

Incentives for Unaware Agents

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Motivation

- In the standard Principal-Agent theory, the *problem* is moral hazard (hidden actions), and the *solution* is regulating all actions of the Agent by means of an incentive scheme in the contract.
- However, the solution may be counter-productive when the Agent is *unaware* of some choice possibilities.

For example, if the Principal regulates all actions of the Agent through a complete contract, the Principal may promote the Agent's awareness of some unobservable but bad actions, say, some shirking behaviors.

Hence, the standard solution can worsen the moral hazard problem.

The Optimal Contract for the Unaware Agent

- The paper uses the multi-task Agency model by Holmström and Milgrom (*JLEO* 1991).
- We show that if the Agent's default behavior is too lazy or too diligent in one dimension, the Principal will optimally write a complete contract to make the Agent aware.

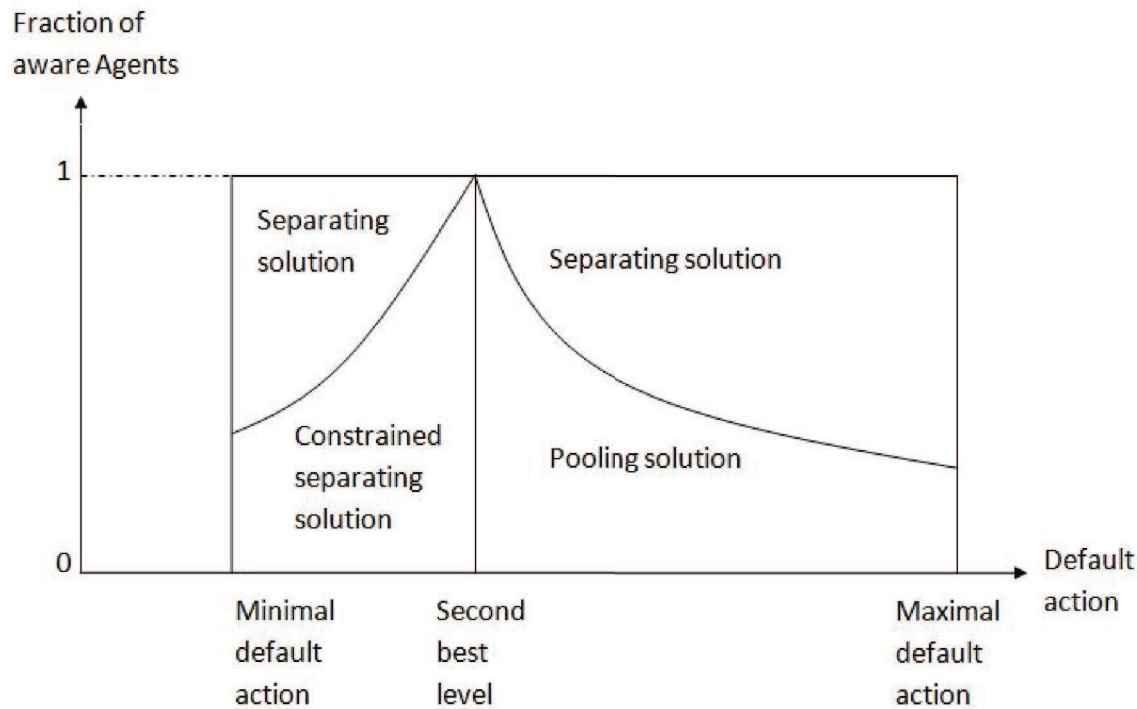
Conversely, if the Agent's default behavior is sufficiently efficient, the Principal will write an incomplete contract where this action is missing.

- The key trade-off: *the benefit of enlarging the choice set of the Agent versus the cost of adding new incentive constraints.*

Incentives for Agents with Heterogeneous Awareness

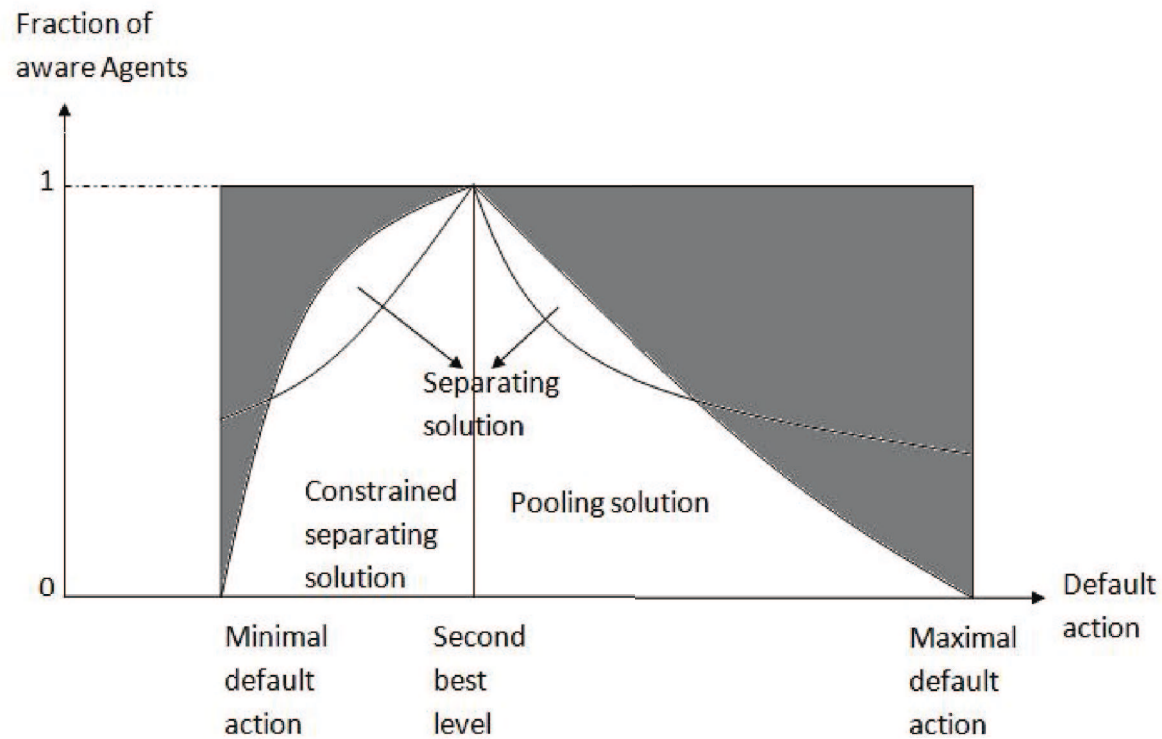
- Ideally, the Principal provides a low pay-performance sensitivity for the unaware Agent and a high pay-performance sensitivity for the aware Agent.
- However, we have the problem of *adverse selection*: the aware Agent pretends to be unaware in order to exploit the low pay-performance sensitivity.
- Screening results:
 1. Unaware Agents do not receive any rent.
 2. The unaware Agents exerts a *positive* externality on the aware Agents.
 3. Single-crossing property does not hold. In particular, we have *double-crossing* here.

The Screening Solution



- The incentive-compatibility constraints of both types of Agents can bind, leading to a pooling or a constrained separating solution.
- Distortion at the top: Efficiency losses can arise for both types of Agents.

The Full Solution with Endogenous Awareness



→ In the shaded area, the screening solution is dominated by making all Agents aware.

Welfare Consequence

- The Curse of Public Announcement:

There is no need for the policy maker to explicitly forbid some *unobservable* action of the Agents, because the efficiency-consideration of promoting awareness by the policy maker can be avoided by the internal optimization of all parties.

- Since the direction from unawareness to awareness is *irreversible*, in some circumstances, a complete contract or public announcement will exclude the contracting parties from the Pareto Efficient Garden of Eden *forever*.