14.771 Development Economics: Microeconomic Issues and Policy Models
Fall 2008

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Questions on Required Reading #6: Tirole (1996)

Read in details the paper on collective reputation. The following questions will help you make sure you are following the authors' argument.

1) Contrast the model of collective reputation to that of statistical discrimination and common trait in the way the equilibrium would respond to particular events:
    a. Past behavior is revealed perfectly for one period.
    b. An amnesty on all past offenses is imposed.
    c. Benefits of corruption are increased for one period.

2) Describe in your own words the conditions required for each steady state (Assumptions 2, 3 and 4). In particular, attempt to describe the type of circumstances that lead to multiple equilibria. Are these conditions likely to hold?

3) The principal and agent are matched randomly every period in Tirole's model.
    a. If given the choice, would the principal and the agent prefer entering in a longer term relationships rather than being matched randomly every period?
    b. What would be the form of a long-term contract that could potentially be implemented?
    c. How could you test whether reputation and concern for quality are the reasons behind long-term contracts?
    d. If agents could invest in a costly mechanism that would reveal to the principal their type, who would make such an investment and in what cases?

4) Consider a simplified version of the model where the probability that the principal will learn that an agent has cheated in the past is fixed at x. The rest is as in Tirole.
    a. What is the probability that a principal meets a non-detected cheater in any given period/match?
    b. Consider a high reputation equilibrium where all opportunistic agents do not cheat and principals assign the complex project to all individuals who remain "undiscovered".
        i. What fraction of the total population of agents receives the complex project in the high reputation equilibrium?
        ii. What fraction of those individuals will not cheat if given the complex project? What fraction will cheat?

iii. Assume that the principal's outside option is 0. Write the principal's IC constraint for the high reputation equilibria.

c. Let us now consider the behavior of opportunistic agents.
   i. Conditional on an opportunistic agent having cheated in the past, what is the probability that she will cheat in the future?
   ii. Write the present discounted value of always remaining honest for an opportunistic agent.
   iii. What is the probability that an opportunistic agent who has cheated in the past will live to the next period and be undiscovered? And discovered?
   iv. Write the present discounted value of cheating (conditional on not having cheated in the past).
   v. Use your answer in (c) and (d) to write the opportunistic agent's IC constraint.