* Chapter 1 gives a brief account of the history of thought concerning incentive theory.
* Chapter 2 presents the basic rent extraction-efficiency trade-off that arises in principal-agent models with adverse selection. Chapter 3 discusses extensions of this framework to more complex environments.
* Chapter 4 presents the two types of agency conflicts under moral hazard: the trade-offs between the extraction of a limited liability rent and efficiency and also between insurance and efficiency. Chapter 5 discusses extensions of this basic framework.
* Chapter 6 considers the nonverifiability paradigm, which in general does not call for economic distortions. Chapter 7 discusses Mixed models with adverse selection, moral hazard, and nonverifiability.
* Chapter 8 discusses extension of principal-agent models with adverse selection and moral hazard to dynamic contexts with full commitment.
* Chapter 9 discusses a number of simple extensions of the basic framework used throughout the book.

1. Essence of incentive questions
   1. Delegation of a task to an agent who has different objectives than the principal who delegates this task is problematic when information about the agent is imperfect.
   2. Conflicting objectives and decentralized information are thus the two basic ingredients of incentive theory.
2. Information Problems
   1. Private information problem
      1. *Moral hazard*: the agent can take an action unobserved by the principal, also called hidden action
      2. *Adverse selection*: the agent has some private knowledge about his cost or valuation that is ignored by the principal, also called hidden knowledge
   2. *Non-verifiability*
      1. when the principal and the agent share ex post the same information but no third party and, in particular, no court of law can observe this information
3. Adverse selection
   1. Definition: the agent get access to information that is not available to the principal, information that is private knowledge of the agent.

Ex. The exact opportunity cost of this task, the precise technology used, and how good the matching is between the agent’s intrinsic ability and this technology.

* 1. Solution

The contract must elicit the agent’s private information: giving up some information rent to the privately informed agent

1. Optimal Rent Extraction-Efficiency Trade-Off
   1. Faced by the principal when designing his contractual offer to the agent

Characterization (two steps):

* + 1. Describe the set of allocations that the principal can achieve despite the information gap from which he suffers.

(An allocation is an output to be produced and a distribution of the gains from trade)

(Incentive and participation constraints define the set of incentive feasible allocations)

(participation constraints: for a successful delegation of the task, the principal must offer the agent a utility level that is at least as high as the utility level that the agent obtains outside the relationship)

* + 1. Once this characterization is achieved, we can proceed to a normative analysis and optimize the principal’s objective function within the set of incentive feasible allocations.

1. Assumption for optimization
   1. The principal and the agent both adopt an optimizing behavior and maximize their individual utility. In other words, they are both fully rational individualistic agents
   2. The principal does not know the agent’s private information, but the probability distribution of this information is common knowledge. More generally, they both know that they know that …
   3. The principal is a Bayesian expected utility maximizer. In designing the agent’s payoff rule, the principal moves first as a Stackelberg leader under asymmetric information anticipating the agent’s subsequent behavior and optimizing accordingly within the set of available contracts.
2. Adverse Selection - Canonical Model (Notebook)
   1. *Incentive compatibility constraints*: constraints on final allocations, i.e., on the agent’s choices. At a general level, those constraints are thus similar to the simple revealed preference arguments used in standard consumption theory.