

Exam
Incentives in Organizations and Innovation
Summer Semester 2021

Please answer either **Question 1** or **Question 2**. If you answer both questions, we will only consider **Question 1!**

Question 1:

(1) Interpret the crowding-out effect of extrinsic rewards with reasonable examples.

(2) A team consists of two identical agents ($i = 1, 2$). The production function is $Q = \sum_{i=1,2} 2e_i$, where e_i is the effort of agent i . The disutility of effort for each agent is given by the function $C(e_i) = e_i^2/2$. The wage of agent is equal to $w_i = \gamma Q/2$, where γ is the share of the team in the total output Q .

2.1 Identify the individual rational level of effort.

2.2 Identify the collective rational level of effort. Is it a Nash equilibrium?

2.3 Consider a repeated game with almost perfect information and a **finite** time horizon. Can cooperation with the trigger strategy be a subgame-perfect equilibrium?

Question 2:

(1) Discuss the role of social preferences in the employees' response to relative performance pay.

(2) A team consists of two identical agents ($i = 1, 2$). The production function is $Q = \sum_{i=1,2} 2e_i$, where e_i is the effort of agent i . The disutility of effort for each agent is given by the function $C(e_i) = e_i^2/2$. The wage of agent is equal to $w_i = \gamma Q/2$, where γ is the share of the team in the total output Q .

2.1 Identify the individual rational level of effort.

2.2 Identify the collective rational level of effort. Is it a Nash equilibrium?

2.3 The discount factor is $\delta = 1/(1+r)$, with r being the interest rate. Consider a repeated game with almost perfect information and a **infinite** time horizon. Can cooperation with the trigger strategy be a subgame-perfect equilibrium?