Econ 712: Topics in Applied Microeconomics
Department of Economics
University of Pennsylvania
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Instructor: Professor Hanming Fang
Office: Room 429, McNeil Building
Email: hanming.fang@econ.upenn.edu

Class Schedule: M, W, 1:30-3pm, McNeil 167-168
Office Hours: By appointment (send me an e-mail)

Course Objectives:

This course is aimed to provide a comprehensive review of theory, empirical methods and evidence related to the rationale, optimal designs, and effects (both in terms of behavior and welfare) of a variety of social insurance programs such as health insurance (Medicare and Medicaid), unemployment insurance, social security. We will particularly focus on models that capture the interactions between these social insurance programs and the labor market, as well as the interactions between these social insurance programs and private insurance markets.

- The main goal of the course is to get the students familiarized with the topics and be able to develop independent but related research ideas.
- The course will mostly consist of lectures, but will also include a few student presentations.

Requirement and Grading:

1. (20%) Occasional homework & active class participation (including paper presentations).

2. (40%) A take-home examination. It will be give at the end of the term. Questions will be based on the required material on the reading list and lecture material.

3. (40%) A short research paper.

You are expected to pursue some topics covered in class or other related issues (subject to the approval of the instructor). The paper may consist of an empirical and/or theoretical analysis, but should contain some original aspects. You are to complete a two-page research proposal by the end of October, and you have until the end of the semester to complete the paper. Please speak to me if you have difficulty developing a topic, and we will work on it together.

The goal is to get you started on your first research project that can potentially be turned into the third-year paper later.
Syllabus and Reading List

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 programs? For an overview, read:


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.

2.1 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.


Recently there have been some work emphasizing potential private information in other dimensions, such as risk aversion.
2.2 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.


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.


2.3 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.


2.4 Moral Hazard vs. Adverse Selection: Identification Results

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


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.

3 Health Insurance Markets

3.1 Why Do American Spend So Much More on Health Care?


He, Hui and Kevin X.D. Huang (2012). “Why Do Americans Spend So Much More in Medical Care than Europeans?” Vanderbilt University.

3.2 Demand for Medical Care


3.3 Health as a Form of General Human Capital and Implications


3.4 Reclassification Risk

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.


3.5 Interaction between Health Insurance and Labor Market


We will digress on a discussion about a variety of labor market models that differ in the nature of the friction, and how wages are determined. Such models are ingredients to study the interaction between social insurance programs and the labor market.


3.6 Evaluating the Effect of Health Insurance Reform

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.


3.7 Medicare and Medigap Insurance


4 Unemployment Insurance: Theory and Evidence

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


4.1 Theory and Evidence of Optimal Unemployment Insurance (Static Models)

The static models for optimal unemployment insurance are Baily (1978), extended further by Chetty (2006). 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.


4.2 Theory of Optimal Unemployment Insurance (Dynamic Models)

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.


4.3 Empirical Evidence of Unemployment Insurance on Worker and Firm Behavior


4.4 Some New Empirical Studies and Empirical Methods for Welfare Analysis

Here we discuss a couple of new papers by Chetty. Chetty (2008) proposes using sufficient statistics, estimable using non-structural methods, to conduct welfare analysis.


5 Insurance Markets for the Elderly

5.1 Life Insurance


5.2 Annuity Insurance

A. *Theory of the Demand of Annuitization*


B. Empirical Facts


C. Solutions to the Annuity Puzzle?


5.3 Social Security, Saving and Retirement


5.4 Long Term Care Insurance


5.5 Portofolio of Risks and Insurances
