

Practice problem set 5

Performance evaluation

This problem set constitutes recommended material for the relevant lab. The choice of tasks to be presented instructionally in every lab is in the discretion of the individual teacher. Students are expected to work on practice problems, however, are not required to submit written solutions. It is non-negotiable policy in this course to not provide hand-outs with the solutions of practice problem sets.

1. In the past presidential elections in the US analysts assigned to Donald Trump a 25% probability of winning if he exerted the maximum amount of effort and 10% if he exerted no effort at all.
 - (a) Are these probabilities compatible with stochastic dominance? Explain.
 - (b) Explain what might be the reason why an agent will not exert the maximum effort even though the reward is vastly important.

End-module 1 test – October 2016

2. A relative contract (for instance a tournament) is known to provide the agents with insurance. (Hint: You may or may not use equations in your answers).
 - (a) Explain what a relative contract is.
 - (b) Explain what type of insurance is meant in the above statement.
 - (c) Under what circumstances the agent will be better off if offered a relative contract (rather than a non-relative contract)?
 - (d) Does the principal have any incentive to provide this insurance?

1st Module Test – Fall 2012

3. Consider a linear relative contract.
 - (a) Provide a formula for such a contract.
 - (b) Explain how such a contract may offer insurance to an agent.
 - (c) Explain under what assumptions this insurance will be meaningful to the agents.
 - (d) How is the provision of insurance beneficial to the principal?

1st Module Examination – 2013

4. A risk-neutral principal is looking to hire n risk-averse agents to perform a task. In order to perform the task, the agents must exert effort. Effort is continuous and it causes a quadratic reduction to agent's utility. Besides effort, the final output for every agent depends significantly on a random factor, which is partly common and partly idiosyncratic.
 - (a) If the principal can observe the effort exerted by each agent, how should he compensate them? Explain.
 - (b) If the principal can observe only the final output of the agent's work, what would be the best method to compensate them? Explain why.

End-module 1 test – October 2015

5. A large firm wants to outsource the production of some intermediate good to multiple smaller firms (agents). These agents are known to be quite similar to each other and risk averse. All agents are located very close to each other and they face several risks in the production of the intermediate good, the most important of which is bad weather. Propose an efficient compensation method to these agents for the production of the intermediate good. Explain what makes your method efficient.

End of 2nd Module Examination – 2013