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Mondays 8:30-11am

Duke University
327 Social Sciences Buidling

Syllabus and Reading List
Social Insurance
Spring 2009

1. Introduction to Social Insurance

What is social insurance? Why does the government get involved in providing insurance? Why do we care about social insurance? What are the key questions we need to address for optimal design of social insurance progams? For an overview, read:

★ **Martin Feldstein (2005).** "Rethinking Social Insurance." NBER Working Paper 11250.

2. Asymmetric Information: Theory, Tests and Welfare Analysis

The key reason for the government to be involved in providing insurance is the potential market failure as a result of asymmetric information. Here we review the basic theory of how asymmetric information may lead to market failure; and the tests for asymmetric information that are derived from the theory; and finally some recent empirical methods to examine the welfare effects of asymmetric information.

[A.] Theory.

The classical readings on the market failure due to asymmetric information is Akerlof's (1970) lemon's paper and Rothschild & Stiglitz's analysis of competitive insurance market (1976). Arrow's (1963) classical paper makes uncertainty and asymmetric information central focus of the economic analysis of health economics. All these papers assume one dimensional private information in the risk type of the agents.

★ **George Akerlof (1970).** "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," Quarterly Journal of Economics (August l970).

★ **Michael Rothschild and Joseph Stiglitz (1976).** "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information", Quarterly Journal of Economics, 90 (4), 629-650.

★ **Kenneth Arrow (1963).** "Uncertainty and the Welfare Economics of Medical Care," American Economic Review Vol. 53, No. 5, 941-973.

Recently there have been some work emphasizing potential private information in other dimensions, such as risk aversion.

★ **Hemenway, David (1990).** "Propitious Selection." *Quarterly Journal of Economics*, Vol. 105, 1063-1069.

de Meza, David and David C. Webb (2001). "Advantageous Selection in Insurance Markets." *Rand Journal of Economics*, Vol. 32, No. 2, 249-262.

[B.] Empirical Tests of Asymmetric Information.

The most well-known empirical tests of asymmetric information is known as the "positive association property" test, first applied in Chiappori and Salanie (2000) for automobile and Chiappori, Jullien, Salanie and Salanie (2005) showed the robustness of this test. Other applications include Cawley & Philipson (1999) for life insurance market, Finkelstein & McGarry (2006) for Long Term Care insurance market, Fang, Keane & Silverman (2008) for Medigap insurance market.

Chiappori, Pierre-André and Bernard Salanié (2000). "Testing for Asymmetric Information in Insurance Markets." *Journal of Political Economy*, Vol. 108, No. 1, 56-78.

★ **Chiappori, Pierre-André, Bruno Jullien, Benard Salanié and Francois Salanié (2006).** "Asymmetric Information in Insurance: General Testable Implications." *Rand Journal of Economics*, Vol. 37, No. 4.

Cawley, John, and Tomas Philipson (1999). "An Empirical Examination of Information Barriers to Trade in Insurance." *American Economic Review*, 89(4): 827-846.

He, Daifeng (2008). "The Life Insurance Market: Adverse Selection Revisited." mimeo, University of Washington at St. Louis.

Finkelstein, Amy and Kathleen McGarry (2006). "Multiple Dimensions of Private Information: Evidence from the Long-Term Care Insurance Market." *American Economic Review*, Vol. 96, No. 4, 938-958.

★ **Fang, Hanming, Michael P. Keane and Dan Silverman (2008).** "Sources of Advantageous Selection: Evidence from the Medigap Insurance Market." *Journal of Political Economy*, Vol. 116, No. 2, 303-350.

However, "positive correlation property" is not the unique implication from the presence of asymmetric information. The following papers use different angles to examine the presence of asymmetric information.

Finkelstein, Amy and James Poterba (2004). "Adverse Selection in Insurance Markets: Policyholder Evidence from the U.K. Annuity Market." *Journal of Political Economy*, Vol. 112, 183-208.

★ **Cohen, Alma and Liran Einav (2007).** "Estimating Risk Preferences from Detuctible Choice." *American Economic Review*, Vol. 97, No. 3, 745-788.

The above papers do not distinguish moral hazard from ex ante adverse selection. The papers below attempted to do so.

Abbring Jaap, P.A. Chiappori and J. Pinquet (2003). "Moral Hazard and Dynamic Insurance Data." *Journal of the European Economic Association*, 1,4, 767-820.

Abbring J. H., J. J. Heckman, P. A. Chiappori and J. Pinquet (2003). "Adverse Selection and Moral Hazard In Insurance: Can Dynamic Data Help to Distinguish?" *Journal of the European Economic Association* 1, 512–521.

Olivia Ceccarini (2007). "Does Experience Rating Matter in Reducing Accident Probabilities? A Test for Moral Hazard." mimeo, University of Pennsylvania

Abbring, Jaap, Chiappori, Pierre-André, and Tibor Zavadil (2008). "Better Safe than Sorry? Ex Ante and Ex Post Moral Hazard in Dynamic Insurance Data." mimeo, Columbia University.

An interesting emerging literature is a theoretical investigation regarding the general issue of identification of adverse selection in structural models. See the paper below as a starting point.

Xavier d'Haultfoeuille and Philippe Février (2007). "Identification and Estimation of Incentive Problems: Adverse Selection."

[C.] Welfare Effects of Asymmetric Information

The frontier of this research area lies in welfare analysis of asymmetric information in insurance context. The following list is almost exhaustive about the existing literature.

★ **Finkelstein, Amy, Liran Einav and Paul Schrimpf (2007).** "The Welfare Cost of Asymmetric Information: Evidence from the U.K. Annuity Market." NBER Working Paper 13228.

Josh Lustig (2007). "The Welfare Effects of Adverse Selection in Privatized Medicare." mimeo, Boston University.

★ **Einav, Liran, Amy Finkelstein and Mark R. Cullen (2008).** "Estimating Welfare in Insurance Markets Using Variation in Prices." mimeo, Stanford University and MIT.

Bundorf, Kate, Jonathan Levin and Neale Mahoney (2008). "Pricing, Matching and Efficiency in Health Plan Choice." mimeo, Stanford University.

Cutler, David and Sarah Reber (1998). "Paying for Health Insurance: The Trade-off between Competition and Adverse Selection," *Quarterly Journal of Economics*, 113(2), 433-466.

3. Health Care Systems: Theory and Evidence

Health care reform is one of the most important policy issues in the US. There are numerous angles from which one can examine the issues related to the health care system. I will touch upon only two issues, reclassification risk insurance, and dynamic externalities.

[A.] Reclassification Risk: Theory and Evidence

Reclassification risk is the risk that consumers face in future insurance premiums. There is no long-term health insurance currently in the U.S. This could lead to significant welfare loss.

★ **Peter Diamond (1992).** "Organizing the Health Insurance Market," Econometrica, 60, 1233-1254.

★ **John Cochrane (1995).** "Time Consistent Health Insurance", Journal of Political Economy, 103 (3), 445-473.

★ **Hendel, Igal and Alessandro Lizzeri (2003).** "The Role of Commitment in Dynamic Contracts: Evidence from Life Insurance." *Quarterly Journal of Economics*, Vol. 118, No. 1, 299-327.

★ **Finkelstein, Amy, Kathleen McGarry and Amir Sufi (2005).** "Dynamic Inefficiencies in Insurance Markets: Evidence from Long-Term Care Insurance." American Economic Review Papers and Proceedings, 95:224-228

★ **Fang, Hanming and Edward Kung (2008).** "How Does the Life Settlement Market Affect the Primary Life Insurance Market?" mimeo, Duke University.

★ **Fang, Hanming and Edward Kung (2008).** "Why Do Life Insurance Policyholders lapse? Loss of Bequest Motives vs. Liquidity Shocks, work in progress, Duke University.

[B.] Dynamic Externalities

Health insurance in the US is mostly tied to employment. There is neither universal, nor single-payer, health insurance in the US and this leads to dynamic inefficincies.

★ **Fang, Hanming and Alessandro Gavazza (2007).** "Dynamic Inefficiency in an Employment-Based Health Insurance System: Theory and Evidence." NBER Working Paper No. 13371.

Herring, Bradley (2006). "Sub-optimal Coverage of Preventive Care Due to Market-Level Turnover Among Private Insurers." Unpublished Working Paper. Emory University School of Public Health.

Cebul, Randall, Ray Herschman, James B. Rebitzer, Lowell J. Taylor and Mark Votruba (2007). "Employer-Based Insurance Markets and Investments in Health."

4. Unemployment Insurance: Theory and Evidence

For the institutional background related to the unemployment insurance system in the US, see:

Katherine Baicker, Claudia Goldin, and Larry Katz (1998). "A Distinctive System: Origins and Impacts of U.S. Unemployment Compensation," in *The Defining Moment: The Great Depression and the American Economy*, University of Chicago Press, 1998 (NBER Working Paper No. 5889).

[A.] Theory of Optimal Unemployment Insurance

The static models for optimal unemployment insurance are Baily (1978), extended further by Chetty (2006). Dynamic theory of optimal timing and level of unemployment insurance started with Shavell and Weiss (1979). There is also a growing literature dubbed "dynamic public finance" that addresses the mechanism design issues related to unemployment insurance, as well as disability insurance, dynamic optimal taxation etc.

★ **Baily, Martin (1978).** "Some Aspects of Optimal Unemployment Insurance," *Journal of Public Economics,* 10, 379-402.

Raj Chetty (2006). "A General Formula for the Optimal Level of Social Insurance." *Journal of Public Economics*, 90: 1879-1901.

★ **Steven Shavell and Lawrence Weiss (1979).** "The Optimal Payment of Unemployment Insurance Benefits over Time," *Journal of Political Economy,* 87, 1347-1362.

Hugo Hopenhayn and Juan Niccolini (1997). "Optimal Unemployment Insurance," Jo*urnal of Political Economy,* 105 (1997), 412–438.

Michael Golosov, Aleh Tsyvinski and Ivan Werning (2006). "New Dynamic Public Finance: A User's Guide." *NBER Macroeconomics Annual 2006.*

Robert Shimer and Ivan Werning (2007). "Liquidity and Insurance for the Unemployed" MIT mimeo.

Robert Shimer and Ivan Werning (2007). "Reservation Wages and Unemployment Insurance," Quarterly Journal of Economics, 2007, 122 (3): 1145-1185.

Robert Shimer and Ivan Werning (2007). "On the Optimal Timing of Benefits with Heterogeneous Workers and Human Capital Depreciation." mimeo, MIT.

[B.] Empirical Studies

Theoretical results on the optimal unemployment insurance are useful only if one has reliable estimates regarding the effect of UI benefit on unemployment duration, and the consumption smoothing from UI. Meyer (1990) and Gruber (1995) are classical studies on these two issues. Meyer (1995) summarizes. Chetty (2008) proposes using sufficient statistics, estimable using non-structural methods, to conduct welfare analysis.

★ **Bruce Meyer (1990).** "Unemployment Insurance and Unemployment Spells," Econometrica 58, 757-782.

★ **Jonathan Gruber (1995).** "The Consumption Smoothing Benefits of Unemployment Insurance," *American Economic Review,* 87, 192-205.

Bruce Meyer (1995). "Lessons from the U.S. Unemployment Insurance Experiments," *Journal of Economic Literature,* 33, 91-131.

★ **Raj Chetty (2008).** "Morale Hazard versus Liquidity and Optimal Unemployment Insurance." *Journal of Political Economy*, Vol. 116, No. 2, 173-234.

★ **Raj Chetty (2008).** "Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods", Forthcoming, *Annual Review of Economics.*