ECONOMICS OF PUBLIC PROCUREMENT

PUBLIC PROCUREMENT

- *Public procurement* is the process by which government departments or agencies purchase goods, services and works from the private sector.
  - It takes place at both a national and regional level, and the process will usually be subject to specific rules and policies covering how the relevant decisions are made.
- The goal of public procurement is to award timely and cost-effective contracts to qualified contractors, suppliers and service providers for the provision of goods, work and services to support government and public services operations

PUBLIC PROCUREMENT

- total amount of public procurement in the UE (16% of EU GDF (€1500 billion on 2002)

- **Beneficiaries of Public Procurement**
  - All inhabitants of a country (citizens) are beneficiaries of the public procurement system through public goods and services available and provided
    - transportation systems,
    - public utilities,
    - educational systems,
    - medical services and facilities
    - …

UN APPALTO PUBBLICO…..

Procurer

Market (suppliers)

PUBLIC PROCUREMENT & EU

European legislation on PP (*public procurement*) has the following objectives :

- Cost effectiveness
- open
- Best value for money

PUBLIC PROCUREMENT

- The goal of public procurement is to award timely and cost-effective contracts to qualified contractors, suppliers and service providers for the provision of goods, work and services to support government and public services operations

PP LAW IN EU

EU Directives on "Public Procurement"

- *2014/23/UE*
- *2014/24/UE*
- *2014/25/UE*

PUBLIC PROCUREMENT (CTD)

European Commission

- **Communication from the Commission to the Institutions: Making Public Procurement work in and for Europe**

PP LAW IN EU

Italy:

- Public Procurement code
- dlgs n. 50/2016 (Codice appalti), modified by dlgs n. 564/2017.
- National Recovery Resilience Facility (Piano Nazionale di Ripresa e Resilienza (PNRR))
  - DL 31 May 2021, n. 77
  - Law 29 July 2021, n. 108

PNRR AND PP CODE

- RRF (Italian PNRR) updates the PP code:
  - Negotiation vs competitive procedures
  - Vendor rating
  - Ease access to SME
  - Extension of Subcontracting

PUBLIC PROCUREMENT: TARGETS

- Instruments:

1. Competition (open competitive procedures)
2. Transparency
3. Modernization and market openness

ECONOMIC PRINCIPLES

Maximization: **Value for Money = Quality – Price – Cost of the process**

Under the constraints :

- Minimum needs for the buyer
- budget (reserve price)
- Laws

- Administrative costs
- timing
- Information gathering
- Lawsuit risks
- Enforcing contractual aspects

EU approach shows a strategic economic policy target for the PP

Budget	• Cost effectiveness
Effects on the mkt structure	• Dominant position, risk of *lock-in*, SME • Internal EU mkt
Sustainability	• Environment • Social
Innovation	• Innovation in the PA • Innovation in the mkt

Applications: Procurement

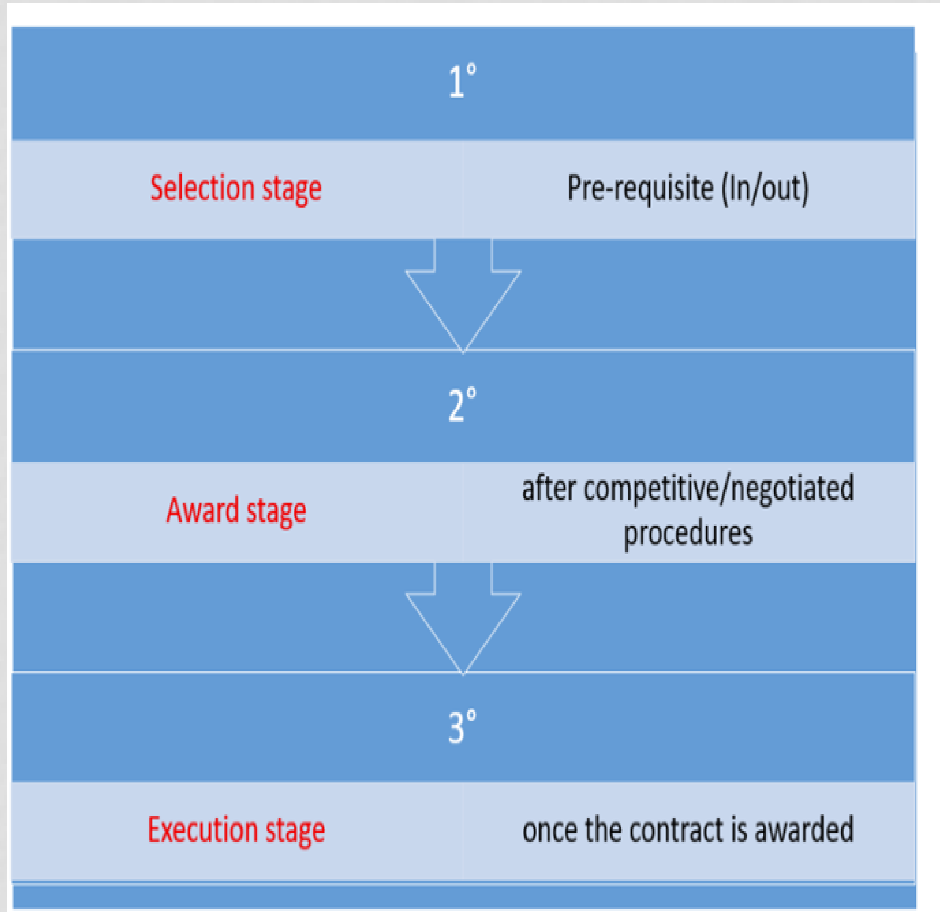
- Procurement structure

1°	
Selection stage	Pre-requisite (In/out)
2°	
Award stage	after competitive/negotiated procedures
3°	
Execution stage	once the contract is awarded

MAIN PROCUREMENT PROBLEMS

Ex-ante asymmetric information: hidden information, Adverse Selection

Ex-post asymmetric information: Hidden action (monitoring problems), Moral Hazard



ECONOMIC ANALYSIS

DEMANDA ANALYSIS

SUPPLY ANALYSIS

CONTRACT DESIGN	**Object**	Oggetto del contratto
	Technical requisite	Functional /performance/technical
	Reward schemes, contractual incentives	•Fixed price/cost plus
	Penalties	Lower than a % pf the contractual value
	Lots division	•Participation vs competition •Collusion
COMPETITIVE PROCEDURE DESIGN	**Selection Criteria**	Maybe subjective, related to the objective of the contract
	Reserve price	Participation, competition
	Awarding criteria	Lowest first price auction, Most Economically advantageous offer
	Evaluation criteria (technical and financial)	Only objective Related to the objective of the contract

INSTRUMENTS

- Methods:
- restricted procedures, negotiation e/o competitive procedures
- Direct contracting (sole source): offers required only from specific firms
- COMPETITIVE PROCEDURES(Auctions)

First price auction with complete information

- bidders know their own value and the value of the rivals (in procurement this values is the production cost)
- buyer does not know the firms' costs

2 bidders, with c1<c2, simultaneous offer a price bid at which they will offer the good/service/work

Nash Equilibrium (Asymmetric Bertrand):

$$p_1 = c_2 - \boldsymbol{\varepsilon}$$
$$p_2 = c_2$$
$$\pi 1 = (c_2 - \boldsymbol{\varepsilon})q$$
$$\pi 2 = 0$$

Incomplete Information:

- ✖ bidder only know their own cost
- ✖ buyer does not know the bidders' cost

- Assume 2 bidders, costs are iid over 0 and 1, following an uniform distribution.
- Assume 2 bids its cost, is it optimal for 1 bidding its cost?

$$max(p_1 - c_1)prob(c_2 \geq p_1)$$

$$F(p_1 \leq c_2) = 1 - p_1$$

$$\frac{d\pi_1}{dp_1} = 0 \rightarrow p_1 = \frac{c_1+1}{2} > c_1 \ \ldots\ldots\ \text{NO}$$

- Same argument for 2