Abstract
Low-powered contracts do not provide proper incentives to reduce cost; still empirical studies show that they are quite pervasive in public and private procurement. This paper argues that low-powered contracts arise due to a free-riding problem when the contractor enjoys economies of scale/scope working for different buyers. A buyer, offering a procurement contract to the contractor, does not fully internalize that higher-powered incentives provide cost reduction in the contractor’s activities, benefiting other buyers. As a result, buyers offer lower-powered contracts than what would be designed by cooperative buyers. Strikingly, the higher the contractor’s benefits from economies of scope/scale are, the lower the power of the procurement contracts will be. In addition, laws which force buyers to award fixed-price contracts can be welfare-enhancing.

Research Question
Why are low-powered contracts pervasive?

What’s Low-powered Contract?
The buyer bears some of the contractor’s production costs.

Main Idea
- Contractor derives positive externality (economies of scope/scale) for performing several activities for different buyers.
- Externality: contractor’s effort to reduce cost in one activity also reduces cost in other activities.
- Buyer does not internalize all benefits of inducing cost reduction:
  - he enjoys the contractor’s cost reduction in his activity.
  - but he does not benefit from inducing cost reduction in other activities, which increases other buyer’s payoff.

Contributions
1. Low-powered contracts due to a externality (economies of scope/scale) and free-riding problem.
2. Low-powered contracts as an inefficient allocation: suboptimal incentive schemes.
3. The power of procurement contracts can be negatively related to contractor’s economies of scope/scale.

Empirical Implications
If there are a lot of buyers:
- The higher the economies of scope, the less likely low-powered contracts;
If there are a few buyers:
- The higher the economies of scope, the more likely low-powered contracts.

Policy Recommendation
Laws that force public sector to award fixed-price contracts should be adopted:
- a lot of buyers and a few contractors;
- contractor’s risk born is sufficiently low.

Model: Assumptions
- Multiprincipals one agency model with Moral Hazard
- Principals: Buyers
- Agent: Contractor

Contractor
Preferences
Risk-Averse
CARA: r coefficient of absolute risk aversion

Technology
Production Cost
\[ C_i = \beta - \varepsilon_i - \frac{\kappa}{n} \sum_{j \neq i} \varepsilon_j + \varepsilon_i \]
\( \kappa \): externality (economies of scope/scale)
\( \varepsilon_i \sim N(0, \sigma^2) \)

Effort Cost
\[ \psi(\varepsilon_i) = \frac{\varepsilon^2_i}{2\kappa} \]

Buyers
Preferences
n ≥ 2 risk neutral Buyers
\( i \in N = \{1, 2, ..., n\} \)
v > β: utility per activity

Contracts
Linear Contracts
\[ T_i(C_i) = b_i + a_i C_i, \text{ with } a_i \in [0, 1] \]
1 − a_i : power of the contracts
a_i ∈ (0, 1] : low-powered contract

Results and Comparative Statics
Power of the Contract and Economies of Scope/Scale

Power of the Procurement Contracts and the Number of Buyers

Buyer’s Payoff and The Number of Buyers