

# The regulation of local public services

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# Regulation and local services

- Regulation
  - Industry structure and regulation
  - The structure of regulated prices – principles and practice
  - The investment regime
  - Price v. revenue regulation
  - The issue of transfers/subsidies
- Local public services

# Structure: an example (energy)

## Upstream

Natural gas extraction & regassification  
Electricity generation

**Potentially competitive**

## Storage

Only in gas

**Natural monopoly  
(not necessarily national)**

## Transmission

High pressure – High voltage

**Regulated business  
(who decides?)**

## Distribution

Local networks connecting final customers

## Supply

Relationship with final customers, billing,  
customer service

**Potentially competitive**

# Different kinds of network

- One way networks
  - The above applies
  - Energy, water, waste
- Two way networks exist
  - TLC, transportation: there is no physical delivery of a good
  - The network is “the essence”
- However
  - Distinction between physical network and service may be possible
  - Competition in the service segment might be possible

# Policy objectives

- Long term
  - Security and quality of supply
  - Investment in infrastructures
- Short term
  - Efficient prices
  - Reasonable prices (affordability)
- Others
  - Inflation
  - Employment/salaries
  - Local development ...

# Key national (?) decisions (structure)

- Do we want to preserve large “national champions” upstream?
  - If so, competition is very limited
  - In gas: how effective can it be anyway if you import gas?
- Do we want transmission and production to be integrated?
  - If so, the monopolist will be very protected, but rivals will hardly develop
- How large do we want the downstream market to be?
  - How easy to leave your historical seller? (switching)?

# Key decisions (regulation)

- What should we regulate – prices, quality, investment...?
  - The more we regulate, the less it makes sense to have a company running the service
- Do we want to preserve the right of the political system to directly regulate firms?
  - Regulators should be independent at least of the firms
  - What about firms in public hands?
- What role should the consultation with the stakeholders have?
  - Even with an independent regulator, consultation should remain relevant

# The price regime

- Efficiency orientation
  - Cost reflective
  - Concern for investments
    - Remuneration and incentives
- Transparency in price determination
  - Pre-determined criteria
  - Equal for all players
  - In practice...



# Methods of price regulation

A jump in the theory...

- *Cost-plus*
- *Rate of return regulation*
- *Fixed price – RPI-x*
- *Profit sharing*

# *Cost plus: only madness?*

- Non avoidable costs
- The alternative is a public subsidy, at the expense of tax payers
- Incentive to efficiency?
- In practice...

# Profit regulation (ROR)

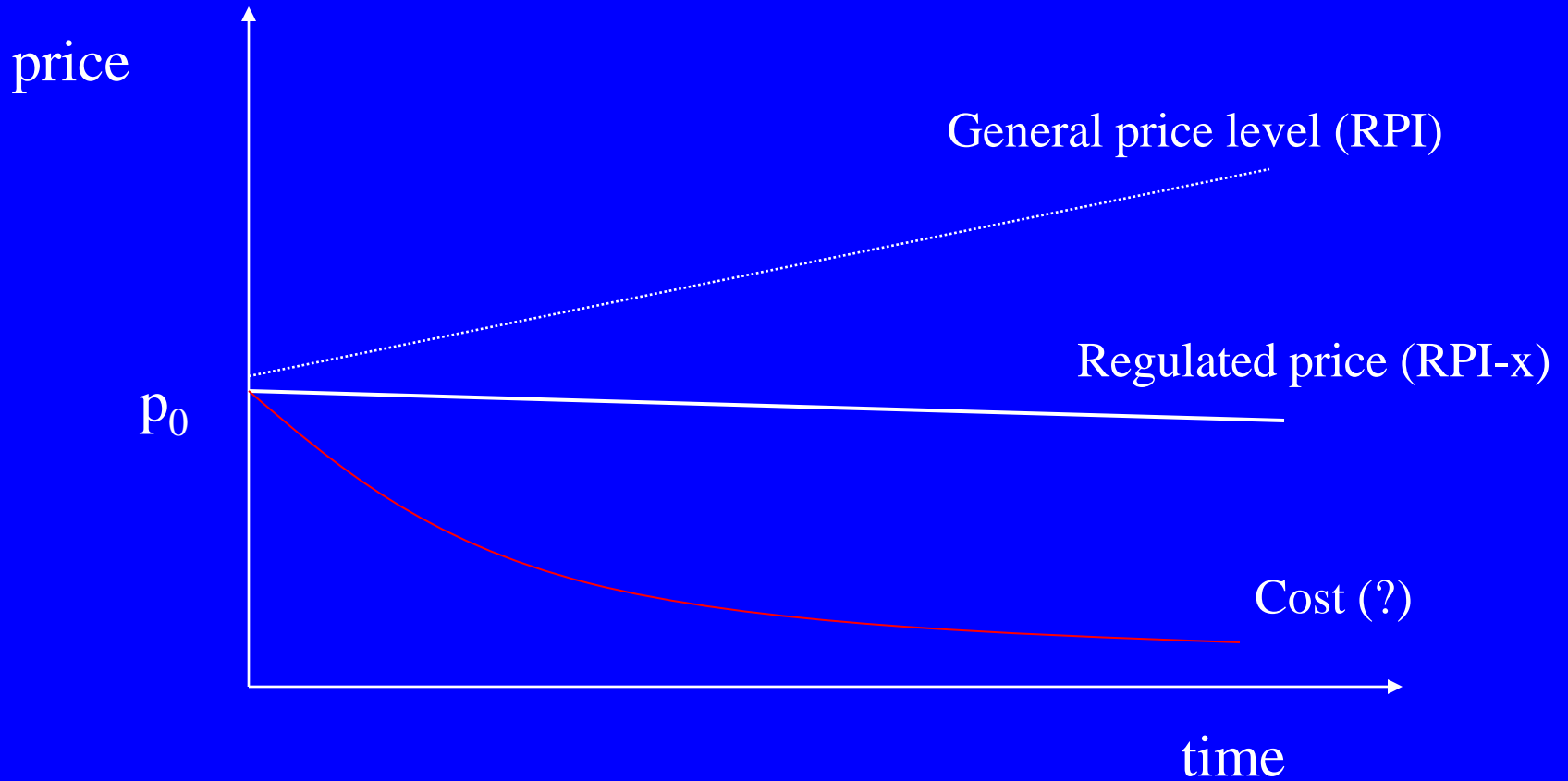
$$\pi / K \leq \rho$$

- Limitations:
  - Over-investment (Averch Johnson)
  - Administrative difficulties
  - Inefficient prices

# Looking for perfection: the *price cap*

- In a static sense: price =  $C'$
- In a dynamic sense: fix price, or at least a pre-determined dynamics, which the firm cannot affect (RPI-x)
- Incentive to investments

# RPI – x and costs



# Problems?

- Is it true that the incentive to invest is not distorted?
- Who bears the risk if input prices increase?
- Price review: how are prices reviewed?
- Credibility

# *Profit sharing: just demagoguery?*

- In period  $t$ ,  $x$  increases to  $x'$  if profit in  $t-1$  goes beyond a threshold
- Lesser pressures from the public opinion  
⇒ lesser regulatory risk
- Greater efficiency in the distribution of surplus
- Incentive to invest? Profit sharing intervenes only if things go well ...

# Price regulation from theory to practice

- (Italy) price cap system (law 481/95)
  - Initial price ( $p_0$ )
  - Dynamic adjustment ( $x$  etc.)
- How is the initial price determined ?
- What happens within the regulatory period?



# The price at the beginning of the regulatory period

$$\text{Total allowed costs} / \text{Output} = \text{price}$$



**Operational costs**

**RAB  
x  
WACC\***

**The price contains a pre-determined remuneration of capital**

**Element of *rate of return regulation***

\* Regulatory asset base (RAB), remunerated through WACC

## Within a regulatory period

- Price cap is sometimes applied only to “avoidable” costs (personnel)
- Price increases if input prices increase
  - *cost plus*
- The new price shares efficiency gains 50-50 between firms and consumers
  - *profit sharing*

# Theory and practice

- Called *price cap*
- In practice it combines elements of
  - *Price cap* (possibly limited to avoidable costs)
  - ROR in the cost of capital
  - *Cost plus* for input (especially wholesale prices)
  - *Profit sharing* at the end of the regulatory period

# More precisely...

1. Price regulation v. revenue regulation
2. How are investments considered?
3. Regulating through total costs or item by item (capex and opex)
4. Should subsidies (“transfers”) be allowed?
5. Should the public administration simply set rules and stick to them?
6. What about competition?

# 1. Price v. revenue regulation

- Revenue is  $p \times q$ 
  - Regulating revenues (revenue caps) is equivalent to regulating prices if  $q$  is perfectly predictable
- When  $q$  is risky, with price regulation the firm bears output risk
  - May be good or bad depending on demand dynamics
    - Water: falling demand
    - Others: sensitive to business cycles

## 2. The investment regime

- In theory: left to the firms
  - Direct incentives (ROR + extra)
  - Indirect incentives (privileged access to newly build infrastructures)
- In practice, sometimes even more intervention:
  - For activities given in concession, minimum obligations are defined
  - Some guidance by the Ministry or local authority (service contract)
  - But in other cases, investment is left entirely to the firm

# 3. New fashion: Totex

- Now: normally the regulator distinguishes capital expenses (capex) and operational costs (opex)
  - Suspicion that investments are excessive
  - New trend: regulation of total costs (totex)
- In principle, better – leaves the firm the possibility to decide whether to tackle a problem with opex rather than investing
- In practice, fear that firms will misuse this tool
  - Regulate total cost, but requiring a year by year industrial plan (to be approved), checking that cost changes are in line with the plan (very complex)

## 4. Optimal contracts entail a transfer

- With asymmetric information (from Baron-Myerson 1982 onwards)
- In practice, the prices of many services do not cover their cost
  - Political decision
  - Good excuse to hide inefficiencies
- Need to subsidize the service
  - Municipal firm: possible game (delay the payment to hide the loss out of the public budget)



# Different subsidised contracts: Net cost v. gross cost

- Net cost: transfer is determined ex ante
- Gross cost: transfer is determined once demand is realised
- Definitions:
  - $T$  = total subsidy
  - $R$  = revenue ( $= p \times q$ )
  - $C$  = total cost
  - $\Pi$  = profit
  - $M$  = subsidy cap
  - The apex <sup>e</sup> indicates expectations

# Net cost contracts

$$T = C^e + \Pi^e - R^e$$

The transfer  $T$  is given ex ante, only based on expectations

The firm

- bears the whole risk (industrial and commercial)
- keeps the extra-profits (if demand is high)
- bears the losses (if demand is low)

# Gross cost contracts

$$T = M - R$$

But, if

$$R > M \Rightarrow T = 0$$

- The municipality guarantees a minimum revenue  $M$  (set ex ante), and thus bears the commercial (traffic) risk
  - The actual transfer  $T$  is known ex post
  - Advance payment + ex-post adjustments
- The firm bears the «industrial» risk (cost)
  - Profits and losses remain with the firm

# Comparison gross cost - net cost

- Service quality/revenues
  - GC provides almost no incentive to increase revenues;
  - NC is a high powered incentive scheme on service quality;
- Manageability
  - GC is easier to manage if different operators share neighbouring services
  - Integrated transport systems
- GC is compatible with a fully free service;
- GC may fall into a sheer *cost plus* contract

## 5. Rules v. administrative discretion

- In practice, regulation is not fully transparent
- Discretionary intervention takes place
  - On price
    - How to translate costs into prices
    - Price reviews
  - On investments (guidance by the public authority)
  - Through a heavy public presence in firms
- (Within the EU) Directives and general competition principles should be respected

# 6. Competition in public services

- In monopoly segments, only competition for the market
  - Effective?
  - Who manages the selection?
- The definition of the size of the market affects competition
  - Unduly small market definitions: inefficient where there are economies of scale
  - Unduly large market definitions: possible ways to limit participation & competition
  - Unduly large market definitions: possible ways to deny competition among sub-markets

# How much competition in the market?

- Competing for final customers
  - Possible in energy/tlc
  - Water and waste? No experience
  - Transportation – in principle possible but limited
- Debatable effectiveness
  - In tlc is normal and essential
  - Energy: the bulk of the cost is upstream – the final price will hardly depend on it
  - Transportation – to make it compatible with integration, should there be a unified tariff system with no price competition?

# Regulation and local services

- Regulation
- Local public services



# “Local” public services: a meaningful concept?

- The notion of public services (utility)
  - The most complicated to provide through a market, not always the most important ones
  - Political definition (unavoidable)
- National or local? Diversity across countries
  - Who decides?
  - Why?

# Factors favouring local responsibility

- Some services are appendices of a larger system (e.g., energy), others exhaust their relevance locally
  - Water
  - Local transport
  - Waste (to some extent)
- Costs: Economies of scale → national regulation
- Demand: When do local preferences really make a difference?
  - In theory, always
  - A national common framework for the whole sector may favour competition

# Increasing relevance of local economic policies

- Institutional reforms
  - Withdrawal of the State
  - Industrial districts
  - Competition among areas to attract investments
    - Regional marketing
- ⇒ Local authorities have an increasing relevance in economic policy (and management of public services)

# The intrinsic “politicization” of local public services

- Local public services are the core of local policies
  - National public services are not
  - Direct relationship between local administration and firms/workers/customers
- Regulation is subject to scale economies
  - Setting up a local independent regulator may be very expensive

# Management models and national or local choices in the EU

- The principles are quite vague, many possibilities are open
  - direct management (unusual)
  - “in house” providing
  - outsourcing to private or public firms (tender)
  - non-competitive outsourcing to mixed firms if the private partner is chosen on the basis of an open procedure (quasi-tender)

# Local authorities have contractual freedom

- Once the provider is selected, the contract is largely a local choice as for
  - Price/cost reimbursement rules
    - Structure
    - Review
  - Investment requirements
  - Enforcement mechanisms
  - Control bodies
  - ...

# Local public services in practice (Italy)

- Energy distribution: supplied locally, with national rules
- Water services and local transport: national principles, significant freedom locally
- Waste: total freedom (about to be reduced ?)
- A category or a set of different problems?

# A long lasting phenomenon: local public firms

- From national champions to local champions
  - Local firms expand their operations
    - Local protection helps, to some extent
  - Engage in huge projects
    - Nuclear plants
  - Profit seeking local authorities?
    - Looking for private capital
    - Listing in stock markets



# The evolution of local firms

- Multi-utilities or sectoral champions?
  - An open debate
- Profit oriented or empire builders ?
  - In any case, what is the role of municipal ownership?
  - And its future? ...

# Involving private shareholders?

- Mixed firms are very common
  - Reluctant privatization?
  - Way to get entrepreneurial know-how
  - Way to raise finance (short in the public sector)
  - Genuine partnership from the beginning

# The role of private shareholders

- No guarantee that firms behave like private ones
  - No guarantee that political interference will not take place
- Significant constraint that managers can use to counter political pressures
  - Could financial markets play a similar role even if private capital provides debt and not equity?
- Significant constraint that politicians can use to counter their voters' requests (including employees)
  - Public shareholders may be as greedy as private ones...

# How do local public firms perform?

- Does a correct indicator of performance exist?
  - Depends on the objective function
  - On sector...
    - Large amount of (unavailable) information
- However, two models emerge
  - Service providers
  - Entrepreneurs (firms as ways of raising money)

# Do competition and ownership matter?

- Claim/hope that competition help select the best provider
  - If so, firms selected through a competitive procedure should be more efficient than those directly appointed
- Fear that public ownership is associated to greater managerial slack (see above)
  - If so, private firms should be more efficient
  - Mixed firms? Maybe...

# Different models

- In some areas, local governments use public firms to provide services, create employment
- In other regions, they use public firms to raise money (while providing services and creating employment)
- This goes through the management of firms
- ...and through the choice of the sector of activity
  - Take account of the “composition effect”

# Summing-up: are “local” public services and firms really different ?

1. Limited resources
2. Size of jurisdiction
3. Access to capital markets
4. Proximity to citizens

# 1. Limited resources

- For some services, national funding (health, some local transports)
- For others (waste,...) there may be local taxes
- For others local supply within a national framework
  - Energy, in detail
  - Water, in principles



# Limited funding autonomy?

- Limited possibility to run services at a loss
  - The freedom to set local taxes is crucial
  - Use of firms to bypass constraints and postpone funding
- “Need” to use some services to fund others
  - “Improper” taxation (cross subsidies)

## 2. Size of jurisdiction

- The control activity is a fixed cost: economies of scale
- Local Authorities ? (independent ones?)
  - Necessary a separation between management and control
  - Width of competence of the authority?
  - Efficiency of the municipal dimension?

# 3. Access to capital markets

- How large is the national stock market?
  - In Italy, a stock market only for large firms
- Several LPF are listed, but the transparency requires an elimination of cross subsidies
  - The governance of LPF is now even less transparent than the one of large national firms
- Should one favour/incentivate/force greater access to the stock market?

## 4. Proximity to citizens

- Advantage in terms of capacity to interpret preferences
- Disadvantage in terms of exposure to even small local pressure groups
  - Transportation infrastructures
- Local concentration of potential costs and benefits to the workforce
  - Protection of workers

# Conclusions

- Local public services are not very different from national ones
- Local governments are no better or worse than other levels of public administration
  - But they are closer to citizens – clearer responsibility
  - Possibly more vulnerable to local interest groups