Exam

Incentives in Organizations and Innovation

Summer Semester 2020

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

Question 1:

(1) Please discuss the role of the mutual monitoring and peer pressure.

(2) A principal hires an agent, who produces an output of $q = e + \varepsilon$. The effort oft he agent is given by e, and ε is a random variable with $E(\varepsilon) = 0$ and $Var(\varepsilon) = \sigma^2$. The principle can only observe q, but not e. The agent is offered the contract with the wage $w = \alpha q + \beta$. The agent's disutility of productive effort is given by $C(e) = \frac{1}{2}e^2$. The principal is risk neutral whereas the agent is risk averse with a constant coefficient of absolute risk aversion of r. The reservation utility of the agent is given by $\bar{u} = 0$.

How does the principal set the performance-based wage component and the fixed wage component?

Question 2:

(1) Please discuss the role of the relative performance pay.

(2) A principal hires an agent, who has a reservation utility equals to zero. The agent produces a revenue $q = 1$ with the probability p where p is a function of the agent's effort e: $p(e) = e$. The agent produces a revenue $q = 0$ with the probability $1 - p$. The principal can observe q, but not e. The agent's wage is $w = \alpha q + \beta$. His utility function is $U(w, e) = w - 0.5e^2 - 0.5r\,Var(w)$. Identify the profit-maximizing α, the profit-maximizing β and the maximum expected profit.