Corruption and Compensation

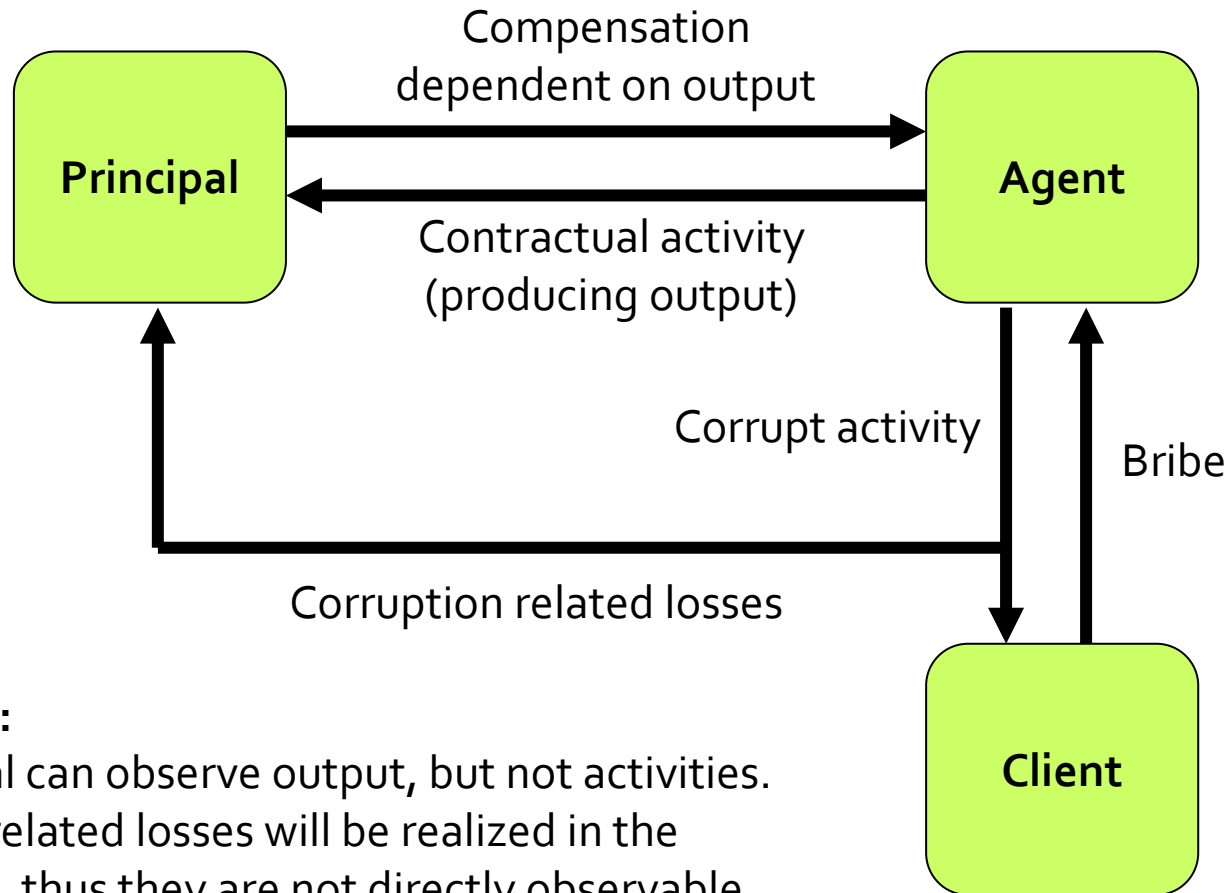## A Framework for an Agency Model of Controlling Corruption by Compensation

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Problem

- How to compensate employees (agents) who are exposed to attempts of bribery?

- How to minimize the chance that agents accept bribes?

Constellation

Principal → **Agent**
Compensation dependent on output

Agent → **Principal**
Contractual activity (producing output)

Corrupt activity

Bribe

Corruption related losses

Client

Assumptions:
- The principal can observe output, but not activities.
- Corruption related losses will be realized in the distant future, thus they are not directly observable
- Both activities impose private costs to the agent.
- There is a chance that the corrupt activity will be exposed and the agent has to pay a fine.

Idea

- Identify a link between contractual and corrupt activities.

- A possible version: make corrupt activities costly to the agent by keeping him busy, subject to the condition that the corresponding compensation is not too costly to the principal.

- Important assumption: Increasing agent's marginal private costs.

Time Line

1. Principal offers contract to agent
2. Agent chooses effort level for the contractual activity
3. Client offers a bribe to agent and the agent decides about acting corruptly or not
4. Realization of output
5. Payment of the compensation to the agent
6. Possible realization of corruption related losses and fines

Solution by Backward Induction
- Stage 3: Accepting the Bribe? -

- The client offers the agent a bribe.

- The isolated expected utility to the agent from acting corruptly is the net corruption outcome. It takes into account the offered bribe, the probability of detection and amount of fines as well as the private costs. According to the economic theory of crime, the agent will act corruptly if his expected benefits outweigh his costs, thus if the net corruption outcome is positive.

- The private costs depend on the previously chosen effort level.

- Thus the chance the agent accepts the bribe is higher if he had chosen a lower effort level before.

Solution by Backward Induction
- Stage 2: Choosing an Effort Level -

- In the 2nd stage and before, the expectations about the offered bribe and hence the net corruption outcome in stage 3 are uncertain. The agents knows he will be offered a bribe, but he does not know the exact amount.

- The agent chooses an effort level with regards to his expected compensation from the principal and the expected net corruption outcome.

- Assuming the principal wants to induce a high effort level, there must be an incentive constraint to ensure that the agent chooses the higher level.

Solution by Backward Induction
- Stage 1: Principal Offering a Contract -

- To maximize her expected utility, the principal determines the optimal compensation parameters, specifying a compensation depending on the realized output.

- In addition to the incentive constraint, the contract must also ensure the agent's participation by covering his reservation utility amongst others.

Results and Conclusion

- This model assumes that corruption is not completely avoidable, though it is possible to lower the chance of the agent accepting a corrupt offer from a client by inducing a higher level of activity. This may minimize potential losses from corruption.

- The agent is given an incentive to work harder for his contractual work instead of misusing his resources for corrupt activities.

- The expected net corruption outcome is part of the payment function.

- To make the agent accept the contract, the principal does not need to fully compensate his reservation utility. It is lowered by the agent's potential benefits from corruption, since by contracting the agent gets a chance to receive bribes.

- In some cases it is optimal to tolerate corruption. This is true if inducing the high effort level is too costly to the principal. This is more likely for a high probability for the corrupt activity to be uncovered, or if the possible losses from corruption to the principal are small, or if the marginal increase in private costs is small.