Economics 174:
Economics of Insurance
Syllabus

Marshall Spring 2003

Professor: John M. Marshall, Economics, Room 322. Office hours are Tuesday and Wednesday, 2:00-3:00 PM, or by appointment (call 534 0762 or use email to marshall@econ.ucsb.edu (ucsB)) or drop in.

Teaching assistants:

Adam Sanjurjo, Sequoyah Room 255. Office hours, Tuesday 11:00 AM – 1:00 PM. asanjurjo@ucsd.edu
Zhigang Li, Sequoyah Room 255. Office hours, Tuesday 3:30-5:30 PM. zli@econ.ucsd.edu

Lectures: Monday, Wednesday and Friday, noon to 12:50 PM, Solis 104.

Web page: http://www.econ.ucsb.edu/~marshall/ucsd174

E-mail: marshall@econ.ucsb.edu

Text: Readings available at Soft Reserves

Grading: Problems and short papers (20 %), Midterm examination (25 %), Final (55 %). The final is cumulative. Ordinarily in this course, scores of 95% and above are A's; 90 to 95 are A-'s; 85 to 90 are B+'s; and so on. The standard may be a little more lenient in practice, but there is no curve.

Schedule

Monday, 3-31. First class
Wednesday, 4-2 first homework due
Wednesday, 4-9 second homework due
Wednesday, 4-16 third homework due
Wednesday, 4-23 fourth homework due
Wednesday, 4-30 MIDTERM
Wednesday, 5-7 short paper due (see below)
Wednesday, 5-14 sixth homework due
Wednesday, 5-21 seventh homework due
Monday, 5-26, no class, memorial day
Wednesday, 5-28 eighth homework due
Wednesday, 6-4 ninth homework due
Monday, 6-9, 11:30 AM -2:30 PM: FINAL EXAM (cumulative)

Short Paper: Write a paper of 450-550 words on the question of whether regulation of insurance should be by the states or by the federal government. Use readings 13-18 as the basis of the paper. The paper should be neatly laser printed. No covers. Include a word count.

Readings

1. R.E.Keeton, ``Insurance Institutions,'' Ch. 7 of **Basic Insurance Law,** West Publishing Co., St. Paul,

Minnesota, 1960, 483-487, 507-508

2. R.E. Keeton, "The Principle of Indemnity," Ch 2. of **Basic Insurance Law,** West Publishing Co., St. Paul, Minnesota, 1960, 69-84.
3. S.S. Huebner, Kenneth Black, Jr., and Bernard L. Webb, "Insurance of Property Exposures: Fire Insurance" Chs. 2,3,4,6, and 8 of **Property and Liability Insurance**, Fourth Edition, Prentice-Hall, Inc. Upper Saddle River, N.J. 1996, 1-53, 66-82, 95-111.
4. Robert I. Mehr, "The Insurance Contract," Chapter 5 of **Fundamentals of Insurance**, Second Edition, Richard D. Irwin, Homewood Illinois, 1986, 94-123.
5. Allan H. Willett, "Insurance," Chapter 7 of **The Economic Theory of Risk and Insurance**, Richard D. Irwin, Inc. Homewood, Illinois, 1951 (reprinted from 1901), 71-89.
6. Walter Nicholson, "Choice in Uncertain Situations," chapter nine of **Microeconomics: Basic Principles and Extensions,** Fourth Edition, Dryden Press, Chicago, 1989.
7. Allan Deserpa, "Risk and Uncertainty" pp. 136-150 of **Microeconomics,** New York, 1978.
8. Steven Sullivan, "Mutual Adversaries: The Debate Over Mutual Holding Companies," **Contingencies**, 10(6), November/December, 50-55.
9. Herbert E. Goodfriend and Hal Sandstrom, "Demutualization -- The Other 'D' Word," **Contingencies**, May/June 1996, 42-45
10. Mavis A. Walters, "A Sweeping Industry Initiative Upholds Building Codes to Hold Down Losses," **Contingencies,** 7(1), January February 1995, 41-43.
11. Charles Scawthorn, "Insurance Loss Estimation: Performance after the Northridge Earthquake," **Contingencies**, 7(5) September/October 1995, 26-31.
12. Lawrence Richter Quinn, "Reinsurance and Wall Street vs. Mother Nature," **Contingencies**, 10(5), September/October 1998, 21-27.
13. C. Arthur Williams, Jr. and Richard M. Heins, "Government Regulation of Insurance," Chapter 34 of **Risk Management and Insurance**, Sixth Edition, McGraw-Hill, New York, 1989, 769-800.
14. Steven Sullivan, "Marta's List: The Pursuit of Holocaust Survivors' Lost Insurance Claims," **Contingencies**, July/August 1998, 18-25.
15. Joan Hartnett-Barry, "Above All, Don't Panic: Confronting a Regulatory Exam from a State Insurance Department," **Contingencies**, 7(4), July/August 1995, 44, 46-47.
16. Glenn Pomeroy, "Insurance Regulation: States Do It Better," **Contingencies**, 10(1), January February 1998, 17-20.
17. William R. Jones, "Bring on the Gorilla," **Contingencies**, 10(1), January February 1998, 20-21.
18. California State Assembly, Insurance Committee, Thomas M. Calderon, Chair "Report on the Department of Insurance" approximately June 2000, excerpts.
19. Bruce D. Schobel and Robert J. Myers, "Japanese Mortality Rates: The Best in the World," **Contingencies**, 9(1), January/February 1997, 32-35.
20. Charles L. Trowbridge, "Marriage, Sex, and Mortality," **Contingencies**,7(6), November/December 1995, 24-31.
21. Anonymous: Partial schedule of life insurance charges.
22. George Akerlof, ``The Market for Lemons: Quality Uncertainty and the Market Mechanism," **Quarterly Journal of Economics,** 1970, pp. 488-500.
23. Milton Friedman and L.J. Savage, "The Utility Analysis of Choices Involving Risk," **Journal of Political Economy, 56,** August 1948, 279-304.
24. Kenneth J. Arrow, ``Uncertainty and the Welfare Economics of Medical Care," **American Economic Review, 53,** 1963, 941-969.
25. Mark V. Pauly, "The Economics of Moral Hazard: Comment," **American Economic Review, 58,** 1968, pp. 531-537.
26. Michael L. Smith, "Selecting the Proper Tools: II," chapter fourteen in C. Arthur Williams, Jr. and Richard M. Heins, **Risk Management and Insurance,** Sixth Edition, McGraw-Hill, New York, 1989.
27. David Mayers and Clifford W. Smith, Jr., "On the Corporate Demand for Insurance," **Journal of Business, 55,**, 1982.

Tentative Outline

Supply

1. Laws of large numbers and fair pricing.(1,2,5)

2. Deductibles, copayments, upper limits, exclusions (3,4)

Demand

3. Wealth variations (6)

Equilibrium

4. Insurance with two traders (7)

5. Mutual disaster insurance (8-12)

6. Moral hazard in fire insurance.

Topics

7. Regulation of insurance (13-18)

8. Life insurance (19,20)

9. Dynamic adverse selection (21)

10. Adverse selection (22)

11. Health states and demand (23)

12. Health insurance and moral hazard of the Pauly type(24,25)

13. Corporate demand for insurance(26,27)

Name: ____________________

Economics 174, Economics of Insurance

Some ground rules for home works and exams:

Write your homework answers on the sheets supplied. If necessary, you can get new sheets on the class web site.

All homework and examination items are answered with a limitation on space. Limitations on the homework items are typical of those on examination items. Ordinarily, one-half page is allowed. Sometimes a word limit is also set. Write the best answer that you can in the space available. Writing that is illegible or unreasonably tiny is penalized.

In many cases you will know more than can fit in the space. You must decide which parts are most important to write down. In preparing homeworks or examination, it is usually best not to leave blank space. Instead, explain the answer a bit more deeply.

You should outline the answer for yourself before writing it out for us, whether on homeworks or examinations. It also helps to connect the text to the diagrams and equations, which you do by labeling points in the diagrams (for instance by A, B, C, ...) or labeling equations (for instance, *, **, ***, ...) and then referring to the labels at the proper point in the text. For instance, you might write, "From the initial equilibrium of supply and demand, point A in the figure, the increase in demand leads to a new equilibrium at point B." You should practice this technique in the homeworks and in your preparation for examinations.

Problem Set #1, Due April 2, 2003

1. Bret Maverick risks 1000 on the toss of a fair coin, that is, of a coin having Pr{head}=.5. If the coin falls heads, he will lose 1000 and otherwise he will lose nothing. As a professional gambler, Bret is willing at accept a probability of bankruptcy equal to .4. How much mad money (i.e. reserve) does Bret need? _________________

Bret's brother, Bart Maverick, is in the same situation as Bret, except his risk depends on a different fair coin whose outcome is independent of Bret's. Bret proposes that they pool losses. The outcomes for the pool are no losses, one loss, and two losses. What are the probabilities of the outcomes? ________________, ________________, ________________ . How much reserve does the pool need to maintain a probability of ruin of no more than .4? ____________________ . How much reserve is needed per brother? ________________________. Explain fairly carefully.