

Exam 6 U.S.



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Exam 6-United States

Regulation and Financial Reporting (Nation Specific)

May 5, 2016

4 HOURS

INSTRUCTIONS TO CANDIDATES

1. This 81.25 point examination consists of 27 problem and essay questions.
2. For the problem and essay questions, the number of points for each full question and part of a question is indicated at the beginning of the question or part. Answer these questions on the lined sheets provided in your Examination Envelope. Use dark pencil or ink. Do not use multiple colors or correction fluid/tape.
 - Write your Candidate ID number and the examination number, 6US, at the top of each answer sheet. For your Candidate ID number, four boxes are provided corresponding to one box for each digit in your Candidate ID number. If your Candidate ID number is fewer than 4 digits, begin in the first box and do not include leading zeroes. Your name, or any other identifying mark, must not appear.
 - Do not answer more than one question on a single sheet of paper. Write only on the front lined side of the paper – **DO NOT WRITE ON THE BACK OF THE PAPER**. Be careful to give the number of the question you are answering on each sheet. If your response cannot be confined to one page, please use additional sheets of paper as necessary. Clearly mark the question number on each page of the response in addition to using a label such as “Page 1 of 2” on the first sheet of paper and then “Page 2 of 2” on the second sheet of paper.
 - The answer should be concise and confined to the question as posed. When a specified number of items are requested, do not offer more items than requested. For example, if you are requested to provide three items, only the first three responses will be graded.
 - In order to receive full credit or to maximize partial credit on mathematical and computational questions, you must clearly outline your approach in either verbal or mathematical form, showing calculations where necessary. Also, you must clearly specify any additional assumptions you have made to answer the question.

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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 May 23, 2016.

END OF INSTRUCTIONS

EXAM 6 – UNITED STATES, SPRING 2016

1. (2.5 points)

a. (1 point)

Assume that credit scores are significantly different between genders, and as a result, a law has been proposed to ban the use of credit scoring in personal lines insurance ratemaking.

Describe one argument in favor of and one argument against this proposed law.

b. (1.5 point)

Assume that personal lines insureds with better credit scores counterintuitively have a higher claim frequency.

i. (0.5 point) Propose an explanation for the observed frequency difference.

ii. (1 point) In the context of these results, describe one argument in favor of and one argument against the use of credit scores in personal lines insurance.

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EXAM 6 – UNITED STATES, SPRING 2016

2. (3.75 points)

a. (2.25 points)

For each of the following lines of insurance, briefly describe the degree of rate regulatory scrutiny and provide two reasons in support of that degree of scrutiny.

- Surplus Lines
- Ocean Marine
- Workers Compensation

b. (1.5 points)

For each of the following situations, provide three reasons in support of the regulator's decision.

- The regulator decides not to review rates or forms for property catastrophe coverage for large commercial risks.
- The regulator decides to heavily scrutinize the rates and forms for private passenger liability coverage.

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EXAM 6 – UNITED STATES, SPRING 2016

3. (3.75 points)

a. (1.5 points)

Identify and briefly describe three reasons for regulatory failure.

b. (1.5 points)

Identify and briefly describe three checks and balances in the current U.S. insurance regulatory system.

c. (0.75 point)

Briefly describe how each item identified in part b. above can successfully address one of the issues noted in part a. above.

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EXAM 6 – UNITED STATES, SPRING 2016

4. (3 points)

A hospital is considering purchasing its liability insurance coverage either from a private insurer or by joining a risk retention group (RRG).

a. (1.5 points)

Describe three advantages of purchasing insurance coverage from a private insurer as opposed to an RRG.

b. (1.5 points)

Describe three advantages of purchasing insurance coverage from an RRG as opposed to a private insurer.

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EXAM 6 – UNITED STATES, SPRING 2016

5. (2.25 points)

A common food additive, in use since the late 1990s, is found to cause stomach cancer and other gastrointestinal conditions after 10 to 20 years of repeated exposure.

a. (1 point)

Describe two challenges associated with the litigation process that could hinder the indemnification of injured parties.

b. (0.75 point)

Identify and describe a program that could be implemented at the federal level to indemnify injured parties.

c. (0.5 point)

Describe one legislative or judicial reform that states could implement to more effectively indemnify injured parties.

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EXAM 6 – UNITED STATES, SPRING 2016

6. (2.25 points)

a. (0.5 point)

Identify two exceptions to the principle of state-based insurance regulation outlined in the McCarran-Ferguson Act.

b. (0.5 point)

Briefly describe two characteristics of the business of insurance, as recognized by the courts.

c. (0.25 point)

Identify the legislation that established the Federal Insurance Office.

d. (1 point)

Briefly describe the Federal Insurance Office with respect to the following:

- How it is structured
- Three of its responsibilities

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EXAM 6 – UNITED STATES, SPRING 2016

7. (3 points)

a. (0.5 point)

Briefly describe two reasons why terrorism risk might be considered uninsurable by the private insurance market.

b. (1.5 points)

Identify three goals of the Terrorism Risk Insurance Program and briefly describe how it accomplishes each of its goals.

c. (1 point)

Describe one argument in favor of and one argument against terminating the Terrorism Risk Insurance Program.

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EXAM 6 – UNITED STATES, SPRING 2016

8. (2.5 points)

a. (1 point)

Describe how drivers are assigned to insurers for each of the following residual market automobile insurance programs:

- Reinsurance facilities (RFs)
- Joint Underwriting Associations (JUAs)

b. (1 point)

Describe how profit (or loss) is allocated for each program listed in part a. above.

c. (0.5 point)

Describe why residual market automobile insurance programs are necessary.

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EXAM 6 – UNITED STATES, SPRING 2016

9. (2.25 points)

a. (0.75 point)

Briefly describe three reasons why flood risk may be uninsurable in the private market.

b. (0.5 point)

Other than providing flood insurance, briefly describe two functions of the National Flood Insurance Program (NFIP).

c. (1 point)

Other than eliminating insurance premium subsidies, briefly describe two provisions of the Biggert-Waters Flood Insurance Reform Act of 2012 and briefly describe each provision's purpose.

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EXAM 6 – UNITED STATES, SPRING 2016

10. (2.5 points)

Suppose that private passenger auto and homeowners insurance have been highly profitable in a given state. The state's legislature interprets this profitability as a sign that rates are excessive, and therefore drafts legislation to enact competitive state funds for these lines of business.

a. (1.5 points)

Fully describe two arguments in favor of this legislation.

b. (1 point)

Describe two arguments against this legislation.

EXAM 6 – UNITED STATES, SPRING 2016

11. (2.75 points)

An insurance company writes multiple lines of business, including homeowners. Given the following information from the company's Insurance Expense Exhibits and Annual Statements (all figures are in thousands of dollars):

	2014 Current Year	2013 Prior Year
Line of Business: Homeowners		
Net Loss Reserve	2,500	2,200
Net Loss Adjustment Expense Reserves	300	350
Net Unearned Premium Reserve	5,000	4,500
Ceded Reinsurance Premiums Payable	35	15
Prepaid Expense Ratio	30%	-
Agents' Balances	3,600	4,200

- The 2014 Net Investment Gain Ratio (applicable to all lines of business) is 5%.

a. (2 points)

Calculate the investment gain attributable to insurance transactions for homeowners.

b. (0.75 point)

Briefly describe how prepaid expenses are treated differently between the calculation of funds attributable to insurance transactions and the calculation of total investable funds, and describe the rationale.

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EXAM 6 – UNITED STATES, SPRING 2016

12. (4 points)

The following are excerpts from an insurance company's 2013 Schedule P (all figures are in thousands of dollars):

Part 2I – Special Property
Incurred Net Losses and Defense and Cost Containment Expenses
(DCC) Reported at Year End

Accident Year	2011	2012	2013
Prior	39,790	37,900	32,730
2012	XXX	34,000	31,620
2013	XXX	XXX	36,790

Part 3I – Special Property
Cumulative Paid Net Losses and DCC Reported at Year End

Accident Year	2011	2012	2013
Prior	000	19,670	24,720
2012	XXX	16,680	25,830
2013	XXX	XXX	18,660

Part 4I – Special Property
Bulk and IBNR Reserves on Net Losses and DCC Reported at Year
End

Accident Year	2011	2012	2013
Prior	11,060	5,730	2,350
2012	XXX	5,670	960
2013	XXX	XXX	3,650

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EXAM 6 – UNITED STATES, SPRING 2016

12. (continued)

The following 2014 paid and case reserve information is provided for Special Property (all figures are in thousands of dollars):

Accident <u>Year</u>	Calendar Year 2014 Net Paid <u>Loss & DCC</u>	Net Bulk & IBNR on Loss & DCC <u>as of 12/31/14</u>	Net Case Outstanding Reserves for Loss & DCC <u>as of 12/31/14</u>
Prior	3,210	2,930	5,430
2013	11,700	1,830	5,560
2014	23,550	6,720	16,200

Construct the Schedule P - Parts 2I and 3I that would appear in the company's 2014 Annual Statement.

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EXAM 6 – UNITED STATES, SPRING 2016

13. (2 points)

A regulation has been proposed that would require insurance companies to hold total IBNR reserves using a schedule of IBNR reserves per open claim based on the age of a cohort of claims:

Proposed IBNR Reserve Schedule	
Age of Cohort of Claims	Required IBNR Reserves (per open claim)
12 months	\$12,000
24 months	\$10,000
36 months	\$8,000
48 months	\$6,000
60 months	\$4,000

Given the following for an insurance company:

	2014 Schedule P (Amounts as of December 31, 2014)				
	Part 2	Part 3	Part 4	Part 5, Section 1	Part 5, Section 2
Accident Year	Incurred Net Losses and Defense and Cost Containment Expenses Reported (000)	Cumulative Paid Net Losses and Defense and Cost Containment Expenses Reported (000)	Bulk and IBNR Reserves on Net Losses and Defense and Cost Containment Expenses Reported (000)	Cumulative Number of Claims Closed with Loss Payment Direct and Assumed at Year-End	Number of Claims Outstanding Direct and Assumed at Year-End
2010	\$61,000	\$32,000	\$4,000	3,800	400
2011	\$80,000	\$54,000	\$12,000	4,000	1,400
2012	\$107,000	\$80,000	\$20,000	10,000	300
2013	\$126,000	\$72,000	\$28,000	7,700	1,800
2014	\$109,000	\$48,000	\$34,000	7,000	2,500

- The number of IBNR claim counts for accident year 2011 is assumed to be zero.

a. (1 point)

Calculate the company's average unpaid claim severity for accident year 2011 as of December 31, 2014, assuming the regulation was in effect at year-end 2014.

b. (1 point)

Describe two potential disadvantages of implementing this reform to users of an insurer's financial statements.

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EXAM 6 – UNITED STATES, SPRING 2016

14. (4.25 points)

An insurance company has prospective reinsurance contracts with only Reinsurers A and B. As of December 31, 2014, the following information is reported:

<u>Item#</u>	<u>Item</u>	<u>Unauthorized Reinsurer A</u>	<u>Authorized Reinsurer B</u>
1	Total Recoverable on Paid Losses and Paid LAE Excluding Amounts in Dispute	\$400,000	\$650,000
2	Total Reinsurance Recoverable Including Amounts in Dispute	700,000	750,000
3	Amounts in Dispute Included in Item #2	250,000	60,000
4	Funds Held By Company Under Reinsurance Treaties	50,000	100,000
5	Letters of Credit	200,000	400,000
6	Ceded Balances Payable	150,000	30,000
7	Miscellaneous Balances Payable	5,000	0
8	Reinsurance Recoverable on Paid Losses & LAE Over 90 Days Past Due Excluding Amounts in Dispute	300,000	145,000
9	Amount in Dispute Excluded from Item #8	0	50,000
10	Amounts Received Prior 90 Days	10,000	40,000

a. (3.75 points)

Calculate the insurer's 2014 Schedule F provision for reinsurance.

b. (0.5 point)

In 2012, the NAIC introduced a new category of reinsurers—certified reinsurers—to be used in the calculation of the Schedule F provision for reinsurance. Briefly describe a benefit that this new “certified” category provides to the reporting entity and a benefit that it provides to reinsurers.

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EXAM 6 – UNITED STATES, SPRING 2016

15. (5.5 points)

Using only the following year-end 2014 information for an insurance company that started operations in 2013:

Balances as of year-end 2014

Agents' balances less than 90 days past due	14,000	Agents' balances more than 90 days past due	1,800
NAIC Class 2 bond, amortized cost	700,000	NAIC Class 2 bond, fair value	650,000
NAIC Class 4 bond, amortized cost	275,000	NAIC Class 4 bond, fair value	225,000
Cash and cash equivalents	534,000	Deferred acquisition costs	32,500
Net unearned premium	575,000	High-deductible unpaid losses below the deductible	125,000
Admitted deferred tax asset	27,500	Deferred tax liability	12,500

Information from 2014 Schedule P – Part 1 – Summary

		Years in Which Premiums Were Earned and Losses Were Incurred	
		2013	2014
Premiums Earned	Direct & Assumed	1,000,000	1,200,000
	Ceded	90,000	80,000
Loss Payments	Direct & Assumed	300,000	250,000
	Ceded	32,000	26,000
Defense and Cost Containment Payments	Direct & Assumed	22,000	7,000
	Ceded	800	400
Adjusting and Other Payments	Direct & Assumed	50,000	45,000
	Ceded	1,200	900
Salvage and Subrogation Received		19,000	11,000
Losses Unpaid	Case Basis	Direct & Assumed	100,000
		Ceded	10,000
	Bulk + IBNR	Direct & Assumed	150,000
		Ceded	5,000
Defense and Cost Containment Unpaid	Case Basis	Direct & Assumed	25,000
		Ceded	500
	Bulk + IBNR	Direct & Assumed	35,000
		Ceded	1,500
Adjusting and Other Unpaid	Direct & Assumed	12,000	
	Ceded	100	
Salvage and Subrogation Anticipated		8,000	16,000

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EXAM 6 – UNITED STATES, SPRING 2016

15. (continued)

a. (1.75 points)

Calculate the 2014 year-end statutory net admitted assets.

b. (2.75 points)

Calculate the 2014 year-end statutory liabilities.

c. (1 point)

Using only the information provided above, briefly describe how four balance sheet items would be treated differently under GAAP as compared to SAP.

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EXAM 6 – UNITED STATES, SPRING 2016

16. (2.5 points)

Given the following for an insurer:

	2012	2013	2014
One-Year Development			-2,000
Two-Year Development			-4,000
Earned Premium	15,000	16,800	14,000
Loss Reserves as of Year-End	30,000	33,000	34,000
LAE Reserves as of Year-End	10,000	11,000	11,500
Policyholders' Surplus as of Year-End	45,000	47,000	48,000

a. (2 points)

Determine whether the insurer's IRIS ratio 13 falls within the range of usual values.

b. (0.5 point)

Calculate the insurer's IRIS ratios 11 and 12.

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EXAM 6 – UNITED STATES, SPRING 2016

17. (3.5 points)

Given the following data from an insurer's 2014 statutory Annual Statement (all figures are in thousands of dollars):

	2014	2013
Losses incurred	25,000	22,000
Loss adjustment expenses incurred	5,000	4,000
Dividends to policyholders	100	100
Premiums earned	35,000	34,000
Other underwriting expenses incurred	4,000	3,500
Total other income	50	45
Net Premiums Written	36,000	34,500
Net investment income earned	3,000	2,500
Total cash and invested assets	100,000	95,000
Investment income due and accrued	500	450

a. (2 points)

Determine whether IRIS ratio 5 (Two-year overall operating ratio) falls within the range of usual values.

b. (0.25 point)

Briefly describe the purpose of IRIS ratio 5.

c. (1.25 points)

Determine whether IRIS ratio 6 (Investment yield) falls within the range of usual values.

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EXAM 6 – UNITED STATES, SPRING 2016

18. (4.75 points)

The following excerpt is from a monoline insurance company's 2012 Annual Statement:

	2012	2011
Direct Written Premiums	7,000	
Direct Unearned Premiums as of year-end	5,000	2,000
Direct Loss+LAE Paid	2,500	
Direct Loss+LAE Unpaid as of year-end	4,500	3,500
Other Underwriting Expenses Paid	900	
Other Underwriting Expenses Unpaid as of year-end	500	100

The following excerpt is from Schedule P - Part 1 of the company's 2010 Annual Statement:

Accident Year	Total Net Losses and LAE Paid	Total Net Losses and LAE Incurred
2001	1,800	1,800
2002	2,450	2,450
2003	3,010	3,170
2004	3,500	3,890
2005	4,000	4,705
2006	4,500	5,625
2007	4,150	6,385
2008	3,800	6,330
2009	3,300	6,600
2010	3,000	7,500

- The company writes annual policy terms and does not assume or cede any business.
- For tax purposes, the discount rate for accident year 2012 is 8%, and the tax rate is 35%.
- The U.S. Treasury has promulgated a loss reserve discount factor pertaining to the company's line of business for accident year 2012 (in companies' 2012 Annual Statements) of 0.87.
- Through all of 2012, the company held \$3,200 in corporate bonds with a 5% pre-tax annual yield and \$952 in municipal bonds with a 3% pre-tax annual yield.
- Other than those items specified above, the company has no other income-related items that appear in its 2012 Annual Statement.

<<QUESTION 18 CONTINUED ON NEXT PAGE>>

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EXAM 6 – UNITED STATES, SPRING 2016

18. (continued)

a. (2.75 points)

Justify whether the company should elect to discount loss reserves for accident year 2012 in tax year 2012 using the company's own Schedule P - Part 1 payment pattern. Assume that the company's projections for subsequent accident years and tax years have no effect on this election decision.

b. (1.5 points)

Calculate the pre-tax statutory income that would appear in the company's 2012 Annual Statement (Statement of Income).

c. (0.5 point)

Provide two pieces of missing information that would be needed to determine the company's federal income tax incurred for tax year 2012.

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EXAM 6 – UNITED STATES, SPRING 2016

19. (2.5 points)

a. (1 point)

Briefly explain how prospective reinsurance and discounting are considered in recording loss reserves on the balance sheet under the following accounting frameworks:

- GAAP
- SAP

b. (0.75 points)

Briefly explain how prospective reinsurance, discounting, and risk margins are considered in recording loss reserves on the balance sheet under International Financial Reporting Standards.

c. (0.75 point)

Briefly describe three desirable characteristics of risk margins.

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EXAM 6 – UNITED STATES, SPRING 2016

20. (2 points)

a. (1.5 points)

For each of the following scenarios, identify the type of opinion that the Appointed Actuary should issue and identify two required disclosures in the OPINION section (beyond those required in all OPINION sections).

- i. The Appointed Actuary reviews an analysis performed by another actuary regarding a material portion of the company's business. The Appointed Actuary concludes that the carried reserves for that portion are reasonable and, as a result, decides not to perform an independent analysis of that business. The Appointed Actuary independently projects reserves for the remainder of the book and finds that the carried reserves for it are reasonable.
- ii. The Appointed Actuary independently projects reserves for all lines of business other than Surety and concludes that the recorded reserves for the reviewed lines are reasonable. Recorded reserves from Surety represent approximately 30% of the company's total reserves.

b. (0.5 point)

The following statement does not comply with the NAIC instructions relating to Statements of Actuarial Opinion. Explain why the following statement is not in compliance.

A "Qualified Actuary" is a person who meets the basic education, experience and continuing education requirements of the Specific Qualification Standards for Statements of Actuarial Opinion as promulgated by the Casualty Actuarial Society and is either:

- A member in good standing of the Casualty Actuarial Society, or
- A member in good standing of the American Academy of Actuaries.

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EXAM 6 – UNITED STATES, SPRING 2016

21. (2.25 points)

a. (0.5 point)

Comment on the appropriateness of the actions taken in the following scenario:

In order to satisfy the data testing requirements included in the NAIC Annual Statement Instructions, the Appointed Actuary for an insurance company retained an auditor to subject the data used in the actuary's analysis to testing procedures. After reviewing the Appointed Actuary's report, the auditor concluded that a list of data items used in the Appointed Actuary's analysis were significant and should be subject to testing.

b. (0.75 point)

An Appointed Actuary used net paid losses in the analysis in support of a Statement of Actuarial Opinion. Fully describe the reconciliation of this data as provided in discussion and guidance around the NAIC Annual Statement Instructions.

c. (1 point)

An auditor's data testing indicated significant errors and discrepancies in the data. The auditor notified the Appointed Actuary. At the time of notification, the Appointed Actuary had already issued the Statement of Actuarial Opinion (SAO) and the Actuarial Report. A review of the data discrepancies by the Appointed Actuary concluded that the issued SAO was in error.

Identify the steps the Appointed Actuary should take in this situation and the timeframe in which they must be completed.

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EXAM 6 – UNITED STATES, SPRING 2016

22. (1.75 points)

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

Authorized Control Level	\$10
Surplus	\$22
Calendar Year Net Incurred Loss and LAE	\$160
Range of Reasonable Net Unpaid Loss and LAE Estimates	\$158 to 164
Booked Loss and LAE Reserves	\$156
Aggregate Write-Ins for Underwriting Deductions	\$5
Net Written Premium	\$200
Net Earned Premium	\$180
Other Underwriting Expenses Incurred	\$55

a. (1 point)

Determine whether the company is currently subject to the Company Action Level RBC requirements.

b. (0.75 point)

Identify and briefly describe the type of Statement of Actuarial Opinion the Appointed Actuary should issue, and briefly describe any disclosures required in the OPINION section related to the type of opinion.

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EXAM 6 – UNITED STATES, SPRING 2016

23. (1.75 points)

a. (0.75 point)

Fully describe the disclosure related to IRIS ratios that the Appointed Actuary must include in the Statement of Actuarial Opinion.

b. (1 point)

Given the following information from an insurance company's 2014 Annual Statement:

All information is shown in (000's)					
	2014	2013	2012	2011	2010
Surplus as regards policyholders	1,000	900	850	750	700
Development in estimated losses and loss expenses incurred prior to current year	100	85	50	-10	5

Describe the disclosure requirements related to reserve development that should be included in the Actuarial Opinion Summary for this company.

EXAM 6 – UNITED STATES, SPRING 2016

24. (3.5 points)

Given the following information for a personal lines insurer as of December 31, 2014 (all figures in thousands of dollars):

Statutory Surplus	250
Total Net Recorded Loss and LAE Reserve	400
Total Adjusted Capital	250
Authorized Control Level RBC	50
Low End of Actuary's Range of Reasonable Unpaid Loss and LAE	350
High End of Actuary's Range of Reasonable Unpaid Loss and LAE	500

a. (1.5 points)

Using the information provided above, propose and calculate three materiality standards based on different metrics.

b. (1 point)

Justify the selection of one materiality standard from part a. above and determine whether the Appointed Actuary might conclude that there is a risk of material adverse deviation.

c. (1 point)

Identify four risk factors that an Appointed Actuary might consider when preparing the Statement of Actuarial Opinion for a personal lines company.

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EXAM 6 – UNITED STATES, SPRING 2016

25. (2.75 points)

a. (0.75 point)

Briefly describe three Actuarial Standards of Practice that apply to the analysis of year-end unpaid property and casualty claim estimates.

b. (2 points)

The Appointed Actuary has calculated a range of reasonable reserve estimates. Using an “X” mark, identify all locations in which each of the following are reported by replicating and completing the following table. The replicated table does not need to include the “Item Description” column.

Item	Item Description	Actuarial Report	Annual Statement	Statement of Actuarial Opinion (SAO)	Actuarial Opinion Summary (AOS)
#1	Appointed Actuary’s Range of Reserve Estimates				
#2	Company’s Held Reserves				
#3	Appointed Actuary’s Role in Setting Reserves				
#4	Exhibit Reconciling Data with Schedule P				

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EXAM 6 – UNITED STATES, SPRING 2016

26. (4.25 points)

An insurance company has entered into two agreements with the following ground-up loss distribution for the contracts:

Probability of outcome	Contract #1 Ground-Up Loss Outcome	Contract # 2 Ground-Up Loss Outcome
0.01	113,000	111,000
0.04	43,000	11,000
0.05	30,000	1,000
0.10	20,000	500
0.30	3,000	250
0.50	0	0

Both contracts are with non-affiliated reinsurers that are not state-mandated involuntary pools or federal insurance programs.

At the end of the year, the following information is available:

- Ceded premium for each contract: \$10,000
- Reinsurance Recoverable for Contract #1: 43,000
- Reinsurance Recoverable for Contract #2: 11,000
- Interest, Dividends, Due and Accrued: 6,000
- Federal Income Tax Recoverable: 21,000
- Recoverable from Parent, Subsidiaries and Affiliates: 0
- Aggregate Write-ins for other than Invested Assets: 4,500
- Loss Reserve RBC after loss concentration 75,000
- Excessive growth charge: 0

a. (1 point)

Demonstrate that Contract #1 meets the requirements for risk transfer and Contract #2 does not meet the requirements based on the 10-10 rule.

b. (3 points)

The insurance company has determined that Contract #1 meets the requirements for risk transfer and Contract #2 does not meet the requirements for risk transfer under any method. Calculate the final R_3 and R_4 RBC charges.

c. (0.25 point)

Briefly describe the Expected Reinsurer Deficit (ERD) method.

CONTINUED ON NEXT PAGE

EXAM 6 – UNITED STATES, SPRING 2016

27. (3.5 points)

A primary insurance company is considering commuting a reinsurance contract that was placed ten years ago. The subject losses are currently valued as follows:

Gross Paid Losses	\$4,000,000
Gross Reserves (Case + IBNR)	\$5,000,000
Gross Discounted Reserves (Case + IBNR)	\$3,500,000
Ceded Paid Losses	\$500,000
Ceded Reserves (Case + IBNR)	\$3,000,000
Ceded Discounted Reserves (Case + IBNR)	\$2,000,000

The reinsurer's assumed losses are equal to the primary insurer's ceded losses. The discount rate used for tax calculations and the tax rate for both parties is as follows:

	Primary Insurer	Reinsurer
Average Discount Factor	0.850	0.800
Tax Rate	35%	20%

a. (2.5 points)

Calculate a mutually beneficial commutation price considering the combined economic impact of the ceded reserves, tax effects, and the commutation price itself.

b. (0.5 point)

Assuming a commutation price of \$2,000,000, describe the directional impact, if any, of the commutation on the primary insurer's IRIS ratio 1.

c. (0.5 point)

Assuming a commutation price of \$2,000,000, describe the directional impact, if any, of the commutation on the primary insurer's IRIS ratio 3.

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

POINT VALUE OF QUESTIONS

QUESTION	VALUE OF QUESTON	SUB-PART OF QUESTION						
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	2.50	1.00	1.50					
2	3.75	2.25	1.50					
3	3.75	1.50	1.50	0.75				
4	3.00	1.50	1.50					
5	2.25	1.00	0.75	0.50				
6	2.25	0.50	0.50	0.25	1.00			
7	3.00	0.50	1.50	1.00				
8	2.50	1.00	1.00	0.50				
9	2.25	0.75	0.50	1.00				
10	2.50	1.50	1.00					
11	2.75	2.00	0.75					
12	4.00	4.00						
13	2.00	1.00	1.00					
14	4.25	3.75	0.50					
15	5.50	1.75	2.75	1.00				
16	2.50	2.00	0.50					
17	3.50	2.00	0.25	1.25				
18	4.75	2.75	1.50	0.50				
19	2.50	1.00	0.75	0.75				
20	2.00	1.50	0.50					
21	2.25	0.50	0.75	1.00				
22	1.75	1.00	0.75					
23	1.75	0.75	1.00					
24	3.50	1.50	1.00	1.00				
25	2.75	0.75	2.00					
26	4.25	1.00	3.00	0.25				
27	3.50	2.50	0.50	0.50				

TOTAL 81.25

SAMPLE ANSWERS AND EXAMINER'S REPORT

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. Candidates should note that a restatement of a numerical selection in words is not a justification.
- 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 read each question carefully and answer the question as it is presented.
- Candidates should note that the sample answers provided in the examiner's report are not an exhaustive representation of all responses given credit during grading, but rather the most common correct responses.
- In cases where a given number of items were requested (e.g., "three reasons" or "two scenarios"), the examiner's report often provides more sample answers than the requested number. The additional responses are provided for educational value, and would not have resulted in any additional credit for candidates who provided more than the requested number of responses. Candidates are reminded that, per the instructions to the exam, when a specific number of items is requested, only the items adding up to that number will be graded (i.e., if two items are requested and three are provided, only the first two are graded).
- In recent sittings we have noted that candidates are having difficulty with questions pertaining to Learning Objective D. We encourage candidates to try to obtain a better understanding of the material within this Learning Objective in the future.

SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAM STATISTICS:

- Number of Candidates: 504
- Available Points: 81.25
- Passing Score: 58
- Number of Passing Candidates: 199
- Raw Pass Ratio: 39.48%
- Effective Pass Ratio: 42.98%

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 1	
TOTAL POINT VALUE: 2.5	LEARNING OBJECTIVE: A1
SAMPLE ANSWERS	
Part a: 1 point	
In favor of the law banning the use of credit: <ul style="list-style-type: none">• Credit scoring can be considered highly discriminatory since it can be based on region, affluence, race, gender, etc... Banning the use of this variable could be appropriate to avoid discriminating and to avoid public outcry over the matter. Social acceptance is an important aspect in selecting rating criteria.• Not sound public policy to allow discrimination that disproportionately affects gender – not socially acceptable• If the credit scores are significantly different between genders there will be a disproportionate impact on a protected class of people because of the use of credit. Credit scores have also been found to be based on reports with errors (significant amounts, about 50%). By using these incorrect scores a policyholder may be adversely rated incorrectly.• Insurance regulation has a social purpose, Use of credit scores in this case will adversely affect availability and affordability for one of the genders. This is counter to public wellness.• The difference in credit scores reflect the difference in income levels. This could be seen as unfair to society.	
Against the law banning the use of credit: <ul style="list-style-type: none">• Using a rating variable that is related to the expected loss cost of insured losses will be fairer as lower risk drivers pay a lower premium and higher risk drivers will pay a higher premium.• The data shows a correlation between credit scores and losses. By rating with credit insurers will charge more actuarially sound rates. This can also lead to overall more availability.• The scores are correlated with loss experience. By banning you force un-actuarial premiums to be charged. Low risks pay more than they should and high risks are being subsidized.• Using credit scores would make pricing more accurate as people with higher credit scores have lower expected costs and vice versa. Without using the scores people with higher scores are actually paying more than their expected costs.	
Part b: 1.5 points	
Explanations: <ul style="list-style-type: none">• A high credit score driver may carry high debt on a car. Therefore, there might be a diminished sense of ownership leading to drive more recklessly. Whereas a low credit score driver may own the car without financing, leading to more cautious driving.• People with better credit scores have better education and awareness of insurance, they tend to file a claim whenever they believe that they are covered. Whereas lower credit score people may not have the awareness or resources to file a claim.	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- The people with higher credit scores live in metropolitan areas. Metropolitan areas are highly populated and more accidents are likely to happen so they have more frequent losses than low income suburban families who live in less densely populated areas.
- People with better scores are more likely to get their car repaired and make a claim for less significant accidents. People with lower scores just drive around with little dings and dents without getting them fixed because they can't afford to pay the deductible.
- People with high credit scores generally have more wealth. They might not care about the rate increases so they may file more claims because they can absorb the increase. People with less wealth and generally have lower credit scores may be less able to tolerate rate increases.

Argument for using credit scores:

- If credit scores can be obtained reliably, the benefit of segmenting drivers would be invaluable to underwriting a profitable book of business. It will allow the insurer to attract lower risks with lower rates and charge high risks with equitable and adequate rates.
- Credit scores are still predictive of expected costs and therefore can be used to charge more actuarially fair rates as they will pick up the higher frequency of those with better credit.
- Because credit score has shown strong correlation to expected cost and it's also easy to obtain, it is a statistically reliable variable to use. Using credit scores will not affect the overall premium collected, it will only redistribute it more fairly among different expected costs.
- Credit scores provide insight into insureds habits (like spending habits, risk aversion or lack thereof), so using credit scores to assign insureds to risk classes will predict loss expenses more accurately, which will increase availability.
- If higher credit score insureds really do drive more and have higher frequency, it is fair for them to pay higher premiums so that low scores aren't subsidizing them.

Argument against using credit scores:

- The use of credit scores disadvantage people of certain religious convictions who are not allowed to use credit cards, so it is against sound public policy.
- Credit score is just a proxy for something else. Use urban versus rural instead; it's more intuitive and understood by policyholders
- Credit scores are not measuring the risk, it may be a more proxy for socioeconomic class, which is discriminatory against a class of people. Also, frequency is just one aspect of claim loss – need to look at severity as well.
- Because credit scores produce a counterintuitive result, and studies have shown that more than 50% of credit scores contain errors, in addition to identity theft problems, credit scores should not be used in pricing.
- One of the ideal characteristics of a rating variable is that is intuitively correlated with loss. It is hard for a consumer to understand how credit scores will affect loss expectancy, and the fact that this study results in the counterintuitive conclusion makes it even harder to understand.

SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT

Part a

The candidates were expected to know the correlation between gender and credit would lead to disproportionate impacts and that is counter to equal protection for consumers and not sound public policy.

Candidates seemed to be more familiar with the “against” arguments than “for” arguments. Most candidates were able to explain reasons why the law should not be passed in full. Where candidates did not receive full credit, the deductions primarily came from mentioning credit was predictive only, without tying the response to actuarially sound rates.

However, there was some difficulty on the reasons in favor of the law. The majority of the mistakes came from assuming the law was banning gender-based rating rather than credit-based rating. Arguments similar to “gender is not controllable” and “credit is a proxy for gender and that is unfair” were the main errors here. Also, there were many arguments stating using gender is unfairly discriminatory without explaining why it is unfair.

Part b

Candidates were expected to know the arguments for and against the use of credit scores. In part b, candidates were expected to provide a reason for a counterintuitive result and provide an argument in favor and against credit score use in light of the counterintuitive result.

Most candidates were able to give an example that would explain the observed correlation in one way (either giving a reason why high credit scores should correlate with high frequency or low credit scores should correlate with low frequency) but did not explain the other.

Common errors in this portion include:

- Mentioning the variable is predictive but not saying it will lead to actuarially sound/equitable rates
- Stating the reason for the higher frequency in (i) was correlation with another variable or a data error and then not reflecting that in this answer (for example, fixing the data error and/or running a multivariate analysis to reflect the correlation)

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 2	
TOTAL POINT VALUE: 3.75	LEARNING OBJECTIVE: A1, A3
SAMPLE ANSWERS	
Part a: 2.25 points	
<p><u>Surplus Lines</u></p> <p><i>Degree of Scrutiny</i></p> <ul style="list-style-type: none">• Low regulatory scrutiny• No rate scrutiny <p><i>Reasons</i></p> <ul style="list-style-type: none">• Not related to a large number of voters interest• Highly individualized risk• Knowledgeable buyers and sellers• High layers of losses, hard to price• Must be versatile to cover non-standard risks quickly• Do not qualify for guaranty fund coverage• Not sufficient data to support rating regulation• Surplus lines insurers not subject to a state's regulation• Risks are difficult to place in the admitted market <p><u>Ocean Marine</u></p> <p><i>Degree of Scrutiny</i></p> <ul style="list-style-type: none">• Low regulatory scrutiny <p><i>Reasons</i></p> <ul style="list-style-type: none">• The purchaser is sophisticated and knowledgeable• Highly individualized risk• Not sufficient data to support rating regulation• Buyers are sophisticated and should be in a better position to self-regulate the market• No detailed stat plan• Risks require high capacity• Ocean marine risks have difficult underwriting characteristics <p><u>Workers Compensation</u></p> <p><i>Degree of Scrutiny</i></p> <ul style="list-style-type: none">• High regulatory scrutiny <p><i>Reasons</i></p> <ul style="list-style-type: none">• Affect almost every worker• Complex rating and classification system• Have sufficient data to support rating regulation• Coverage is mandatory for all businesses• Impact of rates had direct impact on business operations and employees	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part b: 1.5 points

Property Catastrophe for Large Commercial Risks

Reasons:

- Risks are unique/individualized
- Risks require high capacity/limits
- Risks may have difficult underwriting characteristics
- Policyholders are knowledgeable or employ a Risk Manager
- Underlying CAT models are difficult for regulators to review
- Reinsurance potentially offsets underpricing and imbalanced CAT-exposed books by spreading the risk between the insurer(s) and reinsurer(s), and therefore mitigates insurance company failures/insolvencies.
- Large risks have power to negotiate rates
- Difficult to understand for policymakers
- Lack of data to review rates/no statistical rating plan
- Affects relatively few insureds in the total marketplace/does not generate voter interest
- Market is well functioning and regulators believe competition will drive accurate rates
- Large risks can self-insured/have the capital to absorb a loss/have non-insurance methods of mitigating the risk
- Better for regulators to use resources on other lines that affect general public more
- Coverage not mandated by law
- Allows for insurer flexibility in rates/forms to meet needs of the market
- The regulator's jurisdiction has minimal CAT exposure

Private Passenger Liability

Reasons:

- It is legally required of these drivers and/or leasing companies
- It is socially desirable for consumers to purchase
- Uninformed or not knowledgeable consumers
- Risks do not require high capacity/limits, so the rates should be relatively easier to quantify
- Systemic losses may pose a threat to insurer solvencies
- Sophisticated models are used to justify rates/complex rating plan
- The rate could affect many consumers
- Reinsurance may not be available, affordable and/or sufficient to mitigate the insurer's exposure to catastrophes like hailstorms
- Credible data is available due to uniformity of risk
- Generates significant voter interest/political pressure
- Due to mandatory coverage, availability and affordability is important
- Desire to protect consumers from discriminatory rating variables/practices
- Coverage is well understood by regulators
- Coverage is subject to guaranty fund so increased scrutiny

EXAMINER'S REPORT

This question required candidates to understand regulatory scrutiny for various lines of business. Candidates generally scored well on this question.

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part a

Candidates were expected to know the degree of rate regulatory scrutiny and provide two reasons to support that level of scrutiny for three lines of business. Candidates generally did well on this part. A common error was stating that surplus lines or ocean marine has a medium level of scrutiny.

Part b

The candidate was expected to know that rate regulation can differ greatly between diverse lines of business and reasons in support of the decision to regulate differently. A common error was to provide multiple reasons that were essentially the same, such as:

Example 1 – Property CAT:

- Companies know the types of coverage they are looking for so don't need scrutiny
- They are knowledgeable about insurance and risk
- They have a dedicated risk manager
 - This doesn't add anything to the earlier points, or complete the thought on what a risk manager would do for the company

Example 2 – Property CAT:

- Rates rely heavily on individual experience
- Historically these rates can be priced in wide ranges due to the level of risk involved
- Highly variable pricing
 - This doesn't add anything beyond the second point

Example 3 – Personal Auto Liability:

- Regulator heavily scrutiny because public is unhappy with excessive rates
- Regulator heavily scrutinizes because rating variables used are unfairly discriminatory
- Regulator scrutinizes because there are insurers who are uncompliant to regulatory practices and the states need to catch this
 - This is a generalization of the first two points

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 3	
TOTAL POINT VALUE: 3.75	LEARNING OBJECTIVE: A-2, A-4
SAMPLE ANSWERS	
Part a: 1.5 points	
<p>Regulatory Fallibility – Regulators are humans. Humans make errors. Regulatory Fallibility – Regulators make errors since they are human. Regulatory Fallibility – Since regulators are human, they can be prone to errors in their assessments.</p> <p>Regulatory Forbearance – Regulators may be reluctant to take action against a potentially troubled firm because the consequences can be severe. Regulatory Forbearance – Failure of regulators to take prompt and stringent action when faced with a troubled insurer. Regulatory Forbearance – Regulators can be slow to react in taking action since if the firm fails, jobs may be lost, policyholders impacted, creditors lose, etc. Regulatory Forbearance – Regulators may feel pressure not to act out of fear of jobs being lost and hurting the economy.</p> <p>Regulatory Capture – Regulators over time may adopt the mindset of the entities they regulate. Regulatory Capture – Regulators can lose a sense of balance, enacting regulations overly biased toward the industry. Regulatory Capture – Regulators having the tendency to taking sides with special interest groups. Regulatory Capture – Regulators may not be working in the best interest of those they regulate because of lobbying or pressure from those they regulate.</p>	
Part b: 1.5 points	
<p>Duplication – multiple states oversee each insurer that does multi-state business. While one regulator may miss or ignore signs of a troubled company, it is unlikely that all regulators will miss the signs. Duplication of effort – Every state DOI that a company does business in is reviewing the insured so it is more likely that at least one of them will catch any issues. Duplication – There are many different people looking at a company's business and with more duplicate work, they will find if an insurer is in trouble.</p> <p>Peer Review – U.S. regulation features multistate oversight and peer review systems like the ones coordinated by the NAIC. When peer reviewing one another's work, they are more likely to catch errors and issues. Peer Pressure – When one state detects a weakness in regulation by a domestic regulator's analysis, they can question that state, encourage changes, and in worst case, bring pressure to bear on the regulator to act. Peer Pressure – Any state that an insurer does business in can take action on an insurer even if another state does not which will apply pressure for other states to do the same.</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Diversity of Perspective – There are many perspectives among state regulators, from those strongly concerned about the costs of overregulation to those primarily concerned with adverse consumer outcomes from deregulation. Different vantage points will avoid far out policies.

Diversity of Thought – The need for consensus and compromise among such divergent viewpoints tends to result in centrist solutions that avoid extremes.

Diversity of Perspective – Different regulators have different political backgrounds and outside influences, the diversity keeps regulation from going too extreme in either direction.

Market Discipline – With regulation by the states, there needs to be discipline in the market since outside funding can be hard to get.

Moral Hazard – Since insurance regulation is primarily state based, access to federal bailout funds is limited and difficult to obtain.

Part c: 0.75 points

Duplication – With more sets of eyes and states duplicating work, they are more likely to catch human errors, thus avoiding Fallibility.

Peer Review – When you have peer review systems like the ones coordinated by the NAIC, they are going to catch more errors and reduce fallibility.

Peer Pressure – This can combat forbearance, when a state identifies an issue that another state overlooked or ignored, they can pressure them to take action.

Peer Pressure – One state can pressure another state into not siding with special interest groups (regulatory capture) and have them do the right thing.

Diversity of Perspective – diversity of perspectives will reduce capture because one regulator may not be under the influence of the same or any industry group as another regulator and can see the issues clearly.

Diversity of Thought – different thoughts or perspectives may lead to regulators making different decisions on whether or not to take action on an insurer. This will fight forbearance with regulators being less slow to react and take charge.

Market Discipline – This imposes a certain discipline on both the markets and the regulators and could work against capture and siding with interest groups.

Moral Hazard – Without the availability of bailout funds, regulators are more likely to take action and avoid forbearance.

EXAMINER'S REPORT

This question tested candidates' knowledge of the failures of a regulatory system and the checks and balances that are in place to make sure those failures don't happen. The question further tests a candidates' knowledge to apply the checks and balances to which failures they can best prevent.

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part a

Most candidates were able to list the types of regulatory failure. Further, they were able to briefly describe what those failures were. Common errors included simply forgetting one of the types of failure or forgetting what the definition of one of the failures was. Another common error was that the candidate would get the types of failure correct, but would mix up the definitions of fallibility, forbearance or capture.

Part b

This question was testing the checks and balances in place to help against regulatory failure. Most candidates were able to identify the checks and balances. Where there was struggle with this part, it was with describing them. It was common to have correct identification, but have wrong descriptions or descriptions that did not offer anything beyond the identification. We note that the main definitional problem was with peer review. If the candidate successfully identified diversity of perspectives or duplication, typically the candidate provided the correct definition. Examples of wording that did not get receive credit is as follows:

- Peer Review: "Checking others work" – did not give provide enough information to support what was being reviewed
- Peer Review: "Multiple states work together" – this is an example where the item was listed with no description at all; the most common situation.

Part c

The question required application of the checks and balances to which types of failure they can prevent. Candidates had the most difficulty with this part. A common error was that a candidate would elaborate further on their answer in part B, but not draw any connection to part a. or a type of regulatory error. Examples include:

- "Peer review can decrease forbearance"
- "Duplication will catch regulatory capture" – both don't offer anything of significance to demonstrate knowledge of how one can prevent the other
- "Monitoring and early detection programs give regulators advanced warning" – may be getting at fallibility or forbearance, but not sure which/how.
- "Other states can review annual statements of other insurance companies in different states if they believe in difficulty" – this is a further definition of duplication, but doesn't have a link to a key.

It was also common for a candidate to say that one check in the system matched with one regulatory failure, but with no brief additional explanation of how or why that is true.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 4	
TOTAL POINT VALUE: 3.0	LEARNING OBJECTIVE: A3
SAMPLE ANSWERS	
Part a: 1.5 points	
<ul style="list-style-type: none"> • Private insurer can offer property coverage in addition to liability; RRG can only offer liability coverage • Private insurers are covered by guaranty funds which provide additional protection in case of insolvency; RRGs are not • Private insurers allow for risk transfer; RRGs offer risk pooling (with potential for adverse experience) • Private insurers more likely to have a financial rating, allowing the hospital to more easily assess financial strength; RRGs less likely to have a financial rating 	
Part b: 1.5 points	
<ul style="list-style-type: none"> • RRGs can offer cheaper premiums because they do not have commissions/marketing expenses/profit loads like private insurers do • RRGs only insure specific types of risks, therefore they can provide coverage tailored to the hospital's specific insurance needs • RRG would insure other hospitals, who could learn risk management best practices from each other due to specialization and joint ownership incentives • RRG owned by insured hospitals and therefore provides greater incentive than private insurance to implement strong risk controls, which could reduce cost of insurance • RRGs were formed to increase the availability of insurance and are less subject to the insurance rate cycle than private insurers, also providing more stable pricing • RRGs are not covered by guaranty funds and therefore have stronger incentive than private insurers to establish adequate reserves • RRGs only have to be licensed in their home state and registered in other states where they are providing insurance; private insurers need to be licensed in each state where they provide coverage 	
EXAMINER'S REPORT BY PART	
Candidates were expected to know general facts about RRGs and to be able to compare the advantages and disadvantages of RRGs to private insurers.	
Part a	
Candidates were expected to know the cons of insuring through an RRG versus a private insurer (or alternatively, the pros of insuring through a private insurer versus an RRG).	
The most common error was listing advantages without providing sound rationale for advantages, such as the following statements:	
<ul style="list-style-type: none"> • RRG not eligible for guaranty fund • It can benefit from guaranty fund • Property coverage not available/prominent (RRGs are liability coverage) • Private insurer likely has more coverage offerings available (larger company) • By paying a premium, risk is transferred to the insurance company 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part b

Candidates were expected to know the pros of insuring through an RRG versus a private insurer (or alternatively, the cons of insuring through a private insurer versus an RRG).

Common errors included References to lower premiums from RRGs without providing rationale.

Another common error was stating that RRGs insure similar risks without explaining why it is a benefit (hospitals can share risk management best practices, RRG specializes in hospital claims, etc.).

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 5	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE: A4
SAMPLE ANSWERS	
Part a: 1 point	
<ul style="list-style-type: none"> • May be difficult to establish if the cancer was caused from the additive rather than other factors • The long latency period makes it difficult to determine when exposure occurred • May not know who to sue – commonly used, so there are likely many companies at fault • Because of the long period of time between exposure and symptoms, many parties may not realize they are injured until after the statute of limitations has expired • There could be high transaction and defense costs from defendants that could reduce the amount of net funds that are paid to injured parties • Many of defendants responsible may be out of business or unable to pay claims by the time the injuries are discovered • It takes time to get through the process – injured parties may be dead by the time final decision is made • Addition of non-seriously injured plaintiffs to lawsuit can lower the amount that seriously injured parties receive • Docket pressure would impact the fairness of the result of the litigation • Venue reform needed: if non-seriously impaired are going to a plaintiff friendly jurisdiction, then there may be less funds available for seriously injured 	
Part b: .75 points	
<ul style="list-style-type: none"> • A federal program sets up a trust fund to indemnify the affected parties • A program to indemnify the injured party who meet the medical criteria • Defendants would contribute funds to the trust based on their expected/current exposure • Would eliminate future liability for the defendants while still providing benefits to the injured parties 	
Part c: .5 points	
<ul style="list-style-type: none"> • Inactive docket reform: only seriously injured claimants may seek indemnification, but those who are not currently seriously injured maintain their right to seek indemnification in the future • Medical criteria – where injured claimant must meet certain medical requirements before they can file a claim • Capped the pain and punitive damage to a certain amount so that more injured parties can be indemnified • Venue reform – has already happened but they can further improve reform by further restricting plaintiff friendly courts 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT (BY PART, AS APPLICABLE)
<p>Part a</p> <p>Candidates were expected to demonstrate knowledge of the litigation process for latent claims / long term exposure.</p> <p>Common errors include:</p> <ul style="list-style-type: none">• Failing to carry ideas through, e.g., saying “many plaintiffs plus many defendants will make the litigation lengthy” without saying why that is important (e.g., because severely injured plaintiffs might die before receiving compensation). Similarly, “litigation is expensive” or “statute of limitations”.• “Coverage litigation” or other answers saying that litigation about, say, the correct accident year, since coverage litigation is not germane to indemnifying injured parties.
<p>Part b</p> <p>Candidates were asked to identify a feasible program that could be executed at the federal level, and then expected to identify two key features of this program. Candidates were generally able to identify a program, but often only listed one relevant feature of this program. Some other candidates listed a program that would not have been reasonable to implement at the federal level (e.g., using Medicare to pay injured parties).</p>
<p>Part c</p> <p>Candidates were expected to describe one legislative or judicial reform that states could implement to more effectively indemnify injured parties by identifying a feasible reform, and providing a brief description of how this reform would help. Candidates performed well on this section. The most common “error” was to leave part c. blank. The next most common error was to introduce a full ban of (or alternatively a requirement for) class action lawsuits. These did not receive credit because:</p> <ol style="list-style-type: none">1) "Ban class actions": There's nothing inherently wrong with class actions, rather it is the grouping of seriously and non-seriously injured that leads to distortion. Further, forcing all of the plaintiffs into individual law suits would radically increase costs and slow down the litigation process, thereby resulting in ineffective indemnification.2) "Require class actions": Class action lawsuits are generally available, therefore making them a requirement would not result in change. Regardless, requiring them would have a high probability of leading to the serious/non-serious distortion mentioned above. All that being said, a response explaining that the requirement would be subject to severity of the injury would have been accepted. <p>A third common error in this section was to confuse the features of two separate reforms, and to combine them incorrectly. Examples include:</p> <ul style="list-style-type: none">• Create medical criteria statutes that allow parties not currently injured to seek compensation once symptoms appear. This answer confuses medical criteria statutes with inactive dockets.

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Inactive dockets -- allow parties to bring suit if exposed to additive but not currently injured. This answer is bringing forward law suits whereas inactive dockets postpone them.
- Require some kind of medical criteria that assured the claims actually were caused by ingestion of the additive, not other causes. This answer confuses medical criteria statutes, which say the injured has to meet a certain level of injury in order to sue, with the issue of causation, which is settled at trial.
- Active dockets -- judicial reform to ensure that serious cases get resolved quicker/earlier so that the injured parties can be indemnified before they pass away. This answer confuses "dockets" with medical criteria.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 6	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE: A4
SAMPLE ANSWERS	
Part a: 0.5 point	
Any two of the following: <ul style="list-style-type: none"> • The Sherman Act prohibits boycott, coercion and intimidation and applies to insurance • Federal anti-trust laws, to the extent not regulated by state law • If states are not regulating, federal law applies • Federal laws enacted specifically/exclusively/uniquely to regulate the business of insurance preempt any state laws applying to the same activities • Federal law regulates insurer activities not specific to the business of insurance • Labor laws regulated by federal law 	
Part b: 0.5 point	
Any two of the following: <ul style="list-style-type: none"> • The insurer spreads or underwrites the policyholder's risk • Transfer of risk • The insurer and the insured have a direct contractual agreement • The relationship between insured and insurer • The activity is unique/specific/exclusive to entities in the insurance industry (i.e., excludes activities related to all companies such as paying taxes) • Insurer's fixing rates • Licensing of insurers/agents • Selling and advertising of insurance policies 	
Part c: 0.25 point	
<ul style="list-style-type: none"> • Dodd-Frank Act 	
Part d: 1 point	
<p>Structure: Any one of the following:</p> <ul style="list-style-type: none"> • It is part of the Federal Dept. of the Treasury. • Its director serves as an advisor to the Financial Stability Oversight Council (FSOC). <p>Responsibilities: Any three of the following:</p> <ul style="list-style-type: none"> • It has authority over all lines of insurance excluding health, long term care, and crop. • It can gather/collect information about the insurance industry • Monitor the insurance industry • It can make recommendations for modernizing and improving insurance regulation • It can recommend that the FSOC designate an insurer as an entity that could pose a risk to the financial system as a whole, and thus should be regulated by the Federal Reserve Board. 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Has authority to preempt state law if those laws are in conflict with certain international insurance agreements.
- Coordinates federal efforts and policy on international insurance matters
- Represent the US as a point of contact internationally (e.g. to the IAIS)
- Assists in negotiating international insurance agreements
- Consult with states regarding insurance matter of national/international importance
- Assists in administering TRIA
- Reports annually to U.S. House and Senate on the insurance/reinsurance industry

EXAMINER'S REPORT

Part a

Candidates generally performed well identifying exceptions to McCarran-Ferguson Act. Common errors included stating that federal law superseded state law in all cases, specifying that collusion and price fixing are exemptions from state-based regulation

Part b

Candidates generally performed well briefly describing characteristics of the business of insurance as recognized by the courts. Common errors included discussion on general aspects of insurance that are not characteristics of the business of insurance as recognized by the courts, such as:

- involves uncertainty in payments/profit/loss
- actual costs/losses are not known when rates are set
- involves indemnification/promise to indemnify

Part c

Most candidates performed well. The most common error was to misidentify the Dodd-Frank Act as the Gramm-Leach-Bliley Act.

Part d

Candidates generally struggled to briefly describe the structure of the FIO. Many responses did not address the structure and only addressed the responsibilities of the FIO.

Candidates generally were successful in briefly describing responsibilities of the FIO. Common errors included overstating the regulatory power of the FIO, discussing aspects of Dodd-Frank that are not FIO responsibilities.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 7	
TOTAL POINT VALUE: 3	LEARNING OBJECTIVE: B1,B3
SAMPLE ANSWERS	
Part a: 0.5 point	
<ul style="list-style-type: none"> • lack of available data • losses are not reasonably predictable • losses are not fortuitous • losses are not accidental • losses are intentional • Terrorism models are still relatively new • there are not a significant large number of insureds • losses are catastrophic • low frequency and high severity • insurers unable to make rates that are affordable from lack of data and experience • terrorism is catastrophic which could lead to solvency concerns 	
Part b: 1.5 points	
<ul style="list-style-type: none"> • provide a program of temporary coverage for terrorism risks while the private market stabilizes after 9/11 through a partnership between government and private insurers • serve the social purpose of avoiding economic disruption in the event of a terrorism event - ensuring the coverage is available and affordable means that more companies will be covered and able to recover quickly if there is a terrorist act • preserves state regulation of insurance as states still regulate terrorism rates • ensure terrorism coverage is available which is accomplished by requiring private insurers to offer the coverage • establish a temporary shared public/private program where the federal government acts as a reinsurance backstop in event of terrorist attack • federal government shares insured losses with private insurers to stabilize market with role of federal government depending on size of loss • prevent economic disruption by government acting as backstop • protect consumers by requiring those insurers that offer the lines of insurance covered by TRIP to make terrorism insurance available • promote availability and affordability of terrorism insurance by requiring coverage • create a temporary federal program of shared public and private compensation for insured terrorism losses to allow the private market to stabilize where role of federal loss sharing depends on size of insured loss • protect consumers by ensuring the availability and affordability of insurance for terrorism risks - required insurers to offer the insurance • preserve the state regulation of insurance - this program does not infringe on states' rights to regulate insurance 	
Part c: 1 points	
In Favor of Termination	
<ul style="list-style-type: none"> • private market's appetite for assuming terrorism risk has expanded since 2001, insurers can now find coverage as needed 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- the risk can be covered by large reinsurers or by catastrophe bonds
- there has not been a significant terrorist attack recently so market has recovered and is well capitalized to provide coverage

Against Termination

- no proof that private market can truly shoulder losses from a catastrophic terrorist event; failure could lead to insurer insolvencies and negatively impact consumers, broader economy, and insurance market
- losses tend to be catastrophic so TRIP should continue to exist to ensure affordability and availability.
- there has been no attacks since 9/11 so hard to say whether private market can take the financial outcome so government should continue to cover large losses
- losses tend to be uninsurable such as non-accidental aspect so there would be an availability issue without the program

EXAMINER'S REPORT

Part a

Candidates were expected to identify two reasons why terrorism risk is uninsurable. Most performed very well on this question. A common error was stating that terrorism is uninsurable because the risks are not independent.

Part b

Candidates were expected to identify three distinct goals of TRIP and then provide a brief description to elaborate on accomplishment. Candidates struggled with identifying three distinct goals, in particular that TRIP preserves state regulation of terrorism insurance. The most common error was identifying the three goals but not adding a brief description on how TRIP accomplishes it.

Part c

Most candidates were able to at least state an argument in favor of terminating TRIP and against terminating TRIP to receive partial credit but not necessarily go on to receive full credit with a description.

Most common error was identifying an argument but not elaborating with a description as requested. Examples include:

- Against Termination: could lead to unavailable coverage if government did not offer
- Favor for Termination: private market has stabilized

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 8	
TOTAL POINT VALUE: 2.5	LEARNING OBJECTIVE: B3
SAMPLE ANSWERS	
Part a: 1 point	
<ul style="list-style-type: none"> • Reinsurance Facility: Insurers accept the risk and cede premium to the reinsurance facility. • Reinsurance Facility: Insurer writes risk and transfers premium to reinsurance facility. Insured does not know they are in the Reinsurance Facility. • Joint Underwriting Association: Insurers reject risk and are forwarded to the JUA • Joint Underwriting Association: Insured applies to insurer, who finds risk unacceptable and insured then applies to the JUA. 	
Part b: 1 point	
<ul style="list-style-type: none"> • Reinsurance Facility: Profit or loss is shared by insurers based on a formula. • Reinsurance Facility: Insurer pays loss and is reimbursed by reinsurance facility. Periodically losses and operating expenses are apportioned to all insurers. • Joint Underwriting Association: Profit or loss is shared by insurers based on market share. 	
Part c: 0.5 point	
<p><i>At least one item from each group A and group B.</i></p> <p>Group A:</p> <ul style="list-style-type: none"> • Automobile insurance is compulsory (mandatory, required). • Automobile provides a social good (benefits society). • Not having insurance is not good for society. • Govt. deems auto insurance should be affordable (available) for all. <p>Group B:</p> <ul style="list-style-type: none"> • Some insureds (high risk) may not be accepted into the voluntary market. • Some insureds (high risk) may not be able to afford actuarially sound rates. • Some insureds will drive without insurance otherwise. 	
EXAMINER'S REPORT	
<p>Candidates were expected to know the underwriting process and pooling mechanisms for various residual market arrangements. The majority of candidates did well on this question, though it was common to have partial credit on part b.</p>	
Part a	
<p>Part a required candidates to know how individual drivers' experience fell into each of the provided residual market mechanisms.</p> <p>The candidate was expected to describe</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- The relationship of the original insurance company to the driver. In both cases, the original insurance company is applied to directly.
- The mechanism of assignment into the residual market. For the Reinsurance Facility, this was a ceded premium and loss relationship. For the Joint Underwriting Association, the application is forward.

Common errors:

- Flipping the Reinsurance Facility and Joint Underwriting Association.
- Incomplete answers; for example “risks are ceded” and “application forwarded” are not complete answers.

Part b

Part b) required candidates to know how each residual market mechanism assess shortfalls.

The candidate was expected to describe:

- Who shared in the losses.
- How the losses were distributed.

Common errors:

- Answered market share for Reinsurance Facility.

Part c

Part c required candidates to be familiar with the justification for residual market programs.

The candidate was expected to describe a reason why insurance is needed as well as why residual markets ensure the need is met. In most cases this was done by stating that there was a government driven requirement or social requirement as well as the fact that the voluntary market will not insure high risk drivers.

Common errors:

- Occasionally candidates failed to provide a complete description, stating only that “auto insurance is mandatory” or that “auto insurance should be affordable for all”.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 9	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE: B1/B2/B3
SAMPLE ANSWERS	
Part a: 0.75 point	
<ul style="list-style-type: none"> • Only those most exposed to loss tend to purchase coverage OR Adverse Selection • Possibility of catastrophe losses • Insurer's inability to correctly price the risk due to limitations in hazard assessment 	
Part b: 0.5 point(s)	
<ul style="list-style-type: none"> • Government mapping of areas prone to flood risk • Floodplain management regulations 	
Part c: 1 point(s)	
<ul style="list-style-type: none"> • The law authorized a study of the feasibility of an insurance voucher system. Purpose: to address the affordability issue • The law established a catastrophe fund. Purpose: to stabilize catastrophe losses from year to year to maintain program solvency • The law requested the upgrade to flood risk mapping to better assess the true risk of properties. Purpose: to more accurately price the flood risk premium • The law authorized a study of the capacity of the private reinsurance market to assume a portion of the NFIP insurance risk. Purpose: to minimize the risk that the program would need to borrow more government debt to operate • The law established the Federal Protection Structure Accreditation Task Force to better align the data that the US Army Corps of Engineers collect during levee inspection with the data required under FEMA's accreditation program. Purpose: to more accurately price flood risks behind levees • The law established a process and formula (COASTAL) for settling wind-related vs. water-related property damage claims. Purpose: to better allocate losses between the two perils after a major storm • The law implored that FEMA combine and streamline previous flood hazard mitigation programs. Purpose: to move toward risk-based mitigation planning and activities that result in sustainable action that reduces risk to life and property from floods • The law established an increase in the fine to financial institutions that didn't require flood insurance when authorizing a federal mortgage. Purpose: to increase participation in the NFIP 	
EXAMINER'S REPORT	
<p>Candidates were expected to know the reasons why flood risk is uninsurable in the private insurance market and the functions of the NFIP outside of providing flood insurance. Part c was more challenging in that it required the recall of specific knowledge of provisions of the Biggert-Waters act and the purpose of those provision.</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part a

Candidates were expected to provide three reasons why flood risk is uninsurable in the private insurance market. A common error made by the candidates in this part was listing the same reason more than once in different words. The following provides examples:

Example 1:

- 1) Catastrophe exposure
- 3) Natural disaster and it's a widespread problem not private insurers can handle (don't have enough fund/money to back it)

Example 2:

- 1) Flood risk is usually catastrophe
- 3) Flood claim tends to happen all together, there is high correlation and concentration

Example 3:

- 1) Lack of credible data to predict future loss
- 3) Can't calculate the actuarially sound price

The above examples are the same answer, just written in a slightly different way. Therefore, only partial credit was awarded.

Part b

Candidates were expected to list the two functions of the NFIP in addition to the flood insurance function listed in the question. A common error by the candidates was to mix up the functions of NFIP and the functions of FEMA, as the NFIP works closely with FEMA, but are different agencies within the Department of Homeland Security.

Part c

Candidates were expected to show their knowledge of the Biggert-Waters Act by listing two additional provisions of the act outside of the provisions related to the elimination of subsidies for flood insurance that was listed in the question. In addition to the listing of the provision, they were expected to provide a purpose for that provision was enacted. There were three common errors on this part of the question. The first error was to reply with a provision that was related to the elimination of subsidies to make a more actuarial sound rate. The second error was to provide a response that was a provision from a piece of legislation that was not part of Biggert-Waters or wasn't addressed in Biggert-Waters. The final common error was to list a provision, but not to list the purpose that provision was put into place.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 10	
TOTAL POINT VALUE: 2.5	LEARNING OBJECTIVE: B2
SAMPLE ANSWERS	
Part a: 1.5 points	
<ul style="list-style-type: none"> • For the purchase of compulsory insurance the government should provide an alternative to private market to ensure that the private market makes only reasonable profits, or alternatively a competitive state fund will enhance price competition. • Competitive state funds have been successful in providing Workers Compensation having significant market share since commissions and marketing costs are reduced it is possible that state funds will provide cheaper coverage than private market • The state fund will provide fair prices for mandated coverage, thereby ensuring that policyholders are paying equitable rates • State fund have lower cost of capital and can offer lower cost products • Competitive state funds can offer enhanced specialization, filling an unmet need for coverage of unique risks that can't be covered in the commercial market 	
Part b: 1 point	
<ul style="list-style-type: none"> • High profitability does not imply that the market is unaffordable and not working so a state fund might not be meeting an unmet need • The situation can be remediated by a number of smaller reforms, such as a mandated rate decrease, implementation of prior approval (if not so already), take measures to increase number of private carriers in the market • Government funds usually created when there is a need for insurer of last resort. High profitability means that this is not likely the case • Competition in the state already exists among existing insurers; the high prices will increase this competition should normally create pressure to reduce rates • Homeowners is highly susceptible to catastrophes so profits in some years are necessarily higher to offset the experience in years when there is a catastrophe • Recent experience may be more profitable than expected because of the cyclic nature of the insurance market place—the high profits may be illusory and short lived. • State fund would not have the surplus and capital requirements of private insurers, thus the rates would be unfairly low. • The enhanced competition of the state fund would at prices below the insurers costs would drive insurers from the market, making insurance less available. • The state fund is not needed as there are a good number of insurers in the market place and there is no unmet need 	
EXAMINER'S REPORT	
<p>Candidates were expected to recognize and give reasons why it might be acceptable to introduce a state fund in a state where the private passenger auto and homeowners lines have been highly profitable. They were also asked to identify and describe reasons why introducing a state fund may not have been an acceptable idea</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part a

Candidates were expected to give two arguments in favor of introducing a competitive state fund. Many candidates failed to mention the compulsory nature of the lines as one of the driving forces behind the potential need for government action. Common errors included stating that it was government's responsibility to keep these lines affordable, which is a stricter standard than keeping the profit in these lines reasonable. Another incorrect answer that appeared frequently was to say that the state should get involved in order to make additional money for the state in this highly profitable line of business.

Part b

Candidates were expected to provide two arguments against the introduction of a competitive state fund. Incomplete arguments around the following statements were not given credit: (1) the state would not be able to hire the expert staff needed to price the business properly; (2) a competitive state fund would be a burden to the government or to taxpayers.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 11	
TOTAL POINT VALUE: 2.75	LEARNING OBJECTIVE: C1E
SAMPLE ANSWERS	
Part a: 2 points	
<ul style="list-style-type: none"> • Mean Net Loss Reserve = $(2,500 + 2,200) / 2 = 2,350$ • Mean Loss Adjustment Expense Reserves = $(300 + 350) / 2 = 325$ • Mean Net Unearned Premium Reserve = $(5,000 + 4,500) / 2 = 4,750$ • Mean Ceded Reinsurance Premiums Payable = $(35 + 15) / 2 = 25$ • Mean Agents' Balances = $(3,600 + 4,200) / 2 = 3,900$ • Mean Funds Attributable to Insurance Transactions = $2,350 + 325 + 4,750 + 25 - 3,900 - (4,750 * 30\%) = 2,125$ • Investment Gain Attributable to Insurance Transactions = $2,125 * 5\% = 106.25$ 	
Part b: 0.75 point	
<ul style="list-style-type: none"> • Prepaid expenses in the unearned premium reserve are explicitly removed in the calculation of funds attributable to insurance transactions • They are removed in the calculation of funds attributable to insurance transactions because they have already been expensed and are not an investible asset • These expenses are not explicitly removed in the calculation of total investible funds because they are already out of policyholders' surplus, which is a component of the calculation 	
EXAMINER'S REPORT	
<p>The majority of points required the direct application of a formula from a syllabus reading. The remaining points required a brief description of the differences between two calculations which was stated directly in the same reading.</p>	
Part a	
<p>For part a, candidates were expected to know and be able to apply the formula for the calculation of investment gain attributable to insurance transactions for a line of business. In addition to calculation mistakes, the most common error was failing to include the Mean Ceded Reinsurance Premiums Payable in the calculation of Funds Attributable to Insurance Transactions (resulting in an answer of 105). Less common errors included omitting or reversing the signs of other components of the formula.</p>	
Part b	
<p>For part b, candidates were expected to know how prepaid expenses were treated differently between the calculations for funds attributable to insurance transactions and total investible funds, and the reason for the difference. The candidates who had trouble with this part of the question generally focused on the calculation of the prepaid expense ratio, as opposed to how prepaid expenses were treated between the two formulae. Another common error was stating that prepaid expenses were removed from the Mean Net Unearned Premium Reserve in the calculation of funds attributable to insurance transactions, but <u>included</u> in the calculation of total investible funds (instead of stating that they are implicitly removed by the inclusion of surplus in the total investible funds formula).</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 12			
TOTAL POINT VALUE: 4		LEARNING OBJECTIVE: C1	
SAMPLE ANSWERS			
Part 3I			
AY	2012	2013	2014
Prior	-	14,200	17,410
2013	xxx	18,660	30,360
2014	xxx	xxx	23,550
<p>Prior AYs @ 2012: 0 = 19,670 – 19,670 + 16,680 – 16,680</p> <p>Prior AYs @ 2013: 14,200 = 24,720 – 19,670 + 25,030 – 16,680</p> <p>Prior AYs @ 2014: 17,410 = 14,200 + 3,210</p> <p>AY 2013 @ 2013: 18,660 (given in 2013 part 3I)</p> <p>AY 2013 @ 2014: 30,360 = 18,660 + 11,700</p> <p>AY 2014 @ 2014: 23,550 (given in 2014 paid and case reserve information)</p>			
Part 2I			
AY	2012	2013	2014
Prior	35,550	28,000	25,770
2013	xxx	36,790	37,750
2014	xxx	xxx	46,470
<p>Prior AYs @ 2012: 35,550 = 0 + 37,900 – 19,670 + 34,000 – 16,680</p> <p>Prior AYs @ 2013: 28,000 = 14,200 + 32,730 – 24,720 + 31,620 – 25,830</p> <p>Prior AYs @ 2014: 25,770 = 17,410 + 2,930 + 5,430</p> <p>AY 2013 @ 2013: 36,790 (given in 2013 part 2I)</p> <p>AY 2013 @ 2014: 37,750 = 30,360 + 1,830 + 5,560</p> <p>AY 2014 @ 2014: 46,470 = 23,550 + 6,720 + 16,200</p>			
EXAMINER'S REPORT			
<p>This question tested the candidate ability to calculate two items of Schedule P. Common mistakes included:</p> <ul style="list-style-type: none"> • Not subtracting the prior cumulative paid row by the 2012 evaluation in part 3I (prior as of 2012 should be set to 0) • Not including the net bulk & IBNR on Loss & DCC as of 12/31/14 in the 2014 evaluation of part 2I 			

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Only including the incremental portion in the 2014 evaluation in part 3I
- Missing either the case outstanding or the bulk & IBNR in the calculation of the prior row for part 2I

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 13	
TOTAL POINT VALUE: 2	LEARNING OBJECTIVE: C1
SAMPLE ANSWERS	
Part a: 1 point	
<p>Unpaid Case Reserve Estimate for AY 2011 = (80M – 54M -12M) = 14M Number of claims outstanding = 1,400 Average Unpaid Claim Estimate for AY 2011 = 14M / 1,400 = 10K Required IBNR @48 months for AY 2011 (post regulation) = 6K per open claim Average Unpaid Claim Severity for AY 2011 (post regulation) = 10K + 6K = 16K</p> <p>OR</p> <p>Unpaid Case Reserve Estimate for AY 2011 = (80M – 54M -12M) = 14M Required IBNR for AY 2011 (post regulation)= 6K * 1,400 = 8.4M Unpaid Claim Estimate for AY 2011 (post regulation)= 14M + 8.4M = 22.4M Average Unpaid Claim Severity for AY 2011(post regulation) = 22.4M / 1,400 = 16K</p>	
Part b: 1 point	
<ul style="list-style-type: none"> • Significant change to IBNR reserving practices will likely change overall reserve figures in comparison to prior financial statements. This damages consistency and makes comparison to prior statements difficult. • Users would lose insight into the companies own belief about IBNR reserves per open claim which are likely to be different from industry and legislation since the regulations are “one size fits all”. • The year over year change make the results difficult to compare and mislead users to believe that they have been an improvement or deterioration of reserves which is only driven by the regulation change and not actual experience. • The regulation ignores the risks inherent in each line of business so reserves for long tailed lines would potentially be under-reserved and short tailed lines would potentially be over-reserved. This would be misleading to investors and rating agencies (users of the financial statements). • The regulation ignores the unique characteristics of each claim. Claims that remain open longer are likely more complex and volatile, potentially needing more IBNR per open claim. Quick settling claims are more certain and need less IBNR. Depending on the mix of business of the company, the schedule could be inappropriate which could lead to solvency concerns by regulators. 	
EXAMINER'S REPORT	
<p>The question challenged candidates to think creatively about how a regulation change would impact the end users of the financial statements. While this tested core understanding of Schedule P, the question required candidates to think critically and show a broader understanding of the financial statements.</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part a

- This question tested basic knowledge on Schedule P Parts 2, 3, and 4.
- Candidates were expected to know how to manipulate the values in the financial statements to calculate meaningful statistics for a given company. It was important to know that IBNR is included in Part 3 of Schedule P.
- Common mistakes include:
 - The most common mistake was for candidates to double count IBNR.
 - While all 5 years were provided, the question was only asking about 2011 statistics. Some candidates completed calculations on all 5 years or on an incorrect year.
 - In assessing the impact of the reform, some candidates restated the open claim counts instead of restating the IBNR.

Part b

- The candidate was expected to understand the impact of the prescribed IBNR schedule and explain how it negatively impacted the users of the financial statements.
- Common mistakes include:
 - Not providing enough information in support of their answer, particularly not relating disadvantages back to the users of the financial statements.
 - Including disadvantages of implementing the reform (cost to implement or potential for mistakes to be made) but not addressing a user of the financial statements
 - Referencing impacts to changes in paid and/or case reserve which would not be impacted by the proposed reform.
 - Referencing lack of knowledge of true carried reserves. While the schedule may distort the company's best estimate of reserves, the proposed reform would be the company's actual carried IBNR reserves.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 14	
TOTAL POINT VALUE: 4.25	LEARNING OBJECTIVE: C1
SAMPLE ANSWERS	
Part a: 3.75 points	
<u>Unauthorized Reinsurer A:</u>	
<ol style="list-style-type: none"> 1. Formula for unauthorized reinsurers: the total amount of reinsurance recoverable from each reinsurer, offset by any forms of security + 20% of the amount of recoverables in dispute+ 20% of amounts recoverable on paid losses that are more than 90 days overdue not in dispute. 2. Total Collateral and Offset Items = \$405,000 = \$50,000 + \$200,000 + \$150,000 + \$5,000 3. Total recoverable minus offsets = \$295,000 = \$700,000 - \$405,000 4. 20% amounts overdue and in dispute: \$110,000 = 20% x \$300,000 + 20% x \$250,000. 5. Provision for Reinsurer A: \$405,000 = \$295,000 + \$110,000 	
<u>Authorized Reinsurer B:</u>	
<ol style="list-style-type: none"> 1. Slow pay test formula = Overdue (excluding disputes) / (recoverables on paid excluding disputes + amounts received prior 90 days) <ul style="list-style-type: none"> Slow pay test = \$145,000 / (\$650,000 + \$40,000) = 21.0%. Therefore, reinsurer is slow-paying (as 21% > 20%) 2. If slow pay test = yes, formula for slow-paying authorized reinsurers = 20% times greater of total recoverables less offsets or recoverable on paid losses and LAE greater than 90 days overdue, including amounts in dispute. <ol style="list-style-type: none"> a. Total Recoverables Less Offsets = \$220,000 = \$750,000 – (\$100,000 + \$400,000 + 30,000). b. Paid Loss and LAE Overdue = \$195,000 = \$145,000 + \$50,000 c. Provision for Reinsurer B = 20% times maximum of \$220,000 and \$195,000 = \$44,000 3. If slow pay test = no, formula for not slow-paying authorized reinsurers = 20% recoverables over 90 days due, including amounts in dispute <ol style="list-style-type: none"> a. Paid Loss and LAE Overdue, Including amounts in Dispute = \$195,000 = \$145,000 + \$50,000 b. Provision for Reinsurer B = 20% times \$195,000 = \$39,000 	
<u>Total Provision:</u>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

1. Provision for Reinsurers A + B (when slow-paying) = $\$44,000 + \$405,000 = \$449,000$
2. Provision for Reinsurers A + B (when not slow-paying) = $\$39,000 + \$405,000 = \$444,000$

Part b: 0.5 points

Benefits to Reporting Entity:

- Will reduce the provision for reinsurance
- Do not have to carry as large a provision for certified reinsurers as they do for unauthorized
- Will have less penalty in reinsurance provision for unauthorized reinsurer
- Reinsurer has lower collateral costs which they can pass on to the reporting entity through lower premiums
- Allows reporting entity to get reinsurance from alien/foreign reinsurers who are financially strong without increasing the provision for reinsurance

Benefits to Reinsurers:

- Being certified will require the reinsurer to post less collateral
- Can attract more business since ceding company may see them as more desirable due to certification
- Don't have to provide as much collateral (which is costly) as unauthorized reinsurers
- Can market their certified status and gain business
- If declared a certified reinsurer and ranked #1, reinsurer need post no collateral
- Depending on its financial strength rating given by NAIC, can get a multiplying effect on its posted collateral and can post a smaller amount of collateral to be considered fully collateralized

EXAMINER'S REPORT

- Candidates were expected to know provision for reinsurance formulas related to Schedule F. They also needed to know about a new "Certified" status and how this benefits both insurers and reinsurers

Part a

- Candidates were expected to know the Schedule F provision for reinsurance formulas for unauthorized and authorized reinsurers. This includes determining whether an authorized reinsurer is or is not slow paying.
- Candidates were expected to know formulas and how items provided in the question fit into the formula
- Unauthorized Reinsurer A common errors:
 - Many candidates did not recognize all necessary offsets. In particular, candidates did not include ceded balances payable and miscellaneous balances payable
 - Many candidates confused total amounts in dispute with disputes on paid losses and LAE over 90 days past due (e.g. using \$0 instead of \$250K)
 - Some candidates used total recoverable on paid losses and LAE instead of Total reinsurance recoverable (e.g. using \$400K instead of \$700K)
 - Some candidates used total recoverables excluding amounts in dispute instead of including disputed amounts (e.g. using \$700K - \$250K instead of using \$700K)
- Authorized Reinsurance B mistakes:

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Many candidates did not recognize all necessary offsets. In particular, candidates did not include ceded balances payable
- Many candidates did not include amounts in dispute with reinsurance recoverables on paid losses and LAE over 90 days due (e.g. using \$145K and instead of \$145K + 90K)
- Some candidates used total recoverable on paid losses and LAE instead of Total reinsurance recoverable (e.g. using \$650K instead of \$750K)
- Some candidates used total recoverables excluding amounts in dispute instead of including disputed amounts (e.g. using \$750K - \$60K instead of using \$750K)

Part b

- Candidates were expected to know how the new “Certified” reinsurance category benefits reporting entities and reinsurers.
- Candidates needed to describe one benefit for reporting entities and one for reinsurers.
- Common mistakes:
 - Some candidates listed only one benefit when two were required
 - Some candidates listed multiple benefits for the reporting entity or the reinsurer but failed to list one for each
 - Candidates stated certified reinsurers would be treated the same as authorized
 - Candidates stated being certified eliminates the need for collateral, instead of needing less collateral

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 15	
TOTAL POINT VALUE: 5.5	LEARNING OBJECTIVE: C1 & C3
SAMPLE ANSWERS	
Part a: 1.75 points	
2014 Net Admitted Assets = +14,000 agents balances less than 90 days past due +700,000 Class 2 bonds at amortized cost +225,000 Class 4 bonds min(amortized cost, fair value) +534,000 Cash and cash equivalents +15,000 (27,500-12,500) Admitted deferred tax asset less deferred tax liability = 1,488,000	
Part b: 2.75 points	
2014 Year-End Statutory Liabilities = +Net Unpaid Loss Case AY 2014 =105,000 (120,000-15,000) +Net Unpaid Loss Case AY 2013 = 90,000 (100,000-10,000) +Net Unpaid Loss IBNR AY 2014 = 180,000 (200,000-20,000) +Net Unpaid Loss IBNR AY 2013 = 145,000 (150,000-5,000) +Net Unpaid DCC Case AY 2014 = 29,000 (30,000-1,000) +Net Unpaid DCC Case AY 2013 = 24,500 (25,000-500) +Net Unpaid DCC IBNR AY 2014 = 38,000 (40,000-2,000) +Net Unpaid DCC IBNR AY 2013 = 33,500 (35,000-1,500) +Net Unpaid A&O AY 2014 = 17,800 (18,000-200) +Net Unpaid A&O AY 2013 = 11,900 (12,000-100) +Net Unearned Premium = 575,000 =1,249,700	
Part c: 1 point	
<ul style="list-style-type: none"> • Non-admitted assets are recognized; agents balances more than 90 days past due included as an asset unless deemed uncollectible • Deferred acquisition costs (32,500) are an asset amortized over the life of the policy • Bonds may be held at different values based on intended use (i.e. whether they are held for sale at fair value, held for trade at fair value, or held to maturity at amortized cost) • Reserves are held gross of reinsurance ceded recoverables with a separate reinsurance recoverable asset; reserves are held gross of reinsurance; reinsurance recoverables are an asset • Reserves must be held net of salvage/subrogation • Deferred tax asset is not held to same strict admissibility test; deferred tax asset is recognized and a valuation allowance established when it is more likely than not to be realized • Unpaid losses under high deductible policies are treated as an asset and either loss reserves are grossed up for high deductible losses OR a separate liability for high deductible losses is established 	
EXAMINER'S REPORT	
There were a number of items to include in the calculations, but all items are clearly discussed in the syllabus material. Candidates scored well on sub-part a. and c., but had difficulty with sub-part b.	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part a
<p>The candidate was expected to know what items are included in statutory net admitted assets. The candidate was expected to provide the correct calculation of net admitted assets. Common mistakes included:</p> <ul style="list-style-type: none">• Not reducing the deferred tax asset by the deferred tax liability in calculating the net admitted tax asset• Improper valuation of bonds• Including extra items (i.e. unearned premium, net earned premium, high deductible unpaid losses below deductible; reinsurance recoverables, deferred acquisition costs)• Omitting agents' balances entirely or including balances greater than 90 days past due
Part b
<p>The candidate was expected to know the items that make up statutory liabilities. Candidates needed to recognize that both accident years 2013 and 2014 net unpaid reserves for loss, DCC and A&O needed to be included in the calculation, as well as net unearned premium reserves. Different methods of calculating the total net reserves were accepted as long as the final figure was correct. Common mistakes included:</p> <ul style="list-style-type: none">• Not including unpaid amounts from accident year 2013 or 2014 in the calculations• Including anticipated salvage/subrogation as a deduction in calculating net loss reserves (if Schedule P shows anticipated salvage/subrogation, these figures have already been removed from the loss reserves)• Including incorrect items (i.e. loss, DCC or A&O payments, high-deductible unpaid losses, deferred acquisition costs, deferred tax liability, salvage/subrogation received)• Calculating change in reserves or incurred amounts (i.e. paid plus change in reserves)• Not subtracting the ceded unpaid amounts
Part c
<p>The candidate was expected to know the difference between SAP and GAAP accounting with respect to the balance sheet items presented in the question. Candidates had to correctly identify four items that would be treated differently under GAAP. Common mistakes included:</p> <ul style="list-style-type: none">• Listing less than four items• Listing the SAP treatment of the item, but not the GAAP treatment• Listing general differences between SAP and GAAP that were not discussed in the question (i.e. discounting of reserves, non-admitted assets like furniture)• Listing that deferred tax asset in not offset by deferred tax liability

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 16	
TOTAL POINT VALUE: 2.5	LEARNING OBJECTIVE: C2c
SAMPLE ANSWERS	
Part a: 2 points	
<p>Restated Loss & LAE Reserves: 2012: $30000 + 10000 - 4000 = 36000$ 2013: $33000 + 11000 - 2000 = 42000$</p> <p>Restated Outstanding Loss Ratios: 2012: $36000/15000=2.4$ 2013: $42000/16800=2.5$</p> <p>Average Outstanding Loss Ratio: $(2.4+2.5)/2 = 2.45$</p> <p>Implied Loss & LAE Reserves: $2.45*14000 = 34300$</p> <p>Actual Loss & LAE Reserves: $34000+11500 = 45500$</p> <p>Deficiency/(Redundancy): Implied Loss & LAE Reserves - Actual Loss & LAE Reserves = $34300 - 45500 = -11200$</p> <p>IRIS 13: Ratio of Deficiency/(Redundancy) to PHS = $-11200/48000 = -23.3\%$</p> <p>Determination: Falls within the range of usual values: Less than 25%</p>	
Part b: 0.5 point	
<p>IRIS 11: Ratio of One-Year Development to Prior-Year PHS = $-2000/47000 = -4.26\%$</p> <p>IRIS 12: Ratio of Two-Year Development to Second Prior-Year PHS = $-4000/45000 = -8.89\%$</p>	
EXAMINER'S REPORT	
<p>Candidates were expected to know how to calculate the IRIS ratios and know the thresholds for usual values. In general, candidates scored well on this question. All of the information necessary to calculate the IRIS ratios was given in a table.</p>	
Part a	
<p>Candidates were expected to know how to calculate IRIS ratio 13 and know that the threshold for usual values is 25%. Candidates needed to show they could calculate the ratio correctly and make the correct determination about the whether the ratio is in the range of usual values or not.</p> <p>Common errors for this part included reversing the redundancy/deficiency by subtracting the Implied Loss & LAE Reserves from the Actual Loss & LAE Reserves, not including LAE when calculating the restated reserves and actual reserves, and using an incorrect threshold value for range determination.</p>	
Part b	
<p>Candidates were expected to know how to calculate IRIS ratios 11 & 12.</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Common errors for this part included removing the negative sign on the one and two year development and using the current PHS for the denominators instead of the prior and second prior year's PHS.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 17	
TOTAL POINT VALUE: 3.50	LEARNING OBJECTIVE: C2
SAMPLE ANSWERS	
Part a: 2 points	
<p>IRIS Ratio 5 (Two-Year Overall Operating Ratio) = Two-Year Loss Ratio (A) + Two-Year Expense Ratio (B) – Two-Year Investment Income Ratio (C) = 0.81 + 0.11 – 0.08 = 0.84</p> <p>(A) Two-Year Loss Ratio = (Losses & LAE Incurred + Policyholder Dividends) / Premium Earned = (25,000 + 22,000 + 5,000 + 4,000 + 100 + 100) / (35,000 + 34,000) = 0.81</p> <p>(B) Two-Year Expense Ratio = (Other Underwriting Expenses Incurred – Total Other Income) / Net Premium Written = (4,000 + 3,500 – 50 – 45) / (36,000 + 34,500) = 0.11</p> <p>(C) Two-Year Investment Income Ratio = Net Investment Income Earned / Premium Earned = (3,000 + 2,500) / (35,000 + 34,000) = 0.08</p> <p>Falls within usual range less than 100% or 1.00.</p> <p>OR</p> <p>= (25,000 + 22,000 + 5,000 + 4,000 + 100 + 100 – 3,000 – 2,500) / (35,000 + 34,000) + (4,000 + 3,500 – 50 – 45) / (36,000 + 34,500) = 0.73 + 0.11 = 0.84 which is less than 1, so falls within usual range</p>	
Part b: 0.25 point	
<ul style="list-style-type: none"> • The purpose of IRIS ratio 5 is to identify companies that are operating unprofitably. • To identify if a company is making an underwriting profit or a loss. • To identify if the insurer is operating at a loss or not. 	
Part c: 1.25 points	
<p>IRIS Ratio 6 (Investment Yield) = Net Investment Income Earned / Average Cash and Invested Assets, Current and Prior Year</p> <p>= 2 * Net Investment Income Earned / (Total Cash and Invested Assets (Current & Prior Year) + Investment Income Due & Accrued (Current & Prior Year) – Borrowed Money (Current & Prior Year) – Net Investment Income Earned)</p> <p>= 2 * 3,000 / (100,000 + 95,000 + 500 + 450 – 0 – 0 – 3,000) = 0.031</p> <p>OR</p> <p>= 3,000 / (0.5 *(100,000 + 95,000 + 500 + 450 – 0 – 0 – 3,000)) = 0.031</p> <p>Falls within usual range between 0.03 and 0.065</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT
<ul style="list-style-type: none">• For this question candidates were expected to know the formulas for IRIS ratio 5 and 6, show the components of the ratios as part of the calculations, and state the full range of usual values for these ratios. For part b, candidates were expected to identify for what IRIS ratio 5 is used.• Candidates performed well on parts a. and b, and had difficulty with part c.
Part a
<ul style="list-style-type: none">• The candidate was expected to know the formula for IRIS ratio 5, where the candidate should add the two-year loss and expense ratio and subtract the two-year investment income ratio. Also, the candidate had to state whether the resulting ratio falls within the usual values and what those are.• Common errors made by candidates:<ul style="list-style-type: none">○ Policyholder dividends were either omitted from the calculations, divided by written premium instead of earned premium, or subtracted instead of added.○ Total Other Income was either omitted from the calculations, divided by earned premium instead of written premium, or added instead of subtracted.○ Investment income due and accrued was added as part of the calculation of investment income ratio.○ Investment income ratio was added to loss and expense ratio instead of subtracted.○ Averaged the current and prior values for each component instead of summing the components.○ The usual values for the ratio was not mentioned.
Part b
<ul style="list-style-type: none">• The candidate was expected to mention that IRIS ratio 5 is used to identify whether the company is operating profitably.• The question asks the candidate for the <u>purpose</u> of the ratio.• Common errors included stating that the ratio is used to identify:<ul style="list-style-type: none">○ Operating efficiency○ Operating performance○ 2-year net operating ratio○ Rate / Premium adequacy○ Solvency○ Income / Cash flow
Part c
<ul style="list-style-type: none">• The candidate was expected to know the formula for IRIS ratio 6, where the candidate is expected to take the current year net investment income earned and divide by the average cash and invested assets over the current and prior year. Also, the candidate had to state whether the resulting ratio falls within the usual values and what those are.• Common errors made by candidates:<ul style="list-style-type: none">○ Used the prior year instead of current year net investment income earned in the numerator.○ Used only the current year components in the denominator instead of calculating the 2-year average.

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Did not average the denominator by forgetting to multiply the entire formula by 2 or divide the entire formula by $\frac{1}{2}$.
- If divided the entire formula by $\frac{1}{2}$, mistakenly did not apply it to the subtracted investment income in the denominator.
- Omitted the investment income due and accrued from the calculation or subtracted it instead of adding it.
- Included the investment income due and accrued in the numerator of the formula.
- Omitted the current year net investment income earned from the denominator or adding it instead of subtracting it.
- Used the current and prior year net investment income earned in the numerator and denominator instead of just the current year.
- Both the lower and upper bounds of the usual values for the ratio were not mentioned.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 18							
TOTAL POINT VALUE: 4.75				LEARNING OBJECTIVE: C1, C3, C4			
SAMPLE ANSWERS							
Part a: 2.75 points							
Accident Year	Total Net Losses and LAE Paid (1)	Total Net Losses and LAE Incurred (2)	Cum % Paid (3) = (1)/(2)	Inc % Paid (4) = (3)_AY - (3)_AY+1	% Unpaid (5) 1-(3)	Disc Unpaid : (6) =PV of future (4)	Discount Factor (7) = (6) /(5)
2001	1,800	1,800	100.0%	0.0%	████	█	
2002	2,450	2,450	100.0%	5.0%	████	██	
2003	3,010	3,170	95.0%	5.0%	████	████	████
2004	3,500	3,890	90.0%	5.0%	████	████	████
2005	4,000	4,705	85.0%	5.0%	████	████	████
2006	4,500	5,625	80.0%	15.0%	████	████	████
2007	4,150	6,385	65.0%	5.0%	████	████	████
2008	3,800	6,330	60.0%	10.0%	████	████	████
2009	3,300	6,600	50.0%	10.0%	████	████	████
2010	3,000	7,500	40.0%	40.0%	60.0%	46.8%	0.779

Since the 2010 AY is 12 months old, it is used as a proxy for AY 2012.

Discount factor: $0.779 < 0.87$
 Company should select IRS promulgated discount factor since it is greater than the factor developed from the company's own Schedule P. The higher factor will result in larger losses, lower net income and therefore lower taxes.

Part b: 1.5 points)

- Statutory EP = $7000 - (5000 - 2000) = 4000$
- Statutory Incurred Loss = $2500 + (4500 - 3500) = 3500$
- Statutory Expenses = $900 + (500-100) = 1300$
- Investment Income
 - Corp bond income (all taxable) = $3200 * 0.05 = 160$
 - Municipal bond income = $952 * .03 = 28.56$

SAMPLE ANSWERS AND EXAMINER'S REPORT

- U/W income: $4000 - 3500 - 1300 = -800$
- Net Income: $-800 + 160 + 28.56 = -611.44$

Part c: 0.5 point(s)

- We are missing the accident year breakout of reserves as of year-end 2011 and year-end 2012.
- We are missing the discount factors (or a way to get them) for the reserves by accident year in 2011 and 2012.
- We are missing the *average* discount factor for tax year 2011.
- We are missing the *average* discount factor for tax year 2012.
- Deferred tax asset or credit carryforward.

EXAMINER'S REPORT

Part a

- Candidate was expected to know how to calculate the discount factor and the tax implications of that factor.
- Most candidates did not point out the need to use AY 2010 for AY 2012. In addition, there were a number of calculation errors. Many candidates did not understand the desire for higher liabilities in order reduce income and reduce taxes.

Part b

- Candidate was expected to know how to calculate pre-tax statutory income
- Overall candidates did very well on this question. A few common errors were discounting of reserves and investment income, failure to properly account for change in expense liabilities. Several candidates stopped at calculating underwriting income and did not calculate net income.

Part c

- Candidates needed to know what was necessary to calculate taxable income.
- The most common error was stating that the AMT rate was needed.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 19	
TOTAL POINT VALUE: 2.50	LEARNING OBJECTIVE: C3
SAMPLE ANSWERS	
Part a: 1 point	
<ul style="list-style-type: none">• GAAP prospective reinsurance recoveries recorded as an asset• GAAP reserves not offset by reinsurance recoveries• GAAP reserves recorded gross• GAAP permits/allows discounting• GAAP permits/allows SAP discount • SAP prospective reinsurance recoveries offset/reduce reserves• SAP reserves recorded net• SAP generally doesn't allow discounting• SAP allows tabular discounting in specific cases	
Part b: 0.75 points	
<ul style="list-style-type: none">• IFRS prohibits offset of liabilities with reinsurance recoveries• IFRS reserves recorded gross• IFRS reserves same as GAAP • IFRS requires discounting of reserves• IFRS reserves are discounted • IFRS requires risk margin in reserves• IFRS reserves include risk margin	
Part c: 0.75 points	
<ul style="list-style-type: none">• The less that is known about the current estimate, the higher the risk margin• Risks with low frequency and high severity will have higher risk margins• Risks that persist over longer timeframes will have higher risk margins• Risks with wider probability distributions will have higher risk margins• If emerging experience reduces uncertainty, risk margins will decrease• Risk margins should be consistent over the life of the contract• Risk margins should be consistent with the current reserve estimate• Risk margins should be consistent with sound insurance pricing• Risk margins should vary by product or line based on risk differences• Risk margins should consider ease of calculation	

SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT
Part a
<p>Candidates were expected to know the treatment of prospective reinsurance and discounting under two accounting frameworks: GAAP and SAP.</p> <p>Common errors included:</p> <ul style="list-style-type: none">• GAAP discounting is the same as SAP discounting - GAAP allows SAP-type discounting at alternative interest rates and also for any line where future payments can be reasonably estimated.• Discounting is required under GAAP - GAAP allows discounting but does not require it.
Part b
<p>Candidates were expected to know the treatment of prospective reinsurance, discounting and risk margin under International Financial Reporting Standards. Common mistakes included statements that IFRS “allows” discounting and/or risk margins: in fact, IFRS <u>requires</u> both of these as components of final booked reserves.</p>
Part c
<p>Candidates were expected to know three desirable characteristics of risk margins. Common mistakes included descriptions of various methods for calculation of risk margins, which did not address the question of desirable characteristics as described by Defrain. Responses that indicated catastrophe exposure as a factor in risk margins were also deemed incorrect.</p>

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 20	
TOTAL POINT VALUE: 2	LEARNING OBJECTIVE: D1
SAMPLE ANSWERS	
Part a: 1.5 points	
<p>Scenario i: State Reasonable opinion and any two of the following disclosures:</p> <ul style="list-style-type: none"> • Disclose the name of the other actuary • Disclose the affiliation of the other actuary • Disclose that the actuary reviewed the other actuary's work • Disclose the extent of that review <p>Scenario ii: State Qualified opinion and any two of the following disclosures:</p> <ul style="list-style-type: none"> • Disclose the portion of the business (Surety) to which the qualification applies • Disclose the reason for the qualification • Disclose the amount of the carried reserves on Surety business, if disclosed by the company • Disclose that the carried reserves other than Surety book is reasonable 	
Part b: 0.5 point	
<ul style="list-style-type: none"> • State that AAA promulgates qualification standards not CAS • State that if member of AAA then must also be approved as qualified by the Casualty Practice Council or Casualty Council of AAA 	
EXAMINER'S REPORT	
Part a	
<p>The candidates were expected to identify the type of opinion to issue under two different scenarios. They were also expected to identify two required disclosures for each opinion. Common errors included :</p> <ul style="list-style-type: none"> • Stating the need to disclose other actuary's credentials or qualifications • Stating the need to disclose that the actuary relied upon the work of the other actuary without mentioning the other actuary's name, affiliation, or that he/she reviewed the other actuary's work • Stated only that no independent review was performed • Stating that surety was material, but not the amount of reserves 	
Part b	
<p>The candidates were expected to explain why the statement is not in compliance. There were two errors in the statement that the candidates were expected to comment on, however, most candidates provided only one answer. Common errors included:</p> <ul style="list-style-type: none"> • Stating that the qualification standards are promulgated by NAIC • Identifying that the CAS does not promulgate the standards without explaining who does • Stating that if member of AAA, then must be approved by state regulator, AAA, committee, board, council, working group, etc. 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 21	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE: D1
SAMPLE ANSWERS	
Part a: 0.5 point	
<p>The actions taken are <u>not appropriate</u> for two reasons</p> <ul style="list-style-type: none"> • The auditor should be retained by the insurance company, not the appointed actuary • It is the appointed actuary's responsibility to provide the list of significant data items to the auditor and should therefore be considered within the scope of the auditor's audit 	
Part b: 0.75 point	
<ul style="list-style-type: none"> • The net paid losses must be reconciled to Schedule P (Part 1) • Should be reconciled by accident year and line of business (similar responses noting that minimal necessary aggregation is appropriate were accepted) • Cumulative or incremental calendar year paid losses should be reconciled • Net paid losses should be calculated by subtracting ceded paid losses from gross paid losses in Part 1 since net paid losses are not directly provided • If the analysis is gross of salvage and subrogation (S&S), then S&S should be considered in the reconciliation (e.g. if a separate anticipated S&S analysis is performed) • If reconciliation differences are identified and cannot be explained, the appointed actuary should do one or more of the following: disclose it in the Statement of Actuarial Opinion, disclose it in the actuarial report, conclude that a Statement of Actuarial Opinion cannot be rendered, or recommend that the company inform its external auditors of the unreconciled/unexplained differences • The actuary should disclose whether he/she relied on a Schedule P reconciliation performed by someone else 	
Part c: 1 point	
<ul style="list-style-type: none"> • The actuary should notify the company (board of directors, internal audit committee, etc.) within 5 days of determining that the Statement of Actuarial Opinion was submitted in error • The notification should include a summary of the reason for the error and an amended Statement of Actuarial Opinion • An insurer who is notified pursuant to the preceding paragraphs shall forward a copy of the summary and the amended Statement of Actuarial Opinion to the domiciliary commissioner within 5 days and shall cc: the Appointed Actuary. <u>If the Appointed Actuary is not made aware that the domiciliary commissioner has been notified, the Appointed Actuary shall notify the domiciliary commissioner within the next 5 days that the submitted Statement of Actuarial Opinion should no longer be relied upon.</u> 	
EXAMINER'S REPORT	
Part a	
<p>Candidates were expected to demonstrate their understanding of the relationship between the insurer, appointed actuary, and auditor. In addition, candidates should have known that the actuary is responsible for identifying the data items significant to the actuary's analysis, not the auditor. A common error included not identifying that the auditor should be retained by the insurer, not the appointed actuary.</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part b

This part required that the candidates demonstrate knowledge on the Schedule P reconciliation process. Candidates should have been able to point out what (cumulative or incremental net paid losses), where (Schedule P Part 1) and the level of granularity (line of business and accident year, where possible) should be reconciled. While most candidates identified that the reconciliation should be performed against Schedule P, many omitted one or more dimensions of the reconciliation.

Part c

Candidates performed well on this part and many were able to identify the required actions of the appointed actuary in the event that a Statement of Actuarial Opinion was issued in error. One common error seen in papers was identifying actions of the insurer, without following up on what the Appointed Actuary needs to do in the event of possible "inaction" on the part of the insurer.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 22	
TOTAL POINT VALUE: 1.75	LEARNING OBJECTIVE: C2, D1
SAMPLE ANSWERS	
Part a: 1 point(s)	
<p>RBC Ratio: $22 / (10) = 220\% \Rightarrow$ Between 200% - 300%, perform Trend Test on Combined Ratio</p> <p>Combined Ratio = $160/180 + (55+5)/ 200 = 118.9\%$ and this is < 120%</p> <p>No trigger</p>	
Part b: 0.75 point(s)	
<p>Deficient or Inadequate</p> <p>Booked loss reserves are less than reasonable/minimum range or \$156<\$158.</p> <p>Disclose the minimum amount the actuary believe is reasonable or the amount by which the actuary believes the carried reserves are deficient</p>	
EXAMINER'S REPORT	
<p>This question required a candidate to demonstrate a basic understanding of how to calculate the RBC ratio and additional calculation when the RBC ratio is close to but above Company Action Level. This question also required candidates to evaluate what type of opinion should be issued based on the information contained in the question, the rationale behind the type of opinion selected, and the appropriate disclosure for this type of opinion.</p>	
Part a	
<p>The candidate was expected to know how to calculate the RBC ratio and evaluate that it was not less than 200% based on the information provided in the question. The candidate was also expected to know that an additional test, the Trend Test, is required when the RBC ratio is between 200%-300%.</p> <p>Most of the errors committed by candidates concerned the calculation of the combined ratio for the Trend Test or not knowing that the Trend Test needed to be calculated given the RBC ratio. Candidates often divided expenses by earned premium instead of written premium or failed to add the aggregate write-ins as part of the expense portion of the combined ratio.</p>	
Part b	
<p>The candidate was expected to know and answer all three parts of this question. Understanding the types of Statement of Actuarial Opinion, the rationale behind issuing the opinion based on the individual facts, and the disclosures required within the OPINION section for the type of opinion were considered core knowledge.</p> <p>In order to receive credit, the candidate needed to successfully identify the type of Statement of</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Actuarial Opinion the actuary should issue and that the rationale for issuing a deficient or inadequate opinion is due to the booked reserves are less than the actuary's reasonable range of reserves.

Common errors include simply not including the rationale for the type of opinion or saying that the actuary's entire range needed to be disclosed.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 23																					
TOTAL POINT VALUE: 1.75	LEARNING OBJECTIVE: D1																				
SAMPLE ANSWERS																					
Part a: 0.75 point																					
<ul style="list-style-type: none"> • The actuary must state whether: <ul style="list-style-type: none"> ○ IRIS 11: One-year Dev to PHS ○ IRIS 12: Two-year Dev to PHS ○ IRIS 13: Est. Res. Deficiency to PHS <p>are within the usual range. If any of the ratios fall outside of the usual range, the actuary must disclose this and provide reasoning.</p> • The actuary must disclose whether there were any exceptional values for IRIS Ratios 11, 12, and 13 (1 year Dev:Surplus, 2 year Dev:Surplus, Current Reserve deficiency to surplus). If there are exceptional values the actuary must comment on the risk factors or company actions that contributed to the exceptional values. • The Appointed Actuary should comment on IRIS Ratios #11, #12, and #13 in the Relevant Comments of the SAO. He/she must comment on any unusual values for these ratios and provide comments regarding the causes of these unusual values. If the values are in the usual ranges, the actuary should state that. • Actuary should calculate IRIS Ratio 11, 12, 13 for current year, if any values are in unusual range, state why those unusual values happened, what reasons are behind of it. 																					
Part b: 1 point																					
<p>One-year adverse development as a percent of (prior-year) surplus</p> <table border="1"> <thead> <tr> <th></th> <th><u>2014</u></th> <th><u>2013</u></th> <th><u>2012</u></th> <th><u>2011</u></th> </tr> </thead> <tbody> <tr> <td>Development</td> <td>100</td> <td>85</td> <td>50</td> <td>-10</td> </tr> <tr> <td>Prior Surplus</td> <td>900</td> <td>850</td> <td>750</td> <td>700</td> </tr> <tr> <td>Ratio</td> <td>11.11%</td> <td>10.00%</td> <td>6.67%</td> <td>-1.43%</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • Need to disclose that the actuary has examined the one-year adverse reserves development as a percentage of prior year's surplus and there are 3 out of 4 years (although should look at 5 years) where the ratios have exceeded 5%. These years are 2014, 2013, and 2012. Disclose the reason for such observation for e.g. there are ____, ____, ____ risks that could lead to material adverse deviation. • In three out of the last 5 years development has been greater than 5% of surplus, so Appointed Actuary will need to disclose what is causing the development such as line of business, AY or exposure type. • Because there has been adverse development greater than 5% of surplus in at least 3 of the last 5 years, the Actuary needs to disclose this. He/she should list the years in which this happened (2014, 2013, 2012) and provide an explanation of the significant factors that caused this adverse development. • Because the company experienced one year adverse development to surplus greater than 5% in 3 of the past 5 years, the actuary must comment on the factors or company actions that contributed to the adverse development. 			<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	Development	100	85	50	-10	Prior Surplus	900	850	750	700	Ratio	11.11%	10.00%	6.67%	-1.43%
	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>																	
Development	100	85	50	-10																	
Prior Surplus	900	850	750	700																	
Ratio	11.11%	10.00%	6.67%	-1.43%																	

SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT
<ul style="list-style-type: none">• The candidate was expected to know the disclosure in the Statement of Actuarial Opinion related to the IRIS ratios as well as the disclosure in the Actuarial Opinion Summary related to the loss development• Candidates generally scored fairly well on the question as a whole.
Part a
<ul style="list-style-type: none">• The candidate was expected to know that the disclosure in the Statement of Actuarial Opinion related to the IRIS Ratios involved reviewing ratios 11, 12 and 13 to determine if they produced exceptional values, and if they did produce exceptional values the actuary needs to disclose reasons why.• The most common error made by candidates was not stating that the actuary needs to disclose reasons for the exceptional values. Some other common errors included stating the incorrect IRIS ratios, or confusing this disclosure with the disclosure in the Notes in the Annual Statement.
Part b
<ul style="list-style-type: none">• The candidate was expected to know that the disclosure in the Actuarial Opinion Summary related to the loss development involved disclosing whether or not the ratio of one-year development to prior year's surplus exceeded 5% in at least 3 of the last 5 years, and if so, discussing the cause(s) of the adverse development.• Candidates were expected to properly calculate the ratios and provide commentary on the additional required disclosures.• Common errors included calculating the ratios based on the current year's surplus instead of the prior year's surplus, and neglecting to state that the actuary needs to disclose the cause(s) of the adverse development

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 24	
TOTAL POINT VALUE: 3.5	LEARNING OBJECTIVE: D
SAMPLE ANSWERS	
Part a: 1.5 points	
<ul style="list-style-type: none"> • <u>Percent of Surplus</u>: For example, 5% of surplus = 12.5: 10% of surplus = 25.0: 15% of Surplus = 37.5; or 20% of surplus = 50.0. • <u>Percent of Held Reserves</u>: For example, 5% of Held = 20; 10% of Held = 25; or 15% of Held = 60. • <u>Amount of Deviation to cause RBC to fall to the next action level</u>: Company Action Level = 2 X ACL = 100. Next level = Total Adjusted Capital – Company Action Level= 250-100 = 150. 	
Part b: 1 point	
<ul style="list-style-type: none"> • Selection and Justification: <ul style="list-style-type: none"> ○ Selected X because it is the lowest of the 3 calculated or most conservative ○ Selected X because it is the middle of the 3 calculated ○ Selected X because it would trigger an IRIS ratio ○ Selected Surplus because it is most commonly used ○ Selected RBC level because a company action level (200%) would be triggered. If a company might get to the next action level, then the company will be at company action level, causing it to take action and submit a plan to the regulators. • Calculate Standard: <ul style="list-style-type: none"> ○ Show the calculation of reserve + materiality standard selected above and its relativity to 500 (high end of range) • Determine RMAD: <ul style="list-style-type: none"> ○ RMAD exists if the Reserve + materiality standard is less than 500 ○ RMAD does not exist if the Reserve + materiality standard is greater than 500 	
Part c: 1 point	
<ul style="list-style-type: none"> • Catastrophic weather events (or Hurricanes, flooding, earthquake, etc.) • New Products or new markets (or Short time in the business, Limited knowledge of exposures) • Rapid growth in one or more lines of business (or expansion into new states) • Lack of data or unexpected and unexplained changes in data. (or Quality / accuracy of data (this implies Lack of data)) • Operational Changes that are not objectively quantified • Sudden unexplained changes in frequency or severity of reported data for a line of business or segment (or Bad economy; or Changes in economic conditions, such as unemployment, housing prices etc.) • Changes in adequacy of known case reserves (or Adverse development in existing losses; or Inadequate Reserving in past; or Change in claim settlement practice; or Change in reserving practice) 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

<ul style="list-style-type: none">• Effect of Anticipated Salvage and subrogation to be received.• Reinsurance Collectability (Risk that reinsurers or the creditors default)• Residual Market and involuntary pools• Change in legislation or court rulings
EXAMINER'S REPORT
<p>This question on the Statement of Actuarial Opinion asked the candidate to propose three materiality standards based on some relevant data given and then to select one standard and justify its use in the opinion and conclude whether or not there is a risk of material adverse deviation. The candidate also needed to identify four risk factors that the actuary might consider when preparing the Statement of Actuarial Opinion.</p>
Part a
<ul style="list-style-type: none">• The candidate was expected to know at least three possible standards. Most candidates were able to identify three standards that could be calculated based on the information given.• Most candidates were able to calculate the three common values.• Common errors included: some candidates assumed Total Adjusted Capital was the actual capital and used it for calculating a ratio, while others selected random numbers such as the high point of the range, said calculating "Authorized Control Level" but calculated "Company Action Level" or vice versa
Part b
<p>In selecting a material standard from the standards calculated above, most candidates correctly selected the lowest value standard calculated and identified that this standard indicated that there was a risk of MAD.</p> <ul style="list-style-type: none">• Some candidates selected RBC and were required to give a more detailed reason why this was selected since it was not the lowest, was a large % of surplus, and there was not an expectation of MAD.• The common mistake made was not justifying the answer selected or selecting a value that was not the lowest without a well thought out reason.
Part c
<ul style="list-style-type: none">• The last part of the question asked the candidates to identify four risk factors that an Appointed Actuary might consider when preparing the Statement of Actuarial Opinion for a personal lines carrier.• The instructions in the practice note require the opining actuary to comment in the Relevant Comment Section on major risk factors underlying the significant risks and uncertainties considered even when no risk of MAD is judged to exist.• A common mistake was to identify risk factors relating to Commercial lines such as Work Comp and General Liability etc. The question asked for risk factors relating to a Personal lines carrier. Some wrong answers included the following factors<ul style="list-style-type: none">○ Asbestos. Construction Defect (Chinese Dry Wall), Exposure related to mortgage defaults, High Excess layers, Impact of soft market conditions, large deductible worker comp claims, medical professional liability legislative issues.• Other wrong answers came from a long list of items, including the ones listed below.

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Geographical range of company without mentioning catastrophe risk
- Retroactive reinsurance or cessions to reinsurers without stating anything regarding significant/high level of collectability risk
- Political environment, as this is a general risk (unless it was stated that this specific to the company for a particular reason)
- Risk of material adverse development, since the question is looking for risk factors for purposes of determining whether or not there are significant risks that could result in material adverse deviation
- Risk that reserves are inadequate, for the same reason as noted above (i.e., what are the risk factors that could result in material adverse deviation)
- Fraud, as this is a general risk (unless it was stated that this specific to the company for a particular reason)
- Credit Risk, Premium Risk, Reserving Risk, Interest Rate Risk, as these are general risks (unless it was stated that these risks were specific to the company for a particular reason(s))
- The economy, as this is a general risk (unless it was stated that this specific to the company for a particular reason)
- Intercompany pooling
- Salvage and subrogation, without stating anything regarding collectability of such
- Shift in long tail vs short tail, since the question was specific to personal lines
- Foreign exchange rates, since the question was specific to personal lines

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 25	
TOTAL POINT VALUE: 2.75	LEARNING OBJECTIVE: D1
SAMPLE ANSWERS	
Part a: 0.75 point	
<ul style="list-style-type: none">• ASOP 20 - Discounting of Property/Casualty Unpaid Claim Estimates<ul style="list-style-type: none">○ Provides information on discounting procedures and disclosures;○ Addresses discounting to present value of unpaid claim estimates for property/casualty coverages • ASOP 23 – Data Quality – provides guidance on the preparation of data to complete analysis • ASOP 36 - Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves<ul style="list-style-type: none">○ Provides guidance on the preparation/requirements of the Statement of Actuarial Opinion○ standard applies to actuaries when providing written statements of actuarial opinion with respect to property/casualty loss and loss adjustment expense reserves • ASOP 41 – Actuarial Communications<ul style="list-style-type: none">○ Provides guidance on disclosures and items required for communication of actuarial opinions○ This standard applies to actuaries issuing actuarial communications within any practice area • ASOP 43 – Property/Casualty Unpaid Claim Estimates<ul style="list-style-type: none">○ Guidance on development of unpaid claim estimates including methodologies and assumptions○ This standard applies to the actuary when estimating unpaid claims for all classes of entities	

SAMPLE ANSWERS AND EXAMINER'S REPORT

Part b: 2 points

Item	Actuarial Report	Annual Statement	Statement of Actuarial Opinion (SAO)	Actuarial Opinion Summary (AOS)
#1	X			X
#2	X	X	X	X
#3	X		*	
#4	X			

* The SCOPE paragraph should contain a sentence explaining that the actuary has examined the actuarial assumptions and methods used in determining the reserves in the Annual Statement. Because of this requirement may be considered a description of the actuary's role in setting reserves (Item #3), full credit was possible whether candidates marked the SAO column of item #3 or not.

EXAMINER'S REPORT

Part a

The candidate was expected to know the Actuarial Standards of Practice (ASOPs) and the application of key concepts; in this case, the candidate needed to know which ASOPs applied to loss reserving and opinions. Common errors included

- Listing only ASOP numbers or ASOP numbers and partial titles rather than describing the ASOP.
- Mismatched ASOP numbers and titles
- Not relating the responses back to an ASOP, took several statements from a single ASOP, or created ASOPs that didn't exist (i.e. Materiality, Reinsurance)
- Including SSAP items or FASB items without description

Part b

The candidate was expected to have basic knowledge of the Actuarial Report and the components contained therein. Candidates that were familiar with the material generally scored well on this part.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 26																	
TOTAL POINT VALUE: 4.25	LEARNING OBJECTIVE: E 1(b), C 2(b)																
SAMPLE ANSWERS																	
Part a: 1 point																	
<p>Sample 1 Contract #1: 10% Probability of a loss corresponds to a \$20,000 ground-up loss Profit/Loss = \$10,000 - \$20,000 = -\$10,000 Profit/Loss (as a % of premium) = -\$10,000 / \$10,000 = -100% Contract #1 passes because there is a 10% probability of a 10% loss to the reinsurer.</p> <p>Contract #2: 10% Probability of a loss corresponds to a \$500 ground-up loss Profit/Loss = \$10,000 - \$500 = \$9,500 Profit/Loss (as a % of premium) = \$9,500 / \$10,000 = 95% Contract #2 does not pass because there is not a 10% probability of a 10% loss to the reinsurer.</p> <p>Sample 2 Contract #1: Ground-up loss amount corresponding to a 10% loss to the reinsurer: $1.1 \times \\$10,000 = \\$11,000$ Any loss equal to or greater than \$11,000 would be a 10% or greater loss to the reinsurer.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Probability of outcome</th> <th style="padding: 5px;">Contract #1 Ground-Up Loss Outcome</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">0.01</td> <td style="padding: 5px;">113,000</td> </tr> <tr> <td style="padding: 5px;">0.04</td> <td style="padding: 5px;">43,000</td> </tr> <tr> <td style="padding: 5px;">0.05</td> <td style="padding: 5px;">30,000</td> </tr> <tr> <td style="padding: 5px;">0.10</td> <td style="padding: 5px;">20,000</td> </tr> </tbody> </table> <p>Adding up the probabilities of ground-up losses greater than \$11,000 : $0.01 + 0.04 + 0.05 + 0.1 = 0.20$ Therefore contract #1 passes because there is a 20% probability of a 10% or more loss to the reinsurer.</p> <p>Contract #2: Ground-up loss amount corresponding to a 10% loss to the reinsurer: $1.1 \times \\$10,000 = \\$11,000$ Any loss equal to or greater than \$11,000 would be a 10% or greater loss to the reinsurer.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Probability of outcome</th> <th style="padding: 5px;">Contract # 2 Ground-Up Loss Outcome</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">0.01</td> <td style="padding: 5px;">111,000</td> </tr> <tr> <td style="padding: 5px;">0.04</td> <td style="padding: 5px;">11,000</td> </tr> </tbody> </table>		Probability of outcome	Contract #1 Ground-Up Loss Outcome	0.01	113,000	0.04	43,000	0.05	30,000	0.10	20,000	Probability of outcome	Contract # 2 Ground-Up Loss Outcome	0.01	111,000	0.04	11,000
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SAMPLE ANSWERS AND EXAMINER'S REPORT

Adding up the probabilities of ground-up losses greater than \$11,000 : $0.01 + 0.04 = 0.05$
Therefore contract #2 does not pass because there is only a 5% probability of a 10% or more loss to the reinsurer.

Part b: 3 points

Sample 1:

Reinsurance Recoverables: $\$43,000 * 0.1 = \$4,300$

Interest, Dividends, Due and Accrued: $\$6,000 * 0.01 = \60

Federal Income Tax Recoverable: $\$21,000 * 0.05 = \$1,050$

Aggregate Write-Ins for other than Invested Assets: $\$4,500 * 0.05 = \225

Total = $\$5,635$

Loss Reserve RBC after loss concentration = $\$75,000$

Reserve RBC > RBC for reinsurance + non-invested assets

$\$75,000 > \$5,635$

Therefore, half the reinsurance charge moved to R4.

Total R3 charge = $\$5,635 - (\$4,300 / 2) = \$3,485$

Total R4 charge = $\$75,000 + (\$4,300 / 2) = \$77,150$

Part c: 0.25 point

Sample 1:

Expected Reinsurer Deficit (ERD): the probability of a net present value underwriting loss for the reinsurer multiplied by the NPV of the average severity of the underwriting loss.

Sample 2:

$ERD = P(\text{U/W loss}) * \text{Average Value of U/W Loss}$

Sample 3:

The expected value of a net present value underwriting loss

Sample 4:

$ERD = P(\text{reinsurance loss}) * \text{severity of reinsurance loss}$

SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT
Part a
<p>Candidates were expected to correctly perform the 10-10 risk transfer test and to explain why each contract does or does not qualify as risk transfer.</p> <p>The most common errors were:</p> <ul style="list-style-type: none">• Many candidates did not understand that the 10-10 rule needs to be applied based on underwriting loss. Many candidates compared loss ratio to 10% or determined minimum ground up loss to pass 10-10 rule was $\\$10,000 * 10\% = \\$1,000$.• Using the reinsurance recoverable from each contract as premium.
Part b
<p>Candidates were expected to know the components of both R3 and R4 and the charges that apply to each category.</p> <p>The most common errors were:</p> <ul style="list-style-type: none">- Applying the incorrect RBC charges to each category.- Adding the reinsurance recoverable from contract #2 to the RBC charge.- Not removing half the reinsurance recoverable charge from R3 and adding it to R4.
Part c
<p>Candidates either knew the answer to this question or did not. The majority of candidates received full credit for part c. There were no common themes to the incorrect responses.</p>

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 27	
TOTAL POINT VALUE: 3.5	LEARNING OBJECTIVE: E1, C2
SAMPLE ANSWERS	
Part a: 2.5 points	
<p>Insurer's benefit = Commutation Price – Discounted Ceded Reserves + Tax Benefit Lowest acceptable price = L Net Benefit = 0 = L – 2M + (3M * 0.85 – L) * 0.35 Solve for L, 1.7M. Primary will commute if price is > 1.7M.</p> <p>Reinsurer's benefit = - Commutation Price + Discounted Ceded Reserves – Tax Loss Highest acceptable price = H Net Benefit = 0 = -H + 2M – (3M * 0.8 – H) * 0.2 Solve for H, 1.9M. Reinsurer will commute if price is < 1.9M.</p> <p>Any price between 1.7M and 1.9M will mutually benefit both parties.</p>	
Part b: 0.5 point	
<p>IRIS Ratio 1 = GWP / PHS Surplus decreases because the price is less than the ceded reserves. Thus, the ratio will increase.</p>	
Part c: 0.5 point	
<p>IRIS Ratio 3 = Change in NWP There is no change to either prior or current NWP. Thus, there is no change to the ratio.</p>	
EXAMINER'S REPORT	
<p>Candidates were expected to articulate the gain/loss to each party, and understand that each party is motivated to commute if income is > 0. Candidates were also expected to know the definitions of IRIS ratios 1 and 3, and to apply accounting concepts to correctly determine the directional impact of the deal.</p>	
Part a	
<p>Candidates struggled with part a. The paper from which the question was drawn provided a clear example for the tax component, but was less explicit about the other aspect of the deal (the existing ceded reserves).</p> <p>Common errors included the following:</p> <ul style="list-style-type: none"> • Using gross financials instead of ceded • Applying the discount rate to the wrong terms • Setting equal the two parties' tax impact components only, and then solving • Reversing the cash flows of the two parties (i.e., sign errors for terms) • Calculation errors 	
Part b	
<p>Candidates were expected to know how the commutation would impact the calculation of IRIS ratio 1.</p> <p>Common errors included the following:</p>	

SAMPLE ANSWERS AND EXAMINER'S REPORT

- Not knowing the definition of IRIS Ratio 1
- Not understanding that Policyholder Surplus will decrease
- Stating that Gross Written Premium changes as a result of the commutation (it does not)

Part c

Candidates were expected to know how the commutation would impact the calculation of IRIS ratio 3.

Common errors included the following:

- Not knowing the definition of IRIS ratio 3
- Stating that Net Written Premium is impacted by the commutation (it is not)