Asymmetric Information

Situations we are interested in: bilateral transactions where one party has more information than the other.

For e.g., One party observes the 'state', the other does not

Or, one party can take a payoff-relevant action that the other cannot see

We will focus on situations where the transaction takes place via a 'contract', which will be offered on a take-it-or-leave-it basis.

The one who gets to offer the contract is called the 'Principal', and the other party is called the 'agent'.

Thereby these are called Principal-Agent models.

Things we are going to abstract from:

A contract is assumed to be enforced by an outside party, so we will not consider ‘breach of contract’.

We will not consider any bargaining/negotiations leading to the contract.

We will differentiate between the two kinds of situation mentioned on the outset.

Case 1: One party observes the state of the world, the other does not, before the contract is signed.

Example: when you go to buy car insurance, the insurer does not know whether you are a good or a bad driver (but presumably, you do!).

The contract between you and insurer takes place under such asymmetric information.

These are called 'Adverse Selection' models, or 'hidden information' models.

There can be two sub-classes of adverse selection models:

Case 1*a* The agent has private information, and the principal writes the contract with an aim to elicit that information. Accordingly, these are called 'screening' contracts. Example: insurance contracts.

Case 1*b* The principal has private information, that she tries to 'signal' via the contract. These are called 'signaling' models. Example: length of warranty as a signal of quality.

Case 2: The agent can take an action after the contract is signed, that affects both parties' payoffs, but the principal does not observe it. So while offering the contract, the principal tries to influence the agent's future behavior.

Example: After the insurer kindly agrees to sell you insurance, you can become a very reckless driver, or you might get unlucky, and in both cases you end up 'totaling' your car.

The insurer has no way of observing whether you were simply reckless, or got unlucky, in either case, he will have to pay.

As a result, you'll find it very hard to get car insurance without a deductible.

These are called 'Moral Hazard' models, or 'hidden action' models.

What is a key characteristic that separates the two models?

It's the timing of the information asymmetry

In case of Adverse Selection, one party already has private information **before** the contract is accepted.

In case of Moral Hazard, the information asymmetry occurs **after** the contract is accepted.

Of course, the same transaction can have elements of both, like the insurance example above, but we will have to analyze each component separately.