

Exam 6US



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Exam 6-United States

Regulation and Financial Reporting (Nation Specific)

October 24, 2017

4 HOURS

INSTRUCTIONS TO CANDIDATES

1. This 70 point examination consists of 28 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.

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

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

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

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

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

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

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9. Candidates must not give or receive assistance of any kind during the examination. Any cheating, any attempt to cheat, assisting others to cheat, or participating therein, or other improper conduct will result in the Casualty Actuarial Society and the Canadian Institute of Actuaries disqualifying the candidate's paper, and such other disciplinary action as may be deemed appropriate within the guidelines of the CAS Policy on Examination Discipline.
10. The exam survey is available on the CAS Web Site in the "Admissions/Exams" section. Please submit your survey by November 7, 2017.

END OF INSTRUCTIONS

1. (2.25 points)

a. (1 point)

Provide one counterargument for each of the following regulatory concerns with using credit-based insurance scores as a rating variable during an economic downturn:

- i. A shift to lower credit scores will result in higher premiums for all insureds.
- ii. A dramatic shift in credit scores will disrupt the current rate relativities, resulting in incorrect individual premiums.

b. (0.5 point)

Other than the concerns listed in part a. above, briefly describe two concerns that regulators have expressed regarding the use of credit-based insurance scores in ratemaking.

c. (0.75 point)

Identify three actions state regulators can take to limit the use of credit-based insurance scores.

2. (2 points)

a. (1 point)

Provide one argument for and one argument against the claim that telematics-supported usage-based insurance (UBI) will increase the availability and/or affordability of personal automobile insurance.

b. (1 point)

Identify four driving behaviors that may result in a higher premium in a rating program that uses UBI.

3. (2 points)

a. (1 point)

Identify and briefly describe two characteristics of the U.S. insurance regulatory system that limit regulatory failures.

b. (1 point)

Explain why each of the characteristics identified in part a. above may not be effective for Risk Retention Groups.

4. (3.25 points)

a. (0.75 point)

Briefly describe three characteristics of “the business of insurance” as established in the *Royal Drug* case.

b. (0.5 point)

Briefly describe two rationales for the *Southeastern Underwriters Association* decision.

c. (0.5 point)

Briefly describe two exceptions that allow for federal intervention in the regulation of insurance under the McCarran-Ferguson Act.

d. (0.5 point)

Briefly describe two complicating features of the regulation of insurance rates from the perspective of the regulator.

e. (0.5 point)

Identify two types of insurance companies that the Dodd-Frank Act grants the federal government the authority to regulate.

f. (0.5 point)

Briefly describe two actions required of insurance companies subject to federal oversight under the Dodd-Frank Act.

EXAM 6 – UNITED STATES, FALL 2017

5. (2.25 points)

a. (0.5 point)

Identify two types of recoveries that a policyholder of an insolvent insurer may be entitled to receive from a state guaranty fund.

b. (0.75 point)

Briefly describe three potential limitations to a policyholder's recoveries from a state guaranty fund.

c. (1 point)

Fully explain whether a state guaranty fund is a desirable solvency backstop.

6. (1.75 points)

a. (1 point)

An insurer writes personal auto insurance in two states, one of which has a Joint Underwriting Association and the other of which has an Assigned Risk Plan.

Assuming that the insurer has the same market share in both states, and that the size of the residual market is the same in both states:

- i. Briefly describe how the insurer's residual market losses are determined in each state.
- ii. Compare the expected volatility of the insurer's financial results attributable to residual market business in each state.

b. (0.75 point)

Briefly describe how the following items are handled in a state with a Reinsurance Facility:

- i. Assignment of drivers to insurers
- ii. Servicing of claims
- iii. Distribution of operating profits

7. (3 points)

a. (1.5 points)

Describe three reasons for government participation in insurance.

b. (1.5 points)

Identify three levels of government involvement in the provision of insurance and, for each level identified, provide an example of a government program.

8. (2.75 points)

a. (0.5 point)

Identify one concern with the funding of the National Flood Insurance Program (NFIP), and briefly describe how the Flood Insurance Reform Act of 2012 attempted to address this concern.

b. (0.75 point)

Briefly describe three reasons the NFIP has experienced low levels of participation.

c. (0.5 point)

Propose a new law or initiative that would address one of the reasons for the low level of participation described in part b. above.

d. (1 point)

Describe one argument in favor of and one argument against offering wind coverage under the NFIP.

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9. (3.5 points)

The following excerpts are from a company’s 2016 Annual Statement (all figures are in thousands of dollars):

LIABILITIES, SURPLUS, AND OTHER FUNDS		
	Current Year	Prior Year
Provision for reinsurance	220	211
Surplus notes	75	74
Gross paid-in and contributed surplus	7,600	2,000
Surplus as regards policyholders	52,400	33,650

EXHIBIT OF NONADMITTED ASSETS			
	Current Year Total Nonadmitted Assets	Prior Year Total Nonadmitted Assets	Change in Total Nonadmitted Assets
Totals	810	450	(360)

EXHIBIT OF CAPITAL GAINS (LOSSES)					
	Realized Gain (Loss) on Sales or Maturity	Other Realized Adjustments	Total Realized Capital Gain (Loss)	Change in Unrealized Capital Gain (Loss)	Change in Unrealized Foreign Exchange Capital Gain (Loss)
Totals	55	3	58	92	0

Dividends to policyholders 47
 Dividends to stockholders 2,184

During 2016, the company began recording unpaid losses net of salvage and subrogation. The cumulative effect of this change in accounting principle is 1,500.

a. (2.5 points)

Calculate the 2016 statutory net income.

b. (1 point)

Identify a user for each of the following and briefly describe how the exhibit satisfies a need of the user:

- i. Balance Sheet
- ii. Income Statement

EXAM 6 – UNITED STATES, FALL 2017

10. (2.5 points)

Calculate an insurance company's 2016 statutory policyholders' surplus using the following information (all figures are in millions of dollars):

		2016	2015
A	Policyholders' Surplus		625
B	Net Premium Written	650	500
C	Net Premium Earned	575	400
D	Losses Incurred	415	250
E	Loss Adjustment Expenses Incurred	100	50
F	Other Underwriting Expense Incurred	125	105
G	Net Investment Income Earned	60	55
H	Net Realized Capital Gain less Capital Gains Tax	12	5
I	Net Unrealized Capital Gains less Capital Gains Tax	70	90
J	Other Income	8	10
K	Dividends to Policyholders	6	4
L	Dividends to Stockholders	23	20
M	Federal and Foreign Taxes Incurred	7	3
N	Net Deferred Income Tax	28	24
O	Provision for Reinsurance	9	11
P	Total Assets	900	800
Q	Non-Admitted Assets	120	75

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11. (2 points)

A company that began writing business in 2012 writes only commercial auto liability. The following excerpts are from the company's 2016 Schedule P.

Sch. P, Part 2 – Incurred Net Loss and DCC Expense Reported at Year End					
Years in Which Losses Were Incurred	2012	2013	2014	2015	2016
2012	1,000	1,300	1,500	1,500	1,400
2013		2,000	3,000	3,100	3,100
2014			4,000	3,500	3,400
2015				3,200	3,000
2016					3,000

Sch. P, Part 3 – Cumulative Paid Net Loss and DCC Expense Reported at Year End					
Years in Which Losses Were Incurred	2012	2013	2014	2015	2016
2012	200	750	1,100	1,300	1,400
2013		500	1,500	2,100	2,700
2014			1,300	2,200	3,100
2015				1,400	2,400
2016					1,500

Sch. P, Part 4 – Bulk & IBNR Reserves on Net Loss and DCC Expense Reported at Year End					
Years in Which Losses Were Incurred	2012	2013	2014	2015	2016
2012	500	300	250	100	-
2013		1,000	800	300	100
2014			1,900	500	100
2015				1,500	200
2016					1,300

a. (1 point)

Calculate the calendar year 2016 case incurred net loss and DCC expense.

b. (0.5 point)

Calculate the calendar year 2016 paid net loss and DCC expense.

c. (0.5 point)

Based on the data provided, describe one potential concern a regulator may have with this company's reserve adequacy.

12. (2 points)

An insurance company has entered into a retroactive reinsurance agreement.

a. (1 point)

Assuming the agreement meets risk transfer requirements, briefly describe the retroactive reinsurance agreement's effect on the insurance company for each of the following under SAP:

- i. Loss Reserves
- ii. Total Liabilities
- iii. Net Income
- iv. Policyholders' Surplus

b. (1 point)

Assuming the agreement meets risk transfer requirements, briefly describe the retroactive reinsurance agreement's effect on the insurance company for each of the following under U.S. GAAP:

- i. Loss Reserves
- ii. Total Liabilities
- iii. Net Income
- iv. Policyholders' Surplus

13. (2.25 points)

An insurance company owns the following bond portfolio:

NAIC Rating	Amortized Cost	Fair Value	Actual Cost
1	21,000	18,000	20,000
3	79,000	75,000	71,000
6	8,000	9,000	7,000

The insurance company has only the following additional assets on its balance sheet:

	Total Assets	Nonadmitted Assets	Admitted Assets
Preferred Stocks	29,000	0	29,000
Common Stocks	71,000	5,000	66,000
Cash	5,000	0	5,000
Other invested assets	40,000	5,000	35,000
Uncollected premiums and agents balances	28,000	12,000	16,000
Deferred premiums and agents balances	32,000	5,000	27,000
Amounts recoverable from reinsurers	7,000	1,000	6,000
Net deferred tax asset	30,000	11,000	19,000
Other non-invested assets	14,000	4,000	10,000
Total Assets excluding Bonds	256,000	43,000	213,000

a. (0.75 point)

Calculate the total adjusted carrying value of bonds under SAP.

b. (1.5 points)

Describe three concerns a regulator may have regarding the overall health of this insurer based on its assets.

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14. (2.5 points)

The following information is reported on an insurance company's 2016 Schedule F, Part 9 (all figures are in thousands of dollars).

ASSETS		As Reported (Net of Ceded)
1	Cash and Invested Assets	900
2	Premiums and considerations	80
3	Reinsurance recoverable on loss and LAE payments	50
4	Funds held by or deposited with reinsured companies	150
5	Other assets	20
6	Net amount recoverable from reinsurers	0
7	Totals	1,200
LIABILITIES		
8	Losses and LAE	500
9	Unearned premiums	100
10	Advance premiums	10
11	Dividends declared and unpaid	80
12	Ceded reinsurance premiums payable	30
13	Funds held by company under reinsurance treaties	100
14	Provision for reinsurance	60
15	Total Liabilities	880
16	Surplus	320
17	Totals	1,200

- Ceded loss and loss adjustment expense reserves are 250 in Schedule P, Part 1.
- Ceded unearned premium reserves are 40 in Schedule F, Part 3.

a. (2 points)

Restate the balance sheet above to a gross of ceded basis.

b. (0.5 point)

Briefly describe one strength and one weakness of using Schedule F as a solvency monitoring tool.

15. (4 points)

Given the following direct and assumed premium and loss information for an insurance company that started writing business on January 1, 2015 (in millions of dollars):

Total premiums written during 2015	220
Total premiums earned during 2015	120
Total losses unpaid as of December 31, 2015	80
Policyholders' Surplus as of December 31, 2015	40
Total losses paid during 2016	35
Accident year 2016 losses paid during 2016	20
Total losses unpaid as of December 31, 2016	150
Accident year 2016 losses unpaid as of December 31, 2016	75

Additionally:

- There are no Defense and Cost Containment expenses.
- On January 1, 2015 the insurer entered into a quota share reinsurance agreement, with a non-affiliated reinsurance company, covering 70% of its business written. This contract was renewed on January 1, 2016.
- The ceding commission for the reinsurance agreement is 30%.

a. (1 point)

Determine whether the insurance company's 2015 IRIS ratio 4, Surplus Aid to Policyholders' Surplus, falls within the range of usual values.

b. (1 point)

Determine whether the insurance company's 2015 IRIS ratio 2 falls within the range of usual values.

c. (1.25 points)

Determine whether the insurance company's 2016 IRIS ratio 11 falls within the range of usual values.

d. (0.75 point)

Fully describe the impact on the insurance company's 2016 IRIS ratio 11 if the reinsurer were to become insolvent during 2016.

16. (2 points)

Given the following information for 2016 (in thousands of dollars):

	Company A	Company B
Direct Written Premium	2,200	6,500
Assumed Written Premium	1,000	300
Ceded Written Premium	700	200
Policyholders' Surplus	820	2,400
Net Underwriting Profit	250	400

Company A's distribution of net written premium:

Fire and Allied Lines	60%
Homeowners	40%

Company B's distribution of net written premium:

Commercial General Liability	55%
Workers Compensation	45%

a. (1 point)

Based on the information above, describe two reasons why a regulator may be more concerned about the financial health of Company A than Company B.

b. (1 point)

Based on the information above, describe two reasons why a regulator may be more concerned about the financial health of Company B than Company A.

17. (2.25 points)

Given the following information from an insurance company's 2016 Annual Statement (all dollar figures are in thousands):

- Company net loss & LAE ratio is 75%
- Company expense ratio is 40%
- Policyholder dividend ratio is 10%
- Total adjusted capital is \$12,800

Given the following RBC charges for this insurer for 2016:

- R0 is \$0
- R1 is \$500
- R2 is \$1,500
- R3 is \$270
- R4 is \$9,700
- R5 is \$2,000

a. (0.75 point)

Calculate the 2016 RBC ratio.

b. (1.5 points)

Determine the 2016 RBC Action Level for the insurer, and briefly describe the actions required of both the regulator and the company under the RBC Model Act.

18. (1.5 points)

a. (0.5 point)

Briefly describe one advantage and one disadvantage of using RBC ratios to assess the financial health of an insurer.

b. (0.5 point)

Describe the reason why the R0 charge is treated differently from the other charges in the RBC formula.

c. (0.5 point)

Briefly describe one similarity and one difference between the RBC framework and the IRIS framework.

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19. (2.5 points)

a. (1.5 points)

Briefly describe the three components of the fair value of an insurance liability under U.S. GAAP purchase accounting, and propose a methodology for determining each component.

b. (1 point)

Describe the treatment of goodwill under each of SAP and U.S. GAAP purchase accounting.

20. (2.5 points)

a. (0.5 point)

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

b. (2 points)

Briefly describe how each of the following is treated under both U.S. GAAP and SAP accounting, and briefly explain how the difference in treatment supports the respective purposes described in part a. above:

- i. Acquisition Costs
- ii. Nonadmitted Assets

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21. (2.5 points)

The following information is available for an insurance company that was formed on January 1, 2015 (in thousands of dollars):

	2016	2015
Written Premium	399	374
Unearned Premium Reserve	72	57
Paid Losses	223	221
Undiscounted Loss Reserves	108	86
Discounted Loss Reserves	99	79
Interest on Tax-Exempt Municipal Bonds	20	26
Dividend Income	440	372

The corporate tax rate is 35%.

Calculate the company's 2016 income tax assuming that dividend income is generated exclusively from a company that is 50% owned.

22. (4.75 points)

An Appointed Actuary analyzed the loss and loss adjustment expense (L&LAE) reserves as of December 31, 2016 for an insurance company domiciled in State X. The following information is given (all figures are in millions of dollars):

Company Booked Net L&LAE Reserves	340
Company Booked Gross L&LAE Reserves	600
Actuary's Point Estimate of Net L&LAE Reserves	350
Actuary's Low End of Reasonable Range for Net L&LAE Reserves	320
Actuary's High End of Reasonable Range for Net L&LAE Reserves	380
Actuary's Point Estimate of Gross L&LAE Reserves	650
Actuary's Low End of Reasonable Range for Gross L&LAE Reserves	620
Actuary's High End of Reasonable Range for Gross L&LAE Reserves	700

- The scope of the Statement of Actuarial Opinion (SAO) does not include any Unearned Premium Reserves for Long Duration Contracts or Other Loss Reserve items.

a. (2.25 points)

Propose language for the OPINION section of the SAO.

b. (0.5 point)

Identify the appropriate entry on Exhibit B, item 4 "Type of Opinion" for this SAO, and briefly explain the rationale.

c. (2 points)

Construct the Actuarial Opinion Summary, items A through D.

23. (1.75 points)

Company A is an insurance company domiciled in State X. Company A participates as the lead company in an intercompany pooling arrangement with Company B and Company C, both also domiciled in State X. The following is an excerpt from the 2016 Statement of Actuarial Opinion (SAO) for Company A:

Company A, Company B, and Company C participate in an intercompany pooling arrangement. Premiums and losses are allocated to Company A based on its assigned percentage to the total pool, 80%. Analysis of the reserve items identified in Exhibit A has been performed for all pool companies combined and allocated to the pool companies based on their pooling percentages. Any favorable or adverse development will affect pool members in a manner commensurate with their pool participation. The following is a listing of all companies in the pool and their respective pooling percentages:

Company A, 80%

Company B, 20%

Company C, 0%

a. (0.25 point)

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

b. (1 point)

Identify and correct two errors or omissions related to intercompany pooling arrangements in the excerpt above.

c. (0.5 point)

Describe the concept of an intercompany pooling arrangement.

24. (3 points)

a. (1 point)

Briefly describe four considerations for an Appointed Actuary in the determination of whether to make use of an analysis by an individual not within the Appointed Actuary's control.

b. (1 point)

An Appointed Actuary may be required to make disclosures in the Statement of Actuarial Opinion (SAO) when making use of an analysis conducted by a non-actuary.

For each of the following scenarios, justify whether such disclosures are required:

- i. A catastrophe modeler estimates \$10 million in reserves for the company's commercial property line of business. The company carries a total of \$2 billion in reserves. The Appointed Actuary did not review the analysis.
- ii. A claims litigation specialist uses statistical models to estimate reserves of \$300 million for the company's liability lines of business. The company carries a total of \$1 billion in reserves. The Appointed Actuary reviewed the analysis and confirmed that the general methodology was reasonable.

c. (1 point)

For each scenario in part b. above, identify any additional required SAO disclosures.

25. (2.25 points)

a. (1 point)

Briefly describe four considerations with respect to the reinsurance collectibility disclosure in the RELEVANT COMMENTS section of the Statement of Actuarial Opinion.

b. (0.5 point)

Briefly describe two reasons reinsurance may be considered uncollectible.

c. (0.75 point)

Briefly describe three ways in which an actuary might assess reinsurance collectibility.

26. (2.25 points)

Given the following scenario for an insurance company:

An actuary performed an analysis of unpaid claims to prepare the Statement of Actuarial Opinion (SAO) as of December 31, 2016.

- The actuary's range of reasonable estimates for the reserves is \$400 million to \$475 million.
- The insurance company booked reserves of \$450 million.
- Policyholders' surplus is \$600 million.

a. (1 point)

Propose and justify two materiality standards based on different metrics.

b. (0.25 point)

On May 1, 2017, the insurance company's claims department informs the actuary of an error in the December 31, 2016 data. The error would have increased the actuary's workers compensation estimated ultimate losses by \$10 million for accident year 2016. For the scenario above, briefly describe whether the data error should be communicated to the intended user of the actuary's work products.

c. (0.5 point)

Other than those provided in part a. above, briefly describe two bases for a materiality standard in the SAO.

d. (0.5 point)

Identify two places in the SAO where the materiality standard is disclosed.

27. (3 points)

A monoline insurer has reported the following experience (figures in the tables below are in thousands of dollars):

Ceded Paid Loss for Primary without Commutation

Policy Year	@12 months	@24 months	@36 months
2014	250	350	450
2015	250	350	
2016	250		

Net Reserves (Case + IBNR) for Primary without Commutation

Policy Year	@12 months	@24 months	@36 months
2014	1,500	1,200	900
2015	1,500	1,200	
2016	1,500		

- A 25% quota share reinsurance agreement has been in place for all three policy years with the same reinsurer.
- The insurer's discount factor is 0.875 for all years.
- 2016 Calendar Year Taxable Income, prior to the commutation, is 37.5 thousand dollars.
- The insurer is considering commuting the reinsurance contract before year-end 2016.

a. (1 point)

The insurance company has decided to commute the reinsurance contract for policy year 2014. Calculate the commutation price that would result in the insurance company paying no income tax for calendar year 2016.

b. (1.5 points)

After negotiation with the reinsurer, a commutation price of \$250,000 was agreed upon. Calculate the following loss triangles for the insurer after the commutation under SAP:

- Net paid losses for policy years 2014 through 2016
- Net ultimate losses for policy years 2014 through 2016

c. (0.5 point)

Other than minimizing taxable income, identify two potential benefits to this insurance company of commuting the reinsurance contract for only one policy year.

28. (1.75 points)

a. (0.75 point)

Given the following information for a quota share treaty with a certified reinsurer:

- The reinsurer agrees to reimburse the ceding entity for losses that may be incurred as a result of future insurable events covered under this contract.
- The contract is signed and finalized 60 days after the commencement of the policy period covered by the reinsurance arrangement.

Identify whether the contract should qualify for prospective reinsurance accounting treatment, retroactive reinsurance accounting treatment, or neither, and describe the rationale.

b. (0.75 point)

Given the following information for a catastrophe treaty with an authorized reinsurer:

- The reinsurer agrees to reimburse the ceding entity for losses that may be incurred as a result of future insurable events covered under this contract.
- The contract is signed and finalized prior to the commencement of the policy period covered by the reinsurance arrangement.
- The contract includes a fixed payment schedule that begins 24 months after the end of the policy period covered by the contract with total payments capped at \$100,000.
- Deposit premium is \$90,000. No reinstatements are permitted.

Identify whether the contract should qualify for prospective reinsurance accounting treatment, retroactive reinsurance accounting treatment, or neither, and describe the rationale.

c. (0.25 point)

For a reinsurance contract that is recorded using deposit accounting, briefly describe how the reinsurer should record the unpaid loss and loss adjustment expenses in the Annual Statement Balance Sheet.

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

October 24, 2017

POINT VALUE OF QUESTIONS

QUESTION	VALUE OF QUESTION	SUB-PART OF QUESTION						
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	2.25	1.00	0.50	0.75				
2	2.00	1.00	1.00					
3	2.00	1.00	1.00					
4	3.25	0.75	0.50	0.50	0.50	0.50	0.50	
5	2.25	0.50	0.75	1.00				
6	1.75	1.00	0.75					
7	3.00	1.50	1.50					
8	2.75	0.50	0.75	0.50	1.00			
9	3.50	2.50	1.00					
10	2.50							
11	2.00	1.00	0.50	0.50				
12	2.00	1.00	1.00					
13	2.25	0.75	1.50					
14	2.50	2.00	0.50					
15	4.00	1.00	1.00	1.25	0.75			
16	2.00	1.00	1.00					
17	2.25	0.75	1.50					
18	1.50	0.50	0.50	0.50				
19	2.50	1.50	1.00					
20	2.50	0.50	2.00					
21	2.50							
22	4.75	2.25	0.50	2.00				
23	1.75	0.25	1.00	0.50				
24	3.00	1.00	1.00	1.00				
25	2.25	1.00	0.50	0.75				
26	2.25	1.00	0.25	0.50	0.50			
27	3.00	1.00	1.50	0.50				
28	1.75	0.75	0.75	0.25				
TOTAL	70.00							

GENERAL COMMENTS:

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

EXAM STATISTICS:

- Number of Candidates: 518
- Available Points: 70
- Passing Score: 49.75
- Number of Passing Candidates: 258
- Raw Pass Ratio: 49.81%
- Effective Pass Ratio: 54.09%

QUESTION 1	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE: A1
SAMPLE ANSWERS	
Part a: 1 point	
<u>Sample 1</u>	
i.	If all credit scores are lower without changes to relativities and inherent risk, then the actuary will lower the base premium to reflect this shift. Insurers review base premium regularly to stay competitive.
ii.	Relativities are also reviewed regularly by actuaries who adjust them accordingly (e.g. relativities between male and female young drivers in auto insurance)
<u>Sample 2</u>	
i.	Insurance companies can accommodate this shift by adjusting base rates in proportion to the average credit score shift. This will neutralize most premium impacts insureds would see due to a drop in credit score.
ii.	Insurance companies can renormalize the relativities and segmentation to account for the new distribution of credit scores. This will ensure that an insured that an insured with an average shift in their credit score will not see their premium change as a result.
<u>Sample 3</u>	
i.	The pricing actuary will adjust the average premium level to the level before the economic downturn, this will ensure the overall premium level is not excessive.
ii.	The pricing actuary will also review the relativities between different credit-based insurance scores groups to make sure the expected loss cost from one group to another are fully reflected in the relativities, this will ensure no premium subsidization occurs.
Part b: 0.5 points	
Each of the following responses was granted credit:	
<ul style="list-style-type: none"> • It will affect protected groups as they are usually more affected by credit scores, resulting in unequitable premiums • Unfairly discriminatory. Credit score may be a proxy for their rating factors like low income, education, religion. Then using credit score may negatively affect certain classes of people. • It is not clear how credit scores are calculated, so it's another black box added to the process for calculating premiums • Credit scoring negatively impacts recently divorced, younger, and elderly people when the reason is from things such as never having a credit card before • Sound financial decisions (paying off debt) can negatively impact CBIS, which seems counterintuitive • There can be errors in credit reports which aren't the fault of the policyholder • Studies have shown that up to 50% of credit reports contain errors 	

- The regulators would be concerned that credit scores may unfairly impact low-income insured who typically have lower credit scores
- It has been observed that only frequency, not severity increases as credit scores decrease, signaling that people with lower scores may just be more likely to file their claims.

Part c: 0.75 points

Each of the following responses was granted credit:

- They can completely ban use of credit based insurance
- Limit use of credit based insurance to underwriting and not rating
- Only allow the use of credit scores for renewals if it reduces policyholder premium
- Prohibit the use of credit-based insurance scores in ratemaking and rating plans
- Only can use credit scores to rate a new business policy, but can't request score again upon renewal
- Limit the price relativity factors that an insurance company can apply to the premiums based on insurance score, factor capping/limitations
- The state could prohibit credit based insurance score being the sole reason for decisions
- Regulators can require insurers to send out written notice to policyholders that they are to be rated based on credit-scores
- Scrutinize the model used to calculate factors for credit

EXAMINER'S REPORT

For this question candidates were expected to understand credit-based insurance and how it applies to regulation. They were expected to be able to relate credit-based insurance to the recent economic downturn.

Part a

Candidates needed to identify the distributional shift and the need to adjust the overall base rate in part a(i) and in part a(ii) they needed to describe the need to analyze the rate differentials.

A common error was saying that the premium was correct, which was contrary to the scenario presented.

Part b

Candidates were expected to identify two concerns from regulators regarding credit based insurance.

Part c

Candidates needed to identify three actions state regulators can take to limit the use of credit-based insurance scores.

Common errors in this section included:

- Using credit scores to accept or deny applicants. This is not a regulator action.
- Stating that insurers can charge a fine for using credit scores
- Stating that the prior approval process can be used
- Stating that proxy variables can be used

QUESTION 2

TOTAL POINT VALUE: 2

LEARNING OBJECTIVE: A1

SAMPLE ANSWERS

Part a: 1 point

Reasons For

- Since UBI allows the insurer to price premiums more accurately, insurer will be willing to write more insurance and take more risk. This increases the availability of insurance.
- Because insureds can lower their premium by driving less, insurance will become more affordable and they will be able to purchase it.
- It will make pricing more accurate for insurers which allows them to apply more correct rates which will make them financially strong. This will increase competition and cause premium to go down for many insureds (those who are saver than average drivers).
- Younger drivers will be able to receive feedback to improve their driving and reduce their premiums. This will increase affordability for a higher risk driver.
- Drivers have control over the frequency of driving. They can choose to drive less miles which should translate directly to a realized reduction in premium. This improves affordability of personal auto insurance.
- Drivers can choose where and how often they drive. They are more conscious about driving too much and will save money by driving less.

Reasons Against

- Insured will not be able to afford telematics device installation and will choose not to purchase insurance
- It may require policyholders to have a newer car or a smart phone, thus those of lower-income will not benefit from greater affordability of personal auto insurance.
- UBI requires companies to invest in expensive equipment so this cost will eventually pass down to the customers which makes total insurance go up. Insurance is now less affordable.)
- The use of telematics could unfairly penalize insureds in low income/urban areas, because of more dangerous locations and driving times. This could make insurance unaffordable to them
- The drivers who drive more will not see more affordable premiums because their rates won't be subsidized by drives who drive less.

Part b: 1 point

Any 4 of the following:

- Driving at night, time of day the driving happens, or Driving during high traffic hours
- Speeding

- Hard braking or sudden braking
- High number of mileage, long commutes
- high number of trips
- Rapid acceleration
- Making sharp turns, accelerated turns, or hard cornering
- Making more left turns than right turns or vice versa
- Swerving
- Driving location
- Using cell phone when driving, texting while driving, or using a hands free device.
- Driving in cities or urban areas, driving in high risk areas i.e. urban or theft-prone areas;

EXAMINER'S REPORT

Candidates were expected to understand how telematics-supported usage-based insurance functioned and the regulatory implications of this system

Part a

Candidates were expected to understand how telematics could increase the availability and/or affordability of personal auto insurance.

Common errors in providing an argument for increasing the availability or affordability included:

- Not linking cause (telematics) to effect (affordability). For example "Better risks gets lower premium" does not describe how telematics will identify better risks
- Telematics will make the rates more actuarially sound
- Arguments that addressed availability of Telematics itself but not availability of Personal Auto Insurance as a whole.
- Good drivers would no longer be subsidizing the bad ones.

A common error in providing an argument against the thought that telematics would increase the availability or affordability of insurance

- The implementation of the device is voluntary. Aggressive drivers will not be willing to install the device. It will not increase the availability as it will appear that all drivers are "good".

Part b

The candidates were expected to be able to identify driving behaviors that might result in a higher premium for the use of telematic-supported UBI

A common error was to use slightly different wording to describe similar behaviors and present them as two separate answers. For example:

- Miles driven AND time spent driving
- Driving in dense urban areas AND driving in high frequency areas
- Time of day AND driving during high congestion times

Another common error was to list behavior already reflected in rating or behavior that cannot be measured by telematics:

- Frequent accidents (that is already in the rate)
- Garaging location of vehicle (already in the rates)

- Driving under the influence (UBI can't detect this)
- High number of speeding tickets (already in rates and UBI can't detect this)
- Different drivers -i.e. Parents and several of their children. (UBI can't detect this)
- Driving carelessly (UBI can't detect careless driving in and of itself; a specific behavior needs to be exhibited in order for it to be detected)

Another common error was listing behavior that is related to UBI rating factors but is really a measure of miles driven, not risky behavior

- Lots of braking activity (it is quick and sudden braking that leads to higher premium, not frequency of using brakes)
- Frequency of lane changes (UBI might detect swerving at high speeds or sudden braking or acceleration, but normal lane changes are not a risk factor)

QUESTION 3

TOTAL POINT VALUE: 2

LEARNING OBJECTIVES: A2, A3

SAMPLE ANSWERS

Part a: 1 point

Identify any two of the following and provide a brief description for each.

Sample answers for Duplication

- Multiple states review the same insurer which minimizes the risk of not catching errors
- Both domiciliary state regulators and other state regulators that an insurer operates in will review financials of insurer to reduce regulator fallibility, or human error.
- Other states' regulators might catch insurers acting in concert or a mistake due to human error previously missed due to their authority to review & license any insurer conducting business in their state.

Sample answers for Peer Review

- Organizations like NAIC constantly review regulators' work to ensure no errors are made.
- The NAIC FAD helps the regulator to identify the potential financial-issued insurer.
- The NAIC's FAD performs continuous financial monitoring on significant insurers, and the NAIC accreditation process ensures that states regulatory system meets standards.

Sample answers for Peer Pressure

- If one state finds a company in need of additional scrutiny or other action, it will motivate other states to do the same. This prevents regulatory inaction.
- Non-domiciliary DOI's can pressure the domiciliary DOI to take action if necessary. This helps to eliminate regulatory forbearance.

Sample answers for Diversity of Perspective

- Influence from a multitude of state regulators allows for centrist solutions to regulation, as opposed to extreme views of over- or under-regulation.
- Having to have many state regulators compromise on solutions reduces the chance of regulatory capture and also results in less extreme outcomes.

Sample answers for Conservative assumption in accounting framework

- Helps encourage companies to hold more capital; helps minimizing frequency and severity of insolvency.
- SAP is a conservative accounting framework that was designed to signal trouble insurers before insolvency.

Sample answers for RBC/IRIS

- Early warning metrics like RBC and IRIS ratios allow regulators to detect companies at potential risk of insolvency early.
- Regulators use tools such as RBC and IRIS ratios to have consistent viewpoints in company's potential insolvency across the entire industry.

Part b: 1 point

Sample responses for Duplication

- RRGs are not as closely regulated by the states. They only have to be authorized by domiciliary commissioners. So, they have fewer parties to duplicate regulation.
- RRGs' reporting are not standardized like SAP. It needs specialized resources. This leads to increase cost to regulation.
- RRGs don't need to meet the same level of regulation in the states they operate, so there is less in-depth review of their practices and financial by multiple regulators.
- There is less regulatory barriers in non-domiciliary states. Risks inherent in the RRG might be overlooked. Duplication is not as effective.

Sample answers for Peer Review

- RRGs are very small usually. The FAD and FAWG might focus on larger, more impactful insurers.
- RRGs have less regulatory requirements on them, so there will be fewer instances where peers exist to check each other.

Sample answers for Peer Pressure

- Regulators in other states (not domiciliary) cannot as easily exert peer pressure as they must file an injunction to get the RRG to stop operating in their state.
- RRGs only have to be licensed in one state. Therefore, other states' DOI would not be able to revoke license, so peer pressure is less.
- Not so effective since different states regulate RRGs in different ways, e.g. different reporting/filing requirements. The lack of uniformity will reduce the ability to challenge.

Sample answers for Diversity of Perspective

- RRG's only have to be licensed in one state and then are allowed to operate in other states, only one state is the main evaluator. The main evaluator does not need to compromise with other states to move forward. This can result in more extreme decisions.
- Since RRG's are only required to be licensed in one state, they're likely to choose a state with relatively easy to work with regulators. This means under-regulation is more likely due to the lack of diverse perspectives.

Sample answers for Conservative assumption in accounting framework

- There is not uniformity in reporting requirements for RRGs. Some use GAAP, others use SAP. Makes it difficult for regulators to assess if not familiar with standard.
- Risk Retention Groups aren't subject to the same capital requirements as insurers, so regulation may be less effective in a stress event.

Sample answers for RBC/IRIS

- Since RRGs can file under GAAP, the tools such as IRIS and RBC are not meaningful.

EXAMINER'S REPORT

The candidates were expected understand the checks and balances that are in place to make sure the failures of a regulatory system don't happen. The question further tested a candidates' knowledge of the difference between how an insurer and a RRG are regulated and why the checks and balances for traditional insurers do not work for RRGs.

Part a

Candidates were expected to list two characteristics of regulatory checks and balances that help to prevent the failures of a regulatory system. They were also expected to provide a clear description of how or why each characteristic limits regulatory failure. Most candidates were able to identify appropriate characteristics.

Common errors include:

- Guaranty funds as a regulatory characteristic. The guaranty fund is a tool that is in place to limit the harm to policyholders after an insurer becomes insolvent not a check and balance that assists regulators in identifying troubled insurers
- Financial exams, rate filings, financial statements, and SAO. These are tools used by regulators to monitor company performance, not characteristics (attributes or qualities) of the regulatory system that provide checks and balances.
- Candidate successfully identified "peer review", but provided the definition of another type of checks and balances, usually duplication or peer pressure.

Examples:

- Insurers writing in multiple states are required to file their financial statements in all those states. Other state may catch an error.
- Regulators in other states can put pressure on the regulator where an insurer is domiciled.

Part b

Candidates were expected to know the difference between how an insurer and a RRG are regulated and why the checks and balances listed in part a for traditional insurers do not work for RRGs.

Common errors include:

- Candidate did not provide enough details. "RRGs are less regulated"
- Candidate lists the characteristic of RRGs, but failed to draw the connection to part a. "RRGs only need to be licensed in their state of domicile." "RRGs are not subject to guaranteed fund."
- Candidate interpreted the question as forming a RRG entity rather than regulating RRGs. "RRGs insure similar risks. Hence, there is no diversity of perspective".
- Candidate had the wrong information about RRGs. "RRGs are subject to federal regulation." "RRGs do not submit information to non-domicile states."

QUESTION 4	
TOTAL POINT VALUE: 3.25	LEARNING OBJECTIVE: A4
SAMPLE ANSWERS	
Part a: 0.75 points	
<u>Sample Response 1</u>	
<ul style="list-style-type: none"> • Direct or contractual relationship between insurer and insured; it was "transfer of risk"; it's unique & specific only to the insurance industry 	
<u>Sample Response 2</u>	
<ul style="list-style-type: none"> • Sharing or underwriting of risk; contractual relationship or agreement between insurer and insured; activities are exclusive to insurance entities 	
<u>Sample Response 3</u>	
<ul style="list-style-type: none"> • Direct relationship between insurer and policyholder; practices limited only to the insurance industry; transfer of risk from insured to insurer 	
<u>Sample Response 4</u>	
<ul style="list-style-type: none"> • Spreading of underwriting risk; direct connection between insurer and insured; activity specific to ins industry 	
Part b: 0.5 point	
<u>Sample Response 1</u>	
<ul style="list-style-type: none"> • Insurance was deemed to not be unique to each state. It is interconnected and interdependent between states; intangible products other than insurance had been regulated at the federal level 	
<u>Sample Response 2</u>	
<ul style="list-style-type: none"> • Only a small percentage of SEUA companies domiciled in only one state; other intangible products sold across states are subject to Sherman act, so insurance should be as well 	
<u>Sample Response 3</u>	

- Only a few members of SEUA were domiciled in states in the SEUA territory, this looks like interstate commerce; intangibles such as telegrams or bank transactions fall under commerce clause

Sample Response 4

- The Sherman act did not intend to specifically exclude the insurance industry; few of the SEUA were actually domiciled in the states they were writing in

Sample Response 5

- Insurance is not a business that is distinct in each of the states; no other multistate industry is exempt from federal regulation

Sample Response 6

- Companies with sales contracts in states where they don't have headquarters have not escaped Congressional regulation; non-tangible products (such as electrical impulses) have been regulated by Congress

Part c: 0.5 point

Sample Response 1

- If it concerns boycotting, intimidation, collusion; any federal law made specifically to govern insurance supersedes state law

Sample Response 2

- Sherman act still applied to boycott, intimidation, coercion; when congress passes a law specific to insurance it will preempt state law

Sample Response 3

- Fed laws written specifically for business of insurance; Sherman applies if state has no similar law

Part d: 0.5 point

Sample Response 1

- Have to balance goals of insurer solvency and premium affordability; rating plans can be super complex, so understanding all justification of characteristics and rating variables can be difficult

Sample Response 2

- Insurance cost is unknown until the contract end; different lines of business have different risk characteristics, which post a great pressure for regulators to formulate a systematic and useful framework

Sample Response 3

- Price optimization and subject premium are difficult to decipher from rate filings; must balance availability and affordability with adequacy of rates

Sample Response 4

- Regulator may not have access to all the data and details used; lack of resources or personal expertise or time

Sample Response 5

- Info sharing between competitors unique to insurance industry where other industry would deem collusion; insurance industry is unique in losses occur after premium decided

Sample Response 6

- When new insurance pricing technology is used, it is hard to review (“black box”); social pressure to make rates affordable but allow insurers to make a profit

Sample Response 7

- Can't be so restrictive that companies want to exit the market (could cause availability issues); the rates have to be not unfairly discriminatory and regulator must balance outside pressure with actuarially sound rates

Part e: 0.5 point

Sample Response 1

- SIFI (systematically important financial institutions); insurers with banks

Sample Response 2

- SIFI – systemically important financial institutions; insurance holding companies that hold banks

Sample Response 3

- SIFI; Insurance who own banks

Sample Response 4

- Significant Important Finance Institutions; insurance with thrift operation

Sample Response 5

- Those “too large to fail”; those that own banks or thrift

Sample Response 6

- Large insurers where their insolvency could cause broad economic disruption; finance holding companies formed by banks owning insurance companies

Part f: 0.5 point

Sample Response 1

- Develop living will; higher capital requirements

Sample Response 2

- Submit to stress testing; new capital standards

Sample Response 3

- Additional liquidity standards; submit bankruptcy plan

Sample Response 4

- Must meet capital standards; undergo stress testing

Sample Response 5

- Set liquid requirements; develop a will to explain what they do in case of insolvency

Sample Response 6

- Upon request, insurer needs to submit information to the FIO; must meet minimum capital requirement set by fed

Sample Response 7

- Submit data to federal regulator when asked; undergo stress testing

EXAMINER'S REPORT

Candidates were expected to know the characteristics of the business of insurance

Candidates were expected to know the basics of the history of federal and state regulation and the separation between them. Specifics include SEUA and anti-trust law, and Dodd-Frank act.

Candidates were expected to know concerns a regulator would have regarding regulation of rate review

Part a:

Candidates were expected to know the three characteristics of the business of insurance as established in the *Royal Drug*

Common mistakes included:

- Just listing things that insurance companies do, like market policies or pay claims.
- Just listing elements of the risk and loss events involved in insurance (there must be a timing risk, there must be a chance of a large claim payment, etc.)
- The candidate did not acknowledge there was a direct or contractual relationship involved The candidate said something similar to “there is a relationship between two parties”

Part b

Candidates were expected to understand the SEUA decision and the motivation and outcome of the case.

Common errors include candidates only opining that insurance was interstate commerce without any reasoning.

Part c

Candidates were expected to know when federal government law could apply to insurance as exceptions to McCarran-Ferguson

Candidates were expected to know that federal antitrust regulation applies if there is no appropriately equivalent state law.

Regarding the first point above, candidates should note the federal regulation should specifically refer to insurance to be relevant

A common mistake was saying federal law applies when no state law exists since that isn't an exception

Part d

Candidates were expected to know concerns a regulator would have regarding regulation of rate review.

Common errors include

- Candidate said rates must be adequate but not excessive with no other explanation about why that's a concern.
- Candidate said rates must be available and affordable with no other explanation about why that's a concern.
- Candidates said rates must not be unfairly discriminatory with no other explanation about why that's a concern.
- Candidate just listed a duty of being a regulator (i.e. "must review data of multiple filings") without some aspect of expense / resource / experience constraints.

Part e:

Candidates were expected to know what types of companies were subject to federal regulation under Dodd-Frank

A common mistake was stating "large national insurer" without acknowledging the insurer was systemically important / too big to fail / would cause a national economic event upon failure

Part f:
<p>Candidates were expected to understand the role of federal oversight of insurance companies under the Dodd-Frank Act</p> <p>Common errors include:</p> <ul style="list-style-type: none"> • Candidate did not acknowledge that reporting to the federal regulator (FIO) was only necessary upon request • Candidate did not specify that the relevant reporting was to be to the federal government. • Candidate did not understand that the living will applied to a receivership situation and was not a general plan of business to be submitted to the federal government • Confusing the requirements with the elements of a market conduct exam (submitting regular reports to state regulators, open books for audit, etc.) • Confusing the FIO's suggested directive from Dodd-Frank regarding things like international agreements and banking standards as things that the insurance companies are required to be involved in.

QUESTION 5	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE: B2, B3
SAMPLE ANSWERS	
Part a: 0.5 point	
<p><u>Sample 1</u> UEP (unearned premium) and claims</p> <p><u>Sample 2</u></p> <ul style="list-style-type: none"> • Unearned Premiums • Indemnity Payments <p><u>Sample 3</u></p> <ul style="list-style-type: none"> • Refund a portion of unearned premium • Collect on collision and comprehensive claims 	
Part b: 0.75 point	
<p><u>Sample 1</u></p> <ul style="list-style-type: none"> • Only applies to specific lines of business <ul style="list-style-type: none"> ○ Only P&C ○ Excludes lines like ocean marine, mortgage guaranty, title, etc • Unearned premium recovery is limited to a specific recovery amount 	

- Trigger of coverage – Court must officially rule that it's an insolvency before guaranty fund is paid out

Sample 2

- Claim deductible as well as a policy deductible
- Large net worth deductible
- Claims subject to limits (except WC which is unlimited)

Sample 3

- There may be a claim deductible to make sure a few claims don't deplete the fund
- There may be means testing to reduce payments to those who can afford to rectify their own damages
- Only certain types of insurance qualify for protection, like auto insurance, to allow the funds to be used in the coverages that need it most (excluding insurance like reinsurance or title insurance)

Sample 4

- May not get all of their UEPR returned
- Claims limits may be lower
- Types of coverage can be limited

Sample 5

- Claims are subject to a max (in addition to a policy limit) except for WC
- Only a portion of PHS UEP will be refunded
- If the insured is more affluent, then their claim/UEP will be low priority to be paid out by guaranty fund

Sample 6

- UEPR to refund but only to a certain limit
- Claim deductible in addition to policy deductible
- Large company may be subject to large net worth deductible

Part c: 1 point

Sample 1

Reduces incentives of policyholders to shop for financially strong insurers. It reduces the incentive to shut down weak insurers. Post-insolvency assessment can still cause market disruptions and costs are passed onto the policyholders. It also distorts competition allowing weaker insurers to gain market share by low-balling prices since consumers know the guaranty fund will protect them.

Sample 2

State guaranty funds are not desirable solvency backstops. In order to fund them, taxes are increased or insurers are charged a fee that is passed along to insureds. Having the fund as a backstop leads to a moral hazard where reinsurers and policyholders choose to do business with financially unstable insureds knowing that the risk is less given a guaranty fund payment if insolvency occurs.

Sample 3

They successfully return a portion of claim payments and UEPR to policyholders. They also motivate insurers to promote strong solvency regulation. However, the price of insolvencies is high because insurers are assessed directly for guaranty fund payments in event of an insolvency. Competition is distorted since insurers that aggressively underwrite or market can gain greater market share.

Sample 4

Yes. It ensures that policyholders could promptly receive most of their claims, in the event of insurer insolvency thus they are protected. Although it has some drawbacks, e.g. insurers are assessed directly to the fund, these assessments may be offset by estate of the insolvent insurer. It also faces the problem of distorting competition since insurers can relax their underwriting standards to gain market share. Its benefit of protecting policyholders outweighs the drawbacks thus it is desirable.

Sample 5

State guaranty funds are mostly desirable because they protect policyholders. However, policyholders and regulators rely on them too much. Policyholders ignore solvency of insurer and regulators delay intervention. There is also the mess of insurance across state lines – would federal guaranty fund be more or less fair?

Sample 6

Overall, yes. It limits the disruption in the insurance market for insurers/policyholders. It protects policyholders in the event of insurer insolvency. However, it is an imperfect approach. An insurer may charge inadequate rates in order to gain market share, and consumers may have less incentive to shop for strong insurers because of the backstop.

EXAMINER'S REPORT

The candidates are expected to have an understanding of the objectives, operations, and effectiveness of guaranty funds.

Part a

Candidates were expected to know the two types of recoveries that they may receive from a guaranty fund in the event that an insurance company becomes insolvent – which is the partial repayment of unearned premium reserve and the payment for most claims that would have been due under the insolvent insurer's policy.

Common mistakes included:

- Mention of loss adjustment expense as a source of recoveries (even in the context of loss and loss adjustment expense combined).
- Referencing a line of business (e.g. “Workers Compensation”) without any reference to loss recoveries.
- Mentioning that premium is reimbursed but not the unearned portion.
- Identifying the two forms of unearned premium reserve recoveries without reference to loss recoveries.

Part b

Candidates were expected to understand that the policyholder dollar recoveries from the state guaranty fund are limited.

Common mistakes included:

- Interpreting potential delays in guaranty fund payment as a limitation of recovery.
- Mentioning that the guaranty fund could be depleted without specifying any limitations to address this (such as a deductible or a limit).
- Confusing WC high deductible policies with large net worth deductibles.
- Confusing high income with high net worth with respect to the large net worth deductible.
- Mentioning recoveries associated with LAE, general expenses, or dividends.
- Confusing policy limit or deductible with the limit or deductible imposed by the guaranty fund.

Part c

Candidates were expected to provide four arguments either in favor or against the state guaranty fund as an effective backstop for insolvency. Candidates were not required to make a stance for or against guaranty funds, only make a comprehensive argument.

Common mistakes included:

- Evaluating a guaranty fund against the services provided by a solvent insurer. For example:
 - Arguing that recoveries are delayed when seeking money from a guaranty fund when it is faster relative to the bankruptcy process.
 - Arguing that recovery limitations are an argument against guaranty fund but not considering that the bankruptcy process may pay much less.
- Arguing against guaranty fund in that if funds run out, guaranty fund will not provide protection
- Stating that the guaranty fund increases moral hazard but not explaining why.

QUESTION 6

TOTAL POINT VALUE: 1.75

LEARNING OBJECTIVES: B2, B3

SAMPLE ANSWERS

Part a: 1 point

Sample Response for i:

- Under JUA, all losses are pooled and insurer pays portion based on its market share. Under assigned risk plan, insurer is assigned policies based on market share and insurer must pay all losses for those assigned policies.

Sample Response for ii:

- In state with JUA, volatility would be relatively low because the expected losses of the group would have low variance. In the state with assigned risk plan, volatility would be higher because company is assigned a specific subset of the larger group. As such, the subset has a larger volatility than the group as a whole.
- Higher volatility in assigned risk states implies outcomes determined by luck-of-the-draw rather than on the overall residual market results. $\sum \text{Var}(x_i) > \text{Var}(E(x))$
- ARP would have higher volatility, since the insurer's losses (or profits) would be determined by the relatively small number of risks it is assigned, rather than by the results of the residual market as a whole.
- The ARP results would have more volatility due to less data. An individual group of policies (100) would have more variance in losses than 10% of 1000.
- Under JUA, there is a possibility that they could face volatility since the other insurers split the losses of the high risk insureds with this insurer, but since it is based on market share, should be fairly stable. Under ARP however, the high risk insureds they write are random (randomly assigned to insurer based on market share) so financial results are dependent on how lucky they are with the insureds they are assigned. More volatile than JUA.

Part b: 0.75 point

Sample Response for i:

- Insurer accepts all risks, then cedes the insureds that the insurer doesn't want to assume
- Insurers can choose to allocate the applicants/drivers to voluntary market or to reinsurance facility. The drivers do not know.

Sample Response for ii:

- Insurer services all claims

Sample Response for iii:

- Profits are distributed according to the insurer's market share in the voluntary market

EXAMINER'S REPORT

Candidates were expected to demonstrate their knowledge of the Auto Residual Market Mechanisms, specifically regarding Assigned Risk Plans, Joint Underwriting Associations and Reinsurance Facilities. They were expected to demonstrate their knowledge of how

these mechanisms assign losses to insurers and to demonstrate their understanding of volatility.

Part a

For subpart i, candidates were expected to briefly describe how insurers are assigned residual market losses in an Assigned Risk Plan as well as in a Joint Underwriting Association.

A common mistake was mixing up how each of the mechanisms assigns losses to the insurers.

For subpart ii, candidates were expected to say that an insurer's financial results due to a JUA would be less volatile than those results due to an assigned risk plan and to describe why.

Common mistakes included:

1. Claim that an assigned risk plan is less volatile due to the insurer's ability to control claims costs better.
2. Focusing on the possibility of bad results meaning more volatility

Part b

For subpart i, candidates were expected to briefly describe that insurers had the option to keep the risk or cede the risk to the reinsurance facility. Some candidates stated that drivers were not assigned to insurers because the drivers selected the insurers. This answer was accepted as long as the candidate mentioned the insurer could cede drivers to the reinsurance facility in another subpart of the question.

Common mistakes including stating that driver assignment worked like a JUA or an ARP. Another common mistake was the failure to mention the optional cessation of drivers by the primary to the reinsurance facility.

For subpart ii, candidates were expected to identify that the insurer (not the reinsurance facility) serviced the claim.

A common mistake was candidates stating that that reinsurance facility serviced the claim.

For subpart iii, candidates were expected to identify that the all insurers in the state share in the operating profits in proportion to the insurer's market share. A common mistake was candidates stating the insurers shared the operating profits "according to a formula."

Common errors included candidates stating the reinsurance facility kept the profits and candidates stating that insurers shared in the operating profits based on the amount they ceded to the reinsurance facility.

QUESTION 7

TOTAL POINT VALUE: 3

LEARNING OBJECTIVES: B1, B2

SAMPLE ANSWERS

Part a: 1.5 points

Any three of the following reasons:

- Filling insurance needs unmet by private insurance
- Compulsory purchase of insurance
- Convenience
- Greater efficiency or government expertise
- Social purposes
- Regulatory purposes

Sample Responses for “filling insurance needs unmet by private insurance”

- Provide a need unmet by private market. Some risks are considered uninsurable by the private market so coverage is not offered. The government can fulfill this need.
- To provide coverage when it is not available on the open market.
- To fulfill unmet needs of the private insurance market (insurance not available/affordable).

Sample Responses for “compulsory purchase of insurance”

- Mandatory coverage: for required insurance coverages, it is easier for the government to enforce these requirements.
- Compulsory insurance - When it is required for certain LOBs and consumers have the right to have it, the government feels need to provide it.
- Compulsory coverage – The government should participate because it often mandates insurance coverage.

Sample Responses “for convenience”

- It can be more convenient. For example, auto-enrollment means people don’t have to do anything to obtain coverage. This is true for social security.
- Convenient – The government may already have facilities that can easily accommodate insurance operations.
- Convenience – In situations where there are already structures in place to do other governmental work.

Sample Responses “for greater efficiency” or “government expertise”

- If government has more expertise than industry, it will be more efficient (cost wise) for government to deliver insurance
- Efficiency – It may be more cost effective for government to provide the insurance.
- Greater efficiency and/or lower prices because the government doesn’t have to include commission, other expenses, and profit load in prices.

- Efficient – The government has no profit load, marketing cost.

Sample Responses for “social purposes”

- Social purpose – The government may provide insurance to fulfill a social obligation.
- For a social purpose such as preventing economic disruption.
- Social responsibility – People may look to government to provide certain benefits (e.g. social security, Medicare).

Sample Responses for “regulatory purposes”

- Fair and equitable treatment of consumers. Some insurance is compulsory, and so regulation is necessary. Regulators ensure the reliability, solvency, and financial solidity of insurance institutions.
- Protect consumers by ensuring availability and affordability of coverages and that consumers are not charged excessive rates or unfair discrimination.

Part b: 1.5 points

Partnership with a private insurer

- TRIA
- NFIP
- Crop Coverage
- The government mandating auto liability coverage then working with insurers to set up residual markets for high risk drivers.
- FAIR Plans
- Workers’ compensation, the government sets benefit laws that insurers have to follow
- Residual windstorm/WC/auto plans

Competing with a private insurer

- Workers’ Compensation competitive state fund

Exclusive Insurer

- Social Security
- WC exclusive(monopolistic) state fund
- Unemployment insurance.
- Federal Employers Compensation Act

EXAMINER’S REPORT

Candidates were expected to have knowledge of a variety of reasons for government participation in insurance, and also the levels at which the government may become involved to provide insurance.

Part a

Candidates were expected to provide three unique reasons for government participation in insurance. Sufficient explanation was required to distinguish each reason. For example, two reasons relating to affordability could be distinguished by describing one as a need unmet by private insurance, and the other as an obligation for the government to provide affordable insurance when that insurance is compulsory.

A common mistake was providing two similar reasons, such as filling an unmet insurance need along with ensuring certain coverages are offered.

Part b

Candidates were expected to identify three unique levels of government involvement in the provision of insurance, and provide an appropriate example of each.

Common mistakes included:

- Providing an example that did not match the level of involvement.
- Providing “workers’ compensation” as an example with no additional words.
- Only providing two levels.

QUESTION 8

TOTAL POINT VALUE: 2.75

LEARNING OBJECTIVE: B3

SAMPLE ANSWERS

Part a: 0.5 point

- The rates were inadequate to cover expected losses. The Flood Insurance Reform Act of 2012 increased rate caps from 10% to 20% to help reach more adequate premiums.
- Rates were not adequate resulting in a tremendous debt. The 2012 reform increased rates, decreased subsidies, and allowed catastrophe year losses to be included with the average loss year calculations.
- The NFIP has an extremely large amount of debt owed to the Treasury. Because their rates are inadequate, the NFIP won’t be able to get rid of that debt for some time. The Flood Insurance Reform Act attempted to address this by decreasing premium subsidies so the fund could become self-sufficient.
- Premium subsidies and lower than actuarial rates resulted in the NFIP not having enough money to pay losses without accruing significant debt. The 2012 Reform Act reduced subsidies and allowed for premiums to be increased.
- One concern is lack of participation to fund the program. One way this was addressed is by increasing the penalty for lenders who fail to enforce purchase of flood insurance when it’s required.

Part b: 0.75 point

- People don’t understand the meaning of 100 year flood plain and that it is a 1% change of flood each year.
- Flood insurance is not seen as being worth the cost.
- Private insurers do not market NFIP policies.
- Flood maps are outdated so those that are in high flood areas are unaware

- Rules are not enforced when flood insurance is required on federally backed loan and home is located in flood plane
- The public believes the coverage is not necessary since the government will provide disaster relief regardless if flood coverage purchased
- Insureds with high risk tend to purchase it while those with low risk do not.
- It is expensive / Not worth the cost
- Coverage is only mandatory for those homes in flood planes with federally backed mortgages.
- Insureds misunderstand the risk after a 100-yr flood occurs. They see it as 1 flood every 100 years rather than a 1% chance every year.

Part c: 0.5 point

- Require banks to audit loans annually to see if coverage is still in place and provide penalties to be levied where coverage has lapsed and is not re-purchased within a certain time frame.
- FEMA should make the flood maps more accurate and use them to demonstrate the risk of flood to insureds in those areas. They could also educate insured using loss statistics and weather data so they understand the flood risk is real.
- To be eligible for federal relief after a natural disaster, flood insurance must be purchased
- To address the lack of Flood insurance where required on mortgages, the government can impose rules that state mortgage companies must be notified by Flood insurance companies when a policy is cancelled. The mortgage company would then know that the property is not covered and they can require those mortgages to purchase coverage.
- Make flood insurance compulsory for all properties in high risk flood area even if they do not have federally backed mortgage.
- Include Flood insurance in tax reporting and fine taxpayers that have a loan in flood area and don't keep Flood insurance through life of loan.
- Launch information campaign focusing on areas with severe flood risks to spread more accurate information about flood risk, how to prepare/minimize losses, etc.

Part d: 1 point

Sample arguments for:

- Part of the role of the government is ensuring that coverage is available and affordable. It is difficult for the public to obtain affordable coverage for properties on the Atlantic and Gulf coasts. Thus wind coverage should be added to the NFIP. This could also increase participation in flood coverage due to added awareness that adding wind coverage might bring.
- If both flood and wind were covered by the same program, disagreement about whether damage was caused by water or wind would be avoided, saving time and indemnifying the insured faster.
- Many disasters covered by the NFIP also involve wind exposure. It may be cost effective to offer the coverages on a combined basis as this will reduce claim investigation costs.

Sample arguments against:

- It is difficult to determine an actuarially sound rate for wind coverage. The current NFIP is already underfunded, adding wind coverage will exacerbate the funding issue.
- The NFIP would have to either charge high rates or borrow more from the treasury, which would cause either premium becoming unaffordable or NFIP incurring more debt than it currently has.
- The NFIP is already in massive debt and it's not worth the cost. Private market and state funds make wind readily available.
- Wind should not be combined as this would open the NFIP to even larger exposures that they don't have the expertise to price. It will end up as an additional cost on the taxpayers.

EXAMINER'S REPORT

The candidates were expected to understand the effectiveness of and challenges to the Federal Flood Insurance Program and demonstrate knowledge of program reform brought on by the Flood Insurance Reform Act of 2012 (FIRA).

Part a

Candidates were expected to describe issues that directly related to how the NFIP is funded and specifically what the Flood Insurance Reform Act of 2012 did to address this.

- Stating issues without directly relating that issue to the funding of the NFIP. For example, simply stating "repetitive loss properties" or "inaccurate floodplain maps" without relating these issues back to funding did not properly address the question.
- Stating FIRA remedies that didn't address the issue listed, such as those related to flood map accuracy.
- Misstating that FIRA forgave NFIP's debt

Part b

Candidates were expected to list three independent reasons the NFIP has seen low levels of participation.

A common error was to provide a single reason twice, with slightly different wording. For example:

- Insureds don't understand their true risk of flood.
- Homeowners in the flood plain don't think flood will likely impact them.

Part c

Candidates were expected to develop a new law or initiative that would address low participation and clearly relate that solution to one of the reasons listed in b. This required knowledge of the NFIP policies as well as the Flood Insurance Reform Act of 2012 to ensure the proposal was not already in effect.

Common errors include:

- Not clearly relating the proposal to a participation issue listed in b.
- Making proposals that wouldn't increase participation.
- Listing current laws (i.e. fine mortgage lenders that issue federally backed mortgages to homes in flood plains without requiring they carry flood insurance)

Part d

Candidates were expected to fully develop arguments for and against including wind damage on a NFIP policy.

Common errors include

- As an argument against including wind coverage, saying the tax-burden will be increased without explaining why (i.e. more uncertainty around pricing)
- As an argument for, claim that wind insurance is not available when in fact it is available in all jurisdictions through standard homeowners or residual market plans.

QUESTION 9**TOTAL POINT VALUE: 3.5****LEARNING OBJECTIVE: C1****SAMPLE ANSWERS****Part a: 2.5 points**Sample 1

Current Surplus = Prior Surplus + Net Income + Direct Charges to Surplus

$$52,400 = 33,650 + \text{Net Income} + (211-220) + 92 - (810-450) + 1,500 - 2,184 + (7,600-2,000) + (75-74)$$

$$\text{Net Income} = 52,400 - 33,650 - 4,640 = 14,110$$

Sample 2

Change in Surplus = Net Income + Direct Charges to Surplus

$$18,750 = \text{Net Income} + 5,600 + 1,500 + 1 - 360 - 9 + 92 - 2,184$$

$$\text{Net Income} = 18,750 - 4,640 = 14,110$$

Sample 3

Net Income = Change in Surplus - Direct Charges to Surplus

$$= 18,750 + (220-211) - (75-74) - (7,600-2,000) + (810-450) - 92 + 2,184 - 1,500$$

$$= 14,110$$

Sample 4

$$\text{Net Income} = 18,750 + (220-211) - (75-74) - (7,600-2,000) + (810-450) - 92 + 2,184 - 1,500$$

$$= 14,110$$

Sample 5

$$\text{Net Income} = 18,750 + (220-211) - (75-74) - (7,600-2,000) + (810-450) - 92 \cdot .65 + 2,184 - 1,500$$

$$= 14,142.2$$

Candidates may have done the above calculations in a different order

Part b: 1 point

Balance Sheet Users:

- Regulators
- Actuary
- Company Management
- Shareholders/Investors
- Auditors
- Policyholder/Insured
- Board of Directors
- Rating Agency

Balance Sheet Uses:

- They use it to see whether the insurer has enough assets to fulfill its obligations to policyholders. Being able to see the surplus (admitted assets in excess of liabilities) gives them a tool to easily monitor the financial status of the insurer at a given time.
- Exhibit can be used to look at the strength of a company's capital and whether the capital meets capital requirements.
- To verify the components of policyholder surplus for the evaluation of solvency of the insurer.
- Based on the non-admitted assets, they can get a sense of how much assets will be liquid/available in the event of insolvency.
- The actuary can examine the reserves held when assessing the reasonableness of reserves.

Income Statement Users:

- Investors
- Regulators
- Company Management
- Shareholders
- Board of Directors
- IRS/Auditors
- Policyholder/Insured
- Competitors
- Actuaries
- Rating Agency

Income Statement Uses:

- They can use this to understand the changes to their surplus in a given time period. They can see to what extent this change was impacted by underwriting income, investments, dividends, taxes, or others.

- User can see if the company is making a profit and how high its expenses are to help with decision on whether to purchase coverage from the company.
- See if company is making profit as evaluation of insufficient or excessive premiums.
- They want to verify the earnings power of the insurer and the profitability.
- Can see the expenses and revenue to determine if it matches their expectations.
- Use the income statement to compare to their own income statement to see where they could be performing better (loss ratio & investments)
- They can use it to see how profitable the insurer was over the past year and use that to determine what kind of rating the insurer deserves based on its income.

EXAMINER'S REPORT

Candidates were expected identify the components of and calculate net income. Candidates were also expected to know common users and uses of the balance sheet and income statement.

Part a

Candidates were expected to know that net income can be derived by removing direct charges to the capital & surplus account (i.e., items that don't go through the income statement) from the change in surplus.

Common mistakes included the following:

- Getting the sign of the charge to surplus incorrect (e.g., thinking the charge increased surplus when it actually decreased surplus). Many candidates had all of the charge components identified correctly but mistakenly added the charge when they should have subtracted (or vice versa).
- Including extraneous amounts in the calculation of charges to surplus. Examples of these extraneous items included policyholder dividends and realized capital gains, as these items are already included in net income.
- Treating the "Gross paid-in & contributed surplus" for the current year as the additional capital contribution in the current year rather than the cumulative amount to date. The difference between the current and the prior amount should have been used as the charge to surplus.
- Failing to include the cumulative effect of the change in accounting principle (1,500) in the charges to surplus, or using the wrong sign.
- Applying an assumed tax rate (e.g., 35%) to the change in unrealized capital gains.

Part b

The candidates were expected to identify users of the balance sheet and income statement and explain how those users would use the information in the exhibits to satisfy a particular need they would have.

Common mistakes included the following:

- Providing facts about the exhibits (e.g., the balance sheet shows assets, liabilities and surplus) rather than an explanation how the identified user would use the information in the exhibit to satisfy a particular need.
- Not providing users or how the exhibit satisfied the user's needs.
- Misidentifying items as in the exhibit when in fact they were in the exhibit (e.g., taxable income can be found in the income statement).

QUESTION 10

TOTAL POINT VALUE: 2.5

LEARNING OBJECTIVE: C1

SAMPLE ANSWERS

Sample 1

Net Income =

575	EP
-415	Loss
-100	LAE
-125	Other
+60	Investment Income Earned
+12	Realized
+8	Other Income
-6	Div. to PHs
-7	Federal and Foreign Taxes Incurred
<hr/>	
2	

Surplus =

625	
+2	
+(28 - 24)	Δ DTA
-(9 - 11)	Δ Provision
-(120 - 75)	Δ Nonadmitted
-23	Dividends to stockholders
+(70 - 90)	Δ Unrealized gains/losses
<hr/>	
\$545,000,000	

The tax effect of unrealized gains/loss already included in Δ DTA.

Sample 2

$$625 + 575 - 415 - 100 - 125 + 60 + 12 + (70 - 90) + 8 - 6 - 23 - 7 - (28 - 24) - (9 - 11) - (120 - 75) = 537$$

Sample 3

625M	A: 2015 PHS
+575M	C: 2016 NEP
-415M	D: 2016 losses incurred
-100M	E: 2016 LAE incurred
-125M	F: 2016 UE incurred
+60M	G: 2016 NII earned
+12M	H: 2016 realized CG
-30.77M	I: Δ unrealized CG (see note 1)
+8M	J: 2016 other income
-6M	K: 2016 policyholder div
-23M	L: 2016 stockholder div
-7M	M: 2016 taxes incurred
-4M	N: Δ deferred income tax (assumes this means DTL)
+2M	O: Δ provision for reinsurance
-45M	Q: Δ non-admitted assets
<hr/>	
\$526.23M	=2016 PHS

Note 1) Δ unrealized CG = $(70M-90M)/0.65 = -30.77M$
removed DTA so as not to double-count item N

EXAMINER'S REPORT

This question tested knowledge of relationship between key statutory financial statements including the income statement (page 4) and balance sheet (pages 2, 3). With the exception of net deferred income tax, discussed in detail below, candidates were expected to recognize that the values provided came from statutory financial statements and hence understand the statutory definition of each value.

A familiarity with basic accounting concepts was helpful in answering this question. Under these concepts financial reports are prepared by

1. Calculating net operating income in the income statement (top three subsections of page 4 including lines 1-20).
2. Net income flows into the statement of owner's equity (last subsection of page 4, Capital and Surplus Account, lines 29-39) and is combined with surplus adjustments to calculate ending surplus.
3. The calculated ending surplus flows to the surplus section of the balance sheet which demonstrates balance in the accounting equation (assets = liabilities + surplus).

This question tested steps 1 and 2 above.

Step 1 was to calculate net income. Most candidates were successful in this step although several incorrectly calculated year-over-year changes in values that come from the first three sections of the statement of income (page 4, lines 1-20). These amounts already represent accrued outflows during the year (decreases in assets or increases in liabilities), thus calculating a change from 2015 to 2016 is unnecessary. Also, in their work, several candidates incorrectly classified parts of net income as surplus adjustments or surplus adjustments as net income. Most commonly, dividends to policyholders were classified as a surplus adjustment.

Step 2 involved calculating surplus adjustments which are added to net income to determine the ending 2016 surplus balance. In statutory accounting, several surplus adjustments are required to maintain balance because they are not included in net income. For this question, these included:

- Change in unrealized capital gains net of deferred capital gains tax.
- Change in nonadmitted assets
- Change in provision for reinsurance
- Change in net deferred income tax (see additional discussion below)
- Dividends to stockholders (note ... this is not a change)

A common mistake was to exclude one or more of these adjustments.

Basic accounting knowledge was also helpful in understanding the sign of the surplus adjustment as listed below:

- Unrealized capital gains are included in certain asset values on the balance sheet on page 2 (e.g., unaffiliated common stocks are recorded at fair value). From the accounting equation, decreases in an asset value decrease capital (sign of change should be negative).
- Non-admitted assets are offsets to asset values on page 2. An increase in non-admitted assets decreases admitted asset values on the balance sheet and decreases surplus (sign of change should be negative).
- The provision for reinsurance is a liability on page 3. Decreasing a liability increases surplus (sign of change should be positive).
- Dividends to stockholders represent an outflow during the year and must be reflected (with a negative sign) in order to maintain balance. No need to calculate a change in this item.

Candidates struggled to understand when to calculate changes from the inputs provided. Inputs provided for all of the surplus adjustments listed above except for stockholder dividends represent assets or liabilities whose changes are not captured in net income. Thus, their calculated changes must be included in order to calculate the overall change in surplus.

Net Deferred Income Tax provided in the question (in row N) does not appear on the balance sheet nor is it specifically discussed in the syllabus material and many

candidates did not apply it in the way intended. Multiple approaches were accepted to account for this lack of clarity. The balance sheet does contain an asset named net deferred tax asset (DTA, page 2, line 18.2) and a liability named net deferred tax liability (DTL page 3, line 7.2). It should be noted that unrealized capital gains (in row L) also do not appear on the balance sheet. However, as referenced above, the syllabus material makes it clear that certain assets are recorded at fair value including unrealized capital gains/losses.

A subtle distinction is that row N is labeled as net deferred income tax while the balance sheet is labeled deferred tax asset or deferred tax liability, excluding the word “income”. This suggests DTA and DTL include more than just income tax (e.g., capital gains tax). Many candidates thought the values provided were either a DTA or DTL from the balance sheet and examiners accepted these interpretations. Following the previous thought process, an increase in an asset should increase surplus (thus, the sign of the change should be positive). Similarly, an increase in a liability should decrease surplus (thus, the sign of the change should be negative).

Candidates who treated net deferred income tax (in row N) as a DTA or DTL and did not remove overlapping unrealized capital gains tax already accounted for in net unrealized capital gains were technically incorrect but this was not penalized. However, several candidates’ answers indicated assuming DTA or DTL excluded unrealized capital gains taxes.

In summary, many approaches were accepted for the treatment of net deferred income tax as long as it was calculated as a change in the value, not simply the 2016 value.

- Treating it as a positive or negative change
- Treated as a DTL or DTA, regardless of overlap with unrealized capital gains tax

Below is a listing of common errors, including those discussed previously:

- Common errors in calculating net income:
 - Incorrectly calculating year-over-year changes in values that come from the first three sections of the statement of income (see previous discussion).
 - Double-netting taxes from unrealized capital gains net of tax (e.g., using $(70-90)*65\%$ instead of $(70-90)$).
 - Using written premium instead of earned premium. Under statutory accounting, premium revenues are recorded when premiums are earned, not when they are written.
 - Excluding expenses or revenues that contribute to net income (e.g., other underwriting expense incurred, realized capital gains).
- Common errors in calculating surplus adjustments:
 - Excluding required surplus adjustments, calculating changes incorrectly, or using the wrong sign (see previous discussion).

- Including change in total asset value. This fails to recognize that a portion of the change in total asset value is already recognized in net income so adding changes in asset value is double counting the change in surplus. For example if a hypothetical company started business writing a single \$100 policy on 1/1/2016, given no taxes, expenses, losses or other income sources, it's 2016 net income would be \$100. Its change in surplus and assets would also be \$100. Adding the change in assets to net income would say its surplus increased \$200.
- Errors in overall approach to problem:
 - A few candidates took a different approach in solving this problem by trying to directly solve for 2016 surplus as 2016 assets minus 2016 liabilities. Although it is possible to calculate 2016 assets, not enough information was provided to directly calculate 2016 liabilities from the inputs provided.

QUESTION 11

TOTAL POINT VALUE: 2

LEARNING OBJECTIVE: C1

SAMPLE ANSWERS

Part a: 1 point

Sample 1

CY 2016 Incurred Net Loss and DCC

$$= (3000+3000+3400+3100+1400) - (3200+3500+3100+1500) = 2600$$

CY 2016 Bulk & IBNR Reserves

$$=(1300+200+100+100+0) - (1500+500+300+100) = -700$$

CY 2016 Case Incurred Net Loss and DCC

$$=2600 - (-700) = 3300$$

Sample 2

$$\text{Case Incurred} = 3000 + (3000-3200) + (3400-3500) + (3100-3100) + (1400-1500) - [(1300 + (200-1500) + (100-500) + (100-300) + (0-100))] = 3300$$

Sample 3

Case Incurred = Paid + Change(Case Reserves)

$$\text{Paid} = 2016 \text{ Cum.} - 2015 \text{ Cum.} = (1400+\dots+1500) - (1300+\dots+1400) = 11100 - 7000 = 4100$$

Case Reserves = Part 2 – Part 3 – Part 4

	2015	2016
2012	100	0
2013	700	300
2014	800	200
2015	300	400

2016

200

AY 2013 @ 2016 = 3100-2700-100 = 300

Change in Case = (0+300+...+200) – (100+...+300) = -800

Case Incurred = 4100 + (-800) = 3300

Part b: 0.5 point

Sample 1

Sum Part 3, 2016 – Sum Part 3, 2015 = 11100-7000 = 4100

Sample 2

Paid in 2016 = (1400+2700+3100+2400+1500) – (1300+2100+2200+1400) = 4100

Part c: 0.5 point

- Paid losses at equivalent maturities are increasing, but incurred losses have started decreasing. Could signal under reserving.
- There has been a drastic increase in the % Paid:
 - 2012 @ 12 mos = 20%
 - 2013 @ 12 mos = 25%
 - 2014 @ 12 mos = 32.5%
 - 2015 @ 12 mos = 44%
 - 2016 @ 12 mos = 50%They have dramatically decreased the reserves, which may be deficient
- The company seemed to under-reserve in 2012-2013 (upward incurred dev) and then over-reserve in 2014-2015 (downward incurred dev). Reserve practices are inconsistent. Are current reserves adequate?
- The company may be over reserving at first and then having negative development. They may be underpaying taxes. We can see this in Part 2 where 2015 column usually less than 2014 column and 2016 less than 2015
- 2016 CY Case Incurred < 2016 CY Paid so change in case is negative. Reserves could be deficient
- The IBNR reserves from AY 2014 are decreasing at first evaluation point. Company may underestimate the emerging claims
- Sch P Part 2 shows incurred losses in AY 12 and 13 have grown substantially since inception. This may lead to concern that based on the older available AYs losses are booked too low.
- Commercial Auto Liability is a long-tailed line. It may not make sense to have 0 bulk and IBNR reserves in 2016 for the 2012 AY. This is maybe too low.

EXAMINER'S REPORT

Candidates were expected to use Sch P, parts 2-4 to calculate CY case incurred and paid losses. Candidates were also expected to recognize patterns in the Sch P data given that might alert a regulator to a potential problem with the company's financial position.

Many candidates struggled to interpret what was meant by case incurred loss in part a. Also, some candidates struggled to connect the data given to potential regulatory concerns, either pointing out a trend in the data without the potential issue or providing the issue without a direct correlation to the data.

Part a

Candidates were expected to calculate the 2016 CY case incurred using the data given.

Common errors included:

- Calculating incurred – paid – IBNR (2-3-4) instead of just incurred – IBNR (2-4)
- Calculating just CY incurred (just 2)
- Calculating incurred + IBNR (2+4)
- Calculating incurred – paid (2-3)
- Calculating paid + IBNR (3+4)
- Calculating paid + 2016 case instead of paid + change in case
- Only using 2016 column and not subtracting 2015

Part b

Candidates were expected to calculate the 2016 CY paid using the data given.

Common errors included:

- Only using 2016 column and not subtracting 2015

Part c

Candidates were expected to connect trends in the data given to potential regulatory concerns

Common errors included:

- Recognizing the IBNR was decreasing over time but with no connection to a long-tailed line or comparing that trend across AYs
- Recognizing the reserves were potentially overstated b/c of the downward trend in incurreds but not tying to a regulatory concern
- Recognizing other trends in the data but not providing a potential concern
- Only providing a concern without tying it to the data given

QUESTION 12

TOTAL POINT VALUE: 2

LEARNING OBJECTIVE: C1

SAMPLE ANSWERS

Part a: 1 point

Sample 1

- i) No impact
- ii) Decrease – due to a write-in contra liability equal to the amount transferred
- iii) Increase (because Other Income increases)
- iv) The overall surplus increases, but it is assigned to special surplus rather than unassigned

Sample 2

- i) Unaffected
- ii) Decrease by the write-in contra liability amount
- iii) It will change by the difference of consideration paid and paid loss recovered
- iv) PHS will change by the difference of consideration paid and contra-liability

Sample 3

- iv) impact equal to impact on net income

Sample 4

- iii) increase, any gain -> “other income” -> “retro gain”

Part b: 1 point

Sample 1

- i) No effect on loss reserves
- ii) Increase in total liabilities.
- iii) No increase (or decrease) at least initially, gain amortized over time.
- iv) Whether gain or loss initially will be no change in PHS. Gain is amortized over time.

Sample 2

- i) Loss Rsvs – no effect – GAAP reserves are gross
- ii) Total Liab – a retro reins liab is created
- iii) No impact
- iv) Defers recognition of surplus/amortizes -> increase

Sample 3

- i) Not reduced, asset established for Reinsurance recoverables
- ii)
- iii) Any income/loss is listed under other income, gain deferred over contract
- iv) Surplus gain deferred over life of contract

Sample 4

- iii) no gain/loss is recognized immediately – rather expected gain loss is amortized over 10 years
- iv) no effect on PHS

EXAMINER'S REPORT

Candidates were expected to understand the accounting treatment of retroactive reinsurance contracts from the cedant's perspective under both SAP and GAAP accounting standards.

Part a

Under SAP:

- i) Candidates were expected to know that loss reserves continue to be reported gross of the retro reinsurance recoverable
- ii) Candidates were expected to know that total liabilities are reduced by the amount of retro reinsurance recoverable (due to a reported contra-liability)
- iii) Candidates were expected to know that net income is increased or decreased by the amount of any gain or loss on a retro reinsurance contract, and/or that typically a retro reinsurance contract is a gain to the cedant causing an equal increase in net income (reported as "other income")
- iv) Candidates were expected to know that any gain or loss on the contract causes an equal gain or loss to policyholder surplus (even though this surplus is designated as "special surplus")

Common mistakes included:

- Stating that loss reserves are held net of reinsurance
- Stating the liabilities are unchanged or decreased
- Stating that income would increase by the amount of the liability ceded without accounting for the premium paid for retro reinsurance.
- Stating that income would be reduced by the amount of premium paid
- Stating that income would decrease or be unchanged without explanation
- Stating that policyholder surplus is unaffected because it is "special surplus"
- Stating that the amount of net income and surplus change is the "ceding commission"

Part b

Under GAAP

- i) Candidates were expected to know that loss reserves continue to be reported gross of the retro reinsurance recoverable
- ii) Candidates were expected to know that total liabilities are increased due to establishment of a liability for deferred retro reinsurance gain

iii) Candidates were expected to know that net income is not immediately increased or decreased in the event of a gain or loss on a retro reinsurance contract, but that the gain/loss is deferred and amortized into income over the period of payments

iv) Candidates were expected to know that any gain or loss is deferred and/or gives no immediate surplus change

Common mistakes included:

- Stating that reserves are stated net of retroactive reinsurance
- Stating that total liabilities would be unchanged because a reinsurance asset would be established
- Stating that income would increase by the gain in the contract, but not mentioning that the gain is amortized over the payment period of the contract, and thus income is not immediate
- Stating that surplus would increase due to a gain, without mentioning that such an increase would not be immediate.

QUESTION 13

TOTAL POINT VALUE: 2.25

LEARNING OBJECTIVE: C1

SAMPLE ANSWERS

Part a: 0.75 point

Sample Answer:

Bond 1 = Amortized Cost = 21,000

Bond 3 = minimum (Fair Value, Amortized Cost) = 75,000

Bond 6 = minimum (Fair Value, Amortized Cost) = 8,000

Total Carrying value = 21,000 + 75,000 + 8,000 = 104,000

Part b: 1.5 points

Sample answers:

- Cash is only 1.6% of admitted assets so a regulator would be concerned about liquidity, the insurer's ability to quickly pay out claims.
- 42.9% of the uncollected premiums is not admitted and is too high, suggesting that much of this is due to the balance being overdue by over 90 days. The regulator would be concerned about credit risk, the insurer's ability to collect premium balances.
- The company has a high portion of stocks relative to bonds. Stocks can result in more volatile earnings. Most insurers' holdings are made up predominantly of bonds.
- Too large of a portion of bond investments are in low grade bonds (greater than class 2) which exposes the insurer to credit risk.
- The proportion of uncollected premiums and agents balances and deferred premiums and agents balances are high. They are not as liquid as other assets.

<ul style="list-style-type: none"> • There is a large proportion of non-admitted assets meaning they can't be liquidated quickly and could be at risk of being uncollectible.
EXAMINER'S REPORT
Candidates were expected to complete the bond carrying values on a balance sheet and use the balance sheet to evaluate any concerns on the financial health of the insurance entity.
Part a
Candidates were expected to calculate the carrying value of each bond. This meant the use the amortized cost for the bond rated 1, and the minimum of the fair value and amortized cost for bonds rated 3 & 6.
Common errors include: <ul style="list-style-type: none"> • Using the amortized cost for the bond rated 3 • Using amortized cost for the bond rated 6 • Using the actual cost for the bond rated 6.
Part b
Candidates were expected to identify and explain three concerns with the balance sheet. Common errors include: <ul style="list-style-type: none"> • Identifying a concern, but not giving an explanation on why it is concerning • Only identifying 2, 1, or no concerns • Listing the proportion of preferred to common stocks as a concern, but not the amount of total stocks as a concern • Listing that the 6 rated bond was a concern, but not the overall mix of bond ratings. • Listing amount recoverable from reinsurance. There is not enough information available, without looking at Schedule F, to determine whether the level of recoverables is problematic

QUESTION 14	
TOTAL POINT VALUE: 2.5	LEARNING OBJECTIVE: C1
SAMPLE ANSWERS	
Part a: 2 points	
<u>Sample 1</u>	
1) 900	
2) 80	
3) 0	
4) 150	
5) 20	
6) 150	
7) 1300	

8) $500+250=750$

9) $100+40=140$

10) 10

11) 80

12) 0

13) 0

14) 0

15) 980

16) 320

17) 1300

Sample 2

If not listed below, those items remain the same.

	Assets	Adjustment	gross basis
Item:	3.	-50	0
	6.	<u>+150</u>	150
		+100	

(Assume no pooling)

Liab		
8	+250	750
9	+ 40	140
12	- 30	0
13	-100	0
14	<u>- 60</u>	0
	100	

total liab: $880+100=980$

surplus = 320 ~ assets = $980+320=1300$

$1300=1200-50+\text{net amount recovered from reinsurer}$

~ asset item 6=150

Part b: 0.5 point

Sample Responses for Strength

- formulaic and easy to compare (& understand) between years and between companies
- It is formulaic, so not easy to manipulate
- provides information regarding slow paying and unauthorized reinsurers, which may present a credit risk
- Allows review of impact on surplus if all contracts were cancelled
- Retrospective, not prospective, so won't consider changes because of growth of catastrophe potential

- it shows the amounts that are in dispute w/ reinsurers. This can be indicative of a company trying to overcollect from reinsurers because they are in financial trouble

Sample Responses for Weakness

- Doesn't take into consideration the reinsurers' financial strength
- It is purely formulaic and doesn't consider management input
- Provision for reinsurance penalizes unauthorized reinsurers even though they may be more financially strong or more affordable
- The calculation of the provision for reinsurance has no statistical/actuarial basis so it could give a false sense of reinsurance collectability
- Gives false sense of accuracy due to complexity

EXAMINER'S REPORT

Candidates were expected to demonstrate an understanding of the impact of reinsurance on the statutory balance sheet, as well as strengths and weaknesses of Schedule F in monitoring solvency.

Part a

Candidates were expected to restate the given statutory balance sheet to a gross basis by identifying which of the provided items required adjustment, and by how much.

Common mistakes include:

- Adjusting surplus instead of net amount recoverable from reinsurers as a balancing item
- Providing a restated balance sheet that does not balance (no balancing item)
- Adjusting premiums and considerations instead of/in addition to unearned premiums
- Adjusting the funds held by or deposited with reinsured companies asset to 0
- Not adjusting the funds held by company under reinsurance treaties liability to 0
- Making adjustments in the wrong direction – for example subtracting 250 from losses and LAE (arriving at 250) instead of adding (to arrive at 750)

Part b

Candidates were expected to provide one strength and one weakness of using Schedule F as a solvency monitoring tool.

Common mistakes include:

- Noting a strength or weakness without supporting rationale – for example “formulaic” was a common response, which could be argued either way
- Noting the lack of qualitative information as a weakness without identifying an example (financial strength rating, management input, etc.)
- Noting that the provision for reinsurance provides an incentive for insurers to require quick reimbursement – while true, this does not relate to the use of Schedule F as a solvency monitoring tool
- Describing the general intent of Schedule F without supporting specific strengths – for example, “provides a net view of potential uncollectability in the provision for reinsurance”

QUESTION 15	
TOTAL POINT VALUE: 4	LEARNING OBJECTIVE: C2
SAMPLE ANSWERS	
Part a: 1 point	
<p> $Ceded\ UEP = (220 - 120) * 70\% = 70$ $Surplus\ Aid = 30\% \times 70 = 21$ $Surplus\ Aid/PHS = 21/40 = 52.5\%$ Greater than 15%, so unusual </p> <p> Calculations could be done in a different order. For example, the ceding percentage and ceding commission could be applied to the WP and EP separately before doing the subtraction to find the ceded UEP. </p>	
Part b: 1 point	
<p><u>Sample 1</u></p> <p> Adjusted PHS = $40 - 21 = 19$ since IRIS 4 is unusual $NWP = 220 * (1 - 70\%) = 66$ $IRIS\ 2 = 66 / (40-21) = 347\%$. Less than 300%, so usual </p> <p><u>Sample 2</u></p> <p> $NWP = 220 * (1 - 70\%) = 66$ $IRIS\ Ratio\ 2\ with\ original\ PHS = 66/40 = 1.65\%$ $Surplus\ Aid/PHS = 21/40 = 52.5\%$ Adjustment for Surplus Aid = $165\% / (1 - .525) = 347\%$ </p>	
Part c: 1.25 points	
<p> AY 2015 losses during 2016 = $(150 - 75) + (35 - 20) = 90$ AY 2015 One-Year Direct Reserve Development = $90 - 80 = 10$ AY 2015 One-Year Net Reserve Development = $10 * (1 - 70\%) = 3$ $IRIS\ 11 = 3/40 = 7.5\%$ Less than 20%, so usual </p> <p> The calculation for the One-Year Net Loss Reserve Development could have been done in a different order and the impact of the ceding commission could have been calculated earlier. </p>	
Part d: 0.75 point	

Sample 1

One-year net loss reserve development in the numerator would increase significantly as ceded loss recoveries are eliminated (or reduced) due to the insolvency.

Policyholders' surplus from prior year does not change.

Therefore, IRIS Ratio 11 would increase significantly due to the reinsurer's insolvency.

Sample 2

There would be no reinsurance recoverable, so the numerator would be 10

IRIS 11 would be $10/40=0.25$ (which shows the candidate knows to use the prior year PHS, not the adjusted PHS)

EXAMINER'S REPORT

Candidates were expected to know and be able to calculate and to interpret IRIS ratios 2, 4, and 11

Part a

Candidates were expected to calculate IRIS 4 with the given information and determine whether it resulted in an unusual value (including stating the threshold).

Common mistakes included:

- Using WP instead of UEP
- Using a quota share percentage of 30% instead of 70%
- Using a ceding commission of 70% instead of 30%
- Using 30% as the ceding amount and then using 30% ceding commission rate to the result.

Part b

Candidates were expected to calculate IRIS 2 and determine whether it resulted in an unusual value (including stating the threshold).

Common mistakes included:

- Not adjusting the PHS

Part c

Candidates were expected to calculate IRIS 11 and determine whether it resulted in an unusual value (including stating the threshold).

Common mistakes included:

- Using the adjusted PHS instead of the original
- Calculating the one-year 2015 direct reserve development incorrectly not including the paid amount in 2016 on 2015 losses.
- Using the direct reserve development instead of net.

Part d

Candidates were expected to calculate the impact on IRIS 11 if the reinsurer were to become insolvent.

Common mistakes included:

- Stating that is the insurer and not the reinsurer who became insolvent and then tried to describe the impact of the insurer's insolvency

QUESTION 16

TOTAL POINT VALUE: 2

LEARNING OBJECTIVE: C2

SAMPLE ANSWERS

Part a: 1 point

Any two of the following:

- Compare IRIS Ratio 1:
Company A: $(2200 + 1000) / 820 = 3.9$
Company B: $(6500+300) / 2400 = 2.8$.
Company A is more leveraged ($3.9 > 2.8$)
- Compare IRIS Ratio 2:
Company A: $(2200+1000-700) / 820 = 3.05$
Company B: $(6500+300-200) = 2.75$
 - Company A IRIS 2 $>$ 300% outside of range of usual values OR
 - Company A IRIS 2 $>$ Company B IRIS 2 ($3.05 > 2.75$) thus Company A is more leveraged.
- Disparity between IRIS 1 and 2 is larger for A (3.9 vs 3.05) than B, thus insurer A may be relying too much on reinsurance (higher credit risk).
- Compare Assumed Premium / Gross Written Premium. Company A has higher ratio $1000 / (2200+1000) = 31.25\%$ compared to B, $300 / (6500+300) = 4.41\%$. An insurer generally has less control over assumed business
- Compare Ceded Premium / Net Written Premium. Company A has a higher ratio $700 / 2500 = 28\%$ compared to B $200 / 6600 = 3\%$. A is more reliant on reinsurance which poses a credit risk for uncollectable reinsurance.
- Compare lines of business:
 - Company A writes property lines of business, which are prone to catastrophes OR
 - Company A writes lines that are not well diversified. HO and Fire and Allied Lines are both prone to fire risks OR
 - Company A writes personal lines insurance (HO) which has less sophisticated insureds/voter concerns

Part b: 1 point

Any two of the following:

- Compare Net UW profit/ NWP (A: 10% vs B: 6.1%) OR Net UW profit/GWP (A: 7.8% vs B: 5.9%) OR Net UW profit/Surplus (A: 30.5% vs B: 16.7%) – Company B is less profitable than Company A
- Compare line of business:
 - Company B has longer tail lines with a higher chance of
 - adverse development OR
 - Mass Torts OR
 - asbestos and environmental claims.

- Company B has Worker Compensations which is a mandatory coverage
- Compare Ceded Premium / Net Written Premium. Company B only has 3% ceded. Given this is a long tail line, there is concern regarding adequacy of reinsurance protection.
- IRIS Ratio 2 for Company B is 275% which is close to 300%. Since Company B insurers long tail lines, they should have lower ratios and more surplus due to increase reserving risk.
- For Company B, Since IRIS Ratio 1 and 2 are close (2.8 vs 2.75) indicates a lack of reinsurance protection.

EXAMINER'S REPORT

Candidates were expected to analyze financial data for two companies and describe how a regulator might interpret the results in reviewing the financial health of the companies. Candidates were able to apply a wide range of syllabus material to perform the analysis.

Part a

Candidates were expected to calculate two metrics that show Company A is in a better financial condition than Company B and to briefly describe how a regulator might interpret each result.

Common errors include:

- Listing a reason without a valid justification for regulator concern. For example, simply listing IRIS ratios without noting unusual values or whether one value was higher than the other
- Basing justification on information not provided in the question. For example, a higher ceded premium may indicate a reliance on surplus aid but no information on reinsurance commission rates nor unearned premiums for non-affiliates was provided to make this determination
- Listing a low profit or surplus value without considering the magnitude of the value in relation to other information. Profit amount for A is 250 which is lower than B (400) but profitability of A in relation to Surplus is higher than B ($250/820 = 30.5\%$ vs $400/2400 = 16.7\%$ respectively).

Part b

Candidates were expected to calculate two metrics that show Company B is in a better financial condition than Company A and to briefly describe how a regulator might interpret each result.

Common errors include:

- Listing duplicate reasons. For example, stating there should be more concern for company B because (i) these long tail lines have a higher chance of adverse development compared to the short tail lines in A and (ii) these long tail lines have a higher chance of mass torts compared to the short tail lines in A. Although the justifications are different, the reason is the same (e.g., compare the line of business).

QUESTION 17**TOTAL POINT VALUE: 2.25****LEARNING OBJECTIVE: C2****SAMPLE ANSWERS****Part a: 0.75 point**Sample 1

RBC after covariance = $R0 + (R1^2 + R2^2 + R3^2 + R4^2 + R5^2)^{0.5} = 0 + [(500,000)^2 + (1,500,000)^2 + (270,000)^2 + (9,700,000)^2 + (2,000,000)^2]^{0.5} = 10,033,090$

RBC ratio = Total Adjusted capital / ACL = $12,800,000 / (10,033,090 * 0.5) = 255\%$

Sample 2

Moving half of R3 to R4

RBC after covariance = $R0 + (R1^2 + R2^2 + R3^2 + R4^2 + R5^2)^{0.5} = 0 + [(500,000)^2 + (1,500,000)^2 + (270,000/2)^2 + (9,700,000 + 270,000/2)^2 + (2,000,000)^2]^{0.5} = 10,160,977$

RBC ratio = Total Adjusted capital / ACL = $12,800,000 / (10,160,977 * 0.5) = 252\%$

Part b: 1.5 points

RBC ratio is between 200% and 300%, so a Trend test is needed.

Combined ratio = Loss & LAE ratio + Dividend ratio + Expense ratio = $75\% + 10\% + 40\% = 125\%$.

It is >120%, which means it fails the Trend test and thus the RBC action level is the Company Action Level.

Company actions: Must submit a plan of action to insurance commissioner of domiciliary state explaining how the company intends to obtain the needed capital or to reduce its operations or risks to meet the RBC standards.

Regulator actions: None initially

EXAMINER'S REPORT

Candidates were expected to know how to calculate the RBC Ratio from the individual charges, apply the trend test, determine the action level for the insurer, and describe the actions both the company and the regulator are required to take based on that level.

Candidates had difficulties identifying the need to perform the trend test and thus determining the accurate RBC action level and subsequent required actions for both sides in part b.

Part a

Candidates were expected to calculate the RBC ratio and show how they derived it from the total RBC after covariance.

Common mistakes include:

- Forgetting to multiply the total RBC after covariance by 0.5
- Multiplying the total RBC after covariance by 2 and not 0.5
- Flipping the formula where the RBC ratio is $ACL / \text{Total Adjusted capital}$ and not the correct way of $\text{Total Adjusted capital} / ACL$
- Not showing the R0 charge in the calculation of the total RBC after covariance

Part b

Candidates were expected to determine the RBC action level by recognizing the need to perform the trend test. Based on that action level, candidates were expected to describe the actions required by the company and the regulator.

Common mistakes include:

- Not recognizing the need to perform the trend test
- Not including dividend ratio as part of the calculation of the combined ratio
- Not calculating the combined ratio
- Not identifying the RBC action level
- Not describing the actions required by either the company or the regulator
- Using the wrong percentage threshold for failing the trend test

QUESTION 18**TOTAL POINT VALUE: 1.5****LEARNING OBJECTIVE: C2****SAMPLE ANSWERS**

Part a: 0.5 point

Sample answers for advantage of RBC ratio to assess the financial health of an insurer include:

- Formulaic and easy to understand
- RBC ratio is based on the financial statement, it is verifiable and hard to manipulate
- Formulaic, hard to manipulate, easy to compare across companies
- Rules based system is easy and objective for regulators to use consistently across insurers

Sample answers for disadvantage of RBC ratio to assess financial health of an insurer include:

- Doesn't capture all important risks, such as operational or catastrophe risk.
- RBC is formulaic, so it may not fit the situation of all companies
- Industry values are considered throughout much of the calculations rather than the insurers'.

- RBC ratios only include quantitative information and ignore other risks like operational risk or cat risk.

Part b: 0.5 point

- R0 is assumed to correlate directly with the insurers risk because it covers affiliate risk whereas the other components assume independence so a covariance adjustment must be made.
- All other risks besides R0 are thought to be independent but R0: subsidiary insurers are thought to be correlated.
- R0 is the charge for subsidiaries. We would not want the RBC charge to depend on the ownership relationship within an insurance group, so the R0 sits outside the square root.
- Subsidiary risk is not thought to be independent of the risk of the holding company, so it receives no diversification benefit.
- R0 is for the RBC of affiliates. This value usually already has the covariance adjustment done when the affiliate calculates its RBC and passes it on to the holding company. As such, no reason to do covariance adjustment again.
- R0 represents RBC charges from affiliates and is assumed to be correlated with all other risk categories. RBC should not depend on company structure.

Part c: 0.5 point

One Similarity between RBC framework and IRIS framework

- Both frameworks are used as an early warning against insurers that may become insolvent
- Both frameworks are quantitative metrics
- Both lay out numeric thresholds for regulators to follow as guidelines for financial trouble warnings.
- Both are quantitative risk measures using Annual Statement data
- Both RBC and IRIS penalize an insurer for excessive growth
- One similarity is that both frameworks attempt to measure the financial solidity of an insurer.

One Difference between RBC framework and IRIS framework

- RBC is used to calculate a minimum amount of capital that an insurer should carry, and IRIS ratios do not
- RBC framework has authority to regulate/intervene businesses by its RBC model act. While IRIS framework does not have the regulatory authority.
- RBC penalizes an insurer for low grade bonds; IRIS does not.
- One difference is that the RBC does not consider the adequacy of reserves while the IRIS structure does focus on that risk.
- RBC model act authorizes that regulator can take specific action if RBC ratio falls below a certain point. If IRIS ratio is unusual, further financial analysis is needed, cannot make conclusion solely based on IRIS ratio.

- RBC is more focused on risks that affect its solvency by estimating the required capital, while IRIS looked at the financial strength of insurer including different aspects like reserve adequacy, profitability, collectability, etc.
- RBC is used to calculate a minimum amount of capital that an insurer

EXAMINER'S REPORT

The candidates were expected to demonstrate knowledge of the purpose, components, similarities and differences of RBC vs. IRIS ratios.

Part a

The candidates were expected to name an advantage and disadvantage of the RBC ratio to assess the financial health of an insurer.

A common error was to provide a response that was related to an IRIS ratio instead of RBC, such as stating that the "usual values were based experience of insurers that became insolvent".

Part b

The candidates were expected to understand the components of the RBC calculation and why the R0 component is treated differently than the other charges (R1-R5) of the RBC formula.

Common errors include:

- Stating that that R0 is completely independent of other risk charges and thus not subject to the covariance adjustment
- Stating that the risks within the square root are correlated

Part c

The candidates were expected to compare and contrast RBC and IRIS frameworks by giving one similarity and one difference.

Common errors include:

- Confusing IRIS with Solvency II and talking about minimum capital requirements under IRIS framework
- Talking about action levels for IRIS (Confusing IRIS with IFRS)
- Similarity that both measure reserve adequacy (only IRIS does this)

QUESTION 19

TOTAL POINT VALUE: 2.5

LEARNING OBJECTIVE: C3

SAMPLE ANSWERS

Part a: 1.5 points

Sample 1

1. The nominal future cash flows of liability – use loss development factors to determine cash flow payouts
2. A reduction to recognize the time value of money and an additional load to account for illiquid nature of liability – Use risk-free rate
3. A risk margin component to compensate for risk associated with liabilities – Use cost of capital approach.

Sample 2

1. Nominal cash flows – derived from implied ratio to ultimate
2. Discount rate and illiquidity – take risk-free rate (US Treasury), determine illiquidity adjustment based on analysis of corresponding asset liquidity adjustment
3. Risk Margin – Use solvency II approach to take 99.5% VaR as the required capital

Part b: 1 point

Sample 1

SAP: Goodwill is equal to purchase price less statutory surplus of the acquired company.
Goodwill is amortized up to 10 years

GAAP: Goodwill is equal to purchase price less net assets (fair value of assets – fair value of liabilities); regularly tested for impairment.

Sample 2

SAP: Cap Goodwill at up to 10% of surplus and amortized over 10 years

GAAP: Recognizes Goodwill immediately and tests periodically for impairment

EXAMINER'S REPORT

Candidates were expected to understand the three components of the fair value of an insurance liability under US GAAP accounting and propose a methodology for each. Additionally, candidates were expected to understand the treatment of goodwill under both GAAP and SAP accounting.

Part a

Candidates were expected to be able to briefly describe the three components and describe a methodology for determining each component.

Common errors include:

- List the components but not provide the methodology.
- Listing market value without any additional explanation.

Part b

Candidates were expected to describe the accounting treatment of goodwill under both GAAP and SAP standards

Common errors include:

- Reversing the SAP formula for goodwill as surplus/equity minus purchase price.
- Stating that the surplus/equity used is that of the acquiring company
- Incorrectly stating that GAAP amortizes goodwill.

QUESTION 20

TOTAL POINT VALUE: 2.5

LEARNING OBJECTIVE: C3

SAMPLE ANSWERS

Part a: 0.5 point

Sample answers include:

- US GAAP accounting is based on going-concern whereas SAP accounting is focused on solvency & liquidity concerns.
- SAP Purpose: Regulators use to determine the company's ability to pay out current liabilities and protect policyholder. GAAP Purpose is to provide information to investors, creditors and other stakeholders. Look at the company on a going-concern.
- GAAP: Accurate measurement of earnings. Used primarily by investors. SAP: conservative accounting rules for solvency regulation. Used primarily by regulators.

Part b: 2 points

Sample responses for Acquisition Cost include:

- SAP: recognized immediately. This is consistent with purpose because it assumes these costs would not be recovered if the company was to go out of business. GAAP: deferred to match the recognition of income. This is consistent with its purpose because want to see the profitability of the business as time goes on.
- GAAP amortized acquisition costs over the life of the asset, while SAP recognizes the acquisition costs immediately. For SAP, this could be done because the money has already been spent. For GAAP, we want to match timing of assets & liability to think of company as a going concern.
- SAP Treatment: charged as expense 100% at time incurred. Purpose: All cost is paid at time business acquired and funds not available should company become insolvent. GAAP Treatment: deferred acquisition cost account established to match costs as policies earn. Purpose: recognizes matching of premium costs over time.

Sample responses for Non-admitted Assets include:

- US GAAP does not have non-admitted assets as all assets are used. SAP disallows certain assets from being used in valuations because of low liquidity. These assets are called non-admitted assets.
- SAP – doesn't allow for non-admitted assets. Non-admitted assets cannot be liquidated in the event of an insolvency so it supports the solvency purpose of SAP. GAAP – non-admitted assets are recognized. They are still assets and of value to the company, so it supports the going-concern purpose of GAAP.

- SAP Treatment: excluded from assets and therefore PHS (surplus). Purpose: assets that are considered not liquid or uncollectible, and would likely not be available in case of insolvency. GAAP Treatment: no distinction of “non-admitted”. Purpose: all assets are “available” over lifetime of company.

EXAMINER’S REPORT

Candidates were expected to compare the purpose of different accounting standards (SAP and GAAP) and to describe the accounting treatment for acquisition costs and non-admitted assets

Part a

Candidates were expected to contrast the purpose of U.S. GAAP and SAP accounting.

Common errors include:

- Simply stating who used each type of accounting (e.g., investors vs. regulators).
- For GAAP, simply stating that this is for “measuring financial performance” (SAP also measures financial performance).
- For GAAP, stating that this is used for tax purposes without provide further rationale.
- For GAAP, stating that this is used for comparability to other industries without providing further rationale.

Part b

Candidates were expected to describe the treatment and the purpose for the treatment under GAAP and SAP of acquisition costs and non-admitted assets.

Common errors include:

- Providing the treatment but not explaining the purpose for the treatment.
- Stating that GAAP used DAC but not stating how costs were deferred or simply stating that costs were deferred “over time” without being more specific.
- Simply stating that the SAP treatment was “conservative” or “supported solvency” without providing a rationale as to why the conservative treatment was appropriate.

QUESTION 21

TOTAL POINT VALUE: 2.5

LEARNING OBJECTIVE: C4

SAMPLE ANSWERS

Sample 1

RTI: EP: 399 - (72-57)	=	384
20% Δ UEPR: .2 (72-57)	=	3
Paid Loss: -223	=	-223
Δ Discounted Rsvs: (79-99)	=	-20
Muni Interest: 20*.15	=	3
Dividends: 440*.2 + 440*.8*.15	=	<u>140.8</u>

287.8

Regular tax = $.35 \times 287.8 = 100.73$

AMTI = $287.8 + .75 \times [20 \times .85 + 440 \times (1 - .2 - .8 \times 15)] = 524.95$

AMT = $.2 \times 524.95 = 104.99$

Final Tax = 104.99

Sample 2

EP(tax-basis) = $399 - (72 - 57) \times .8 = 387$

Tax IL = $223 + (99 - 79) = 243$

RTI = $387 - 243 + 20 \times .15 + 440 \times (.2 + .8 \times .15) = 287.8$, RIT = $.35 \times RTI = 100.73$

AMTI = $287.8 + .75 \times (.85 \times 20 + .68 \times 440) = 524.95$, AMIT = $.2 \times AMTI = 104.99$

Income Tax = Max (RIT, AMIT) = \$104.99

Sample 3

Tax basis EP = $WP - 80\% \times \Delta \text{UEPR}$
= $399 - 80\% (72 - 47) = 387$

Tax basis IL: = paid + Δ discounted loss reserves
= $233 + (99 - 79) = 253$

Taxable Investment income = $15\% (20) + 440 \times (20\% + 15\% \times 80\%) = 143.8$

RTI = $387 - 253 + 143.8 = 277.8$

RIT = $277.8 \times 35\% = 97.23$

AMTI = $RTI + 75\% \text{ income escaping taxation} = 75\% (20 \times (85\%) + 440(80\% \times 85\%)) = 514.95$

AMIT = $20\% \times 514.95 = 102.99$

Since AMIT is higher, the 2016 income tax will equal 102.99

EXAMINER'S REPORT

The candidates were expected to know the basic elements of income tax calculation including statutory income versus taxable income and regular and alternative minimum tax. The formulas used in the calculation are found in the syllabus text.

Common errors included

- Not calculating tax-basis earned premium correctly
- Not calculating tax-basis earned losses correctly
- Adding rather than subtracting losses in the Regular Taxable Income formula

- Using 30% rather than 20% in the formula for the amount of dividends taxed for affiliated companies
- Not including the proration adjustment for 15% remaining 80% in the formula for the amount of dividends taxed
- Not performing the Alternative Minimum Tax calculation

QUESTION 22

TOTAL POINT VALUE: 4.75

LEARNING OBJECTIVE: D

SAMPLE ANSWERS

Part a: 2.25 points

Sample 1

In my opinion, the amounts carried on Exhibit A on account of the items listed.

- A. Meet the insurance law requirements of state X.
- B. Are computed in accordance w/ accepted actuarial standards and principles
- C. Make a reasonable provision of the net unpaid loss and loss adjustment expense obligations of the company under the terms of its current contracts. The Gross loss and loss adjustment expense reserves are deficient. The carried reserves on a gross basis are 600 million, which is 20 million below the low end of my reasonable estimate.

Sample 2

In my opinion, the items listed in Exhibit A:

- A. Meet the requirements and laws of state X.
- B. Are computed in accordance with accepted actuarial standards and methods
- C. Make a reasonable provision for all net unpaid loss and LAE reserves and a deficient provision for all gross unpaid loss and LAE reserves under the terms of its contracts and obligations. The minimum gross reserves I believe to be reasonable is 620.

Sample 3

[The following includes examples of the items that were considered when evaluating candidate responses]

- Reference to Exhibit A when identifying what items are opined upon
- Mentioning the reserves meet the [insurance] laws or regulations of State X.
- Mentioning the reserves are computed in accordance with [accepted] actuarial standards and principles

- Identifying and including language that net reserves are reasonable and gross reserves are deficient. In addition, identifying and including language on either the deficiency amount (\$20 [million]) or the minimum amount required (\$620 [million]).

Part b: 0.5 point

Sample 1

Provision should be Reasonable, since if the gross provision and net provision differ, Exhibit B should show the net provision. This makes sense since the net view is more realistic for the company.

Sample 2

“R” for reasonable. Exhibit B should list the net opinion.

Part c: 2 points

Sample 1

	Net			Gross		
	Low	Selected	High	Low	Selected	High
A. Actuary's Range	320		380	620		700
B. Actuary's point estimate		350			650	
C. Company Booked Estimate		340			600	
D. Difference	20	-10	-40	-20	-50	-100

Sample 2

Gross

	Low	Point	High
Booked		600	
Actuarial range	620		700
Actuarial point		650	
Diff in range	20		100
Diff in point		50	

Net

	Low	Point	High
--	-----	-------	------

Booked		340	
Actuarial range	320		380
Actuarial point		350	
Diff in range	-20		40
Diff in point		10	

Sample 3

[The following includes examples of the items that were considered when evaluating candidate responses]

- Actuary's low, point, and high estimated reserves, both gross and net
- Company's carried (point) reserves, both gross and net
- Difference between actuary's low, point, and high estimated reserves and company's carried reserves, both gross and net

EXAMINER'S REPORT

Candidates were expected to use the information provided in the question to construct the various pieces of the SAO and AOS.

Part a

Candidates were expected to write the full opinion paragraph given the scenario described in the question.

Common errors included:

- Excluding commentary on either net or gross reserves. The scope of the Statement of Actuarial Opinion includes both net and gross reserves.
- Excluding the statement that the opinion paragraph relates to the reserves listed in Exhibit A.
- Issuing a Qualified opinion because the actuary did not have an opinion on Unearned Premium Reserves for long duration contracts. The question clearly stated that UEPR on long duration contracts was not included in the scope of the opinion.
- Some candidates used incorrect terminology on the opinion type. If the company carried reserve is within the actuary's reasonable range, a "Reasonable" opinion should be issued. "Adequate" is not an accepted response by the NAIC.
- Selecting the type of opinion by comparing the company carried value to the actuary's point estimate.

Part b

Candidates were expected to select “R” or “Reasonable”, along with a brief explanation. Per opinion guidance, if the net and gross opinions differ, the net opinion should be entered into Exhibit B.

Common errors included:

- Listing both “Reasonable” and “Deficient” to represent the opinions on net and gross reserves, respectively. Only the net opinion should be entered.
- Listing “Qualified” because the opinions on net and gross reserves differ. A qualified opinion should be issued when the reserves in question cannot be reasonably estimated or when the Appointed Actuary is unable to render an opinion on those items.
- Providing the proper entry without any explanation.

Part c

Candidates were expected to construct a table to include in the Actuarial Opinion Summary.

Common errors included:

- Only including the difference between the actuary’s point estimate and the company carried reserve. The AOS should include the differences between the company carried estimates and each of the actuary’s estimates (low, point, and high)
- Only including the values on net reserves.

QUESTION 23	
TOTAL POINT VALUE: 1.75	LEARNING OBJECTIVE: D
SAMPLE ANSWERS	
Part a: 0.25 point	
<ul style="list-style-type: none"> • SCOPE • SCOPE Paragraph • RELEVANT COMMENTS • RELEVANT COMMENTS – Intercompany Pooling • RELEVANT COMMENTS – Section on Pooling • RELEVANT COMMENTS – Other Disclosures • COMMENTS/RELEVANT COMMENTS SECTION 	
Part b: 1 point	
Error #1	

Error: Didn't identify lead insurer in pooling agreement.

Possible Correction: "Company A participates as the lead company in the pooling arrangement"

Possible Correction: The paragraph should include a statement indicating that Company A is the lead company.

Error #2

Error: Didn't list the states in which the participants are domiciled

Possible Correction: "Company A, Company B, and Company C are all domiciled in State X"

Possible Correction:

Company A, State X, 80%

Company B, State X, 20%

Company C, State X, 0%

Possible Correction: The paragraph should include a statement that each company in state X. This could also be included in the listing of each company and their pooling percentage rather than in the paragraph.

Correction for Both Errors Combined:

	Pooling %		Domiciliary State
Company A, Lead,	80%	,	X
Company B,		, 20%	, X
Company C,		, 0%	, X

Part c: 0.5 point

Sample Answer #1:

In an intercompany pooling arrangement, there is risk pooling rather than risk sharing. The premiums and losses of each member are all ceded to the lead member of the arrangement who then ceded premiums and losses from the total pool back to each participant based on its respective pooling percentages.

Sample Answer #2:

The companies each write own business and then ceded all to the lead company. The lead company then cedes back a portion to participating companies based on participation %.

Sample Answer #3:

Premiums and Losses are all ceded to the lead company, and then retroceded to the participant companies based on their pooling %

Sample Answer #4:

An intercompany pooling arrangement is when all of the pool members cede all business to the lead member who retrocedes a portion back based on fixed percentages.

Sample Answer #5:

Intercompany pooling is where subsidiary companies pool the losses/premiums together and then redistribute them based on stated percentages.

EXAMINER'S REPORT

Candidates were expected to understand the components of the SAO and identify what sections information is usually in and understand how intercompany pooling works and is displayed in the SAO. Note that this question tested knowledge on intercompany pooling, which is a separate and distinct concept from voluntary/involuntary pools.

Part a

Candidates were expected to understand the components of the SAO to identify what sections information is usually in.

Common mistakes included identifying a wrong section such as Opinion, Identification, Notes, and Exhibit B (where voluntary/involuntary pools are disclosed).

Part b

Candidates were expected to understand the disclosures are needed in the paragraph on intercompany pooling and be able to identify and correct errors.

Common mistakes included:

- Stating the error, but not providing the corrected wording.
- Stating it is an error that Company C's Pooling Percentage is zero. This is not an error and is an acceptable participation % for a company part of an intercompany pooling arrangement.
- Stating it was an error to state the Reserve items identified in Exhibit A should be Exhibit B. Exhibit A is correct as worded in the question.

- Stating there is a need to identify the appointed actuary. While this is required in the SAO, it is not included in the section on intercompany pooling.
- Discussing disclosures related to voluntary/involuntary pools and associations. Intercompany pooling is a separate disclosure from the voluntary/involuntary pools and associations.

Part c

Candidates were expected to understand and describe the concept of intercompany pooling.

Common mistakes included:

- Not mentioning both premium and loss are shared in intercompany pooling, or using a general term like business, risk, or exposure.
- Not mentioning business being ceded to the lead.
- Not mentioning predetermined/fixed participation percentages for allocation back to companies.
- Description is not distinct from the concept of voluntary/involuntary pools & associations
- Describing the purpose of intercompany pools.
- Defining the concept of reinsurance (as opposed to intercompany pooling)

QUESTION 24

TOTAL POINT VALUE: 3

LEARNING OBJECTIVE: D

SAMPLE ANSWERS

Part a: 1 point

Sample Responses for the amount of the reserves covered by another's analyses or opinions in comparison to the total reserves subject to the actuary's opinion (ASOP 36 3.7.2a)

- How relevant is the analysis to the goal the appointed actuary tries to achieve
- How much (what proportion) is the amount of reserves covered by the analysis compared to the total reserves being opined on?
- The materiality of the analysis. How much would it impact the actuary's decision?
- Whether amounts included in analysis are material?
- The amount relied on that actuary relative to total of reserve
- Materiality of proportion to overall reserves
- Materiality of reserves under the analysis

Sample Responses for the nature of the exposure and coverage (ASOP 36 3.7.2b)

- The type of business the other actuary is opining on
- The nature of the line of business
- Is the analysis done on a LOB for which the appointed actuary has no experience
- Nature of exposures and losses other is analyzing
- Nature of the business
- Reserves being opined on (type, line)

- LOB and/or segment of the business analyzed
- Should consider other person's expertise on the subject matter

Sample Responses for the way in which reasonably likely variations in estimates covered by another's analyses or opinions may affect the actuary's opinion on the total reserves subject to the actuary's opinion (ASOP 36 3.7.2c)

- To what extent would the variability and uncertainty in these reserves covered by the analysis impact the opinion given on the company's reserves
- Would a different result change opinion
- The way that uncertainty of other's estimates impact the appointed actuary
- How deviations in the analysis would impact the reserves
- How would uncertainties in the analysis potentially impact the actuary's decision

Sample Responses for the credentials of the individual(s) that prepared the analyses or opinions (ASOP 36 3.7.2.d)

- The credential of the individual
- Credentials and qualifications of the individual
- Other person's credentials and experience with regard to topic of analysis
- Credentials of the other actuary; prior experience qualifications of other individual
- Qualification of individual; Expertise of other actuary performing a separate piece of the analysis
- Whether other actuary is qualified
- The individual's qualifications

Sample Response for Intended purpose of analysis (ASOP 36 3.7.2)

- What was the intended purpose of analysis
- The purpose of the analysis. Is it internal or external?
- The scope and purpose of the analysis
- Purpose of analysis. Does it fit my purpose?

Part b: 1 point

Sample Responses for Scenario i

- None it's not so material compared to total reserves
- Do not need to disclose as the 10 million reserve is only 0.5% of total reserves, so it is not material enough
- No disclosures needed, the \$10M reserves only 0.005 (0.5%) of the already carried reserves, these seem immaterial
- No disclosure required since represents 0.5% of reserves, is not material

Sample Responses for Scenario ii

- Yes required, 30% of reserves so material, must disclose
- This is material (30% of reserves) and therefore the disclosure is required
- Required as the estimate is material and the methodology is sound
- Yes, this is a large portion of reserves

Part c: 1 point

Sample Responses for Scenario i

- No additional disclosures
- No more additional disclosures
- It is immaterial so no disclosures required
- None

Sample Responses for Scenario ii (name/affiliation)

- Name, affiliation of the specialist
- The Claims Specialist who calculated the reserve
- Should disclose the name and credentials of the claims specialist
- Persons name

Sample Responses for Scenario ii (extent of review)

- The AA's extent of the review
- The fact that the Appointed Actuary confirmed the methods were reasonable
- She reviewed the analysis and methods and felt it was reasonable
- Actuary review analysis, extent of review, confirm reasonable

Sample Responses for Scenario ii (type of analysis performed by non-actuary)

- Disclosure of methodology used
- Type of Analysis: claim litigation specialist's model to estimate reserves of liability lines
- Methods used to come up with estimate
- Description of the claims litigation specialist's methods and assumptions

EXAMINER'S REPORT

This question tested a candidate's knowledge of relying on another's unpaid claim estimate analysis or opinion in the course of conducting a reserve analyses.

Part a

Candidates were expected to list four considerations in determining whether or not to make use of another's analysis or opinion.

Common mistakes include:

- Providing a discussion of the Appointed Actuary's qualifications
- Providing two similar responses, such as
 - "Qualification of individual" and "Expertise of other actuary performing a separate piece of the analysis"
 - "Magnitude of the items in the other actuary's analysis to the total" and "Materiality of the items covered by the other actuary"

Part b

For both scenarios, candidates were expected to determine the materiality of the reserves and whether or not disclosures were required in the Statement of Actuarial Opinion.

For scenario i, a common error was to state that disclosures were required because the Appointed Actuary did not review the analysis. For scenario ii, a common error was to state that disclosures were not required because the Actuary reviewed the analysis and found it reasonable.

Part c

For both scenarios, candidates were expected to list Statement of Actuarial Opinion disclosures required when relying on another's unpaid claim estimate analysis or opinion in the course of conducting a reserve analyses.

Common errors including listing general disclosures not relating to relying on another's unpaid claim estimate analysis or opinion in the course of conducting a reserve analyses (such as the name of the Appointed Actuary). Another common error was to list disclosures for Scenario i when none were required. A common error for Scenario ii include omitting description of the type of analysis performed by the claims specialist

QUESTION: 25

TOTAL POINT VALUE: 2.25

LEARNING OBJECTIVE: D

SAMPLE ANSWERS

Part a: 1 point

Any four of the following:

- Is amount potentially uncollectible material/immaterial OR similar, such as:
 - amount or reinsurance is material
 - amount in dispute
 - recoverable in dispute
 - total uncollectible recoveries
- Is reinsurance concentrated OR similar, such as:
 - small number of reinsurers
 - heavy concentration
 - uncollectible amounts concentrated
 - reinsurer has exposure to catastrophic event
- Is reinsurer financially sound OR similar, such as:
 - reinsurer's financial strength rating
 - reinsurer's financially troubled
 - reinsurer insolvent
 - reinsurer unable to pay due to event

- Collateral or other reserves held (or not) to provide offset to uncollectibility issues, such as:
 - Secured/unsecured
 - Letters of credit
- Public information on collectibility
- Reliance on work of others

Note: answers must be sufficiently different. Only one answer from each section (Amount of uncollectible, Is reinsurance concentrated) was accepted

Part b: 0.5 point

Any two of the following:

- Default risk OR similar words meaning “unable to pay”, such as:
 - Insolvency
 - Bankrupt
 - Liquidation
 - Receivership
 - Financially troubled
 - Belly up
- Dispute risk OR similar words meaning “unwilling to pay”, such as:
 - Disputed claims
 - Disagreement with reinsurer
 - In argument about contract terms
 - NOTE: “slow paying” alone was viewed as an insufficient response
- Aggressive estimates of ceded loss potential or aggressive billing of the reinsurer by the cedant or similar words.

Note: answers must be sufficiently different. Only one answer from each section (Default risk, dispute risk) was accepted

Part c: 0.75 point

Any three of the following:

1. Get input from insurer’s management
2. Examine financial strength ratings OR financial strength from rating agency
 - Answers reflecting the actuary obtaining a view of financial strength from these agencies were given credit.
 - Answers that described assessing financial strength – especially those that suggested the actuary would review the reinsurer’s statements herself were not given credit.
3. Examine Schedule F for late payments or regulatory action – including phrases such as:

- Reinsurer payment history
- overdue amounts
- provision for reinsurance
- amounts in dispute
- NOTES:
 - i. Notes to the Financial Statement on Reinsurance was considered a reasonable substitute for “Schedule F”.
 - ii. Answers that clearly used Schedule F terms such as “Provision for Reinsurance” were considered to be references to these items in Schedule F

Note: answers must be sufficiently different. Only one answer from each section (Examine financial strength, examine schedule F) was accepted

EXAMINER’S REPORT

Candidates were expected to demonstrate knowledge of the responsibilities of the actuary as defined by standards of practice, regulators, and insurance laws for financial reporting.

Part a

Candidates were expected to list four potential subjects for the reinsurance collectibility disclosure in the Relevant Comments section of the SAO.

Common errors include:

- Giving the same issue twice, using different wording
- Providing characteristics of related reinsurance topics that would not normally be included in the RELEVANT COMMENTS section. Examples include Schedule F items (“authorized or not”, “where domiciled”).
- Describing ‘how’ the review might be performed rather than what would be listed in the RELEVANT COMMENTS section. Examples include items like (“talked to claim staff”, “calculate the Schedule F provision”)

Part b

Candidates were expected to list the two main reasons that reinsurance could be considered uncollectible.

A common error was noting that the reinsurance was ‘slow to pay’ without mentioning that the amounts were in “dispute”. This was viewed as an incomplete answer. ‘Slow to pay’ is relevant to how Schedule F estimates values that MAY be in dispute. The Statement language is about amounts viewed by the actuary to be “unwilling to be paid” based on knowledge of the relationship between the insurer and reinsurer.

Part c

Candidates were expected to list three ways and actuary might assess reinsurance collectibility. Correct responses described resources easily available to the actuary, such

as company management, Schedule F, Notes to Financials, and ratings from rating agencies.

A common error was listing other incorrect sources, such as talking to the reinsurer's claim staff, interviewing regulators, or reviewing the reinsurer's Schedule F, etc.

QUESTION 26	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE: D
SAMPLE ANSWERS	
Part a: 1 point	
<u>Sample 1 Proposals</u>	
<ul style="list-style-type: none"> • 1% of surplus = \$6M • 5% of surplus = \$30M • 10% of surplus = \$60M • 20% of surplus = \$120M 	
<u>Sample 2 Proposals</u>	
<ul style="list-style-type: none"> • 1% of reserves = \$4.5M • 5% of reserves = \$22.5M • 10% of reserves = \$45M • 20% of reserves = \$90M 	
<u>Sample Justifications</u>	
<ul style="list-style-type: none"> • Maintain adequate surplus to cover risks and maintain solvency • Avoid regulatory concerns around solvency • Avoid triggering RBC action level • Could have an impact on management/regulator/investor's decision-making • Could cause a change to the opinion • Avoid triggering an unusual IRIS ratio 	
Part b: 0.25 point	
<ul style="list-style-type: none"> • No communication needed, since a \$10M error is not material. (Accurate for candidates using 5% or more of surplus or reserves in Part a) • The error must be communicated, since \$10M is above the materiality standards in Part a. (Accurate for candidates using 1% of surplus = \$6M or 1% of reserves = \$4.5M in Part a) • No communication needed, since the actuarial opinion would not change, as the booked reserve is still within the new range of reasonable estimates 	
Part c: 0.5 point	
<ul style="list-style-type: none"> • % of surplus (if not used in Part a) • % of reserves (if not used in Part a) • Amount that would trigger the next RBC action level 	

- Amount that would cause a change in financial rating
- Amount that would cause surplus to fall below minimum capital requirements
- Amount that would cause an unusual IRIS ratio
- % of net income
- Multiples of net retained risk

Part d: 0.5 point

- Relevant Comments
- Exhibit B
- Disclosures was also an accepted response in lieu of Exhibit B

EXAMINER'S REPORT

Candidates were expected to know various materiality standard bases, determine whether an error is material and should be communicated, and know the sections of the Statement of Actuarial Opinion where the materiality standard is disclosed.

Part a

Candidates were expected to propose two materiality standards based on the data provided in the question and justify each standard. The justification needed to address the implications of the chosen materiality standard.

Common mistakes included:

- Not providing a justification for the materiality standard.
- Not addressing the implications of the materiality standard in the justification. For example, if 10% of surplus was chosen as the materiality standard, simply saying that 10% is a "significant portion of surplus" was not sufficient. The candidate needed to make a connection to the implications of the standard, such as a solvency, financial concerns, regulatory concerns, a change to the opinion, etc.
- Proposing materiality standards of \$25M or \$50M, based on the rationale that they are the differences between the carried reserve and the endpoints of the actuarial range of reasonable reserves. The materiality standard should be determined independently from the actuary's range of reasonable reserves. When deciding whether RMAD exists, the Appointed Actuary should consider the materiality standard in relation to the range of reasonable estimates and the carried reserves. The difference is not a materiality standard in and of itself.

Part b

Candidates were expected to determine whether the error should be communicated based on whether it was material or whether the actuarial opinion would change.

Common errors included:

- Not answering the question on whether the error should be communicated
- Stating that \$10M is a significant or material amount when the materiality proposals in Part a were above \$10M
- Stating that the error needs to be communicated even though it is not material

Part c

Candidates were expected to know additional materiality standards besides those used for Part a.

Common errors included:

- % of premium (written or earned), since the materiality standard is used for purposes of addressing the risk of material adverse deviation in the loss reserve opinion
- Using a different % of the same materiality standard base as Part a (such as 5% of surplus or 5% of reserves when 10% was used in Part a), since the question asked to provide different bases than Part a
- Amount an actuary judgmentally selects
- Providing fewer than 2 items

Part d

Candidates were expected to list the two locations in the Statement of Actuarial Opinion where the materiality standard is disclosed.

Common mistakes included:

- Opinion
- Scope
- Exhibit A
- AOS

QUESTION 27

TOTAL POINT VALUE: 3

LEARNING OBJECTIVE: E

SAMPLE ANSWERS

Part a: 1 point

Target Taxable Income = Premium Received – Reserves Commuted * Discount Factor
 $-37,500 = \text{Premium Received} - 300,000 * 0.875$
 Premium Received = 225,000

Part b: 1.5 points

$250 * (0.75 / 0.25) = 750$ $350 * (0.75 / 0.25) = 1,050$ $450 * (0.75 / 0.25) - \text{Premium}$
 $(250) = 1,100$
 $250 * (0.75 / 0.25) = 750$ $350 * (0.75 / 0.25) = 1,050$
 $250 * (0.75 / 0.25) = 750$

$1,500 + 750 = 2,250$ $1,200 + 1,050 = 2,250$ $900 + \text{Reserves } (300) + 1,100 =$
 $2,300$
 $1,500 + 750 = 2,250$ $1,200 + 1,050 = 2,250$
 $1,500 + 750 = 2,250$

Part c: 0.5 point

Any two of the following:

- Commutation provides cash infusion

- Primary Insurer may have different opinion about loss development / final value of reserves
- Older accident year is more stable and therefore primary willing to retain risk
- Legal / Regulator change in 2015 that makes it desirable to commute just 2014
- Ended a TPA arrangement in 2014 and brought claims in house in 2015
- Reduce credit risk
- Maintain the relationship with the reinsurer
- Reduce administrative costs
- Commute only 1 policy year as a trial run for the possibility of future years
- There are disputes on claims specific to the 1 policy year
- Exit certain markets, territories (not lines of business)
- Facilitates a novation of that policy year
- Lower the provision for reinsurance
- Reduce collateral required

EXAMINER'S REPORT

Candidates were expected to be able to determine the impact of reinsurance and a commutation on paid and ultimate loss triangles as well as taxable income. Candidates were also expected to demonstrate knowledge regarding the benefits of a commutation.

Part a

The candidates were expected to understand how to calculate taxable income and the impact of a commutation on the premium received and net reserves.

Common mistakes were solving for the incorrect taxable income (such as solving for zero instead of -37,500) and miscalculating the reserves that were commuted (such as forgetting to apply the quota share to convert net reserves to ceded reserves).

Part b

The candidates were expected to understand the impacts of reinsurance and commutation on the loss triangles.

A common mistake was not properly reflecting the impact of the commutation at 36 months for Policy year 2014, such as by adding the wrong commuted reserve amount to the net ultimate triangles or not reflecting the commutation price in the paid triangle.

Part c

The candidates were expected to understand benefits of a commutation from the insurer's perspective, particularly for a single policy year.

Common errors included listing reasons that would not apply when there is only one line of business and still a relationship with the reinsurer on the other policy years, such as:

- Exiting from a particular line of business

- Eliminating Credit Risk
- Ending a relationship with the reinsurer

QUESTION 28	
TOTAL POINT VALUE: 1.75	LEARNING OBJECTIVE: E
SAMPLE ANSWERS	
Part a: 0.75 point	
<p>Prospective reinsurance accounting</p> <p>And any two of the following:</p> <ul style="list-style-type: none"> • Covers future insurable events • It has timing and underwriting risk • Signed within a reasonable timeframe 	
Part b: 0.75 point	
<p>Either of the following:</p> <ul style="list-style-type: none"> • Neither • Deposit accounting <p>And both of the following:</p> <ul style="list-style-type: none"> • Contract's payment schedule violates timing risk • Contract lacks risk of significant loss 	
Part c: 0.25 point	
<p>Any of the following:</p> <ul style="list-style-type: none"> • Write-in liability • Funds deposited by reinsureds • As a payable deposit • Unpaid loss and LAE as liability, not reserves 	
EXAMINER'S REPORT	
<p>Candidates were expected to apply the criteria from NAIC SSAP 62R to determine the accounting treatment for sample reinsurance contracts and demonstrate how reinsurance contracts are accounted for in the balance sheet of the reinsurer.</p>	
Part a	
<p>Candidates were expected to determine the type of accounting treatment required for a sample contract and provide their rationale.</p>	

Common mistakes include:

- Determining the contract should be accounted for using retroactive reinsurance accounting
- Determining the contract should be accounted for using both prospective and retroactive reinsurance accounting.

Part b

Candidates were expected to determine the type of accounting treatment required for a sample contract and provide their rationale.

Common mistakes include:

- Stating the contract's payment schedule violated timing risk required for reinsurance accounting **OR** the contract lacked risk of significant loss, but not both.

Part c

Candidates were expected to demonstrate how reinsurance contracts are accounted for in the balance sheet of the reinsurer.

Common mistakes included:

- Answering from the perspective of the ceding company
- Not providing a specific liability account the amount would be included in
- Stating what would happen to the loss and loss adjustment reserve accounts, but not stating where the reinsurance contract would be included.