

Abstract:

This paper considers a moral hazard model with (i) a risk-neutral agent and (ii) agent limited liability. Prior to interacting with the principal, the agent designs the production technology, which is a specification of the agent's cost of generating each output distribution with support contained in $[0, 1]$. After observing the production technology, the principal offers a payment scheme and then the agent chooses a distribution over outputs. First, we show that there is an optimal design involving only binary distributions on $\{0, 1\}$; that is, the cost of any other distribution is prohibitively high. Then, we characterize the equilibrium technology defined on the binary distributions and show that the equilibrium payoff of both the principal and the agent is $1/e$. A notable feature of the equilibrium is that the principal is indifferent between offering the equilibrium bonus rewarding output one and anything less than that. Finally, the analysis of the model is shown to generalize to the case where the agent is risk averse