



Ministero  
dell'Economia  
e delle Finanze

# ***“Strengthening the Integrity of e-Procurement Processes: The Role of Economic Design”***

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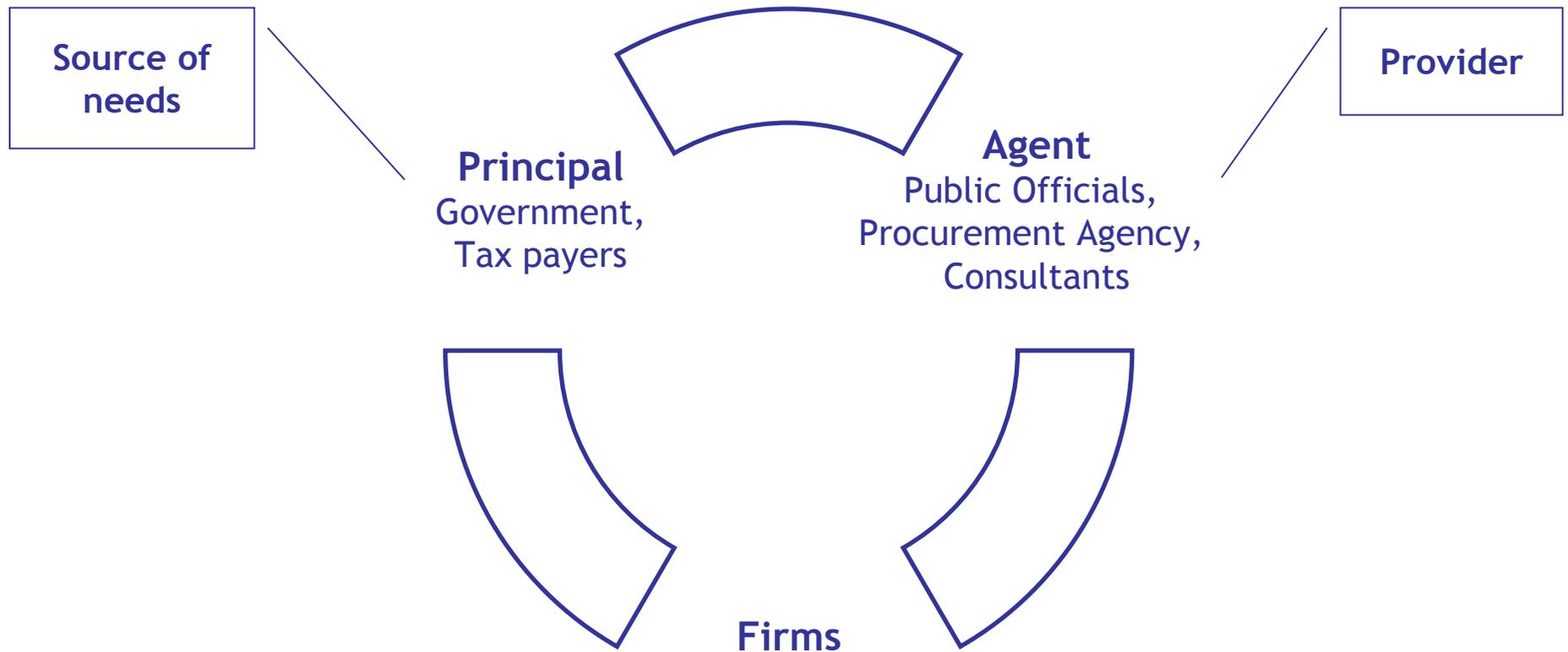


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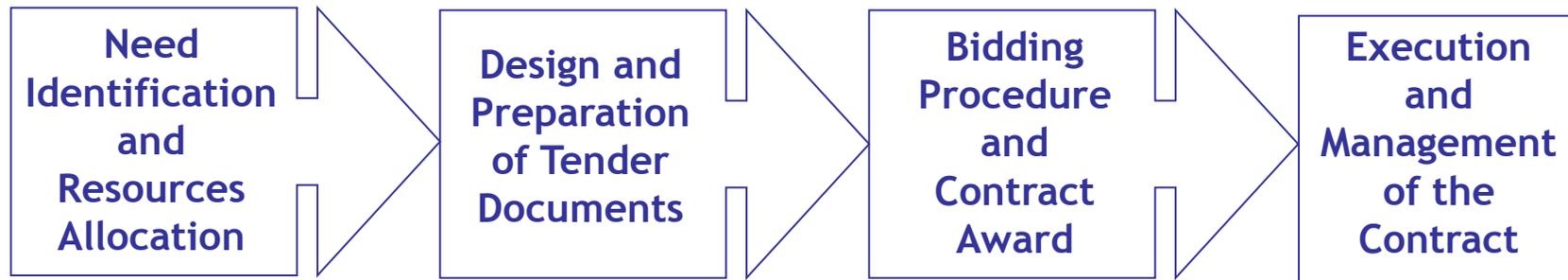
## *Roadmap*

- A three-layer framework for PP processes
- Needs identification
- Design and preparation of tender documents
- Bidding procedure and contract award
- Contract management
- International Cooperation
- Any evidence of (possibly) corrupt practices at all? Exploiting a “policy experiment” of political reform in Italy

## Framework (1/2) - a simple model of public procurement



## Framework (2/2) - phases of public procurement



*Focus on all all kinds of behavior whereby a person who is in a position of trust misuses this position to his/her own advantage*

## ***1<sup>st</sup> phase: definition of the needs***

### **Potential Concerns:**

Agent can inflate / create artificial demand

Agent can distort budget allocation

Agent can promote *ad hoc* needs

Firms can create demand

### **Potential Solutions:**

Independent audit

Capital programming (i.e., medium/long-term planning)

## 2<sup>nd</sup> phase: design and preparation of tender documents

### Participation Requirements: tight versus loose

	Positive	Negative
Loose	More competition and wider variety of specifications	Inefficient firms could play using corruption
Tight	Higher minimum quality standard	Tailoring

### Does an higher number of competitors reduce the risk of corruption?

Difficult to say: conflicting effects at work!

Consider an EMAT where the agent can distort the quality ranking (Celentani & Ganuza, 2002). With higher number of competitors:

- Many competitors induce lower expected marginal cost of producing quality for the winning firm. The buyer expects higher quality and higher savings, so that the agent must have substantial discretionary power to distort the bids ranking
- The expected payoff to a firm when the agent behaves honestly is lower (because of improved competition), thus increasing both the surplus that a corrupt agent can extract and the incentive to a firm to pay a bribe

## *2<sup>nd</sup> phase: design and preparation of tender documents*

### Pre-qualification Round

Positive	Negative
Pre-selection based on certified quality	tailoring

Advertising, Transparency, other procedural aspects

## 2<sup>nd</sup> phase: design and preparation of tender documents

Discretion versus Transparency (used as a synonym for *objective criteria*)

	Positive	Negative
Discretion	<ul style="list-style-type: none"><li>- Good / Service with non-contractible quality</li><li>- Performance-based criteria</li></ul>	High risk of corruption
Transparency	Lower risk of corruption	<ul style="list-style-type: none"><li>- Lower flexibility</li><li>- Fewer firms able to fulfill the requirements</li></ul>

## *3<sup>rd</sup> phase: bidding procedure and contract award*

Different kinds of bid rigging, also depending on the role of the agent:

- **Bids manipulation** (agent responsible for tenders reception and management of the bidding procedure)
- **Distortion of quality ranking** (agent in charge of evaluating non-contractible quality)
- **Bids orchestration and collusion** (agent involved in the whole tendering procedure)

## ***3<sup>rd</sup> phase: bidding procedure and contract award***

### **Bids Manipulation**

**Bids manipulation** happens whenever the auctioneer allows a favored bidder to adjust his bid after receiving information about rival bids. (For sake of simplicity, here we consider lowest-price auctions only)

#### **Possible solutions**

- favor a sealed-bid second-lowest (Vickery) or an open-bid auction if you suspect that the auctioneer has established a favored bidder relationship before the auction or invites bribes during the auction
- If communication among bidders and collusion is a concern so that a sealed-bid auction is still preferred, running the auction on an electronic submission system with a secure logbook may be helpful

## ***3<sup>rd</sup> phase: bidding procedure and contract award***

### Distortion of quality ranking

- Generalize all previous consideration to the case of EMAT auctions
- Since quality evaluation is often discretionary (non-contractible quality):
  - distortion of bids ranking may be easier than in the case of lowest-price competitive tendering
  - detection is more difficult
  - electronic submission of bids does NOT help
- The competitive tendering designer can address these problems:
  - by anticipating risk of manipulation and setting a suitable scoring rule
  - by carefully designing the evaluation committee composition and decision rule (collecting data and running tests on committees' decisions would be bliss!)
  - by “defending” the promised quality through a careful contract management

## ***3<sup>rd</sup> phase: bidding procedure and contract award***

### Bids orchestration and collusion

**Bids orchestration and collusion:** the auctioneer serves as a “ring manager” of a collusive cartel among the bidders who coordinates bids before they are submitted.

Recommendations of both the OECD and the World Bank strongly suggest to address these issues simultaneously: large evidence that ***very often collusion and corruption occur together***. Why?

- collusion dampens competition and allows the cartel to extract a surplus. A corrupt agent/auctioneer may be interested in appropriating part of this rent
- As any illegal agreement, collusive agreements may be difficult to enforce: the agent is in a position to act as an enforcer, by punishing the firm who defects from the collusive strategy (for instance, by reopening the competition and letting the firms readjust their bids)

Remark: In some sense, measures aiming at combating favoritism (e.g., open procedures and large information sharing, transparency) can facilitate collusion and vice-versa (e.g., secrecy on private information)

## 4th phase: contract management

Considering that the Agent always runs the tender...

Governance options	Possible solutions
<p><b>The Agent designs and controls the contract</b></p>	<ul style="list-style-type: none"> <li>- Independent auditing authority (external auditor)</li> <li>- Change nature of incentive schemes (bonus based on principal's evaluation of performance)</li> </ul>
<p><b>The Agent designs the contract, but the Principal controls</b></p>	<ul style="list-style-type: none"> <li>- Change nature of incentive schemes (bonus based on principal's evaluation of performance)</li> <li>- Penalties on performance</li> </ul>
<p><b>The Principal designs and controls the contract</b></p>	<ul style="list-style-type: none"> <li>- Careful choice of evaluation criteria</li> <li>- Least manipulable competitive tendering mechanism</li> </ul>

## *International cooperation*

Even if the necessity of accessible, consistent and objective procedures is realized, there might be still room for corruption in public procurement. How?

When the Principal and the Agent are located in developing world and the legal headquarters of the selling firms are located in the developed world, there is the necessity of international rules able to punish both parts involved in the corrupt misconduct!

## *Any evidence of “corrupt” practices?*

Coviello and Gagliarducci (2010) find at least indirect evidence. How?

- Collected data on Italian mayors, and the procurement auctions (for civil works) they administered between 2000-2005
- Used an electoral reform that assigned one extra-term in office
- Build a model of favoritism in repeated auctions

Main findings:

1. One extra term in office affects the outcome of procurement auctions:
  - Number of bidders (-), Winning rebate (-),
  - Local winner (+), Incumbency (+)
2. Money-Value of time/relations: 8,000 euro extra costs of procurement, or an average project of euro 540, 000
3. Evidence compatible with a model of repeated auctions with a favored bidder, where time in office increases the chances of procurer-favored bidder “coalition”

***Thank you!***