

## E: The principal-agent problem

### Principal-agent problem

Arises when **principal (P)** hires the **agent (A)** to do something and:

1. P and A have different interests (utility functions)
2. A's action difficult to observe

Many, many examples:

Principal	Agent
Employer	Employees
Stockholders	Managers
Voters	Elected officials
Elected officials	Civil servants
Donors	NGO managers

Abstractly:

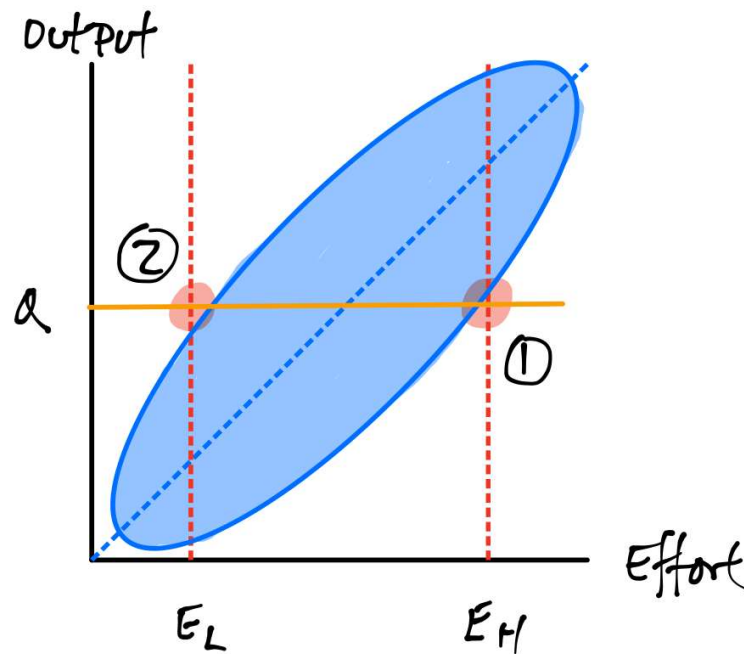
A: chooses effort  $E$

P: sees output  $Q$

$Q$  depends on  $E$  and random event (luck)  $\tilde{x}$ :

$$Q = f(E, \tilde{x})$$

Graphing:



Blue dotted line:  
 $Q(E,0)$

Blue area:  
 Possible outcomes  
 with nonzero  $\tilde{x}$

**P sees Q but not E**

Outcomes 1, 2:  
 Look same to P

Dilemma:

- P would like to pay based on Q (what they care about)
- But, would shift **all** of risk to A:
  1. Inefficient if A is risk averse
  2. May violate participation constraint

Solutions:

- Better hiring: A with same utility as P
- Better monitoring
- Efficient contracts