

# Daniel Garrett

## *Presentation Title*

### **Optimal Project Design**

(with George Georgiadis, Alex Smolin and Balazs Szentes)

## *Abstract*

This paper considers a moral hazard model with (i) a risk-neutral agent and (ii) limited liability. Prior to interacting with the principal, the agent can choose the production technology, which is a specification of the agent's cost of generating each output distribution with support in  $[0, 1]$ . After observing the production technology, the principal offers a payment scheme and then the agent implements a distribution over outputs. First, we show that it is without loss to restrict attention to 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.

## *Keywords*

Moral hazard; Limited liability; Principal-agent theory

## *Affiliation*

Toulouse School of Economics