INSTRUCTIONS TO CANDIDATES

1. This 100 point examination consists of 85 questions divided into two sections. Section I contains 36 true/false questions worth .5 point each. Section II contains 49 problem and essay questions worth a total of 82 points.

2. To answer the true/false questions, use the short-answer card provided and a number 2 or HB pencil. Mark your short-answer card during the examination period. No additional time will be allowed for this after the exam has ended. Please make your marks dark and fill in the spaces completely. Fill in that it is Spring 2002, and the exam number, 7-United States.

Darken the spaces corresponding to your Candidate ID number. Five rows are available. If your Candidate ID number is fewer than 5 digits, include leading zeros. (For example, if your Candidate ID number is 987, consider that your Candidate ID number is 00987, enter a zero on the first row, 0 on the second row, 9 on the third row, 8 on the fourth row, and 7 on the fifth [last] row.) Please write in your Candidate ID number next to the place where you darken the spaces for your Candidate ID number. Your name, or any other identifying mark, must not appear on the short-answer card.

For the true/false questions, mark “A” for “true” on the short-answer card, and mark “B” for “false” on the short-answer card. In grading the true/false questions, the point value of the question will be subtracted for each incorrect answer. No points will be added or subtracted for responses left blank.

3. For the problem and essay questions, the number of points for each full question or 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 other colors.

Write your Candidate ID number and the examination number, 7US, at the top of each answer sheet. Your name, or any other identifying mark, must not appear.

Do not answer more than one question on a single sheet of paper. Write on only the lined side of the paper, and be careful to give the number of the question you are answering on each sheet.

The answer should be concise and confined to the question as posed. When a list of a specific size is requested, do not offer more items in your list than the number requested. For example, if you are requested to list three items, only the first three responses will be graded.

CONTINUE TO NEXT PAGE OF INSTRUCTIONS

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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.

4. Do all problems until you reach the last page of the examination where “END OF EXAMINATION” is marked.

5. 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.

6. 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.

7. At the beginning of the examination, check through the exam booklet for any missing or defective pages. The supervisor has additional exams for those candidates who have defective exam booklets.

8. Candidates must remain in the examination center until two hours after the start of the examination. 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.

9. At the end of the examination, place the short-answer card and all answer sheets in the Examination Envelope. Please insert your answer pages in your envelope in question number order. Insert a numbered page for each question, even if you have not attempted to answer that question. BEFORE YOU TURN IN THE EXAMINATION ENVELOPE TO THE SUPERVISOR, BE SURE TO SIGN IT IN THE SPACE PROVIDED ABOVE THE CUT-OUT WINDOW.

Anything written in the examination booklet will not be graded. Only the short-answer card and the answer sheets will be graded.

10. 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.)

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 on the CAS website under the Exams section at www.casact.org.

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

CONTINUE TO NEXT PAGE OF INSTRUCTIONS
11. 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 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.

12. An examination survey and postage-paid reply envelope are included with the examination. No postage is necessary for surveys mailed within the United States. Candidates mailing the survey outside the United States should use the courtesy reply envelope distributed by your exam supervisor. Please complete the survey and leave it with the examination supervisor, or take the survey and envelope with you when leaving the examination center. Please submit the survey to the CAS Office by May 28, 2002. Please do not enclose the survey in the Examination Envelope.

END OF INSTRUCTIONS
SECTION I, QUESTIONS 1-36. TRUE/FALSE QUESTIONS (.5 POINT EACH)

1. According to Lorimer et al., *The Legal Environment of Insurance*, in order to establish strict liability in a product liability action, the plaintiff must prove that the product was defective at the time of injury.

2. According to Keeton, "The Impact on Insurance of Trends in Tort Law," under the doctrine of *res ipsa loquitur*, the plaintiff in a liability suit must offer proof of negligence on the part of the defendant.

3. According to O'Connell and Joost, "Giving Motorists a Choice Between Fault and No-Fault Insurance," a Department of Transportation report states that typical auto insurance benefits in traditional states fall short of the needs of catastrophically injured victims.

4. According to Greene, "Government Insurers," unemployment insurance laws are administered so that many seasonal workers may collect benefits during the off-season.

5. According to Greene, "Government Insurers," a major reason behind state property insurance plans is to save the state money.

6. According to Greene, "Government Insurers," state Workers Compensation funds are more efficient than private insurers.

7. According to Musulin, "Issues in the Regulatory Acceptance of Computer Modeling for Property Insurance Ratemaking," one of the anticipated long-term effects of the use of computer models in pricing is that aggregate losses should decline.

8. According to Brady et al., *The Regulation of Insurance*, the McCarran-Ferguson Act returned regulation of the business of insurance to the federal government.

9. According to Brady et al., *The Regulation of Insurance*, health insurers that improperly deny a claim under an employee benefit plan are *not* subject to punitive damages.

10. According to Brady et al., *The Regulation of Insurance*, using the doctrine of reasonable expectations, courts are required to interpret policy provisions in the ways they were intended by the insurer.

CONTINUED ON NEXT PAGE
11. According to Brady et al., *The Regulation of Insurance*, all insurance companies operating in a state are subject to financial regulation.

12. According to Brady et al., *The Regulation of Insurance*, most state legislatures agree with the concept of the NAIC’s accreditation program.

13. According to Brady et al., *The Regulation of Insurance*, the goal of the NAIC’s Early Warning Tests is to alert insurance regulators of the need to institute guaranty fund assessments.

14. According to Brady et al., *The Regulation of Insurance*, under the “savings clause” in the Employee Retirement Income Security Act (ERISA), all employee benefit plans are exempt from state legislation.

15. According to Wagner, “Insurance Rating Bureaus,” one of the reasons rating bureaus were formed was to establish and maintain adequate rates.

16. According to Harrington, “Insurance Rate Regulation in the 20th Century,” prior approval rate regulation can generally be expected to reduce insurance company profits in the long run.

17. According to Harrington, “Insurance Rate Regulation in the 20th Century,” regulatory restrictions on risk classification can be an effective way to reduce the size of the residual market.

18. According to Joskow, “Cartels, Competition, and Regulation in the Property-Liability Insurance Industry,” the insurance regulatory process has been a cause of supply shortages in the U.S. property insurance industry.

19. According to National Association of Insurance Commissioners, “Report of the Advisory Committee on Competitive Rating to the National Association of Insurance Commissioners,” studies indicate that insolvencies occur regardless of the form of rate regulation.

20. According to Feldblum, “NAIC Property/Casualty Insurance Company Risk-Based Capital Requirements,” the reserving risk charge measures the adequacy of reported reserves.

CONTINUED ON NEXT PAGE
21. According to Feldblum, "NAIC Property/Casualty Insurance Company Risk-Based Capital Requirements," the major risk for fixed-income securities is default risk.

22. According to Wilcox, "The US Guaranty Association Concept at 25," claims made by other insurance companies are excluded from guaranty association coverage.

23. According to Troxel and Bouchie, *Property-Liability Insurance Accounting and Finance,* the IRIS tests determine whether or not a company is solvent.


28. According to the "Property & Casualty Practice Note, Statements of Actuarial Opinion on P&C Loss Reserves as of December 31, 2000," when issuing a deficient opinion because of inadequate reserves, the actuary must disclose the amount by which the reserve differs from the minimum amount the actuary feels is reasonable.

29. According to Feldblum, "Reinsurance Accounting: Schedule F," there may be a large provision for reinsurance despite the absence of an anticipated reinsurance collectibility problem.

30. According to Feldblum, "Completing and Using Schedule P," the claim counts shown in Part 1 of Schedule P are net of reinsurance.
31. According to Almagro and Ghezzi, "Federal Income Taxes—Provisions Affecting Property/Casualty Insurers," if a company discounts reserves on a statutory basis, then the reserves need to be grossed up before tax discount factors are applied.

32. According to Feldblum, "The Insurance Expense Exhibit and the Allocation of Investment Income," the reserves shown on Part II of the IEE are discounted.

33. Kurz, "Uniform Classification of Expenses for Property and Liability Insurance Companies," asserts that the cost incurred in the uniform classification of expenses generally exceeds the benefits received from the process.

34. According to the Casualty Actuarial (Technical) Task Force, "Clarification of Revised ALAE Definition," loss adjustment expenses for involuntary market pools should be classified as ALAE (under the revised definition) if reported by accident year.

35. According to the Casualty Actuarial (Technical) Task Force, National Association of Insurance Commissioners, "Clarification of Revised ALAE Definition," the revised definition of ALAE defines ALAE as expenses that can be related to specific claims.


CONTINUED ON NEXT PAGE

4
37. (2.25 points)

Lorimer et al., *The Legal Environment of Insurance*, discuss several defenses available for strict liability actions.

a. (2 points)

Identify and briefly describe four of these defenses.

b. (0.25 point)

Provide an example of a situation in which one of the defenses in part a. above may be used.

38. (1.25 points)

Keeton, "The Impact on Insurance of Trends in Tort Law," discusses the late-reporting nature of professional liability insurance.

a. (0.5 point)

Explain why this aspect of professional liability causes a problem for the insurance industry.

b. (0.25 point)

Explain how the insurance industry changed professional liability contracts to address the problem in part a. above.

c. (0.5 point)

Explain one advantage and one disadvantage to policyholders of the contract change in part b. above.
39. (1 point)

Keeton, "The Impact on Insurance of Trends in Tort Law," discusses the approaches courts use to determine fault for various causes of injury.

a. (0.5 point)

Identify and briefly describe the workers compensation approach used to determine fault for injuries suffered in the workplace.

b. (0.5 point)

Briefly describe how compensation for pain and suffering is determined under workers compensation and compare this to the way compensation for pain and suffering is determined in a product liability action.

40. (1.5 points)

Keeton, "The Impact on Insurance of Trends in Tort Law," presents several criticisms of the negligence system. Briefly describe three of these criticisms.

41. (2 points)

According to Hensler et al., *Trends in Tort Litigation, The Story Behind the Statistics*, contingency fees are the most hotly debated item about tort litigation.

a. (1 point)

Describe two criticisms of the contingency fee system.

b. (1 point)

Describe two arguments in support of the contingency fee system.
42. (1 point)

Based on O'Connell and Joost, "Giving Motorists a Choice Between Fault and No-Fault Insurance," explain why each of the following groups might oppose a no-lawsuit no-fault law:

a. (0.5 point)
   Casualty insurance companies

b. (0.5 point)
   Motorists

43. (1 point)

A young person with 5 children and a dependent spouse argues that OASDHI is unfair to him because of intergenerational transfer. Use the information from Hallman and Hamilton, Personal Insurance: Life, Health, and Retirement, to answer the following:

a. (0.5 point)
   Describe one characteristic of OASDHI that counteracts this person's argument.

b. (0.5 point)
   Describe how intergenerational transfer is involved in the funding method of OASDHI.

44. (1 point)

According to Rejda, "Financing the Social Security Program," a fully funded OASDI program is considered unnecessary.

a. (0.75 point)
   Identify three of Rejda's arguments as to why full funding is unnecessary for the OASDI program.

b. (0.25 point)
   Why did Rejda argue that private pension plans must emphasize full funding?
45. (1 point)

According to Rejda, "Financing the Social Security Program," what are two arguments in favor of keeping present investment policies for the OASDI trust fund?

46. (1 point)

Greene, "Government Insurers," makes several distinctions between insurance and social welfare. One of the major distinctions Greene makes regards eligibility for and funding of benefits.

a. (0.5 point)

Briefly describe the eligibility for and the funding of social welfare programs.

b. (0.5 point)

Briefly describe the eligibility for and the funding of insurance plans.

47. (1 point)

Musulin, "Issues in the Regulatory Acceptance of Computer Modeling for Property Insurance Ratemaking," discusses several disincentives for insurers to inflate loss estimates by manipulating computer models. Briefly describe two of these disincentives.

48. (1 point)

Bartlett, Klein, and Russell, "Attempts to Socialize Insurance Costs in Voluntary Insurance Markets: The Historical Record," describe justifications used to promote socialization of insurance costs. Describe two of the justifications.
49. (1.25 points)


a. (0.75 point)

Describe three constraints imposed by Michigan's EIA.

b. (0.5 point)

What was the primary impact of the Act on Michigan's Residual Market Mechanism, and why?

50. (1 point)

According to Brady et al., **The Regulation of Insurance**, the immediate effect of the Southeast Underwriters Association decision was that federal legislation now applied to insurance. Briefly describe the purpose of each of the following federal acts:

- The Sherman Act
- The Robinson-Patman Act

51. (1.5 points)

According to Brady et al., **The Regulation of Insurance**, the Product Liability Risk Retention Act of 1981 is an example of federal legislation that applies directly to insurance.

a. (0.5 point)

For this piece of legislation, briefly describe the problems that Congress was addressing.

b. (0.5 point)

Explain the federal government's role under the Product Liability Risk Retention Act.

c. (0.5 point)

Compare this role with the government's role under the National Flood Insurance Plan.
52. (2 points)

Joskow, "Cartels, Competition and Regulation in the Property-Liability Insurance Industry," comes to several conclusions about various aspects of the property-liability insurance industry. Describe one conclusion for each of the following aspects of the industry:

a. (0.5 point)
   Market structure

b. (0.5 point)
   Economies of scale

c. (0.5 point)
   Barriers to entry

d. (0.5 point)
   Need for extensive regulation

53. (1.5 points)

Joskow, "Cartels, Competition, and Regulation in the Property-Liability Insurance Industry," presents a model of insurance company expenses. His formula is reproduced below:

\[ E = a + (b \times DPREM) + (c \times INTER) + (d \times RATIO) + (e \times DWRITE). \]

Where:

\( E \) = expenses as a percentage of premiums written or earned.
\( DPREM \) = direct premium volume.
\( INTER \) = direct premium volume of direct writers and zero for agency companies.
\( RATIO \) = net premiums / direct premiums.
\( DWRITE \) = dummy variable = 1 for direct writers and 0 otherwise.

Joskow performs a regression against actual industry data to estimate values for the various factors.

For each of the coefficients b, c, and e, what would be the implication if the estimated coefficient were negative?

CONTINUED ON NEXT PAGE
54. (1 point)

Krohm, “Implications of ISO’s Change to Loss Cost Filings for Rate Regulation,” examines the potential impact of ISO’s switch to loss cost filings on the structure and competitiveness of the insurance industry.

a. (0.5 point)

Briefly explain Krohm’s conclusions regarding the impact on the structure of the industry.

b. (0.5 point)

Briefly explain Krohm’s conclusions regarding the impact on the competitiveness of the industry.

55. (1 point)

According to National Association of Insurance Commissioners, “Report of the Advisory Committee on Competitive Rating to the National Association of Insurance Commissioners,” one of the benefits of price competition is that rates will better reflect expected losses and expenses, assuming that insurers have substantial freedom to determine rating classifications.

a. (0.5 point)

Describe a potential problem that could arise under this scenario.

b. (0.5 point)

Other than regulatory price controls, how might a state address the issue identified in part a. above?

56. (1 point)

According to National Association of Insurance Commissioners, “Report of the Advisory Committee on Competitive Rating to the National Association of Insurance Commissioners,” regulators freed from the burdens of filing review and approval will be able to devote their time to other responsibilities. Identify four of these responsibilities.
57. (2 points)


a. (1 point)

Based on Feldblum, for each line of business below, identify the type of rating law prescribed by NY law and briefly discuss the reasoning for each:

- Workers Compensation
- Personal Auto

b. (1 point)

According to the NAIC, for each line of business below, identify the type of rating law recommended and briefly discuss the reasoning for each:

- Workers Compensation
- Personal Auto

58. (1 point)

According to Harrington, Doerpinghaus, "The Economics and Politics of Automobile Insurance Rate Classification," the economic theory of regulation postulates that classification restrictions are more likely to be implemented if four elements exist. Identify these four elements.

59. (1.5 points)


a. (0.5 point)

Briefly describe these two efficiency criteria.

b. (1 point)

Credit scoring has recently been introduced as part of many insurers’ rating formulae. Explain whether credit scoring satisfies each of these efficiency criteria.
60. (1 point)

According to Williams, "Regulating Property and Liability Insurance Rates Through Excess Profit Statutes," how might each of the following groups benefit from an excess profit statute as a supplement to prior approval laws?

a. (0.5 point)

Insurers

b. (0.5 point)

The public

61. (3.5 points)

Use the Florida excess profits statute as described in Williams, "Regulating Property and Liability Insurance Rates Through Excess Profit Statutes," and the following company information to answer the questions below. Show all work.

<table>
<thead>
<tr>
<th>Contingency</th>
<th>% of Premium</th>
<th>Premium to Net Worth</th>
<th>Investment Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Liability</td>
<td>1%</td>
<td>50%</td>
<td>1.5 to 1.0</td>
</tr>
<tr>
<td>Auto Physical Damage</td>
<td>1%</td>
<td>50%</td>
<td>1.5 to 1.0</td>
</tr>
</tbody>
</table>

a. (1 point)

What is the maximum acceptable underwriting profit allowance for auto liability coverage?

b. (1.5 points)

Assuming the maximum profit allowance, what is the implicit rate of return on net worth on an all-coverage basis?

c. (1 point)

What is the implicit excess profit threshold?
62. (1.25 points)

Based on Ghezzi, "Actuarial Perspective on Property/Casualty Redlining Issues," answer the following.

a. (0.25 point)

Define the term "redlining".

b. (0.5 point)

Briefly describe the defense presented by insurers accused of redlining.

c. (0.5 point)

Briefly describe the Department of Housing and Urban Development’s response to the defense mentioned in part b. above.
EXAM 7- UNITED STATES, SPRING 2002 - SECTION II

63. (4.5 points)

You are given the following data for XYZ Insurance Company, a monoline insurer. XYZ has no investments in affiliated companies.

<table>
<thead>
<tr>
<th>Bond Size Adjustment Factor</th>
<th>1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RBC Risk Components</strong></td>
<td><strong>Risk Charge</strong></td>
</tr>
<tr>
<td>Off-balance-sheet risks</td>
<td>$3,000</td>
</tr>
<tr>
<td>Reserving risk</td>
<td>$8,000</td>
</tr>
<tr>
<td>Premium risk</td>
<td>$12,000</td>
</tr>
<tr>
<td>R1</td>
<td>$11,000</td>
</tr>
<tr>
<td>R2</td>
<td>$26,250</td>
</tr>
</tbody>
</table>

**Additional Information**

<table>
<thead>
<tr>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinsurance Recoverables</td>
</tr>
<tr>
<td>Miscellaneous Recoverables</td>
</tr>
<tr>
<td>Adjusted Policyholder Surplus</td>
</tr>
</tbody>
</table>

Based on Feldblum, "NAIC Property/Casualty Insurance Company Risk-Based Capital Requirements," and the above information, answer the following. Show all work.

a. (3 points)

Calculate XYZ's 2001 risk-based capital requirement. Show the calculation of each risk charge category, R0 through R5, separately.

b. (0.5 point)

Calculate XYZ's 2001 risk-based capital ratio.

c. (1 point)

If the authorized control level benchmark is set at 60% of the risk-based capital standards, comment on what level of action will be required given this result.

64. (1 point)

Wilcox, "The US Guaranty Association Concept at 25," states that the 25-year period studied provides the guaranty association system with a sound test when compared with other eras in the history of the U.S. property and casualty industry. Provide two arguments to support his position.

CONTINUED ON NEXT PAGE
65. (1 point)

According to Troxel and Bouchie, *Property-Liability Insurance Accounting and Finance*, the IRIS ratio of net premium written to surplus is considered a gauge of the company’s retained insurance exposure. A high value for this ratio might be interpreted less severely in the presence of several mitigating factors. Identify three such factors that might be considered.

66. (1 point)

According to Insurance Accounting and Systems Association, *Property-Casualty Insurance Accounting*, regulation was designed to protect the public interest against a number of predicaments. Identify three things regulation of the U.S. insurance industry seeks to prevent.

67. (1.5 points)

Small Town Insurance Agency has recently negotiated an agreement with Never Pay Insurance Company. Under the agreement, Never Pay Insurance Company pays Small Town a flat 10% commission as well as a contingent commission of 30% of the profits generated by Small Town’s business. Given the following assumptions and assuming no payments (loss or expense) have been made, calculate the incremental change to Line 4, “Contingent commissions and other similar charges,” on Page 3, Liabilities, of Never Pay Insurance Company’s Annual Statement as a result of this agreement. Show all work.

<table>
<thead>
<tr>
<th>Earned Premium</th>
<th>$1,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected Loss Ratio</td>
<td>60% of earned premium</td>
</tr>
<tr>
<td>Loss Adjustment Expense</td>
<td>8% of earned premium</td>
</tr>
<tr>
<td>Other Expenses</td>
<td>15% of earned premium</td>
</tr>
</tbody>
</table>

CONTINUED ON NEXT PAGE

16
68. (3 points)

The Insurance Accounting and Systems Association, *Property-Casualty Insurance Accounting*, discusses the accounting treatment of the following items.

- Policy Acquisition Costs
- Unauthorized Reinsurance
- Federal Income Taxes

a. (1.5 points)

How is each of these handled under GAAP accounting?

b. (1.5 points)

How is each of these handled under SAP accounting?

69. (1 point)

Insurance Accounting and Systems Association, *Property-Casualty Insurance Accounting*, discusses the determination of a premium deficiency. When does GAAP require that a premium deficiency be recognized?

70. (1 point)

ABC Insurance Company intends to file an exemption from providing an Actuarial Opinion for the 2001 Calendar Year. Based on "Property & Casualty Practice Note, Statement of Actuarial Opinion on P&C Loss Reserves as of December 31, 2000," answer the following.

a. (0.5 point)

What does ABC need to show to be able to claim financial hardship?

b. (0.5 point)

Identify two other situations under which a company could claim an exemption.

CONTINUED ON NEXT PAGE
71. (2 points)

Answer the following questions using "Property & Casualty Practice Note, Statement of Actuarial Opinion on P&C Loss Reserves as of December 31," and the following information about the ABC Insurance Company:

- Gross reserves are $10 million.
- $8 million of these reserves are ceded to reinsurers.
- Of the $8 million ceded, $5 million is ceded to reinsurers who are currently insolvent.
- The only provision for uncollectible reinsurance is $1 million on page 3, line 15, "Provision for reinsurance".

a. (1.5 points)

Provide a paragraph on reinsurance collectibility to include in the Scope section of the Statement of Actuarial Opinion.

b. (0.5 point)

How would your reinsurance collectibility paragraph change if the ceded reserves were $8 thousand rather than $8 million, with $5 thousand ceded to currently insolvent reinsurers, and the provision for uncollectible reinsurance were $1 thousand (with gross reserves remaining as $10 million)?

72. (0.75 point)

According to the "Property & Casualty Practice Note, Statement of Actuarial Opinion on P&C Loss Reserves as of December 31, 2000," the actuary may find it useful to consider four things in situations where there is a lack of historical data. Identify three of them.
73. (3 points)

Based on Feldblum, "Reinsurance Accounting: Schedule F," and the information provided in the table below, calculate the following values. Assume that all entries for lines not shown in the table are zero (lines 3, 5, 9, 11, 12, 13, and 15). Show all work.

a. (1 point)

   Liability for losses and LAE as reported (net of ceded)

b. (1 point)

   Total assets restated (gross of ceded)

c. (1 point)

   Restatement adjustments for net amount recoverable from reinsurers

**Schedule F - Part 8**

Restatement of Balance Sheet to Identify Net Credit for Reinsurance

<table>
<thead>
<tr>
<th>Assets</th>
<th>As Reported (Net of Ceded)</th>
<th>Restatement Adjustments</th>
<th>Restated (Gross of Ceded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cash &amp; Invested Assets</td>
<td>46,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Agents’ balances or uncollected premiums</td>
<td>8,000</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>4. Reinsurance recoverable on loss &amp; LAE payments</td>
<td>4,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Net amount recoverable from reinsurers</td>
<td></td>
<td>part c.</td>
<td></td>
</tr>
<tr>
<td>7. Totals</td>
<td></td>
<td></td>
<td>part b.</td>
</tr>
</tbody>
</table>

**Liabilities**

<table>
<thead>
<tr>
<th>Liabilities</th>
<th>As Reported</th>
<th>Restatement Adjustments</th>
<th>Restated (Gross of Ceded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Losses and LAE</td>
<td>part a.</td>
<td>20,000</td>
<td></td>
</tr>
<tr>
<td>10. Unearned premiums</td>
<td>10,000</td>
<td>3,000</td>
<td></td>
</tr>
<tr>
<td>14. Provision for reinsurance</td>
<td>1,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Total liabilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Surplus as regards policyholders</td>
<td>17,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Totals</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
74. (2.5 points)

Based on the Annual Statement instructions given in Feldblum, "Completing and Using Schedule P," and the following information, determine the loss payment pattern for federal income tax purposes. Show all work.

<table>
<thead>
<tr>
<th>Accident Year</th>
<th>Paid Loss &amp; Loss Expense</th>
<th>Incurred Loss &amp; Loss Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>$10,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>2000</td>
<td>$13,500</td>
<td>$90,000</td>
</tr>
<tr>
<td>1999</td>
<td>$20,000</td>
<td>$80,000</td>
</tr>
<tr>
<td>1998</td>
<td>$33,750</td>
<td>$75,000</td>
</tr>
<tr>
<td>1997</td>
<td>$33,000</td>
<td>$60,000</td>
</tr>
<tr>
<td>1996</td>
<td>$32,500</td>
<td>$50,000</td>
</tr>
<tr>
<td>1995</td>
<td>$30,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>1994</td>
<td>$28,000</td>
<td>$35,000</td>
</tr>
<tr>
<td>1993</td>
<td>$25,500</td>
<td>$30,000</td>
</tr>
<tr>
<td>1992</td>
<td>$21,750</td>
<td>$25,000</td>
</tr>
</tbody>
</table>

75. (3 points)

Based on Feldblum, "Completing and Using Schedule P," determine whether the company passes the IRIS Test 11 (Estimated Reserve Deficiency) using the following information. Show all work.

<table>
<thead>
<tr>
<th></th>
<th>1999 Annual Statement</th>
<th>2000 Annual Statement</th>
<th>2001 Annual Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earned Premium</td>
<td>2,500</td>
<td>2,750</td>
<td>3,250</td>
</tr>
<tr>
<td>Loss Reserve</td>
<td>2,000</td>
<td>2,250</td>
<td>2,900</td>
</tr>
<tr>
<td>Reinsurance Payable on paid losses</td>
<td>400</td>
<td>500</td>
<td>450</td>
</tr>
<tr>
<td>LAE Reserves</td>
<td>1,500</td>
<td>1,750</td>
<td>2,000</td>
</tr>
<tr>
<td>2-yr Adverse Development</td>
<td></td>
<td></td>
<td>1,250</td>
</tr>
<tr>
<td>1-yr Adverse Development</td>
<td></td>
<td></td>
<td>750</td>
</tr>
<tr>
<td>Policyholder Surplus</td>
<td></td>
<td></td>
<td>7,500</td>
</tr>
</tbody>
</table>

CONTINUED ON NEXT PAGE
20
76. (1.5 points)

Feldblum, "Completing and Using Schedule P," discusses actions distressed insurers might take to artificially strengthen their surplus.

a. (0.5 point)

Identify two things distressed insurers may do to artificially strengthen their surplus.

b. (1 point)

Describe two ways in which results gleaned from Schedule P, Part 5, Claim Count Triangles, may help uncover artificial strengthening.

77. (2.5 points)

Based on Almagro and Ghezzi, "Federal Income Taxes – Provisions Affecting Property/Casualty Insurers," and the following Annual Statement information, answer the following questions. Show all work.

<table>
<thead>
<tr>
<th></th>
<th>2000 Annual Statement</th>
<th>2001 Annual Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unearned Premium Reserve</td>
<td>105</td>
<td>120</td>
</tr>
<tr>
<td>Undiscounted Reserves</td>
<td>175</td>
<td>200</td>
</tr>
<tr>
<td>Discounted Reserves</td>
<td>150</td>
<td>170</td>
</tr>
</tbody>
</table>

2001 Operating Results

Underwriting Profit -30
Taxable investment income 15
Tax-exempt investment income 25
Dividends received 10
Realized Capital Gains 5

a. (1.5 points)

Calculate the regular taxable income for calendar year 2001.

b. (1 point)

Explain two of the adjustments made in converting statutory income to taxable income.

CONTINUED ON NEXT PAGE
Almagro and Ghezzi, "Federal Income Taxes – Provisions Affecting Property/Casualty Insurers," discuss the effect of variation in absolute reserve level on net income. To reach their conclusions, they calculate taxable income holding all base assumptions constant and varying the ratio of loss reserves to written premium.

a. (0.5 point)

What do they conclude is the expected relationship in net income between companies with high and low reserves-to-premium ratios?

b. (0.5 point)

Explain the rationale for the conclusion in part a. above.

c. (0.5 point)

Based on your answer in part a. above, explain how Almagro and Ghezzi would compare the net income of long-tailed vs. short-tailed lines of business.

d. (0.75 point)

Explain how one of Almagro and Ghezzi’s base assumptions would need to be modified so that the expected net income of long-tailed and short-tailed lines would be similar.
Based on Feldblum, "Selected Exhibits from the Canadian Annual Statement," and Insurance Accounting and Systems Association, Property-Casualty Insurance Accounting, Appendix D, answer the following questions. Show all work.

You are given the following information from Zed Insurance Company's Canadian Annual Statement.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Assets from the Balance Sheet</td>
<td>$500,000</td>
</tr>
<tr>
<td>Excess of Market Value over Book Value for financial assets</td>
<td>$10,000</td>
</tr>
<tr>
<td>Reinsurance Ceded to Unregulated Insurers</td>
<td>$30,000</td>
</tr>
<tr>
<td>Unearned Commission adjustment</td>
<td>$5,000</td>
</tr>
<tr>
<td>Deferred Policy Acquisition Costs</td>
<td>$7,000</td>
</tr>
<tr>
<td>Deferred Federal Income Tax Liability</td>
<td>$5,000</td>
</tr>
</tbody>
</table>

a. (1 point)

Calculate the Assets Available for Test Purposes.

b. (1 point)

Provide the reasons for two of the adjustments made to Total Assets in part a. above.
80. (2 points)

Based on Feldblum, "The Insurance Expense Exhibit and the Allocation of Investment Income," and using the information below, allocate the policyholders’ surplus between the Fire and Allied Lines lines of business. Show all work.

The figures (all in $000) were taken from the 2000 and 2001 Annual Statements for the Simple Insurance Company (SIC). SIC writes only these two lines of business.

1. **Fire**

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Premium</td>
<td>550</td>
<td>650</td>
</tr>
<tr>
<td>Earned Premium</td>
<td>500</td>
<td>600</td>
</tr>
<tr>
<td>Unpaid Loss</td>
<td>800</td>
<td>900</td>
</tr>
<tr>
<td>Unpaid LAE</td>
<td>400</td>
<td>500</td>
</tr>
<tr>
<td>Unearned Premium Reserves</td>
<td>200</td>
<td>225</td>
</tr>
</tbody>
</table>

2. **Allied Lines**

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Premium</td>
<td>275</td>
<td>325</td>
</tr>
<tr>
<td>Earned Premium</td>
<td>250</td>
<td>300</td>
</tr>
<tr>
<td>Unpaid Loss</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Unpaid LAE</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Unearned Premium Reserves</td>
<td>100</td>
<td>125</td>
</tr>
</tbody>
</table>

81. (1 point)

82. (3 points)

Based on the National Association of Insurance Commissioners, Accounting Practices and Procedures Manual, 2001, Statement of Statutory Accounting Principles 62, "Property and Casualty Reinsurance" and Feldblum, "Selected Notes to the Fire and Casualty Annual Statement," and the following information, compute the 2001 Annual Statement surplus benefit Vanilla Insurance Company received from entering into its reinsurance transaction with Chocolate Re. Show all work.

Vanilla Insurance Company is initially capitalized with $10,000,000. On October 1, 2001, Vanilla writes its only group of insurance policies, all one year in length, receiving $25,000,000 in premiums. On October 1, 2001, Vanilla enters into a 50% quota share treaty with Chocolate Re and receives a 30% ceding commission, although Vanilla has not paid any reinsurance premium as of December 31, 2001. On December 31, 2001, Vanilla sets its loss reserves to a 60% loss ratio, although no losses have been paid yet.

Vanilla incurs and pays the following gross expense ratios at policy inception:

- Commissions 12.0%
- Premium Taxes 3.0%
- Other Acquisition 7.5%

Assume all other expenses are 0.

83. (1 point)

According to the National Association of Insurance Commissioners, Accounting Practices and Procedures Manual, 2001, Statement of Statutory Accounting Principles 65, "Property and Casualty Contracts," the amount of the unearned premium reserves on long duration contracts shall be no less than the largest result from three tests. Briefly describe two of these tests.
84. (1 point)


a. (0.5 point)

Describe the treatment of goodwill for a statutory merger.

b. (0.5 point)

Describe two aspects of the treatment of goodwill under the statutory purchase method that can be considered conservative.

85. (5 points)

Based on the following information and the balance sheet for Robust Insurance Company printed on the next two pages, answer the following question.

Assume that all of the figures shown in the balance sheet are reported in accordance with the uniform accounting instructions promulgated by the NAIC for use in completing the Annual Statement. Assume also that there are zero values for any line that does not appear in the balance sheet.

Robust Insurance Company was formed in 1990 as a stock insurer and is domiciled in California. Robust is a stand-alone company. It does not have any parent, affiliates or subsidiaries. Robust has never been involved in any mergers or acquisitions and does not carry any goodwill. Robust does not have any discontinued operations.

Robust writes only direct admitted workers compensation, and all of Robust’s business is written in California. Since its formation, Robust has used reinsurance to reduce its net exposure. Robust had no claims resulting from the World Trade Center terrorist attacks.

Identify two Notes to Financial Statements that are important for Robust Insurance Company and explain, in detail, why each of these Notes is important for Robust.
# ANNUAL STATEMENT FOR THE YEAR 2001 OF ROBUST INSURANCE COMPANY

## ASSETS

<table>
<thead>
<tr>
<th></th>
<th>Current Year</th>
<th>Prior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Bonds</strong></td>
<td>270,126</td>
<td>29,123</td>
</tr>
<tr>
<td><strong>2. Stocks:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Preferred Stocks (Schedule D, Part 2, Section 1)</td>
<td>980</td>
<td>150</td>
</tr>
<tr>
<td>2.2 Common Stocks (Schedule D, Part 2, Section 2)</td>
<td>380,462</td>
<td>0</td>
</tr>
<tr>
<td><strong>5. Cash ($1,245 Schedule E, Part 1) and short-term investments ($3,000 Schedule DA, Part 1)</strong></td>
<td>4,245</td>
<td>0</td>
</tr>
<tr>
<td><strong>6. Other invested assets (Schedule BA)</strong></td>
<td>69,232</td>
<td>0</td>
</tr>
<tr>
<td><strong>7. Receivable for securities</strong></td>
<td>721</td>
<td>0</td>
</tr>
<tr>
<td><strong>8. Aggregate write-ins for invested assets</strong></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>9. Subtotals, cash and invested assets (Lines 1 to 8)</strong></td>
<td>725,766</td>
<td>29,273</td>
</tr>
<tr>
<td><strong>10. Agents’ balances or uncollected premiums</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.1 Premiums and agents’ balances in course of collection</td>
<td>156,231</td>
<td>0</td>
</tr>
<tr>
<td>10.2 Premiums, agents’ balances and installments booked but deferred but not yet due (Including $........0 earned but unbilled premiums)</td>
<td>28,009</td>
<td>0</td>
</tr>
<tr>
<td>10.3 Accrued retrospective premiums</td>
<td>210,313</td>
<td>15,579</td>
</tr>
<tr>
<td><strong>11. Funds held by or deposited with reinsured companies</strong></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>12. Bills receivable, taken for premiums</strong></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>13. Amounts billed and receivable under deductible and service-only plans</strong></td>
<td>75,234</td>
<td>0</td>
</tr>
<tr>
<td><strong>14. Reinsurance recoverables on loss and loss adjustment expense payments (Schedule F, Part 3, Cols. 7 and 8)</strong></td>
<td>23,124</td>
<td>0</td>
</tr>
<tr>
<td><strong>15. Federal and foreign income tax recoverable and interest thereon (Including $15,213 deferred tax asset)</strong></td>
<td>23,123</td>
<td>0</td>
</tr>
<tr>
<td><strong>16. Guaranty funds receivable or on deposit</strong></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>17. Electronic data processing equipment and software</strong></td>
<td>18,704</td>
<td>0</td>
</tr>
<tr>
<td><strong>18. Interest, dividends and real estate income due and accrued</strong></td>
<td>4,324</td>
<td>0</td>
</tr>
<tr>
<td><strong>20. Receivable from parent, subsidiaries and affiliates</strong></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>23. Other assets nonadmitted (Exhibit I)</strong></td>
<td>987</td>
<td>987</td>
</tr>
<tr>
<td><strong>24. Aggregate write-ins for other than invested assets</strong></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>25. Totals (Lines 9 through 24)</strong></td>
<td>1,265,815</td>
<td>45,839</td>
</tr>
</tbody>
</table>

**CONTINUED ON NEXT PAGE**
ANNUAL STATEMENT FOR THE YEAR 2001 OF ROBUST INSURANCE COMPANY

<table>
<thead>
<tr>
<th>LIABILITIES, SURPLUS AND OTHER FUNDS</th>
<th>1 Current Year</th>
<th>2 Prior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Losses (Part 3A, Column 8, Item 34)</td>
<td>367,234</td>
<td>406,123</td>
</tr>
<tr>
<td>2. Reinsurance payable on paid loss and loss adjustment expenses (Schedule F, Part 1, Column 6)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. Loss adjustment expenses (Part 3A, Column 9, Item 34)</td>
<td>55,010</td>
<td>67,663</td>
</tr>
<tr>
<td>4. Commissions payable, contingent commissions and other similar charges</td>
<td>2,000</td>
<td>2,402</td>
</tr>
<tr>
<td>5. Other expenses (excluding taxes, licenses and fees)</td>
<td>3,425</td>
<td>7,657</td>
</tr>
<tr>
<td>6. Taxes, licenses and fees (excluding federal and foreign income taxes)</td>
<td>3,012</td>
<td>2,323</td>
</tr>
<tr>
<td>7. Federal and foreign income taxes (including $0 on realized capital gains (losses)) (including $0 net deferred tax liability)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9. Unearned premiums (Part2A, Column 5, Item 37) (after deducting unearned premiums for ceded reinsurance of $250,123 and including warranty reserves of $0)</td>
<td>325,014</td>
<td>352,012</td>
</tr>
<tr>
<td>10. Dividends declared and unpaid:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.1. Stockholders</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>10.2. Policyholders</td>
<td>0</td>
<td>472</td>
</tr>
<tr>
<td>11. Ceded reinsurance premiums payable (net of ceding commissions)</td>
<td>15,234</td>
<td>2,345</td>
</tr>
<tr>
<td>12. Funds held by company under reinsurance treaties (Schedule F, Part 3, Column 19)</td>
<td>105,025</td>
<td>98,000</td>
</tr>
<tr>
<td>13. Amounts withheld or retained by company on account of others</td>
<td>7,032</td>
<td>9,212</td>
</tr>
<tr>
<td>15. Provision for reinsurance (Schedule F, Part 7)</td>
<td>35,231</td>
<td>23,435</td>
</tr>
<tr>
<td>22. Aggregate write-ins for liabilities</td>
<td>5,430</td>
<td>0</td>
</tr>
<tr>
<td>23. Total liabilities (Lines 1 through 22)</td>
<td>925,649</td>
<td>973,646</td>
</tr>
<tr>
<td>24. Aggregate write-ins for special surplus funds</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>25. Common capital stock</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>26. Preferred Capital Stock</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>29. Gross paid in and contributed surplus</td>
<td>135,000</td>
<td>135,000</td>
</tr>
<tr>
<td>30. Unassigned funds (surplus)</td>
<td>157,330</td>
<td>255,241</td>
</tr>
<tr>
<td>32. Surplus as regards policyholders (Lines 24 to 30, less 31) (Page 4, Item 36)</td>
<td>294,330</td>
<td>392,241</td>
</tr>
<tr>
<td>33. Totals (Page 2, Item 25, Column 3)</td>
<td>1,219,979</td>
<td>1,365,887</td>
</tr>
</tbody>
</table>

DETAILS OF WRITE-INS

<table>
<thead>
<tr>
<th>DETAILS OF WRITE-INS</th>
<th>1 Current Year</th>
<th>2 Prior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2201. Severance benefits payable</td>
<td>5,430</td>
<td>0</td>
</tr>
<tr>
<td>2298. Summary of remaining write-ins for Line 22</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2299. Totals (Line 2201 thru 2203 plus 2298) (Line 22 above)</td>
<td>5,430</td>
<td>0</td>
</tr>
</tbody>
</table>

END OF EXAMINATION

28
TRUE-FALSE ANSWERS:

1. F
2. F
3. T
4. T
5. T
6. F
7. T
8. F
9. T
10. F
11. T
12. T
13. Invalid
14. Invalid
15. T
16. F
17. F
18. T
19. T
20. F
21. T
22. T
23. F
24. F
25. F
26. T
27. F
28. T
29. T
30. F
31. T
32. F
33. F
34. T
35. F
36. F
Casualty Actuarial Society
Exam 7 US

**Question 37**
A) 

1) Assumption of Risk – This is where the plaintiff knows there is a defect and possibility of injury but chooses to use the product anyway.

2) Open and Obvious Danger - The defect or possibility of injury is plainly seen.

3) Misuse of the Product – The plaintiff used the product for something other than its intended use and this misuse resulted in injury.

4) Alteration of the Product – The plaintiff made some sort of change to the product and the change is what caused the injury.

B) Manufacturer A sells a machine to Company B. Because of the type of parts Company B must make on the machine, they rewire the machine to run the part. Subsequently the machine catches on fire. In this case Alteration of the Product defense may be used.

**Question 38**
A) The late-reporting creates difficulty in determining the ultimate incurred losses associated with the line of insurance. Therefore, the proper pricing of the coverage is complicated.

B) The industry switched from an occurrence policy to a claims-made policy to address the long-tailed nature of the line of insurance due to late-reporting.

C) The disadvantage of claims-made policies for the policyholder is the need for tail coverage, since claims reported after the policyholder retires would normally not be covered under a claims-made policy.

The advantage of claims-made policies to the policyholder is the availability of the coverage. Since it is easier for the insurer to price the product appropriately, the insurer is more willing to offer the coverage.

**Question 39**
A) Workers compensation claims are honored regardless of fault.

B) The worker surrendered the right to recover for pain and suffering for the guarantee of recovery. Pain and suffering is available for plaintiffs to recover, although there is no guarantee of recovery. The plaintiff would have to win their suit against the defendant.
Question 40

1) Results are inequitable. Some injured parties receive too little in benefits, some receive too much.

2) Transaction costs are too high. Attorneys fees and court costs could be used to compensate victims.

3) Settlement takes too long. Determination of fault is a time consuming process and victims often need to cover medical costs immediately.

Question 41

A) 
   1) Contingency fees are too high (~33%)
   2) Contingency fees provide incentive for lawyers to take frivolous claims to court.

B) 
   1) Contingency fees provide compensation to the lawyers and cover risk and expenses – if the lawyer loses in court, he gets nothing for his time.
   2) Contingency fees give those who cannot afford hourly legal fees access to the courts.

Question 42

A) Casualty insurance companies fear that they will have increased competition from life insurance companies who to date have remained out of auto insurance market due to lack of understanding of claims handling.

B) Motorists may oppose no-lawsuit, no-fault laws because they lose their right to sue and “win big” settlements.

Question 43

A) People with dependents and survivors get more coverage than those with no dependents/survivors because everyone pays the same proportionate amount into the system (based on salary). Those with dependents get coverage for them included with the premium paid, which is the same as for someone with no dependents.

B) Because the OASDHI system is funded as a pay-as-you-go basis, along with a provision for a temporary reserve fund, current collections by the program are mostly used to pay current benefits, along with a small amount allotted for savings. Under this structure, current workers taxes are paying benefits for currently retired workers – this is intergenerational transfer. But the person in the example shouldn’t be upset because as long as the system retains this structure, when he retires, other younger workers will be paying for his benefits.
**Question 44**

A)  
1) The program is **compulsory**, so new workers **must** join and contribute.

2) The government has the ability to tax and change benefit levels as needed, so that any future shortfalls can be closed.

3) OASDI is **ongoing**, so workers will continue to pay into the system, and additional workers (and benefit recipients) will contribute in the future.

B) Private pensions can and do close, so that without a means to collect additional funds they must be able to pay future benefits from current assets.

**Question 45**

1) Current investments are safe because they are not subject to severe market fluctuations.

2) Investing in the private sector would give the government too much influence in the private economy.

**Question 46**

A) The eligibility for social welfare is need-based; anyone who fits the criteria to receive benefits can do so without having paid into the system. The funding for these programs generally comes from the general revenue fund of the government, i.e. taxes on **every** taxpayer, not just those receiving benefits.

B) Eligibility for insurance plans requires participation (in the form of some type of premium payment) in order to be eligible for benefits. The funding of these plans comes primarily from the premium payments of those in the program with little subsidy from other revenue sources of the federal government.

**Question 47**

1) Would lose business to companies who don’t inflate loss estimates.

2) Reinsurance costs would increase.

**Question 48**

1) It may be fairer to charge everyone the same premium for insurance coverage than to charge according to risk and benefits received.
2) If insurance is compulsory, it should be affordable to all. Socialization of insurance costs is one way to achieve this.

**Question 49**

**A)**

1) An insurer could have no more than 20 territorial base rates in Michigan.

2) The lowest-rate territory rate could not be less than 45% of the highest-rate territory rate.

3) Adjacent territories could not be more than 10% different in rate.

**B)** Detroit’s Residual Market grew as availability worsened. Insurers writing statewide withdrew agents or otherwise curtailed writing in Detroit because the rates were inadequate there.

**Question 50**

Sherman Act: to prevent collusion and attempts to gain monopoly power

Robinson – Patman Act: amended the Clayton Act; limit price discrimination to price differentials that could be justified on the basis of actual operating cost difference due from competing in good faith.

**Question 51**

**A)** In the 1970’s there were severe affordability/availability issues for Products Liability. In many cases, coverage was not available at all (insurers were not willing to provide coverage because of losses).

**B)** The federal government, under the Risk Retention Act, authorized formation of risk retention groups (manufacturers, distributors, etc. could join). Group could be licensed in one state and then could operate in all others. State governments would not have been able to authorize such an arrangement, since each state governs insurance affairs only in its own state.

**C)** With the National Flood Insurance Plan, the federal government is actually the insurer – the government sets conditions and provides coverage. Private insurers may write the coverage through the write-your-own program, but everything is reinsured by the federal government. So here, the federal government acts in partnership with private insurers.

**Question 52**

**A)** Structurally, the market is competitive (though not behaviorally) as evidenced by lots of firms and low concentration ratios.
B) There are basically no economies of scale in the property-liability insurance industry, which means that large companies do not have an advantage over small companies.

C) There are fairly low barriers to entry for the agency system. Entry barriers for direct writers are moderate to high.

D) There is no need for extensive regulation. In fact, prior approval limits price competition and restrictions on classification have led to supply shortages.

**Question 53**
If \( b \) is negative, it indicates there are economies of scale for agency companies.

If \( c \) is negative, it indicates economies of scale for direct writers are greater than for agency companies.

If \( e \) is negative, it represents the cost saving of using a direct writing method of sales.

**Question 54**
A) Krohm believes that the structure will change very little. Some very small carriers (or larger carriers with small volume) may withdraw if presence there doesn’t justify additional cost, but results should be minimal. Also, should have essentially no impact on personal lines, because had already switched to loss costs.

B) Should not at all hinder the competitiveness of the industry. Companies already deviate significantly from ISO rates (through package mod, individual risk mods, independent filings, rule changes, across the board deviations), so should not be much of a change when it comes down to it.

**Question 55**
A) Rates may become unaffordable for the highest risk insured.

B) Through a residual market mechanism with subsidy from general state funds, if needed.

**Question 56**
1) Prevention of insurer insolvencies
2) Prevention of tie-in sales
3) Greater emphasis on market conduct examinations
4) Analysis of ways to reduce residual markets
**Question 57**

A)  
1) WC – prior approval, because of:
   a) need for a high quality data base
   b) coverage is mandatory

2) Personal Auto – prior approval, due to fear that insurers would reap excess profits under no-fault.

B)  
1) WC – prior filing procedure, as WC does not meet the criteria for competitive pricing due to strict rating laws and adherence to bureau rates.

2) Personal Auto – use and file, as price competition exists.

**Question 58**

1) An organized group supports the restrictions.

2) Price increases that are needed to fund price decrease can be spread broadly over the insured population, delayed, or both.

3) The parties whose prices are being increased are unaware of the effects of classification restriction.

4) The government and public both favor fairness.

**Question 59**

A) Pareto efficiency exists when no one is made worse off as a result of someone being made better off. Potential Pareto efficiency exists when society as a whole is not made worse off as a result of making some people better off.

B) Credit scoring does not satisfy Pareto efficiency since someone will have bad credit and will have to pay higher premiums.

Credit scoring may satisfy potential Pareto efficiency if the decrease in premiums for the insureds with good credit is higher than the increase in premiums for the insureds with bad credit. Also, the cost of obtaining the credit report must be included in these amounts.

**Question 60**

A) Insurers might benefit by having higher rates approved than would otherwise have been approved absent this provision. Pressure to suppress rates might be less if it is expected that excess profits will be returned.
B) The public might benefit from a broad availability of coverage made possible by insurers being able to charge rates that they believe are adequate. Also, the public has the peace of mind that any excess profits would be returned to them.

**Question 61**
A) Physical Damage allowance = 5.0% - CF
   = 5.0% - 1.0%
   = 4.0%

Liability allowance = Phys. Dam. Allow. – II differential
   = 4.0 % - (5.6% -2.0%)
   = 0.4%

B) Average allowance = .5 (4.0%) + .5 (0.4%)
   = 2.2%

Average allow to NW = 2.2% (1.5)
   = 3.3%

Average II = .5 (5.6%) + .5 (2.0%)
   = 3.8%

Average II to NW = 3.8% (1.5)
   = 5.7%

Implicit ROR on NW = 3.3% + 5.7%
   = 9.0%

C) Implicit excess profit threshold = 9.0% + 1.5 (5.0%)
   = 16.5%

**Question 62**
A) Redlining is insurer activity that limits the affordability and availability of rate in urban areas and to minority groups.

B) They claim that as long as they are not using disparate treatment, such as explicitly using race or other objectionable factors to rate, they should not be punished; focus should be on intent.

C) They feel that the focus needs to be on the outcome and not on the intent. If insurer’s actions lead to redlining, this outcome is what matters, not the intent of the insurers.

**Question 63**
A) $R_0$ – inv in affiliates & off-balance risks - $3000$
B) $R_1$ – fixed income securities - $11,000$
C) $R_2$ – equity investments - $26,250$
R3 – credit risk charge (see below) - $2,000 (see below)
R4 – reserving risk - $8,000
R5 – premium risk - $12,000

R3 – 10% charge for reinsurance recoverables (10%)(15,000) = 1500
5% other receivables (5%)(10,000) = 500

- no premium/loss concentration factor since monoline insurer
- ½ of R3 moves to R4 before covariance adjustment
  new R3 = $1,000
  new R4 = $9,000

RBC req = R0 + \( \frac{(R_1^2 + R_2^2 + R_3^2 + R_4^2 + R_5^2)}{2,000} \)
= 3000 + \( \frac{(11,000^2 + 26,250^2 + 1,000^2 + 7,000^2 + 12,000^2)}{2,000} \)
= 35,188

B) \( \frac{20,000}{35,188} \) = adj. surp. = .568 or 56.8%

C) ACL = (.60)(RBC) = (.60)(35,188) = 21,113
\( \frac{20,000}{21,113} \) = 94.7%
- authorized control level (70% - 100% ACL)
- commissioner is authorized to take control of the company, but it is still discretionary

Question 64
1) the 13 costliest catastrophes in U.S. history all occurred within this 25-yr period
2) There were several “monster” litigations during the period.

Question 65
1) Steadily increasing profits
2) Adequate reinsurance
3) Affiliated companies in group have lower ratios

Question 66
protect against:
1) insurer insolvencies
2) mistreatment of PH, claimants
3) effects of too much/not enough competition in insurance market
**Question 67**

10% commission
30% contingent commission
no payments have been made
change to line 4 ‘contingent commission and other similar charges‘ on page 3, liabilities of Never Pay Insurance Company’s Annual Statement

<p>| | |</p>
<table>
<thead>
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<tbody>
<tr>
<td>EP</td>
<td>1,000,000</td>
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<tr>
<td>Expected loss ratio</td>
<td>60%</td>
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<tr>
<td>LAE</td>
<td>8%</td>
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<tr>
<td>Other Expenses</td>
<td>15%</td>
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</table>

\[1,000,000 \times 10\% = 100,000\]

expected profits = 100 – (60 + 8 + 15 + 10) = 7%
expected profits = 70,000
contingent commission = 21,000

Therefore line 4 liability will increase by 21,000

**Question 68**

A) Under GAAP,

1) Policy acquisition costs are amortized over period that premium is earned in.
   GAAP puts up an asset called Deferred Policy Acquisition Costs at inception of policy and amortizes it over term of policy.

2) Unauthorized reinsurance is reflected in GAAP as long as company has no reason to believe it is not recoverable.

3) Federal income taxes
   GAAP recognizes deferred taxes for taxes that are expected to be incurred on unrealized gains (losses) in the future.

B) Under SAP,

1) Policy acquisition costs are expensed when they are incurred.

2) Unauthorized reinsurance
   a) A liability, “Provision for reinsurance (Schedule F Penalty)” is included on balance sheet. This provision includes an amount to recognize a penalty for unauthorized reinsurance that is unsecured as well as unauthorized reinsurance that is overdue or in dispute.

3) Federal income taxes
   a) SAP does not recognize deferred taxes. It only recognizes current taxes.
**Question 69**

When the associated UEP reserve and related investment income are less than the sum of associated:

- Loss & LAE expense
- Policy maintenance cost
- Other underwriting expenses
- Policy holder dividend
- Deferred policy acquisition cost

than premium deficiency is created. If this amount is greater than the associated DPAC, then a liability for the difference is created and charged against surplus.

**Question 70**

A) That the cost of the actuarial opinion is greater than the lesser of:

1) 19% of policyholder’s surplus for latest quarter

2) 3% of direct plus assumed written premium estimated for current year

B) In liquidation or receivership

2) Domiciliary commissioner grants an exemption based on nature of business

**Question 71**

A) During my review, I found ABC has $5 M of ceded recoverables to insolvent reinsurers. ABC currently holds $1 M on page 3, line 15 for uncollectable reins. They do not hold any provision for the $4 M balance. In performing my review, I treated the $4 M balance as uncollectible.

B) I reviewed the company’s ceded reinsurance program and found ABC’s use of ceded re to be limited. ABC’s exposure to uncollectible re issues is immaterial.

**Question 72**

1) whether there is enough data to provide an evaluation

2) If industry or another company’s data is used for the analysis, the data should be reasonably similar to the company for which the opinion is being given.

3) Disclosure about the variability and uncertainty of results
**Part A**

\[ \text{Gross loss} + 13,000 + 0 + 17,000 = 80,000 \]

\[ \text{(Tot liab)} \quad \text{(PHS)} \quad \text{(Assets - gross)} \]

Gross loss + 30,000 = 80,000
Gross loss = 50,000
Net loss = gross – adjustment
= 50,000 -20,000
= 30,000

**Part B**

\[ 46,000 + 10,000 + 0 + 24,000 = 80,000 \]

*Assumption is that there is no adjustment to cash & inv. assets*

**Part C**

\[ \text{Asset – Liab} = 0 \]

\[ \text{Asset} = \text{liab} \]

\[ 0 + 2,000 – 4,000 + x = 22,000 \]

\[ x = 24,000 \]
Question 74

<table>
<thead>
<tr>
<th>Accident year</th>
<th>Years</th>
<th>Paid Loss &amp; Expense</th>
<th>Incurred Loss &amp; Expense</th>
<th>% Paid (pmt pattern)</th>
<th>Incremental % Paid</th>
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* because @ 10 years, pmt pattern is not finished (i.e. @ 100%), use latest incremental % paid (2.0%) and assume same incremental % paid for next 5 years, or until payment pattern reaches 100%.

** because payment pattern was not complete after 15 years, assume remainder is paid in 16th year. 3% remains (percentage paid at 15 years is 97%) so that is the assumed incremental amount paid in year 16 to complete the pattern.
**Question 75**

1) Restated Reserves
   
   \[
   99 - 2,000 + 400 + 1,500 + 1,250 = 5,150 \\
   00 - 2,250 + 500 + 1,750 + 750 = 5,250 \\
   \]

   ratio #1 \[
   99 - 2.06 \\
   to EP \quad 00 - 1.9091 \\
   \]

   Avg \[
   1.9845 \\
   \]

   01 \[
   (1.9845) (3,250) = 6,450 \\
   \]

2) Held reserve = 2,900 + 450 + 2,000

3) Reserve deficiency = 1,100

4) Iris test 11 = \[
\frac{1100}{7500} = 14.67\% \\
\]

**Passes Test 11 since ratio <25%**

**Question 76**

A) 1) Weaken IBNR reserves

   2) Slow down claims payouts

B) 1) Average severities would be going down. You would use Part 2 losses over Part 5, Section 3 counts (reported)

   2) You would see open to reported ratios rising and/or closed to reported ratios falling. (Of course open to reported and closed to reported refer to the claim counts in Part 5)

**Question 77**

A) Statutory income = \[-30 + 15 + 25 + 10 + 5 = 25\]

   Revenue offset = \[.2 (UEPR)\]
   
   \[= .2 (120 - 105)\]
   
   \[= 3\]

   Discounting = \[(200 - 170) - (175 - 150)\]
   
   \[= 5\]
T.E.I.I. Deduction = 25  
Proration of T.E.I.I. = .15 (25) = 3.75

RTI* = Regular Taxable Income before application of the Dividend Received Deduction  
= 25 + 3 + 5 – 25 + 3.75  
= 11.75

Preliminary DRD = (.7)(10) = 7  
.7 × RTI* = 8.225  
Since 7 < 8.225, DRD = 7

Proration of DRD = .15 (7) = 1.05

\[ RTI = RTI^* - DRD + \text{proration DRD} = 5.8 \]

B)  
1) The revenue offset is intended to add back into income those prepaid acquisition expenses which have not yet been earned but which were expensed when written for statutory purposes.

2) The reserve discounting adjustment is intended to add into income the discount needed to bring reserves to a present value basis. Most statutory reserves are undiscounted and those which are will be grossed up before applying this adjustment.

**Question 78**
A) High reserve-prem ratio – lower net income  
Low reserve-prem ratio – higher net income

B) The higher the reserve to premium, the higher the discount and the higher the regular taxable income (since the discount is added to the stat. income). This means the tax liability will be higher and thus net income lower.

C) Long tailed lines have higher reserve to premium ratios, so they will have lower net incomes compared to short-tailed lines of business.

D) The base assumption of underwriting profit and investment being held constant would have to be modified. For the same underwriting profit, a long-tail line of business earns more investment income. So this would make up for the increased tax burden.

**Question 79**
A) Balance sheet assets  500,000  
DPAC  -7,000
Excess mkt over book  +10,000
Deferred Fed In Tax  +5,000
Assets available  = 508,000

B) The Deferred Policy acquisition costs are subtracted from assets as these expenses are already spent. They are not available to pay liabilities if the company became insolvent.

Excess of market over book – to reflect that investments are worth market value if they were cashed in if the company became insolvent.

**Question 80**

PHS Ratio = Mean PHS / [Mean LR (all lines) + Mean UEPR (all lines) + CYEP (all lines)]

\[
= 300 / (1750 + 325 + 900)
\]

\[
= .1008
\]

\[
PHS_{FIRE} = PHS \text{ Ratio} \times [\text{Mean LR (fire)} + \text{Mean UEPR (fire)} + \text{CYEP (fire)}]
\]

\[
= .1008 \times (1300 + 212.5 + 600)
\]

\[
= 212.94
\]

\[
PHS_{ALLIED} = .1008 \times (450 + 112.5 + 300)
\]

\[
= 86.94
\]

**Question 81**

As asset is impaired if there is a permanent decline in value because either it is unlikely that the investor will be able to recover the carrying value of the asset or there is evidence that it will not be able to sustain earnings to justify the holding value.

**Question 82**

Oct 1, 2001 All values is $ Millions

Pre reinsurance -
Cash = 10 + 25(1 - .12 - .03 - .075) = 29.375
UEPR = 25 M
Surplus = 10 M – 25 M(.12 + .03 + .075) = 4.375

With reinsurance -
Ceding comm = 25 (.5) (.3) = 3.75
Cash = 29.375 + 3.75 = 33.125
UEPR = 25 (.5) = 12.5
Ceded Prem payable = 25 (.5) = 12.5
Surplus = 33.125 – (12.5 + 12.5) = 8.125

Dec 31, 2001
Without reinsurance -
Cash = 29.375
Loss res = 25 M (.6) (.25) = 3.75
UEPR = 25 M (.75) = 18.75
Surplus = 29.375 – 3.75 – 18.75 = 6.875
With reinsurance -

\[
\begin{align*}
\text{Cash} &= 33.125 \\
\text{Loss res} &= 3.75 (0.5) = 1.875 \\
\text{UEPR} &= 18.75 (0.5) = 9.375 \\
\text{Ceded Prem payable} &= 12.5 \\
\text{Surplus} &= 33.125 - 1.875 - 9.375 - 12.5 = 9.375
\end{align*}
\]

\[
\text{Surplus Benefit} = 9.375 - 6.875 = 2.5 \text{ M}
\]

**Question 83**

Test 1 – management’s estimate of the amount refundable to such contracts.

Test 2 –

\[
\text{gross premium written} \times \frac{\text{projected future loss \& LAE on unexpired portions of contract}}{\text{projected total loss \& LAE on contracts}}
\]

**Question 84**

A) There is no goodwill created from a statutory merger. Any previous goodwill from past transactions is moved to surplus.

B)

1) It is amortized for a period up to 10 years

2) The maximum admitted amount = 10% of (Policyholders surplus \ – Positive Net Goodwill \ – EDS \ – Deferred tax amount)

**Question 85**

1) Retrospectively Rated Contracts → Robust Insurance Company has accrued retrospective premiums included in its assets on the balance sheet. Only a small portion of this asset is not admitted (based on 10% of uncollateralized amount). Workers compensation is a relatively long-tailed line of business and the medical portion of claims could grow dramatically beyond initial estimates. Retrospective rating plans use per claim limitations and also policy maximum premiums to limit the exposure of the insured. As claims increase, the premium is more likely to be effected by such caps. There is also a chance that the insured will refuse to pay additional premiums to the insurer under a retro policy and that these premiums will become uncollectable. In the Notes to Financial Statements, Robust must disclose the methods used to determine the retro premium asset - whether per policy or aggregate calculations were used. Any anticipated collectibility problems should be disclosed.

2) Discounting → Lifetime pension cases for WC may be discounted using tabular methods. The loss liability on Robust’s balance sheet is net of such tabular
discounts. Given that Robust only writes WC, it could have a substantial portion of its liabilities reflected at discounted values. Must disclose the mortality or morbidity tables used; the interest rates used; the amount of the discounted liability; and the amount of the discount. If rates used have changed from the 2000 to the 2001 Annual Statement, must also disclose: discounted reserves for years prior to 2001 at the new (current 2001) rate; discounted reserves for years prior to 2001 at the former (2000) rate; effect of the change in discount rate (i.e., difference between first two values); and the amount of discount for years prior to 2001 as of 2001.