

Insurance Economics Seminar

Fall 2010, Tuesday 9:10-12:00 am

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Course Description:

The objective of this course is to develop the basic microeconomic models for risk and insurance with setting that economic agents are faced with uncertainty. The main topics include decision making under uncertainty, insurance demand, adverse selection, moral hazard, liability insurance, and catastrophe risk. The models discussed in this course are adaptable to many situations in finance and economics, but with a emphasis on insurance markets as means of transferring risk and wealth.

To encourage independent study and thinking, the teaching approach for this course is primarily discussion-based. Students must be well prepared before and after the classes.

Grades: Presentation and discussion 30%, term paper 30%, and exams 40%.

Books and Articles:

Dionne, G. ed. (2000) Handbook of Insurance, Kluwer Academic Publishers. (D)

Eeckhoudt, L, C. Gollier, and H. Schlesinger (2005) Economic and Financial Decisions under Risk, Princeton University Press. (EGS)

Gollier, C. (2004) The Economics of Risk and Time, MIT Press. (G)

Journal Articles (listed as follows).

Topics and Reading List

Sep. 14

1. Introduction to Insurance Economics

D1: Developments in Risk and Insurance Economics in the past 25 years

Doherty, N. (2000) Risk and Utility: Economic Concepts and Decision Rules, in *Integrated Risk Management*, chapter 2.

Sep. 21

2. Choice under Uncertainty

EGS 1-2: Risk Aversion and The Measure of Risk.

G 1-3: Expected Utility Model, Risk Aversion, and Change in Risk

G22: The Equilibrium Price of Risk and Time

Bernoulli, D. (1954) Exposition of a New Theory on the Measurement of Risk, *Econometrica* 22, pp23-36.

*Halek and Eisenhauer (2001) Demography of Risk Aversion," *Journal of Risk and Insurance* 68, pp1-24.

*Kihlstrom, R., D. Romer, and S. Williams (1981) Risk Aversion with Random Initial Wealth, *Econometrica* 49, pp911-920.

Machina, M.J. (1987) Choice under Uncertainty: Problems Solved and

Unsolved, *Journal of Economic Perspectives* 1, pp121-154.

*Pratt, J.W. (1964) Risk Aversion in the Small and in the Large, *Econometrica* 32, pp122-136.

Schoemaker, P.J.H. (1982) The Expected Utility Model: Its Variants, Purposes, Evidence and Limitations, *Journal of Economic Literature* 20, pp529-563.

Sep.28, Oct.05

3. Insurance Demand

D 5: Schlesinger, H. The Theory of Insurance Demand.

EGS 3: Insurance Decisions

G 8: Risk Aversion with Background Risk

*Braun, M. and A. Muermann (2004) The Impact of Regret on the Demand for Insurance, *Journal of Risk and Insurance* 71, pp737-767.

Doherty, N.A., and H. Schlesinger (1983) Optimal Insurance in Incomplete Markets, *Journal of Political Economy* 91, pp1045-1054.

*Doherty, N.A. and H. Schlesinger (1990) Rational Insurance Purchasing: Consideration of Contract Nonperformance, *Quarterly Journal of Economics* 105, pp243-253.

*Fei, W. and H. Schlesinger (2008) Precautionary Insurance Demand with State-Dependent Background Risk, *JRI*, pp1-16.

Li, D. et al (2007) The Demand for Life insurance in OECD Countries, *JRI*, pp637-652.

Meyer, J. and M.B. Ormiston (1999) Analyzing the Demand for Deductible Insurance, *Journal of Risk and Uncertainty* 18, p. 223-230.

+Mossin, J. (1968) Aspects of Rational Insurance Purchasing, *Journal of Political Economy* 76, pp553-568.

Regan, L. and Y. Hur (2007) On the Corporate demand for Insurance: The Case of Korean Nonfinancial Firms, *JRI*, pp829-850.

Oct. 12, 19

4. Optimal Risk Sharing

D 3: Gollier, C. Optimal Insurance Design: What can we do with and without Expected Utility.

EGS 10: Efficient Allocation of Risks

Aase, K.K. (1993) Equilibrium in a Reinsurance Syndicate: Existence, Uniqueness and Characterization, *ASTIN Bulletin* 23, pp185-211.

Arrow, K.J. (1963) Uncertainty and the Welfare Economics of Medical Care, *American Economic Review* 53, pp941-969.

Blazenko, G. (1985) The Design of an Optimal Insurance Policy: Note, *American Economic Review* 75, pp253-255.

*Borch, K. (1962) Equilibrium in a Reinsurance Market, *Econometrica* 30, pp 424-444.

- *Raviv, A. (1979) The Design of an Optimal Insurance Policy, *American Economic Review* 69, pp84-96.
- Gollier, C. and H. Schlesinger (1996) Arrow's Theorem on the Optimality of Deductibles: A Stochastic Dominance Approach, *Economic Theory* 7, pp 359- 363.
- *Schlesinger, H. (1997) Insurance Demand without the Expected-Utility Paradigm, *Journal of Risk and Insurance* 64, pp 19-39.

Oct. 26, Nov.2 **5. Adverse Selection**

D 7: Dionne, G, N. Doherty, and N. Fombaron, Adverse Selection in Insurance Markets.

EGS 8: Risk and Information.

EGS 12: Asymmetric Information.

G 24: The Value of Information

G25: Decision Making and Information

Chiappori, P. and B. Salanie (2000) Testing for Asymmetric Information in Insurance Markets, *Journal of Political Economy*, pp56-78.

Dionne, G. and N.A. Doherty (1994) Adverse Selection, Commitment, and Renegotiation: Extension to and Evidence from Insurance Markets, *Journal of Political Economy* 102, pp209-235.

- *Doherty, N.A. and H. Schlesinger (1995) Severity Risk and the Adverse Selection of Frequency Risk, *Journal of Risk and Insurance* 62, pp649-665.

- *Garidel-Thoron, T. (2005) Welfare-Improving Asymmetric Information in Dynamic Insurance Market, *Journal of Political Economy* 113, pp121-150.

- *Janssen, M.C. and V.A. Karamychev (2005) Dynamic Insurance Contracts and Adverse Selection, *Journal of Risk and Insurance* 72, pp45-59.

- *Kim, B.J. and H. Schlesinger (2005) Adverse Selection in an Insurance Market with Government-Guaranteed Subsistence Levels, *Journal of Risk and Insurance* 72, pp61-75.

+Rothschild, M. and J. Stiglitz (1976) Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information, *Quarterly Journal of Economics* 90, pp629-650.

Saito, K. (2006) Testing for Asymmetric Information in the Automobile Insurance Market Under Rate Regulation, *JRI*, 2006, pp335-356.

Spence, M. and R. Zeckhauser (1971) Insurance, Information and Individual Action, *American Economics Review* 61, pp380-387.

Nov. 9, 16

6. Risk Classification, Moral Hazard and Insurance Fraud

D 6: Winter, R. Optimal Insurance under Moral Hazard.

D8: Crocker, J. and A. Snow, The Theory of Risk Classification

D10: Picard, P. Economic Analysis of Insurance Fraud.

G 24: The Value of Information

*Boyer, M.M. (2004) Overcompensation as a Partial Solution to Commitment and Renegotiation Problems: The Case of Ex Post Moral Hazard, *Journal of Risk and Insurance* 71, pp 559-582.

Caudill, S., M. Ayuso, and M. Guillen (2005) Fraud Detection using a Multinomial Logit model with Missing Information, *JRI*, 539-550.

*Doherty, N. and K. Smetters, (2005) Moral Hazard in Reinsurance Markets, *JRI*, pp375-391.

Holmstrom, B. (1979) Moral Hazard and Observability, *Bell Journal of Economics* 10, pp74-92.

+Shavell, S. (1979) On Moral Hazard and Insurance, *Quarterly Journal of Economics* 93, pp541-562.

*Shiller, J. (2006) The Impact of Insurance Fraud Detection Systems, *JRI*, pp421-438.

Tennyson, S and Salsas-Forn (2002) Claims Auditing in Automobile Insurance: Fraud Detection and Deterrence Objectives, *Journal of Risk and Insurance* 69, pp289-308.

Nov. 23

Midterm Exam.

Nov. 30, Dec.7

7. Law of Large Numbers and Group Size

G21: Efficient Risk Sharing

D21: Mayers, D. and C.W. Smith Organizational Forms within the Insurance Industry.

Eichenberger, R. and F. Oberholzer-Gee (1998) Rational Moralists: The Role of Fairness in Democratic Economic Politics, *Public Choice* 94, pp191-210.

Ligon, E., J. Thomas, and T. Worrall (2002) Informal Insurance Arrangements with Limited Commitment: Theory and Evidence from Village Economies, *Review of Economic Studies* 69, pp209-244.

*Pecorino (1999) The Effect of Group Size on Public Good Provision in a Repeated Game Setting, *Journal of Public Economics*, pp121-134.

*Rai, A. and T. Sjöstrom (2004) Is Grameen lending Efficient? Repayment Incentives and Insurance in Village Economies, *Review of Economic Studies* 71, pp217-234.

*Robledo, J. (1999) Strategic Risk Taking When There Is a Public Good to be Provided Privately, *Journal of Public Economics*, pp403-414.

Viswanathan, K.S. and J.D. Cummins (2003) Ownership Structure Changes in the Insurance Industry: An Analysis of Demutualization, *Journal of Risk and Insurance* 70, pp 401-437.

Dec. 14

8. Catastrophe Risk, Insurance Capacity, Reinsurance and Cycles

- D20:Harrington, S. and G. Niehaus Volatility and Underwriting Cycles.
Cole, C. and K. McCullough (2006) A Reexamination of the Corporate Demand for Reinsurance, pp. 169-192.
- Cummins, J., N. Doherty, and A. Lo (2002) Can Insurers Pay for the Big One? Journal of banking and Finance, pp557-583.
- *Doherty, N. and H. Schlesinger (2002) Insurance Contract and Securitization, JRI, pp45-62.
- *Lai, G. et al (2000) Great (and Not So Great) Expectations: An Endogenous Economic Explication of Insurance Cycles and Liability Crises, Journal of Risk and Insurance, pp617-652.
- *Plantin, G. (2006) Does Reinsurance Need Reinsurers? JRI, pp153-168.
- Weiss, M.A. and Chung, J. Reinsurance Prices, Financial Quality, and Global Capacity, Journal of Risk and Insurance 71, pp 437-467.

Dec. 21, 28

9. Liability Insurance

- D9: Harrington, S. and P. Danzon, The Economics of Liability Insurance. Mecelie (1997), Economics of the Law, chap 2, Oxford University press.
- Browne, M. and J. Schmit (2008) Litigation Patterns in automobile Bodily Injury Claims 1977-1997: Effects of Time and Tort Reforms, JRI, pp83-100.
- *Beard, T. (1990) Bankruptcy and Care Choice, Rand Journal of Economics, pp626-634
- *Che, Y.-K. and D. Earnhart (1997) Optimal Use of Information in Litigation: Should Regulatory Information be Withheld to Deter Frivolous Suits?" Rand Journal of Economics 28, pp120-134.
- *Cummins, D. R. Phillips, and M. Weiss (2001) The Incentive of No-fault Automobile Insurance, Journal of Law and Economics 44: pp427-464.
- Gutierrez, M.(2003) An Economic Analysis of Corporate Directors' Fiduciary Duties, Rand Journal of Economics 34, pp516-535.
- Oberholzer-Gee, F., I. Bohnet, and B. Frey (1997) Fairness and Competence in Democratic Decision, Public Choice 91, pp89-105.
- *Png, I.(1987) Litigation, Liability, and Incentives for Care, Journal of Public Economics 34, pp61-85.
- *Sarath, B. (1991), Uncertain Litigation and Liability Insurance, Rand Journal of Economics 22, pp218-231.
- +Shavell, S. (1985) Uncertainty Over Causation and the Determination of Civil Liability, Journal of Law and Economics 28, pp587-609.
- Sloan, F., B. Reilly and C. Schenzler (1995) Effects of Tort Liability and Insurance on Heavy Drinking and Drinking and Driving, Journal of Law

and Economics 38, 49-77.

Viscusi, W. K. (2004), Tort Reform and Insurance Markets, Risk Management and Insurance Review 7, pp9-24.

Viscusi W.K. and P. Born (2005), Damage caps, Insurability, and the Performance of Medical Malpractice Insurance, JRI, pp23-43.

Jan. 4

10. Health and Life Insurance

*Chiu, W. (1997) Health Insurance and the Welfare of Health Care Consumers, Journal of Public Economics, pp 125-133.

*Finkelstein, A. and J.Poterba (2004) Adverse Selection in Insurance Markets: Policyholder Evidence from the U.K. Annuity Market, Journal of Political Economy 112, pp183-208.

Gruber, J. (2003) Reducing the Uninsured by Shifting Risk in Health Insurance, American Economic Review 93, pp271-276.

Holahan, J. et al (2003) A New Approach to Risk-Spreading via Coverage-Expansion Subsidies, American Economic Review 93, pp277-282.

*Kleef, R., W. Ven and R. Vliet (2006) A Voluntary Deductible in Social Health Insurance with Risk Equalization: Community-rated or Risk-Rated Premium Rebate? JRI, pp529-550.

Lin, Y. and S. Cox (2005) Securitization of Mortality Risks in Life Annuities, JRI, 227-252.

*Lin, Y. and M. Grace (2007) Household Life Cycle protection: Life Insurance Holdings, Financial Vulnerability, and Portfolio Implications, JRI, 141-173..

Ma, Y. and M. Browne (2005) Subsidization and Choice in the Group Health Insurance Market, JRI, pp. 413-439.

Thomasson, M. (2003) The Importance of Group Coverage: How Tax Policy Shaped U.S. Health Insurance, American Economic Review 93, pp1373-1384.

*Vera-Hernandez, M. (2003) Structural Estimation of a Principal-Agent Model: Moral Hazard in Medical Insurance, Rand Journal of Economics 34, pp670-693.

Jan. 11

Final Exam

Jan. 31

Paper Due