
INSTITUTIONS FIELD EXAM
JUNE 2008

Instructions: *There are two (2) portions to this exam, labeled I and II. You must answer both portions. Follow the instructions in each portion for how to proceed with that portion. In answering your questions, make clear which portion and question you are answering (e.g., write II.1 if you are answering the first question in portion II).*

I HISTORY AND DEVELOPMENT PORTION

Instructions: *Answer two questions out of the following four.*

1. Looking at the broad sweep of North Atlantic economic development, sketch out how economic institutions broadly have played a role fostering (or hindering) market efficiency and the allocation of resources.
2. Provide three historical examples of institutions that developed to mitigate the consequences of market failures, and evaluate the success of these institutions at that task.
3. With special reference to the Indian textile industry, how does an analysis based on institutions help us or fail to help us understand the slow growth and large productivity gaps vis-a-vis the North Atlantic found elsewhere in the world in the years since 1850?
4. To what extent does an institution-based analysis help us to understand the relationship between economic inequality, political democracy, and economic growth?

II MECHANISM DESIGN, AGENCY, AND ECONOMICS OF ORGANIZATION PORTION

Instructions: *Answer both questions in this portion.*

1. Consider the following hidden-action agency model. A principal hires an agent by making him a take-it-or-leave-it (TIOLI) offer. Normalize the agent's utility if he is not employed by the principal to zero. If the agent accepts, he chooses an action a from the binary set $\{0, 1\}$. He also enjoys an inalienable benefit $b > 0$. His overall utility is $w + b - ca$, where $c > 0$ is a known constant and w is his wage. The agent is protected by limited liability; that is, the wage must always be non-negative. Assume, throughout, that the principal wishes to implement $a = 1$. The agent's action influences which of two possible states occurs. With probability pa the "success" (s) state occurs and with probability $1 - pa$ the "failure" (f) state occurs. Assume $0 < p < 1$. Unless stated otherwise, assume that

the realization of the state is a verifiable event. All players are the normal rational, self-interested actors of neoclassical economic theory.

- (a) In a one-shot game, what contract would the principal offer?
- (b) Consider a two-period model. Let δ denote the discount factor. Assume the principal can terminate the agent after the first period and hire another if she wishes. What are the equilibrium contracts in each period?
- (c) Consider an infinitely repeated model. Let δ denote the discount factor. Assume the principal can terminate the agent after any period and hire another if she wishes. What is the equilibrium contract in each period?
- (d) Consider an infinitely repeated model. Let δ denote the discount factor. Assume, now, that the realized state in each period is observable to the principal and the currently employed agent, but is not observable to anyone else. In particular, the state is no longer verifiable. Let the constant $b \in \mathbb{R}$; that is, the model is being extended to allow for the possibility that $b \leq 0$. Assume the principal can terminate the agent after any period and hire another if she wishes. Assume, too, that the agent can quit after any period. If the agent quits, the principal can hire a replacement. Although any replacement agent has no knowledge of the states realized prior to his employment, a replacement agent does know he is a replacement and he knows whether the previous agent quit or was terminated. Let the principal's payoff in the success state be π_s and let it be π_f in the failure state. Assume

$$\pi_s - \pi_f > \frac{c}{\delta p^2}.$$

Derive conditions under which there are equilibria in which the principal can induce an employed agent to choose $a = 1$ each period. How does the existence and characterization of the equilibria change as b goes from $-\varepsilon$ to $+\infty$, where $\delta p^2(\pi_s - \pi_f) - c > \varepsilon > 0$?

- 2. In many situations, there are multiple potential leaders, each wishing for the followers to go in a different direction. Consider a situation in which there are two potential leaders. Suppose each leader benefits only if followers follow her. Assume that the leaders initially compete against each other by campaigning to induce a following (*e.g.*, they wine and dine potential followers, run advertisements, etc.). After the campaign phase, the followers choose which leader to follow. With reference to the relevant literature on leadership, offer an explanation or explanations for why the followers could employ a strategy of following the leader who spends the most in the campaign phase? Under what conditions could competition between leaders be welfare enhancing? Welfare reducing? [You do not need to write down nor analyze a formal model—indeed, you are encouraged not to.]