Econ 537
Economics of Contracts, Organizations, and Institution

Meeting Room KAP 163, Time: MW 10 am -11:50
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Grading policy:
Homework assignments (30%), one mid term (30%), and one take home final (may include presentation) (40%)

The Main Textbook:

GAME THEORY AND THE LAW, BAIRD, GERTNER, PICKER, 1994, HARVARD UNIVERSITY PRESS

Supplementary Textbook:

AUCTION THEORY by Vijay Krishna, second edition, 2010, Academic Press.

The main book provides readings of how laws and institutions are modeled and analyzed in economics. It also gives plenty of examples to illustrate the theory of contracts. We rely more on the notes rather than a single textbook, because there is no standard textbook for this course at the level we are presenting. The supplementary text provides theory background on auction design. This book provides analysis of the impact of auction theory on the allocation of resources under uncertainty. We will only cover auctions at a simple level to illustrate the impact of the theory on the development of the auctions practice.

The following books contain many of the materials we will use in our lectures.

1. Contract Theory by Patrick Bolton and Mathias Dewatripont, 2005, MIT Press
This book is more advanced than the level we offer here. However it gives you a comprehensive picture of the Theory of Contracts.
2. THE ECONOMICS OF CONTRACTS: A PRIMER, BY BERNARD SALANIE, SECOND EDITION, 2005. This book provides more formal analysis of the ideas we present. It is more accessible than the above textbook.

3. The Theory of Incentives: The Principal-Agent Model by Jean-Jacques Laffont and David Martimort, Princeton University Press, 2002. This book provides more details and formal theorems on bilateral contracting.

4. Economics, Organization and Management by Paul Milgrom and John Roberts, Prentice Hall, 1992. This book provides practical analysis of the organizational structure and how it affects the success of firms. It also has many ideas that we will utilize in our presentations.

5. Asymmetric Information in Financial Markets: Introduction and Applications by Bicardo N. Bebczuk, 2003, Cambridge University Press

Introduction

We view the firms as a nexus of contractual relations, and its boundary is determined by the economic benefits and feasibility of forming the contracts. An activity is contracted outside the firm when it is profitable and feasible to do so. Authority structures of the firm are also determined by various forces affected by information acquisition and incentive structures.

We view the employment relations as different from the market environment. There are three main differences: (1) The employer has authority over the employee but with limitations. (2) The employer owns the assets, and has discretion over the access to the firm assets by the employee. (3) The relationship is typically long-term and often exclusive.

The employer often has to make specific investments for the employment. We view the firm as an integrated collection of assets, and the employment relationship as a long term contract. In the employment relationship, there are insurance provisions in the sense that the employee is better protected from risks in economic fluctuations than the employer. The employer is thought to be more risk neutral as she owns the financial capital which is easier to diversify than the human capital owned by the employee. The insurance function, however, may have incentive consequences, and we view the employment contract as one that balances insurance and incentive provisions.

The design of the employment contracts also considers the problem of asymmetric information. Typically, the employer does not have complete knowledge of the productivity of the employee. Hence she needs to offer different salary contracts appropriate for employees of different abilities. This is the design of optimal contracts with asymmetric information. It is very similar to the problem of a monopolist facing consumers with different preferences for the goods, and the monopolist needs to design different pricing packages for different needs. Another issue occurs when the employer has better information about the market conditions, and this may affect the way employment contracts are designed. The design of incentive contracts leads to complex contracts not often observed in reality. This leads to a comparison between "highpowered" and "low-powered" contracts and situations in which "low-powered" contracts make sense.

Many issues in corporate finance involve a principal who has better information than the agent. This informational asymmetry may lead to a difference between equity financing and debt-financing and the violation of the Modigliani-Miller Theorem. It may also affect dividend payment policy. Contract theory also has important applications in regulation, public finance, industrial organization, firm organization and property rights theory of the firm.

Coverage:

We will start the analysis by looking at a simple principal-agent model of employment relationships. We then look at the analysis of monopoly pricing and output problem. These provide basic foundations for the analysis of contracts. They also give you some ideas of how game theory is applied to the issues we are dealing with.

There will be lecture notes posted on the blackboard.

Homework

Homework is essential for the understanding of the concepts we cover in this course. I will allow you to cooperate with other students in doing the assigned problems. However the final output should be presented in your own way. No copying of others' work is allowed. On time submission of the homework is very important.

Schedules:

Week one deals with bilateral static contracts with asymmetric information.
Week two deals with bilateral static contracts with signaling
Week three deals with bilateral static contracts with moral hazards
Week four deals with disclosure issues of verifiable information
Week five deals with more general bilateral static incentive contracts

Material review and the midterm exam on Feb 27.

Week six and seven deal with multilateral static contracts such as auctions
Week eight deal with matching theory and how it affects entry level labor market
Week nine deals with dynamic bilateral contracts and adverse selection
Week ten deals with incomplete contracts and Institution design
Week eleven deals with holdup problems and unverifiable information
Week twelve deals with contracts with common agency and market competition
Presentations in the last week of the lecture, and final reviews.

Final Exam is take-home and the Due date for the exam is May 3rd. Problems will be given on April 26 (the day of the last class).