Econ 421: Incentives, Information and Markets
Winter 2018

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Overview

The purpose of economics is to understand the functioning of markets. In the traditional neoclassical model, agents face prices and choose how much to demand or supply. Prices are then set to equate supply and demand, resulting in an efficient allocation of resources. In practice, markets do not perform as well as in this idealized model.

The market for healthcare, for example, has two large problems. The first is moral hazard. When an individual undergoes a medical procedure they only pay a fraction of the bill, leading them to demand more procedures than if they were to pay with their own money. Insurance companies try to manage this moral hazard problem by requiring co-pays and deductibles, but must balance the incentive effects against the risk imposed on customers. A second problem is asymmetric information. Healthy people know that they will have low expenses over the coming year, and therefore often opt out of insurance or choose a bare-bones plan. As these healthy individuals leave the insurance pool, premiums rise for others, causing even more patients to opt out. Asymmetric information can induce a death spiral, leading to the inefficient outcome where nobody is insured.

This class introduces students to the concepts of information economics that lie at the heart of modern economics and applies them to the economics of insurance, industrial organization, and personnel. We study theoretical models and the functioning of actual markets, and ask whether we can design policies that improve market outcomes. Broadly, the class teaches students about the role of models in economics, and how to tie data and theory together.
Evaluation

The aim of this class is to transition students from understanding formal models to using these models to think about practical problems. With this in mind, the evaluation consists of three parts.

1. Three homework assignments [15% each].
   - Homeworks consist of mathematical problems to ensure students understand the formal concepts being introduced in class.
   - Students are allowed to discuss problems with one another, but solutions must be written up individually.
   - These will be due on Tue Jan 30 (Week 4), Tue Feb 20 (Week 7) and Tue Mar 13 (Week 10).

2. In class presentation of an empirical paper [15%]
   - This aims to help students become consumers of research.
   - Students will form groups of three, and give a 10-minute presentation. The Appendix of this syllabus presents a list of possible papers.
   - If you have a group of three people, let us know by Thu Feb 1st (week 4), 11am. Remaining people will be matched randomly.
   - Students need to pick papers by Thu Feb 8th (week 5), and the presentations will start in week 6 through the end of the quarter.
   - Generally, the order of presentations will correspond to the order in which we cover the corresponding material in lectures.

3. Research paper on a problem related to this class [40%]
   - This has the goal of preparing students to conduct their own research.
   - Students will form groups of three. The paper might survey a public policy issue and write about possible solutions. It might do qualitative and quantitative research on a novel contracting problem. We’re ultimately looking for something that is interesting and teaches us about the issue at hand.
   - A one-page proposal for the paper is due by Thu Feb 15th (week 6).
   - The paper is due at the end of week 10 (Fri Mar 16th, 11:59pm) via TurnItIn on myUCLA. Each group should only turn in one copy.

Important dates:
- Tue Jan 30 (Week 4): HW 1 due
- Thu Feb 1 (Week 4): Provide group names
- Thu Feb 8 (Week 5): Pick paper to present
- Tue Feb 13 (Week 6): Presentations start
- Thu Feb 15 (Week 6): Paper proposal due
- Tue Feb 20 (Week 7): HW2 due
- Tue Mar 13 (Week 10): HW3 due
- Fri Mar 16 (Week 10): Paper due by 11:59pm.
0. Introduction: What is Information Economics? [1 class, MtV]
   - Hayek (1945), “The Use of Knowledge in Society”, AER.
   - Arrow (1963), “Uncertainty and Welfare Economics of Medical Care”, AER.

1. Moral Hazard (with applications to Personnel Economics)
   When a firm hires a worker to work for them, the employee has considerable discretion how hard to work, how much risk to take on, and how much to invest in their skills. All of these activities are central to the performance of the firm, and so it is important to induce the employee to act in the firm’s best interest. We look at four aspects of this problem.

Books, Surveys

1.1. Performance-Pay and the Incentive-Risk Trade-off [4 Classes; MtV]
   In some occupations, employers address moral hazard by directly tying pay to performance. But this leads to other problems, notably exposing the employee to risk if he does not control the performance measure perfectly.

Theory references

Applied references
1.2. Performance Measurement and Multi-tasking [2 classes; Board]

One critical issue when paying for performance is how to measure performance. Even the simplest tasks typically have a quantity and a quality dimension, and so piece-rates, say, risk compromising quality. We study how to design incentives when there are different tasks, some of which are hard to measure or may be gamed by employees.

Theory references

Applied references

1.3. Teamwork and Team Incentives [2 classes; Board]

Specialization and the division of labor is the ultimate source of productivity. To realize these gains, workers must be incentivized to work with one another, rather than free-ride on others effort. Team incentives can also be used when agents work independently, to lower risk and increase competition.

Theory references
1.4. Long-term Incentives: Investment and Efficiency Wages [3 classes; Board]

Employment relationships are typically long-lived, meaning that firms must also incentivize employees to invest in their skills, and invest in maintaining capital equipment. Such long-lived relationships also generate incentives since employees are motivated by the desire to keep their jobs.

Theory references

Applied references
2. Asymmetric Information (with applications to Insurance, Pricing and Labor markets)

When two parties wish to trade, one party may know more than the other. In particular, they may know about their willingness to pay for the product (the “private values” case) or about the quality of the product being traded (the “common values” case). We study both in turn.

Books, Surveys

2.1. Private Values: Pricing and Bargaining [3 classes; Board]

One of the central assumptions of neoclassical economics is that participants are price takers. When firms have market power but are uncertain about consumers’ preferences, the allocation of resources will typically be inefficient. We examine how such private information affects the performance of markets.

Theory references
- Textbooks treatment of nonlinear pricing, e.g. Stole (2001, p 60-68),

Applied references

2.2 Adverse Selection and Signaling [3 classes; MtV]

In many markets, one side has private information that directly impacts the gain the other side obtains from the trade. For example, in health insurance, the customer knows how healthy they are, and whether they have pre-existing conditions. We study such markets in theory and practice.

Theory references

Applied references

### 2.3 Dynamic Incentives and Career Concerns [2 classes; MtV]

We combine the dynamic perspective from Section 1.4 with the idea of private information in Section 2. We find that the desire for a good reputation generates incentives for effort and that firms may try to use long-term contracts to mitigate the “unraveling” problem. These ideas underlie the healthcare mandate in Obamacare.

**Theory references**

**Applied references**
Appendix: Additional Empirical Papers

Here we list additional empirical papers that students can use for their presentations. On occasion, we may also draw additional material from this list.

1.1 Moral Hazard and Performance Pay

1.2 Performance Measurement
1.3 Teamwork

1.4 Long-Term Incentives

2.1 Pricing

2.2 Adverse Selection

2.3 Dynamics