as good of a job• Limits competition	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Could potentially harm insurers and cause them to become insolvent if a large portion of their business was workers comp. coverage

Part c: 0.5 point

Similarity:

- Both administered by the state
- Final stop
- Both have lower expenses b/c no commissions and low profit provision relative to a private insurer
- Both are considered the market of last resort
- Both will support mandatory coverage requirements and are able to provide coverage for all applicants
- Both accept high risks possible rejected by voluntary WC market
- In both cases the government steps in to ensure coverage for all

Difference:

- State administered plan is administered by the state while a residual market would have the policies administered by private companies
- Residual market only insures high risks rejected by admitted market, while state funds insure all risks
- Residual market requires proof that you were unable to obtain coverage from the competitive market first
- Under residual, private insurance companies sell policies
- The residual market will generally have private companies issue policies and handle claims. This is the responsibility of the state in an exclusive state fund
- In the exclusive fund everybody treated equally, whereas in the residual market have negative stigma of being higher risk

EXAMINER'S REPORT

Candidates were expected to know the motivations for setting up an exclusive WC fund and the possible negative impact and market disruption the fund could cause.

Candidates were expected to know why such a fund could be unnecessary due to the private market already fulfilling the need for WC coverage and operating well without government involvement.

Candidates were expected to know the basic mechanisms of a residual market and its operations and compare / contrast to a government WC fund

Part a

Candidates were expected understand the operation of the private WC market and enumerate motivations for setting up an exclusive state WC fund.

Common errors include:

- Not realizing that the private market would cease to exist if there is an exclusive state WC program.

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Not understanding how the state WC program works in concert with the rest of state government (e.g. the fund is supposed to be self-sufficient and cannot tax at will to make up shortfalls).
- Thinking there is a federal WC program that will step in if the state WC program has problems.
- Stating that an exclusive WC fund would be more convenient to employers since they would not need to shop around for coverage. A state fund would still have an application process with similar requirements as a competitive environment.

Part b

Candidates were expected to know why such a fund could be unnecessary due to the private market already fulfilling the need for WC coverage and operating well without government involvement.

Common errors include:

- Not explaining the funding mechanisms of the state WC fund (goal is to be self-sufficient and cannot levy taxes at will).
- Stating that the taxpayers would be liable if the state fund has a bad year (or few years) of performance.
- Arguing that bundling / packaging discounts no longer available for insureds.
- Stating that the state would lack necessary expertise to run WC fund (e.g. no actuaries or claims professionals) / state lacks data to price. A state fund would have the ability to hire experts.

Part c

Candidates were expected to know the basic mechanisms of a residual market and its operations and compare / contrast to an exclusive or competitive government WC fund.

Common errors include:

- Stating that the residual market is either in direct competition with the private market or state WC fund, or that it is operated directly by the state
- Stating that the state WC fund is involved with the federal government or is backstopped by the federal government.
- Not understanding the purpose of the residual market as a mechanism for high risk insureds
- Stating that one or the other of the programs has a profit motivation while the other does not.
- Simply stating availability as a similarity without describing the "take all comers" approach.
- Describing affordability as a similarity. Affordability is not a primary concern for residual markets.

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 10	
TOTAL POINT VALUE: 3.5	LEARNING OBJECTIVE: C1
SAMPLE ANSWERS	
Part a: 1.25 points	
<u>Sample 1</u>	
<ul style="list-style-type: none"> • Bond 1: Carried at amortized cost – 4,500 • Bond 2: Carried at amortized cost – 6,350 • Bond 3: Lesser of amortized cost and fair value – 5,750 • Common Stock: Fair value – 1,750 • Total = 4,500+6,350+5,750+1,750 = 18,350 	
Part b: 1.75 points	
<u>Sample 1</u>	
<ul style="list-style-type: none"> • Total Admitted Assets = 18,350+1,250+0+200=19,800 <ul style="list-style-type: none"> ○ Bonds + Common Stock from Part a. – 18,350 ○ Cash – 1,250 ○ Office Equipment: non-admitted – 0 ○ Agents Balances <= 90 days Past Due – 200 • Total Liabilities = 10,000+250+125=10,375 <ul style="list-style-type: none"> ○ Loss and Loss Adjustment Expense Reserves – 10,000 ○ Liability for pending litigation – 250 ○ Other liabilities – 125 • Surplus=(Total Admitted Assets)-(Total Liabilities) = 19,800-10,375 = 9,425 	
<u>Sample 2</u>	
Assuming that pending litigation is included in the Loss and LAE	
<ul style="list-style-type: none"> • Total Admitted Assets = 18,350+1,250+0+200=19,800 <ul style="list-style-type: none"> ○ Bonds + Common Stock from Part a. – 18,350 ○ Cash – 1,250 ○ Office Equipment: non-admitted – 0 ○ Agents Balances <= 90 days Past Due – 200 • Total Liabilities = 10,000+125=10,125 <ul style="list-style-type: none"> ○ Loss and Loss Adjustment Expense Reserves – 10,000 ○ Liability for pending litigation – 0 ○ Other liabilities – 125 • Surplus=(Total Admitted Assets)-(Total Liabilities) = 19,800-10,125 = 9,675 	
Part c: 0.5 point	
<u>Sample Responses for part i</u>	
<ul style="list-style-type: none"> • The insured cannot include these as admitted assets when preparing its balance sheet. \$0 impact to surplus • Immaterial impact, no change to surplus 	
<u>Sample Responses for part ii</u>	
<ul style="list-style-type: none"> • The insured should reflect this additional liability. Surplus would decrease by 100,000 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

<ul style="list-style-type: none"> • The insured should reflect this additional liability. Surplus would decrease by 349,750 • This is only \$100,000 on a surplus of \$9M, so may not be material enough to require a change • Immaterial impact, no change to surplus
EXAMINER'S REPORT
Candidates were expected to know how to properly value various investments in a portfolio, calculate the statutory surplus based on existing liabilities and admitted assets, and opine on the impact of subsequent events to the surplus.
Part a
Candidates were expected to know how to properly value each of the Bond NAIC classes as well as the Admitted Common Stocks and add them together to get the full value of the investment portfolio.
Common errors include: <ul style="list-style-type: none"> • Not adding together the investments • Selecting the wrong valuation base • Including cash or other admitted assets
Part b
Candidates were expected to know how to differentiate admitted and non-admitted assets, calculate total liabilities, and subtract liabilities from assets to obtain the 2017 statutory surplus.
A common error was including the non-admitted assets such as "Office Equipment" in the calculation of admitted assets.
Part c
Candidates were expected to know how to adjust surplus for subsequent events.
Common errors include: <ul style="list-style-type: none"> • Stating that the non-admitted assets would be reflected in the surplus • Stating that the liability for pending litigation would not impact surplus without commenting on materiality • Stating that the events are Type 2 subsequent events and therefore would not be reflected in the financial statements (both events are Type 1 subsequent events).

FALL 2018 EXAM 6US, QUESTION 11	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE: C1
SAMPLE ANSWERS	
Part a: 0.75 point	
<u>Sample 1</u> Net investment income earned = 500 – 50 = 450	
Part b: 1 point	
<u>Sample 1</u> Changes to surplus = -50 + 100 = 50 Investment Gain = 450 + 100 = 550	

SAMPLE ANSWERS AND EXAMINER'S REPORT

1700 + 50 + 550 + UW Income = 2350

UW Income = 50K*

*(Ignores Federal Tax)

Sample 2

Prior Surplus	1700	
Net income	+X	Net income = 800
Δ Unrealized Cap Gains	(50)	
Δ Reins	<u>-100</u>	
	2350	

UW Inc =	X	
Net II	+ 450	
<u>Net Cap Gain</u>	<u>+ 100</u>	
Net Income =	800	

UW Inc = 250

Assume No tax

Part c: 0.5 point

- When a Co has reason to believe that the unearned premium reserve will not be sufficient to pay for associated losses + expenses.
- A non-zero PDR should be recorded if the unearned premium is less than the expected loss + LAE and maintenance costs on the unexpired portion of the policy. This is evaluated consistent with how policies are marketed and serviced.
- If the insurer suspects that the unearned premium reserve is not adequate to cover expected future losses, they should recognize a premium deficiency reserve. This is not the same as deterioration in losses which have already occurred; the premium deficiency reserve only covers future losses.
- If the UEPR is inadequate to cover expected losses/expenses. May consider investment income, but must be disclosed and would still be nonzero if $UEPR + II < losses/expenses$.
- If the unearned premium reserve and deferred acquisition cost is smaller than the expected losses and policy maintenance costs for the unexpired portion of the policy.
- When UEPR is not enough to cover exp. Loss & LAE, policy's maintenance expense. Investment income can be used to offset cost in profit determination – will disclose. If SAP, no DAC considered. If GAAP, DAC can be considered.

$$UEPR - Exp Loss \& LAE - Main. Expense$$
 If this eq'n < 0 and DAC (if GAAP) is exhausted, then $PDR > 0$.
- If there is a premium deficiency reserve that is still possible (and positive, can't be negative) after subtracting investment income and DPAC (deferred policy acquisition costs) then a non-zero PDR is recorded.
- When it is not offset by deferred premium acquisition costs.

EXAMINER'S REPORT

SAMPLE ANSWERS AND EXAMINER'S REPORT

Candidates were expected to have an understanding of the statutory financial statements and the statutory definition of values contained therein.

Part a

Candidates were expected to calculate net investment earned as it is defined in line 9 of the income statement.

Common errors include:

- Calculating Net Investment Gain instead of Net Investment Income Earned
- Including the change in net unrealized capital gain/loss
- Subtracting taxes

Part b

Candidates were expected to understand net income, including underwriting, investment and other income, is added to beginning of year surplus along with other surplus changes to calculate end of year surplus in the Capital and Surplus Account section of the Statement of Income. Candidates were expected to solve for underwriting income given other items from the balance sheet and Capital and Surplus section.

Common errors include:

- Including or excluding needed items from the table of information.
- Adding deferred tax savings from the change in net unrealized capital gains. This isn't necessary. Net unrealized capital gains is already net of deferred taxes.
- Subtracting taxes from net realized capital gains. The notes in line 10 provide the capital gains taxes where "net" means net of taxes. Capital gains gross of taxes is found in the Exhibit of Capital Gains (Losses).

Part c.e

Candidates were expected to provide the specifics of when a premium deficiency reserve (PDR) needs to be recorded as a liability on the balance sheet. Specifics based on either statutory or GAAP guidance were accepted.

Common errors include:

- Timing of premiums or losses/expenses unclear or imprecise. For example, an insurer should record a PDR if it expects that collected premiums will not be enough to cover losses and expenses. Premiums could have been collected years ago and associated losses and expense may have already occurred. The point of the PDR is to recognize an anticipated deficiency in future earnings which the insurer can do nothing to address (either through rate increases or non-renewal).
- Timing of premiums or losses/expenses is in the past. For example, an insurer should record a PDR when premium earned is less than incurred losses and incurred expenses. This deficiency would impact surplus through the income statement without the existence of a PDR through an underwriting loss.

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 12	
TOTAL POINT VALUE: 2	LEARNING OBJECTIVE: C1
SAMPLE ANSWERS	
Part a: 1 point	
<u><i>Sample Responses for Medical Professional Liability – Claims-Made</i></u>	
<ul style="list-style-type: none">• Report Year• By date claim was reported to insurer	
<u><i>Sample Responses for Commercial Auto Liability/Medical - Occurrence</i></u>	
<ul style="list-style-type: none">• Accident Year• Calendar/Accident Year• By date the loss occurred• Occurrence Year	
<u><i>Sample Responses for Products Liability – Tail Coverage</i></u>	
<ul style="list-style-type: none">• Policy Year• Accident Year• Underwriting Year• Date corresponding to when the policy was issued (when the product was sold)• Occurrence Year• Reported in the year when insurer writes the risk	
<u><i>Sample Responses for Surety</i></u>	
<ul style="list-style-type: none">• Discovery Year• Loss Discovery Year• Investigation Year/Calendar Year where we find out the claim	
Part b: 1 point	
<u><i>Sample Responses for Argument for Continued Purchase of Non-Proportional Reinsurance</i></u>	
<ul style="list-style-type: none">• The use of non proportional reinsurance has stabilized results.• The insurer has been able to continue to grow their NWP while maintaining a profitable LR (<60%) outside of 2017 which is too immature for a proper ultimate view.• Based on the D&A EP, the insurer has been growing rapidly. Rapid premium growth has been the cause of many insurer insolvencies. As the insurer does not know as much about the new business, reinsurance protection makes sense to provide the insurer protection from this risk.• In year 2012 and 2017, the ceded loss and LAE ratio are much worse than the net, so without reinsurance, the company would have suffered big loss. The company won't know which year a big loss like this will occur so purchasing reinsurance is safe.	
<u><i>Sample Responses for Argument against Continued Purchase of Non-Proportional Reinsurance</i></u>	
<ul style="list-style-type: none">• The use of non proportional reinsurance has only resulted in a lower loss ratio two out of the past ten years. Therefore the company is losing money from the arrangement more often than gaining.	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- For all but 2 years (2012 & 2017) where a CAT likely occurred, the net ratio is worse than the ceded ratio. Perhaps they would be better off with a proportional Q-S structure where they can share equally in losses so the ceded ratio is the same as the net.
- Purchasing too much reinsurance exposes insurer to more credit risk, due to collectability concerns. In the last 3 yrs, an avg of 42.3% premium was ceded, which is a lot.
- Reinsurance is expensive so they could reduce that cost by foregoing coverage and expose themselves to higher loss ratios – the highest gross is 94.3 but most are very lower, could price for this.

EXAMINER'S REPORT

Candidates were expected to understand how Schedule P data is organized for various lines of business. Candidates were also expected to interpret Direct & Assumed vs. Ceded and Net Loss and LAE ratios.

Part a

Candidates were expected to identify how Schedule P data are organized for four different types of insurance.

Common errors include:

- Stating Calendar Year without further description
- For Claims Made: stating Policy Year or Accident Year or Calendar Year
- For Occurrence: stating Report Year or Calendar Year
- For Tail Coverage: stating Report Year or Discovery Year
- For Surety: stating Accident Year or Report Year or Policy Year

Part b

Candidates were expected to interpret a set of Direct & Assumed vs. Ceded vs. Net Loss and LAE ratios where non-proportional reinsurance applied, and provide one reason for and one reason against continued use of non-proportional reinsurance, based on the sample Schedule P provided.

Common errors include:

- Stating that proportional reinsurance would provide more stable loss ratios than non-proportional
- Stating that proportional reinsurance made net loss ratios more predictable.
- Stating that non proportional reinsurance provided surplus relief

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 13

TOTAL POINT VALUE: 2.75

LEARNING OBJECTIVE: C1

SAMPLE ANSWERS

Part a: 2 points

Sample 1

Average Case Outstanding

(Part 2D - Part 3D - Part 4D) / (Part 5D, Section 2)

	2015	2016	2017
2015	10.25	12.35	26.57
2016		8.14	7.80
2017			6.85

The average case outstanding is decreasing along the diagonal when comparing the past 3 accidents years at the same maturity (10.25 -> 8.14 -> 6.85).

Use of an unadjusted reported loss development method to project unpaid losses may understate the reserve need.

Sample 2

Average Unpaid Outstanding

(Part 2D - Part 3D) / (Part 5D, Section 2)

	2015	2016	2017
2015	19.94	27.60	65.14
2016		16.84	21.40
2017			17.49

The average unpaid outstanding is decreasing along the diagonal at 12 months and 24 months from 2015 to 2016.

Use of an unadjusted reported loss development method to project unpaid losses may understate the reserve need.

Sample 3

Claim Closure Rate

(Part 5D, Section 3 - Part 5D, Section 2) / (Part 5D, Section 3)

	2015	2016	2017
2015	0.484	0.706	0.901
2016		0.439	0.638
2017			0.418

SAMPLE ANSWERS AND EXAMINER'S REPORT

Claim closure rate is decreasing along the diagonal when comparing the past 3 accident years at the same maturity (0.484 -> 0.439 -> 0.418).

Use of an unadjusted development factor method will underestimate unpaid claims.

Sample 4

Claims Outstanding

(Part 5D, Section 2) / (Part 5D, Section 3)

	2015	2016	2017
2015	0.516	0.294	0.099
2016		0.561	0.362
2017			0.582

Claims outstanding is increasing along the diagonal when comparing the past 3 accident years at the same maturity (0.516 -> 0.561 -> 0.582).

Either:

- Use of an unadjusted development factor method will underestimate unpaid claims.
- The longer claims stay open, the greater the chance of adverse development and additional required reserves.

Sample 5

Claims Closed with Pay as a Percent of Total Reported Claims

(Part 5D, Section 1) / (Part 5D, Section 3)

	2015	2016	2017
2015	0.258	0.368	0.437
2016		0.227	0.348
2017			0.209

Claims closed with pay are decreasing along the diagonal when comparing the past 3 accident years at the same maturity (0.258 -> 0.227 -> 0.209).

Either:

- Use of an unadjusted development factor method will underestimate unpaid claims.
- The longer claims stay open, the greater the chance of adverse development and additional required reserves.

Sample 6

Claims Closed with Pay as a Percent of Total Closed Claims

(Part 5D, Section 1) / (Part 5D, Section 3 - Part 5D, Section 2)

SAMPLE ANSWERS AND EXAMINER'S REPORT

	2015	2016	2017
2015	0.533	0.521	0.484
2016		0.517	0.545
2017			0.500

Claims closed with pay are decreasing along the diagonal when comparing the past 3 accident years at the same maturity (0.533 -> 0.517 -> 0.500).

This could result in increases in re-opened claims in the future.

Sample 7

Paid to Incurred
(Part 3D) / (Part 2D)

	2015	2016	2017
2015	0.481	0.551	0.629
2016		0.517	0.585
2017			0.535

Paid to incurred ratios are increasing when compared to the past 3 accident years at the same maturity (0.481 -> 0.517 -> 0.535).

This could imply a company is under reserved, as the reserves as a percent of paid to date is low.

Sample 8

Paid to Case Incurred
(Part 3D) / (Part 2D - Part 4D)

	2015	2016	2017
2015	0.643	0.733	0.806
2016		0.689	0.795
2017			0.746

Paid to case incurred ratios are increasing along the diagonal when comparing the past 3 accident years at the same maturity (0.643 -> 0.689 -> 0.746).

This could identify if there is change in case reserve strength or a change in settlement patterns, either of which could be a concern.

Sample 9

Unpaid to Incurred
1.0 - (Part 3D) / (Part 2D)

SAMPLE ANSWERS AND EXAMINER'S REPORT

	2015	2016	2017
2015	0.519	0.449	0.371
2016		0.483	0.415
2017			0.465

Unpaid to incurred ratios are decreasing when compared to the past 3 accident years at the same maturity (0.519 -> 0.483 -> 0.465).

This could imply a company is under reserved, as the reserves as a percent of paid to date is low.

Sample 10

Unpaid to Case Incurred
(Part 3D) / (Part 2D - Part 4D)

	2015	2016	2017
2015	0.357	0.267	0.194
2016		0.311	0.205
2017			0.254

Unpaid to case incurred ratios are decreasing along the diagonal when comparing the past 3 accident years at the same maturity (0.357 -> 0.311 -> 0.254).

This could identify if there is change in case reserve strength or a change in settlement patterns, either of which could be a concern.

Part b: 0.75 point

Changes in:

- Mix of business
- Claim settlement practices
- Reserving practices
- Rapid premium growth/shrinkage
- Retentions
- Policy limits
- Intercompany pooling
- Definition of claim count
- Commutations
- Company structure (e.g. M&As). When a company acquired another business, the schedule P's data will be on the combined basis. Extra care should be taken when comparing historical schedule P data.

EXAMINER'S REPORT

Candidates were expected to demonstrate knowledge on Schedule P and how the triangles provided in Schedule P can be used in actuarial analyses to assess reserve adequacy.

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part a

Candidates were expected to identify and calculate two metrics related to reserve adequacy using Schedule P triangles. The candidate was then expected to make an assessment of the metric and discuss how it shows that reserves are inadequate.

Common errors include:

- Calculating and assessing a metric that is not related to reserve adequacy
 - Paid claim severity
 - Average reported claim severity
- Not understanding that Schedule P, Part 2 shows ultimate losses even though it is labeled as incurred. This triangle includes paid, case outstanding and IBNR.
- Stating that incurreds remain the same, but reported losses are increasing over time. Similar to the error above, Schedule P, Part 2 contains ultimates.
- Calculating an appropriate metric, but not making an assessment.
- Calculating and assessing an appropriate metric, but not relating it back to how there is impact on reserve adequacy. Simply stating that “this implies reserves are inadequate” does not demonstrate why they are inadequate.
- In the assessment, candidates compared trends across development periods for a single accident year instead of trends across accident years. For example, mentioning that average case outstanding increases each development period for accident year 2015 does not demonstrate that reserves are inadequate. As small/easy claims are closed early, one would expect average case reserves to increase over time.

Part b

Candidates were expected to provide three changes in a company's business that should be considered when using Schedule P to assess reserve adequacy.

Common errors include:

- Listing a similar change more than once. For example, a change from short tailed lines to long tailed lines and a change between Property and Liability are both related to a change in mix of business.
- Listing a change in whether salvage and subrogation is included in Schedule P. Schedule P Parts 2 - 4 are always net of salvage and subrogation.

FALL 2018 EXAM 6US, QUESTION 14

TOTAL POINT VALUE: 2.5

LEARNING OBJECTIVE: C1

SAMPLE ANSWERS

Part a: 0.75 point

From part 2A – Unpaid Losses and Loss Adjustment Expenses

Net losses unpaid = (Direct Reported + Assumed Reported – Recoverable Reported)+(Direct IBNR + Assumed IBNR – Ceded IBNR)

Net losses unpaid = (61,350 + 5,000 - 44,000) + (99,000 + 6,000 – 73,000) = 54,350

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part b: 0.75 point

Net losses incurred = paid + change in reserve
 $55,500 + 3,850 - 42,000 + (54,350 - 67,500) = 4,200$

Part c: 1 point

UW gain/loss = Earned Premium – Incurred Losses & LAE – Other UW Expenses
 $= 17,000 - 4,200 - 6,500 - 2,500 = 3,800$

EXAMINER'S REPORT

Candidates were expected to be familiar with the information in the Underwriting and Investment Exhibit and be able to calculate summary loss statistics using data from the exhibit.

Part a

Candidates were expected to know that the formula for current year net losses unpaid is net reported losses unpaid + net IBNR from Part 2A of the table (direct + assumed – ceded).

Common errors include:

- Subtracting paid losses in Part 2 of the table from the unpaid losses in Part 2A
- Adding unpaid LAE to the total
- Subtracting unpaid LAE from the total of the unpaid reported and IBNR

Part b

Candidates were expected to know that the formula for current year net incurred losses is net paid losses from Part 2 of the table + current year net losses unpaid (from subpart a) – prior year net losses unpaid from Part 2 of the table.

A common error was not subtracting the prior year loss unpaid.

Part c

Candidates were expected to know that the formula for net underwriting gain/loss is net earned premium (given) – net incurred loss (subpart b) – net incurred LAE (Part 3 of table) – incurred other underwriting expenses (Part 3 of table).

Common errors include:

- Making an adjustment to the Incurred LAE and Other UW Expenses using the current year and prior year unpaid expense information given.
- Including the Investment Expenses in the loss part of the formula.

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 15	
TOTAL POINT VALUE: 3	LEARNING OBJECTIVE: C1
SAMPLE ANSWERS	
Part a: 2.5 points	
<p>Reinsurer A slow-paying ratio = [unpaid paid recoverables > 90 OD (not in dispute)]/(unpaid recoverables not in dispute + amounts paid w/in last 90 days) Reinsurer A slow-paying ratio = $6 / ((6 + 9) + 7) = 0.273$ (>0.2 so Reinsurer A is slow-paying)</p> <p>Reinsurer A provision for reinsurance = $0.2 * \max(\text{Total unpaid recoverables} - \min(\text{total unpaid recoverables, security}), \text{amounts 90 days overdue including amounts in dispute})$ Reinsurer A provision for reinsurance = $.2 * \max([5 + 6 + 9 - \min(5+6+9,6.1)], 6+5) = .2 * 13.9 = 2.78\text{m}$</p> <p>Reinsurer B provision for reinsurance = $\min(\text{total recoverables, unsecured recoverables} + \min(\text{security, } 0.2 * (90 \text{ day overdue not in dispute})) + \min(\text{security, } 0.2 * (\text{amounts in dispute})))$ Reinsurer B provision for reinsurance = $\min(45, 45 - 10.2 + \min(10.2, 0.2(8))) + \min(10.2, 0.2(15)) = 39.4\text{m}$</p> <p>Total provision = $2.78\text{m} + 39.4\text{m} = 42.18\text{m}$</p>	
Part b: 0.5 point	
<ul style="list-style-type: none"> • Require more collateral from reinsurers • Only cede losses to authorized reinsurers • Cede less losses to reinsurers • Require reinsurers to pay within 90 days • More aggressively seek out overdue payments • Cede more losses to authorized Reinsurer A and less to unauthorized Reinsurer B 	
EXAMINER'S REPORT	
<p>Candidates were expected to demonstrate their ability to calculate an insurer's provision for reinsurance. This required knowledge of the different formulas for unauthorized and authorized reinsurers. The question also required the candidate to demonstrate his/her knowledge of ways that the insurer could influence the value of this provision.</p>	
Part a	
<p>Candidates were expected to calculate the primary insurer's provision for reinsurance. As part of the solution candidates were required to determine whether reinsurer A was a slow-paying reinsurer in order to calculate the provision correctly.</p> <p>Common errors include:</p> <ul style="list-style-type: none"> • Not providing a slow pay calculation. 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Identifying the reinsurer as slow paying without stating the reason (i.e. the ratio is >20%).
- Correctly determining that reinsurer A is slow paying, but incorrectly using the non-slow pay formula to determine the provision for reinsurance.
- Calculating the slow pay ratio incorrectly by including total recoverable amounts (both paid and unpaid) rather than just the unpaid recoverables in the denominator.
- Not including amounts in dispute in the Reinsurer A provision calculation.
- Incorrectly multiplying the unsecured recoverables in the reinsurer B provision calculation by 0.2.

Part b

Candidates were expected to briefly explain two ways in which the primary insurer could reduce its provision for reinsurance while continuing to cede a portion of its losses.

Common errors include:

- Stating that the insurer should write more reinsurance with authorized reinsurers without stating that the insurer should make a change to its existing reinsurance arrangements (i.e. writing more reinsurance or ceding more of its book will not lower the provision).
- Changing overdue threshold from 90 days to some other number of days. This is incorrect since the provision is the result of a mandated formula.
- Stating that the insurer should change the due date rather than stating that the insurer adjust the reinsurance contract to require payment within a certain window of time after the due date (e.g. 60 days) to prevent a slow-paying designation.
- Stating that Reinsurer B should become certified or authorized. However, the question asked what actions the primary insurer could take to reduce its provision.

FALL 2018 EXAM 6US, QUESTION 16

TOTAL POINT VALUE: 3.75

LEARNING OBJECTIVE: C1, C2

SAMPLE ANSWERS

Sample 1:

EP:	402
Inc Loss:	-154
DCC Inc:	-35
A&O Inc:	<u>-26</u>
UW Gains:	187
 	
Comm+Brok:	113
TLF:	+54
Other Acq:	+45
Gen Exp:	<u>+66</u>
Other Exp:	278

SAMPLE ANSWERS AND EXAMINER'S REPORT

Div to PH:	-13
Other Inc less Exp:	<u>-17</u>
Other Inc:	-30
Inv gain from Ins:	98
Inv gain from cap and surplus:	<u>129</u>
Net Inv Inc:	227
IEE's Profit:	106 (=402+187-278-30+227)
Cap Gains Tax:	-72
FIT:	-83
Change in Nonadm Assets:	+41 = -(150-191
Change in Prov for Rein:	+51 = -(134-185)
Change in Net Unreal Cap Gns:	-46
Div to SH:	<u>105</u>
Change in PHS:	-108
IRIS Ratio 7:	-30% =-108/358

This is outside the range of normal values of -10% to 50%

Sample 2:

Same as Sample 1 through -108

2017 PHS:	250 = -108+358
IRIS Ratio 7:	-30% =250/358 -1
This is outside the range of normal values of -10% to 50%	

EXAMINER'S REPORT

Candidates were expected to be able to identify which components from a set of financial data were needed to calculate IRIS Ratio 7, then calculate and interpret the Ratio.

Common errors include:

- Including Net Realized Capital Gains
- Calculating the Change in Unrealized Capital Gain incorrectly
- Not including the Federal and foreign income tax
- Not including the Capital gains tax

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 17	
TOTAL POINT VALUE: 2.75	LEARNING OBJECTIVE: C2
SAMPLE ANSWERS	
Part a: 2.25 points	
Loss & LAE reserves, prior year = 592 <i>(Schedule P, Part 2)-(Schedule P, Part 3) = ((240+598)-(96+150)=592)</i>	
One-year loss reserve development = 66 <i>((260+644)-(240+598)=66)</i>	
Developed loss & LAE reserves, prior year = 658 <i>(592+66=658)</i>	
Premiums earned, prior year = 920 <i>(Direct & Assumed)-(Ceded) = (1,150-230=920)</i>	
Developed loss & LAE reserves to premium ratio, prior year = 0.715 <i>(658/920=0.715)</i>	
Loss & LAE reserves, 2nd prior year = 165 <i>(Schedule P, Part 2)-(Schedule P, Part 3) = (220-55=165)</i>	
Two-year loss reserve development = 40 <i>(260-220=40)</i>	
Developed loss & LAE reserves, 2nd prior year = 205 <i>(165+40=205)</i>	
Premiums earned, 2nd prior year = 400 <i>(Direct & Assumed)-(Ceded) = (500-100=400)</i>	
Developed loss & LAE reserves to premium ratio, 2nd prior year = 0.513 <i>(205/400=0.513)</i>	
Average ratio of reserves to premiums = 0.614 <i>((0.715+0.513)/2=0.614)</i>	
Premiums earned, current year = 1,120 <i>(1,400-280=1,120)</i>	
Estimated loss & LAE reserves required = 688 <i>(0.614*1,120=688)</i>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Loss & LAE reserves, current year = 1,070
 $((260+644+756)-(143+258+189)=1,070)$

Estimated loss & LAE reserve deficiency (redundancy) = -382
 $(688-1,070=-382)$

Current reserve deficiency (redundancy) to Policyholders' Surplus = -76%
 $(-382/500=-76\%)$

Part b: 0.5 point

- There is adverse loss developments in every AY for the past two calendars years, indicating that the company has been under-reserved.
- The company is new and may lack the necessary data and expertise to accurately reserve for new business.
- The company has grown rapidly (e.g. unusual result for IRIS Ratio 3 from 2015 -> 2016), and rapid premium growth represents a risk to accurate reserving.
- The rapid premium growth may be driven by lax underwriting controls or inadequate rates.
- The rapid premium growth may distort the average loss date assumptions that underlie traditional reserving methods.
- Despite the rapid growth the company has declined to add more reinsurance protection to limit its net loss exposure.
- The company holds no reserve for Adjusting & Other.
- Schedule P suggests that the company's business is long-tailed, which adds to the difficulty of accurate reserving.
- IRIS 13 can be distorted by significant changes in premium.

EXAMINER'S REPORT

Candidates were expected to understand the IRIS 13 calculation, and to apply knowledge of Reserving and Schedule P to opine on the company's reserve risk.

Part a

Candidates were expected to accurately calculate IRIS 13.

Common errors include:

- Grouping years together incorrectly. For example, the "(first) Prior Year" reserves include both AY 2015 and AY 2016, evaluated at year-end 2016. Similarly, the current reserves to which the average ratio is applied encompasses all of AY 2015, 2016, and 2017.
- Combining the (first) Prior Year and Second Prior Year preliminary ratio in a single quotient, rather than calculating separately and averaging the results.
- Using gross premiums instead of net premiums.

Part b

Candidates were expected to accurately identify a risk from the information given, and connect that issue to Reserve Risk.

Common errors include:

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Observing a fact from the information given but declining to explain why that issue represents Reserve Risk.
- Interpreting the decrease in Reserves as evidence that the company was over-reserved or adequately reserved (note that reserves should decrease over time as claims are paid, what matters is whether the ultimate is stable).

FALL 2018 EXAM 6US, QUESTION 18	
TOTAL POINT VALUE: 3.5	LEARNING OBJECTIVE: C2
SAMPLE ANSWERS	
Part a: 1.75 points	
<p><i>Sample 1</i></p> <p>RBC Ratio = Total Adjusted Capital / ACL ACL = RBC * 0.5 $RBC = R_0 + (R_1^2 + R_2^2 + R_3^2 + R_4^2 + R_5^2)^{1/2}$ $R_5 = 0.19 * \text{Net Written Premium}$ Iris Ratio 2 = NWP / PHS $2.5 = \text{NWP} / 250$ $\text{NWP} = 625$ $R_5 = 0.19 * 625 = 118.75$ $RBC = 30 + (60^2 + 50^2 + 70^2 + 150^2 + 118.75^2)^{1/2} = 248.18$ $ACL = 0.5 * 248.18 = 124.08$ $RBC \text{ Ratio} = 200 / 124.08 = 161.2\%$</p>	
Part b: 0.75 point	
<p>Company Action Level</p> <p>Regulator Action – no action at this time</p> <p>Company Action – submit plan to commissioner on how company will raise capital or reduce risk</p>	
Part c: 1 point	
<p>Iris Ratio 1 > 900% which is in the unusual range. Iris Ratio 2 < 300% which is in the normal range. This means the company is over-reliant on reinsurance. The regulator may be concerned about reinsurance collectability/credit risk.</p>	
EXAMINER'S REPORT	
Candidates are expected to know the RBC and Iris Ratio formulas and RBC action levels.	
Part a	
Candidates were expected to know the RBC and Iris ratio formulas. Candidates were expected to know that R_5 uses Net Written Premium and that the Total Adjusted Capital is used to calculate the RBC Ratio.	

SAMPLE ANSWERS AND EXAMINER'S REPORT

<p>Common errors include:</p> <ul style="list-style-type: none"> • Using something other than Net Written Premium to calculate R_5 • Using Policyholder's Surplus to calculate the RBC ratio • Omitting the 50% in the RBC ratio (using the RBC and not the ACL).
<p>Part b</p> <p>Candidates were expected to know the action levels that correspond to the appropriate RBC ratio from part a and the actions associated with this level for both the company and the regulator.</p> <p>Common errors include:</p> <ul style="list-style-type: none"> • identifying the wrong action level • Misstating the name of the action level • Omitting any comments on the actions required by the regulator
<p>Part c</p> <p>Candidates were expected to know the usual range of both Iris Ratios 1 & 2 and know why a regulator would be concerned with these specific values, one of which is unusual.</p> <p>Common errors include:</p> <ul style="list-style-type: none"> • Identifying over-reliance on reinsurance without commenting on the usual values of Iris ratios or not commenting on why a regulator would be concerned with over reliance on reinsurance (i.e. collectability). • Identifying concerns that correspond to other Iris ratios (e.g. rapid growth, surplus aid, reserve risk).

FALL 2018 EXAM 6US, QUESTION 19	
TOTAL POINT VALUE: 3.5	LEARNING OBJECTIVE: C3
SAMPLE ANSWERS	
Part a: 0.5 point	
<p>GAAP</p> <ul style="list-style-type: none"> • Investors • Creditors • Company • Board of directors • Investors in the company • Company management • Company's Management Team • Investor from other industry • Financial analysts (wall street) • Stakeholders • Stakeholders in the company • Shareholders • Firms looking to invest in publicly traded companies 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- SEC
- Hedge fund manager
- Company stockholders
- Stockholders
- A large insurance group wants to purchase another insurance company

SAP

- Insurance regulators
- Regulators
- Company
- Board of directors
- Regulators in the state where insurance company is domiciled.

Part b: 1 point

Sample 1

U.S GAAP applies going-concern principle and focus on profitability of the company. It expects the company to operate indefinitely and provides a better estimate on income and expense matching, and profitability. For investors, what they concern the most is the return on equity, thus the profitability. So the focus and framework of US GAAP fits their need.

SAP is more focused on the solvency that is the company's ability to meet all its obligations of payments. For regulators, they have to protect public interests, i.e. the policyholders and claimants. Thus SAP, focusing on the solvency, fits the target of regulator.

Sample 2

GAAP shows on a "going concern" basis – likely financial situation of the company. This is the type of informational view that investors use to decide whether or not to invest.

SAP shows on a "liquidation" basis – focus on solvency, which is the concern of regulators.

Sample 3

Investors are likely concerned with the current state of the company to get a view of current financial health. GAAP principles are on a going concern basis, which will show the current view of the financials.

Regulators are concerned with protecting policyholders from insurer insolvency. SAP provides a more conservative view of the company's financial health, which may result in an earlier detection of potential insolvency.

Sample 4

GAAP is focused on presenting results on an on-going basis which is what investors are concerned about in evaluating a company's profitability and earnings.

SAMPLE ANSWERS AND EXAMINER'S REPORT

SAP has more conservative standards which aligns w/ regulator's view ensuring solvency and protecting policyholders.

Sample 5

The GAAP accounting framework matches revenue and expenses. This aligns with investor concerns regarding profitability.

The SAP accounting framework emphasizes conservatism, aligning with regulator concerns regarding solvency.

Part c: 1 point

Any four of the following responses:

- *Nonadmitted assets*
 - SAP does not include nonadmitted assets in surplus calculation. GAAP includes all assets in surplus calculation (note GAAP has equity not surplus)
 - SAP has non-admitted asset concept where GAAP doesn't.
 - Nonadmitted assets. GAAP does not distinguish between admitted and nonadmitted. SAP certain assets are non-liquid and considered nonadmitted. These are not included in surplus.
 - Separately listing different nonadmitted assets such as agent's balances, furniture, office equipment, etc.

- **Deferred Acquisition Cost**
 - SAP recognizes acquisition cost immediately. GAAP defers recognition to match earning of premium.
 - SAP incurs policy acquisition costs immediately. GAAP creates a DPAC asset that's amortized to match the earning of premium.
 - GAAP has deferred acquisition cost where SAP doesn't.

- **Valuation of Invested Assets**
 - SAP values bond based on bond class. GAAP values bonds based on intended use.
 - SAP records bonds based on whether they're investment grade or not. GAAP records bonds based on their use (available for sale, held to maturity, held for trading).
 - The treatment of carrying value of investment asset, like Bond. GAAP – depends on whether its holding for trade or to maturity, it can go with the fair value or, amortized value respectively. SAP- based on the rating
 - GAAP recognizes the value of bonds based on their intended purpose. SAP recognizes the value of bonds based on their class.

- **Deferred Taxable Asset**
 - Both do allow, BUT SAP has strict rules about the assessment.
 - Under SAP, DTAs must undergo a strict admissibility test. No such test is required under GAAP.

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Goodwill
 - the calculation of goodwill for SAP is purchase price minus statutory surplus and it is amortized to unrealized gains for no more than 10 years. For GAAP goodwill is the purchase price minus (fair value of assets – fair value of liabilities) and is evaluated for impairment.
- Reinsurance
 - Prospective reinsurance: SAP has reserves net of ceded reserves; GAAP does not allow offsetting of reserves so has an asset to account for the recoverable.
 - Retroactive reinsurance: SAP treats ceded reserves as a contra-liability; GAAP treats it as another asset.

Part d: 1.00 point

- DAC
 - does support philosophical standards because GAAP is focused on profitability over time which DAC more accurately reflects by matching revenues with expenses over the policy period. Since those costs are not available to meet obligations in event of liquidation, SAP does not recognize them which is in line with standards.
 - Treatment of acquisition cost supports philosophical difference. SAP assumes these costs are not recoverable in the event of liquidation. GAAP defers their recognition to provide more accurate view of profitability, supporting the going-concern view.
 - Since the acquisition cost have been paid out, it can't be used to pay claims. It match the philosophy of SAP. SAP is conservative to protect policyholders. Under GAAP acquisition cost is deferred for accurate measure of income. It matches the philosophy of GAAP.
 - The GAAP and SAP treatment of acquisition costs align well with their goals. By recognizing costs along with earning of premium, GAAP is providing a going concern view. By recognizing all of the costs at once, SAP is recognizing that the funds are not available for use, which is in line with its conservative standards.
 - GAAP is intended to show financial results that closely match the timing of when liabilities incur and revenue recognized. Deferring the acquisition cost to match when premium is earned accomplishes this objective. SAP does not view the expense costs as something that is recoverable, as such it does not allow for costs to be deferred. This fits the conservative objective of SAP.
 - Deferred Acquisition Costs – Treatment aligns with the matching principle under GAAP and the conservatism principle under SAP (i.e. acquisition costs incurred cannot be used to satisfy policyholder obligations.
- Non-admitted assets
 - By not recognizing assets as admitted vs. non-admitted, GAAP looks at overall value to show profitability. SAP recognizes assets as non-admitted if they would

SAMPLE ANSWERS AND EXAMINER'S REPORT

not be available to meet obligations in event of liquidation. Thus, this supports the philosophical standards.

- Supports philosophical difference. SAP does not include nonadmitted asset in surplus calc because these assets have low liquidity, and may not be liquidated in the event of insolvency. GAAP includes them because nonadmitted assets are still assets + of value to company.
- The GAAP and SAP treatment of nonadmitted assets also reflect their respective goals. GAAP recognizes all assets, which provides an accurate view of their equity. SAP only recognizes the more liquid assets, which would be available if they were to become insolvent.
- GAAP shows result on ongoing basis so there is less focus on liquidity scenarios. As such it does not need to categorize assets as non admitted. SAP is focused in "liquidation view" so its objective is to be more conservative in its view that non admitted assets, like furniture are not easily convertible to cash.
- Treatment aligns with the purpose of GAAP (i.e. presenting the total worth of the company) and the conservatism principle under SAP (nonadmitted assets are assets that cannot be readily used to satisfy policyholder obligations).
- Other acceptable answers
 - Draw from acceptable answer to part C, above
 - Correctly explain how the SAP and GAAP treatment aligns with (or does not align with) the focus of the accounting methods

EXAMINER'S REPORT

Candidates were expected to understand the intended users of US Statutory and GAAP financial statements as well as the users' needs and interests. Candidates were also expected to describe accounting differences between US statutory and GAAP standards and the reasons underlying these differences.

Part a

Candidates were expected to identify the intended users of US statutory and GAAP financial statements.

Part b

Candidates were expected to describe why the accounting framework aligns with the user's interests.

Common errors included

- Only described GAAP or SAP, not both.
- Provide an answer with more detail about the accounting framework without discussing the user's interests.

Part c

Candidates were expected to describe four differences between US GAAP and SAP accounting in their treatment of Balance Sheet assets.

SAMPLE ANSWERS AND EXAMINER'S REPORT

A common error included describing differences in the treatment of liabilities instead of assets.

Part d

Candidates were expected to describe the underlying reason for the differences in account treatment provided in part c.

- Common errors was to describe an accounting difference again rather than discuss the reason for the difference.
- Only explained SAP and not GAAP, or vice versa.
- Confusion among prospective, retroactive and uncollectible reinsurance.

FALL 2018 EXAM 6US, QUESTION 20

TOTAL POINT VALUE: 1.5

LEARNING OBJECTIVE: C3

SAMPLE ANSWERS

Part a: 0.75 point

Sample 1

IFRS ASSETS = Free surplus + Tech Provision + SCR
 $11,500 = 900 + \text{Tech Provision} + 8,621$
Tech Provision = 1,979

Sample 2

SCR is corresponding to 99.5% one-year VaR
SCR = 8,621
Technical provision = $11,500 - 900 - 8,621 = 1,979$

Sample 3

Free Surplus = Assets – Liab – Risk Margin – SCR
SCR = Company's 99.5% VaR

$$900 = 11,500 - 1,200 - \text{Margin} - 8,621$$

$$\text{Margin} = 779$$

$$\text{Technical Provision} = \text{liabilities} + \text{margin} = 1,200 + 779 = 1,979$$

Part b: 0.75 point

Any three of the following:

- Assessment of own solvency need
 - Overall solvency need assessment
 - Overall solvency required capital based on underlying risk profile

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Whether it complies with the technical provision
 - Evaluation of whether the insurer is complying with capital requirements
 - Compliance with minimum capital surplus requirement and applicable rules when developing estimates for technical provision
- The extent to which its risk profile deviates from the underlying assumptions of the technical provision
 - Degree to which the assumptions underlying the SCR deviate from the insurer's risk profile
 - To the extent underlying risk profile has considerations/assumptions/methodology that deviates significantly from those underlying SCR discuss and explain
- Operational Risk
- Catastrophe Risk
- Interest Rate Risk
- Internal report on the controls in place within the company and their adequacy
- Assessment on the adequacy of reserves
- Scenario of catastrophic loss
- Quantitative analysis
- Governance
- Transparency
- Organization chart
- List of affiliates, subsidiaries
- Risk management practices
- Collectability of reinsurance
- Reserve adequacy
- Model validated by a third party

EXAMINER'S REPORT

Candidates were expected to calculate a company's technical provision under the Solvency II regulatory framework and to describe the requirements of the own risk self-assessment.

Part a

Candidates were expected to know how to determine the Technical Provisions for the Solvency II calculation. They were also expected to know which VaR is needed to solve the calculation.

Common errors include subtracting out the liabilities from the calculation.

Part b

Candidates were expected to know the requirements of the own risk self-assessment.

Note: Based on an appeal that was submitted, the list of accepted answers for this question was significantly revised.

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 21			
TOTAL POINT VALUE: 4.75		LEARNING OBJECTIVE: D	
SAMPLE ANSWERS			
Part a: 2.5 points			
Exhibit A:			
<ul style="list-style-type: none"> • Unpaid Losses: 16,500 • Unpaid Loss Adjustment Expense: 3,680 • Unpaid Losses, Direct & Assumed: 19,000 • Unpaid Loss Adjustment Expense, Direct & Assumed: 4,200 • Retroactive Reinsurance Reserves: 0 • Other Items Actuary is Opining On: 0 			
Part b: 1.75 points			
A. Actuary's Range of Reserve B. Actuary's point estimate C. Company Carried Reserves D. Difference	Net Reserves		
	Low	point	high
	13,000		22,000
		N/A	
	7,180		(1,820)
A. Actuary's Range of Reserve B. Actuary's point estimate C. Company Carried Reserves D. Difference	Gross Reserves		
	Low	point	high
	16,000		24,000
		N/A	
	7,200		(800)
Part c: 0.5 point			
The actuary should issue a reasonable provision, because the carried reserves fall within the actuary's range of reserves.			
EXAMINER'S REPORT			
Candidates were expected to demonstrate knowledge of exhibit A of the Statement of Actuarial Opinion and the Actuarial Opinion Summary. Candidates were expected to use the information provided to construct a portion of the SAO and the AOS.			
Part a			
Candidates were expected to identify all six items of the loss section of Exhibit A. While there was no retroactive reinsurance, and other loss reserve items were not included in the question, it was expected that the candidate knew that the Loss and LAE Reserves section of Exhibit A included those items.			
Common errors include:			
<ul style="list-style-type: none"> • Not including adjusting and other unpaid costs in the LAE calculation • Calculating case and bulk IBNR reserves as opposed to loss and LAE reserves. 			
Part b			

SAMPLE ANSWERS AND EXAMINER'S REPORT

Candidates were expected to set up the reserve tables, showing columns for low, point estimate, and high end of range. Format and order of the rows was not critical. Candidates were expected to show both gross and net tables.

Since the actuary's point estimate was not included, candidates were not expected to fill in this number.

Common errors include:

- Calculating a point estimate difference, rather than the range difference. It is expected that the estimates in the AOS must follow the Appointed Actuary's analysis, so because the data was provided as a range it was expected that the difference was a range as well.
- Mis-calculating the reserve; sometimes by not including adjusting and other.

Part c

Candidates were expected to identify that the opinion should be reasonable, because it falls within the range of reasonable estimates. If the reserve falls outside of the range provided in part b because of an error in part b, candidates were expected to identify a deficient or redundant reserve, consistent with the range provided in b.

A common error was providing only the type of opinion without a justification.

FALL 2018 EXAM 6US, QUESTION 22

TOTAL POINT VALUE: 2.75

LEARNING OBJECTIVE: D

SAMPLE ANSWERS

Part a: 1.25 points

Sample 1

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

[A.] Meet the requirements of the insurance laws of State X.

[B.] Are computed in accordance with accepted actuarial standards and principles.

[C.] Make a reasonable provision for all unpaid loss and loss adjustment expense obligations of the Company under the terms of its contracts and agreements.

Sample 2

The reserves shown in Exhibit A:

1. Are in accordance with the laws of State X
2. Are in accordance with accepted actuarial standards and practices
3. Are reasonable on a gross and net basis as they fall within the range of reasonable estimates.

Part b: 1 point

Sample 1

My materiality standard has been established as 50% of the net reserves or \$3.5 million. There is risk of material adverse deviation. I have identified the key risk factor as the asbestos exposure.

Sample 2

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Materiality was selected by using 50% of net carried reserves
- The materiality standard is \$3,500
- Risk of Material Adverse Deviation (RMAD) exists as the materiality standard + comp carried reserves is within the actuary's range of net reserves
- Risk factor contributing to this is significant asbestos exposure

Part c: 0.5 point

Sample 1

(5-20%) Percent of net carried reserves. This is preferable since it is smaller so more conservative.

Sample 2

(5-20%) Percent of surplus. This is preferable since it is tied to solvency.

Sample 3

(5-20%) Percent of surplus. A company may have a large amount of surplus to pay for reserves so a 50% change in reserves may not be material for the company.

Sample 4

Amount that would cause a drop in financial rating. This might impair the company in generating new business or acquiring reinsurance.

Sample 5

Amount that would cause a drop in RBC level since this is directly related to regulatory intervention.

Sample 6

Amount that would cause a drop to Company Action Level. This would result in regulatory action that could negatively impact the company even more.

EXAMINER'S REPORT

Candidates were expected to draft language for the OPINION section of the Statement of Actuarial Opinion (SAO) as well as the Risk of Material Adverse Deviation portion of the RELEVANT COMMENTS section of the SAO including the materiality standard, and to propose an alternative materiality standard.

Part a

Candidates were expected to provide language for the OPINION section of the SAO, including all the necessary components identified in the NAIC SAO instructions.

Common errors include:

- Excluding the statement that the opinion is in reference to the amounts in Exhibit A.
- Using the term "adequate" or "sufficient" to describe the type of opinion. The NAIC uses the term "Reasonable".

Part b

Candidates were expected to provide language for the paragraphs related to the risk of material adverse deviation (RMAD) and materiality standard in the RELEVANT COMMENTS section of the SAO, including all the necessary components identified in the NAIC SAO instructions.

SAMPLE ANSWERS AND EXAMINER'S REPORT

<p>Common errors include:</p> <ul style="list-style-type: none"> • Excluding either the amount of the materiality standard (\$3,500) or the basis for it (50% of net carried reserves). • Excluding the risk factor contributing to RMAD (asbestos exposure). • Incorrectly identifying that RMAD does not exist for this company and not providing sufficient explanation as to why there isn't RMAD.
<p>Part c</p> <p>Candidates were expected to identify an alternative materiality standard than the one given in the question and provide a reason why it is preferable.</p> <p>Common errors include:</p> <ul style="list-style-type: none"> • Providing an insufficient reason why the other standard is preferable (for example, stating that the standard is more reasonable without explaining why or explaining that it is an amount that would concern company management. • Incorrectly interpreting a larger materiality standard as more conservative. • Incorrectly stating that a percentage of surplus is preferable because it can't be manipulated by company management, unlike carried reserves. The amount of carried reserves has an impact on the company's surplus.

FALL 2018 EXAM 6US, QUESTION 23	
TOTAL POINT VALUE: 1.75	LEARNING OBJECTIVE: D
SAMPLE ANSWERS	
Part a: 0.25 point	
SCOPE	
Part b: 1 point	
<p>Any four of the following:</p> <ul style="list-style-type: none"> • Filing is not with US Department of Commerce. It is with State DOI. • Missing statement whether the actuary reconciled data to Schedule P Part 1. • Actuary should disclose that he/she reviewed the data for reasonableness and consistency. • The provider of the data should be an officer of the company. • Missing statement that the SCOPE items included in the SAO reflected disclosures in Exhibit B. 	
Part c: 0.5 point	
<p>One of the following</p> <ul style="list-style-type: none"> • If the portion of the reserves is material, I would issue a qualified opinion. • If the portion of reserves is immaterial, then a reasonable/deficient/excessive opinion, depending on position of reserves within the reasonable range. 	
EXAMINER'S REPORT	
Candidates were expected to understand the NAIC P&C SAO Instructions: the information required in the Opinion, when it has to filed, etc.	
Part a	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Candidates were expected to know which information was required in the various sections of the opinion. The information given comes from the SCOPE section of the opinion.

A common error was misidentifying the section as "The Opinion" or "introductory"

Part b

Candidates were expected to know the information which should be included in the SCOPE section.

Common errors include:

- Listing only one reason.
- Saying that the annual statement is filed 3/1 not 12/31. The filing date is not listed in the Scope.
- Suggesting corrections that are incorrect or do not need to be made:
 - Need John Doe's credentials.
 - Paragraph two should state the actual date through which information is known not just say "date of this opinion."
 - Pointing out that Exhibit A is in the SAO and not the annual statement. This is a correct statement, but not an error in the paragraphs. The wording in the question is an exact replica of the wording in the reading. It is referring to the reserves in Exhibit, which are as shown in the Annual Statement.
 - Need to comment on any discounting.
 - State the basis of reserves, such as Gross/Net/S&S.
 - Stating that loss and loss adjustment expense reserves are recorded under state rules & regulations.
 - Stating that claims made policies do not develop after 12 months.
 - Stating that claims made policies are not impacted by trend.

Part c

Candidates were expected to know what type of opinion to issue if there was insufficient data.

Common errors include:

- Selecting No Opinion because AA can't form an opinion for the reason due to insufficient data. The question states that there is insufficient data for the Appointed Actuary to opine on a portion of the reserves. In this circumstance, the NAIC P&C SAO Instructions state that the Appointed Actuary should issue a qualified opinion.
- Stating that if the portion of reserves that cannot be estimated is small, the Appointed Actuary should issue a qualified opinion. According to the NAIC P&C SAO Instructions, the Appointed Actuary is not required to issue a qualified opinion when the item in question is not likely to be material.
- Stating "qualified opinion" without a justification.

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 24	
TOTAL POINT VALUE: 2	LEARNING OBJECTIVE: D
SAMPLE ANSWERS	
<p>Example 1:</p> <ul style="list-style-type: none">(i) Required in <u>both</u> SAO and AOS(ii) <u>Not required in either</u> SAO or AOS(iii) Required in <u>AOS only</u> OR <u>Not required in either</u> SAO or AOS if a point estimate was not calculated(iv) Required in <u>SAO only</u>(v) <u>Not required in either</u> SAO or AOS(vi) Required in <u>SAO only</u>(vii) Required in <u>both</u> SAO and AOS(viii) Required in <u>SAO only</u> <p>Example 2:</p> <ul style="list-style-type: none">(i) Both(ii) Neither(iii) AOS(iv) SAO(v) Neither(vi) SAO(vii) Both(viii) SAO	
EXAMINER'S REPORT	
<p>The candidates were expected to demonstrate knowledge of disclosures required in the Statement of Actuarial Opinion (SAO) and Actuarial Opinion Summary (AOS).</p> <p>Candidates were expected to indicate whether the identified item should be disclosed in the SAO, AOS, Both or Neither.</p> <p>Common errors include:</p> <p>Part ii: Stating that the amount of reinsurance recoverables on paid losses is a required disclosure in the SAO. Reinsurance recoverable on paid losses is a consideration in assessing overall reinsurance collectability and what should be disclosed in the Relevant Comments section of the SAO. The amount, however, is not a required disclosure.</p> <p>Part v: Stating that the one-year reserve development is a required disclosure in the SAO or AOS, since it is used in calculating certain IRIS ratios which require comment in the SAO. While the one year reserve development is used in the calculating the IRIS ratios and the relationship of reserve development to surplus, its disclosure is not required.</p> <p>There were no common errors in the remaining parts.</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 25	
TOTAL POINT VALUE: 3.25	LEARNING OBJECTIVE: E
SAMPLE ANSWERS	
Part a: 2 points	
<ul style="list-style-type: none"> i. <ul style="list-style-type: none"> ○ Only 5% chance reinsurer will incur a loss, does not pass 10-10 rule ii. <ul style="list-style-type: none"> ○ $ERD = .05 * (16/1.05^2 - 5 - 5/1.05^{0.5}) = 0.23$ million ○ $0.23/(5 - 5/1.05^{0.5}) = 2.34\%$ ○ Since ERD % > 1% qualifies for risk transfer 	
Part b: 0.5 point	
<ul style="list-style-type: none"> • If candidate determined in part a that the contract does not qualify as risk transfer: <ul style="list-style-type: none"> ○ Deposit accounting as no underwriting risk is transferred ○ Deposit accounting since there is no risk transfer • If candidate determined in part a that the contract qualifies as risk transfer: <ul style="list-style-type: none"> ○ Deposit accounting as no timing risk exists due exact payment date in contract ○ Payment is made a specified date, no timing risk ○ Deposit accounting, no timing risk 	
Part c: 0.5 point	
<p>Any one of the following:</p> <ul style="list-style-type: none"> • Considers time value of money • Allows for discounting • Based on distribution of losses which can be modeled • Identify risk transfer when very small chance of catastrophic loss • Allows for recognition of parameter risk • Allows for simulation • Ability to vary the threshold • More flexibility to model additional contract terms 	
Part d: 0.25 point	
<p>Any one of the following:</p> <ul style="list-style-type: none"> • Easier to calculate • Easier to understand • Simpler • Easy to adopt and understand • Ensures both frequency and severity are present • This method is more conservative 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Fewer underlying assumptions
- Does not need interest rate to compute
- Recognized industry standard
- More established method

EXAMINER'S REPORT

Candidates were expected to know basic concepts risk transfer testing of contracts for reinsurance accounting, how they are calculated, and advantages of two methods.

Part a

Candidates were expected to know how to apply the 10-10 rule and the expected reinsurer deficit methods for determining underwriting risk to a hypothetical reinsurance contract.

A common error in the 10-10 calculation was forgetting to subtract premium when determining the underwriting loss.

Common errors in the ERD calculation include:

- Not subtracting the PV of premium from PV of losses in determining the UW loss
- Calculating an average NPV of the contract rather than an average NPV given an underwriting loss on the contract
- Not discounting premium and losses

Part b

Candidates were expected to know that both insurance risk and timing risk were required to account for the contract using reinsurance accounting, and if those two items were not present deposit accounting would be required.

Common errors include:

- Stating reinsurance accounting would apply
- Not stating a predetermined payment date would violate timing risk

Part c

Candidates were expected to know what an advantage of the ERD method has over the 10-10 method.

A common error was stating a disadvantage of the 10-10 method without stating how the ERD method corrects for it.

Part d

Candidates were expected to know what an advantage of the 10-10 method has over the ERD method.

A common error was stating a disadvantage of the ERD method without stating how the 10-10 method corrects for it.

SAMPLE ANSWERS AND EXAMINER'S REPORT

FALL 2018 EXAM 6US, QUESTION 26	
TOTAL POINT VALUE: 2	LEARNING OBJECTIVE: E
SAMPLE ANSWERS	
Part a: 0.5 point	
<p><u>Sample 1</u> An agreement b/t a ceding insurer and a reinsurer that provides for the valuation, payment, and complete discharge of all obligations b/t the parties under a particular reinsurance contract.</p> <p><u>Sample 2</u> When a ceding company is paid a price to undo a reinsurance contract. The ceded reserves are zeroed out for the ceding company. The ceding company records the commutation as a negative paid loss. The reinsurer records the commutation as a positive paid loss. The price is determined based on the discounted loss reserves.</p>	
Part b: 1.5 points	
<ul style="list-style-type: none">• A ceding insurer may wish to exit a particular line of business. Commutation may be a 1st step followed by a loss portfolio transfer to a 3rd party.• The ceding insurer has concerns about the solvency of the reinsurer. Commuting will eliminate the credit risk associated with the reinsurer.• The ceding insurer wants to end a troubled relationship with the reinsurer. There may have been disputes over claim resolution.• The two parties may have different estimates of future liabilities so each may see a benefit from commuting.• A ceding insurer may receive tax relief by re-assuming the ceded reserves and thus a decrease to taxable income (assuming a price less than the reserves).• The insurer's IRIS 4 ratio of surplus level is getting out of normal range. They might want to decrease their surplus relief to be good with the regulators.• It has been spending significant resources on disputes over claim payments with the reinsurer and believes it would be more cost effective to end the contract.• The ceding co may need the cash inflow it receives from the commutation for liquidity reasons.	
EXAMINER'S REPORT	
<p>Candidates were expected to describe a commutation agreement and then describe three motivations for a ceding insurer to commute a reinsurance contract.</p>	
Part a	
<p>Candidates were expected to know that a commutation agreement is an agreement between a ceding insurer and the reinsurer and that it results in the discharge of the obligations between the parties.</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Common errors include:

- Not identifying who the agreement was between or that it was in relation to a reinsurance contract
- Not stating that it resulted in a discharge of the obligations between the parties or demonstrating the financial changes to the paid loss and ceded reserves for both the ceding insurer and reinsurer
- Describing a traditional reinsurance agreement instead of a commutation agreement

Part b

Candidates were expected to list and describe 3 motivations for a ceding insurer to commute a reinsurance contract.

Common errors include:

- Listing 3 motivations without elaborating or describing each
- Describing motivations from the reinsurer's perspective rather than the ceding company's perspective
- Describing motivations for entering into either a novation or reinsurance agreement (rather than commutation).